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Source: *The Journal of Developing Areas*, Vol. 27, No. 1 (Oct., 1992), pp. 21-32

Published by: College of Business, Tennessee State University

Stable URL: <http://www.jstor.org/stable/4192164>

Accessed: 19/04/2010 12:46

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Land Rights and Agricultural Development in West Africa: A Case Study of Two Chinese Projects

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Agricultural development specialists have maintained for many years that the traditional communal systems of land tenure in West Africa and other areas are an obstacle to agricultural development. They argue that people without secure title will not invest in the development of land, since they cannot be assured access to it in future years and cannot transfer it to their heirs; that transferable land titles are needed as collateral for agricultural credit; and that failing to safeguard farmers' traditional land rights might lead to land concentration and its seizure by elites.¹ An early Sierra Leone five-year development plan reflects these concerns: "Certain forms of communal tenure do not provide security of tenure but instead discourage conservation and improvement of natural resources, hinder agricultural development and fail to encourage the credit and investment necessary in some areas of development."²

To counter the perceived inefficiencies of traditional land tenure practices in West Africa, both local governments and foreign donors have pushed for the legal recognition of formal, individual tenure for improved land. An alternative strategy pursued by some governments has been for the government to negotiate long-term rights to communal land, develop the land with foreign assistance, and then reallocate the developed land through formal contracts.³

Both the accelerated push for permanent, individual tenure and the state-sponsored contract system represent attempts to impose alternatives from above on a dynamic, evolving, and yet imperfectly understood traditional system. As H. W. O. Okoth-Ogendo commented recently, "Our understanding of African tenure regimes is still as foggy as it was more than a quarter of a century ago."⁴ This article argues that

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ignorance and misunderstandings regarding local land tenure principles can be greater obstacles to agricultural innovation than the traditions themselves. Furthermore, as this article demonstrates, project attempts to impose alternatives to traditional systems may very well worsen the situation of the small farmers who are the target of these projects by threatening the secure rights they enjoyed under traditional systems.

The Projects

The cases in this article are drawn from fieldwork conducted in West Africa between 1983 and 1989 as part of a larger study of agricultural assistance from the People's Republic of China (P.R.C.). The two Chinese projects under review are the Irrigated Rice and Vegetable Project in The Gambia, and the Rice and Vegetable Agrotechnical Station Project in Sierra Leone. Although the projects took different forms, both involved the development of swamp and upland areas for irrigated rice cultivation, with the goal of introducing intensive Chinese technology to boost production of rice, the main staple in both countries. Both projects were intended to help individual small farmers. Both ran into problems traceable directly to incompatible interpretations of rights to the land.

In The Gambia, the Chinese together with farmers in associations formed by the project developed 112 small, irrigated areas (perimeters) averaging 9 hectares in size. More than 3,600 households received land. Project participants were offered seasonal, interest-free government loans to pay for seeds and other inputs, plowing services, and water charges. Land development was also done on a loan basis, with farmers allowed to pay development loans in annual installments over five years. With Chinese assistance, Gambian farmers experienced record yields and enthusiasm for the project was high. These gains, however, were unsustainable.

When the Chinese left The Gambia at the end of their project in 1980, the government had recovered only 36 percent of water and power tiller service loans, and only 71 percent of tractor service loans. Farmers on the Chinese project owed an accumulated total of one million *dalasis* (US \$582,000).⁵ Four years after the departure of the Chinese, a very low cropping intensity and abandonment of fields had reduced the cropped area on project land by more than 68 percent.

In Sierra Leone, between 1971 and 1977, the Chinese built five rice and vegetable agrotechnical stations, each of which had several hectares of government research and demonstration plots, surrounded by up to 300 hectares of irrigated plots farmed by local peasants. Almost 900 farmers received land at these stations, and they were not charged for land development costs. The Chinese offered seasonal credit for production inputs, as well as plowing services and free pesticide spraying. Only two years after the Chinese left their Sierra Leone stations, the project was generally regarded as a failure. "These farms," complained a Ministry of Agriculture memo in 1979, "are currently flourishing with weeds."⁶ Records from one of the stations show that only 25 percent of seasonal loans were ever repaid; other stations failed even to retain records.

