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WOMEN AND GENDER AT THE OFFICE DU NIGER (MALI): TECHNOLOGY, ENVIRONMENT, AND FOOD CA. 1900-1985

By

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ABSTRACT OF THE DISSERTATION

Women and Gender at the Office du Niger (Mali): Technology, Environment, and Food ca. 1900-1985 by LAURA ANN TWAGIRA

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This study examines how rural women in twentieth century Mali integrated the technological infrastructure of an industrial agricultural scheme for their own food production needs. The scheme called the Office du Niger (Office) is one of the most ambitious development projects in Africa. Established in the French Soudan in the 1930s to produce primarily cotton and secondarily rice for export, the Office drew upon the Niger River to feed a vast irrigation network that radically altered the surrounding agricultural landscape. Initially, the Office was populated through the forced migration of families. Chronic hunger plagued residents at the colonial Office for many decades and recurred in the post-colonial years. At the Office, women often struggled to produce food. Yet, it was the quality and not simply the quantity of available food that concerned women. Good food was measured by the taste for specific textures, smells, flavors, the sensations of fullness, as well as the nutritional content. For women, maintaining control over food also meant attending to taste. I argue that women used the resources of the Office to engineer a highly adaptive local food production system that depended on female labor power and made use of modest technologies (such as metal cooking pots) that are generally overlooked in favor of the more impressive irrigation infrastructure of the scheme. Gradually

ii

women adapted the project elements (the new labor calendar, built-infrastructure, industrial machines, and market logistics) to their own needs. This process of adoption spanned the colonial and post-colonial eras and entailed the interplay between women's labor, the environment, modest technologies, and industrial technologies.

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iv

Table of Contents

Abstract		ii
Acknowledgements		iv
Table of Contents		v
List of Tables		vi
List of Figures		vii
Glossary of Bamana Terms vi		
Map	The Office du Niger and Surrounding Region, ca. 1932- 1947	X
Introduction	The Taste of Development: Gender, Technology, Environment and Food in Twentieth Century Mali	1
Chapter 1	Wild Rice and Millet Beer: Measuring the Harvest by Women's Production, ca. 1900-1930	21
Chapter 2	Early Colonial Food Politics: Producing for the Market and Standardizing Taste, ca. 1900-1935	74
Chapter 3	Peopling the Landscape: Colonial Irrigation, Technology, and Demographic Crisis, ca. 1926-1944	122
Chapter 4	"We farmed money": Re-Shaping the Foodscape and Women's Marketing, ca. 1944-1965	175
Chapter 5	Metal Pots and Buckets: The Power of Modest Household Technologies at the Industrial Office, ca. 1946-1965	231
Chapter 6	Red Millet and Rice Babies: The Fight for Local Food Security ca. 1960-1985	280
Conclusion	"Une Véritable Sécurité Alimentaire"	341
Sources Consulted and Bibliography		347

List of Tables

Table 1	Women's Seasonal Labor and Agricultural Production	50
Table 2	Average Prices in Ségou for basic foodstuffs, 1913-1927	88
Table 3	Demographic Shift at Niénébalé, 1926-1927	128
Table 4	Population Gains and Losses for Kokry and Niono Sectors, 1935–1943	130
Table 5	Intensified Recruitment and Coercion during World War II	134
Table 6	Office du Niger Population 1960-1979	300
Table 7	Office du Niger Population by Region Reflecting the Arrival of Hunger Migrants, 1981	303
Table 8	Office Sectors under Consideration to Allow Families Permission to Send Rice to Relatives	306
Table 9	Guards per Sector, 1982-1983	317

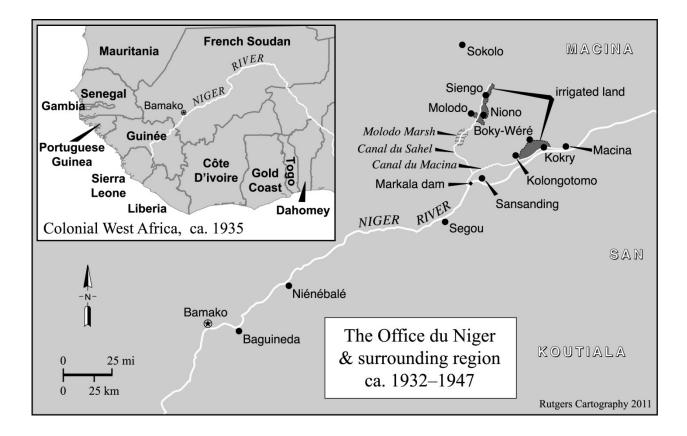
List of Figures

Figure 1	The Office du Niger and surrounding region, ca. 1932-1947	Х
Figure 2	Motto of the Molodo Zone	342

Glossary of Bamana Terms

Baarakolo	Large round organic container (frequently used to collect water)
Basi	Couscous
Bogoda	Clay pot
Daba	Hand-held hoe
Da	Plant leaf used in sauce preparations
Dege	Cold porridge
Jigine	Granary
Dolo	Millet beer
Dugutigi	Literally the town's caretaker (often translated as chief)
Duloki	Blouse or tunic
Dumuni	Food
Fenw (pl)	Things
Fonio	Wild growing grain
Gwa	Kitchen, hearth, or home
Gwatiggy	Man in charge of the granary
Jeba	Wild growing rice plant
Kongo	Forested or wooded area
Kuna	Wooden serving bowl
Minauw (pl)	Possessions, equipment (muso minauw are women's household tools)
Moni	Warm porridge (usually made from millet)
Namugu	Dried baobab leaf powder (used in sauce preparations)
Negeda	Metal pot
Nere	Tree seeds used to make the spice soumbala
Nyo	Millet
San yelema nyenaje	Harvest celebration
Sege	Potash
Seri	Warm porridge (often made with rice or corn)
Soumbala	Spice made from nere seeds

Tafe	Measure of cloth (often wrapped around a woman's waist as a long skirt)
Tegedege	Peanut paste (or Bambara groundnut paste)
Toh	Main dish prepared from millet
Toh pasa	Spoon for stirring cooking toh
Wari	Money



Introduction: The Taste of Development

Gender, Technology, Environment and Food in Twentieth Century Mali

Women in Twentieth Century Mali

The history of rural women in twentieth century Mali is a history of technology and of environmental change. Through the quotidian production and preparation of food, the vast majority of women in Mali engaged with and took a formative role in major processes in the history of the colonial French Soudan¹ and its successor, the independent nation of Mali. Throughout the twentieth century the region was predominantly rural. As a result, government administrations in need of finance sought to direct the agricultural economy. Government interventions and development programs were often heavy-handed, and over several decades of forced labor regimes, industrial development, decolonization, rural socialism, military dictatorship, and famine the region saw dramatic and in some cases rapid transformation. The gendered dimensions of such wide sweeping change were significant. Food supply was politicized in these years, making women's daily food labors extremely important.

Women experienced these political and economic shifts most immediately through changes in the environment, access to food resources, and women's technologies. By looking at the women who lived at the major agricultural program called the Office du Niger (Office), broad changes in rural society and women's lives come into focus. The Office was arguably the

¹ The territory in the western Sudan called the French Soudan (Soudan Français) was conquered by the French military in the late 1880s and 1890s. It was briefly reorganized as the Haut-Sénégal et Moyen Niger in 1900. In 1904, the colony was again reorganized as Haut-Sénégal-Niger, and finally renamed Soudan Français in 1920. For simplicity, I refer to this territory only as the French Soudan for the colonial era. In 1960, the former French Soudan and colony of Senegal united as the Malian Federation, but this political unity lasted for only a few months. That same year the territory formerly called the French Soudan became the Republic of Mali.

most important development intervention by the French in West Africa and later occupied a significant role in the economy and politics of independent Mali. The scheme intensified technological and environmental changes taking place all over the region. The technologies most directly associated with women--more appropriately called *musow minaw* or women's things--included modest domestic tools such as the mortar and pestle and various metal household goods. A range of industrial agricultural machines also entered the changing rural landscape at the Office. Women adopted threshers and other agricultural machines for their food labors bridging the domestic and industrial nature of twentieth century change. Much about women's lives at the project is distinct from that of other women in the region. Yet, these distinctions are further instructive for considering the diversity of rural women's experiences.

A political history of Mali would feature a chronology of intrusive state intervention (including the establishment of the Office) under the French colonial regime and succeeding post-colonial governments. The state presence in daily life is important to this history, but it did not entirely determine women's daily activities. Women's labor, the environment, technology, and local taste preferences were all essential to the provision of food. At different points in time over the century, one or more of these factors became more pronounced than the others in assuring daily meals. Each was an important element of the overall *foodscape*, by which I mean the context in which women gained access to food resources and prepared daily meals. Analytically, the conventional and stark divide between the colonial and post-colonial eras hides more than it reveals. Certainly, the power of the state was heightened at distinct moments, nevertheless, the gradual social, environmental, and technological changes that affected women the most unfolded across the major political breaks and eras.

Women at the Office du Niger

The Office du Niger is one of the most ambitious agricultural schemes in Africa. Established in the French Soudan in the 1930s to produce primarily cotton and secondarily rice for export, the Office drew upon the Niger River to feed a vast irrigation network that radically altered the surrounding agricultural landscape. The construction of a large dam on the Niger River for irrigated farming across the inland delta region was accompanied by a vast network of canals and heavy machinery. The French architect of this scheme, Emile Bélime, was an agricultural engineer who emphasized the introduction of modern agricultural technology as a means to develop the economy of French West Africa. Early critics of the project argued that Bélime and other planners paid too much attention to the irrigation infrastructure to the detriment of the human element and actual farming.²

Today the Office is still associated with the large-scale irrigation technologies that were intended to modernize the French Soudan. The use of the term *modern* in African History has rightly been subject to interrogation as to its exact meanings and analytic uses.³ Bélime and other French planners employed the term to make a problematic distinction between "traditional" and "modern" farming (and society). Social evolutionary notions that placed "modern" French culture and agricultural practices over "traditional" African ones underpinned almost every aspect of planning for the project. In the 1930s, administration officials expected the colony to

² The French agronomist Auguste Chevalier was openly critical of Bélime's project to irrigate the Niger River in several publications including one in an edited collection of responses to Bélime's original proposal. Chevalier and others were particularly skeptical of the proposed methods for settlement at the scheme. See, Emile Bélime et al., *Les Irrigations Du Niger: Discussions Et Controverses* (Paris: Comité du Niger, 1923). See also, Pierre Herbart, *Le Chancre Du Niger* (Paris: Gallimard, 1939).

³ On this point see Lynn Thomas's review of the term modern and the proliferation of studies of African modernities in the field of history. Lynn Thomas, "*Ahr Roundtable* Modernity's Failings, Political Claims, and Intermediate Concepts," *American Historical Review* 116, no. 2 (2011).

retain its rural character, but they believed modernization at the Office (read "improved" farming) would bring about the intensification of production. At the time, the goal of greater production of surpluses for the colonial market was an essential element of "modern" farming.

This modernization would be accomplished through the importation of western technological know-how and materials. Imported steel and cement from France went into building the Markala dam that fed the irrigation system. Thousands of men were conscripted by the colonial government to build the dam and carve wide canals into the countryside. As was the case in other areas of Africa, labor-intensive technologies were a hallmark of the colonization process rather than labor-saving technologies.⁴ Male laborers and a few industrial machines cleared vast tracts of land for expansive fields. Man-made canals extended the limits of the waters from the Niger River: the major ones being the Canal du Macina and the Canal du Sahel. The Office was imposing in its design, setting the stage for dramatic agricultural and social change in the French Soudan. Such large-scale technology meant change, much of it unforseen and some of it counter-productive.

The Office was conceived as a settlement scheme and was consequently and dependant on the labor of a large rural population. Initially the Office was populated through the forced migration of families: many women and children migrated but men predominated. The first settlers, called *colons* (understood to be "colonizing" the project), arrived in 1935. For more than a decade the administration populated the project through force and coercion. These early years brought abrupt and intrusive change for most families. In fact, early metropolitan critics of the Office pointed to the poor economic and social situation among settlers as one of the project's

⁴ David Arnold, "Europe, Technology, and Colonialism in the 20th Century," *History and Technology* 21, no. 1 (2005): 96.

major failings.⁵ During the Second World War labor coercion only intensified across the colony under the Vichy government in France. Farmers at the project and elsewhere in the French West Africa were pressured to intensify agricultural production in the interests of the empire resulting in local chronic food shortages. At the end of the Second World War, international political pressure pushed France and several other colonial powers to outlaw forced labor.⁶ Officially, forced labor ended in 1946 at the Office du Niger, but unofficially coercive practices continued.

Many women had little say in the decision to migrate, even if their husbands chose to go to the Office. Following the war the Office was maligned for its continued economic failures. Poor production results at the scheme encouraged officials to invest further in the technological apparatus. From the 1940s to the 1950s increased mechanization and motorized cultivation--with the addition of wage labor--altered the nature of project farming again.⁷ During the same period the Office continued to expand, bringing more families to engage in semi-mechanized farming. In the late 1950s the Office administration prepared to hand over the governance of the scheme to the territory's African leaders with the expectation that the new administrators would follow the path to rural development as laid out by the colonial administration.

The Malian state became independent in 1960. The incoming President Modibo Keita had already been involved in the affairs of the Office du Niger as a West African deputé in the French parliament. He strongly supported continued investment in the scheme but also promoted

⁵The French writer Pierre Herbart was one of several prominent critics of the Office du Niger. See Herbart, *Le Chancre Du Niger*. Historians have also pointed to the persistent poverty among early Office settlers and the debt incurred by male farmers. Amidu Magasa, *Papa-Commandant a Jeté Un Grand Filet Devant Nous: Les Exploités Des Rives Du Niger, 1902-1962* (Paris: François Maspero, 1978).; Jean Filipovich, "Destined to Fail: Forced Settlement at the Office Du Niger, 1926-45," *The Journal of African History* 42, no. 2 (2001).; Monica van Beusekom, *Negotiating Development: African Farmers and Colonial Experts at the Office Du Niger, 1920-1960* (Portsmouth: Heinemann, 2002).

 ⁶ Frederick Cooper, Decolonization and African Society: The Labor Question in French and British Africa (Cambridge: Cambridge University Press, 1996), 25-56; 182-202.
 ⁷ Emil Schreyger, L'office Du Niger Au Mali 1932 À 1982: La Problématique D'une Grande Entreprise Agricole

¹ Emil Schreyger, L'office Du Niger Au Mali 1932 À 1982: La Problématique D'une Grande Entreprise Agricole Dans La Zone Du Sahel (Paris: L'Harmattan, 1984), 2; 136-45.

the re-organization of all agricultural labor along socialist lines. In 1968 Keita was overthrown and succeeded by the military leader Moussa Traore. Like Keita, Traore placed great emphasis on the Office du Niger as a national economic development project. During the post-colonial era, women faced the challenges of collectivization, militarized authority, the severe rationing of the harvest, and a declining project infrastructure. To make matters worse, the Traore years were marked by severe and recurrent droughts.

The present work examines how women who came to the Office du Niger integrated the colonial and post-colonial irrigation project into an existing system of food production. It argues that women used the resources of the Office to engineer a highly adaptive local food production system that depended on female labor power and made use of modest technologies that are generally overlooked in favor of the more impressive irrigation infrastructure of the scheme. Gradually women adapted the project elements (the new labor calendar, built-infrastructure, industrial machines, and market logistics) to their own needs. This process of adoption entailed an interplay between women's labor, the environment, modest technologies (such as metal pots), and industrial technologies (such as tractors).

Development and the Office du Niger

From the colonial era establishment of the Office on to the present, the institution and its practices have engaged various discourses of "development." Several versions of development ideology promoted by Office officials (and more broadly the administrators of the French Soudan and later post-colonial Mali) articulated social evolutionary ideas about African societies in relation to Western society and culture. As other scholars have established, the definition of development is fragmented and historically contingent, but the emphasis on improving Africa

with respect to a more advanced France (or later the Soviet Union) has been relatively consistent. Broadly speaking colonial intervention tended to be intrusive (especially in the 1930s and 1940s), and in these contexts was an element of governance with all the trappings of colonial power struggles.⁸

Technology as the means of achieving an improved economy and society has been a constant theme at the Office as the project is most often defined by its large-scale irrigation infrastructure and associated agricultural technologies. Post-colonial leaders in independent Mali shared a belief in the power of "technology" to bring about transformation in rural Malian society. The actual objects of "development" have shifted from African (read male) farmers, to the environment, the market economy, and ultimately to the technological infrastructure of the project itself. The lack of clarity about what or who was actually being targeted for improvement underscores the ambiguous nature of "development" itself. This is a point that has been made by many scholars who have noted the emergence of multiple practices and discourses of development.⁹ The post-World War years in French West Africa marked a significant structural shift in development practice that is relevant to the Office. From roughly 1946, the institution benefitted from direct funding from France (and the United States through Marshall Plan Funds) for its agricultural initiatives. In previous decades the French government assumed that colonial revenues would finance economic and welfare betterment projects.¹⁰

⁸ Frederick Cooper and Randall Packard, "Introduction," in *International Development and the Social Sciences: Essays on the History and Politics of Knowledge*, ed. Frederick Cooper and Randall Packard (Berkeley: University of California Press, 1997).

⁹ Ibid.

¹⁰ Frederick Cooper, "Modernizing Bureaucrats, Backward Africans, and the Development Concept," in *International Development and the Social Sciences: Essays on the History and Politics of Knowledge*, ed. Frederick Cooper and Randall Packard (Berkeley: University of California Press, 1997), 70.

The Office--for most of its history--has been criticized for failing to accomplish its development goals whether economic or social.¹¹ As James Ferguson has made clear development interventions may not accomplish what they intend, but the question of whether or not a project succeeds or fails is unproductive. The more appropriate staring point is to ask: what do development schemes do?¹² A related question is what do the technologies of development accomplish and how?¹³ The fact that the Office du Niger still exists today is not merely due to intensive colonial investment in large-scale irrigation. The scheme became embedded in the governance politics of the colonial French regime. A similar process wedded the Office du Niger to the post-colonial practices of politics in Mali. Under the regimes of Modibo Keita and Moussa Traore the Office significantly expanded its geography and the scope of its intervention.¹⁴

Following independence in 1960, the Office actively engaged in what Gabrielle Hecht termed the technopolitics of the emerging Cold War. The international political struggles between Mali, its former colonizer France, and the new global powers (the Soviet Union, China, and the United States) were played out through technology.¹⁵ The Office acquired tractors and vehicles from the Soviet Union and technocratic expertise from the Chinese. Office administrators also sought financial and other aid from international groups such as the Development Bank. As Hecht points out, both Soviet-inspired models for development and the

¹¹ In the 1970s sociologist Amidu Masa harshly ciriticized the post-colonial practices of the Office du Niger. Magasa, *Papa-Commandant a Jeté Un Grand Filet Devant Nous*.

¹² James Ferguson, *Anti-Politics Machine: Development, Depoliticization, and Bureaucratic Power in Lesotho* (Minneapolis: University of Minnesota Press, 1994).

¹³ A similar point is made by Suzanne Moon for technologies in the colonial and post-colonial space. Suzanne Moon, "Place, Voice, Interdisciplinarity: Understanding Technology in the Colony and the Postcolony," *History and Technology* 26, no. 3 (2010): 199.

¹⁴ The establishment of industrial sugar production facilities in the 1960s and the construction of the Ongoïba-Costes Canal in the 1970s are two examples of the expansionist tendency at the post-colonial Office.

¹⁵ Gabrielle Hecht, "Introduction," in *Entangled Geographies: Empire and Technopolitics in the Global Cold War*, ed. Gabrielle Hecht (Cambridge: MIT Press, 2011).

Western ones as emphasized large-scale industrialization.¹⁶ Moreover, uneven power relationships continued to permeate the Office at all levels (between the Office and its farmers, between the Office and its post-colonial partners).

The global technopolitics of the post-colonial years were felt into the daily lives of Office residents. The population of the project was then made up of settlers who had arrived by force under the colonial government, disenchanted workers and families who arrived later following the Second World War, and desperate migrants seeking refuge from the environmental catastrophes in the 1970s and 1980s. In all this time, the Office du Niger ignored women as possible target populations for agricultural development. In the following chapters, I re-read the successes and failures of the Office in light of women's own sense of what constituted "development" rather than the goals of technocrats and development experts. I demonstrate that women associated project agriculture with nutrition and taste rather than with production for a colonial or post-colonial export economy. For women, it was the texture of daily life and the quality of food that served as the measure of "development."

Food Security Discourses: Hunger, the Environment, and Taste

The policies and programs of the Office consistently privileged production over consumption. In the 1920s Emile Bélime integrated rice cultivation into the overall design of this major agricultural project, originally intended solely for cotton production. Bélime did so only in the face of political pressure to address the problems of food shortages across French West Africa. The resulting Office rice harvests were destined for export to Senegal. One outcome of the

⁹

¹⁶ Ibid., 5.

channeling of food resources to territories well beyond the project area was that the consumption needs and preferences of the very rural population that had produced the project's rice harvest slipped from the view of planners.

Before Bélime advanced his plans for large-scale irrigation, the French Soudan had already gained the reputation among colonial scientists as a region in environmental crisis. They feared that the Soudan and other regions in West Africa were undergoing desertification and worse they believed it resulted from local farmers' cultivation and land management practices.¹⁷ In the first half of the century the French very much believed that the reputedly barren environment was related to low population density. Finally, they raised alarms that environmental and population infertility was the cause of recurrent famine.¹⁸ When Bélime redesigned his irrigation scheme to include rice he claimed that irrigation would solve all three problems. He argued that irrigating the Niger River would repopulate the region, rejuvenate the environment, and produce food. Near the end of the twentieth century, government officials and Office administrators once again claimed that irrigation would solve the resurgent problems of drought and famine. In the intervening years, women at the Office du Niger learned how to produce and prepare food in the very particular and changing agricultural environment of the scheme. As it happened, irrigation was not a quick and easy solution to the chronic food problems experienced by residents; nevertheless, the contours of the scheme inevitably shaped the nature of women's responses to food crises.

¹⁷ James Fairhead and Melissa Leach, "Dessication and Domination: Science and Struggles of Environment and Development in Colonial Guinea," *The Journal of African History* 41, no. 1 (2000): 36-38.

¹⁸ Monica M. van Beusekom, "From Underpopulation to Overpopulation: French Perceptions of Population, Environment, and Agricultural Development in French Soudan (Mali), 1990-1960," *Environmental History* 4, no. 2 (1999).

As an object of study, the Office du Niger is both a proposed solution to famine in Africa and a development project with a local history of hunger among its residents. This study concludes in the mid-1980s, a moment in time when Amartya Sen refocused scholarly inquiry on famine towards the social, rather than environmental, causes of famine asserting that the problem was not the lack of food but social and political access to food resources.¹⁹ Around a decade later, Parker Shipton surveyed the state of research on famine in Africa and stressed that the rural producers of food remained the most vulnerable to famine. He also emphasized the need to study how famines operate on multiple levels (economic, social, household, community, nation, global), and how people actually survive food crises. For him, historical memories of past food shortages and famines further demonstrated the complexity of the problem whereby issues of poverty, age, gender, and myriad other issues had to be carefully teased out.²⁰

More recently historians have questioned the overemphasis of scholarly inquiry on famine, which has the effect of masking the related problems of chronic hunger and malnutrition.²¹ Hunger and famine are degrees of a broader problem: inadequate food. They are also both historically contingent processes. Yet, hunger and famine are often understood to engage different conceptual temporalities: hunger (and malnutrition) is a durable phenomenon, while a famine is often understood as an event. For both, the seasonality of food production is extremely important and susceptible to disruptions. Finally, the gendered dimensions of food production, preparation, and distribution are central to who has enough to eat during a famine, or

 ¹⁹ Amartya Sen, *Poverty and Famines: An Essay on Entitlement and Deprivation* (Oxford: Clarendon Press, 1981).
 ²⁰ Parker Shipton, "African Famines and Food Security: Anthropological Perspectives," *Annual Review of*

Anthropology 19 (1990).

²¹ Diana Wylie, *Starving on a Full Stomach: Hunger and the Triumph of Cultural Racism in Modern South Africa* (Charlottesville: University Press of Virginia, 2001).

at any other time.²² The history of women at the Office allows for an analysis that brings these divergent analytical and thematic perspectives into the same frame.

"Food security" has become a term in development parlance and a subject for political debate. In the early years of the scheme, farm families did not grow enough food to eat. Chronic hunger plagued residents for many decades at the colonial Office and recurred in the postcolonial years. Yet, it was the quality and not simply the quantity of available food that concerned women. Quality for the politican and the development worker relates to the nutritional content of food. But for local men and women it was measured by the taste for specific textures, smells, flavors, and the sensations of fullness. The sense of taste is multiple and it engages sight as well as smell.²³ All these bodily senses play a role in determining what is "tasty" (or even what counts as "food"). Therefore, quality and taste were essential elements of food security as it was experienced by women at the Office. Previous studies of taste in relation to food have noted how the construction of acceptable or superior taste generates and reinforces social distinctions.²⁴ At the Office, women often struggled to produce foods that conformed to local standards of good food. The question of producing food that was tasteful was also an issue that reflected the felt sense of work and status. For many years, the difficulties of producing palatable meals made the maintenance of proper taste challenging. At the same time, women's

²² Diana —, "The Changing Face of Hunger in Southern African History 1880-1980," *Past & Present*, no. 122 (1989).; Elias Mandala, *The End of Chidyerano: A History of Food and Everyday Life in Malawi, 1860-2004* (Portsmouth, NH: Heinemann, 2005).

²³ Priscilla Parkhurst Ferguson, "The Senses of Taste," American Historical Review 116, no. 2 (April 2011): 372.

²⁴ Pierre Bourdieu, *Distinction : A Social Critique of the Judgement of Taste* (Cambridge: Harvard University Press, 1984).

changing food production practices altered the flavors of standard meals.²⁵ For women, maintaining control over food also meant attending to taste.

Gender and Technology in Colonial and Post-Colonial Africa

Studies of technology in colonial and post-colonial settings have emphasized the uneven power dynamics in colonial and post-colonial relationships. As Suzanne Moon pointed out in her survey of the field, these studies have almost exclusively focused on technologies that have been introduced into Africa and other colonized regions. Many of these works have pointed out the ways in which technologies have been re-appropriated by the colonized for their own purposes. The larger effect, as Moon argues, is a persistent Euro-centric analytic frame as the point of departure.²⁶ The question of power at the Office du Niger certainly should not be overlooked, for the project served as an important visible marker of colonial state power. It also came to serve as a monument to the evolutionary trappings inherent in ideas of modernization, and eventually to the all too obvious "failures" of modernization. The Office was an imposing institution and the power dynamics inherent in its structure had obvious implications for the daily lives of its residents.

By focusing upon women at the Office, it becomes clear that the question of technology must involve more than the large-scale infrastructure of the scheme, it must also attend to the modest technologies associated more directly with women. Office women were among the first rural women to adopt the new metal pots that made cooking a more efficient task, signaling a

²⁵ I draw this insight from Tanja Winther who examined the taste aspects of cooking with wood fuel or electric cookers in contemporary Zanzibar. Tanja Winther, *The Impact of Electricity: Development, Desires and Dilemmas* (New York, NY: Berghahn Books, 2008), 197-208.

²⁶ Moon, "Place, Voice, Interdisciplinarity: Understanding Technology in the Colony and the Postcolony," 190-1.

broader technological shift among women in the French Soudan. The potential analytical insights to be gleaned from an analysis of mundane technologies like pots is highlighted in Moon's article: "The very ubiquity of [everyday or uncontroversial] technologies make them the invisible background of social life, not noticed or written about in any depth, and rarely a subject of interest or passion for contemporary informants."²⁷ The pots, buckets, and other ordinary household items employed by women enabled them to make the scheme's otherwise unwieldy irrigation and industrial apparatus actually function.

The histories of industrial and domestic technologies at the Office overlapped. Scholars of technological systems have already shown that large-scale technological infrastructures have the potential to alter domestic life.²⁸ Users of those systems in turn alter the technology itself an example of the co-production of technology and society.²⁹ Scholars of co-production have come to see gender and technology as mutually constitutive.³⁰ As women at the Office negotiated technological changes to do with food production, they integrated elements of the scheme into their labor routines. In the process, aspects of women's work and identity were also transformed. Because women's innovation is most evident in their adoption of technologies in domestic space, their role as technical actors has not always been visible to historians of Africa. There are a few notable exceptions. For example, the art historian Barbara Frank has studied how familial relationships between female potters in Mali aided in the transfer of specialized

²⁷ Ibid.: 190.

²⁸ Winther looked at this question for contemporary Africa in her study of rural electrification in Zanzibar. See, Winther, *The Impact of Electricity*.

 ²⁹ The foundational work on the relationship between society and technology is the 1987 edited collection (now in a revised version): Wiebe E. Bijker, Thomas P. Hughes, and Tevor Pinch, eds., *The Social Construction of Technological Systems: New Directions in the Sociology of History and Technology* (Cambridge: MIT Press, 2012).
 ³⁰ A selection of foundational a recent works in this field of study are: Michael Adas, *Machines as the Measure of Men: Science, Technology, and Ideologies of Western Dominance* (Ithaca, NY: Cornell University Press, 1992),

Francesca Bray, "Gender and Technology," *Annual Review of Anthropology* 36 (2007), Wendy Faulkner, "The Technology Question in Feminism: A View from Feminist Technology Studies," *Women's Studies International Forum* 24, no. 1 (2001), Nina E. Lerman, Ruth Oldenziel, and Arwen P. Mohun, eds., *Gender and Technology: A Reader* (Baltimore, MD: The Johns Hopkins University Press, 2003).

craft knowledge.³¹ Yet, in general technology has been coded as masculine, and women's interventions have been relegated to the realm outside of technology.³²

Several decades ago, when Ralph Austen and Daniel Headrick wrote about the so-called technology gap in Africa, they suggested that technologies were not always portable. They pointed out that an innovation such as the plow would not have been particularly useful in precolonial Africa, and therefore, its non-adoption was not a sign of technological "backwardness." In the 1980s it was a point well-made. Austen and Headrick nevertheless suggested that African women reared children in a way that reinforced "technological conservatism," which they believed to be a broad social pattern in Africa: "by carrying and holding their infants off the ground more than other people, African mothers limit their babies' contacts with the world of objects. [...] In other words, child-rearing is human-energy-intensive and anti-materialistic. For the growing child, the results are a higher degree of inter-personal relations but less experience in manipulating the material world $\left[\dots \right]^{33}$ The association of African childrearing practices with technological conservatism is unwarranted. In fact, Margaret Ehrenberg has argued that women's childcare needs prompted one of the earliest human technologies—the sling.³⁴ Yet, the idea that African women lack technical capacities or access to "technology" is pervasive even today.

Focusing on a gap or absence, in the context of debates about dependency theory, as do Austen and Headrick, means that the technologies most often employed by women do not even

³¹ Barbara E. Frank, "Marks of Identity: Potters of the Folona (Mali) and Their "Mothers"," *African Arts* 40, no. 1 (2007).

³² Historian Ruth Oldenziel first made this point for the gendered definition of technology that emerged in the nineteenth and twentieth centuries in the United States. Ruth Oldenziel, *Making Technology Masculine: Men, Women and Modern Machines in America 1870-1945* (Amsterdam: Amsterdam University Press, 1999).

³³ Ralph A. Austen and Daniel Headrick, "The Role of Technology in the African Past," *African Studies Review* 26, no. 3/4 (1983): 174.

³⁴ Margaret Ehrenberg, *Women in Prehistory* (Norman, OK: University of Oklahoma Press, 1989).

come into the frame of analysis. Yet, women in Africa have readily adopted new domestic technologies from metal pots to diesel-operated grain grinders. If the starting point is that African women are caught in a technological gap because of their gender and location, it is not easy to discern their actual engagements with technology on a range of scales. Moreover, it discounts women's continued use of other modest technologies that are often considered unsophisticated from slings to containers to the iconic mortar and pestle.

Techno-Governance at the Office du Niger

The Office du Niger as a state institution extended the reach of state authority through technology.³⁵ The French colonial government invested impressive sums into building the Office during a global depression. Indeed, the Office had more financial resources to build an irrigation system, roads, and towns even than most officials in the empire had for colony-wide public works. The man-made dam and irrigation canals were intended in part to demonstrate mastery over nature and rural populations. From the start, controlling the labor and production of farmers was of paramount concern. In time, the project canals, roads, and fields came to be ordinary elements of people's surroundings, but they did not go unnoticed. They were new and highly visible.³⁶ For example, water ran everywhere and then suddenly it was cut at the end of the agricultural campaign leaving empty ditches that ran alongside towns. Much about the

³⁵Historian Libby Freed similarly observed that colonial infrastructure projects like colonial roads in French Central Africa were meant to extend the imperial reach in those territories. Libbie Freed, "Networks of (Colonial) Power: Roads in French Central Africa after World War I," *History and Technology* 26, no. 3 (2010): 205, 07-10.

