[Special Issue: "Coping with Seasonal Constraints," edited by Rebecca Huss-Ashmore, with John J. Curry and Robert K. Hitchcock] 5:86–95.

Pélissier, Paul
1966 Les Paysans du Sénégal: Les Civilizations Agraires du Cayor à la Casamance. Saint Yrieix, France: Imprimerie Fabrègue.

Posner, Joshua, M. Kamuanga, and M. Lo
1991 Lowland Cropping Systems in the Lower Casamance of Senegal: Results of Four Years of Agronomic Research (1982–1985). Michigan State University International Development Papers, Reprint No. 30.

Posner, Joshua, M. Kamuanga, and S. Sall
1985 Les Systems des Productions en Basse Casamance. Travaux et Documents No. 4. Institut Sénégalais de Recherches Agricoles, Dakar.

Shipton, Parker
1990 African Famines and Food Security: Anthropological Perspectives. Annual Review of Anthropology 19:353–394.

Smetsers, Maria
1995 Gender and Agrarian Change in Senegal: Cooperation and Conflict. Paper presented at the International Congress "Agrarian Questions," Wageningen, The Netherlands, May 1995.

Swindell, Ken
1985 Farm Labour. Cambridge: Cambridge University.

Vaughan, Megan
1987 The Story of an African Famine: Gender and Famine in Twentieth-Century Malawi. Cambridge: Cambridge University.

Weismantel, M. J.
1989 Making Breakfast and Raising Babies: The Zumbagua Household as Constituted Process. *In* The Household Economy: Reconsidering the Domestic Mode of Production. Richard R. Wilk, ed. Pp. 55–72. Boulder CO: Westview.

Wilk, Richard R., and Robert McC. Netting
1984 Households: Changing Forms and Functions. *In* Households: Comparative and Historical Studies of the Domestic Group. Robert McC. Netting, Richard R. Wilk, and Eric J. Arnould, eds. Pp. 1–28. Berkeley: University of California.

Yanagisako, Sylvia J.
1979 Family and Household: The Analysis of Domestic Groups. Annual Review of Anthropology 8:161–205.

From: A. Endre Nyerges, Editor. *The Ecology of Practice Studies of food Crop Production in Sub-Saharan West Africa.* Amsterdam: Gordon and Breach Publishers, 1997.

CHAPTER 3

Indirass and the Political Ecology of Flood Recession Agriculture

Thomas K. Park
Department of Anthropology
University of Arizona

The principle thesis of this chapter is that one component of an improved agricultural development policy in Sahelian Africa should involve the elaboration of a tenure system that is based on Islamic and customary principles and rooted in an adaptation to the local environment. This is not to say that local tenure systems need no improvement, but it is to argue that the transplanting of basically European temperate climate agriculture, market economy, and individual title-based tenure is fundamentally a mistake. There are many reasons why such a system is inappropriate, but the most basic involve differences in agricultural risk, lack of literacy, and the need to have a system that can remain within the grasp of local people while adapting quickly to changing patterns of cultivation. The bulk of this chapter will focus on a discussion of what such a system might entail on the Mauritanian side of the Senegal River Basin (SRB).

A developing body of literature in anthropology calls for ethnodevelopment, meaning development that takes into consideration and is based on continued use and development of local ethnic practice and knowledge (Scudder 1980; Spicer 1980; Stoffle, Halmo, and Stoffle 1991). The focus in this chapter will be to extend this approach into a direct critique of neoclassical economics as it has been applied to development. Neoclassical economics assumes that economic policy can be optimized only in a free market situation involving individual tenure. Despite the evidence that western economies are not based on small competitive firms and the existence of a body of theory dealing with monopoly and oligopoly situations, in the development context virtually all reference to power and institutionalized uncompetitive pricing situations gets eliminated. The alternative I argue for is based instead on the assumption that *institutionalized power is especially critical in non-literate societies* and that indigenous systems of tenure incorporate crucial local ecological and economic knowledge that, along with political democracy and free enterprise, should be incorporated into any development effort.

POLITICAL AND HISTORICAL OVERVIEW

The government of the Islamic Republic of Mauritania is dominated by Bidan (the term for members of a white North African ethnic group) whose main sources of revenue until recently were primarily in pastoralism and commerce, and secondarily in mining and off-shore fishing. The drought beginning in 1970 had a catastrophic impact on pastoralism within the Republic, and this focused the attention of the Bidan on the SRB, which had become one of the few remaining significantly productive areas in Mauritania.