The Sierra Leonean government and the Chinese attributed the failure of the stations primarily to mismanagement by the government officials who took over responsibility for the stations upon the departure of the Chinese. While not denying the significant role of management in the fate of both Chinese projects, this article argues that the

Chinese approach was handicapped from the beginning by an inadequate understanding of local land tenure traditions, and, apparently, by an assumption that they were similar to China's. At the same time, the Chinese faced a situation where traditional legal rights to land are rapidly evolving, but where agreement on the ultimate legal framework is by no means universal. The misunderstandings inherent in this situation resulted in major problems. First, in The Gambia, the targeting of assistance in land development primarily to men meant in many cases that women lost secure use rights to their traditional rice land. Second, in Sierra Leone, after negotiating informal leases for the station land, project managers asserted that the project land was now "owned by the state." Farmers who refused to follow cultivation guidelines issued by the Chinese were threatened with expulsion from their land. In both cases, project land development resulted in the loss of access to land for some of the small farmers who were the intended beneficiaries of the projects.

Background: The Legal Framework for Land Rights

The land tenure situation in West Africa has been aptly described as "confusing and conflict-ridden."⁷ In most countries, the legal framework supports a mixture of (a) traditional, communal, usufruct rights; (b) increasingly common marketing of land by individuals through formal lease and sale agreements; and (c) periodic efforts by states to exert control over the land by eminent domain.

Sierra Leone and The Gambia have formalized a dual legal system for land law based on British colonial practice. In the urban area around the capital cities, British colonial law permitted individual title and active market transfers of land. Yet in the rural areas, the traditional system was "protected" (as the British saw it) through a legal framework typified by the Sierra Leone Protectorate Ordinance of 1927, which stated that "all land in the Protectorate is vested in the tribal authorities, who hold such land on behalf of the native communities concerned."⁸

The prevailing form of customary tenure in this part of West Africa, and indeed of much of sub-Saharan Africa, is usufructory; that is, individuals and family groups have formal rights to use land, although not to sell it.⁹ Members of chiefdoms and family groups acquire land initially through clearing virgin land for cultivation and settlement. Use and occupation rights to the cleared land are inherited by family members. Descendants of the original settlers expand the family land through clearing and cultivating new plots.¹⁰ In this way, the family group accumulates what amounts to group ownership rights—rights that are administered by the senior members of the group. Frequently usufruct rights apply separately to household and individual land. All family members have general usufruct rights over household land, but individuals may also have personal rights over land they have individually cleared, rights that can in some instances be passed on to their heirs.¹¹ This is particularly important for younger household members and women, who frequently cultivate "personal" cash crop fields and who have sole control over the produce from these fields. This practice appears to be on the rise in some parts of West Africa.¹²

Coexisting with the system of inheritable usufructory rights is one deriving from secondary settlement.¹³ Traditionally, provisions existed for "strangers" to obtain land on an annual basis by "begging" land from a land-owning group, paying in cash or in kind. Likewise, slaves were allocated land for their personal use from the land

held by the family. Land rights enjoyed by nonowners—strangers, slaves, and their descendants—are “limited to personal occupation and use.”¹⁴ These formal rights do not apply to a particular plot; the family head or the local traditional authorities can redistribute land from year to year. Frequently, immigrants or strangers would marry into the local family group to obtain secure land rights, although in areas where land is increasingly scarce, as in The Gambia, the number of landless or land-poor families can be fairly high.¹⁵

The traditional system has built-in flexibility and must be seen as dynamic, not static. Over time, the system has expanded to include temporary transfer of usufruct rights by individuals through mortgages or pledges of the land, and through rental arrangements. Investors wishing to obtain the use of land for agricultural production can also be accommodated within the existing system. In Sierra Leone, for example, after obtaining the consent of the local chief and local elders, the investor obtains the consent of the district council and district elders, who make up a lease contract that, after being witnessed and recorded, is binding in courts of law. Leasing, pledging, and renting land appear to occur most frequently in areas with the more valuable swampland, or on irrigated land developed under project auspices.¹⁶ In The Gambia, the assumption that irrigated, project-developed land is somewhat outside the boundaries of traditional land-use customs has allowed an active land rental market to emerge for irrigated land.¹⁷