³⁶As Freed points out for roads, technologies of landscape order were distinct in colonial Africa. They did not become unremarkable elements of the modern landscape as theorized by other historians. Rather, they were clearly visible and imbued with political meaning. In making this point, Freed was responding to Paul Edwards who previously asserted that in the so-called modern world people become accustomed to the technological infrastructures of daily life so that they appear to be a part of the environment. Ibid.: 218, Paul N. Edwards, "Infrastructure and Modernity: Force, Time, and Social Organization in the History of Sociotechnical Systems," in *Modernity and Technology*, ed. Thomas J. Misa, Philip Brey, and Andrew Feenberg (Cambridge: MIT Press, 2003).

Office was unquestioningly intrusive: where to live, how to work, even what to eat. At the same time, colonial officials could hardly demonstrate mastery over every aspect of daily life at the Office.

As anthropologists of development have demonstrated, even heavy-handed schemes that fail to do exactly what the planners envisioned produce tangible outcomes in the political, social, or economic realms. Scholars of postcolonial technoscience have also long asked how science and technology actually traveled in the colonial and postcolonial world. In so doing, they worked to, as Dipesh Chakrabarty puts it, "provincialize Europe."³⁷ These scholars have worked to destabilize the notion of universal knowledge rooted in Western scientific thought. Indeed historian Monica van Beusekom applied some of these insights in her own study of the Office du Niger. She argued that agricultural practice at the project was not simply imposed by French experts but was rather a negotiated practice. Agricultural staff members consulted with farmers who advocated for policies to better suit their needs, resulting in the practical use of farmers' knowledge about soil type, seed selection and so on.³⁸ Van Beusekom is right about the exchanges between men at the Office. However, in her study agricultural science is presented as a distinctly male endeavor.

Most studies of the Office treat science, technology, and work at the project as masculine.³⁹ Men farmed, maintained the canals, and drove the machines. They also engaged

³⁷Dipesh Chakrabarty, *Provincializing Europe: Postcolonial Though and Historical Difference* (Princeton: Princeton University Press, 2008). On technoscience see for example:Warwick Anderson, "Introduction: Postcolonial Technoscience," *Social Studies of Science* 32, no. 5/6 (2002), Timothy Mitchell, *Rule of Experts: Egypt, Techno-Politics, Modernity* (Berkeley: University of California Press, 2002).

³⁸Beusekom, *Negotiating Development*.

³⁹Magasa, *Papa-Commandant a Jeté Un Grand Filet Devant Nous*, Isaïe Dougnon, *Travail De Blanc, Travail De Noir: La Migration Des Paysans Dogon Vers L'office Du Niger Et Au Ghana (1910-1980)* ed. Mamadou Diouf and Peter Geschiere, Histoire Des Suds (Paris: Karthala-Sephis, 2007), Schreyger, *L'office Du Niger Au Mali 1932 À 1982*, Christophe Bonneuil, "Development as Experiment: Science and State Building in Late Colonial and Postcolonial Africa, 1930-1970," *Osiris* 15, no. Nature and Empire: Science and the Colonial Enterprise (2000).

the European experts on matters of agricultural science. The perspectives of feminist technology studies and of postcolonial technoscience studies are crucial for understanding the history of the Office du Niger. Most obviously the transfer of large-scale irrigation and mechanical cultivation yielded more than the intended production of cash crops. The building of the Office was contested and flexible in practice. One example of this flexibility is that rice eventually took predominance over cotton because of farmer preferences (a shift highlighted by van Beusekom). Farming at the Office was associated with men, but it was women's concerns about food resources, and about their labor time, that were critical in shaping men's farming practices. Meanwhile, the work of producing and preparing food remained a predominantly female endeavor. When women are at the center of the analysis it becomes clear that women made as much use of the foodscape of the Office as men did. Food production had always been highly technical, and women brought that sensibility to their work when they re-adapted new infrastructures and technologies at the Office. Even in moments of financial and technical decline, women turned the Office, an agricultural program designed for men's cash-crop farming into a common food resource.

Chapter Outline

This study is organized into six chapters: The first two chapters examine the gendered agricultural landscape in the French Soudan over the first three decades of the twentieth century. Chapter one outlines how women produced food that was nutritionally diverse, satisfying to a local palate, and culturally meaningful in the early decades of the century despite the challenges of recurring drought and an uncertain political climate. To accomplish this weighty task, women

18

managed their labor time with modest tools and resources from cultivated fields and surrounding forests. The chapter also provides the conceptual framework for understanding what I refer to as a *foodscape*. The second chapter examines French interventions in agriculture during the same period, leading to the formal establishment of the Office du Niger. In these years, colonial policy tended to emphasize agricultural production for export over local consumption. This emphasis led to the elaboration of policies that had the unforeseen consequence of suppressing the qualitative aspects of food cultivation that were relevant to local taste.

The remaining chapters follow women's experiences at the Office from the first year of settlement in 1935 up to 1985 when international interest in the scheme provoked by a major regional drought attached official attention to women's situations at the project. Chapter three examines the food shortages and demographic crises of the early years in Office towns. The two problems were related. Until the mid-1940s families at the Office did not produce enough food to eat. Women were also conspicuously missing from Office towns during those years. The end of World War II led to the formal end of forced labor in 1946. Nevertheless, thousands of families decided to remain at the project. In part they remained because the women had succeeded in reshaping the foodscape. The fourth chapter sets out how women reengineered food production to better manage their new agro-industrial environment. In the post-war period, women adapted the project elements (the new labor calendar, built-infrastructure, industrial machines, and market logistics) to their own needs. They transformed a project centered on production into a resource that addressed local consumption and taste. Chapter five looks at the same time period with special attention to the interplay between small-scale domestic technologies and large-scale industrial technology in the daily preparation of food. The metal

pots and other modest household goods adopted by women in this period were less visible than the entry of industrial tractors and threshers but no less significant.

In 1960 the Office was transformed from the model project of a colonial regime to the keystone of a newly independent nation's agricultural policy. Chapter six looks at this shift. In the post-colonial era, women dealt with the new challenges of living under a militarized regime, severe rationing of the harvest, and a declining project infrastructure. The region was hit by severe drought and the government looked to the Office to produce food for the nation. At the same time, everyone at the Office struggled to eat. Women re-ordered the foodscape yet again and incorporated new food aid products delivered through the World Food Program. Amid major political changes, women experienced transformation in terms of the technological adaptations that enabled them to weather rapid change. Ultimately for women, it was the texture of daily life and the quality of food that served as the measure of "development."

Chapter 1:

A Gendered Foodscape in the French Soudan, ca. 1900-1930

Imagine the French Soudan in 1916: it is mid-afternoon at the beginning of the rainy season, and farmers are busy in the fields. In Sira Soumani, a town nearing the northern edge of the former Segu Empire, a young woman named Bintu leaves the millet fields that she tends with her husband's family. She just finished her part of the day's weeding, and as she rises to leave she takes the *daba* (small hoe) she uses for weeding and grabs a large calabash.⁴⁰ Bintu spends more time in the fields than older women in Sira Soumani did as young women. She must work more because there are fewer workers per household than half a century earlier when slave labor was common. Bintu waves to a female friend in the distance who is headed to a neighboring field. Her friend carries a covered wooden bowl on her head; it is the afternoon meal for the men and women still in the fields. Bintu was spared that task for the day because her sister-in-law was in charge of the day's cooking and carrying the meal. Because Bintu completed her work in the family fields, she is free to tend to her own peanut plot, or to collect sauce ingredients in the nearby woods.

After walking for some distance Bintu reaches a shea tree and stops to fill her calabash with nuts that have fallen to the ground. She then balances the heavy calabash on her head and turns toward town. Once home, she will add the day's collection to her store of shea nuts. After the grain harvest, she will pound, cook, and process the nuts into butter for the year with help from her sisters-in-law. Close to town she decides to put down her nuts and collect a few *saba* fruits, a delicacy of the season. There is a little room left in her calabash, but she still must tie up

⁴⁰ A calabash is a large fruit that when hollowed, dried-out, and halved serves as an organic bowl or container.

a few of the fruits into an extra piece of cloth from around her waist. Bintu started her work at dawn, and it was a long day of physical labor. She will enjoy the fruit along with her mother-inlaw and the family's children when she arrives home.

Food production and preparation in early twentieth century French Soudan was a complex process. Women like Bintu transformed raw foodstuffs such as millet, shea nuts, and fruits into meals and tasty treats. They used the *daba*, clay pots, wooden mortars and pestles, stone grinders, and calabashes among other things to cultivate, transform, and prepare food. Grain and other stores for the year came from both cultivated fields and forested areas. Year-long food production required expert botanical and technical knowledge. On another day in the rainy season, Bintu may have collected baobab leaves to dry and pound into a powder for sauce making, or gathered wild rice for the day's meal. The *foodscape* that women created and managed was year-long in its scope, but seasonal in its diversity and accompanying activities. Over the course of a year, women like Bintu and her friend carefully managed their technical resources, labor time, and the agricultural resources available to them. In so doing, they endeavored to satisfy the food preferences and tastes of husbands, mothers-in-law and others at home.

The French Soudan was predominantly rural, but the conditions for agricultural production were shifting. Indeed, women's gathering, cultivation and culinary skills were vital during the first three decades of the century when farming households faced environmental stresses, political insecurity, and increasing colonial intervention. In the midst of such changes, women adapted their cultivation and preparation techniques. This chapter offers a picture of women's rural labor patterns at the start of the century and outlines how women constructed and maintained a dynamic food production system.

A Gendered Foodscape

What I call the *foodscape* refers in part to the gendered production of raw foodstuffs and meals for household consumption. The survival of rural households and families depended upon an adequate supply of cultivated cereals like millet and rice, the production of which involved a great deal of male and female labor. However, beans and garden crops like okra and da (a leafy plant used for sauce preparations), tree leaves, nuts, fruits, and wild grains from forested areas were equally important. Historically, the gathering, of seeds in particular, by women is what led to seed cultivation.⁴¹ When women gathered seeds and nuts, they also carried them, and planted some of them sometimes somewhat deliberately, sometimes by accident. In the French Soudan, women evidently retained and continued to pass down the knowledge of this very seasonal, varied, and opportunistic aspect of food production. Into the twentieth century women have continued to depend upon and shape a food gathering capacity in their daily labor. The cultivation and gathering of foodstuffs are only two aspects of the food production system. A *foodscape* is simultaneously a function of environment, technology, and taste, and it is something that is created, protected, and exploited largely by women. The foodscape is not fixed. Instead, it is shaped by human action, although it in turn shapes what is possible for women in the realm of food production and preparation.

Women's labor, especially the labor of young women, was essential for the gathering, cultivation and harvesting of these essential raw food goods. Moreover, in the first three decades of the century, women bore an increasing share of the field labor burden. After 1905, slavery was no longer a recognized legal status in the French Soudan. However, enslaved men and women, who previously performed much of the field labor, had to negotiate with their masters to

⁴¹ Christopher Ehret, *The Civilizations of Africa: A History to 1800* (Charlottesville: University of Virginia Press, 2002).

establish new roles in society. Many enslaved men fled. Women often remained behind, especially those who had had children with their masters or had married a local man. During these years female pawnship periodically resurged. Former female slaves, female pawns, and young wives all provided more labor in the fields and in domestic tasks.⁴²

Agricultural production of foodstuffs was complemented by labor intensive food preparation: women in every household managed daily cooking tasks and organized the seasonal manufacture of essential foodstuffs. It was the primary responsibility of rural women to produce food for their households, but they also sold surpluses of raw and prepared foods in local markets. They employed a host of domestic tools and technologies to accomplish all this labor. In this way, women transformed the diversity of the agricultural landscape into satisfying and familiar meals, as well as seasonal delicacies. This foodscape emerged from the regional environment, women's labor, local taste, and female technological mastery. In the ideal women maintained households that were self-sufficient. However, this managed foodscape shifted over the twentieth century: the gradual end of slavery and resurgence of female pawnship was accompanied by increased production for export in the colonial market and the introduction of new agricultural and domestic technologies. In some cases women had difficulty feeding the household and adapting to new resources and conditions. Economic and environmental changes reconfigured women's labor and the local diet over the twentieth century. Throughout the

⁴² Pawning is the practice of providing the labor of a dependent (often a daughter) as collateral for a debt. The pawn provides labor in the household of the creditor until the debt is repaid. The pawn's labor serves as an interest payment and does not count towards payment of the debt. Often young girls were married into the households into which they were pawned. Martin Klein and Richard Roberts have outlined the important role of female slaves and pawns to domestic and agricultural labor in the late-nineteenth and early twentieth centuries. Distinctions between a young wife, a female pawn, and a female slave were hard for Europeans to grasp during these years as their roles in the household overlapped. See Richard Roberts, *Litigants and Households: African Disputes and Colonial Courts in the French Soudan, 1895-1912* (Portsmouth, NH: Heinemann, 2005), 114-18.; Martin A. Klein, "Women in Slavery in the Western Sudan," in *Women and Slavery in Africa*, ed. Claire C. Robertson and Martin A. Klein (Portsmouth, NH: Heinemann, 1997); Martin A. Klein and Richard Roberts, *"The Resurgence of Pawning in French West Africa During the Depression of the 1930s," African Economic History* 16 (1987).

century, women treated the natural landscape as a productive resource. Gradually, women's management of the land available to them, their use of their labor time, and their understanding of how to make filling, tasty, nutritional, and socially meaningful food similarly adapted. Women shapted the foodscape and it, in turn, shaped women's food preparation strategies.

Well before the late nineteenth century, European travelers passed through a land of great riches that they called the western Sudan.⁴³ In 1799, the English explorer Mungo Park remarked upon the tremendous agricultural wealth of the region. While traveling to the Bamana capital at Segu⁴⁴ he wrote: "Cultivation is carried on here on a very extensive scale; and, as the natives themselves express it, 'hunger is never known.'" During the same voyage, he described a town called Kabba as, "situated in the midst of a beautiful and highly cultivated country; bearing a greater resemblance to the centre of England, than to what I should have supposed had been in the middle of Africa." ⁴⁵ Certainly some towns fared better than others, but as Park himself noted, farmers took pride in local agriculture and food production.

By the mid-nineteenth century, Europeans no longer perceived the western Sudan as essentially fertile. West Africa in this period was marked by warfare and religious conflict. Between 1863 and 1865, the French military officer Eugéne Mage was dispatched to negotiate a treaty with Umar Tal, a Muslim religious reformer who took Segu from its Bambara rulers in

⁴³ William B. Cohen, "Imperial Mirage: The Western Sudan in French Thought and Action," *Journal of the Historical Society of Nigeria* 7, no. 3 (1974). The observations of early European travelers of agricultural riches in West Africa are substantiated by Judith Carney. See, Judith Carney, *In the Shadow of Slavery: Africa's Botanical Legacy in the Atlantic World* (Berkeley: University of California Press, 2010).

⁴⁴ In the present work I refer to the Bamana Empire and capital as Segu. For the same city and region under French control I used the modified name Ségou.

⁴⁵ Mungo Park, "Travels in the Interior Districts of Africa [1799]," ed. Kate Ferguson Marsters (Durham: Duke University Press, 2000), 189, 201. I cautiously read Park as a primary source and early observer of agriculture and foodways in the western Sudan. Many scholars have pointed out that his travel narrative was heavily edited especially with an interest in promoting the work of antislavery societies in England. See Kate Ferguson Marsters, "Introduction," in *Travels in the Interior Districts of Africa*, ed. Kate Ferguson Marsters (Durham: Duke University Press, 2000).

1861. The French had long been interested in the region for its fabled gold and potential markets. While traveling to the capital city, Mage observed the ruins of villages sacked by Umar. He subsequently wrote unenthusiastically to his superiors about the region's economic potential.⁴⁶ Mage was disappointed by the difficulties of travel and depressed trade under Umar's rule. At the same time, Mage made note of towns rich in grains and other agricultural products.⁴⁷

In the last two decades of the nineteenth century, French troops marched against the Umarians and other resistant states.⁴⁸ Troops on all sides captured both people and food.⁴⁹ During the French military conquest of the region, Commander Frey wrote in 1888 that the only resources in the western Sudan were its slaves (a labor force and economic good).⁵⁰ While the many wars of the last half of the nineteenth century increased slaving and dramatically reduced production for the markets, Frey's suggestion that the region lacked any resources was hardly true for local inhabitants. Rather the resources available to them were constrained by the political environment. Famine hit the region in the years 1899, 1901, and 1902 just as the colonial government was establishing its rule. These natural disasters further contributed to the European image of the French Soudan as a region economically stunted by a poor environment. French West Africa was again hit by drought and famine between 1913 and 1914. By this point, much colonial discourse about the economic potential of the Soudan was framed by the threat of

⁴⁷ Eugéne Mage, Voyage Dans Le Soudan Occidental (Sénégambie-Niger) (Paris: Hachette, 1868).

⁴⁶ Cohen, "Imperial Mirage: The Western Sudan in French Thought and Action," 438-9.

⁴⁸ Most notably the empire established by Samori Touré in the second half of the nineteenth century and neighboring city-state Sikasso. For more on the French conquest of both southern states see chapters one and two in Brian J. Peterson, *Islamization from Below: The Making of Muslim Communities in Rural French Soudan, 1880-1960* (New Haven: Yale University Press, 2011).

⁴⁹ Richard Roberts, Warriors, Merchants, and Slaves: The State and the Economy in the Middle Niger Valley, 1700-1914 (Stanford, CA: Stanford University Press, 1987), 144-5. See also chapter five in Martin Klein, Slavery and Colonial Rule in French West Africa, African Studies Series (New York, NY: Cambridge University Press, 1998).

⁵⁰ Commander Frey in 1888 cited by Klein, *Slavery and Colonial Rule in French West Africa*, 77.

famine. Despite the emerging sense of the region as marginal, the early colonial government relied heavily on agricultural production in the Soudan to feed its army.⁵¹

Many of the first colonial administrators saw the region as plagued by underproduction and chronic food shortages, which spurred them to invest in agricultural research in the colony. In brief, the early colonial government dispatched a host of scientists to study potential agricultural exports. Shortly thereafter, they established experimental farms, built agricultural schools, and intervened directly in production. These early colonial researchers tended to study rural production by looking at one crop or potentially profitable resource at a time. When it came to food production researchers and officials were primarily concerned with increasing the yields of local cereal crops like rice and millet. For the most part, they misunderstood the complex food production systems managed by women. Women's knowledge about agriculture was not vertical (as in the study of millet or rice in isolation), but horizontal, drawing on their experience with multiple crops and forest resources.

Even though drought, flooding, and insect attacks periodically damaged crops, and raids reduced fields and stores of food, women did not appear to see the landscape in those years as unproductive. In fact Mage, who was a witness to the devastating impacts of raiding and war in the 1860s, reported women offering to sell him shea butter in exchange for glass beads and necklaces.⁵² Shea butter was an important element of cooking and served a variety of medicinal purposes. It was also primarily a women's product, and was an important item of regional trade. During the same trip, Mage noted women in market towns selling prepared snacks such as grilled peanuts, fried millet and shea butter pastries called "momies," and balls of couscous mixed with

⁵¹ Roberts, Warriors, Merchants, and Slaves, 137-51.

⁵² Mage, Voyage Dans Le Soudan Occidental (Sénégambie-Niger), 127, 49.

honey called "bouraka."⁵³ In the same markets women sold millet, corn, tamarinds, spices, local niébé beans, peanuts, peppers, and couscous. In towns along the river, fisherwomen sold fresh and smoked fished.⁵⁴ Mage surmised that these markets, while busy, were smaller than in previous years because of the Umarian raids and Bamana counter-attacks. Yet, even in this politically unstable environment women were selling a diverse array of raw foodstuffs and prepared food. The diversity of market foods described by Mage also testified to the richness of local diets.

Women were responsible for providing their households with a filling and diverse diet throughout the year. Millet and rice were staples of regional cuisines, and men and women worked hard to constitute household stores of these grains. Staple grains were cooked in a variety of ways and constituted the base for each meal. Bambara women regularly prepared the main dish *toh* (a stiff pudding eaten by hand) from pounded and cooked millet. Rice was a popular in towns located along the Niger River's flood plain. *Bashi* (a fine couscous made from millet) was a seasonal delicacy; it was prepared only when the leaves needed for the accompanying sauce were found in rainy-season marshes.⁵⁵ Other seasonal grain delicacies included *jeba* (wild rice) and *fonio* (a small grain that cooks like rice or couscous).⁵⁶ In addition, women used millet and other grains to prepare hot porridges like *moni* and *seri*. *Nyo*, as millet is called in Bamana, is actually a broad term for a wide variety of types of millets with distinct growing conditions, flavors, and colors; similarly, farmers cultivated many kinds of rice. Each

⁵³ Ibid., 170; 81.

⁵⁴ Ibid., 187.

⁵⁵ The seasonality of the leaves used to make the sauce for *basi* (pronounced like bashi) and thus the seasonality of *basi* was pointed out to me by Hawa Fonba in Kalaké-Bamana. She explained to me that the plant whose leaves were used in the sauce grow low to the ground and are harvested just after the rainy season. Conversation between author and Hawa Fonba in Kalaké-Bamana, September 11, 2010.

⁵⁶ The French administrator-ethnographer Henri Labouret observed that women in West Africa sometimes added pounded manioc to cooking fonio which created further variety in the diet. See Henri Labouret, *Paysans D'afrique Occidental* (Paris: Gallimard, 1941), 196.

millet and rice type added variety to the *toh* and other dishes. These staple dishes were accompanied by sauces made with vegetables, leafy greens, and sometimes meat.

Even in years of average or mediocre cereal harvests women created grain stores from sources gathered outside the fields. They collected wild grains (like *jeba*), roots, and fruits on a seasonal basis year-round. Women also constituted stores of dried baobab leaves, a common spice called *soumbala*, and shea oil or butter which gave sauces flavor (and nutritional value).⁵⁷ In part, regional cuisines varied widely out of necessity. However, women's cooking practices also responded to local tastes. Women also used many of these ingredients to make snacks (eg. fried millet and bean pastries) or fermented beverages such as millet beer.

In the late eighteenth century, Mungo Park described meals in the western Sudan as follows: "The usual diet of the Negroes is somewhat different in different districts; in general, the people of free condition breakfast about daybreak, upon gruel made of meal and water, with a little of the fruit of the tamarind to give it an acid taste." The first meal of the day, it would seem, commonly included at least one ingredient that women harvested from the forest and processed: tamarind juice. The morning "gruel" was likely *dege* or a similar preparation. Park further described: "About two o'clock in the afternoon, a sort of hasty pudding with a little Shea butter, is the common meal[.]" Here, Park perhaps referred to a porridge preparation like *moni*. In any case, the "pudding" was supplemented by shea butter, a highly nutritious ingredient regularly prepared by women. Park concluded: "[..] the supper constitutes the principal repast, and is seldom ready before midnight. This consists almost universally of kouskous, with a small

⁵⁷ On the nutritional value of leafy greens, nuts, roots, and other products cultivated from forested areas see, M.B. Nordeide et al., "Nutrient Composition and Nutritional Importance of Green Leaves and Wild Food Resources in an Agricultural District, Koutiala, in Southern Mali," *International Journal of Food Sciences and Nutrition* 47 (1996): 148-9. The authors point out that the spice soumbala is particularly rich in protein, fats, and energy providing nutrients. Further, the common preparation practice of fermenting seeds and other raw products has been shown to increase the nutritional value of such raw foodstuffs.

portion of animal food, or Shea butter, mixed with it.⁵⁸ For this example, Park likely recalled what he ate in the rainy season, or perhaps couscous was prepared more regularly in the earlier century. In any case, he suggested that there were clear distinctions between the food provided to free people and to slaves. Emphasizing such differences was no doubt intended to evoke support for the antislavery cause in West Africa.

Park wrote this passage upon his return to England and likely only included aspects of meals that remained distinct in his memory (the flavors of tamarind and shea butter). He probably did not eat exactly what his hosts ate, but his remarks are instructive. Several other points can be drawn from Park's passage. First, each meal included a distinct mode of grain preparation. Second, ingredients such as tamarind juice and shea butter added flavor (and nutritional value) to what Park believed was the average diet. Finally, women prepared only one time-intensive meal during the day. From Park's observations, the morning and afternoon dishes were ones that would not have required a great deal of cooking time. For example, *dege* was made from a pre-prepared powder, and Park described the second meal as a porridge similar to "hasty pudding." According to Parks's description of an average daily diet, women in this earlier period made a concerted effort to manage their cooking time. By 1900, these dishes were very likely prepared and distributed differently among members of the household, but for women varying the flavors and textures of the meals remained important. The management of cooking time and other labor also remained important.

⁵⁸ Mungo Park, *Travels in the Interior Districts of Africa*, ed. Kate Ferguson Marsters, (Durham: Duke University press, 2000): 251.

"Dumuni file": The Culture of Food

Mungo Park frequently remarked upon the hospitality he received in the western Sudan in the late 1700s. During his trip to Segu, he was robbed and continued much of his journey in a destitute state. Park was therefore reliant upon the generosity of local hosts who provided him with food and shelter, and in many towns he was invited to stay overnight. Park's hosts often provided him food. He sometimes also shared in local amusements and beer drinking. At times, men suspicious of the European traveler—or simply unwilling to share precious food stores—refused to feed Park even when they offered lodging. One such case from the narrative is instructive. Park wrote about a stop-over in a town he called Doolinkeaboo:

The Dooty [chief] of the town, at my request, gave me a draught of water, which is generally looked upon as an earnest of greater hospitality; and I had no doubt of making up for the toils of the day, by a good supper and a sound sleep: unfortunately, I had neither one nor the other. The night was rainy and tempestuous, and the Dooty limited his hospitality to the draught of water.⁵⁹

By this point, Park had become accustomed to receiving gifts of food as a visitor. About a century later, Mage also came to understand that the provision of water and food to visitors and travelers was a cultural norm that could be depended upon in the western Sudan.⁶⁰

Once Park was refused food by his male host, he approached a female slave in charge of preparing food. He thought she would be more willing to help as he understood that women were in charge of offering hospitality to guests. He wrote: "I even begged some corn from one of his female slaves, as she was washing it at the well, and had the mortification to be refused." Then, Park discovered that some women exerted greater control than others over the food stores. He concluded: "when the Dooty was gone to the fields, his wife sent me a handful of meal,

⁵⁹ Park, "Travels in the Interior Districts of Africa [1799]," 192. NB. Park perhaps heard the word *dugutigi* [caretaker of the town] as dooty.

⁶⁰ Mage, Voyage Dans Le Soudan Occidental (Sénégambie-Niger).

which I mixed with water, and drank for breakfast."⁶¹ One reason the female slave might have refused Park's request was that she was under the watch of other women. It was unlikely that she would have openly disobeyed the ruling of the household head. However, a woman more senior than the slave could overrule her husband.

Senior women's control over food resources depended on hierarchies in the household. Slavery was in decline by the mid 1900s, but the hierarchy among women was still a factor in how women produced, prepared and distributed food. In fact, the wife who pitied Park may have sent him grain from her own stores (women had rights to a portion of the harvest in exchange for labor). As a senior woman, the wife in Doolinkeaboo had a measure of control over who ate from household stores or from her own personal stock of grain.

Female hierarchies also affected the organization of household and food preparation labor. In the early twentieth century, daily cooking responsibilities rotated among the junior women in each household (co-wives and sister's-in-law). One woman cooked the *toh* and the sauce for two days, the next two days another woman assumed the responsibilities, and so on.⁶² The woman cooking was in charge of collecting or procuring the ingredients for the sauce. She was also assigned the task of transporting the afternoon meal to household members working in the fields. After the cook prepared and transported the midday meal, she still had to weed, plant, or do other work in the household fields. On the days that a woman did not cook she pounded millet in the morning for the woman making the *toh*. The more women in the household, the

⁶¹ Park, "Travels in the Interior Districts of Africa [1799]," 192-3.

⁶² Women who were co-wives of the same man also rotated evenings with their husband according to the cooking schedule. Food and sex were very much intertwined, and good food meant that the woman who prepared the meal was more likely to benefit from sex (from bearing children for the lineage to improved relations with the husband, etc.). See Jack Goody, *Cooking, Cuisine, and Class: A Study in Comparative Sociology* (New York: Cambridge University Press, 1982).; Winther, 195-196. My informants did not directly address the relationship between sexuality and food preparation at the Office perhaps because very few women shared a husbandwith a co-wife.

more social the task of pounding millet became and meant the lighter the work load. Other daily or regular labor for women included sweeping inside the home and the courtyard, water collection, and household washing (cooking and eating items as well as clothing). Much of this labor fell to unmarried girls and young married women without daughters-in-law. Senior women oversaw this work and frequently commented on the quality of cooking or other completed tasks.⁶³ Cooking as well as other domestic and agricultural labor was well-ordered; it also followed the generational and other social hierarchies between women.

Women in early twentieth-century households were also responsible for showing hospitality to strangers. As Park and Mage both observed, when a man offered food to strangers in the western Sudan, he displayed the agricultural plenty and wealth of his household and of his town. It was a woman's responsibility to actually prepare the food and carry it to the visitor.⁶⁴ Even when young married women (the household cooks) were away during the day elder women offered visitors *dege*. This cold porridge was made from grain powders and milk (or water) which were mixed immediately before consumption. The *dege* powder was ground ahead of time for an older woman by her daughter-in-law and thereby ready for her to prepare quickly in the case of unexpected visitors.⁶⁵ Strangers passing through a settlement also expected to be

⁶³ Interview by author with Djewari Samake in Kolony (km26), March 29, 2010; Interview by author with Hawa Coulibaly in Fouabougou, March 30, 2010; Interview by author with Aissata Mallé and Assane Pleah in Kouyan-N'Péguèna, May 28, 2010; Interview by author with Fatoumata Coulibaly, Kadja Mallé, Mariam Mallé, Aminata Dembélé, and Kadja Koné in Kouyan-Kura, May 27, 2010. In "Les Pratiques Alimentaires," Henri Labouret similarly described food preparation as a shared endeavor across much of French West Africa, especially the labor of pounding grains. Labouret, *Paysans D'afrique Occidental*, 191.

⁶⁴ Several women that I interviewed commented that across West Africa people offered visitors water, but that only in Mali did they also offer food. According to them this was especially the case when visitors passed by when others were eating, and the visitor is always called to join with the phrase: "nya duminke" or "come eat." Interview by author with Aïssata Mallé and Assane Plea, Kouyan-N'Péguèna, May 28, 2010. The importance of sharing food with guests, especially for women, was reinforced to me by the animatrice Mme. Tamboura Fatoumata Guindo, April 14, 2010.

⁶⁵ Interview by author with Daouda Bouaré and Bintu Dembélé in Sokorani, June 1, 2010. My research assistant Aïshata Kassonké believed this practice to have origins specifically in the Ségou region. *Dege* may also have been

offered water even if they did not eat. Most often young wives filled and carried the common *jifle* (drinking cup) with water and presented it to the visitor on bended knee, a posture of respect and perhaps also of servitude.⁶⁶ The gesture also reveals women's central importance in assuring and sharing sustenance.

The rituals of food presentation foreground the gendered aspects of food preparation. Anthropologist Gérard Dumestre highlights this aspect of eating in contemporary Mali: When the main dish is ready, the cook (always a woman) carries a large bowl with the prepared grain and a smaller bowl with the accompanying sauce from the *gwa* (hearth or kitchen area) to the space reserved for eating. She then places the food at the center of those seated who will be eating and says: "dumuni file" (food is here). Following the pronunciation of this formula, the male household head, or most senior person eating, pours the sauce over the main dish. In the case of *toh*, the meat or fish sauce is mixed into a second green leaf-based sauce for dipping.⁶⁷

This contemporary pattern differs significantly from rituals of consumption at the beginning of the twentieth century. The eating groups were according to informants much larger and were comprised of both men and women in the household.⁶⁸ Women in Kouyan-Kura remembered that (especially for their parents' generation) all members of the household ate

prepared by women for men leaving on long trips for hunting or other activities. Several times between 2000 and 2001, I was offered *dege* by my elderly male hunter host in Kalaké-Bamana.

⁶⁶ Interview by author with Aïssata Mallé and Assane Plea in Kouyan-N'Péguèna, May 28, 2010. Brian Peterson links this practice with an enduring culture of servile labor relations. His informants in Southern Mali equated this task and posture with women's on-going service status. See Peterson, *Islamization from Below*. However, Aïssata Mallé and Assane Plea stressed that this action was a way of displaying *mogoya* or respect. In the same interview the two women explained to me that this is why the elderly now ask young children to offer water to guests; the children learn *mogoya* by serving others.

⁶⁷ Gérard Dumestre, "De L'alimentation Au Mali," *Cahiers d'Études Africaines* 36, no. 144 (1996): 690-1. The author of the present work observed elderly male heads of house mix the separate meat or fish sauce with another leafy green sauce. The resulting mixture served as a dipping sauce for the *toh*. The head of house also distributed the portions of meat or fish.

⁶⁸ Interview by author with Fatoumatou Coulibaly, Kadja Mallé, Mariam Mallé, Aminata Dembélé, and Kadja Koné in Kouyan-Koura, May 2, 2010. The fact of men and women eating all together in the first half of the nineteenth century was reiterated in several conversations between the author and Hawa Fonba in Kalaké-Bamana in 2010.

around one large bowl. Their comments indicate a change in the hierarchical distribution of food in the century or more since Park observed slaves eating separately. This difference is significant because eating is one way that social hierarchy is expressed, and as hierarchy shifts ritural shifts. Today men and women often eat separately which is an indication of the dramatic conversion to Islamic practice in daily life following a wave of conversions in the 1950s and 1960s. Women in Kouyan-Kura expressed displeasure with changes in eating practices, but they were more vocal about smaller groups of people eating together than the separation of the sexes. In fact they blamed the change on younger women who wanted their husbands to look to the needs of his immediate family (wife and children) over the larger household (which included their mothers and fathers, brothers, cousins, etc.).