Land tenure in the SRB is based on a number of competing claims. The Bidan claim much of the North bank because they conquered it at the beginning of the nineteenth century. The Haratine (a black Arabic-speaking ethnic group) claim that they as Muslims cleared land and so established rights to it (even if they did so at the urging of Bidan and paid them a portion of the crop; interpreted by Bidan as rent and alternately as protection money). The Halpulaar-en (a black Pulaar-speaking group) claim that they settled and cleared the land and cultivated it for more than a millennium (even if intermittently on the North bank). And finally, other black ethnic groups such as Soninké and Wolof claim that they too cleared and established legitimate rights to territory.

There seems little doubt both that all of these claims are based on the truth and that in practice they are often in conflict with each other. Cultivation by Haratine (who are peoples once enslaved but long since freed) is regularly interpreted in Mauritania as incapable of establishing ownership rights. Yet, in principle this is incorrect, and in practice it is recognized that this is nonsense in some areas. The principle of acquiring tenure rights through clearing unused land is well established in Islamic law (as discussed below), and Haratine are well understood to be free Muslims. One of the case studies I present (Mbout) illustrates how this is well recognized in at least one area of Mauritania.

The conflicts between Bidan and black ethnic groups such as Halpulaar-en, Soninké, or Wolof are based on fundamentally strong arguments for both sides. The French interfered in the indigenous course of events when they took over the SRB in 1891 and began to support the Halpulaar-en in the agricultural sector on the North bank because they felt the poor, ill-clothed, and low prestige Haratine were not appropriate intermediaries for the French administration. This preference opened the way for a major expansion of Halpulaar-en agriculture on the North bank in the twentieth century (compared only with the nineteenth) and led to the agricultural peripheralization of the Haratine and, secondarily, of the Bidan, who did not themselves engage in agriculture but were patrons to the Haratine. In a post-Independence Islamic perspective the French policies can be rejected as those of a *kafir* government, and the Bidan can argue that their conquests at the end of the eighteenth century still entitle them to legitimate claims in the SRB. Conversely, all those who have cultivated lands for a period of years can claim that they have legitimately established rights to the land. Even the Haratine who have been pushed into the peripheral lands by Halpulaar-en can legitimately claim that this was done illegally and with *kafir*/French assistance.

In brief, despite the current situation of conflict, we cannot incriminate any group as fundamentally wrong in their claims to land. This might suggest that the best solution would be to wipe the slate clean and begin anew. I argue instead that, although wiping the slate clean has relevance, we should not simply try to transplant a foreign tenure system into the SRB.

SYNOPSIS OF ECOLOGICAL CONSIDERATIONS

The floods of the SRB are extremely variable (Park 1992, 1993b) and cover unpredictable amounts and areas of the floodplain each year

under natural conditions. Even with a controlled flood there would remain an enormous degree of variability. The key determinants of how much land is flooded for how long (one key to agricultural productivity) are the height and duration of the peak flood pulse as well as the timing and volume of the contribution to the flood from other sources such as minor tributaries and local rainfall. The result of this variability may be to flood many areas too little (the soil cannot then support a crop to maturity) or even too much (killing aerobic bacteria and lowering productivity). This is an annual variability that is quite impossible to predict, and as a result, groups of cultivators have held land in common (usually defined by some level of lineage structure) in order to have a sufficient portfolio of lands to counteract the unpredictability of the flood. More to the point in the current discussion, different lands will be cultivated in different years, and people will hold proportional rights in blocks of land from which they are allocated their appropriate share each year.

INDIRASS AND LAND TENURE

The term *indirass* embodies a legal principle that is potentially critical to development efforts if the ultimate goal is, as I believe it should be, to foster economic development within a local cultural matrix. The radical failures of development efforts in much of Africa over the last several decades have in large part been due to a general failure to facilitate growth from the bottom up. This failure represents a fundamentally misplaced confidence in elites and central government initiatives. In the Islamic Sahel, and Mauritania in particular, development efforts in the agricultural sector have consistently reflected international pressure to move agricultural production into high input irrigated systems rather than low input flood recession agriculture, which is more efficient in terms of local resources in labor and other inputs. High input agriculture has, especially in recent years, provided the basis for elite and ethnic-based appropriation of land long cultivated by others (Park, Baro, and Ngaido 1990). At a time when low input agriculture is becoming a key focus at major agricultural colleges in the United States (such as the University of Wisconsin-Madison), the continued international push for Third World countries to switch to high input agriculture seems anachronistic and is either excessively naive or exhibits a fine disregard for the interests of Third World countries. In Mauritania, the population is small and the sources of foreign exchange are few. High input agriculture, whose

only advantage is higher output per hectare, seems particularly inappropriate in this context given the major costs at which this increased output can be obtained in the best of years, the enormous debts incurred in poor years, and the unacceptable level of reliance on foreign exchange for purchases of inputs of fertilizer, machinery, and fuel for the irrigated perimeter crops that such agriculture entails.