Superimposed on this changing system of local tenure arrangements are the land rights claimed by the state. The distinction among the concepts of state ownership of land, the state as holder of the land in trust for the people, and the state’s right of eminent domain is sometimes unclear and has been the cause of much conflict.¹⁸ In Sierra Leone, this conflict has old roots. For example, the fear that the British government, by imposing a hut tax, was claiming ownership rights to the land sparked the 1898 insurrection.¹⁹

The concept of state-owned land is one that has not taken firm root in West Africa. As Kenneth Little remarked in 1952, “There is no equivalent in native law and custom to the European idea of ‘crown lands.’”²⁰ Yet the modern-day interpretation of broad land rights vested in government authority persists. As one Sierra Leonean official said to me when I asked him if the land was owned by the state: “Well, the people are the state. If the government wants to invest in agriculture, there is no need to negotiate with the local authorities or the people. . . . The government can use any land without a lease, in perpetuity.”²¹

Under the pressure of increasing populations, West African farmers are developing more and more land for annual and long-term crops. In many areas, the rights of the individual over the rights of the group have begun to take precedence. And yet at the same time, the interest and involvement of the state in the rural areas has increased through the medium of agricultural development projects. This situation is fraught with potential for conflict—between the state and the individual, between the individual and the tribal authorities, and between members of families—for the rights to land.

The Gambia: Women's Rights, Men's Rights

The Chinese first came to The Gambia in 1975 and have been involved since then in various efforts to support the country's goal of increased rice production. The Chinese Rice and Vegetable Project (1975–80) followed a similar project administered by Taiwan between 1966 and 1974, and overlapped with a World Bank Agricultural Development Project (ADP) undertaken between 1973 and 1976. In 1986 and 1987, the Chinese conducted a feasibility study for a second rice production project.²² All of these efforts were directed toward the transfer of intensive, irrigated rice technology.

The Taiwanese constructed irrigation systems for 88 scattered villages, 646 hectares total. They attempted to avoid land tenure conflicts by invoking a 20-year community leasehold as allowed under The Gambia's 1966 Land Act and by giving preference to unclaimed land. For land that had been claimed but not in use, they required the claimants to voluntarily waive their special rights to the land for the 20 years of the lease.²³ The World Bank ADP tried to emphasize legalization of long-term individual rights to the land developed through their project. Yet manpower constraints on surveying and the time-consuming process of establishing written legal rights to land in the rural areas where customary laws prevailed eventually led them to abandon attempts to formalize land tenure. The Chinese project made no explicit attempt to modify customary law. While our focus here is primarily on the Chinese project, all three projects affected the land tenure balance in Gambian villages because they targeted their project assistance to men.

As in many, if not most, African societies, women in The Gambia have a major agricultural production responsibility. Until projects introduced irrigated rice to men, women were responsible for almost all rice cultivation. Along with their responsibility went certain privileges; among these was the right to clear and cultivate "personal" land for growing crops for personal use. This personal crop, or *kamanyango*, could be disposed of as its owner saw fit.²⁴ By directing credit, training, and heavily subsidized mechanized services and inputs to male farmers, these projects weakened the economic power of women and eroded their position in the family. Women had very little opportunity to enter the project and take advantage of its highly subsidized benefits.

The impact on women did vary by project. For example, although the World Bank project was designed and implemented slightly before the Chinese came to The Gambia, staff members were aware of the negative impact of the Taiwanese project on Gambian women farmers and made a special effort to involve women. Approximately 10 percent of ADP farmers were female, and at least one of its schemes was composed entirely of female farmers.²⁵ Only 5 of the 579 participants in a sample survey of 14 Chinese perimeters were women—less than 1 percent. Of these, only 2 were female heads of household who were original members and had received land under the Chinese. Another had cleared an eighth of an acre plot along the edge of a village perimeter. A fourth inherited two plots when her husband died, and the fifth had a plot given to her by her father.