Nevertheless the visual presentation and ceremony of the meal mattered both at the turn of the century and today. A woman only presented the meal on the days when she was responsible for the cooking. This practice ensured that everyone knew who cooked well, especially in times of shortage. By extension, everyone also knew who did not cook well, even when there were enough resources to provide a quality meal. As Paul Stoller has observed, meal time offered women who were displeased with the domestic politics of the household to viscerally demonstrate their displeasure.⁶⁹ In the ideal, women provided well-made meals, no matter the season or state of the granary. At the same time, food preparation and presentation provided a stage for expressing social hierarchy, skill, sexual allure, and occasionally displeasure.

⁶⁹ Elsewhere Paul Stoller explored how women in Niger demonstrated displeasure or protested household decisions by purposefully preparing bad tasting food. Paul Stoller, *The Taste of Ethnographic Things: The Senses in Anthropology* (Philadelphia, PA: University of Pennsylvania Press, 1989), 15-34.

In addition, the aesthetics of a well prepared dish held distinctive cultural value. Food aesthetics entailed the appreciation of the meal, the taste, and the texture of the food.⁷⁰ For example, baobab leaves and other ingredients produced sauces with distinct colors (dark green, or sometimes red) that made visible the quality of the food. Main dishes like *toh*, *basi*, and *fonio* also had distinct textures. Well prepared *toh* had an outer crust that was hard or crispy. The crust made it hard to get the *toh* into your hand to eat, but it also helped to preserve portions of the meal. In fact, the French administrator-ethnographer Henri Labouret suggested that prior to colonial rule women did not cook every day.⁷¹ Thus, saving some of the meal would have been essential to food preparation. To help give the *toh* a hard crust a cook added *gnumun* (from tree leaves called *nyema fuura*) to the *toh*. This way "a faara te cien," or "the skin does not spoil." To make *gnumun* women pounded the leaves, then added the powder to water and filtered the mixture which was finally added to the *toh*.⁷² The resulting hard crust was a textural element that contributed to the quality of the meal.

Food production and preparation had social and political implications beyond the framework colonial officials set forth and narrowly measured production or, as was more often the case, underproduction. For one, the dynamics of food preparation and distribution shed light on domestic power relations between men and women. Senior men made decisions regarding labor in the fields and access to land. Men also exerted some control over the distribution of grains. Women made decisions about the preparation of food on a daily basis and exerted

⁷⁰ James McCann rightly argues that regional West African diets have constituted a cuisine or distinctive food way. The qualities distinguishing West African cuisine included the taste, texture, and visual presentation of dishes. McCann emphasizes staple starch dishes; my research also points to specific cooking oils and spices that characterized regional cuisines. James C. McCann, *Stirring the Pot: A History of African Cuisine*, ed. David Robinson and Joseph C. Miller, Africa in World History (Athens, OH: Ohio University Press, 2009), 7-8, 109-36.
⁷¹ Labouret, *Paysans D'afrique Occidental*, 192-3.

⁷² Comment from Kadiatou Traoré during interview by author with Sékou Coulibaly and Kadiatou Traoré in Nyamina, May 31, 2010.

varying degrees of control over grains, prepared ingredients, and food distribution. Some women also earned profits from their food production and preparation labors. The foodscape was a domain in which women could establish the standing of the household and exert influence over domestic affairs. Through food they could negotiate and improve their own material wellbeing.

The Household as a Unit of Consumption

For the most part rural women prepared meals for large patriarchal households. In the French Soudan early ethnographers understood social organization to be centered on the family or household, and the two terms frequently overlapped in their analyses. In 1912 Maurice Delafosse wrote that the household consisted of two social levels. He called the first the "famille reduite" which included a husband and wife and their children (a man with more than one wife belonged to more than one of these small families). The next level was a broader but more significant household and social grouping that he called the "famille globale." This broader formation brought together brothers, male cousins, and their families. It also included slaves, pawns, captives, and other non-biological subordinates. Delafosse noted that this global family generally included four generations of biological relations and four generations of household slaves. A single household along these lines was composed of upwards of thirty people. This broader domestic unit was headed by the most senior male among the group of male relatives.⁷³ Other ethnographers like Henri Labouret and Charles Monteil similarly described the family and

⁷³ Maurice Delafosse, *Haut-Sénégal-Niger (Soudan Français)*, vol. 3 (Paris: Émile Larose, 1912), 93-98.

household as patriarchal in nature. The "fa," as the senior man was called, further extended his domestic authority to the political realm.⁷⁴

The absolute patriarchal control that Delafosse and other ethnographers elaborated for the family in the French Soudan was only an ideal. Further, as historian Richard Roberts has pointed out, Delafosse was among a group of French officials who sought to reinforce senior male authority--albeit in a modified form--in order to promote colonial authority. This administrative emphasis upon patriarchal authority emerged in the first few decades of the twentieth century when the French Soudan was marked by social unrest.⁷⁵ Former slaves fled from their masters in large numbers during these years. As a result, many French administrators anticipated a significant decrease in agricultural production due to the loss of labor.⁷⁶ Roberts demonstrated that from the late 1890s to roughly 1912 growing numbers of women left their husbands, or sought divorce in the new French court system. French officials understood that senior male authority was being tested on many grounds.⁷⁷ Even subordinate members of the household who stayed (slaves, pawns, wives, and young men) tested the limits to the amount of labor expected of them as well as the compensation they could expect in return.

Amid rapid social and political chage, the household remained important as a social institution. Fleeing slaves and wives (in some cases former slaves or pawns) had good reason to seek entry into another household. Established households provided regular meals, shelter,

⁷⁴ Stephen R. Wooten, "Colonial Administration and the Ethnography of the Family in the French Soudan," *Cahiers d'Études africaines* 33, no. 131 (1993): 434-41. Wooten points out that Monteil--in contrast to Delafosse--did not characterize these relations with the word "family." On the political role of the "fa" see Roberts, *Litigants and Households*, 141-46. Delafosse and Monteil in particular elaborated that the patriarchal family structure was akin to the State in that most towns consisted of a large extended family and the village or town chief was really the head of the family. The same structure was simply elaborated on a grander scale in the case of pre-colonial states like Segu. ⁷⁵ See Roberts, *Litigants and Households*. Roberts discusses the role of ethnographers like Delafosse in shaping family law in the French Soudan in chapter five.

⁷⁶ Klein, *Slavery and Colonial Rule in French West Africa*, 179-80.; Roberts, *Litigants and Households*, 105. ⁷⁷See chapter five in Roberts, *Litigants and Households*.

security, and in many cases access to land for farming. People who were members of households in crisis (due to debt, low food stores, vulnerable to raid or violence) often sought assistance from more successful households. For example, loans of food were common. In extreme cases, a man or woman could even enter a large household as a voluntary slave in exchange for food, shelter, and security. A man in debt could also send children and women under his charge into other households as pawns.⁷⁸ Women who sought divorce in this period generally returned to their birth households, or they married into a new one.⁷⁹ Former slaves who left their masters also sought to return to their original households or to establish new ones in their original home town or region.⁸⁰ Belonging to a household was critical for survival in the rural French Soudan, even as men and women sought to renegotiate their roles as juniors in individual households.

As the anthropologist Camilla Toulmin has demonstrated even in the late twentieth century, large households provided significant benefits. Households of significant size were better able to feed members throughout the year. They responded better than small households to the illness or death of a member, and they ensured the availability of different types of labor (along gender and generational lines). Women in large households were more likely to have their own plots for farming and leisure time for private income-earning activities. For these reasons, large households have persisted in present-day Mali.⁸¹ Significantly, she found that men and women remained in a household so long as they ate there.

In the 1970s the French anthropologist Claude Meillassoux suggested that the West African household was a unit of production. His definition centered on labor as an organizing

⁷⁸ Delafosse, *Haut-Sénégal-Niger (Soudan Français)*, 52-59.

⁷⁹ See chapters five and six in Roberts, *Litigants and Households*.

⁸⁰ See chapter two in Peterson, *Islamization from Below*.

⁸¹ Camilla Toulmin, *Cattle, Women, and Wells: Managing Household Survival in the Sahel* (Oxford: Clarendon, 1992), 257-61.

principle for the construction of the household. Meillassoux astutely noted that kinship and household were too often conflated. He argued instead that household forms and any kinship relations within that unit came about as a result of how production was organized.⁸² In Meillassoux's Marxist analysis of the pre-capitalist household, "The production of energy and food were two aspects of the same productive process; one is transformed into the other and vice versa."⁸³ He further noted that consumption in the pre-capitalist case of West Africa was divided between future producers (children), present producers (able-bodied adults), and past producers (elder members of the household).⁸⁴ Thus the household had to satisfy the food needs of these three generations through the labor input of the current producers. Meillassoux's model worked on the assumption that agricultural production and consumption was rooted only in field cultivation. His model also imagined rural pre-captialist production in the absence of the market, and it is not clear when such a household would have existed in reality. Women, more than men, spent their labor time assuring this consumption. With regard to gender Meillassoux was most interested in explaining the way women moved between households and their role in reproduction.⁸⁵ He was less interested in the fact that women's historical labor in food production and preparation suggested that women in West Africa understood the household as a unit of consumption rather than simply a unit of production.

From a perspective that considers women's labor, the household in the French Soudan was largely defined by who ate together. By extension household members included everyone that women cooked for on a daily basis. On this point Delafosse was inconsistent. In his three

⁸² His analysis called for a re-examination of kinship and labor relations under colonialism with special emphasis on changes in the economic market. Claude Meillassoux, *Maidens, Meal and Money: Capitalism and the Domestic Community* (Cambridge: Cambridge University Press, 1981).

⁸³ Ibid., 51.[italics are in original text]

⁸⁴ Ibid.

⁸⁵ Ibid., 61-74.

volume work *Haut-Sénégal-Niger* (1912) he first wrote that each "famille reduite" fed itself. He then pointed out that all members of the "famille globale" worked in the common fields or contributed in some other manner to the larger household.⁸⁶ Grains and other food crops from the larger household's fields inevitably went into the food women prepared. Furthermore, Delafosse noted that locally the *famille globale* was actually called a "goua" or "gba." The Bamana term *gwa* means hearth, women's cooking space, and where one eats.⁸⁷ Women's food preparation was thus central to maintaining the social cohesion of the often large numbers of family members and others who farmed and ate together.

Seasonality and Women's Labor

Women's agricultural labor in the early part of the twentieth century followed seasonal patterns that integrated field labor, garden cultivation, the collection of forest products, raw food processing, and cotton spinning or other industry. Intensive field cultivation and harvesting in the rainy season lasted from May until October. During the following cold (and dry) months from November to January or February women were occupied with processing and storing the harvest. They also manufactured shea butter and engaged in other industries during the dry season hot months of March and April (See Table 1).

Beginning in May or June, men and women prepared fields in anticipation of the rains. Planting and weeding were predominantly female tasks and required a great deal of labor time during the growing season. In southern areas of the colony women alone cultivated rice in

⁸⁶ Delafosse, Haut-Sénégal-Niger (Soudan Français), 96, 97.

⁸⁷ Ibid., 94. The contemporary anthropologist Camilla Toulmin similarly described the Bambara household in central Mali as " that unit which farms a common field and consumes most of its meals together." See, Toulmin, *Cattle, Women, and Wells*, 255.

swampy lands.⁸⁸ The grain harvest generally began in August with the quick growing varieties of maize, *fonio*, and millet; women collected the cut plants and carried them to granaries.⁸⁹ Women also threshed and cleaned the grains, appropriating small amounts of grain for their personal stores.⁹⁰ Similarly, women collected cut rice paddy and transported it from the fields for processing and storage.⁹¹ Depending on the region women also planted gardens in vards by their houses or at the edges of grain fields during the rainy season and the following cold months. Women grew plants like beans, Bambara grounduts, and leafy plants like *n'tioko* and *da* used in sauce preparations.⁹² Women also cultivated calabashes, essential house goods when dried and cut in half.

Farming and gardening inside town walls and near settlements would have been especially important in the late nineteenth-century when many farmers avoided raids or capture by constructing walls around towns and limiting their travel.⁹³ Women's gardens that were close to home continued to provide essential food items well into the twentieth-century.⁹⁴ In addition, women tended shea and other trees near settlements for their nuts, fruits, or leaves.⁹⁵ Along the

⁸⁸ Archives Office du Niger [hereafter AON] 38/1 Vuillet, "La Culture du riz dans la Vallée du Niger," n.d.

⁸⁹ Interview by author with Bintu Traoré, Mariam Doumbia, and Fanta Sogoba in Molodo-Centre, April 15, 2010.

⁹⁰ Maria Grosz-Ngaté, "Hidden Meanings: Explorations into a Bamanan Construct of Gender," *Ethnology* 28, no. 2 (1989): 171, 77. ⁹¹ Interview by author with Assane in Sirakoro, April 2010.

⁹² Interview by author with Hawa Coulibaly, Djéné Mariko, Adam Coulibaly, Nye Diarra, and Mariam Sango in Molodo-Bamana, April 19, 2010; AON 93/3 Dossier Botanique (Suite), Correspondance, letter, n.d. Guy Robarty recorded that women cultivated *n'tioko* for food but he classified the plant as a weed. French ethnographer Viviana Paques similarly observed women's extensive gardening in the 1950s. Viviana Paques, Les Bambara (Paris: Presses Universitaires de France, 1954), 27.

⁹³Interview by author with Daouda Coulibaly and Almamy Kinta in Sokolo, April 5, 2010; Martin A. Klein,

[&]quot;Defensive Strategies: Wasulu, Macina, and the Slave Trade," in Fighting the Slave Trade: West African Strategies, ed. Sylviane A. Diouf (Athens, OH: Ohio University Press, 2003), 64-67. Brian J. Peterson similarly argues that the fear of capture in late nineteenth-century in the southern regions of the Soudan led people to avoid fields outside town. See Peterson, Islamization from Below, 65.

⁹⁴ Paques, *Les Bambara*, 27, 65, 68.

⁹⁵ According to Paques tree plantations near Bamana settlements could either be owned by a family or maintained by a larger collective group. Ibid., 74.

rivers, the end of the rainy season signaled the beginning of large-scale annual fishing.⁹⁶ In agricultural towns, men and women organized town-wide festivals (*san yelema nyenaje*) at the end of the harvest to mark the end of the agricultural year.⁹⁷ To enliven these events women brewed millet beer and prepared other fermented beverages.

In the months following the grain harvest much of women's labor time was occupied with artisanal industry and foodstuffs manufacture. Women picked cotton and began carding and spinning yarn. Women also made *sege* (potash) by burning dried millet stalks; the potash then was used to make soap with shea oil.⁹⁸ Women dyers cultivated indigo and other plants used to dye cloth. Fisherwomen processed dried and smoked fish for household and similarly made cooking oil and soap from parts of certain fish.⁹⁹ In these same dry months, women collected wood fuel for the year and made cooking oils and other nutritious ingredients. Much technical innovation went into these and other manufactures.¹⁰⁰

From roughly June to October when the grain stores wore thin, women collected wild grains in addition to laboring in the fields. Depending on the size of the grain store remaining from previous harvests, women collected more or less of the spontaneously growing wild grains to supplement the food stocks. Wild grains were also a seasonal food that people enjoyed. The

⁹⁶ Jacques Daget, "La Pêche Dans Le Delta Central Du Niger," *Journal de la Société des Africanistes* 19, no. 1 (1949): 57-73.

⁹⁷ Interview by author with Assane Coulibaly and her son Tafron Dembélé in Sirakoro, April 28, 2010; Interview by author with Alimata Dembélé, Moussa Coulibaly, and Nana Dembélé in Koutiala-Kura, May 3, 2010; Interview by author with Kadja Coulibaly, Fatoumata Guindo, Fatmatu Zaré Coulibaly, and Lalafacouma Tangara in Koue-Bamana, May 26, 2010; Interview by author with Nianzon Bouaré and Hawa Coulibaly in Molodo-Bamana, May 29, 2010.

⁹⁸ Interview by author with Kono Dieunta in Kokry, May 3, 2010. See also M.S. Martin et al., "Characterization of Foliar-Applied Potash Solution as a Non-Selective Herbicide in Malian Agriculture," *Journal of Agricultural, Food, and Environmental Sciences* 2, no. 1 (2008).

⁹⁹ Interview by author with Kono Dieunta in Kokry, May 3, 2010; Daget, "La Pêche Dans Le Delta Central Du Niger," 52-56.

¹⁰⁰ Interview by author with Rokia Diarra in Nara, April 29, 2010; Archives Nationales du Mali [hereafter ANM] 1 R 16 Volume II, Agriculture Divers 1914-1931, Agricultural Calendar, n.d.; AON 30/10 Dossier Botanique, "Rapport du Botaniste pour 1934 ; Charles Monteil, *Le Coton Chez Les Noirs* (Paris: Émile Larose, 1927), 51-53.

months may have been lean but the foods eaten and manufactured during this season were essential to providing diversity in the diet. By the mid-1940s ethnographer Henri Labouret and other French scientists argued that seasonal variation in African diets—especially during the rainy season when people ate less food on average—was a sign of dietary trouble and malnutrition.¹⁰¹ As Diana Wylie argued for early twentieth century South Africa, seasonal dietary change was not an indication of a poor diet. Rather, it represented an adaptation to the seasonality of resources. Food crises only really occurred when something disrupted the regular cycle of food production. Chronic lack of food posed a health danger, not seasonal variation.¹⁰² The situation was similar in the French Soudan. The seasonality of food production in the colony would continue to cause concern among colonial scientists who feared that nutritious foods, especially proteins, were only consumed irregularly. Labouret credited West African women with ingenuity for their food production techniques, but he still regarded the amount and quality of their food production as sufficient. Labouret believed the "poor environment" of the West Africa was a fault because it lacked the natural resources to support a healthy diet.¹⁰³

During most months, women collected leaves, nuts, and fruits in nearby forested areas, or *kongo* as the forest is called in Bamana. These *kongo* products were processed into butters, oils, dried sauce condiments, fermented spices, and beverages. Indeed, the early twentieth century French botanist Guy Robarty observed that the landscape of the Soudan was particularly rich in oil producing trees and plants of potential interest to metropolitan industries. He called attention

¹⁰¹ Labouret, Paysans D'afrique Occidental, 197-203.

¹⁰² Wylie, "The Changing Face of Hunger in Southern African History 1880-1980," 160-62.

¹⁰³ Labouret, Paysans D'afrique Occidental, 197-203.

to sesame, shea nuts, and peanuts, all of which women cultivated in fields or harvested from the *kongo* and processed for home use.¹⁰⁴

Women produced much of a household's essential food products from the *kongo*. For example, women gathered shea nuts for several months on a household rotation. While one woman searched for nuts, other women in the household went to the millet fields, or cooked. The nuts were processed into *tulu* (oil) primarily in the cold months.¹⁰⁵ Women also collected fruits from the *nere* tree beginning in April, the hot season. The *nere* fruits were fermented to produce a basic spice or condiment called *soumbala*. As suggested by Mage's observation of market women, each woman collected ingredients for her own cooking and use. If a woman's store of shea butter or *soumbala* exceeded what she needed to cook, she was free to sell her surplus. Both the production of cooking oil made from shea nuts and of the spice *soumbala* were labor intensive. For *soumbala* production, Labouret reported that *nere* seeds were dried, washed, boiled, pounded, and finally fermented for ten days. He also recorded nine steps in the process of making shea oil.¹⁰⁶

Women needed to use several specific tools to cook and manufacture ingredients like shea butter and *soumbala*. Basic kitchen items would have included at least one heavy wooden mortar and pestle set to pound millet. A cook also pounded mixtures of salt, fish, *soumbala*, shea butter, and different dried leaf powders. In the cooking process, the fish or meat was

¹⁰⁴ AON 93/3 Dossier Botanique (Suite), Correspondances, Letter no.13 from Guy Roberty to the head of laboratory services dated August 31, 1935. Roberty also highlighted a tree called Zeguéné found in the northern regions, cotton, ricin, and curcas oil.

¹⁰⁵ Interview by author with Hawa Coulibaly, Djéné Mariko, Adam Coulibly, Nyé Diarra, and Mariam Sango in Molodo-Bamana, April 19, 2010.

¹⁰⁶ Labouret, Paysans D'afrique Occidental, 192.

pounded together with some of the seasonings while salt was pounded with other ingredients. ¹⁰⁷ Ideally, a cook would have had more than one mortar and pestle: one for millet and one for sauce ingredients. A wife would also need calabashes to hold stores of sauce ingredients, a *baarakolo¹⁰⁸* for collecting water, and at least one large clay container to store drinking water. A cook needed at least two earthen cooking pots and two sorts of wooden stirring spoons. If she was going to cook rice without pounding it, she also needed a clay steaming bowl. Every household needed at least one large *kuna*, or wooden serving bowl for eating, and one small *kuna* for the sauce. They would also need at least one drinking gourd, a woven *kuna* cover, ¹⁰⁹ and serving spoons. In addition to kitchen items, women would have owned spools for threading cotton, one or more stools, bedding, some lengths of cloth, and possibly stores of medicinal plants. Most women acquired these items as wedding gifts. When a young bride moved to her new husband's home, her household goods were transported there by a large group of female friends and family members.¹¹⁰

In the late eighteenth century, Park observed that men and women were engaged in shea nut collection during the rainy season which contributed to significant production for the local market. He wrote: "The people were everywhere employed collecting the fruit of the Shea trees, from which they prepare the vegetable butter, mentioned in former parts of this work[.]" He continued: "These trees grow in great abundance all over this part of Bambarra. They are not planted by the natives, but are found growing naturally in the woods; and in clearing wood land

¹⁰⁷ Interview by author with Daouda Coulibaly and Almamy Kinta in Sokolo, April 5, 2010. During the interview, the two elderly men recalled how their mothers prepared sauces.

¹⁰⁸ A large round organic container with a small hole in the top, similar to a calabash or gourd, the *baarakolo* was made by drying the plant's large fruit and hollowing it out.

¹⁰⁹ The *kuna* cover allowed women to transport meals to the fields protected from the elements. It also helped to preserve heat from cooking. Discussion between author and Hawa Fonba in Kalaké-Bamana, October 2, 2010. ¹¹⁰ Interview by author with Hawa Diarra in Nara, April 30, 2010.; Interview by author with Djewari Samaké in

¹¹⁰ Interview by author with Hawa Diarra in Nara, April 30, 2010.; Interview by author with Djewari Samaké in Kolony (km 26), June 2, 2010.

for cultivation, every tree is cut down but the Shea." Park further highlighted the local value of the shea by describing the regional shea butter trade: "The growth and preparation of this commodity, seem to be among the first objects of African industry in this and the neighboring states; and it constitutes a main article of their inland commerce."¹¹¹ The lively trade in shea butter was also described by Mage who in the late nineteenth century more explicitly associated it with women.

The foodscape created and maintained by women in the French Soudan placed emphasis on local taste. Park favorably noted the rich flavor of shea butter in his late 1700s travel narrative:

The tree itself, very much resembles the American oak; and the fruit, from the kernel of which in water, has somewhat the appearance of a Spanish olive. The kernel is enveloped in a sweet pulp, under a thin green rind; and the butter produced from it, besides the advantage of keeping the whole year without salt; is whiter, firmer, and to my palate, of a richer flavor, than the best butter I ever tasted made from cows' milk."¹¹²

Not only does he prefer the taste of shea butter he highlights its overall quality by noting the fact that it preserved well. Elsewhere Park remarked upon the acidic taste of the morning "gruel." The nineteenth century traveler Mage similarly remarked upon local tastes when he observed women selling snacks and treats in the market that included sweet items made with honey and grilled nuts and beans.

The anthropologist Gérard Dumestre draws a distinction in contemporary Mali between treats consumed on an individual basis and regular daily meals that are consumed communally. He makes this distinction by separating what he calls a hunger for subsistence (*suman*) from the

¹¹¹ Park, *Travels in the Interior Districts of Africa*, 201.

¹¹² Park, Travels in the Interior Districts of Africa, 201.

hunger for treats associated with childhood (*negelafen*) such as fruits, grilled peanuts, millet or bean pastries, and grilled meat. The latter is a hunger of desire.¹¹³ He conducted his research in the latter part of the twentieth century, but the analysis draws attention to the myriad types of food and snacks prepared by women. Dumestre's understanding of Malian foodways emphasizes consumption and rightly places emphasis on how food is appreciated but also socially constructed. However, women's preparation labors and attention to both food for daily subsistence and food for enjoyment were part of the same year-round production cycle that included cereals production as well as the manufacture of flavorful ingredients (eg. tamarinds, shea, and other fruits and spices). Attention to taste was an essential element of the year-long food production and preparation cycle.

Early twentieth century French colonial observers remarked upon the seasonal character of the food supply but understood seasonality as a sign of a chronic condition of food shortage. The agricultural engineer Emile Bélime, who was invested in establishing a large-scale irrigation project in the region, commented that:

As for food shortages, which are exceptional south of Ségou, they are rather frequent in the Sansanding plain. Residents survive shortages by eating wild products: baobab fruits, shea nuts, and saba fruits. They inhabit fertile lands, but it is poorly watered and poorly worked. They lead precarious and miserable lives."¹¹⁴

For residents of the region the collection of "baobab fruits, shea nuts, and *saba* fruits" by women did not indicate a precarious diet but one punctuated by variety and seasonality diversity. Less negatively another researcher Vuillet recorded the importance of wild grains to local diets. He wrote: "In the Niger Valley, a wild rice with rhizomes, [...] is abundant enough in the flood

¹¹³ Dumestre, "De L'alimentation Au Mali," 692-696.

¹¹⁴ AON 28A, Dossier Bélime, Le Soudan Nigérien, n.d.

plains that it clearly remains important as a food resource."¹¹⁵ Here, I emphasize that this "wild" food resource was "abundant." Furthermore, food production from the *kongo* was not emblematic of crisis but part of a larger foodscape managed by women. Certainly years of poor harvest created hunger, but during the rainy season the *kongo* was productive. The oils spices, and fruits collected and processed by women in the seasons during and after the harvest were vital to local food supply. They also satisfied local food tastes.

¹¹⁵ AON 38.1, Vuillet, Culture du riz dans la Vallée du Niger, n.d.

Activity	January-March	April-May	June-October	November- December
Tree and Wild Food Collection	Shea nuts, dougoura, mingo and noro fruits, n'tongué and mana oil grains, wild figs	Nere, shea nuts, n'tongué, mana, and n'gouna, and m'bekou fruits	Béré fruits, jé (wild rice), other wild grains, baobab leaves, shea nuts, saba and n'tomi fruits, n'olobé leaves, dougoura, m'bekou and mingo fruits, gnambi (yam); n'tiriba root (yellow dye)	N'tongué, mingo, and shea, balanzan (acacia) leaves (beginning in October), bénéfing (wild sesame) in December; <i>tima</i> <i>nyougou</i> leaves (couscous sauce ingredient)
Field Labor	Harvest cotton, transport and thresh grains; plant calabashes, peppers, onion, tomato, gumbo.	Harvest in garden; dry and process products.	Weeding; plant <i>da</i> (hibiscus) varieties (sauce ingredient and tea), plant gumbo, groundut, and indigo.	Transport and thresh grains; harvest garden products including watermelon, calabash, chickpeas, and groundnut
Industry/ Manufacture	Cottton carding and spinning; shea butter processing; wood collection; food preparation.	Nere processing, cotton carding and spinning; shea butter processing; process fermented fruit drinks; Food preparation, wood collection, food preparation.	Harvest early growing cotton; fermented fruit drinks; make millet beer; food preparation and transport to workers in the fields.	Millet beer production, food preparation; soap production
Women's Product's In Market	Shea butter, peppers, indigo	Nere/soumbala	Shea butter	Indigo, shea butter,
Other Products in Market	Millet, fonio, unprocessed cotton, cattle; ginger		Early ripening grains	Multiple grains

Table 1. Women's Seasonal Labor and Agricultural Production. Sources: ANM 1R 16 Volume II, Agriculture Divers 1914-1931, Agricultural Calendar; AON 30 Dossier Botanique, "Rapport du Botaniste pour 1934; AON 85, Introduction de Plantes à Soninkoura, c. 1939; Interview with Nianzon Bouaré and Harouna Bouaré in Molodo-Bamana, April 16, 2010; Interview with Djenbu Coulibaly in Kolony (km 26), August 7, 2010.

The Taste of the Hungry Season

Many of the foods women collected in the lean season were extremely pleasing to eat; there were also many kinds of non-field grains and foods to be collected. Women made meals with grains from the *kongo*, as they would with grains that came from the fields. For example, women across the region harvested the grain *fonio* and a wild rice variety called *jéba*.¹¹⁶ Whenever possible, women cooked *jéba* with fish and salt to make a satisfying dish.¹¹⁷ Another wild grain called *fini* is still sold in the Niono market; it looks and cooks like rice and is much appreciated locally.¹¹⁸ *Jé* and other wild rice varieties were found as far north as Sokolo during the rainy season.¹¹⁹ Further south in Koutiala, wild rice was called "*ja so*."¹²⁰ In Boky-Were, women cultivated a grain similar to *jéba* called *jé*. Boky-Were residents also harvested a water weed from the Niger called *gokun* that people even sold because it was very popular to eat.¹²¹ In the rainy season children looked forward to eating many fruits from the *kongo*, as well as a kind of weed called *bré* that looked like *fonio*.¹²²

While field grains were harder to come by during the lean months of the rainy season, fruits and wild grasses provided important nutritional supplements; they also greatly diversified diets. Women picked wild fruits during both the hot and rainy seasons: *n'tongué, mana, n'gouna,*

¹¹⁶ Emile Belime also observed the collection of a grain that he called Paikin which looked like fonio in the region immediately north of Molodo. AON 28A, Dossier Bélime, Le Riz, n.d ; AON 28A, Dossier Bélime, Le Soudan Nigérien, n.d.

¹¹⁷ Interview by author with Kadja "Ma" Coulibaly, Fatoumata Guindo, Fatmoumata Zaré Coulibaly, and Lalafacouma Tangara in Koue-Bamana, May 26, 2010.

¹¹⁸ While *fini* is sold in the Niono market, *jéba* is no longer found. Interview by author with Djenebu Coulibaly in Kolony (km 26), August 7, 2010.

¹¹⁹ Interview by author with *dugutigi* Daouda Coulibaly and former regional administrator Almamy Kinta in Sokolo, April 5, 2010.

¹²⁰ Interview by author with Aissata Mallé, Salimata Samaké, Sitan Mallé, Assane Plea, and Mariam Sall in Kouyan-N'Péguèna, April 12, 2010.

¹²¹ Like *fini*, *gokun* can still be found in rural markets. Interview by author with Moussa Diawara, Aminata Tangaré, and Hawoyi Diawara in Boky-Were, May 7, 2010.

¹²² Moctar Coulibaly the *dugutigi* of Sirakora who was from the Koutiala region called the lean season "koala." Interview by author with Moctar Coulibaly, Mariatou Traoré in Sirakoro, April 28, 2010.

saba, *n'tomi*, *m'bekou*, and *mingo*. Some of these fruits were consumed raw and others were transformed into beverages. For example, one small pungent fruit from the *béré* tree was extremely bitter. However, once the seeds were removed and soaked, the taste bitter was diluted. After the seeds were soaked, they were then cooked into a beverage.¹²³ Finally, the production of cooking oil and dried sauce ingredients during this period supplied nutrient-rich foodstuffs for the entire year.

In the first two decades of the twentieth-century, administrators and merchants investigated the possibilities of promoting the cultivation of some wild grains for regional trade or export. In 1911, the European rice merchant M. Simon based in Mopti was interested in farming the wild rice that grew along the flood plains of the Niger River. He observed residents in the Mopti area eating this rice when they experienced poor harvests. He further remarked that the grains resisted bird and insect attack well. In a letter to the administration in Bamako, he explained:

the only care required [for wild rice] is weeding. It already victoriously resists them. In fact, the harvest <u>is guaranteed</u>. It provides an excellent food grain, if not <u>better</u> than the other rice [...] I asked widely why most farmers refuse to cultivate this rice. No one could give me an adequate answer for this attitude. No one has tried the exclusive cultivation of this rice.¹²⁴

Simon added that he thought the production figures for harvests of this grain could be considerable. What Simon proposed could be termed the domestication of wild rice. He assumed that agriculture ought to be a profitable endeavor; whereas, this rice that grew wild without any labor (except the harvesting). Locally it was a reliable food supplement to the

¹²³ Interview by author with *dugutigi* Nianzon Bouaré and Harouna Bouaré in Molodo-Bamana, April 16, 2010. ¹²⁴ All translations are my own unless otherwise indicated. ANM FA 1R 27 Agriculture Correspondances 1910-1920, Letter from M. Simon to the Lieutenant-Governeur of Haut-Sénégal et Niger, 1911. Only a fragment of the original letter has been preserved, and portions of the letter are illegible or torn. Underlined portions are from the original.

cultivated fields. The wild grain was also a woman's product, which male farmers might not have wanted to plant because the harvest might be understood to belong to the women who worked the fields.