In this chapter, I take as my starting point for reconceptualizing the relationship between flood recession ecology and the larger socio-cultural system in the SRB the Islamic term *indirass*. *Indirass* is an Arabic word, derived from the root d-r-s whose base meaning today is "to study." In classical texts, however, the base meaning was linked to "effacement" or "erasure." Lane (1984 [1863]:870) provides the example *indarasa rasm* meaning a trace (*rasm*) that "became covered with sand and dust blown over it by the wind." More generally, the verb itself contained the implication of nature erasing or covering up human-made traces. The modern association with studying, presumably, would have been via the student's slate, which had to be continually wiped clean to make room for further exercises. In legal terms, *indirass* is now used to refer to the obliteration of traces of cultivation (or habitation) due to the passage of time. The significance of this term is closely tied to basic principles of Islamic law, the *shari'a*.

In Islamic law oral testimony has priority over written testimony (Wakin 1972). This preference reflects a fundamental prioritizing of the current Islamic community over all past Islamic communities. Unlike in Europe, where old documents might be used to kick someone off land they have long occupied, in the Islamic world, under *shari'a* law, old documents are worthless unless connected by a series of documents demonstrating continued ownership of the property in question and capped by current oral testimony to the effect that the person still is recognized as the owner (Amar 1913:78–79). In reality only the last, the oral testimony, has any real significance and the earlier documents have value only if two competing claims are both supported by current oral testimony by impeachable witnesses. In the general situation, current witnesses to ownership take precedence over all past claims. The law thus supports the claims of the current community over those of any past owners. A document of sale is simply a written embodiment of an oral attestation that the seller has been in possession of the property for the last ten years or the last one year plus the attestation that any former owner is unknown (in the Malikite system). As such it stands or falls on the oral testimony documented in the bill of sale. A challenge focuses exclusively on

the testimony, and ownership itself does not require any written documentation.

The effect of this basic principle is to de-reify ownership rights. Ownership becomes an explicitly social phenomenon, which has no independent significance and changes along with society. To some extent this is true in the European system, but the linkage with current society in the Islamic system is far more direct and immediate. In the Islamic system, a brief period of time, usually from three to ten years, without the exercise of ownership rights is sufficient for those rights to revert, on the principle of *indirass*, to the Islamic community. Perhaps even more importantly, rights are maintained through economic practice, as confirmed by neighbors and other members of the community, rather than through careful written documentation.

This last point has enormous significance in situations where simple private property does not prevail. To the extent that rights are themselves tied to practice, subsidiary rights if regularly exercised become as real as any rights. Thus the right in the SRB of someone who has traditionally cultivated land in return for paying a small tithe becomes as real as that of someone who has land on which they pay nothing. There may be a prioritizing scheme that puts the latter before the former when land is short, but the former still has rights that take precedence over people who have not cultivated the land in the most recent period.

This system has particular importance for women and the poor. In the SRB, women often have rights to use the land but may have to pass those rights on to their sons (and hence not be considered full owners). In the case of the poor, individuals may have traditional rights to cultivate land but are obligated to pay various tithes and fees to maintain them. When such complex tenure situations are mapped onto a simple ownership list, as in the context of a development project, they normally disappear, whereas when based on practice, they are easily maintained as confirmed by oral testimony.

IMPLICATIONS FOR DEVELOPMENT

The flexibility of the traditional system and its tight linkage to current practice are, in the context of a society in which literacy is far from universal and written record keeping is far less than perfect, a vast improvement over the sorts of simplistic and unrealistic systems of ownership regularly proposed for development projects. The latter tend to organize ownership around registered parcels, which is a

system that has several fundamental flaws. First, the lists always fail to keep pace with social change. Second, the lists ignore the complex practice of agriculture and simplify tenure rights to the general detriment of women and lesser right holders. And, third, due to the implicit literacy requirements of the system, the lists take ownership out of the hands of the community and put it in the control of elites. Traditional, oral testimony and practice-based systems seem, in contrast, models of justice.

In 1983 and 1984, the Islamic Republic of Mauritania enacted two pieces of legislation on land tenure. These were the Ordinance 83.129 (5 June 1983) and Decree No. 84.009 (19 January 1984). The latter was a more detailed implementation document for the former. Article 9 of the Ordinance states:

- Dead lands (*terres mortes*) are the property of the state. Lands which have never been developed or whose development has left no trace are considered dead.
- Extinction of property rights by *indirass* can be opposed by the original proprietor and by his heirs, but not in the case of properties which have (since) been (officially) registered (by someone else).