The situation was worsened by the not uncommon practice of taking over women's rice swamps for irrigation development. Like the Taiwanese, the Chinese attempted to develop virgin swamp for their rice project, but one-fifth of the sample perimeters I visited in The Gambia were built in swamps previously used by women for growing rain-fed rice. By clearing and developing the land with the assistance of the Chinese, the men who participated in the projects had the opportunity to claim exclusive

kamanyango rights to this land. Although many designated these plots as *maruo*, or household property, under local tradition any surplus marketed from *maruo* plots comes under the control of the male household head. In these cases, the women who had originally cleared and cultivated these swamps lost their rights to the land and as a result their control over the income resulting from sales of the surpluses. Thus a project with the objective of assisting Gambian rice farmers actually worsened the position of many of them.

The ignorance of household dynamics and decision making also contributed to a shortfall in project output, the failure of farmers to double-crop, and the poor performance of the loan program, as farmers realized far less income than had been anticipated. Within five years after the Chinese left, as little as 36 percent of the hectareage on all irrigated rice perimeters was being cultivated over two seasons.²⁶ Double-cropping is necessary in most irrigation systems to justify the costs of constructing and maintaining a pump irrigation system. Gambian farmers take advantage of the opportunity to cultivate an irrigated crop in the dry season, but few use the perimeters during the rainy season. Irrigated rice is a labor-intensive crop, and once women and junior males have contributed their labor to the household's dry season *maruo* crop, they can concentrate during the rainy season on kamanyango groundnuts, flood-recession rice, and other crops if they have access to land. With these many competing kamanyango opportunities, household heads wishing to double-crop irrigated rice face almost insurmountable labor bottlenecks during the rainy season.²⁷

Although women in the villages reached by the Chinese project in The Gambia generally lost out on the ownership opportunities provided by the clearing and development of the irrigated plots, they sometimes did have access to irrigated land on rental or pledge terms. More than half of the sample of 14 perimeters surveyed contained at least some plots borrowed or rented by women; on one scheme in MacCarthy Island Division, half of the plots were rented to women although all of the "owners" were men.

Ironically, the low cropping intensity may have increased women's access as a result of the difficulty some household heads faced in repaying the projects water charges. By regulation, the failure to repay these loans could lead to the removal of the perimeter's pump. In several villages, men who were unable to pay their loans had turned to women—wives, sisters, and neighbors—and rented plots to them in return for payment of the loan, a form of pledging. (Women sold their animals and kamanyango crops to raise the money.) Male farmers in some villages explained to me that this situation was temporary and that they would take back the land in the next cropping season. What has resulted in these particular perimeters is a system where women have insecure tenancy on irrigated plots owned by men.

The Chinese ignorance of customary land rights and the division of labor in Gambian farming households handicapped their effort to introduce intensive rice cultivation in The Gambia. Assuming that cultivation followed familiar patterns, they introduced their technology and its accompanying subsidized tractor services and fertilizers to men, and they worked together with local men to develop irrigated rice perimeters that produced surpluses marketed by men and contributing to their personal incomes. When the irrigated land comprised rice fields formerly owned by women, this situation

may have tilted the economic balance within these families against women. Women, and junior men, were reluctant to contribute labor to enterprises involving the production of surpluses beyond family needs, knowing that these surpluses would be under the personal control of the family head. The women's experience with the Chinese project has lingered as a bitter memory, making them wary of project-directed innovations and handicapping efforts by later projects to introduce irrigation.²⁸

Sierra Leone: Development for Whom?

Most of the land on the five agrotechnical stations developed by the Chinese in Sierra Leone was land that had been cleared for cultivation at one time or another in the past, and thus it was land to which local people had historical claim.