In the years 1912-1914, the colonial government briefly investigated the industrial possibilities from cultivating a wild sesame called *bénéfing*. Primarily, researchers hoped the grain would prove useful for the production of paints and varnishes in French industry. Ultimately, local administrators assessed that *bénéfing* was not likely to grow in large quantities; it was also difficult to harvest.¹²⁵ On this subject, the administrator for the Bamako district wrote to the Lieutenant-Governor of the French Soudan: "Bénéfing grows spontaneously in the Bamako district, especially in swamps, marshes and humid areas bordering the Niger. Unfortunately, the plant is nowhere abundant enough to allow for profitable exploitation. The harvest would be all the more difficult because the grain is light and thin."¹²⁶ In that same area, women made efficient use of *bénéfing*. They collected the grains and pounded them; they then added the *bénéfing* powder to their stores of dried beans which improved the conservation properties of the beans.¹²⁷ Women probably did not collect *bénéfing* on a large scale, but gathered just enough to produce the powder they needed to help preserve stored grains. Thus, women's botanical knowledge of the *kongo* not only allowed them to address local dietary needs, it also enabled them to make the most of the household's major harvest.

 ¹²⁵ ANM 1R 167, Bénéfing 1912-1914.
 ¹²⁶ ANM 1R 167, Bénéfing 1912-1914; Letter from the Bamako Commandant du Cercle to the Lieutenant-Governor of the Soudan dated March 8, 1912.

¹²⁷ AON 30, Dossier Botanique, Rapport du Botaniste pour 1934.

A Story of Famine in Koue-Bamana

In Koue-Bamana, a town that dates to the Segu Empire, old women tell a story about a great harvest of wild grains during a famine. In the story, which the women say happened *folo folo* or in the distant past, the whole town was suffering from severe hunger. It became necessary for the women to find something for people in town to eat: a group of women came together and went to collect *jéba*. They started out looking for termite mounds because *jéba* was found inside them. While out in the *kongo*, the women found a mound that contained so much *jéba* that they could not collect it all in the *minauw* (containers) that they had with them.¹²⁸ The women discussed what to do. They feared that if they did not take all the *jéba* with them at once the rest would be gone upon their return. First, they put as much *jéba* as possible in their *minauw*. Then, they waited for nightfall. When it was becoming dark, they removed the cloths from around their waists and wrapped the rest of the *jéba* in their wraps. Each woman grabbed a calabash or basket of *jéba* to carry on her head while she also held her wrap full of grain with one hand leaving the other free. Finally, the women started walking home, carrying all the precious *jéba*.

When the women did not return before nightfall, the people in town believed them to be lost. They quickly organized a search party. The men in the search party left the town sounding alarm drums and shooting rounds into the air from their guns. After a while, the searchers found the women kneeling naked by their overflowing *minauw* and wraps. When the women heard the alarms, they knew the town had sent men to look for them. They quickly kneeled to cover their nakedness, and that is how the men found them. In the end, the women and the men from the search party made their way home. When the women returned, they were still naked, but had

¹²⁸ Most likely calabashes and baskets.

brought a wealth of food with them. The women had found so much *jéba* that the hunger was over. That is when everyone began celebrating.¹²⁹

There are several ways to interpret this story. Of course, the women are heroes of sorts. Their trip to gather *jéba* saved Koue-Bamana from famine. There is also an element of sacrifice: the women risked danger and shame to collect all the grains they found. If the story took place in the first decade or so of the twentieth-century, or earlier, women who ventured outside their towns certainly risked capture by raiders. In fact, the urgency of the search party suggests just such dangers. The story is also instructive about how to protect a community and where to find food in times of need. For example, the story teaches that *jéba* can be found in termite mounds; as such the story passes down this botanical knowledge. If Koue-Bamana was suffering food shortages, nearby towns were probably also in need of food. This would have justified fears that other women may have come along and collected what the Koue-Bamana women left at the mound. For this reason perhaps, the women really could not leave the *jéba* and expect to find it later.

The story was also meant to be humorous. The elderly women who told the story laughed as they recounted the women's nakedness and how the party of male searchers came upon the women with nothing to cover themselves but the *jéba*. There was suddenly so much food that it did not matter that the women were naked when they brought it home. The laughter inspired by the story may also serve to distance memories of hunger in the past from the moment of story-telling. It also reinforces the sense of the abundance to be found in the *kongo*. While the storytellers did not specify when this episode took place, it is possibly a collective memory

¹²⁹ Interview by author with Kadja "Ma" Coulibaly, Fatoumata Guindo, Fatmoumata Zaré Coulibaly, and Lalafacouma Tangara in Koue-Bamana, May 26, 2010.

from the great famine of 1913-1914. It may also be a composite memory of several episodes of hunger or famine. Yet, the story is about bounty in the *kongo* and how women saved an entire town from famine. Hunger propelled women from town to leave the safety of the settlement, and their sacrifice was rewarded. The story must have held meaning long into the colonial and post-colonial eras because women continued to tell the story. This is also a story about the importance of overcoming shame in times of stress.

As suggested in the Koue-Bamana narrative, collecting grain in the *kongo* was often a group endeavor. When individual families suffered from grain shortages, the woman in charge of cooking for the day would procure millet in town. In such a case, the cook had perhaps been unable to find any wild grains in recent days or did not have the time to go collect them. Typically the cook put water on the fire as normal. Then, she would go to a neighboring *gua*, cooking hut. Rather than say she had no grain, she would ask if there was anything that needed pounding. After she pounded millet for her neighbor, that woman would give her a little something to cook that day. It was only when shortages were widespread that women went together in search of grains.¹³⁰ In both cases, women were charged with supplementing the grain harvest when it ran out. A poor harvest was succeeded by intensive women's labor.

Embedded with the Koue-Bamana story are signs of the extreme fatigue women must have endured during times of famine. Already suffering from hunger, the group of women walked far into the *kongo*, then carried a large load of grains home. The wait for nightfall may have been necessary simply because they needed rest. Even in years without great shortages women worked very hard in the rainy season. They walked into the *kongo* for grains and fruits

¹³⁰ Interview by author with Fatoumata Coulibaly, Kadja Mallé, Mariam Mallé, Kadja Koné, and Aminata Dembélé in Kouyan-Kura, May 27, 2010.

and returned with heavy loads. They also provided field labor and carried out food preparation. Even during the dry season following the harvest, women labored constantly. They searched for and carried loads of fire wood or nuts; they also processed the raw food products.

The story of famine in Koue-Bamana is complex. The hunger of town residents is presented in the context of plenty (the bounty of wild grains that saves the town). It is a foil against which hunger and possible starvation are presented as real and historical threats to the community. In the story, women and men also experienced the food shortage differently. Food production was a female domain and remained so even when going into the *kongo* was risky. Moreover, in a moment of food crisis the household no longer functioned as the unit of production. Survival would not have been possible without the collective labor of women from several households.¹³¹ The system of food production was defined in gender terms but at the same time was flexible in its organization. In fact, the unit of production expanded beyond the household to the community in both the moments of food crisis and in times of celebration.

Brewing Beer to Measure the Harvest

Every year men and women hoped for a good harvest because it meant that the household would eat for the year (or more). Farmers also saved some grains from the harvest for the next year's seeds and sold a portion to pay taxes imposed by the colonial government. To do all this farmers (men and women) looked for ways to increase overall production. Yet, the harvest was more than a quantitative measure. Good harvests enabled senior men to finance junior men's

¹³¹ My analysis in this section draws from important insights relating to gender and the availability of food and its distribution made by the historians Elias Mandala and Megan Vaughan. Elias Mandala, *The End of Chidyerano: A History of Food and Everyday Life in Malawi, 1860-2004.* Megan Vaughan has similarly remarked on the gendered aspects of food distribution. Megan Vaughan, *The Story of an African Famine: Gender and Famine in Twentieth-Century Malawi* (Cambridge: Cambridge University Press, 1987).

marriages or to participate in other important social exchanges. In particular, the *dolo* (beer) harvest was associated with maintaining strong social ties. Often specific household fields were planted solely with millet intended for beer brewing. Women brewed large amounts of *dolo* for the *san yelema nyénajé*, the harvest celebration. They also brewed *dolo* and *didolo* (millet and honey beer respectively) for sale. *Dolo* was certainly an economic good, but it was also an important element of social life. The consumption and enjoyment of dolo was also a qualitative means of measuring the harvest.

French policies from the first three decades of the twentieth century discouraged women's beer brewing activities. As early as the 1890s, the French government was under popular pressure within France to combat drinking in the colonies.¹³² It was not until the second decade of the twentieth century that the colonial government attempted to control beer production in the French Soudan. During the First World War millet beer production was banned. Acting Lieutenant-Governor Raphaël Antonetti outlawed *dolo* with the goal of reserving grain production surpluses for state provisioning efforts.¹³³ This included red millet, often used by the military as horse feed. The same red millet was used locally for beer making.¹³⁴ The ban met with great resistance from men.

When the government again considered a ban during the difficult harvest years in the 1930s, local administrators reported to their supervisors that such measures had failed in the past. Yet many French officials tended to support a ban because they believed that farmers wasted food stores to make the alcohol. The two opinions prompted debate. In 1934, officials in Bamako voiced concerns that millet beer consumption was detrimental to the food supply.

¹³² Archives Nationales d'Outre Mer [hereafter ANOM] FM GEN//60, folder 603, Fabrication d'alcool de mil March 12, 1898; ANOM FM 1 AFFPOL/397, Direction des Affaires politiques, Régime des alcools de 1890 à 1940, "Régime des Alcools en Afrique occidentale française" n.d.

¹³³ ANM FR 1Q 77, Ravitaillement des grains 1913-1919, Folder 1916-1917.

¹³⁴ ANM FR 1Q 77, Ravitaillement des grains 1913-1919, Folder 1916-1917.

Responding, the administrator for Ouahigouya¹³⁵ wrote that: "The situation is even more alarming because district inhabitants, who are heavy *dolo* drinkers, cultivate millet almost exclusively. Shortages of this grain could not, as in other areas, be balanced by the harvest of other grains that ripen at different times, or by root crops." Yet, the same administrator from Ouahigouya doubted the effectiveness of any such ban, or his ability to enforce one citing past experience. ¹³⁶ Around the same time, François Sorel, who studied food in French West Africa as a doctor for the colonial army, suggested that millet beer be reserved only for special occasions because farmers barely produced enough millet to eat. According to him they could not afford to use their millet only to make beer.¹³⁷ The Lietutenant-Governor had already suggested a regional ban on *dolo*. Clearly these officials were missing why *dolo* was as important locally as the millet food crop.

Beer brewing had a long history in the region before the arrival of the French. Oral traditions from the Segu Empire (c. 1712-1861) narrate that the mother of its founder, Mamari Kulubali, joined her son at his capital Segu-Sekora, where she brewed millet beer for his followers. Mamari was not an attentive farmer. In fact, the stories of young Mamari recount that he failed to stop a water spirit from eating his mother's eggplant crop. Mamari later caught the thieving spirit and received some *fonio* grains in compensation. However, he allowed birds to eat the crop after it was planted.¹³⁸

*Dolo--*a product from the regional millet harvest--was important to politics in the Segu Empire. According to oral traditions, Mamari shared his mother's beer with his warriors. Each

¹³⁵ Ouahigouya was located in Upper Volta, now Burkina Faso.

¹³⁶ ANM 1D 2879 I, Ravitaillement Production Agricole-Previsions Situation Alimentaire 1926 à 1934, Situation du Cercle de Ouahigouya en fin Novembre 1934.

¹³⁷François Sorel, "L'alimentation Des Indigènes En Afrique Occidentale Française," in *L'alimentation Indigène Dans Les Colonies Françaises, Protectorats Et Territoires Sous Mandat* ed. Georges Hardy and Charles Richet (Paris Vigot Frères, 1933), 165.

¹³⁸ Roberts, Warriors, Merchants, and Slaves, 28-29.

paid a small amount, some of which went to Mamari's mother. The price of this millet beer was called *djisongo* and is referenced as the origin of taxation in the empire.¹³⁹ Young men's associations, or *tonw*, which were the institutional basis for the empire's warrior class, had long been major consumers of millet beer.¹⁴⁰ These groups of young men provided a great amount of labor during the harvest. Later during the era of the Segu Empire, young male warriors acquired millet beer not through agricultural labor but by raiding millet stores and collecting taxes for the state.

In these accounts, *dolo* is symbolic of how Mamari shared the bounty of the empire with his warriors. It is also representative of the material wealth of the state and political unity among its warriors.¹⁴¹ Therefore, the women who produced *dolo* played a major symbolic role in the politics of the region as well as the agricultural economy. Ethnographers have long noted the strong ritual and social value of alcohol across the continent. Many fermented beverages were made from vital staple grains (often millet or sorghum) or other foods. The preparation of alcohol altered the physical state of the grains, and the resulting drink influenced people's behavior. ¹⁴² In pre-colonial Africa, broadly speaking, alcohol was not meant for everyday consumption. Rather, it was tied to the agricultural season, and the end of the growing season. Beer could be crucial to recruiting male labor for the time sensitive harvest. Once the harvest was in, drinking marked the end of heavy labor and the beginning of a period of rest.¹⁴³ This

¹³⁹ Ibid., 40.

¹⁴⁰ Ibid., 33.

¹⁴¹ Studies of pre-colonial alcohol consumption tend to associate drinking such beverages produced from grain harvests with communal welfare and sharing the harvest. See, Deborah Fahy Bryceson, "Alcohol in Africa: Substance, Stimulus, and Society," in *Alcohol in Africa: Mixing Business, Pleasure, and Politics*, ed. Deborah Fahy Bryceson (Portsmouth, NH: Heinemann, 2002), 5-6.

¹⁴² Ibid.

¹⁴³ Deborah Fahy — , "Changing Modalities of Alcohol Usage," in *Alcohol in Africa: Mixing Business, Pleasure, and Politics*, ed. Deborah Fahy Bryceson (Portsmouth, NH: Heinemann, 2002), 24.

was especially true for men.¹⁴⁴ The women who brewed beer therefore controlled a powerful and desired substance.¹⁴⁵

Mungo Park, who traveled in the Segu Empire liberally partook of local brews. In one town while attending a wrestling match he remembered: "In the course of the evening I was presented by way of refreshment, with a liquor which tasted so much like the strongbeer of my native country (and very good beer too), as to induce me to inquire into its composition; and I learnt, with some degree of surprise that it was actually made from corn [grain] which had been previously malted millet..."¹⁴⁶ Notably, Park also found the flavor and quality of this beer pleasant to his palate much as he had found shea butter to be remarkably rich and tasty.

In the course of Park's travels he was offered beer to accompany other local amusements on more than one occasion. He wrote favorably about another such occasion: "About four o'clock we stopped at a small village, where one of the Negroes met with an acquaintance, who invited us to a sort of public entertainment, which was conducted with more than common propriety. A dish, made of sourmilk and meal, called *Sinkatoo*, and beer made from their corn, was distributed with great liberality[.]" In this description he also explained that beer was not only for men. Women were visible consumers of the drink. Park continued, "the women were admitted into the society; a circumstance I had never before observed in Africa." He further highlighted the social nature of drinking: "There was no compulsion; everyone was at liberty to drink as he pleased; they nodded to each other when about to drink, and on setting down the

¹⁴⁴ Ethnographic research has focused largely on social relations around alcohol consumption. Bryceson, "Alcohol in Africa: Substance, Stimulus, and Society," 10.

¹⁴⁵ *Dolo* is reputed to be 40% alcohol by B. Marie Perinbam. See B. Marie Perinbam, *Family Identity and the State in the Bamako Kafu, C.1800-C.1900* (Boulder, CO: Westview Press, 1997), 112. However, research on pre-colonial alcohol suggests that most drinks were fermented, and thus, low in alcohol content. Often children consumed various forms of fermented drinks and porridges, which could often constitute a large portion of the overall grains consumed. In areas where water supplies were unsafe, fermented drinks were safe refreshments. Bryceson, "Alcohol in Africa: Substance, Stimulus, and Society," 7-8.

¹⁴⁶ Park, "Travels in the Interior Districts of Africa [1799]," 94.

calabash, commonly said *berka* (thank you). Both men and women appeared to be somewhat intoxicated, but they were far from being quarrelsome."¹⁴⁷ Sociability around millet beer consumption was quite pleasant in Park's experience and accompanied by the consumption of food (sourmilk and meal).

Elsewhere Park wrote about a special house for the consumption of beer: "As most of the people here [Moorja] are Mahomedans, it is not allowed to the Kafirs [non-Muslims] to drink beer, which they call *Neo-dollo* (corn spirit,) [sic] except in certain houses. In one of these I saw about twenty people sitting round large vessels of this beer, with the greatest conviviality; many of them in a state of intoxication." Here, beer drinking was a marker of non-Muslim status but it was also institutionalized to an extent through the creation of beer houses. Park's continued description of drinking in Moorja made plain the association between a bountiful harvest and the enjoyment of beer: "As corn is plentiful, the inhabitants are very liberal to strangers: I believe we had as much corn and milk sent us by different people, as would have been sufficient for three times our number; and though we remained here two days, we experienced no diminution of their hospitality."¹⁴⁸ In this way, plentiful millet beer was a marker of a successful previous harvest, peaceful social exchange, and leisure.

In 1805, Park returned to West Africa and toured the Sansanding market.¹⁴⁹ He observed that a separate area of the market was reserved for beer sales.¹⁵⁰ By this time, Sansanding was a major trading and grain production center founded by Muslim Marka merchants and plantation owners. Even though *dolo* drinking was widely considered a Bambara (non-Muslim) pursuit, it was tolerated in predominantly Muslim towns (Park made similar observations during his earlier

¹⁴⁷ Ibid., 193.

¹⁴⁸ Ibid., 191.

¹⁴⁹ Sansanding is the European name for the town locally known as Sinsani.

¹⁵⁰ Roberts, Warriors, Merchants, and Slaves, 52.

mission).¹⁵¹ Harvest festivals were sometimes Islamized, and some Muslims drank *dolo*. In fact, Mamari's mother, who is said to have sold *dolo*, is also remembered as a devout Muslim.¹⁵² Over the nineteenth-century Islam spread in the region, contributing to the emergence of a series of Muslim states. Yet, *dolo* production and consumption remained widely culturally important.

Dolo carried strong associations with material well-being and with politics. It was also a valued commercial good. In 1902, almost a century after Park's visit, *dolo* sales were ongoing in Sansanding. In a case that came before the French-appointed ruler Mademba Sy, a stranger was imprisoned for cheating a millet beer seller out of his product and fooling the same seller into purchasing meat for him. ¹⁵³ This case to do with the millet beer seller was clearly important enough for Sy to write to the French regent in Segu about the theft.

The availability of *dolo* was a sign of a productive harvest and a strong economy. In the late 1920s, Bélime described the local importance of *dolo* as follows: "... millet also serves the production of dolo, a sort of beer, very much enjoyed by the Soudanese. When common grain stocks are filled, the fields owned and cultivated by the woman are then used for this purpose [beer brewing]. She sells it at high prices, even to her husband. This fact, reported by Costes [a French agricultural researcher], shows that dolo has become, for the Soudanese, a drink of first necessity."¹⁵⁴ According to this account, some women cultivated millet for *dolo* in personal fields, as well as producing millet beer from the surplus of household fields. In years of productive harvests, women retained more profit from their own fields. Indeed, Bélime seemed to think women earned a great deal from beer brewing.

¹⁵¹ The Bambara identity was ambiguous in early outside accounts of the region (including Arabic accounts) and being Bambara was often imbued with multiple meanings: an ethnicity, a religion, a culture, and a language. Jean Bazin, "A Chacun Son Bambara," in *Au Coeur De L'ethnie: Ethnies, Tribalism Et État En Afrique*, ed. Jean-Loup Amselle and Elikia M'Bokolo (Paris: Editions de la Découverte, 1985).

¹⁵² Perinbam, Family Identity and the State in the Bamako Kafu, C.1800-C.1900, 112.

¹⁵³ ANM FA 1E 220 Correspondance avec le Fama de Sansanding Cercle de Segou 1890-1917, 1902 file.

¹⁵⁴ AON 28 Dossier Bélime, "La culture du cotonnier," n.d.

Brewing millet beer, like many other female products, was time intensive. It took two days to brew millet beer. First the millet to be used was soaked in water with a lid over the pot. The mixture sat overnight, or even a whole day. The millet was then placed in the sun. Afterwards, women ground the treated millet on a stone called a "*wuku*." Next, the ground millet was cooked. For harvest festivals, each senior woman got some millet and made her own brew.¹⁵⁵ Djenebu Coulibaly remembered that in her childhood only married and older women brewed beer; her mother (*bamuso*) made *dolo* from *kénéké*, a specific type of millet. She also remembered another drink that took at least a week to make. Her mother put the grains in the water and let them soak for 7 days with the lid on. Then she took out the *kénéké*, pounded it, and finally cooked it until it was ready. Then she let it sit some more, presumably to ferment.¹⁵⁶ Different types of grain gave each beer a unique flavor, which was also influenced by timing and a brewer's technique.

In nearby Burkina Faso, mature women brew beer with a variety of red sorghum, and the process is similar to that described by women in Mali.¹⁵⁷ First the grains are wetted, which causes them to sprout. Then the prepared grains are ground, creating a malty substance. This malt is then mixed with water. Some of the malt sinks. The beer water is separated from the bottom mixture and then cooked for about an hour. The cooked beer water is allowed to cool overnight. The next day, the beer water is again separated from sediment at the bottom of the pot. The beer water is cooked again while the malty sediment is now boiled. The twice filtered beer water is later mixed with the boiled malty sediment. Finally, yeast is added. The new mix

¹⁵⁵ Interview by author with Fatoumata Coulibaly, Kadja Mallé, Mariam Koné, Kadja Koné, and Aminata Dembélé in Kouyan-Kura, May 27, 2010. Kouyan-Kura is dominated by Minianka families. The process described by the women is most likely Minianka practice.

¹⁵⁶ Interview by author with Djenebu Coulibaly in Kolony (km 26), August 7, 2010.

¹⁵⁷Similarly, in 1916, an agricultural observer remarked that a red variety of millet was used to brew *dolo* in the French Soudan. ANM FR 77, Ravitaillement des grains 1913-1919, Folder 1916-1917.

is again allowed to ferment overnight. The whole process takes two whole days. To make good beer, a brewer must know how long to cook the beer water, when to start the second cooking, and how long to allow each mixture to sit.¹⁵⁸

In the early twentieth-century, dolo featured prominently in the communal year-end harvest parties. In good years, neighboring towns were invited to share in the abundance of grains and *dolo*. Celebrating a plentiful harvest may have been one way of sharing good agricultural luck with neighbors whose harvests had not been as productive. In Koue-Bamana women described harvest parties that occurred before the mid-twentieth century. They explained that the party was held after the harvest to show that it had been a good season. It was a very playful atmosphere and everyone ate as much as they wanted. They described: "*Balon be fo, to be sigi, jege be soro*" or music was played, *toh* was cooked and fish was served. The town also slaughtered goats and sheep, and the women made a lot of *dolo*.¹⁵⁹ Food preparations were all organized by the oldest woman. She instructed each woman what to do as they prepared the *toh*, the sauces, the meat, and the beer. For the festivities, one young man from town was selected to serve as the master of the event. The public place was prepared for him like a palace, and he was brought in on a horse to the sound of drums and rifles."¹⁶⁰

The *dugutigi* of Molodo-Bamana, another town dating to the Ségou Empire, described similar harvest parties.¹⁶¹ Drums were played, and there was *toh* to eat, as well as goat and cow meat. Two types of beer were served: *dolo* and honey beer called *didolo*. He explained that men

¹⁵⁸ Sabine Luning, "To Drink or Not to Drink: Beer Brewing, Rituals, and Religious Conversion in Maane, Burkina Faso," in *Alcohol in Africa: Mixing Business, Pleaure, and Politics*, ed. Deborah Fahy Bryceson (Portsmouth, NH: Heinemann, 2002), 236-37. Luning observed this process in a region of Burkina Faso where large numbers of families were forcibly recruited for the Office du Niger, beginning in the late 1930s.

¹⁵⁹ Interview by author with Aïssata Mallé and Assane Pleah in Kouyan-N'Péguèna, May 28, 2010.

¹⁶⁰ Women in Kouyan-N'Péguèna recalled that during end of the season parties food and dolo were in separate spaces. Interview by author with Kadja "Ma" Coulibaly, Fatoumata Guindo, Fatmta Zaré Coulibaly, and Lalafacouma Tangara in Koue-Bamana, May 26, 2010.

¹⁶¹ Dugutigi (literally the town's caretaker) is often translated as chief but is more akin to a trustee for the dugu or town.

and women worked together for the party. According to him, the men gave the *nyo* (millet) to the women to make food and *dolo*. All of the old women worked in one house together. During the party, the *dolo* drinking was in one place and eating in another. Only old men and some *cemisen* (young men and boys) drank. The old men compared the quality of each woman's brew, always complimenting each one, but sometimes making suggestion for enhancing the beer's flavor.¹⁶² In Boky-Wéré, another old settlement, for the end of season party men made masks and went outside of town to dance, while women clapped and sang. People from other towns also came and were given food. For parties here, women made *ngunajin* a fruit drink that according to the *dugutigi* made people "crazy."¹⁶³ Imbibing alcohol in both towns was central to their annual festivities.

The quality and quantity of *dolo* and other fermented drinks testified to the success of the year's agricultural season. This was a qualitative measurement of production based on women's production. In either good or poor harvest years women's surplus manufacture of beer or production of wild foods was a barometer of well-being for the community. In either case women were expected to assure the pleasurable consumption of beer, prepared dishes, and other foods. Women also fared better economically in years when surplus shea butter, beer, and other products could be sold. They had a stake in the economy of the harvest, largely by transforming its bounty.

Gender and Agricultural Technology

To satisfy a household's consumption needs and desires, women needed to be well versed in the botanical landscape surrounding their homes. They also needed gender specific

 ¹⁶² Interview by author with *dugutigi* Nianzon Bouaré and Hawa Coulibaly in Molodo-Bamana, May 29, 2010.
 ¹⁶³ The fruit drink, likely fermented, was prepared especially for this season. Interview by author with Moussa Diawara, Aminata Tangaré, and Hawoyi Diawara in Boky-Wéré, May 7, 2010.

knowledge for field and garden cultivation. Finally, a cook also needed a specific set of tools and technological skills for food preparation and foodstuffs manufacture. Women employed a host of modest technologies to grow, collect, and process foods and other necessary items. Like men, women employed hoes to work the soils in fields and gardens.¹⁶⁴ They also had specialized tools for cleaning and spinning cotton. Women also made use of grinding stones, mortars and pestles, pots, and containers to make beer, butters, and condiments like *nere*. Food (and beer) production was a technical affair.

French observers most often remarked upon the mortar and pestle that women used to mill and grind grains and other food stuffs in preparation for cooking. Travel writers at the turnof-the century often waxed lyrical in describing women's daily task of pounding grains. For example, the soldier E. Thiriet wrote in his memoir:

From the appearance of the sun's red disk on the horizon, and still long after the day falls, there is a muted sound, rhythmic and steady--music familiar to Africa. It is the sound of the pestle. It is a bit of wood about the width of an arm and 1.50 meters long. Women and captives use the pestle to pound and grind the corn and millet used for making couscous. It falls into deep mortars made of wood and stone and hits again mutedly. This sound can be heard wherever you find yourself, always and without end. To make the task amusing and break the monotony, women sometimes accompany their arm's work with a low monotonous chant or nostalgic song. They also join their rhythmic movements with neighboring women, beating fantastic songs. Also, they often make a show of their ability by throwing the pestle in the air and clapping one or more times before taking it as it hits the mortar.¹⁶⁵

Here, daily life is marked by the continuous sound of women preparing food. There is the sound of the pestle hitting the mortar. While pounding, women sang, sometimes, inviting other women

¹⁶⁴ Judith Carney notes a diversity of hoes for rice field preparation in West Africa, including a long handled hoe, called a *baro* or *baaro* in Mandinka, that only women use. This hoe is used in freshwater flood plain cultivation. See, Judith A. Carney, *Black Rice: The Origins of Rice Cultivation in the Americas* (Cambridge, MA: Harvard University Press, 2001), 54. French observers noted that *dabas* for millet cultivation had rectangular blades while *dabas* for rice cultivation were shaped like isosceles triangles. AON 28 A, E. "Le Soudan Nigérien," n.d. Belime was reporting an observation made by the researcher Costes.

¹⁶⁵ E. Thiriet, Au Soudan Français: Souvenirs 1892-1894, Macina - Tombouctou (Paris: André Lesot, 1932), 64.

to join in. Lifting the pestle and pounding it into the mortar was physical labor. As suggested here, women sometimes transformed what could be fatiguing labor into an enjoyable task. They also took great pride in their skill.

Thiriet was relatively specific when describing the mortar and pestle. The pestle is wooden, about the size of an arm around and one and a half meters long. It was used with a deep mortar made of wood or stone. Mortars were large to accommodate cooking for a household of thirty or more people. Certainly, women took great care in selecting quality items. For example, the pestle had to be made from a solid piece of wood. Any crack, and it was likely to break quickly.¹⁶⁶ Similarly, women used flat stones in conjunction with shorter pieces of round wood to grind millet and other food stuffs. The stone itself was likely chosen for its appropriate shape and re-worked over time to improve its efficiency. These tools were maintained by women, much of it the personal property of married women.

The amount of time spent pounding grain everyday day is consistently the most remarked upon aspect of women's cooking labor. In 1908, Moussa Taraouré, a former domestic servant to a French treasury official, wrote to his past employer about procuring a hand-operated millet grinder for his wives:

You know how women grind millet in the Soudan; it is time-consuming. Save for us, men do not realize that it is very very [repetition in original] onerous. My mother, who for much of her life did this work, will not allow my wives, who are still young, to be rid of this labor. Notwithstanding, I would like to relieve them a little, if I could trouble you.

[...] I ask you to inquire with several Parisian merchants, or commercial houses and manufacturers in neighboring towns or the countryside to find a *hand-operated grinder* capable of grinding approximately *10 kilos* of millet in less than a *quarter of an hour*, and

¹⁶⁶ Conversation with women in Baba Kassambara's household in Markala regarding the purchase of a mortar and pestle by my interview partner Aïssata Khassonké, June 3, 2010.

the price. If they do not have what I am looking for, please do all possible to order one with a manufacturer [emphasis in original].¹⁶⁷

The French travel writer Felix Dubois claimed that he obtained a copy of this letter to the treasury official. Dubois commented on the heavy labor involved in pounding millet, and implied that such a grinder would relieve women like Taraouré's wives of unnecessary and even "barbarous" labor.

However, Dubois was most interested in the letter as an artifact proving the value of French colonization. He included it in a chapter entitled "Évolution des indigènes," as an example of successful French intellectual and moral influence. Taraouré had learned to read and write in French while employed in France for the treasury official. When he returned to the Soudan, he worked as an interpreter and merchant. He also acquired farmland and supervised fruit and vegetable cultivation for the colonial market in Bamako. Taraouré was for Dubois a particularly instructive example of the virtues of colonization because he believed the letter proved that even the Bambara, whom Dubois cited as among lesser intelligent Africans, could become humane. In short, for Dubois, Taraouré was a model colonial African: well versed in French and open to commerce, progress, and French civilization.

Dubois credited French civilization with imbuing Taraouré with a concern for relieving his wives from the onerous domestic task of pounding millet. Dubois surmised that: "Earlier as a domestic servant in a French household, he saw that the wife was neither treated like a rude primitive, nor according to stupefying Islamic custom. [Taraouré] struggles and reflects so that his wives also have a better life... Thus, he cultivates the best, not just for himself, but those around him. For a son of primitives, this is particularly meaningful because it demonstrates [...]

¹⁶⁷Quoted in Félix Dubois, *Notre Beau Niger* (Paris, France: Flammarion, 1911), 243. The letter is dated the 23rd of November, 1908.

the highest expression of moral civilization."¹⁶⁸ It is evident that Dubois viewed Africans, such as the Bambara, as "primitives," and at the bottom of an evolutionary scale. However, he argued that contact with the French had allowed Taraouré to advance in his education and moral expression.

For Dubois, Taraouré's interest in a mechanical solution for burdensome domestic labor was even further evidence of advancement. Dubois gives credit for innovation to Taraouré who had not seen such a grinder in Paris, but rather had the idea for one. Dubois reasoned: "It would appear that the idea for the grinder did not come to [Taraouré] like a butterfly soon to flutter away. He applied himself and shown that he is both a friend and innovator of progress. If such a grinder did not exist on the market, one had to be built for him."¹⁶⁹ Dubois continued: "Such results are encouraging for educators and should prompt us to renew and multiply our efforts because the African is not resistant to them. These results also testify to the fact that one day, as a reward, Africa will give rise to a crop of Black Frenchmen."¹⁷⁰

As Michael Adas has argued, by the time of conquest, Western science and technology had become a barometer of civilization, or progress.¹⁷¹ According to Dubois, the railway system, steamboat transportation, and telegraph communications, all implemented by the colonial government in the Soudan, were the real fruits of French science. In particular, Dubois credited the railroad in West Africa with the creation of specialized African workers, such as train conductors, track layers, and other industrial workers.¹⁷² Hand-operated millet grinders, while applauded by Dubois, were not widespread, nor were they to become symbols of a modern Soudan.