It should be noted that the category of "dead lands" is itself a traditional category in Islamic law. To simplify egregiously (ignoring *shi'ite* differences in particular), Islamic property law has traditionally classified land in one of two ways; according to the way the land was acquired by the Muslim community (i.e., conquest, cession without violent resistance, reclamation, etc.) or according to the type of taxes paid on the land (Tabataba'i 1983). The former was most significant in the central Islamic lands where large non-Muslim minorities were incorporated into the early Islamic states, while the classification according to type of tax was more typical in North Africa and the Sahel where almost universal conversion to Islam occurred over significantly briefer periods. In these areas the concept of dead lands seems to have simply included all lands not in use. Taxation or the extraction of some form of tithes was linked throughout the Islamic world to the payment of religious duties, specifically *zakat*, the payment of alms to the poor, and *'ushr*, a tax of one-tenth on agricultural production for all but the abjectly poor.

In the central Islamic lands *'ushr* was paid by those not paying *kharaj*, a land tax required on lands that had originally (when the local classification was drawn up) belonged to non-Muslims (Tabataba'i 1983). The latter was put at a higher rate than the 10%

normal for *'ushr*. In North Africa, the payment of taxes itself tended to define the land. Even in Morocco, where the center's claim to tax was not always accepted, payment of *'ushr* was generally accepted by the population as the legal due of a justly run state. Since payments were a portion of production, unproductive land did not pay anything and thus, in practice, after a period of years, fell into the category of dead lands without recognized ownership. The question of who owned dead lands gave rise to some controversy in Islamic law, but in North Africa and the western Sahel where Maliki law was the norm, the Muwatta of Imam Malik ibn Anas was accepted as the key text, and this, in Section 36.24 paragraphs 26 and 27, states quite clearly that "If anyone revives dead land it belongs to him" (Malik ibn Anas 1989:307). The alternative favored in some Islamic lands was to have it belong to the state and thus have to be purchased or leased from the state.

In the SRB, the classification of land as dead has one significant problem. In the context of an irregular flood and flood recession agriculture much of the prime agricultural land is, in the normal course of things, not used for many consecutive years. The concept of dead lands as defined in agricultural systems elsewhere under Islamic law (such as those lands unused for ten years) would, if not modified, wreak havoc in the traditional land tenure system. At the same time, the prioritizing of current social practice and oral testimony is not a problem in the flood recession context. Nor is the concept of dead land itself since most people base their claims to land on having, as free Muslims, cleared the land from brush (with the implication that it was abandoned or never used and hence "dead land"). The two case studies discussed below illustrate how local systems have approached the concept of *indirass*.

CASE STUDIES

Mbout

Mbout (see Figure 1) is an administrative center located on the Gorgol Noir (a tributary of the Senegal River) just above the Foum Gleita Dam. The Foum Gleita reservoir now floods most of the land formerly cultivated in the region while its downstream irrigated perimeters have substituted for lands now under the lake or put out of production below the dam. Before construction of the dam and gravity fed perimeter, approximately 60% of the land was owned by Haratine.

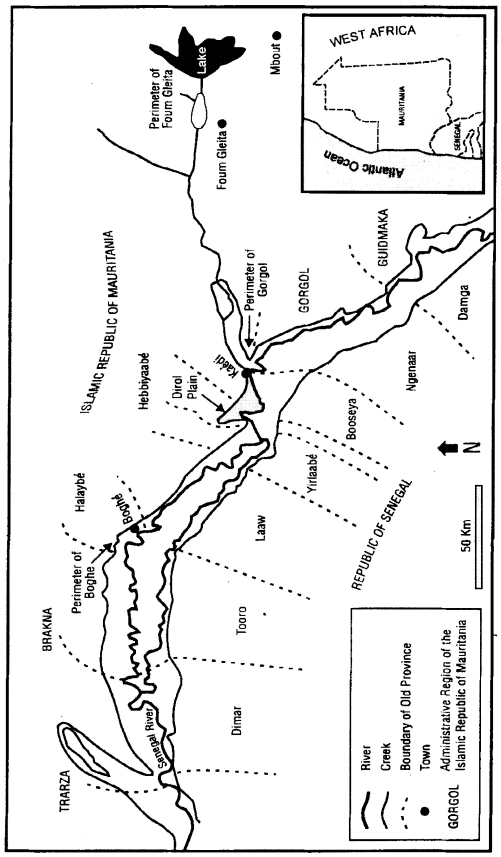

Figure 1. The middle Senegal Valley, showing the locations of the case study sites.

The local Bidan *qadi* in 1986 provided ample documentation that the Haratine had over the years sold parcels of land at market prices to local Bidan and justified this evidence of the Haratine ownership of land in terms of Islamic law; they had come to the region, admittedly at Bidan urging, in the late eighteenth and early nineteenth centuries and on arrival had cleared long fallow land. As free Muslims this gave them clear title to the land and subsequent ability to sell it. These rights were obtained whether or not the Haratine paid some tithes to local Bidan elites. In the *qadi*'s view, such payments were considered as protection monies paid for protection from slave raiders and were in no way to be interpreted as rents (which would carry the implication that the Haratine were tenants rather than owners), though he acknowledged that this was a common interpretation in other parts of Mauritania.