Under the agreement between the Chinese and the Sierra Leone government, Sierra Leone was responsible for providing land for the five agrotechnical stations. Both the Chinese and local project officials proceeded to develop and allocate plots under the assumption that the land acquired for the projects was owned by the government. The rules and regulations of China's main experimental site in Sierra Leone, Makali Station, state this assumption quite clearly: "The ownership of the land developed and water control facilities belongs to the State. The Borrower only has the right to conduct production and planting according to the planning of the Government."²⁹ Rolako Station regulations echo this: "The land in [*sic*] demonstration farm of Rolako Station belongs to the State and is administered by the station. This State owned land shall not be allowed to be seized by any private person."³⁰

The assumption that the government "owned" the land and could control land allocation was crucial to the project, for the system of sanctions introduced by the Chinese to ensure adoption of their package of intensive cultivation techniques was based on it. The rules and regulations of two stations confirm this.³¹ At Makali, rules cautioned: "In case the borrower violates any one of the above terms [involving cultivation and maintenance requirements] and refuses to correct his mistake after warning, the government has the power to take his borrowed land back to lend it to any other farmer." Rolako Station warned: "Farmers must study hard, adopt the advance [*sic*] farming techniques and receive the technical guidance from the Station. They must be self-reliant, hard-working and strive for bumper harvest and shall not lie the land waste randomly or leave it uncultivated. If the farmer commits any breach of the above stipulations binding upon him, the station has the right to revoke the land and lend it to other farmers."

The tension between the project's assumption of state ownership and local claims of traditional ownership was present from the very beginning of the project. Construction on some of the project sites began with tacit government permission before formal arrangements had been made to consult the families holding ownership rights. For example, by the end of 1973, the Chinese had established several experimental plots on fallow riverain land at Lambayama (Kenema District). In May 1974, they announced their plan to develop 160 acres of irrigated rice there, but they did not hold a formal meeting with the landowners, local chiefs, and town officials until June 1974. Construction of the dam for the project began before the chieftdom committee gave its consent for the leasing of the Lambayama land following a Sierra Leone government promise to pay the owners for the lease.³²

The disregard for local customs led to problems. Local farmers regarded the large groups of Chinese who came to demonstrate irrigated rice techniques as “stranger farmers,” rather than as foreign technical assistants. The Chinese were plagued with eviction notices and other legal threats during their stay, including a letter from landowners at Njagboima Station near Bo: “May this give notice of our intention to sue these Chinese farmers for Criminal Trespass.”³³ Likewise, the Chinese development of 50 acres at Ogoo Farm in Sierra Leone began without a lease arrangement with the local landowners, and this lapse has plagued Ogoo Farm ever since. The family with ownership rights over the largest amount of the developed land claimed that no rent was ever paid to them, and their efforts to redress the situation have involved Ogoo Farm in a morass of legal and political troubles.

Landowners at Lambayama Station who have not been paid by the government as originally agreed have challenged the government’s control of the station by reclaiming and renting out the station land, building on it, and cutting into it.³⁴ When the Chinese left Rolako Station, the local landowning family began to demand compensation for the Ministry of Agriculture station’s continued use of Rolako hill: “When the Chinese were here they were not paying for the hill too, but the working was nice with us but since the Chinese left here the working is not well with us.”³⁵ Obviously, local families strongly resist the idea that the state owns the land. Leases are possible within the framework of traditional land tenure rights and obligations, but farmers refused to accede to de facto arrangements whereby the state effectively pursued a policy of eminent domain, occupying their land without compensation.³⁶

Many of the problems that faced the Sierra Leone government when it took over the stations—poor loan repayment, declining yields, poor maintenance, and unauthorized reallocation—can be traced to the fact that land tenure realities did not match the Chinese assumption of state ownership when they designed a system resting heavily on state control of the land and removal of farmers who refused to follow the new practices.³⁷ Chinese efforts to evict wayward farmers from the project land raised strong feelings among local farmers. Under traditional customs, “the chief is not allowed, in any circumstances, to dispossess an individual or his kinsmen of land, which they have occupied and cultivated over a period of years. . . . There is no way in which he can legally be denied access to his land.”³⁸

The resistance of local farmers to the project’s system of land regulations eventually forced its abandonment, although the formal regulations continued in force. Without the Chinese as a barrier, influential local farmers were able to pressure station staff not to evict them from project land even when they failed to follow regulations. When fertilizer and pesticide supplies ran out and project tractors broke down, staff no longer had the power to enforce compliance by withholding services. Gradually, traditional landowners regained control over allocation of the irrigated plots on most of the stations. In addition, since the strict system of rules and top-down control under the Chinese had not encouraged the development of effective farmer associations and self-management, station discipline broke down. Yields dropped as the farmers failed to repair the walls of their irrigation canals, clear weeds from the waterways, or follow strict rotations of water allocation.