¹⁶⁸ Ibid., 246.

¹⁶⁹ Ibid., 245.

¹⁷⁰ Ibid., 247.

¹⁷¹ Adas, Machines as the Measure of Men: Science, Technology, and Ideologies of Western Dominance.

¹⁷² Dubois, Notre Beau Niger, 257.

For Dubois (and Taraouré if he did exist), a hand-operated millet-grinder was one of many possibilities of French manufacture for the African market. It was also meant to be operated by women. Indeed, Taraouré's letter affirms the power wielded by older women over food preparation in the household. Taraouré's mother held enough authority to oppose her son, the household head, when it came to cooking. Grain preparation, in particular, occupied a large portion of labor time, as described by Dubois: "At home, women pound millet day and night. The cereal is the base of local diet in the Bamako region."¹⁷³ To do so, women employed a mortar and pestle—modest, but effective, domestic tools.

Despite the heavy manual labor involved, Taraouré's mother evidently resisted even the idea of her son purchasing a mechanical grinder. Dubois attributed this to a general resistance by African women to mechanization and progress. He supposed: "First, there is the mother, an obstinate primitive, who raises her hands to the sky! How could it be that others will not strain themselves as she had done? The son certainly did not acquire his taste for progress from the good woman."¹⁷⁴ Dubois viewed the son as especially open to change and progress, while his elder mother is portrayed as unreasonable and obstinate. This is not an image of the African woman as innovator. Rather, railway mechanics and operators were all African men in Dubois vision of modern Soudan, as were modern farmers. Colonial technology was forged as a male province, even though in reality African women had long been the innovators in domestic and agricultural technology.¹⁷⁵

¹⁷³ Ibid., 245.

¹⁷⁴ Ibid.

¹⁷⁵ Michael Adas, similarly noted that the technological standard applied to men's activities. See, Adas, *Machines as the Measure of Men: Science, Technology, and Ideologies of Western Dominance*, 13. See also Ruth Oldenziel who noted that women's achievements in science and what was called the "useful arts" in nineteenth-century America were gradually excluded from the emerging definition of masculine technology. Oldenziel, *Making Technology Masculine*. See also discussions of the co-production of gender and technology in Bray and Faulkner. Bray, "Gender and Technology."; Faulkner, "The Technology Question in Feminism."

A few decades later Henri Labouret similarly lamented the fact that women in French West Africa continued to pound grains using a mortar and pestle. Specifically he bemoaned how much energy and time women put into pounding grains in this manner for what he called "mediocre results." Labouret made these observations in a larger government report on diet and nutrition in France's colonial possessions. The underlying motivation for the report was the need to address malnutrition in the colonies. Malnutrition was taken as a matter of fact in chapters written by Labouret and Dr. François Sorel. Labouret also wrote that women in French West Africa make use of "pre-historic" technology to process grains: the grinding stone.¹⁷⁶ The implication was that these static and inefficient technologies resulted in poor diets.

Contrary to these European men's perceptions of African women, Soudanese women were long producers and users of sophisticated cooking instruments. For example, women potters manufactured cooking pots, water jars, lids, steamers, watering pots, sauce pots, braziers, wash basins, and storage vessels like the one's made to contain millet beer or shea butter.¹⁷⁷ In addition, to the mortar and pestle women were expert users of these clay cooking tools. Most of these items would have been gifted to young women, on the event of their marriage and were their own property. While a hand-operated millet-grinder may have lightened a wife's cooking work load, the machine would also have interrupted labor and power dynamics within the household. In fact, the mother may have been protecting the prerogative of her daughters-in-law to control the instruments of food preparation. As suggested by Thiriet's passage, women also prided themselves on their pounding expertise.

¹⁷⁶ Henri Labouret, "L'alimentation Des Indigènes En Afrique Occidentale Française," in *L'alimentation Indigène Dans Les Colonies Françaises, Protectorats Et Territoires Sous Mandat* ed. Georges Hardy and Charles Richet (Paris: Vigot Frères, 1933), 146.

¹⁷⁷ See Frank, "Marks of Identity."

While Taraouré's interest in a millet grinder was applauded in Dubois's narrative, mechanized food preparation never became a priority for the colonial government. Even where processed Soudanese food products were of interest to French commerce, mechanized manufacture in the colony was not heavily promoted. By the early decades of the twentiethcentury, peanuts had become a major export crop in French West Africa, especially in Senegal. A similar nut, the Bambara groundnut, drew attention from the Agricultural Service in the Soudan. Researchers observed that the nuts were eaten raw or grilled. Women also ground the nuts into a paste, or extracted the oil for home consumption. Some women living near large towns even produced oil for sale in the market. Their customers included Europeans. However, the service was more interested in promoting peanut cultivation for export than industrial oil production by women in the colony.¹⁷⁸

Neither were the French particularly interested in introducing labor saving machines for women's use, although many writers like Dubois relished such moralizing rhetoric. As a matter of fact, several hand-operated cotton threshers were introduced in the colony in 1924. They were intended for male farmers to process raw cotton for sale. Agricultural officials, it seems, were unconcerned that such labor was normally performed by women. In the southern districts of the colony, when women began to use the machines for their own industry, local officials were chastised by government officials in Bamako.¹⁷⁹ This is not the picture of technologically backward old women, as presented by Dubois. Rather they were women savvy enough to discern which technologies and mechanical devices suited their needs.

¹⁷⁸ ANM FA 1R 27, Agriculture Correspondances 1910-1920, 1919 File.

¹⁷⁹ ANM 1R 16 Volume II, Agriculture Divers 1914-1931, Entretien, Culture, Egrenage du coton 1914-1925, égreneuse de coton 1924, 11 A.E. 51, letter dated January 24, 1924.

Chapter 2: Early Colonial Food Politics Producing for the Market and Standardizing Taste, ca. 1900-1935

In the first decades of the twentieth century, women created and maintained their foodscape amid great political and economic change. For centuries, politics among states in the region had shaped the context in which women accomplished their domestic and agricultural labors. Beginning in the late nineteenth-century, the region saw a growing French military presence, followed by a civilian administration that also intervened in local agricultural markets and practices, with consequences for the nature of the food supply and for women's daily lives. From the beginning of colonial rule, French agricultural policy prioritized export markets and the introduction of mechanical and technical equipment for production over innovation in the manufacture of foodstuffs for the domestic market in which women predominated. By controlling the manufacture of foodstuffs women also determined the nutritional content and variety of the meals they prepared during the year. French interventions in the rural economy emphasized export production with unforeseen consequences for both the quality and the quantity of local food supply. These early colonial policies disturbed the gendered division of agricultural labor and discouraged the production of diverse food crops for domestic consumption. They also altered women's capacities to produce food. In time, the colonial government unwittingly diminished the range of tastes and flavors of the food available in the French Soudan.

Food and State Politics in the Middle Niger, ca. 1800-1913

In 1800, the Middle Niger region was a vast expanse of savanna plains punctuated by the Niger River. It was a landscape that lent itself to agricultural production. Upon entering the region, just north of the Sotuba rapids, the river ran calm and widened its banks. In the late eighteenth and early nineteenth-centuries, river transport expanded to support commerce between the region and its neighbors to the north and south.¹⁸⁰ In this same period, European travelers such as Mungo Park, explored the Soudan along the Niger River. Command over the river would later become an important hallmark of French rule, especially for transport and irrigation. For travelers coming from the northern Sahel, baobab and shea trees, managed by women, marked the farming landscape as distinct from the more arid north.¹⁸¹ The Middle Niger region was predominantly agricultural and culturally Bamana, but even small towns could be cosmopolitan, hosting traders and religious pilgrims.¹⁸² Fulani pastoralists raised cattle in the Masina, and they controlled much of the flood-plain rice cultivation in the inland delta. Culturally diverse fishing towns also dotted the river. During the dry season, northern herders traveled south to graze their cattle and exchange salt for millet or other grains.¹⁸³ Politics in the region often centered on control over this rich and varied agricultural production.

¹⁸⁰ Trade along the North-South axis of the Soudan has a long history that the Segu Kingdom reoriented along the Niger River during the late eighteenth and early nineteenth-centuries. See chapter two in Roberts, *Warriors, Merchants, and Slaves*, 210-11.

¹⁸¹ Perinbam, Family Identity and the State in the Bamako Kafu, C.1800-C.1900, 16-18, 114.

¹⁸² Ibid., 21. Arabic and European visitors to the western Sudan used the term Bambara (or Bamana) to refer to a wide group of agriculturalists. In some cases Bambara only signified people who were non-Muslim or beer-drinking. In other cases Bambara meant speakers of Mande languages. See, Bazin, "A Chacun Son Bambara."
¹⁸³ Ethnicity in the Middle Niger is generally ethiluted to groups who deminated particular explosion prices are speakers."

¹⁸³ Ethnicity in the Middle Niger is generally attributed to groups who dominated particular ecological niches, such as herding, fishing, or farming. However, ethnic boundaries were not historically rigid or always clearly defined (see above note). For example, in the nineteenth-century the Segu Kingdom promoted the emergence of a new fishing community made up of ethnically diverse slaves. In exchange for state service, members of the new Somono group were granted specific privileges over Bozo fishers. See Richard Roberts, "Fishing for the State: The Political Economy of the Middle Niger Valley," in *Modes of Production in Africa: The Precolonial Era*, ed. Donald Crummey and C.C. Stewart, *Sage Series on African Modernization and Development* (Beverly Hills, CA: Sage Publications, 1981). B. Marie Perinbam has also noted that the founders of the Bamako Kafu changed ethnic identity over time, as it was common for migrating families to take on new cultural identities as they moved to new

At the beginning of the twentieth-century, the region was undergoing dramatic social and economic change. At the moment when the French accelerated military conquest of the region in the late 1890s, its populations were struggling to recover from several decades of regional warfare, drought, and declining food production. Following the capture of Segu by Umar Tal's forces in 1861, the new Islamic warrior state had raided outlying towns for slaves, grains, and other goods. The Umarians strictly controlled the waterways further contributing to a climate of economic disorder.¹⁸⁴ The previous rulers of the Segu Empire had raided the countryside, but nevertheless promoted a strong regional economy specializing in grain and textile production supported by slave labor.¹⁸⁵ Throughout this period, and across the region, slave raiding and trading made women especially vulnerable to capture.¹⁸⁶ Across the Middle Niger region, female slaves were particularly valued for their domestic and farm labor, as well as their cotton spinning skills.¹⁸⁷

From the time of the Segu Empire, and in years after, settlements--especially to the north--were surrounded by walls to protect inhabitants from attack. For example, Boundou Badi, a settlement on the northern edge of the region was walled well into the 1920s.¹⁸⁸ The present *dugutigi* of Sokolo (another town near the desert) recounted that in much earlier times, women stayed inside the town. Only men went outside to defend Sokolo against raids for millet and animals. He explained that at that time the town was at the edge of the Segu Empire and was the

regions. She also notes that in the 19th century, the Segu state promoted a general association with a Bamana identity. See, Perinbam, *Family Identity and the State in the Bamako Kafu, C.1800-C.1900.*

¹⁸⁴ See chapter three in Roberts, *Warriors, Merchants, and Slaves*.

¹⁸⁵ The Segu empire controlled a large, but shifting territory between roughly 1712 and 1861. A rival empire called the Caliphate of Hamdullahi emerged in the Masina around 1816.

 ¹⁸⁶ Roberts, *Warriors, Merchants, and Slaves*, 179-80. See also, Klein, "Women in Slavery in the Western Sudan."
 ¹⁸⁷ Roberts, *Warriors, Merchants, and Slaves*, 126.

¹⁸⁸ AON 28D, Dossier Bélime, "Le Soudan Nigérien," Under section labeled "Colonisation," n.d. This portion of the report is incomplete in the archive.

door to the desert and northern raiders. Sokolo was isolated in those years, so much so, that hyenas and lions wandered from the wilderness into town.¹⁸⁹

Into the first years of the twentieth-century women suffered capture even by the French army.¹⁹⁰ Much like the previous warrior states, the French military demanded labor, grains, and other goods from conquered populations.¹⁹¹ To supply the African troops, French military leaders established villages of captured ex-slaves to grow grain for its African troops. These exslaves also provided labor in towns along the French supply line known as the *route de ravitaillement*.¹⁹² Following conquest in the 1890s,¹⁹³ the military and subsequent civilian rulers continued to demand labor and agricultural produce. A series of famines in the first decades of the twentieth-century tested the capacity of local people to support French demands. During times of famine women and young girls were frequently pawned. More generally, famines provoked widespread movements of people in search of food.¹⁹⁴

The regional trade economy in the nineteenth-century had been supported by slave labor and the slave trade. Over the course of that century both intensified.¹⁹⁵ Slaves were traded to purchase weapons for the Segovian military, and they made up a large percentage of the warrior class. Many *cike bugu*, or agricultural towns, were made-up entirely of slaves producing food for Segu. Enslaved herders also cared for the state's cattle. Widespread slavery and its supporting trade continued under the Umarians. In this same period, Muslim Marka traders

¹⁸⁹ Interview by author the Sokolo *dugutigi* Daouda Coulibaly and Almamy Thiénta (former Commandant de Cercle) in Sokolo, April 5, 2010.

¹⁹⁰ During the period of conquest, African soldiers under French command retained female captives. Some French military officials also distributed captured women to loyal employees. See, Roberts, *Warriors, Merchants, and Slaves*, 178-80.

¹⁹¹ Ibid., 143-48.

¹⁹² Ibid., 144-45, 78-80. See also, Klein, *Slavery and Colonial Rule in French West Africa*, 84-88. *Ravitaillement* is French for provisioning.

¹⁹³ The French took control of Bamako, the future capital of the French Soudan, in 1883 and Segu in 1890. They subsequently took Masina in 1893. By 1890, the French conquered the remaining areas and armies of resistance. ¹⁹⁴ See, Klein, *Slavery and Colonial Rule in French West Africa*, 210-11.

¹⁹⁵ Ibid. On the intensification of slavery in the nineteenth-century see chapter three.

organized large-scale slave plantations to produce grains and manufacture cotton cloth. Fulani herders in the Masina also controlled slave settlements, or *rimaibe*, that produced large rice surpluses.¹⁹⁶ When the Bamako market emerged in the late 1890s to meet French military needs, it generated enormous demand for grain produced by slaves in the Middle Niger region.¹⁹⁷

In 1903, the French formally prohibited the legal recognition of slave status in the French Soudan.¹⁹⁸ Soon thereafter, a massive exodus of slaves in 1905 from the Marka town Banamba prompted French fears of social disorder and declining agricultural production. That same year, the Governor-General of French West Africa issued a decree abolishing enslavement and the exchange of people. However, most administrators hoped to foster compromise between slave groups and their masters in order to maintain control over agricultural production.¹⁹⁹ In fact, French administrators made a concerted effort to keep slaves in the Masina from leaving the region.²⁰⁰

The exodus of large numbers of fleeing slaves fled from the Middle Niger region every year until 1912, had a dramatic impact upon the region's food supply and economy.²⁰¹ For example, in 1907 in Sansanding, where the French would later plan to build an irrigation dam, the local administrator recorded the flight of at least 985 slaves. The runaways fled during the months of April and May, just before the onset of major field preparations. In a report on the situation, the French official in Ségou openly expressed concern for the loss of agricultural

¹⁹⁶ Klein, Slavery and Colonial Rule in French West Africa, 210-11, 180-85.

¹⁹⁷ Roberts, Warriors, Merchants, and Slaves, 140-51.

¹⁹⁸ Roberts, *Litigants and Households*, 99.

¹⁹⁹The decree did not directly abolish the institution of slavery, though it was often later interpreted to do so. See, Klein, *Slavery and Colonial Rule in French West Africa*, 134-7, 78-9.

²⁰⁰ Klein, Slavery and Colonial Rule in French West Africa, 179-85.

²⁰¹ See chapter four in Roberts, *Litigants and Households*.

workers and potential future loss of labor.²⁰² A year later, large numbers of slaves left the northern edge of the agricultural region at Sokolo and nearby Gumbu.²⁰³ At the desert border, raiding parties further disrupted local and regional food supplies. In 1907, Mademba Sy, the French-appointed ruler of Sansanding, reported raids on Marka and Bamana towns near Sokolo by northern Moors.²⁰⁴

The upheavals of the late nineteenth and early twentieth-centuries prompted the reorganization of agricultural labor. Women were central to this process. With the departure of large numbers of slaves, many slave and free women and children took on greater roles in the fields. In addition, many of the departing slaves were men leaving behind slave wives and children.²⁰⁵ The insecurity of male agricultural labor in these years placed greater pressure on women. Many women resisted undue agricultural burdens. As was the case for departing slaves, women who abandoned their husbands did so during the months when the most labor was required in fields.²⁰⁶ Women's food production and preparation gained in significance, at the very moment that the French were beginning to intervene in domestic agricultural production.

²⁰² ANM 1E 219, Correspondance Affaires Politiques Cercle de Segou et Sansanding 1891-1909, 1907 folder.

²⁰³ Roberts, *Litigants and Households*, 105.

²⁰⁴ ANM 1E 219, Correspondance Affaires Politiques Cercle de Segou et Sansanding 1891-1909, 1907 folder.
²⁰⁵ For example, in 1905, Mademba Sy reported that Birama Koita had abandoned his wife and their 3 daughters in Sansanding in November 1903. While it is not clear from the record if Koita had been enslaved in Sansanding, it is likely. After 1903, Mademba Sy would have been legally prohibited from labeling Koita a slave in official reports. It is probably that Koita had been enslaved as Sansanding was one of the major Marka production centers characterized by slave plantations. In any case, this record speaks to the high level of population movement during this period and the disruption of households. ANM FA 1E 220, Correspondance avec le Fama de Sansanding Cercle de Ségou 1890-1917, 1905 folder. Other cases in the same folder record a few pending cases against litigants accused of enslaving children. Mademba Sy had himself been a large-scale slave owner, many of whom became his

wives. See also, Richard Roberts, "The Case of Faama Mademba Sy and the Ambiguities of Legal Jurisdiction in Early Colonial French Soudan," in *Law in Colonial Africa*, ed. Kristin Mann and Richard Roberts (Portsmouth, NH: Heinemann, 1991).

²⁰⁶ Roberts, *Litigants and Households*, 110, 16, 18.

Production over Consumption: French Agricultural Interventions 1913-1927

Widespread famine and poor harvests during the 1913-1914 agricultural year prompted French officials to intervene directly in grain markets and sponsor research on agricultural production in the colony. The 1913 rainy season had been particularly poor; that fall millet harvests across the region were extremely disappointing. Even rice cultivation in the Masina suffered that year because of low flood waters along the floodplains of the Niger River. By early February 1914, the colonial government was preparing to send rice and millet to especially hard hit northern districts.²⁰⁷ Despite the administration's efforts, the Timbuktu administrator reported 3,428 deaths in his district by March 1914.²⁰⁸ Grain shortages were exacerbated by inflated prices in the northern areas and elsewhere in the colony. Only Bamako and other southern districts had sufficient grain surpluses, but the transportation of goods from these regions to the north along the river was delayed by low water levels.²⁰⁹ During the famine, the administration registered thousands of deaths, and many who survived were displaced after leaving their homes in search of food. The disaster was devastating and widespread.

In general, the colonial market responded poorly to the on-going food crisis, a fact that Lieutenant-Governor Clozel admitted in his 1914 report to the Governor-General in Dakar. Still,

²⁰⁷ The Lieutenant-Governor sent 394,000 tons of millet and 76,000 tons of rice to the Tombouctou, Niafunké, Bandiagara, Goumbou, Sokolo, Mopti, Djenné, and Kayes districts. An additional 123,000 tons of millet, 72,000 tons of rice paddy, 6,000 tons of groundnut, and 2,000 tons of corn were shipped to furnish seed stores. ANM 1D 28791 Volume I, Achats Pour Les Cercles (Mil, Riz, Paddy, Arachides, et Maïs). From table attached to "Extrait du rapport d'ensemble sur la situation économique de la Colonie du Haut-Sénégal-Niger pendant l'année 1914;" ANM 1D 28791 Volume I, Letter no. 102 from the Lietutenant-Gouverneur du Haut Sénégal et Niger to the Governor General dated Bamako, February 5, 1914. NB. The documents relating to the 1913-1914 famine were located in a record marked "Ravitaillement Production Agricole-Prévisions Situation Alimentaire 1926 à 1934." The other documents in this file recorded food shortages and famine during the 1930s, and it is probable that administrators responding to the 1930s food shortages consulted responses made by the earlier administration.

²⁰⁸ ANM 1D 28791 Volume I, Letter no. 412 AS. de la disette, from the Lietutenant-Gouverneur du Haut Sénégal et Niger to the Governor General dated Bamako-Koulouba, June 11, 1914.

²⁰⁹ ANM 1D 28791 Volume I, Letter no. 412 AS. de la disette, from the Lietutenant-Gouverneur du Haut Sénégal et Niger to the Governor General dated Bamako-Koulouba, June 11, 1914.

Clozel accused farmers of courting disaster through poor planning and apathy. He failed to mention that the 1913-1914 famine fell on the heels of widespread slave departures and tremendous population movement. Moreover, 1911 and 1912 had also been poor agricultural years, making it unlikely that many farmers would have been able to constitute any great surpluses ahead of the 1913-1914 drought. Ultimately, Clozel argued for greater colonial intervention and an expansion of the transport infrastructure. In the 1914 annual economic report for the colony he proposed the expansion of the railroad system. Clozel reasoned: "Only by improving the economic infrastructure, and completing the proposed railway system, will export crop production gradually develop and protect, in poor years, against insufficient food supplies with the rapid and inexpensive transportation of products between regions."²¹⁰ Greater production for export and improved transport did not directly address food cultivation, yet Clozel assumed improved transportation networks could facilitate a greater domestic market in the case of famine. Following this reasoning, dramatic food shortages became an argument in favor of greater export-cultivation rather than increased food production. It also demonstrates the great emphasis administrators placed on large-scale technologies of infrastructure.

Despite on-going administrative concerns for the colony's food supply efforts at agricultural reform prioritized metropolitan needs. In 1913, the French West African government re-organized the Agricultural Service to emphasize on increasing the production of goods for the colonial export market. The reforms especially emphasized cotton cultivation. The re-organization of the Agricultural Service also instructed staff in the Masina region to research possibilities for irrigating the inland delta of the Niger River and for promoting rice cultivation especially of white varieties. Rice farmers in the Masina grew rice that was typically

²¹⁰ ANM 1D 28791 Volume I, Extrait du rapport d'ensemble sur la situation économique de la Colonie du Haut-Sénégal-Niger pendant l'année 1914.

red in color and not as marketable internationally as white rice. The reformed service additionally called for more research aimed at diversifying local agricultural production for export including the establishment of fruit tree plantations. Concern for fuel reserves also prompted preliminary forest conservation efforts that limited the access of rural residents to essential resources. These reforms came in the wake of widespread local hardship, but the policies paid little attention to the needs of farmers or other rural residents. Cereal crops like millet, corn, and *fonio* received little mention precisely because they were produced for the domestic market.²¹¹

One exception to these policies was the interest in shea nut collection and the potential industrial uses for the nuts. In earlier years, European travelers observed that women collected and processed shea nuts for domestic consumption. For the most part, shea nuts were locally associated with women, female labor, and women's economies. Increasingly, European agents purchased dried shea nuts, whole or shelled, but not the women's prepared butters or oils.²¹² By 1938, Denise Savineau noted that women in French West Africa made a higher return on butter in local markets than on unprocessed nuts. Butter was also easier to transport. These two factors accounted for women's interest in transforming their surplus shea nut stores into butter for the market. However, Savineau suggested that men had begun to sell nuts to colonial agents undercutting women in the shea market.²¹³

Women tended to sell any surplus production of processed household and community goods (from beer to shea butter) on the domestic market. The colonial market, by contrast,

²¹¹ ANM FA 1R 217, Réorganisation de l'Agriculture 1913. ANM FA 1R 220 Arrêts Décrets Circulaires réorganisant le Service de l'Agriculture 1913. Dated August 26, 1913. The decree was issued under Governor General Ponty.

²¹² ANM FA 1R 217, Réorganisation de l'Agriculture 1913.

²¹³ Denise Savineau, "La Famille En A.O.F. : Condition De La Femme," in *Rapport d'Ensemble No. 18* (1938).

promoted the sale of raw goods rather than processed or manufactured products (shea butter, beer, cotton thread, etc). Women predominated in the processed or manufactured domain of the domestic agricultural economy. Men tended to be more active in the sale of raw goods in both markets (in some cases they were required to sell raw products for export). The sale of peanuts (a female crop) is a notable exception. Women cultivated Bambara groundnuts and peanuts and then they processed them into *tegedege* and cooking oil. Peanuts were a female crop because they fit well into the pattern of foodstuffs processing done by women. However, it must be noted that men also began farming peanuts for export in these years—they sold the raw unprocessed peanuts on the market which was a striking departure from the customary pattern. Men were even selling raw shea nuts to European purchasers. Women's earnings were challenged by the expansion of men into peanut farming (traditionally a female crop) and shea collection for the colonial export market. Domestic consumption, and a fortiori women's production and manufacture, was not a priority for the new colonial Agricultural Service.

In 1914, the Governor-General ordered the construction of government-controlled reserve granaries. The policy move directly aimed at improving the food supply. The reserves in these granaries were not to be touched except by order of the local administrator.²¹⁴ In practice the policy move failed to take hold. For one, farmers already maintained personal granaries for annual consumption, the next season's seeds, and a security reserve. A *jigine* (granary) was customarily built and controlled by the owner of the grain or other crops stored inside the *jigine*. The household head or *gwatiggy* controlled the granaries that stored crops from the fields that everyone in the household cultivated. Every day the *gwatiggy* distributed millet, rice, or another grain from one of the granaries for the day's consumption to the woman cooking. Anyone in the

²¹⁴ ANM 1D 28791 I, Extrait du rapport d'ensemble sur la situation économique de la Colonie du Haut-Sénégal-Niger pendant l'année 1914.

household, including women, could also build their own granaries to store products cultivated in individual plots, women often storing peanuts. Household or family compounds could house ten or more granaries of varying size.²¹⁵

When administrators ordered the construction of communal granaries in each settlement, they also ordered household heads to contribute to the new granaries a portion of the harvest that ordinarily would have gone into the *gwatiggy*-controlled *jiginew*. The new granaries were not consistently maintained over the next decade. When farmers received grains from the *magasani* –as they came to be called after the French word *magasin* for store house—they had to purchase them.²¹⁶ Most of the *magasaniw*²¹⁷ were built using conscripted labor.²¹⁸ These official granaries poorly replicated measures already taken by farmers to store surplus harvest. More to the point individual households lost control over grains that they contributed to the *magasani*. Access to their own food stores in the *magasaniw* required payment or a promise of payment in kind.

In the course of carrying out the official order to build granaries the administrator in Fada N'Gourma²¹⁹ noted that many cultivators hid their grains in "the bush" for fear of theft. This practice prevented the administrator from successfully maintaining granaries. The same administrator also criticized farmers under his jurisdiction for selling their surplus "basket-by-

²¹⁵ Interview by author Djenebu Coulibaly in Kolony (km 26), August 7, 2010. Coulibaly is referring to Bamana practice in particular and *jigine* is a Bamana term for granary. She also described granaries as round mud structures whose foundations were dug slightly into the ground. Her description is reinforced by research conducted in the 1950s at the Office. M. Holstein, who conducted various research projects at the scheme for the Office de la Recherche Scientifique Outre-Mer (ORSTOM), recorded the layout of typical houses at the project in 1952. His renderings of typical houseplans included ten or more granaries of varying sizes probably in Mossi towns. AON 118/26, Documents Divers.

²¹⁶ Interview by author Djenebu Coulibaly in Kolony (km 26), August 7, 2010.

²¹⁷ The plural form of a noun in Bamana is formed by adding a w to the end of the word as in *magasaniw*.

²¹⁸ ANM FR 1R 180, Grenier de Réserve 1915.

²¹⁹ Fada N'Gourma is located in present day Burkina Faso. In 1914 the region was part of the French Soudan, and farmers in the area were severely impacted by drought and food shortages from 1913 to 1914.

basket," rather than saving the grains and profiting from one large sale (presumably to European agents or merchants). However, as he observed, farmers participated in an active and long-standing domestic grain trade with Fulani herders and other groups. In years of severe shortages, many of their trade partners may have wanted or only been able to purchase "basket-by-basket." For the administrator, the limited sale of grains was a particular concern in the years immediately following the famine because of the outbreak of the First World War when the French West African colonies were called upon to provision France in foodstuffs and oils for the war effort.²²⁰

Producing for Greater France

Immediately following the 1913-1914 famine, war broke out in Europe. The colonial government intensified production demands for National Defense throughout the war years (1914-1918), all the while aware that it created hardship in the colony.²²¹ In the Middle Niger region, farmers were pressured to sell large quantities of millet and rice to commercial agents purchasing on behalf of the administration. In fact, it was one of the regions that supplied the greatest amount of grains and other agricultural goods to the war effort.²²² Many farmers were understandably reluctant to sell large amounts of their surplus grains.²²³

Nevertheless, intensive grain purchasing was conducted during the first months of the harvest during the war years—as early as September, when farmers were still reconstituting their

²²⁰ ANM FR 1R 180, Grenier de Réserve 1915. The Fada N'Gourma administrator signaled out the supposedly overpopulated Mossi groups for not having produced sufficient grain stores and being among those who suffered great hardship during the famine.

²²¹ ANM FA 1Q 190 Rapport d'inspection sur le ravitaillement de la Colonie de l'AOF 1916.

²²² ANM FA 1Q 177 Ravitaillement Correspondance Cercle de Ségou 1914-1920.

²²³ ANM FA 1Q 190, Rapport d'inspection sur le ravitaillement de la Colonie de l'A.O.F. 1916.

grain supplies following the lean rainy season.²²⁴ In July 1916, the Lietutenant-Governor issued an order requiring farmers to expand their cultivation and sell the resulting surplus. In November of the same year, the administration held a meeting in Ségou to discuss further measures to increase production and sale, including propaganda and even proposing an increase in the purchase price. At the end of the 1917 harvest in the Ségou region, each able bodied man were required to sell to the administration: 10 baskets of millet, 5 baskets of beans, 5 baskets of peanuts, and a measure of cotton. The administrator from Barouéli announced these obligations before the end of the harvest, even though he noted that, despite increased planting, local grain reserves for the upcoming year were low.²²⁵

As the war progressed farmers were pressured to cultivate more and sell more. In 1918, the Ségou district provided 1,384,018 kilos of sorghum and millet for the military and administrative storehouse in Bamako. The district also provided several thousand kilos of peanuts, beans, local peas, and sesame to feed the military. In addition to these demands, farmers were directed to cultivate ricin which was used in France for making fuel and lubricants.²²⁶ Despite instructions to administrators requiring them to ensure local food stores--including the implementation of a ban on beer production--official responses were for the most part aimed at increasing production for the war effort and not at protecting local food supplies.

The difficult food situation for farmers was accompanied by rising food prices in major markets. The average price for basic food stuffs increased across the French Soudan following the 1913-1914 famine and the First World War (See Table 2). For example, in the millet-

²²⁴ ANM 1Q 77, Ravitaillement des grains 1913-1919. ANM FR 1Q 77, Réunion au sujet de Mil, November 16, 1916.

²²⁵ ANM FA 1Q 177 Ravitaillement Correspondance Cercle de Ségou 1914-1920, Rapport de tournée by the Resident of Barouéli, dated June 6, 1917.

²²⁶ ANM FA 1Q 177 Ravitaillement Correspondance Cercle de Ségou 1914-1920, Relève récapitulatif des fournitures de produits effectuées par le cercle de Ségou au ravitaillement et divers services en 1918. (Télégramme. A.E. 6588 du 2 Novembre 1918).

producing Ségou region the price per kilogram of millet rose from 10 centimes in 1913 to 65 centimes in 1925. In the same year, the price in Bamako was 1 franc (FR) and rose to 1.75 by 1927. Rice prices also rose in Ségou, from 25 centimes a kilogram in 1913 to 1.90 FR in 1925. In 1925 a kilogram of shea butter was 2.10 FR in Ségou.²²⁷ During the war, the administration tried to regulate prices by banning sales outside the farmer's district, except to Senegal.²²⁸ This move only increased domestic food prices.

Increased mechanized transport in the colony (as proposed by Clozel) similarly failed to reduce domestic food prices. In the same period, the price of a packet, or *stère* (1m x 1m x 1m) of wood for cooking rose from 2.50 FR in 1913 to 8 FR in 1924. Wood prices would have impacted the urban market most directly. The high cost of foodstuffs, however, would have translated into high prices for rural areas as well, where millet or rice had to be purchased from grain merchants because of poor local harvests. Food was hard to come by in these years across the French Soudan.