In this region cultivation was traditionally based on flood recession agriculture, though the lands cultivated comprised more narrowly delimited areas than in the Senegal River valley, and consequently, there was minimal emphasis on annual reallocation. More important, there were only two ethnic groups having legal rights in the arable land, the Haratine and Bidan, and the latter did not themselves cultivate. Bidan arranged to have cultivation done by others, either Haratine or Peul (a pastoral group of the Halpulaar-en, who no longer had enough livestock to remain pastoralists, as was common in the years following the Sahelian drought of the 1970s). The result was that Haratine did the great bulk of the cultivation. The majority of Haratine held contiguous blocks of land in common at the fraction level (a named group of relatives and affines), yet within some parts of the Mbout region individual tenure prevailed, and within the contiguous blocks of land there was far more continuity in the cultivation of specific plots by specific individuals than in the Senegal River valley itself.

The narrowness of the flood plain, its relative uniformity, the low population density, and the non-stratified character of Haratine society contributed to a fairly unique tenure situation (for Mauritania). In this region, the Islamic principle of *indirass* was not only fully accepted, in the sense that abandonment of a piece of land in favor of another for a period of time was interpreted as the relinquishment of all rights to the land, but the period considered sufficient to establish the extinction of former rights was a mere three years. The local *qadi* suggested that this period was justified by the ecology of the Sahel and the characteristics of local agriculture; it took only three years to extinguish all traces of cultivation.

It is clear that in the years before the development of the Foum Gleita reservoir, the principle of *indirass*, applied after three years of non-use, benefitted most prominently the local Haratine community because it was they who engaged in all cultivation.[1] It is likely as well that one reason for a three-year period may have been a combination of relatively low population levels, political exigencies, and the relative unimportance of social stratification. In the twentieth century, according to administrative records and the *qadi* of Mbout, who had been in office in 1986 for over 40 years, a number of groups were settled in the area as rewards for service to the colonial state. The most prominent were the former Tirailleurs Senegalais. This group is still distinguished by name, though in practice they are distinct from other Haratine primarily in the location of their lands and the maintenance of different oral traditions. A brief period to qualify land as "dead" would obviously have facilitated the distribution of lands to new immigrants. The low population density would have made this distribution feasible. The colonial archives in Mbout are full of records indicating that the colonial administration felt that the area was seriously underpopulated right through the 1950s and, in consequence, adopted a policy of encouraging settlement in the area by cultivators and increased use of the area by nomads. The lack of social hierarchy within agriculture, in the immediate Mbout region, would itself have been conducive to the establishment of new groups on an equal basis.

In short, this particular pre-irrigated development pattern clearly reflects local ecology, demography, and political processes. It contrasts in a number of ways with the following case, which is perhaps more typical of the more highly populated areas of the Senegal River valley, but nevertheless exhibits a number of commonalities as well. Most importantly, oral testimony provides the crucial determinant of tenure, and the current practice of the members of the Islamic community, in all its complexity, is the fundamental datum in the administration of justice and the structure of the economy. Prioritizing the rights obtained by clearing and continued cultivating of land over and above claims due to past conquest (by Bidan groups) or other claims, such as religious or military prominence in the region as evidenced by payments received, clearly took both great wisdom and erudition by the *qadi*.

Boghé

In the Boghé region (Figure 1), current patterns of tenure date from the mid-nineteenth century because at the end of the eighteenth cen-

tury the Emirate of Brakna took over this section of the right (North) bank of the Senegal River, and the Halpulaar-en and Peul fled to the left (South) bank. Subsequently, many of them made arrangements to come back to cultivate some of the North bank lands, but numerous Haratine were now established in these lands by the Emirate of Brakna (similar arrangements were made by the Emirate of Trarza to the west). After the French conquered the valley in 1891, they ruled, for complicated reasons (Park 1993a), that all holdings in the Boghé area on the North bank cultivated by Halpulaar-en were held only in usufruct and could not be claimed as legal property. In principle this ruling held until Independence in 1960. In practice, Halpulaar-en cultivators continued to elaborate agricultural holdings on traditional, pre-Emirate conquest principles, combined with Islamic law, throughout the colonial period. Yet what this meant after Independence was that at least three groups could legitimately, although using different criteria, claim rights to land in this region: Bidan members of the former Brakna Emirate (through the right of conquest), Haratine (by clearing unused land and cultivating it as free Muslims – even if at the instigation of Bidan and even if they continued to pay tithes), and Halpulaar-en (by clearing land and cultivating it for decades as free Muslims without paying any tithes to the Emirate of Brakna after the French conquest, because the French took over jurisdiction and simply insisted that land was owned in usufruct only. In retrospect, their rulings, as those of *kuffār*, could be ignored after the colonial period).