In the end, the ultimate acceptance of traditional tenure rights signaled a mixed victory of the local farmers over the state: they did regain the rights to their land,

but that led to the breakdown of the Chinese advisers' authoritarian system. Incomes dropped as a result, and farmers complained that "the working is not well with us."

In addition, as might be expected in the context of "confusion and conflict," the government's tacit acceptance of local rights to the land may ultimately prove to be temporary. Ample evidence exists that both the government and the Chinese (who remain in Sierra Leone as agricultural consultants) continue to view the land as owned by the state. For example, during one of my visits officials at Makali station voiced frustration with farmers who insisted on transferring use rights to their plots without consulting station staff: "These people feel they own the plots!" In 1985, a local businessman hired a team of Chinese consultants to explore the feasibility of taking over Rolako station and operating it as a joint venture using paid local labor. The feasibility study contained no mention of rental payments to traditional landowners.³⁹ And by 1988, landowners at Ogoo station had abandoned the station entirely to the government, which then leased it to a local businessman for commercial rice production using local farmer labor.

Conclusions

Government-sponsored irrigation schemes have introduced major institutional and social as well as technical changes into local farming systems. In West Africa, both governments and donors have sometimes regarded customary systems of land tenure as obstacles to efforts to promote increased production. Yet as the preceding cases illustrate, projects that ignore, or attempt to reinterpret, traditional land-use rights, can deprive women and other small farmers of their hitherto secure usufruct rights, with important equity *and* production consequences. In the worst cases, projects could act to accelerate a process of land alienation that is already underway in areas with growing population pressure.

Other donors over the past 15 years have begun to explore the benefits of enhanced sensitivity to local socioeconomic conditions.⁴⁰ Why, then, did the Chinese handicap their projects by acting on the basis of insufficient knowledge of local practice? The answer can probably be traced to at least two factors. First, the Chinese regarded their work as primarily technical: constructing irrigation schemes and introducing improved practices. They judged their success by the number of hectares developed each year, stressing speedy construction and relying on their analysis of technical feasibility. Second, most people who worked with the Chinese emphasized the poor communication between local officials and the Chinese. The technicians sent over to develop project land generally did not speak local languages, even English. Unable to communicate with local people except through a single interpreter, project teams had few opportunities to adjust the assumptions they brought with them.

In China, the land *is* owned by the state. Likewise, men in China bear most of the responsibility for irrigated rice production, although women do participate in the labor. In Sierra Leone and The Gambia, the Chinese approach to technology transfer ran headlong into social and institutional problems that hampered their efforts to introduce a new technology intended to improve the lives of small-scale rice farmers in these countries. Part of the explanation can be traced to the contradictions generated by their project's efforts to redefine the land rights granted under traditional West African farming systems.