²²⁷ ANM 1E 2115 Volume III, Affaires Economiques Renseignement sur le coût de la vie au Soudan 1934. Colonie du Soudan Français, Tableau donnant les prix moyens des principales denrées d'alimentation pour les années 1913 à 1922 inlcus.; Prix de divers produits au cours des années 1923-1924; Tableau donnant, à la date du 1er Aoùt 1925, les pris des principales denrées d'alimentation dans les cercles où sont stationnés des effectifs Militaires; Tableau donnant, à la date du 1er Novembre 1927 les prix des principales denrées d'alimentation dans les Cercles où sont stationnés des effectifs militaires.

²²⁸ ANM 1Q 191, Contribution du Haut-Senegal-Niger au Ravitaillement de la Metropole, Report dated June 1,
1917. ANM FA 1Q 177, Ravitaillement Correspondance Cercle de Ségou 1914-1920, letter dated August 1, 1917.

Year	Fresh Meat/	Fresh fish/	Dried fish/	Millet/	Rice/	Salt/
	kilogram	kilogram	kilogram	kilogram	kilogram	kilogram
1913	.50	.25	.35	.10	.25	.50
1914	.50	.25	.50	.25	.50	.50
1915	.60	.40	.60	.15	-	.50
1916	.60	.40	.60	.15	.35	.50
1917	.75	.50	.75	.10	.25	.50
1918	.75	.50	.75	.20	.35	.50
1919	.80	.75	1.0	.25	.50	.60
1920	.80	.75	1.25	.25	.50	.70
1921	1.0	.90	1.5	.30	.70	.70
1922	1.05	1.0	1.5	.30	.75	.90
1923	1.10	1.50	1.15	.30	.50	.45
1924	1.60	2.00	1.85	.60	1.20	.60
1925	-	2.50	2.90	.65	1.90	1.00
1926	-	2.5-3	3.5-4.5	.95	2.5	1.5
1927	-	2.00	5.00	-	-	-

Table 2 Average prices in Ségou for basic food stuffs, 1913-1927. (Prices/kilogram listed in West African Francs.)Sources: ANM 1E 2115 III. Colonie du Soudan Français. "Tableau donnant les prix moyens des principales denréesd'alimentation pour les années 1913 à 1922 inlcus."; "Prix de divers produits au cours des années 1923-1924";"Tableau donnant, à la date du 1er Aoùt 1925, les pris des principales denrées d'alimentation dans les cercles où sontstationnés des effectifs Militaires"; "Tableau donnant, à la date du 1er Novembre 1927 les prix des principalesdenrées d'alimentation dans les Cercles où sont stationnés des effectifs militaires;" ANM 1Q 2087 III AffairesEconomiques, Ravitaillement (1925-1928), "Tableau donnant à la date au 1er October 1926, les prix des principalesdenrées d'alimentation dans les cercles où sont stationnés des effectifs militaires."

After the war, the colony suffered another major agricultural crisis between the years 1926 and 1927. Even the military had trouble provisioning its troops.²²⁹ The populations of the Masina region were especially hard hit. In 1926 the administrator in Masina requested assistance for the northern-most area under his jurisdiction due to severe food shortages. He reported in September that the harvests from a few early-maturing crops were feeding the population, but anticipated the shortages because most of the planted fields had not received enough water.²³⁰ The situation was exacerbated by the on-going administrative requisitioning of food supplies. After the war, the colonial government continued to purchase large quantities of millet for the army and other wage workers. Though official orders were to ensure farmers filled reserve

²²⁹ ANM FR 1R 168, Cultures Vivrières Politique Alimentaire 1924, T.O. N° 53T du 30 Novembre 1926.

²³⁰ ANM FR 119, Rapports Agricoles Masina 1925-1926, Rapport Economique du 3^{ème} trimestre 1926, Septembre 1926.

granaries before selling surplus grains, the government requested large amounts of grain at a time and expected its orders to be filled. For example in 1928, the Ségou administrator was ordered to purchase 50 tons of millet.²³¹ The same year the military post at Néma planned to purchase 95 tons of millet in Sansanding just north of the regional capital Ségou.²³² While administrators frequently reported food shortages in their political reports, the colonial government consistently relied on the colony's agricultural production for the military and other services in French West Africa.

Early French Technical Interventions in Agriculture

Prior to the 1926 food crisis in Masina, some officials in metropolitan France began to promote reform policies that were intended to alleviate just such hardship in the colonies. In 1921, the Minister of Colonies Albert Sarraut proposed a program, commonly referred to as "mise en valeur," to create value in France's overseas territories. Sarraut's proposed program at least rhetorically promised mutual benefits to France and its colonies.²³³ The "mise en valeur" discussion emerged at a moment when France was struggling financially. The war had greatly weakened France economically and demographically; it also resulted in the destruction of French farmland. In this context, the empire was viewed as both a source of raw economic goods and a large potential market. Many in France also recognized that the métropole owed a great deal to its colonies for supplying troops and material goods during the war. Sarraut's policy was intended to address each of these concerns by developing and further linking the economies of

²³¹ ANM 1Q 1263 III, Besoin mil correspondances du gouverneur avec divers cercles 1927-1928, Cercle Ségou 1928.

 ²³² ANM 1Q 2087 III, Affaires Economiques, Ravitaillement (1925-1928).
 ²³³ Gary Wilder, "Framing Greater France between the Wars," *Journal of Historical Sociology* 14, no. 2 (2001): 203-05.

France and its colonies. France would invest in infrastructure and public services in the colonies. In turn the colonies would produce goods for the colonial market.²³⁴ Sarraut's plan never received formal approval, but it was followed by a trend of investment in the agricultural service that heavily favored technologically oriented interventions.

The poor financial state of France following the war made the need to increase agricultural production in the colonies a matter of national importance and gave rise to increased colonial spending on agricultural research to remedy the situation.²³⁵ In the 1920s several research missions were once again organized to study the possibilities for the irrigation of the Niger River, cotton production, and rice cultivation among other studies. The Agricultural Services in French West Africa continued to promote increased production with even greater emphasis on technical intervention. For example, in the 1920s, the service distributed cotton seeds in an effort to generate greater cotton export sales. In conjunction with seed distribution, the administration and commercial houses distributed hand-operated cotton threshers. In 1924, one of the machines went to the farm school at Barouéli, where many new African agricultural monitors were to be trained.²³⁶ Administrators reasoned that use of the machines would provide an incentive for farmers to sell their cotton in Bamako rather than on the domestic market. Administrators estimated that farmers could sell 200 kilos of cotton locally for 100 FR, whereas they optimistically estimated the price in Bamako to be 400 FR. They believed simply that

²³⁴ Wilder, "Framing Greater France between the Wars,"

²³⁵ Stéphane Castonguay, "The Transformation of Agricultural Research in France: The Introduction of the American System," *Minerva* 43 (2005): 265-66, 80-82. ²³⁶ ANM 1R 16 II, Agriculture Divers 1914-1931, Entretien, Culture, Egrenage du coton 1914-1925.

farmers were hesitant to pay transportation fees but that a lighter load of processed cotton would make sale in Bamako more attractive.²³⁷

Around the same time, the Agricultural Service began to promote the extension of plow cultivation. Farmers across the region employed several types of hoe for land preparation and weeding. Early colonial agronomists bemoaned the fact that the plow had been unknown in the Soudan before French conquest. In the 1920s, French experts actively advocated replacing hoe cultivation with field labor aided by the oxen-drawn plow. Experts assumed that plow use would bring about a shift from communal land tenure in the French Soudan to more advanced individual land ownership.²³⁸ Proponents of the technology further argued that plow cultivation would increase crop yields, a goal that was consistent with the general push for increased production of commercial crops in the colony, and by extension food crops. Initially, the colonial government distributed a limited number of plows to notables and agricultural students. Agricultural officers organized educational tours and demonstrations to teach male farmers how to use the plow.²³⁹

Following these preliminary efforts, the government planned to intensify plow cultivation across the colony, but the administration proposed to sell them on credit. The projected increase in demand for the equipment and the high cost for each plow (which included the cost of transport from Europe for the imported plows) persuaded agricultural officers to cease giving away plows for free. For most of the twentieth-century, agronomists expected the plow to improve agriculture and by extension society. As historian Michael Adas has noted, Europeans tended to use the technologies they brought to their colonies as a measure for evolutionary

²³⁷ ANM 1R 16 II, Agriculture Divers 1914-1931, Entretien, Culture, Egrenage du coton 1914-1925, letter dated January 24, 1924.

²³⁸ Beusekom, *Negotiating Development*, 40-41.

²³⁹ ANM 1Q 19 FR "Charrures, Demandes de Charrures 1927-1930."

development.²⁴⁰ The energy that French authorities put into the promotion of the plow and other western technologies on the assumption that the machines in and of themselves would trigger mise-en-valeur is consistent with Adas's argument.

Irrigation technology would become one of the hallmarks of French development efforts. As early as 1916, the Lieutenant-Governor sent a circular to all districts proposing an irrigation technique using small dams, dykes, and water gates to improve rice production.²⁴¹ That same year, the agricultural station at Koulikoro operated an irrigated rice cultivation project at Tienfala. The workers were Somono (fisher) women who made use of the local swamps to grow rice using a system of dams and canals, and their work probably inspired the all-colony circular.²⁴² In addition, agricultural stations established by the agricultural service employed pump irrigation in their fields. The Soninkura station located near Ségou (and the future Office du Niger) cultivated cotton, rice and $d\hat{a}$ (textile fiber) fields, as well as intercropped millet and crotolaria (fodder) by irrigation.²⁴³

Generally speaking, men were the targets of French technical interventions. Young men were recruited to attend the farm schools, and more often worked as wage laborers for large agricultural enterprises, or at the agricultural stations. The women at Tienfala were the exception. The commonly held French vision of modern agriculture in the Soudan was, first, one of widespread plow cultivation by men. The Office would further amplify the firm association of men with agricultural technology. While women were not the primary targets of these and other French agricultural interventions, colonial research and policy had an impact on women's labor.

²⁴⁰ Michael Adas, *Machines as the Measure of Men*.

²⁴¹ ANM FA 1R 27, Agriculture Correspondances 1910-1920, Folder marked 1916.

²⁴² ANM 1R 16 II, Agriculture Divers 1914-1931, Agriculture les terres à coton 1914-1916, N° 134 from the Chef de Service de l'Agriculture to the Gouverneur of Haut-Sénégal et Niger, dated September 17, 1916.

²⁴³ AON 93.4, Dossier Botanique (Suite), Rapport sur la Campagne 1928-1929.

Food Cultivation and Taste in the Middle Niger Region c. 1900-1930

At the same time that French agricultural officials and experts were promoting increased export production and championing technological interventions in the French Soudan, many researchers documented regional agricultural practices that were closely attuned to local consumption preferences. The larger agricultural picture from this period was one of a dynamic seasonal trade in grains, fish, meat, and milk, as well as in prepared oils, spices, and leafy or vegetable sauce ingredients. (The latter were produced by women). In fact, researchers recorded a great diversity in the grains and other foods that made up regional diets. Local production was aimed at ensuring household stores, but a great deal of the grains and other foodstuffs were sold in local and even colonial markets. Even political administrators made note of a wide variety of food products with potential industrial uses.

In general, farmers in the central and southern regions of the French Soudan employed several strategies to minimize the risk of production losses due to drought, flooding, insect infestation, crop disease, or political disturbances. In the fields they planted several varieties of millet and rice that were resistant to drought, flooding, or other environmental stresses. Farmers also planted quick-growing crops like the grain *fonio* and corn, as well as the long-lasting root crop manioc. Many of these crops were planted in the series of buttes or mounds that ran the length of fields. These man-made buttes and mounds in fields protected the soil and helped retain water in the field after a rain. ²⁴⁴ Millet fields were often demarcated by groupings of shea trees and wild *n'tomo* berry bushes growing at the edges. In short, the fields integrated grain

²⁴⁴ ANM 1R 16 II, Agriculture Divers, 1914-1913, Agriculture les terres à coton 1914-1916, Mission d'études agrologiques dans la vallée du Moyen-Niger Mars-Août 1913, Note sur la Fertilité Naturelle Des Terres de la Vallée du Moyen-Niger par M.J. Lemmet, Inspecteur d'Agriculture Mai 1914.

production with the collection of nuts and fruits.²⁴⁵ The region had long been agriculturally productive, and French botanists observed agricultural practices that were highly adaptive and sustainable.

French agronomists and botanists hoped to establish large-scale irrigated agriculture drawing water from the Niger River in an area they called the Sansanding plain in the wider inland delta. In this territory researchers observed that farmers planted more fields with quick-ripening varieties than farmers living further south. The region was also characterized by co-operative arrangements during the dry-season in which farmers gave herders grazing rights in exchange for manure. Farmers also fertilized their own nearby fields with household refuse and manure from their livestock. Researchers frequently noted that fields close to settlements were the best fertilized and therefore the most fertile.²⁴⁶ This fact was not surprising given that farmers avoided capture and raids by cultivating close to their walled in towns and compounds. In fact, farmers in the Masina (the northern reaches of the Sansanding plain) had re-organized production over the course of the nineteenth-century to favor the fields closest to their settlements. As the historian Martin Klein has argued, this change came about in response to slave raids and the pillaging of grain and other food stores.²⁴⁷ Agriculture was by necessity dynamic, and farmers responded to both political and environmental stresses.

²⁴⁵ AON 30, Dossier Bontanique (Robarty), Observations Botaniques faites sur l'itineraire Segou-Bamako-Koulikoro-Baroueli-Segou les 24 et 26 Janvier 1935.

²⁴⁶ AON 28A, Dossier Bélime, Le Riz, this report is part of a larger incomplete report in the file, n.d.

²⁴⁷ Klein, "Defensive Strategies: Wasulu, Macina, and the Slave Trade," 64-67.

The American botanist R.H. Forbes, who was a research consultant for the French Agricultural Service in West Africa, described the Sansanding plain as particularly productive.²⁴⁸ In 1924, he wrote:

Surprisingly large areas of mil [millet] are cultivated by these people, and in November their villages were found well supplied with stores of mil [millet], fonio, voandzias [Bambara groundnuts] and, occasionally, with maize, arachides [peanuts], niebe [black-eyed pea], and manioc. Cotton is grown successfully, especially at Siguiné, where an estimated crop of 200 kg. of coton [sic] brut per hectare was found. Cotton is largely used in trade with districts less favored for its culture, as along the Niger to the Southward.²⁴⁹

The region's agricultural richness and suitability for cotton cultivation were two reasons that he and other colonial researchers targeted it for future large-scale agricultural interventions. Moreover, Forbes believed the region's environment was healthy because of its dry climate when compared to the more humid southern districts.²⁵⁰

The French Agricultural Service sponsored a few studies of millet and sorghum as they were the primary cereals cultivated in the colony. They found that farmers grew several types of millet and sorghum according to local food needs. The French botanist Guy Robarty who was active in the Soudan in the late-1920s and 1930s, recorded a great diversity of millet types.²⁵¹ He rigorously noted local names and characteristics for each type of millet. One called *sanio* had a long cultivation cycle, but was reportedly very good for several kinds of cooking preparations. Another called *shallu* was, according to Robarty's informants, particularly tasty. There were also

²⁴⁸ Forbes was a faculty member at the University of Arizona where he directed its Agricultural Experiment Station beginning in 1899. The university'sstation conducted extensive cotton cultivation research; irrigation was also a major area of research in the university's College of Agriculture.

²⁴⁹ AON 367.7 R.H. Forbes, Preliminary Report on an Agricultural Prospection in the Masina December 1924. The original report is written in English. Siguiné, here, most likely refers to the French agricultural station near the town Siguiné located in the Sansanding plain.

²⁵⁰ Forbes also reported that Niger River water was extremely clean, even safe for Europeans to drink when the waters were low. AON 35 Étude sur l'Agriculture dans la région prédeltaique et delatique, c. 1923-4.

²⁵¹ Guy Édouard Robarty later became the director of the French colonial scientific research center ORSTOM (Office de la recherche scientifique et technique d'outre-mer) based in Dakar.

several quick growing varieties such as *kindé* and *souna*, the latter only cultivated in times of food shortage because it acted as a laxative. Robarty also recorded *babuegne*, a variety cultivated by Somono and Bozo fisherman that was resistant to flooding and grain theft by birds.²⁵² This variety was distinctly red in color. Another red millet variety was grown for dye near the town of Ségou, but not eaten because it too had laxative properties. Bamana farmers and some herders also grew *hassa-kala*, a sweet millet.²⁵³ Robarty's research established that farmers obviously valued taste among the important properties of different millet types.

In 1934, the Agricultural Service commissioned a report on millet seed selections to find the most productive varieties. The unnamed researcher who wrote the report found that the prominent millet variety, commonly called *kéniké* or *bimberi*, was actually divided into several types by local farmers. *Bimberi fin*, or dark *bimberi* conserved well—as long as six years. Another variety called *soumpé* was cooked and eaten like rice. *Counsouli* was another type resistant to bird attack and *soubaku* was a variety whose flowering portion of the plant was to the researcher's eyes noticeably long. The 1934 report also indicated that it was common practice to plant fields with several varieties intermingled. Rather than select one type of seed, local farmers selected and planted several varieties for their resistance to bird theft, flooding, or drought, as well as taste, and cooking ease. Women probably helped to select or directly selected the seeds for varieties that cooked well.²⁵⁴

Robarty and several other researchers carefully noted their observations about the various desirable qualities of different kinds of millet. Yet French policy stubbornly emphasized greater

²⁵² AON 85, Introduction de Plantes à Soninkoura, Cultures Vivrières.

²⁵³ AON 87, Dossier Mil, Letter N°7 from Guy Robarty on Millet, January 28,1936.

²⁵⁴ Women's role in seed selection has been established for rice cultivation in Guinea and other southern regions of West Africa. Judith Carney argued that women rice growers in West Africa selected seeds and as such have long been major agricultural innovators. While millet is not an exclusively female crop, it is likely that women also played a major role in its seed selection. See, Carney, *Black Rice*, 49-50.

crop yields over the other desirable characteristics of millet varieties. In fact, the study of millet from 1934 was meant to identify and help standardize the most productive millet variety. Official interest in food production was exclusively focused upon grain production in the fields. A French masculine bias was one reason that colonial observers concentrated on grain production in the fields, which was also largely associated locally with men. Even though women's labor was essential to grain production in the fields, women were associated culturally with sauce production.²⁵⁵ This gendered dynamic is expressed in the Bamana saying: "It is for the husband to supply the toh and for the woman to supply the sauce."²⁵⁶ This specifically gendered female labor was greatly tied up in being an accomplished woman in Bamana society.²⁵⁷ Locally food production was a significantly gendered process in that both men and women were both expected to contribute to the food supply. Men supplied the grain and women supplied the sauce ingredients. It would appear that women's labor contribution to grain production was underemphasized in local conception as well, despite its importance. One difference in these perceptions was that French observers tended to exclude women from the food *production* process altogether (or sought to exclude women from it) whereas locally women were understood to be central. Administrators tended to only recognize their food *preparation* roles.

²⁵⁵ Interview by author with *jeliw* (bards) Madu Saré and Kadja Coumaré in Markala-Kirango, June 3, 2010. The masculine characterization of farming by the performers was based on their knowledge and interpretation of Bamana farming songs, which emphasize youthful and especially masculine competition during work. Stephen Wooten also discusses the specifically male obligation to produce grain for the household and the complimentary task of women to produce the sauce. Stephen Wooten, The Art of Livelihood: Creating Expressive Agri-Culture in Rural Mali (Durham, NC: Carolina Academic Press, 2009), 71-80.

²⁵⁶ Quoted by Mariam Thiam in Mariam Thiam, "The Role of Women in Rural Development in the Segou Region of Mali," in Women Farmers in Africa: Rural Development in Mali and the Sahel, ed. Lucy E. Creevey (Syracuse: Syracuse University Press, 1986), 76-77. ²⁵⁷ Grosz-Ngaté, "Hidden Meanings," 171-72.

The observations of colonial administrators reinforced the research of the professional scientists. For example, both administrators and agricultural officers similarly noted the predominance of women cultivating rice in the southern districts. These men also observed that women and children picked cotton and weeded in fields. (They also noted women's manufacture of products like shea butter.) However, they did not often seek to understand the dynamics of gender and age in agricultural labor. Most often policy directives indirectly pressured women to alter their labor time management.

More than a few administrators were distressed by women's high degree of participation in field work. In 1916, one official commented that: "The district administrators, or their support staff, must observe field work by sight and note on the spot new potential fields, taking into account the agricultural calendar. They must not tolerate, during the agricultural labor season, the spectacle seen too often of women laboring in the fields while the men relax in the village smoking, joking, and drinking dolo." ²⁵⁸ This comment was recorded during the push to increase production for the war effort. Certainly, the description of men relaxing speaks to French fears that farmers in the colony were not working hard enough to provision France. It is also likely that the administrator doubted that women farmers would bring about the necessary production increases. Unwittingly, the writer of this passage provided a picture of women's central role in agriculture.

²⁵⁸ ANM FA 1Q 191, Bureau des Affaires Economiques, Note sur la participation du H.S.N. au ravitaillement de la métropole 1916-1918. Report dated June 16, 1917.

In Red and White: Colonial Aesthetics and the Standardization of Taste

The other food crop that caught official attention was rice. French researchers first observed women's dominant role in rice cultivation in the southern districts of the colony. In these areas and in neighboring Guinea rice was a woman's crop often grown in marshes and swamps.²⁵⁹ In the 1920's, an early agricultural official named Jean-François Vuillet observed that rice was sown by elderly women.²⁶⁰ Another agricultural observer described specific tasks in rice farming that were performed only by women. He wrote, "The rice sprouts with the arrival of the rains. Weeding is done when the plants reach 20 to 30 centimeters, and it is most often done by women. They do this work with care."²⁶¹ Notably, southern-based rice cultivators employed irrigation techniques. Women's established expertise with rice cultivation is likely one reason that Somono fisherwomen especially were recruited for the Tienfala irrigated rice experiment.

Further north in the Masina, flood waters were allowed to flow unhindered over the rice fields. As explained by Judith Carney, historically in flood-plain rice cultivation the fields were deliberately unaltered thereby maximizing soil fertilization by the river waters. Cattle easily grazed in fields during the off-season providing manure. Moreover, the floods that sustained rice cultivation generated expanding fishing grounds. Floodplain cultivation integrated herding and fishing, and their products--milk, meat, and fish--with grain agriculture for a diverse and highly seasonal regional foodscape.²⁶² In years of extremely high flooding, fishing was possible even in regions where the waters rarely reached. The colonial researcher J. Costes collected

²⁵⁹ Judith Carney's work on the gendered aspects of rice cultivation in this region is well-known. See, Carney, *Black* Rice; Judith Carney and Michael Watts, "Disciplining Women? Rice, Mechanization, and the Evolution of Mandinka Gender Relations in Senegambia," Signs: Journal of Women in Culture and Society 16, no. 4 (1991).

²⁶⁰ AON 38.1 Culture du riz dans la Vallée du Niger (Vuillet), n.d., [probable date around 1920]; AON 38.2, Le Riz dans la Haute Vallée du Niger, 1934 [probable author Marchand]. ²⁶¹ AON 38.2, Le Riz dans la Haute Vallé du Niger, 1934.

²⁶² Carney, *Black Rice*, 47-48.

descriptions of such extraordinary fishing cycles at Molodo while investigating possible irrigation sites. Emile Bélime cited his colleague's findings in his proposal for large-scale irrigation in the region:

Elders in ancient settlements remember well having participated in festivities for annual fishing at the Molodo Marsh. In reality, it took place at Nafadié, about 4 kilometers south of Molodo [...] The last time the river flooded as far as Nafadié was in 1896, and locals believe that the river will no longer reach them because there is less water in the river now. However, in my conversations with the chief of the Bozo fishermen in Sansanding, I got the impression that in the last 50 years, the succeeding floods have been about the same.²⁶³

Costes discovered that flood levels were monitored locally and that fishing was a significant element of the historical record even among farmers in Molodo. In 1927, R.H. Forbes recorded that, when high flooding damaged rice crops in the Masina, his porters fished in the flood waters at Niédougou.²⁶⁴ Even in years of low flooding, dried and prepared fish were widely sold in regional markets. When read together these reports offer a picture of interrelated food production activities that were attuned to changing local environmental conditions.

French agricultural scientists and merchants appreciated the long history of rice cultivation in the Masina and elsewhere in the colony. To begin with, floodplain rice farmers produced more than one harvest. This fact was extremely interesting to officials who first and foremost emphasized production. The first rice crop was cut while the fields were still flooded, and it was transported by pirogue to the farmers' settlements where women allowed the cut paddy to dry for three to four days before they threshed it. Farmers then harvested a second crop a few months later. In some areas of the flood plains, rice was exclusively cultivated, but in other areas farmers planted rice, millet and other grains.²⁶⁵ From Guinea to Masina, rice was

²⁶³ AON 28.5B, Dossier Bélime, Le Canal du Sahel, n.d. [ca. 1923-1926].

 ²⁶⁴ AON 367.7, R.H. Forbes, Preliminary Report on an Agricultural Prospection in the Masina, December 1924.
 ²⁶⁵ AON 28A, Dossier Bélime, Le Soudan Nigérien, n.d.

planted by tossing the seeds. This practice received considerable attention from researchers who observed rice transplanting techniques in Asia, and were interested in propagating the method in the Soudan primarily for improving production yields.²⁶⁶

More immediately colonial officials and merchants wanted to substitute white rice for red rice because it was more competitive on the export market. To do so, researchers, administrators, and commercial agents looked to distribute white varieties from the Sikasso region and Guinea in the Soudan. In 1922, the European rice merchant Danel based in Mopti wrote to the colonial administration to request white rice seeds from Guinea. He explained in his letter that he wanted to "improve" rice quality in the region by expanding white rice cultivation. His motivation was the expansion of his export business.²⁶⁷ Another European merchant in Mopti, Mr. Simon, successfully grew a white variety from Guinea in his fields. In 1927, he requested a ton of paddy for seed from Guinea. Simon explained the reason for his request: "My interest was piqued by the possibilities in many Niger Valley regions of replacing red rice varieties."²⁶⁸ That same year, the agricultural station in the Masina region at Diafarabé conducted trials with a white rice originating in the southern district Sikasso.²⁶⁹ White rice was consistently substituted for red varieties by European farmers and researchers in the colony.

Emile Bélime was convinced that white varieties of rice would eventually replace local red rice. He surmised:

²⁶⁶ AON 38.1, Culture du riz dans la Vallée du Niger (Vuillet), n.d. See also, Carney, *Black Rice*, 48-49.

²⁶⁷ ANM FA 1R 160, Riz Correspondance 1904-1919.

²⁶⁸ ANM FA 1R 160, Riz Correspondance 1904-1919, Letter no. 37 dated January 1927. Quoted in a letter from Governor Terasson to the Governor of Guinea.

²⁶⁹ AON 93.4, Dossier Botanique (Suite), Service agronomique du coton, Rapport sur la campagne 1927.

In effect, the abandonment of local rice is inevitable. They are mediocre plants and regular irrigation permits the cultivation of higher value grains. In the Soudan and Guinea, there are good market-quality white rice varieties. The most well-known are Kakoulima and Sikasso rice [...] Given that Masina rice is first intended for domestic consumption, we should consider whether it is necessary, or simply advantageous, to improve a grain that is perfectly satisfisfactory locally. However, there are several plants likely to acclimate, that are more productive than local varieties. Thus, they are more profitable.²⁷⁰

Bélime was perhaps thinking that the white varieties from Sikasso and Guinea would easily satisfy local consumption needs. He certainly disdained the local preference for a food crop he termed "mediocre." At the same time Bélime believed that through the introduction of any white rice variety, the colony could compete more successfully with Asian rice imports in Dakar and in other in other markets. Certainly for Bélime and the European merchants, the choice of rice variety was a question of market value and superseded local preferences.

For farmers, the choice of which varieties to cultivate had more to do with variety in the diet, adaption to local conditions, and of course taste than market value alone. Farmers selected rice types for their resistance, particular flavors, and cooking and storage propertie, just as they did with millet. When administrators and merchants initially distributed and promoted white rice seeds along the floodplains, farmers also planted the new seeds in a few fields. By harvest time, European officials were disappointed that farmers appeared to devote little care to these white rice plantings. One survey of rice cultivation in the colony suggested that farmers were more than resistant to the adoption of these new varieties:

The administration has at different times freely distributed large quantities of seeds with the idea of introducing new varieties in the Mopti region. These trials were without result. This is due to a spirit of routine and distrust. Farmers are happy with their diverse red rice varieties, and they have given no care to the cultivation of new types.²⁷¹

²⁷⁰ AON 28A, Dossier Bélime, Le Riz, n.d..

²⁷¹ AON 38.1, Culture du riz dans la Vallée du Niger (Vuillet), n.d.

It is probable that farmers were willing to test out the new seeds but not at the expense of compromising the year's food harvest. In fact farming in the region has been characterized as highly experimental.²⁷² Much to the dismay of the French observers, these farmers having experimented with the new varieties, appeared to prefer eating and selling local varieties of rice.

As was the case with millet, researchers noted a great variety of rice types. In the southern region of the colony a variety called *bintou bale oule* had grains that plumped well with cooking. It sold very well in the southern Siguiri market. Another called *fossa* was known for its pleasant smell called *simba bô*.²⁷³ In the Masina, two types of quick-growing rice called *timba* and *bougna* were widespread. *Sima baléo* also ripened quickly, but produced fewer grains than other varieties. *Tomo* and *sima odéo* were harvested in the second harvest in December.²⁷⁴ When harvested these local rice types were a variety of colors: red, brown, black, and white.²⁷⁵

In both the southern and northern rice growing regions, women processed rice paddy.²⁷⁶ Vuillet described this process:

Some of the time, locals are happy to pound paddy in a wooden mortar. The rice is dark red, covered in dust, and contains a great proportion of broken grains. In the second method, before pounding the paddy, it is soaked for two days in cold water, then boiled and dried. The process plumps the grains, separating the parts of the husk. This way, the red outer covering is loosened, making the paddy easier to thresh. Not only are the grains less breakable, but the seed fragments, which when the harvest is collected too late break inside, are also loosened. If done with care, which is all too often not the case, the process produces an almost white, sort of pointed, rice with very little breakage. It is easy to cook and digest. This is the parboiled rice of the British colonies. While the boiled rice has an improved appearance, it loses flavor and preserves less well than unprocessed rice.

²⁷² Paul Richards, *Indigenous Agricultural Revolution: Ecology and Food Production in West Africa* (Boulder, CO: Westview Press, 1985), 54-59.

²⁷³ AON 38.2, Le Riz dans la Haute Vallée du Niger, 1934.

²⁷⁴ ANM FA 1R 160, Riz Correspondance 1904-1919. Letter from the Djenné district administrator to the Kayes Delegate dated February 1, 1904.

²⁷⁵ AON 28A, Dossier Bélime, Le Soudan Nigérien, n.d.

²⁷⁶ This is a point made by Judith Carney. Carney, *Black Rice*, 53-54.

Vuillet was most interested in the process of parboiling and added the following comment to his observations:

The Soudanese know very well that rice loses some of its nutritional value in the process, and this is perhaps one of the reasons that the technique is not more widespread. ²⁷⁷

Certainly, Vuillet was not impressed by the women's preparation technique that did not involve the preliminary boiling step. He even hinted that he thought women who employed this processing method did not properly clean the rice before cooking it. However, Vuillet did suggest that women had a scientific understanding of nutrition and food value and regarded the first technique as prefereable when compared to the method of parboiling rice. Moreover, parboiling was rather involved for women whose labor was in high demand. On the whole, Vuillet was not generous to Soudanese women in his assessment of their labors, but it is apparent that the women he observed possessed sophisticated knowledge about the processing of grains.

In the above description, Vuillet glossed over his assertion that parboiled rice was not as palatable as was rice prepared by other methods. It is not clear how Vuillet arrived at this conclusion—was he relying on his own palate or reporting the assessment of local informants? Yet, for women this must have been one of the most important considerations when choosing how to process rice paddy. Vuillet also suggested that parboiled rice was easier to cook, which of course sets aside the time it takes to parboil in the first place. One craves a deeper understanding of how the parboiling technique emerged here, how it fit into women's needs, and an understanding of how reduced preservation properties were balanced against the benefits of more rapid cooking. Vuillet was interested in the parboiling method was because it produced a rice that was "almost white." The Soudanese cooks he observed were probably less interested in

²⁷⁷ AON 38.1,Culture du Riz dans la Vallée du Niger (Vuillet), n.d.

his aesthetics and the export value of white rice than they were in cooking it to meet the tastes of the people who ate their food.

Vuillet and other researchers observed a great deal about local tastes and the methods of food preparation. This knowledge did not translate into a similarly informed understanding of local food supply and agriculture at the policy level. Their research was intended to facilitate the goal of substituting white rice for red rice. In the process they disregarded the information they had collected about the relationship between cultivation practices, taste, and cooking preferences. Instead, they looked for ways to promote the substitution of white rice for red. In the cases of both rice and millet, the research agenda was geared towards the standardization of more marketable grains that also had the probability to produce the highest yields. The farmers who tested and then rejected the white varieties promoted by the Agricultural Service demonstrated that they had a choice over what they would eat. Not just any millet or rice would do.