Within the flood recession context, the broad flood plain was divided into pieces of common property called *colladé* and held by lineage groups (Halpulaar-en) or fractions (Haratine). These lands provided a large portfolio from which annual allocations to members were made on the basis of the year's flood pattern and the shares held by individual members. This practice has a significant advantage over individual tenure, which would regularly result in individuals finding themselves with land that was particularly poor or even unusable. Because the good years can support far more than the long-term average population, property holding groups own more land than they can cultivate in good years and so have elaborated ways of subleasing lands to peripheral members of the community, such as pastoralists, Haratine, the poor, and lower castes. These arrangements have become institutionalized and amount to the recognition of subsidiary tenure rights.

Traditionally, disputes can arise over rights to land between individuals with subsidiary tenure rights and those with more direct

rights. The *qadi*'s court in Boghé preserves records of cases between many such disputants. In one case a woman who had for years cultivated some land that had been unused suddenly had the land taken away from her by a man who claimed ownership. This dispute was initially taken to the *qadi* for presentation but was finally arbitrated at the village level (at a village a few kilometers west of Boghé) using customary law. The case is typical, in that, although the legal principle of *indirass* would suggest that someone who cultivated unchallenged unused land for a period of years would, in so doing, acquire rights to the land, the ecology of flood recession agriculture forces communities to leave some lands fallow, or used only by peripheral members (due to their low productivity) for many years simply because the flood has rendered other lands much more productive. The flood pattern, however, can quickly change and reverse the order of productivity for a group's lands. In this case the village in question was one in which a large number of the inhabitants were fairly recently settled Peul (FulBe – traditional nomads who belong to the same basic ethnic group as the sedentary Toucouleur and together comprise the Halpulaar-en). As a result, the claims for long residence and cultivation of the land were particularly doubtful, and this made the resolution of the matter at the village level all the more critical. A negative judgement at the *qadi*'s court against the man who claimed past ownership could have inconvenienced a lot of people. The principles of the *shari'a*, though the basis for most ethnic claims to land (the group members cleared the lands and so established their rights), do not lend themselves directly to the arguments favored by the local elites and so these have traditionally forced parties to settle disputes over land through traditional arbitration.

THE RECENT EVENTS

The recent events in Mauritania, involving the dislocation of 400,000 people and the expulsion of the greater part of this number of Halpulaar-en from the SRB stemming from an incident in April 1989, substantiate the pessimistic view that loopholes in the law will be taken advantage of by elites if the incentive is adequate. In this case the drought had severely reduced the viability of pastoral modes of production in Mauritania. Simultaneously, major development efforts including construction of the Diama Dam, to prevent the entry of a salt-water tongue beyond a certain point in the Senegal River, and the Manantali Dam in Mali, to provide hydroelectric power and to make

possible controlled irrigation along the Middle Senegal River, made the area of the SRB look increasingly attractive. The net result (Park, Baro, and Ngaido 1990) was that Bidan elites began to push for modifications in the land tenure legislation to facilitate access to lands in the Middle SRB for private development schemes.

The first legislative efforts involved Circulaire, which were nominally intended to clarify parts of the legislation in force (Park, Baro, and Ngaido 1990). In fact these efforts did far more. As a group they set the ground for legal ways of short-circuiting the protections built into the Mauritanian judicial code. In particular, the legislation of 1983–84 provided a series of steps that had to be followed before land deemed vacant (dead) could be acquired by the state or a private party. Three steps in this process were particularly important. The first was acquisition of vacant ownerless lands by the state according to *shari'a* (*indirass* declared after the appropriate delay: Article 11 of Ordinance No. 83.127). The second was public notification of the impending change in status to a one-month concession to a new occupant (Article 29 of Decree 84.009), followed by a further temporary concession if a series of additional steps were taken. The third and final step was a definitive concession if the agreed upon investments were made. The changes instituted by the Circulaires included increasing the efficiency of the process by moving all land concessions of a "non-major" character (undefined) from the jurisdiction of high-level bureaucrats to that of local bureaucrats such as Préfets. They further justified the practice of making concessions from land that was in no real sense vacant, circumventing the provisions of the *shari'a* concerning dead lands, ignoring the need for witnesses to the effect that the land was indeed without owner for a given period of years, and condoning the practice of not even bothering to inform the public of the impending concession (Park, Baro, and Ngaido 1990).

The result was expropriation of land on a massive scale. Cultivators were ejected from their fields in mid-harvest on the grounds that the lands now belonged to Bidan groups, even though the principle of *indirass* could not even begin to be said to apply and so the land could not become domain or state land available for concessions. Innumerable villages of Halpulaar-en were expelled from their country, and some elites simply took whatever lands struck their fancy and imprisoned, killed, or expelled all who objected. Amnesty International, Africa Watch, and other human rights organizations have charged the Mauritanian government with explicit participation in and support for grave crimes against humanity (Park, Baro, and Ngaido 1990).