NOTES

1. See also David A. Atwood, "Land Registration in Africa: The Impact on Agricultural Production," *World Development* 18 (May 1990): 659–71.
2. Government of Sierra Leone, *1974/75–1978/79 National Development Plan* (Freetown, Sierra Leone: GPO, 1974), p. 150.
3. State-run irrigation schemes are an increasingly common example of the latter—witness the Blue Nile and Gezira schemes in the Sudan, Jahally Patchaar in The Gambia, and a series of Senegalese government schemes on the Senegal River. See, respectively, Victoria Bernal, "Losing Ground—Women and Agriculture on Sudan's Irrigated Schemes, Lessons from a Blue Nile Scheme Village," in *Women, Land, and Agriculture in Africa*, ed. Jean Davison (Boulder, CO: Westview, 1987); Adrian Adams, "The Senegal River Valley," in *Rural Development in Tropical Africa*, ed. Judith Heyer, Pepe Roberts, and Gavin Williams (New York: St. Martin's, 1981); Judith Carney, "Struggles over Crop Rights and Labour within Contract Farming Households in a Gambian Irrigated Rice Project," *Journal of Peasant Studies* 15 (1988): 334–49.
4. H. W. O. Okoth-Ogendo, "Some Issues of Theory in the Study of Tenure Relations in African Agriculture," *Africa* 59, no. 1 (1989): 7.
5. Republic of The Gambia, Department of Agriculture, "Annual Report" (Cape St. Mary, 1980), p. 9.
6. Government of Sierra Leone, Ministry of Agriculture and Natural Resources (hereafter MANR), Chinese Rice and Vegetable Project files, minutes of a meeting at Tower Hill, 3 January 1979.
7. Keith Hart, *The Political Economy of West African Agriculture* (Cambridge, UK: Cambridge University Press, 1982), p. 91.
8. Preamble to the Sierra Leone Protectorate Land Ordinance, 1927, as cited by Kenneth L. Little, *The Mende of Sierra Leone* (London: Routledge and Kegan Paul, 1951), p. 84. The Land (Provinces) Act of 1946 in The Gambia contains almost identical language.
9. Robert Bates has cited examples where this general statement does not hold. See "Some Conventional Orthodoxies in the Study of Agrarian Change," *World Politics* 36 (January 1984).
10. Little, *Mende*, p. 82.
11. Food and Agriculture Organization of the United Nations (FAO) and the Ministry of Agriculture, The Gambia, "The Rice Industry of The Gambia: An Economic and Financial Analysis of the Rice Industry with Recommendations for Its Strengthening" (Banjul, The Gambia), Vol. 2, "Technical Annexes" (FAO, Rome, October 1983), p. 85.
12. See, for example, Gerald Currens, "Women, Men, and Rice: Agricultural Innovation in Northwestern Liberia," *Human Organization* 35 (Winter 1976); Jennie M. Dey, however, states that the practice is fairly old in The Gambia. See "Women and Rice in The Gambia: The Impact of Irrigated Rice Development Projects in the Farming System" (Ph.D. diss., University of Reading, United Kingdom, 1980).
13. Little, *Mende*.
14. *Ibid.*
15. FAO and Ministry of Agriculture, "Rice Industry of The Gambia," vol. 2, p. 85; A. F. Robertson, *The Dynamics of Productive Relationships* (Cambridge, UK: Cambridge University Press, 1987).
16. This has been true in Sierra Leone for at least several decades: "In certain areas where the land is of high value, as in swamp areas along the Little Scarcies River, almost every plot has been acquired by pledging, and in some portions second-generation pledges are farming the land" (Irving Kaplan et al., *Area Handbook for Sierra Leone* [Washington, DC: American University, Foreign Area Studies, 1976], p. 269).
17. Deborah Brautigam, "The Peoples Republic of China Irrigated Rice Project in The Gambia," Gambia River Basin Study Working Document no. 42 (University of Michigan, Ann Arbor, 1984).
18. Hart notes that in West Africa, "over the years various regimes have asserted the state's eminent domain over the land; and they have usually been able to requisition land without making substantial payment to the occupiers. But implementation of controls over land tenure has been slow, uneven, and laborious" (*West African Agriculture*, p. 91).
19. See V. R. Dorjahn and Christopher Fyfe, "Landlord and Stranger: Change in Tenancy Relations in Sierra Leone," *Journal of African History* 3, no. 3 (1962): 396; and also Little, *Mende*, p. 85.
20. Little, *Mende*, p. 91.