Cotton, Gender, and the Household

The majority of households in the French Soudan had the capacity to provide the basic subsistence needs for their members well into the 1920s.²⁷⁸ Women helped to ensure this household resiliency by integrating their food-related labor with other productive activities. In particular, women picked cotton and cleaned and spun it into yarn. The cotton yarn was then woven into cloth for household needs and for sale. Cotton cultivation and cloth production complimented food production because cotton was planted in food crop fields; cotton was also

²⁷⁸ Richard Roberts, "The Coercion of Free Markets: Cotton, Peasants, and the Colonial State in the French Soudan, 1924-1932," in *Cotton, Colonialism, and Social History in Sub-Saharan Africa*, eds. Allen Isaacman and Richard Roberts (Portsmouth, NH: Heinemann, 1995), 232.

harvested after the major food crop harvests. Women tended to the grain harvest first, and later picked and processed the raw cotton. From as early as the fifteenth-century, French travelers remarked upon this dry season activity in West Africa, as did later colonial observers.

In the late nineteenth-century early colonial administrators and entrepreneurs noted with great interest that cotton cloth production was a highly productive and lucrative domestic industry.²⁷⁹ In economic terms, raw cotton was less remunerative than millet and peanuts, but woven cotton cloth was highly valued. Bands of woven cloth were culturally meaningful gifts for important social events like weddings. At times, cotton cloth even served as a means of monetary exchange.²⁸⁰ During the first three decades of the twentieth-century women increasingly made money from the sale of cotton yarn and cloth.²⁸¹ Persistent yet uneven French intervention in regional cotton production.

Beginning in the 1890s, French officials expressed great interest in profiting from cotton cultivation in West Africa. In 1898 General Louis de Trentinian, who was then Lieutenant-Governor of the French Soudan, sponsored a series of scientific missions to study local cotton production and the possibilities for its expansion and industrial use in France.²⁸² It was the general consensus that colonial intervention was needed to improve and increase cotton production. For example, E. Fossat, who took part in the 1898 series of missions, reported that farmers tended to leave the cotton on the plant for too long after it was ready to be picked. He

²⁷⁹ Monteil, *Le Coton Chez Les Noirs*, 22-43. See also Richard Roberts, *Two Worlds of Cotton: Colonialism and the Regional Economy in the French Soudan*, 1800-1946 (Stanford, CA: Stanford University Press, 1996).

²⁸⁰ Monteil, *Le Coton Chez Les Noirs*, 26, 42-3, 49-50, 59-61. Roberts, "The Coercion of Free Markets," 226, 31. See also Roberts, *Two Worlds of Cotton*, 51-59.

²⁸¹ Women either sold cotton yarn, or employed weavers to produce cloth from their yarn; the resulting cotton cloth bands were then sold. Roberts, "The Coercion of Free Markets," 235-43.

²⁸² Roberts, *Two Worlds of Cotton*, 76. Schreyger, *L'Office du Niger au Mali 1932 à 1982*.

observed that the unpicked cotton suffered from exposure to the sun, resulting in discoloration. Fossat reported favorably on the production of 20 to 30 tons of "good quality" cotton in Sansanding under the direction of the French appointed Faama de Sansanding.²⁸³ The Faama (king) of Sansanding, Mademba Sy, was a former colonial interpreter and telegraph service employee who supported French rule. He coerced his subjects into cultivating cotton that he then sold for export.²⁸⁴ Fossat's positive assessment of cotton production in Sansanding suggested to metropolitan officials the possibilities for increased good quality cotton production (long fiber cotton with no discolorations) under French influence.

At the same time Fossat's report neglected to mention the labor conditions for large-scale cotton production under Mademba Sy. The extent to which he was aware of forced cultivation under Sy is not clear from his research notes. Fossat also missed or glossed over the fact that women picked cotton, but they only did so after the major grain harvest. Harvesting earlier would have endangered the food supply. Fossat's single-minded focus on quantity and compatibility with French industry is one example of a broader tendency among colonial agricultural experts and administrators. For several decades, the French experimented with numerous varieties of cotton, distributed seeds, and tried unsuccessfully to capture cotton production.²⁸⁵ The same officials overlooked the use of forced labor and what should have been obvious gender considerations for French agricultural projects.

The history of colonial cotton cultivation in the French Soudan and Africa more generally has been widely documented. During the first two decades of the twentieth-century the French

²⁸³ ANM Série Géographique Soudan français III/4, Mission d'études au Soudan Français (1898-1901), E. Fossat, "Le Coton du Soudan" October 1898-August 1899.

²⁸⁴ Roberts, "The Case of Faama Mademba Sy."

²⁸⁵ Roberts, *Two Worlds of Cotton*, especially chapters four, five, and six. Private business interests did not always cooperate with French colonial government in this regard. Roberts, "The Coercion of Free Markets," 223-26.

colonial government instituted several measures in an effort to increase Soudanese cotton production for export. The administration experimented with increasing prices paid to farmers and established experimental research fields; the colonial government even imported plows for land preparation and ginning machines to process raw cotton and reduce transport costs. Many French agronomists were eager to apply European technologies to Soudanese cotton production. A group of French cotton lobbyists called the Association Cotonnière Coloniale also sponsored research and the distribution of new cotton seeds to farmers in the colony. The early colonial administration had high aspirations for the role of cotton in the colonial export market even though European merchants sometimes proved to be unreliable purchasing partners. Nevertheless, the administration sought vigorously to increase cotton production in the colony. In 1912, Governor-general Clozel issued an order for compulsory cotton cultivation. This policy was upheld through forced cultivation in fields managed by local administrators called the "champs de commandant." Despite these efforts, the colonial administration failed to meet metropolitan expectations.²⁸⁶

By the 1920s, administrators strongly believed that greater intervention was needed to improve the *politique cotonnière* (cotton policy) in the colony. Some colonial observers advocated competitive pricing for farmers and others promoted greater controls over Soudanese cultivation methods and labor.²⁸⁷ In the absence of a political consensus the French sponsored repeated agricultural research missions, especially to study the possibilities for irrigated cotton cultivation.²⁸⁸ In 1924 in an effort to capture more of the cotton already being grown, the

²⁸⁶ Monteil, *Le Coton Chez Les Noirs*, 88-96; Roberts, *Two Worlds of Cotton*, 76-93; Roberts, "The Coercion of Free Markets," 224-25.

²⁸⁷ Roberts, "The Coercion of Free Markets," 223.

²⁸⁸ Roberts, Two Worlds of Cotton, 118-44.

government organized official cotton fairs where farmers were obliged to sell their cotton crop to European merchants.²⁸⁹

Charles Monteil was one of many officials to study local cotton production during these years in an effort to redirect French efforts. He opened his 1927 book *Le Coton chez les Noirs* with a reference to the dangers of the long-time French reliance on American cotton producers; he, like many other observers, believed France urgently needed improved cotton production in the Soudan.²⁹⁰ One of Monteil's major arguments was that wide-spread cotton cultivation and cloth production came about in the region only after the spread of Islam. He suggested that Islam exerted a "civilizing" influence over peoples who previously wore little clothing: Islam supposedly introduced a sense of shame for the naked body and thus the need for clothing. Monteil further pointed out that Muslim merchants organized much of the cloth trade. Ultimately, he suggested that French intervention would succeed in a similar manner.²⁹¹ His rendering of history also conflated cotton, civilization, and change directed by outsiders. By the end of the 1920s cotton production was indeed up, but the resulting cotton harvests furnished the domestic market rather than the export market.²⁹²

French researchers turned to the study of local farming practices. They paid particular attention to the practice they called "la culture du coton sous l'abri" or sheltered cotton cultivation.²⁹³ This method involved planting cotton seeds in grain or other food fields as a secondary crop. The French wanted to flip this relationship and make cotton the primary harvest. These were more studies of millet in so far as it appeared intercropped with cotton than

²⁸⁹ Roberts, "The Coercion of Free Markets," 226-35.

²⁹⁰ Monteil, Le Coton Chez Les Noirs, 1-2. See also, Roberts, Two Worlds of Cotton, 45-51, 66-75.

²⁹¹ Monteil, Le Coton Chez Les Noirs, 4-21, 97-99.

²⁹² Roberts, "The Coercion of Free Markets," 229-32, 36.

²⁹³ ANM 377.4, "Rapport Annuel sur la culture du cotonnier en A.O.F. 1928. N.B. In the 1920s Emile Bélime was the director of the colonial Textile and Hydrology Service for the A.O.F.

these were studies of millet in its own right. In a 1928 investigation of cotton cultivation in the colony Emile Bélime wrote about intercropping:

In the Soudan, farmers plant cotton, by scattering seeds, together with sorghum. The cotton benefits from the field preparation, fertilization, and weeding done for the grain crop; the only additional work required is the harvest. Also, this is done by women and children.²⁹⁴

He was well aware of women's role in the production of cotton, but took their participation in the fields for granted.

Most of his contemporaries, like him, recognized that intercropping was efficient. First, the practice saved labor time. This benefitted men, who were not involved in picking cotton. The American agricultural scientist R.H. Forbes further observed that the shelter provided by millet and corn stalks prevented cotton plants from drying-out. In fact, local sheltered cotton varieties proved extremely productive in colonial research trials.²⁹⁵

Women were integral to the production of raw cotton and yarn for cloth, and the intercropped cotton harvest fit well into women's agricultural labor calendars. Local cotton varieties had long cultivation cycles and were harvested after grain crops and peanuts. When the millet harvest came in, married women collected the grains cut by men and transported them to the granaries. Often young men in work parties cut the grains and girls, or *pogotiggyw*, brought water to the group.²⁹⁶ After the grain harvest, the married women and often the children picked cotton. The time lag between the grain and cotton harvests allowed women to space out their

²⁹⁴ AON 377.4, Rapport Annuel sur la culture du cotonnier en A.O.F. 1928.

²⁹⁵ AON 28A, Dossier Bélime, Emile Bélime quoting R.H. Forbes in Le Soudan Nigérien, n.d.

²⁹⁶ Interview by author with Nianzon Bouaré and Hawa Coulibaly in Molodo-Bamana, May 29, 2010.

work transporting, storing, and threshing cut millet, and their cotton-picking labor.²⁹⁷ During the subsequent dry season women cleaned and spun cotton into yarn to make clothes for family members or for sale. In fact, women kept one fifth of the cotton crop for their own use. In this way, women's cotton industry accommodated with their other agricultural and domestic tasks.²⁹⁸

One issue in particular posed a problem for the French. Local cotton varieties were less compatible than American ones with existing French technology in the textile industry. Soudanese cotton had short fibers, whereas the American types had long fibers. French textile manufacturers owned machines suited to processing cotton from long fiber cottons (American types). As a result, the Agricultural Service sponsored research in the 1920s to investigate the possibilities for cultivating long fiber cottons that also had long cultivation cycles. The rationale was that such long fiber varieties that ripened after the grain harvest would fit still well with local labor patterns. Staff at the southern M'Pesoba research station experimented with one such variety called Karangani.²⁹⁹ In the end, researchers promoted an American long-fiber variety called Allen, even though it had to be harvested at the same time as the grain crop. Perhaps one reason was the claim by Forbes that Allen cotton was easy to harvest. Despite his positive assessments of intercropping, Forbes also reported that the practice was an obstacle to the expansion of American cotton varieties in the colony.³⁰⁰ Indeed, Allen plantings fared poorly in intercropped trials.³⁰¹

²⁹⁷ Women's work harvesting cotton was widespread in West Africa. For example, Andrew Zimmerman noted that women in coastal Togo cultivated and sold cotton in the first decades of the twentieth-century. See Andrew Zimmerman, "A German Alabama in Africa: The Tuskegee Expedition to German Togo and the Transnational Origins of West African Cotton Growers," *The American Historical Review* 110, no. 5 (2005).

²⁹⁸ Roberts, "The Coercion of Free Markets," 241-42. Roberts, *Two Worlds of Cotton*, 51-59, 93-105.

²⁹⁹ AON 93.4, Dossier Botanique (Suite), Rapport sur la campagne 1928-1929.

³⁰⁰ AON 373.1, Dossier rapports et notes du Coton du Niger, Rapport Pour la Campagne 1923 (Extrait) Culture d'Assolement, 1923-1930.

³⁰¹ For example, during the 1927-1928 farming season, students at the colonial farm school in Barouéli planted intercropped Allen with little success. AON 93.4, Dossier Botanique (Suite), Rapport sur la campagne 1928-1929.

Allen nevertheless won out over other varieties. Other experimental Allen fields planted in isolation, and benefiting from plow cultivation, were very productive.³⁰² The results from a 1927-28 trial of selected Allen seeds with the combination of plow cultivation influenced later French efforts to alter local intercropping practices. Reports for the same campaign also concluded that Allen grew well with irrigation.³⁰³ After 1929, the Agricultural Service ordered all farmers in possession of plows to plant one hectare of Allen every year.³⁰⁴ Some farmers in the Middle Niger region planted Allen, and the results showed that Allen grew best in the region. The only area where cotton was already planted in isolation (as opposed to intercropping) was in the Middle Niger Region in the Niono plain.³⁰⁵ When Bélime proposed the cotton scheme, he wanted to anchor the project in the Niono region. By 1930, cotton production was up, but the resulting cotton harvests still predominantly furnished the domestic market.³⁰⁶ In fact, many farmers actually kept the Allen cotton that they grew for home use instead of sale.³⁰⁷

For the most part, the French failed to promote large-scale cotton production of any variety for export in the first three decades of the century. Earlier, Bélime had argued that the reason cotton was not succeeding as an export crop was that export market prices were too low to interest farmers. This was certainly a factor. Cotton was also regarded by farmers primarily a compliment to the more important grain cultivation. Moreover, the cotton harvest was predicated on women's labor. Already in the first two decades of the century women protested their increasing field labor burden. By the 1920s women processed greater amounts of cotton

³⁰² AON 93.4, Dossier Botanique (Suite), Note sur le Rapport du Chef du Service des Textiles du Soudan Français relatif à la campagne cotonnier 1927-1928.

 ³⁰³ AON 93.4, Dossier Botanique (Suite), Service agronomique du coton, Rapport sur la campagne 1927. Irrigated cotton cultivation in the report most likely referred to pump irrigation employed at the research stations.
 ³⁰⁴ AON 380.9, Report titled "Le Coton Soudanaise" by Emile Bélime, 1923.

³⁰⁵ AON 28A, Dossier Bélime, "Le Soudan Nigérien," n.d.

³⁰⁶ Roberts, "The Coercion of Free Markets," 229-32, 36.

³⁰⁷ Roberts, "The Coercion of Free Markets," 238.

because more cotton was being produced. Women earned money through their cotton labor but the total amount of cotton to be picked and processed increased. The introduction of a cotton variety that was harvested at the same time as the major grain crop necessarily would have compounded women's labor at the end of the rainy season.

In all this time, the colonial government and its researchers continued to overlook women's role in cotton production. The ramifications of this oversight were evident in early cotton enterprises in the Soudan. In 1920 the French businessman Marcel Hirsch opened a private irrigated cotton scheme in the northern Niger River Bend at Diré. The enterprise employed male wage workers, but among other problems, it faced labor shortages at harvest time.³⁰⁸ In 1924, Director de Loppinot requested the administration's assistance in persuading the wives of workers to pick cotton. Lieutenant-Governor Terasson directed local officials to intervene. Terasson did so with assurances from de Loppinot that the women's harvesting work would not disrupt normal food preparations done by the same workers' wives. It is unclear how Diré's director came to make such claims. In response to Loppinot's request Terasson suggested that women were more likely to accept this work if they at least worked alongside their own husbands.³⁰⁹

Pressing to women to work in the Diré fields was a delicate matter. The administration was already wary of repeated requests for labor intervention at Diré, complaints over pay rates, and allegations of abuse.³¹⁰ Administrators were further wary of asking the wives of workers to labor in the fields with the men. Across the Soudan, men and women carried out distinctly

 ³⁰⁸ Much of the labor problem at Diré was due to the scheme's reliance on forced labor. In addition, the cotton harvests at Diré were consistently poor in the 1920s. Roberts, *Two Worlds of Cotton*, 121, 28-35.
 ³⁰⁹ ANM 1R 16 II, Agriculture Divers 1914-1931, Entretien, Culture, Egrenage du coton 1914-1925, Correspondance 1924.

³¹⁰ ANM 1R 16 II, Agriculture Divers 1914-1931, Entretien, Culture, Egrenage du coton 1914-1925, Correspondance 1924, May-June 1924. See also Roberts, *Two Worlds of Cotton*, 131-33.

gendered tasks in the fields and at separate times. Cotton picking was a task done by women or children, which probably accounted for some of the enterprise's problems at harvest time: picking cotton was not a task for men. The enterprise also proposed intermingling the wives of some workers with other male workers, which seems to have been an offense to the husband and the wife.

The final resolution was that the wives were pressured to pick cotton for .10 FR per kilogram harvested. Supervisors were also expected to place wives in the fields near their husbands.³¹¹ In the Middle Niger region, young girls customarily worked alongside their mothers, and sons worked alongside their fathers.³¹² Gendered tasks were also performed at separate times. The wives of workers at Diré did not necessarily share an analogous gender dynamic for agricultural labor as women farming in the Middle Niger region.³¹³ Nevertheless, the example is instructive. First, agricultural interventions that disrupted acceptable gender roles met with resistance from men and women. Second, administrators recognized women's cooking labor, but underestimated the labor time required. They also misunderstood how women negotiated balancing this daily task with other work including field labor.

The Office du Niger and the Transformation of the Foodscape

The Office du Niger was the most significant economic intervention by the French in the Soudan. This major agricultural program was formally established in 1932, but was rooted in French colonial interests dating to the late nineteenth century, some of which have been

³¹¹ ANM 1R 16 II, Agriculture Divers 1914-1931, Entretien, Culture, Egrenage du coton 1914-1925, Correspondance 1924.

³¹² Interview by author Fatoumata Coulibaly, Kadiatou Mallé, and Maïssa Sountura in Kouyan-Kura, April 14, 2010.

³¹³ The origin of the workers in question is unclear from these documents.

discussed here. The First World War played a more formative role in the project's history for the years of war made plain to metropolitan leaders the need for producing "value" in the colonies. The Office would prove to be a technologically intensive intervention, and it seemed to fit well with other initiatives intended to improve agriculture through the introduction of modern technology. As was the case with other development programs in French West Africa, the Office was conceived first and foremost with men in mind. However practice the Office depended upon women, their labor, and their expertise.

In 1919 the Governor-General of the A.O.F. Martial Merlin commissioned Emile Bélime to study the possibilities for irrigated cotton production in the Niger River Valley. Following a year-long mission (1919-1920), Bélime developed an ambitious proposal for a large irrigated project flanking the river. He envisioned a cotton production scheme that would involve the construction of a massive and technically sophisticated dam at Sansanding, a smaller one at Sotuba, and three major canals to distribute water over more than a million hectares of land. Over the next decade Bélime persistently promoted the project to government officials in Paris and to the colonial government in Dakar. Bélime was the first director of the Office, and he remained associated with the project in the minds of most officials and farmers long after his departure in 1943.³¹⁴

The initial proposal and design for the scheme was the subject of much debate and controversy in France. Critics pointed to the high anticipated costs of building and maintaining the dam and irrigation infrastructure. In 1921 August Chevalier, who was a well-known colonial agronomist, suggested that the administration's primary goal of increasing cotton production in

³¹⁴ Georges Spitz, *Sansanding: Les Irrigations Du Niger* (Paris: Société d'Editions Géographiques, Maritimes, et Coloniales, 1949), 66.

the Soudan would be better accomplished with smaller-scale interventions in local rain-fed agriculture. Chevalier also pointed out that Soudanese farmers were unfamiliar with irrigation and plow use (which he and other agronomists argued was necessary in irrigated farming).³¹⁵ Yves Henry, who was a high-ranking official in the Agricultural Service in French West Africa, supported efforts to introduce irrigated cotton production in the colony, but he questioned Bélime's proposed methods for labor recruitment. He argued that the regions targeted for irrigation were only sparsely populated and could not supply the necessary labor.³¹⁶ Bélime's proposal only articulated a very general plan for agricultural colonization on the newly irrigated lands (including an element of European or North African settlement which was soon discarded in favor of migration by Soudanese farmers). Chevalier as well questioned the availability of local labor and was skeptical about the likelihood of long-term farmer migration.³¹⁷ The issues raised by Chevalier and Henry would indeed prove to be major challenges at the scheme for decades to come.

Bélime gained support for his plan from Albert Sarraut, whose colonial reform program roughly coincided with Bélime's proposal for irrigation in the Niger River Valley. The engineer framed his project so as to speak to the ideas of Sarraut and other colonial reformers. Bélime successfully lobbied Sarraut to include the irrigation project in legislation intended to fund the "mise en valeur" program. However, Sarraut's legislation never passed given the restrained fiscal budget following the war. In 1925 Bélime won financial backing for the project from the territorial government of the A.O.F. in Dakar.³¹⁸ In the 1920s, France's relationship to its

³¹⁵ Bélime et al., *Les Irrigations Du Niger*, 3-10.

³¹⁶ Bélime et al., Les Irrigations Du Niger, 26-28; Roberts, Two Worlds of Cotton, 118-26.

³¹⁷ Bélime et al., *Les Irrigations Du Niger*, 8.

³¹⁸ Beusekom, *Negotiating Development*, 2-4; Roberts, Two Worlds of Cotton, 122-123.

colonies and the meaning of "development" was the subject of animated debate.³¹⁹ Sarraut believed that through economic and social investment in the colonies France would assure the loyalty of its colonized populations. Other colonial reformers and much of the colonial service shared his views about direct investment. The problems of financing a large-scale technological intervention and its accompanying bureaucracy were not so easily solved.

With regard to economic development, and cotton production in particular, French capitalists did not always support government calls to pay African smallholder producers higher prices for cotton and other export crops. It was in this context that Bélime argued that his vast irrigated agricultural scheme would support French industry. He also claimed that the scheme would improve the standard of living for African farmers who resettled at the scheme. The latter goal would be accomplished by teaching farmers "modern" farming methods and providing them with an increased income from the sale of cotton.³²⁰ Yet, as we shall see, farmers rarely earned enough to pay for the water and agricultural services of the scheme.

In 1924 Bélime significantly altered the design for his scheme to include both cotton and rice production. He made the change under pressure from Jules Carde the new Governor-General of the A.O.F., who was concerned about recent droughts and the threat of famine. He was among a group of officials who saw irrigation as the solution to these recurrent environmental and social problems. Rice produced at the irrigation scheme in the French Soudan would then be exported to farmers in Senegal.³²¹ The final plans for the Office du Niger included a cotton-producing zone watered by the Sahel Canal and a separate rice-producing zone watered by the Masina Canal. It must be noted that food production for Office farmers did not

³¹⁹ Wilder, "Framing Greater France between the Wars."

³²⁰ Bélime et al., *Les Irrigations Du Niger*.

³²¹ Beusekom, Negotiating Development, 7-12.

figure into this level of planning. Chevalier signaled this problem in his critique of the project and suggested that even Bélime doubted that irrigation would assure the food supply.³²² In its final design, the idea of the Office resonated with the prevalent view of a Greater France composed of several interrelated regions.³²³ In this case, the French Soudan would supply rice to Senegalese farmers who in turn supplied peanuts the French oil-seed industry. Of course, the French Soudan would also supply cotton to the textile industry.

Even before Bélime had secured funding for the primary project, the colonial government established two small-scale irrigation centers in anticipation of the larger Office du Niger. In 1921 the experimental station called Niénébalé was founded. Farming at Niénébalé was achieved through pump irrigation. It was not until 1926 that the station recruited a small number of African families to settle in pilot villages and farm using irrigation techniques.³²⁴ One year earlier the newly created Service temporaire des irrigations du Niger (STIN) had begun work on the first dam just north of the capital Bamako near the Sotuba rapids. Beginning in 1929 the Sotuba dam irrigated land for another group of pilot farming settlements collectively called Baguinèda.

In 1932 the French colonial government formally established the Office du Niger. However, construction for the project did not begin until 1934.³²⁵ France's economy and that of its colonies was greatly impacted by the market crash in 1929, and the poor financial state of the colonial government delayed construction. The principal dam was not completed until 1947. Later, the long delay was attributed by colonial officials to the eruption of war again in Europe in

³²²Bélime et al., Les Irrigations Du Niger, 3-10.

³²³ Wilder, "Framing Greater France between the Wars," 198-201.

³²⁴ Roberts, *Two Worlds of Cotton*, 159.

³²⁵ Schreyger, L'Office du Niger au Mali 1932 à 1982, 67.

1939.³²⁶ Just prior to the beginning of construction on the dam, the project was relocated from Sansanding to a site called Markala (located 8 kilometers to the southwest of Sansanding). The Masina irrigation canal was finished in 1935, and that same year the Office opened the first agricultural town called Sangarébougou. While cotton cultivation was Bélime's primary goal for the Office, this first group of farmers cultivated rice. Two years later both the Sahel Canal and the cotton sector were opened in 1937.

The construction of the two dams, the irrigation canals, and Office towns and roads was primarily accomplished using forced labor. The worksites were often dangerous and many workers drowned or were electrocuted. Workers also complained about the long hours, liberal use of corporal punishment by French supervisors, and unsanitary food preparation. The Office was associated with industrial farming, but few earth-moving or other industrial machines aided in its construction.³²⁷ The building of the Office displayed the worst of colonial rule in French West Africa: for the workers building it was a dangerous and labor intensive endeavor.

Between 1934 and 1947 the slow construction of the Office began to re-order the agricultural landscape. The eventual dam was an imposing presence on the river measuring 1800 meters across. The Masina Canal was 47 kilometers long and was accompanied by the construction of a separate dyke stretching 69 kilometers long. It was intended to protect Office fields from the uncontrolled annual flooding of the river. The Sahel Canal was 63 kilometers long and measured 25 meters in depth.³²⁸ The long construction period disrupted life in surrounding towns as labor was requisitioned for road building. In addition, fishing near the site

³²⁶ Spitz, Sansanding: Les Irrigations Du Niger, 63-70.

³²⁷ Interview by author with Koké Coulibaly and Fodé Traoré in Markala-Kirango, February 3, 2010. Magasa, *Papa-Commandant a Jeté Un Grand Filet Devant Nous*, 50-81. Catherine Bogosian, "Forced Labor, Resistance and Memory: The *Deuxième Portion* in the French Soudan, 1926-1950" (Ph.D. Dissertation University of Pennsylvania, 2002).

³²⁸ Spitz, Sansanding: Les Irrigations Du Niger, 77; 79-81.

of construction was outlawed and annual flood-plain agriculture was disrupted. Vast tracts of land were also prepared for irrigation. Auguste Chevalier had earlier pointed out that irrigated rice fields required extensive labor to prepare the earthen basins and elevated ridges to control water. Irrigated cultivation also required the construction of series of smaller canals leading to individual fields.³²⁹ This land preparation was completed over vast stretches of land.

As an agricultural project and institution the Office was dependent on African settlers. Bélime wrongly anticipated that the scheme would attract former slaves in the Masina region seeking land free from labor obligations to their former masters. He also expected other farmers in the surrounding region to seize the opportunity to farm with irrigation.³³⁰ In reality, the Office was established through the forced migration of "families" mostly consisting of men but also of a smaller number of women and children. They were joined by a few voluntary migrants who had been previously employed by the colonial government as tirailleurs (soldiers), wage workers, district guards, and interpreters. Male *colons* (settlers) and their families were expected to farm pre-assigned plots under the instruction of French staff members. They paid a host of water and other fees to the institution out of the profits from the sale of their crops. Women did not have access to any Office fields for their own use, but they provided a great deal of labor in their husband's and father's fields.

Farmers were supervised by European instructors and often disciplined by African monitors. This staff imposed upon farmers a centralized and standardized program of cultivation for cotton and rice. In particular, Office farmers grew Allen cotton for French industry and white rice for the Senegalese market. In addition to irrigation, plow distribution and use in the fields

³²⁹ Bélime et al., *Les Irrigations Du Niger*, 7.

³³⁰ AON 28, Dossier Bélime, Emile Bélime, "Irrigation du Delta Central Nigerien, n.d.

was a cornerstone of the Office colonization program. Men were expected to purchase a pair of oxen and a plow on credit.³³¹ Yet, plows were not generally available in large numbers in the colony. The atmosphere in Office towns during these first years was bleak and uncertain. The first settlers arrived during the global depression of the 1930s when world prices for agricultural exports dramatically dropped.³³² It was a difficult time to migrate far from home, establish a livelihood, and find enough to eat.

³³¹ AON 28.5 Dossier Bélime, Colonisation, n.d.; Beusekom, *Negotiating Development*, 40-41.

³³² Roberts, *Two Worlds of Cotton*, 243.

Chapter 3: Peopling the Landscape:

Colonial Irrigation, Technology, and Demographic Crisis, ca. 1926-1944

The Office town Nemabougou was established along the Macina Canal with the settlement of 37 families in 1937. The first agricultural season (1937-1938) was difficult. Floods damaged some of the fields, three of the work oxen supplied by the Office died, and sixteen more oxen were either too ill to work or too difficult for the farmers to manage. A few men among the settlers were even new to agriculture as a livelihood having worked previously as weavers, and another man made his living as an Islamic teacher before coming to the Office. The rice harvests were disappointing for many of the settlers, who continued to rely on food rations from the project to survive. Life in town was miserable. When the new settlers arrived, they found that their houses were only partially constructed. In addition, the nearby canals brought so many mosquitoes that Abdoulaye Menta asked a visiting administrator to give his family a sleeping net. Before the end of the first year Moussa Bouaré and his entire family fled the project. They were followed by the Islamic teacher Abdoulaye Farouta and his family.³³³

After the first harvest, N'Golo Diarra asked the colonial administration to help him bring stores of millet from his hometown Konomoni to Nemabougou. N'Golo headed one of the largest families in town with 22 reported members. According to a household survey from 1938, the family included one elderly person (possibly N'Golo), three adult men, four adult women, and twelve young children. Together they cultivated rice on ten hectares of Office land; three more hectares were planted with millet and maize; one hectare was planted with peanuts; half a

³³³ ANOM FM 1TP/735, Inspection des Travaux publics, Administration General, Travaux, Office du Niger, 1935/1942, Enquête sur la situation de la colonisation, fiches individuelles des colons, 1938, Folder 22 Nembougou.

hectare was for cotton, and another partial hectare had diverse plantings. N'Golo and his family had arrived in Nemabougou with some food stores which they ate in the months before their first harvest. As a consequence they only received a supplementary ration from the Office. The administrator who conducted the household survey further noted that Diarra's rice fields yielded a good crop. His family was one of few to have done so well in the first year. Why then did Diarra feel a need to request millet from his home town? On paper N'Golo's family had many workers for the fields and plenty of rice. However, as was the case for many households at the Office, the official statistics failed to capture the daily realities of life in Nemabougou for settlers like N'Golo and his family.³³⁴

A Portrait of Nemabougou

Food was a major concern for all settlers at the Office and Nemabougou was no exception. The same administrator who interviewed N'Golo recorded multiple complaints from other male household heads about food. For example, Youssef Tangara was in charge of a family that depended on the food ration provided by the Office, but found that it was not enough. To make matters worse, the harvest in his Office fields was poor that first year. The administrator marked down that his family had not grown enough to feed themselves for the upcoming year. Tangara was not alone. Abdoulaye Menta and Amadou Menta similarly reported that they did not have enough grain to fill their food stores. Sine Tangara had the same complaint, but the administrator qualified it with a note that Sine did not work much in his Office fields as he frequently went home to Boky-Were (located not far from several Office towns) where much of

³³⁴ ANOM, FM 1TP/735, Inspection des Travaux publics, Administration General, Travaux, Office du Niger, "Enquête sur la situation de la colonisation, fiches individuelles des colons, 1938" 1935/1942, Folder 22 Nembougou, Family no. 2.

his family had stayed behind. Bogoba Coulibaly, who also was from Boky-Wéré, left his family in Nemabougou and went home to tend their cattle. The Office food ration was described by other male residents as barely enough, and clearly some men pursued strategies outside of the Office to meet their needs.³³⁵

The problem with food in Nemabougou had to do with more than just the quantity of the ration and problems with the first irrigated harvest. For example, Mamadou Famenta had a good harvest according to his household survey. He was also in charge of the largest family in Nemabougou with 26 members including 8 men, 9 women, and 9 children. The administrator even noted that Mamdou had no complaints about the ration. At the same time, he wrote down that Mamdou said he was not accustomed to eating rice. His family cultivated 13 hectares of rice for sale and for food but only one hectare of Office land was reserved for the preferred grains millet and corn.³³⁶ The same preference for millet was displayed by other farmers settled along the Macina Canal who used the profits from their rice sales to purchase millet.³³⁷

Another man in Nemabougou tried to explain to the administrator conducting the survey how the break-up of his Office household had made it more difficult for him to work in his fields and consequently to eat. Lanciné Traoré and his immediate relations (wives and children) came to Nemabougou in 1937 with his brother and his brother's family. During the first year, Lanciné's brother died. His death precipitated the departure of Lanciné's nephews from the household. They returned to the family's home in Diado. The following year the household

 ³³⁵ ANOM FM 1TP/735, Inspection des Travaux publics, Administration General, Travaux, Office du Niger,
 1935/1942, Enquête sur la situation de la colonisation, fiches individuelles des colons, 1938, Folder 22 Nembougou.
 ³³⁶ ANOM FM 1TP/735, Inspection des Travaux publics, Administration General, Travaux, Office du Niger,
 1935/1942, Enquête sur la situation de la colonisation, fiches individuelles des colons, 1938, Folder 22 Nembougou,
 1935/1942, Enquête sur la situation de la colonisation, fiches individuelles des colons, 1938, Folder 22 Nembougou,
 1935/1942, Enquête sur la situation de la colonisation, fiches individuelles des colons, 1938, Folder 22 Nembougou,

³³⁷ ANOM FM 1TP/735, Inspection des Travaux publics, Administration General, Travaux, Office du Niger, 1935/1942, Enquête sur la situation de la colonisation, fiches individuelles des colons, 1938.

survey for Lanciné's family listed nine people (2 men, 2 women, and 5 young children) whereas it had perhaps been as large as twenty people a few months earlier.