HISTORICAL CONTEXTUALIZATION OF ISLAMIC LAW

Exploitation of the weak by the powerful is a well-entrenched historical practice in virtually all parts of the globe. The Islamic world is no exception. There, as in other countries, the legal system has been systematically warped to fit the needs of the powerful. Johansen (1988) has made the case quite convincingly that Islamic law and land tax were systematically reinterpreted in the Mamluk and Ottoman periods to benefit the wealthy and deprive the poor of all legal property rights. The Mauritanian case is, thus, not qualitatively different either from the Ottoman case or from the tenure changes exemplified by the enclosures in Great Britain when the rights the poor had held under the feudal period were systematically expropriated to benefit the rising industrial and landlord classes.

The corruption of elites should not, however, distract us from the potential value of an oral testimony-based legal system such as the *shari'a* in the context of development efforts in societies where literacy and careful written record keeping are not likely to be the norm for many decades. The flexibility of such a system, especially in the context of an annually changing usable flood plain, can scarcely be exaggerated.

DISCUSSION

The two case studies presented demonstrate that political and ecological considerations enter into the application of Islamic principles. Rather than suggesting that one set of rigid principles can profitably be substituted for another, the argument I put forward relies on the flexibility of the application of principles based on oral testimony and current community practice when compared with attempts in the late twentieth century to apply principles which, although they may work in thoroughly literate societies, have no special claim to justice or efficiency and are completely unfeasible in the current impoverished African context.

Land registration schemes in Africa have shown little long-term benefit, and the registration lists have provided increasingly inaccurate pictures of reality as the schemes age and fail to reflect changes due to demography and market conditions. Impoverished conditions, generally low levels of education, and numerous informal economic arrangements do not meld well with registration schemes designed to prevent land fragmentation, and which are based on simplistic conceptions of traditional tenure rights.

The recent rhetoric about free-enterprise and individual tenure substitutes dogma for the complexity of reality. There are indeed many advantages to competition and decentralized decision-making, the real virtues of a capitalist economy. Western economies, however, have not relied exclusively on competition, and since the Depression western agriculture has used subsidies, bailouts, and tax breaks to counteract the unpredictability of agricultural production. It is thus nothing but rhetoric when the International Monetary Fund (IMF) suggests that all problems can be solved by promoting individual competitive farms in agriculture. Although in some areas the adoption of such a policy would change little, at least in the short run, in other areas such as the SRB under a flood recession regime it would result in catastrophic change in the short and long terms.

An issue that has contributed significantly to neoclassical dismissals of traditional tenure systems is the claim that they provide disincentives to investment in comparison to an individual tenure market-oriented system. There is certainly some truth to this insofar as annually reallocated common property discourages individual investment in the property, though it provides no disincentive to collective investments. In addition, people working land to which they have less than full ownership in fee simple rights (which includes most individuals, particularly the poor and women) will have few incentives to invest in capital development. Nevertheless, a similar criticism of the capitalist system can be made. To the extent that workers are not owners, they have less incentive to maintain the capital equipment (whether it is land or machinery). In the US more than 90% of equity is owned by a mere 10% of the population, and this must unquestionably contribute to the degradation of land and equipment, and the less than full use of the talents of the laboring population. The further failure of the system to charge full social costs (i.e., for pollution) to industry has well known impacts on the environment that will only be aggravated by any increased competition from the lowering of international trade barriers. In short, the incentives for investment (comprising maintenance and new investment) are less than ideal in both systems. The solution to both problems is undoubtedly to be found in the legislative area; whether it involves securing compensation for individuals making investments (something basically already supported in Islamic law but which could do with some improvements) or international legislation to adjust tariffs to compensate for pollution control failures.

The typical development approach suggests that agricultural policy should be shaped by estimates of short-term comparative advantage, and the economy should be structured solely in terms of individual tenure and competition. If we take Mauritania as an example, rice cultivation in irrigated perimeters has been pushed because it is a product with a world market value that Mauritania can produce. Yet, it is clear that Mauritania does not in any real sense have a comparative advantage in the production of rice – if the national cost of the foreign exchange needed to buy fossil fuels for the pumps, fertilizers for the rice, and machinery of all types is included. No study has provided a remotely persuasive argument to show how the foreign exchange earnings will fully cover the foreign exchange costs, let alone bring in significant profits. It is true, however, that a private party subsidized by the state in terms of the provision of free land, cheap credit, and administrative help could turn a profit producing rice in good years. If all implicit subsidies are excluded and the typical range of climatic conditions is included, the figures would appear quite different. All is relative apparently in IMF eyes, and countries are to do their best to produce something of benefit to world trade – even if alternatives are available that are preferable from a national perspective.