21. Interview with official from Sierra Leone embassy, Washington, DC, 29 September 1987.
22. The P.R.C. Investigating Group of the Rice Fields Irrigation Project to The Gambia, "Report on the Investigation of Rice Fields Irrigation Project in the Republic of The Gambia," Banjul, The Gambia, December 1987. With the Chinese conclusion that the project would not earn enough to cover expenses, the Gambian government decided not to go ahead with it.
23. J. R. Dunsmore et al., "The Agricultural Development of The Gambia: An Agricultural, Environmental, and Socioeconomic Analysis," Land Resources Study no. 22 (Ministry of Overseas Development, Tolworth, UK, 1976).
24. Jennie Dey's work in the 1970s was the first of a series of studies focusing on foreign-aided rice projects in The Gambia. See Dey, "Women and Rice in The Gambia"; Brautigam, "China Irrigated Rice Project"; and Carney, "Struggles over Land and Crops."
25. World Bank, "Impact Evaluation Report: The Gambia Agricultural Development Project" (World Bank, Operations Evaluation Department, Washington, DC, 1984).
26. By comparison, a fully utilized perimeter, double-cropped, would have a cropping intensity of 200 percent.
27. See, for example, Republic of The Gambia, Ministry of Agriculture, Project Planning and Monitoring Unit (PPMU), "Excursion into the Problems of Underutilization of Existing Irrigated Rice Lands, Competition of Crops for Available Land and Labour Resources, and Limited Availability of Suitable Irrigation Water," PPMU Paper no. 5 (Ministry of Agriculture, Banjul, May 1983).
28. A 1983 BBC documentary, "The Lost Harvest," by Sarah Hobson, quoted Mariama Koita, a Gambian woman, reacting to the new Jahally Patchaar irrigation scheme: "It seems this project is just like the Chinese one when we suffered before. We aren't going to put up with that again." Cited in Judith Carney, "Gender and Agricultural Intensification in The Gambia" (Paper delivered at the Thirty-second Annual Meeting of the African Studies Association, Atlanta, Georgia, 2-5 November 1989).
29. MANR, Chinese Rice and Vegetable Project files, Makali Station, Station Regulations ("Rules and Regulations Lending Land to Farmers at the Makali Station," n.d.).
30. MANR, Chinese Rice and Vegetable Project files, Rolako Station, Station Regulations ("Loan of Land to Farmers," n.d.).
31. MANR, Chinese Rice and Vegetable Project files, Makali Station and Rolako Station, Station Regulations, n.d.
32. MANR, Chinese Rice and Vegetable Project files, Kenema P.A.O. District Headquarters, Lambayama file, memo from Kenema Principal Agriculture Officer to MANR, Tower Hill, Freetown, 22 June 1974. A similar ignorance of local traditions marked the decision to begin construction of housing at the Sierra Leone Magbass Sugar Cane Project in 1980. "The Chinese technicians," wrote a ministry official at Magbass, "[wish] to [start] surveying the area without awaiting the usual agreement with the local heads in the area. A move of this nature will certainly kindle trouble" (MANR, Chinese Magbass Sugar Cane Project file, Tower Hill, memo from MANR Agriculture Officer, Magbass, to MANR office, Magburuka, 3 July 1980).
33. MANR, Chinese Rice and Vegetable Project files, Njagboima Station, n.d.
34. MANR, Chinese Rice and Vegetable Project files, Lambayama Station, memo, 11 January 1984.
35. MANR, Chinese Rice and Vegetable Project files, Rolako Station file at P.A.O. office, Makeni: letter from Pa Santiagie Lima Kanu to Paramount Chief, Makari Gbanti Chiefdom, 29 November 1980.
36. Ironically, at the same time that the Chinese were insisting that the agrotechnical station land was "owned by the state," they were symbolically confirming the ownership rights of the local chief. In traditional practice, the postharvest presentation of a bushel of rice by the tenant, or "strange" farmer, to his host acknowledges the jurisdiction of the owner over the land farmed that season by the tenant. In Sierra Leone, after each harvest, the Chinese ceremoniously presented the local chief with a bushel of rice, explaining this as a courtesy.
37. At Lambayama, the rules regarding reallocation of plots were interpreted so strictly by the Chinese that they ordered a woman to cease cultivating her husband's plot in his absence as she was not the person to whom the plot was allocated.
38. Little, *Mende*, p. 91.
39. AGRICON (China International Cooperation Company for Agriculture, Livestock, and Fishery), "Rolako Rice Production Feasibility Study," prepared for Mr. J. S. Mohammed, 7 September 1985, first draft. The project idea was abandoned after Mr. Mohammed lost favor with the Sierra Leone government and fled the country.

40. See, for example, Kees Ton and Kees de Jong, "Irrigation Technology and Social Change: An Analysis of the Social Variables of Technology," *Journal of Developing Areas* 25 (January 1991): 197–206.