By contrast, indigenous sorghum, though it does not have high value on the world market, can be grown with flood recession agriculture at no foreign exchange cost to the country and is undoubtedly much less risky both politically and economically. Controlled release of floods by the Manantali Dam could significantly decrease the risk and improve production, yet the obvious advantages count for little because they do not entail adoption of individual tenure, a free enterprise system, and capitalist production for an international market.

The alternative here proposed would take advantage of the provisions in Islamic law for oral testimony supporting a wide spectrum of rights held by men and women, and similar provisions for the prioritizing of the rights of the current Muslim community, via appropriate application of the principle of *indirass* to formulate development policy that neither insists on individual tenure in all places and times nor focuses on short-term comparative advantage. The difficulty with most criticism of current development policy is that it does not go far enough. The virtues of free enterprise get systematically embedded in a complex of extraneous dogma that is never properly analyzed or unpacked. Democracy and free enterprise do not imply that there is no role for anything but individual tenure or that the state should

adopt a complete laissez-faire attitude. It is unlikely that any state has ever fully adopted a laissez-faire policy and certainly no state today even begins to approach such a position. Most areas of the economy in modern states are run by corporations that have multi-national status, at least oligopolistic market positions, and major tax breaks. Only a small sector of the economy remains even remotely composed of small competitive firms. It is thus extraordinarily hypocritical for western organizations like the IMF to expect Third World countries to adopt an economic policy that assumes their economy and other economies are comprised exclusively of small competitive firms competing at no disadvantage with all the world's firms. Instead, the reality of market power should be accepted, and the development policies of Third World countries, while encouraging democracy and free enterprise, should focus first on national interest and only secondarily, and with critical awareness of the inequities of the world system, on production for a world market. This might in some cases involve encouraging production systems that do not assume a continuous and appropriate supply of credit, logistic supplies, and labor, but do assume that the imperfections in the world economic system dictate a measure of self reliance and the adoption of legal and economic policies appropriate to local communities and local ecologies.

END NOTE

1. I have discussed in detail the political ecology of the region in the context of the irrigated perimeter at Foum Gleita in Park (1988).

REFERENCES

Amar, Emile
1913 L'Organisation de la Propriété Foncière au Maroc. Paris: Paul Geuthner.

Johansen, Baber
1988 The Islamic Law on Land Tax and Rent. London: Croom Helm.

Lane, E.W.
1984 [1863] Arabic-English Lexicon. Vol. 1. Cambridge: The Islamic Texts Society.

Malik ibn Anas, Imam
1989 Al-Muwatta of Imam Malik ibn Anas. Translated by Aisha Abdurrahman Bewley. London: Kegan Paul.

Park, Thomas K.
1988 Indigenous Responses to Economic Development in Mauritania. Urban Anthropology and Studies of Cultural Systems and World Economic Development 17(1): 53–74.
1992 Early Trends Toward Class Stratification: Chaos, Common Property, and Flood Recession Agriculture. American Anthropologist 94(1): 90–117.
1993a Arid Lands and the Political Economy of Flood Recession Agriculture in Fuuta Tooro. *In* Risk and Tenure in Arid Lands: The Political Ecology of Development in the Senegal River Basin. Thomas K. Park, ed. Pp. 1–30. Tucson: University of Arizona.

Park, Thomas K., ed.
1993b Risk and Tenure in Arid Lands. The Political Ecology of Development in the Senegal River Basin. Tucson: University of Arizona.

Park, Thomas K., Mamadou Baro, and Tidiane Ngaido
1990 Conflicts Over Land and the Crisis of Nationalism in Mauritania. Report for the Land Tenure Center, University of Wisconsin-Madison and USAID. LTC Paper No. 142.

Scudder, Thayer
1980 River-Basin Development and Local Initiative in African Savanna Environments. *In* Human Ecology in Savanna Environments. David R. Harris, ed. Pp. 383–405. London: Academic.

Spicer, Edward H.
1980 The Yaquis: A Cultural History. Tucson: University of Arizona.

Stoffle, Richard W., David B. Halmo, and Brent W. Stoffle
1991 Inappropriate Management of an Appropriate Technology: A Restudy of Mithrax Crab Mariculture in the Dominican Republic. *In* Small-Scale Fishery Development: Sociocultural Perspectives. John J. Poggie and Richard B. Pollnac, eds. Pp. 131–157. Providence: University of Rhode Island, International Center for Marine Resource Development.

Tabataba'i, Hossein Modarressi
1983 Kharaj in Islamic Law. London: Anchor.

Wakin, Jeanette
1972 The Function of Documents in Islamic Law. Albany: State University of New York.