Following the harvest Lanciné sold some of the rice from his Office fields but as he explained to the administrator, it was hard to work (and thereby eat) after losing so many people from his household. Lanciné wanted to return to Diado where his nephews would feed him.³³⁸ This case brings to light the critical importance of household size. N'Golo Diarra whose story opened this chapter also complained that his son left him. After the son's departure, N'Golo asked the administrator to relieve him of the tax burden for the son who fled from Nemabougou. Other men in the same town were also troubled by the flight of sons or brothers.³³⁹

The administrator noted these departures and the frequent absences of other men, but the records masked another demographic problem related to food at the Office: the absence of women. When Lanciné suggested that he would be fed by his nephews at home he meant that when the household was larger it had women and together the family produced enough to eat. When his nephews left Nemabougou they would also have left with their wives and any children. In other families, when the senior men complained about younger men leaving they often meant that many people (not just their sons) were leaving. Women were responsible for the daily preparation of food, and women's work in this capacity was highly valued. Indeed, Office administrators recorded many women in the population statistics for the Office who were not present, and an absence of women meant an absence of food. This chapter examines the demographic crisis at the Office in the first decade of its existence, which resulted in insufficient

³³⁸ ANOM FM 1TP/735, Inspection des Travaux publics, Administration General, Travaux, Office du Niger, 1935/1942, Enquête sur la situation de la colonisation, fiches individuelles des colons, 1938, Folder 22 Nembougou, Family no. 14.

³³⁹ ANOM FM 1TP/735, Inspection des Travaux publics, Administration General, Travaux, Office du Niger, 1935/1942, Enquête sur la situation de la colonisation, fiches individuelles des colons, 1938, Folder 22 Nembougou.

numbers of women and acute food shortages. This outcome unfolded in dramatic contrast to the fantastic French colonial vision of controlling water, land, and people through technology.

Populating Development: Recruitment for the Office du Niger

The Office was a settlement scheme, not a wage labor enterprise. It was meant to simultaneously populate and develop the region. Bélime, the scheme's architect, argued that the goal of settlement would best be accomplished by recruiting whole families, even villages. Top officials also favored this form of recruitment because they believed it preserved local custom and authority.³⁴⁰ Populating the project, therefore, was a matter of transplanting people.

The Niénébalé agricultural station founded in 1926 was the earliest precursor to the grand settlement scheme, and planners for the larger project were encouraged by its much-lauded early "success." Families recruited for Niénébalé grew experimental cotton varieties, peanuts, animal fodder, and food crops using pump irrigation. While initial cotton production results for Niénébalé were far from dramatic, officials touted it as a model. Much of this was due to its early recruitment record. For example, the governor general of French West Africa wrote encouragingly to the governor of the French Soudan: "It is reassuring enough to look at the example of Niénébalé, where the population doubled in two years, to guarantee that the development of irrigated farming will provoke immigration from the neighboring populations in less favorable conditions."³⁴¹ Years before large-scale recruitment for the larger project even

³⁴⁰ ANM, 1 R 33 FR, Office du Niger Colonisation Indigène 1927–1944, Colonisation européenne et indigène (Renseignements généraux 1927–1938), Correspondance between Governor-General Terrason and the Administration of the French Soudan.

³⁴¹ ANM, 1 R 33 FR, Office du Niger Colonisation Indigène 1927–1944, Colonisation européenne et indigène (Renseignements généraux 1927–1938), Correspondance between Governor-General Terrason and the Administration of the French Soudan.

began many like-minded officials were confident that populating its towns would pose few problems.

Niénébalé and the new villages associated with the first irrigation dam at Sotuba were all supposed to be testing grounds of sorts.³⁴² Families followed instructions regarding crop rotations, seed varieties, when to plant and weed, and when to harvest. They even lived in housing laid out on a grid near the station's fields.³⁴³ Settling farmers in a new town near the station was designed to both disseminate new farming practices and promote modern domestic life.³⁴⁴ Bélime and other colonial officials were right in assuming in that people were critical to the successes of the trial irrigation stations. However, the agricultural knowledge or technical expertise of these settlers was not immediately recognized. The same held true for vernacular demographic knowledge. By this I mean the practice of forming large households with multiple generations as a means of sharing the burdens of food production and social reproduction. In particular, women were essential to all households for their food production labor, and the more women the better they all fared.

The local emphasis on large households with many women is evident from the records for early settlement at Niénébalé. In 1926, the station recruited families to work in its irrigated fields. Both men and women were paid wages. At the end of the year every family asked to leave Niénébalé. A little over half of the families were persuaded or coerced to stay through

³⁴² Spitz, Sansanding: Les Irrigations Du Niger, 48-53.

³⁴³ ANM, 2 D 61 FR, M. Bagot, Mission d'Inspection Office du Niger 1934–1935.

³⁴⁴ Christophe Bonneuil has argued that many of the agricultural settlement schemes that started in the 1930s in Africa were akin to scientific experiments, and he makes special reference to the Office du Niger. However, the Office planners thought that they could ultimately predict the outcomes of their scheme. Bonneuil's analysis also raises questions about the nature of power and scientific objectivity inherent in his metaphor. Bonneuil, "Development as Experiment." See also, Helen Tilley, *Africa as a Living Laboratory: Empire, Development, and the Problem of Scientific Knowledge, 1870-1950* (Chicago: The University of Chicago Press, 2011). Tilley argues that the practice of science in colonial Africa was caught up in the making of empire, but it also produced knowledge that questioned imperial rule. "Science" is a slippery concept that does not lend itself to easy assumptions about the actual practice in colonial spaces as is the case for "development."

1927. Beginning in that year, they no longer worked for wages. Families were expected to cultivate their irrigated fields following a set agricultural program. After the harvest, they were expected to sell their harvest to the station. In 1926, there were fourteen families working for wages at the project: thirty-eight men, twenty-two women, and fourteen children. In 1927, nine families remained with twenty-eight men, thirty women, and twenty-four children. While the number of families decreased, the total population increased from seventy-four to eighty-two people (See Table 3).³⁴⁵ The number of male workers in the total population went down. Only the number of women and children increased. This demographic shift coincided with the change from wage work to independent family farming.³⁴⁶ Those who stayed knew that permanent living at the project required more women. This was local demographic knowledge in practice and it was tied to food production and preparation.

Niénébalé	Number of	Total	Men	Women	Children
	Families	Population			
1926	14	74	38	22	14
1927	9	82	28	30	24

Table 3. Demographic Shift at Niénébalé, 1926-1927. Source: AON 28/3 Dossier Bélime.

Early population statistics from Niénébalé were used to support optimistic predictions for settling towns in the larger project along the Macina and Sahel canals. However, officials took for granted the gender shift in favor of women that took place at Niénébalé when they were planning and recruiting for the larger scheme. In 1934, Emile Bélime the first director claimed

³⁴⁵ AON 28/3 Dossier Bélime. Note in another report for the same year seventy-six people were reported included sixteen children instead of fourteen. ANM 1 R 33 FR, Office du Niger Colonisation Indigène 1927–1944.

³⁴⁶ It must, however, be noted that none of the families possessed land titles.

that a total population of 8,000 between Niénébalé, Sotuba, and another station at Diré had been easily achieved. He suggested that recruiters would find similar success for the larger project. Even though much of the major irrigation infrastructure was unfinished in 1935, the first town— Sangarébougou—opened with 314 people in the rice sector Kokry. The first cotton-producing town was called Kolony (also called km 26), which opened near Niono in 1937 with 308 people (See Table 4).³⁴⁷ Recruits for all the experimental stations had come from surrounding towns.³⁴⁸ For the larger scheme, officials also sought recruits from among nearby populations.

Bélime expected that the scheme would attract rice farmers living in the flood plains of Macina and millet farmers on the left banks of the river.³⁴⁹ However, recruiters for the project met with persistent resistance. In a 1938 report, Office administrators admitted that local recruitment was not working. They nevertheless justified their actions: "In the beginning, it will obviously be necessary to recruit settlers from outside, but very quickly and increasingly, the growth only of a prosperous population by birth will sensibly add support, and become sufficient after a few decades."³⁵⁰ Notably, they still expected that families would stay and grow once recruited. While none of the Office planners were population experts, colonial officials and local administrators had long been directly involved in reporting population numbers, labor recruitment, tax collection, and demographic analysis. With the founding of the Office, the same administrators were responsible for recruiting families to send to the project. Most of these men recognized that recruitment often fell to politically or socially vulnerable individuals. Nevertheless, they generally supported labor conscription and some degree of coerced migration.

³⁴⁷ Office towns were known by either their distance in kilometers from a central Office marking point or by the town name. Kolony is one of the town's often referred to by its kilometer marker, km 26.

³⁴⁸ ANM 1 R 39 FR, Office du Niger Questions de Peuplements, 1944–1945, J. Lenoir, Inspecteur Générale des Affaires Administratives, Rapport no. 3/I.G.AA.

³⁴⁹ Initially, North African and even European immigration was considered, but was soon rejected in favor of settlers from the French Soudan and two regions in the Upper Volta colony. AON 28 Dossier Bélime.

³⁵⁰ ANM 1 R 63 FR, Office du Niger, Note sur les méthodes de colonisation indigène, 1935–1937.

Year	Kokry Center (Rice)	Niono Center (Cotton)
1935		
Total Population	314	•
1936		
New Office Residents/Births	1,274/77	•
Deaths	37	-
Total Population	1,628	-
1937		
New Office Residents/Births	1,273/129	308/14
Deaths	83	22
Total Population	2,947	300
1938		
New Office Residents/Births	1,338/228	1,143/35
Flight or Eviction/Death	94/155	—/50
Total Population	4,264	1,428
1939		
New Office Residents / Births	1,133/227	865/93
Flight or Eviction/Death	175/150	30/75
Total Population	5,299	2,281
1940		
New Office Residents / Births	663/316	2,217/166
Flight or Eviction/Death	270/265	890/133
Total Population	5,743	3,641
1941		
New Office Residents / Births	512/301	1,980/213
Flight or Eviction/Death	598/168	247/251
Total Population	5,790	5,309
1942		
New Office Residents / Births	1,996/272	905/208
Flight or Eviction/Death	770/313	330/241
Total Population	6,975	5,851
1943		
New Office Residents / Births	2,058/306	692/299
Flight or Eviction/Death	738/241	960/214
Total Population	8,360	5,668

Table 4. Population Gains and Losses for Kokry and Niono Sectors, 1935–1943. Source: ANM 1 R 39 FR, Office du Niger Questions de Peuplement 1944-1945, "Mouvements Démographiques Parmi Les Colons des Centres de Kokry et de Niono Depuis l'Origine de ces Centres des Colonisation."

The number of people sent to the Office steadily increased with the idea that each new town would start with around 300 people. By 1938 the Office listed 4,264 residents in towns administered by the Kokry Center. Niono (which only opened in 1937) had 1,428 listed residents in 1938 and 2,281 by 1939 (see Table 4).³⁵¹ The vast majority of these men, women, and children were forcibly recruited.³⁵²

After a few years, administrators were actively seeking Office recruits in regions they deemed unproductive. In 1939, the governor of the French Soudan reported to the territorial governor that: "We should only carry out propaganda in poor, overpopulated, or isolated regions far from the major centers where agricultural outreach is enough to better the circumstances of farmers."³⁵³ In other words these groups were more vulnerable to coercion. In 1939, the Ségou commandant, Robert Léon, targeted 1,600 people in seven villages in the canton of Sagala for recruitment precisely because they were "poor" and "isolated." In the end, the Office did not have space for the Sagala families that year, and they were not relocated.³⁵⁴ In 1940, officials planned to recruit three entire villages recently hit by an epidemic of sleeping sickness. Doctor Ethès from the colonial medical service was dispatched to investigate the implications of moving between 450 and 500 residents from towns hit by the disease to the cotton sector at Niono. Correspondence between the colonial governor, the doctor, and Office officials about the potential recruits actually suggested that the move would help improve their health. In reality, residents in both the cotton and rice sectors had experienced high rates of mortality in these years, rendering the notion that a move to the Office would be more salubrious implausible. In

 ³⁵¹ ANM 1 R 39 FR, Office du Niger Questions de Peuplement 1944–1945, Mouvements Demographiques Parmi Les Colons des Centres de Kokry et de Niono Depuis l'Origine de ces Centres des Colonisation.
 ³⁵² Beusekom, *Negotiating Development*, 58.

³⁵³ ANM 1 R 58 FR, Office du Niger, Note sur le recrutment dans le Baninko, 1930–1940, 1939 Folder.

³⁵⁴ ANM 1 R 28 FR, Office du Niger, Organisation Administrative des Terres Irriguées, 1937–1947.

the end, the idea of recruiting the villages affected by sleeping sickness was discarded in favor of recruitment from a more populous area.³⁵⁵

In the same period, Office representatives were instructed not to spread propaganda in areas where farmers already owned plows, or participated in colonial outreach programs designed to teach "modern" farming methods. In fact, letters exchanged between the governor of French Soudan and the Ségou regional administrator recorded that plow owners vigorously protested recruitment. Settlement at the Office was advertised to potential farmers as a means for economic improvement *because* of its association with technology. At the Office farmers were expected to adopt plow cultivation (although in these years few plows were in fact distributed) as well as irrigation techniques. ³⁵⁶ Planners also projected increasing mechanization for planting and harvesting in the near future. In fact, some agents told potential recruits that at the Office machines would do the work for them.³⁵⁷ Plow owners had already adopted French techniques, but few among these already "modernized" farmers saw advantages to moving to the scheme.

Administrators re-examined the labor pool when recruitment efforts were less than encouraging. In some cases, settlers who demonstrated poor agricultural skills were evicted, as was the case for several Moor families with prior experience as herders. They were evicted from Sériwala between 1940 and 1941.³⁵⁸ Demographic observers believed that Mossi populations from the Upper Volta had higher fertility rates than they observed among other groups. Some

 ³⁵⁵ ANM 1 R 28 FR, Office du Niger Organisation Administrative des Terres Irriguées, 1937–1947, Transfert en colonisation des villages trypanosomés, 1939–1940; ANM 1 R 42 FR Office du Niger Documentation, 1937–1946.
 ³⁵⁶ Beusekom, *Negotiating Development*, 91.

³⁵⁷ ANM 1 R 42, Office du Niger Documentation, 1937–1946.

³⁵⁸ The Moor settlers were replaced by Bambara settlers, the majority unmarried men. ANM 1 R 39 FR, Office du Niger Questions de Peuplement, 1944–1945, Report no. 190/ O.N; ANM 1D 660 III FR, Mission de Monsieur le Gouverneur Général Reste à l'Office du Niger, 1945, Médecin-Colonel G. Lefrou, "Étude Démographique des Populations de l'Office du Niger," page 29.

colonial administrators went so far as to argue that the Mossi were too populous for the land on which they lived to support them. They were also widely represented in colonial literature as skilled agriculturalists.³⁵⁹ As early as 1932, the governor of the French Soudan suggested Bélime look for Mossi recruits despite the high transportation costs (Upper Volta was farther from the project than any of the other regions targeted).³⁶⁰ While Mossi recruitment did not peak until the 1940s, from the late 1930s Mossi regions were regarded as Office labor reserves.³⁶¹ In 1937 thirteen Mossi families were settled in the rice sector at a town named Ouahigouya after their home region. Their numbers increased, and in 1939, the administrator in the Mossi region Ouahigouya sent eighty families to Kokry.³⁶²

Criticism of recruitment from within the ranks of the local administration pointed to the lack of planning. In 1944, almost a decade after the first town's founding in 1935, the officer then in charge of the Ségou region, Joseph Rocca-Serra, recalled that, "In the beginning, it was accepted that the *indigènes* would rush to the irrigated land."³⁶³ He reported that administrators resorted to coercion when local farmers resisted recruitment. For the lack of actual volunteers, settlers were euphemistically labeled *consentants* or those who have consented.³⁶⁴ During the war, recruitment intensified in neighboring regions and Upper Volta to include Ségou, San, Koutiala, Tougan, and Ouahigouya (see Table 5). These coercive practices deeply unsettled the Mossi region of Ouahigouya, provoking massive migration to neighboring Ivory Coast in 1941.

³⁵⁹ ANM 1D 660 III FR, Mission de Monsieur le Gouverneur Général Reste à l'Office du Niger, 1945, Médecin-Colonel G. Lefrou, "Étude Démographique des Populations de l'Office du Niger," page 43.

³⁶⁰ANM 1 R 41 FR, Office du Niger Documentation 1934–1936.

³⁶¹ ANM 1 R 63 FR, Office du Niger Note sur les méthodes de colonisation indigène 1935–1937, page 99; ANM 1 R 58 FR, Office du Niger Note sur le recrutement dans le Baninko 1930–1944.

³⁶² Tougan another region in Upper Volta was also targeted, and that year 47 Samogo families were sent to the Office. ANM 1 R 28 FR, Office du Niger Organisation Administrative des Terres Irriguées 1937–1947, Indigènes originaires du Cercle de Tougan demandons à entrer en colonisation dans la région de Kokry.

 ³⁶³ ANM 1 R 39 FR, Office du Niger Questions de Peuplement 1944–1945, Commandant du Cercle Joseph Rocca-Serra, Extrait du Rapport Politique Annuel 1944 du Cercle de Ségou, Document dated December 31, 1944.
 ³⁶⁴ ANM 1 R 39 FR, Office du Niger Questions de Peuplement 1944–1945, Commandant du Cercle Joseph Rocca-

³⁶⁴ ANM 1 R 39 FR, Office du Niger Questions de Peuplement 1944–1945, Commandant du Cercle Joseph Rocca-Serra, Extrait du Rapport Politique Annuel 1944 du Cercle de Ségou, Document dated December 31, 1944.

At the end of the war in 1945 the Colonial Ministry ordered an investigation into the finances and social conditions of the Office. That mission was commonly called the Mission Reste after the governor of the Soudan. Inspector Lenoir was dispatched to investigate complaints of abuse by recruiters. He verified what many administrators already knew: even the recorded number of volunteers masked coercion. Lenoir discovered for example that for 1942, where 750 of the total 925 recruits were listed as volunteers, only 176 had even consented. By the end of the war this pattern intensified for Ouahigouya and other regions (see Table 5).³⁶⁵

Year	Ségou	Koutiala	San	Tougan	Ouahigouya
1942 Total Recruits	207	626*	250	275	925
1942 Recorded Consentants/ Actual Consentants	207/207	626/626	207/207	275/275	750/176
1943 Total Recruits	1,000	1,100	-	600	1,800
1943 Recorded Consentants/ Actual Consentants	50/100	458/458	114/2	531/509	1,378/45
1944 Total Recruits	1,700	1,500	-	1,300	3,000
1944 Recorded Consentants/ Actual Consentants	_	483/458	-	940/310	628/19
1945 Requested	3,500	2,000	-	1,800	4,700

Table 5. Intensified Recruitment and Coercion during World War II. Source: ANM 1 R 39 FR, Office du NigerQuestions de Peuplements 1944–1945, J. Lenoir, Inspecteur Générale des Affaires Administratives, Rapport no.3/I.G.AA.. *For 1942 Koutiala is recorded on separate tables as recruiting either 625 or 626 people.

³⁶⁵ ANM 1 R 39 FR, Office du Niger Questions de Peuplements 1944–1945, J. Lenoir, Inspecteur Générale des Affaires Administratives, Rapport no. 3/I.G.AA.

The French Technological Imagination: Growing People

The reality of recruitment and the actual population numbers at the Office did not match the highly optimistic vision previously put forth by Emile Bélime and other proponents of the scheme. The French Soudan as depicted in much early colonial literature was a near desert sparse in people and underproductive in agriculture.³⁶⁶ French experts assumed that population size and environment were interrelated. Specifically, they theorized that a poor environment could not support dense populations and that African farming techniques had reduced soil fertility.³⁶⁷ Bélime had anticipated that French technology would regenerate ancient waterways in the region and restore the land to a state of fertility, resulting in a dense population. This was Bélime's answer to Colonial Minister Albert Sarraut's call in 1921 for greater economic support from the empire. World War I had drained France both financially and demographically.³⁶⁸ In this context, the numbers of colonial subjects seemed to represent the production possibilities and imperial power of France vis-à-vis other European nations.³⁶⁹ The proposed Office du Niger scheme ideally would concentrate a large agriculturally productive population under direct French management. European staff would introduce improved farming techniques and tools to eliminate further environmental stresses. Propaganda for the metropolitan audience associated

³⁶⁶ Despite the representations of the French Soudan as unproductive, colonial records indicate that the colony hosted a dynamic grain trade. The colonial and territorial governments also benefited from Soudanese agricultural products for military and urban provisions. From the earliest days of conquest the French armies relied on grains produced in the Middle Niger region. See Roberts, *Warriors, Merchants, and Slaves*.

³⁶⁷ Beusekom, "From Underpopulation to Overpopulation," 204-06.

³⁶⁸ The Minister of Colonies Albert Sarraut initiated a plan to create value in the empire or to make the colonies more productive. This policy is commonly referred to as "mise en valeur." See Robert Aldrich, "Imperial *Mise En Valeur* and *Mise En Scène*: Recent Works on French Colonialism," *The Historical Journal* 45, no. 4 (2002): 924. On demographic losses in France after WWI, see Elisa Camiscioli, "Producing Citizen's, Reproducing The "French Race": Immigration, Demography, and Pronatalism in Early Twentieth-Century France," *Gender and History* 13, no. 3 (2001). The demographic crisis extended to young men lost in the war and a perceived unhealthy and underproducing African population, not necessarily to the numbers of young African men who had also served in the war. ³⁶⁹ In a foundational article on the history of reproduction in colonial Africa, historian Nancy Rose Hunt studied Belgian concerns for demographic increase in the Belgian Congo and its association with labor potential. See Nancy Rose Hunt, ""Le Bebe En Brousse": European Women, Africa Birth Spacing and Colonial Intervention in Breast Feeding in the Belgian Congo," *The International Journal of African Historical Studies* 21, no. 3 (1988): 404.

technology, the environment, and population, conflating the achievement of building the irrigation infrastructure with colonial agricultural and social development.

The vision for the project was a restorative modernity. European observers lauded the size and sophistication of the planned dam. The canals would fill with rushing water from the Niger River and were calculated to be capable of irrigating a vast 1,850,000 hectares. Technology meant mastery over nature. Yet, none of this was presented as artificial. Colonial experts, agronomists, and ethnographers argued that historically the whole region had long-ago been fertile and well-watered.³⁷⁰ One early agricultural researcher Costes interviewed residents in the Central Inland Delta about historical floodwaters and ancient swamps.³⁷¹ The Sahel irrigation canal eventually followed an old waterway that his informants mentioned. In Bélime's vision technology promised a regeneration of this ancient waterway and a regeneration of the ancient population. The Office du Niger was going to grow people as a resource for the empire.

The idea of cultivating populations in the French Soudan was not novel. By the 1930s population science was an international concern and a regular part of colonial policy and planning. Western scientists and policy experts believed populations could be managed; however, they debated the best policies to control population growth and to assure the "quality" of people. ³⁷² As early as 1909, the French Colonial Ministry requested accurate population statistics for the West African colonies. Initially, the goal was to assess the military conquest, but collecting statistics became a tool for exerting authority. In the colonial context population statistics directly impacted military recruitment, labor conscription, and tax collection. It was

³⁷⁰ Recent climate science does suggest humid and arid phases in the deep past of West Africa. For an overview, see Jr. James L.A. Webb, "Ecology and Culture in West Africa," in *Themes in West Africa's History*, ed. Emmanuel Kwaku Akyeampong (Athens: Ohio University Press, 2006).

³⁷¹ AON 28/5 B, Dossier Bélime, Le Canal du Sahel, n.d..

³⁷² Matthew Connelly, *Fatal Misconception: The Struggle to Control World Population* (Cambridge: Belknap Press, 2008), 7-8,46-50.

soon foundational to governance.³⁷³ The Office du Niger stood out in French West Africa as an effort to shape a population through technology.

Bélime was an irrigation engineer not an expert in demography. Nevertheless, amateur population thinking became very much a part of the project's design when he promoted it to government officials. As early as the late nineteenth-century, research for irrigating the Niger had been conducted with cotton cultivation in mind. When Bélime redesigned the project to include rice production--in response to the pressure from Governor-General Carde to address the problem of regional food shortages--he assumed that a poor food supply was due to insufficient population. He argued that large-scale irrigation would produce people, cotton, and food.

In the proposal to the colonial government for the irrigation scheme, Bélime attributed recent population losses in the colony to a series of famines occurring in the first two decades of the century. He cited political documents from the French Soudan's government archive which attested to the high numbers of deaths due to famine in 1913–1914.³⁷⁴ This in turn he associated with drought and the climate of the region. In "Le Soudan Nigérien," he quoted the respected American botanist R.H. Forbes who had researched cotton production in the Soudan on behalf of the French colonial Agricultural Service in the 1920s:

In the Soudan, tempestuous rains are few and restrained. As for famine, which is exceptional to the south the Ségou, it is frequent in the Sansanding plain. The indigène survives by consuming bush products: baobab fruit, shea, and liane saba.³⁷⁵ They lead a

³⁷³ Raymond R. Gervais and Issiaka Mandé, "How to Count the Subjects of Empire? Steps toward an Imperial Demography in French West Africa before 1946," in The Demographics of Empire: The Colonial Order and the Creation of Knowledge, ed. Karl Ittmann, Dennis D. Cordell, and Gregory H. Maddox (Athens: Ohio University Press, 2010).

³⁷⁴ AON 28/5 A, Dossier Bélime, Généralités, Emile Bélime, "L'Aménagement du Delta Central Nigérien," n.d., page 3. ³⁷⁵ Liane saba is a fruit from a bush-like tree native to the Sahel.

precarious and miserable life on *land that is fertile enough*, but poorly watered and poorly worked.³⁷⁶

To support the claim that irrigation would lead to population increases, Bélime and others pointed to the success of the Gezira scheme for cotton production in Egypt. British officials claimed that a low population density region saw dramatic growth as a result of agricultural irrigation and planned settlement at Gezira.³⁷⁷ Addressing Forbes's concern that the promising land was simply "poorly worked" by farmers limited by rainfall and the hand-held hoe or daba, the Office would instruct farmers in plow use and provide the equipment on credit. Irrigation and plow technology were the cornerstones of the Office program. Bélime believed that the two in combination would alter the environment thereby increasing population and production.

However, Bélime was not entirely consistent in his articulation of the relationship between population and technology. He was a tireless promoter of irrigation and mechanical cultivation methods. While irrigation technology was intended to attract populations, it would also represent an evolution in agriculture. Mechanized agriculture characterized by industrial tractors and motorized harvesting machines would be for Bélime evidence of even greater advancement. Industrial farming, of course, did not require as many workers. However, he anticipated that mechanized agriculture would not develop quickly in the French Soudan precisely because African family farming was dependent on great numbers of laborers.³⁷⁸ Therefore a large population would still be necessary for the project.

³⁷⁶ My italics. AON 28 A, Dossier Bélime, Le Soudan Nigérien, n.d.

³⁷⁷ AON 28/7 Dossier Bélime, "Conclusions" from a report to the Governor of the A.O.F. prepared by the Service General des Textiles et de l'Hydralique Agricole, 1929, page 4. Yves Henry referenced the Gezira scheme in his evaluation of Bélime's plan as it was a common touchstone in early twentieth century French discussions of colonial cotton production. See Bélime et al., *Les Irrigations Du Niger*. ³⁷⁸ AON 28/5, Dossier Bélime, Section titled Colonisation from "Irrigation du Delta Central Nigérien." n.d.

Elsewhere he argued that a dense population was a temporary substitute for technology. In fact, when the prospects for populating the project were less than reassuring in 1937, just two years after the first village opened, officials considered the possibility of bringing in mechanized cultivation machines.³⁷⁹ On the one hand, technology was likely to attract people and, thereby, increase production. On the other hand, technology was a substitute for people, a way to counter the limitations of a modest population. Either way intensified human labor power or mechanized cultivation would lead to intensified production. What would become of the dense population if mechanized agriculture eventually took hold? There was little thought given to population as consisting of actual people in Bélime's technological utopia.

Staging Population Growth

In September 1933, the Office organized a celebration for the anticipated opening of the Macina and Sahel irrigation canals, the two major waterways of the project. It would be two more years before the first town (Sangarébougou) would be founded. Along the channels, then newly filled with water, French officials toured the navigable waterways by boat and were met by African crowds along the route. One administrator reporting on the two-day excursion described a celebratory atmosphere. He noted, among the crowd at Mio, that Africans who he assumed were associated with the project wore imported cloth. To him this was already a visible sign of economic success resulting from French intervention. Meanwhile local Bambara spectators (from outside the project) wore cloth of their own making. In his account the imported cloth was symbolic of the desired economic relationship promoted by the Office. Cotton would be grown

³⁷⁹ ANM 1 R 42 FR. Office du Niger Documentation 1937–1946, Equipement Mécanique des chantiers de l'Office du Niger 1937.

in the Soudan, made into cloth in France, and finally sold on the African market. In this rendering, the curious crowds in local dress were also ripe for modern farming and imported cloth. The members of the crowd wearing clothing made from imported cloth were likely workers who participated in the construction efforts. The largest market for European-made clothing in the French Soudan was the army. Conscripted workers came from the same pool of recruits and may also have received uniforms as part of their recruitment. The whole tour staged an imagined Office population, for it would be two more years before the first town would be settled.³⁸⁰

The staging and reporting of this event marked a hoped-for triumph for French

governance and technological intervention amidst reports elsewhere of drought and famine in the

colony.³⁸¹ This record of the canal celebration does not directly address the food crisis, but

rather it focuses upon the environment, population, and governance. The same administrator

wrote:

In the past, the Niger waters flowed up to Oulata in regions now invaded by drought and sand. These areas were then very populated, thus very fertile and much cultivated.[...] Since this time long-ago the Niger pushed back by sand looked for other pathways. All these areas deprived of water lost their populations fleeing the dryness. Little by little, over the centuries these fertile lands became desert-like.³⁸²

³⁸⁰ The town Mio is situated along the Macina canal route between Sansanding and the first centers of colonization at Kokry and Kolongotomo. It is possible that farmers from the two experimental settlement schemes Niénébalé and Baguinèda, under Office control in 1933, were transported for the event. The administrator may also have been describing some of the workers who dug the canals. In either case, it is likely that members of the crowd associated with the project were transported to Mio to help stage the festivities. ANM 1 R 41 FR, Office du Niger Documentation 1934–1936, Unknown author, Inauguration des canaux du Macina et du Sahel (29 et 30 Septembre 1933) ; ANOM FM 1 AFFPOL/525, Direction des Affaires politiques, Affaires Economique, Affaires Diverses 1904/1939, Commerce de l'Afrique Occidental pendant l'année 1924.

³⁸¹ ANM 1 R 33 FR, Office du Niger Colonisation Indigène 1927–1944.

³⁸² ANM 1 R 41 FR, Office du Niger Documentation 1934–1936, Unknown author, Inauguration des canaux du Macina et du Sahel (29 et 30 Septembre 1933). NB: The town of Oualata is in the Islamic Republic of Mauritania near the border with Mali.

References to the Mali Empire provided an imagined precedent for project engineers. From the French perspective the celebrated irrigation canals restored this long lost Edenic landscape of plenty. During the 1933 celebration, it was particularly important for administrators to see large crowds by the edges of the canals. Their presence projected the restorative power of French technology; this was especially the case given contemporary reports of drought and food shortages. Yet population was an abstract concept in this idyllic past and imagined future.

Another celebration was organized when the dam was finally completed in 1947. School children from neighboring Sansanding were transported by truck to participate. Once they arrived they waved little French flags as part of the festivities.³⁸³ It is telling that a large number of children arrived from a town that was still independent from the Office. The visual presence of a crowd of children seemed to make good on the previous promises of population growth. However, by the time the dam was inaugurated, the Colonial Ministry had reason for concern. More than a decade into the project, planners feared the consequences of population losses and low birth rates among settlers. In addition, large numbers of men, women, and children had fled, and very few women were among those who remained. To bring population to life for the celebration they had to import children. The Office did have an impact on population numbers: it provoked a demographic crisis and exacerbated food shortages.

Food Shortages and Living Conditions at the Office

Population played a major role in project rhetoric, but the agricultural engineers who designed the mechanical and agricultural landscape did little to plan for the nuts and bolts of settlement.

³⁸³ Conversation between author and Abdoulaye Diarra in Markala-Kirango, January 26, 2010. Diarra currently resides in Markala-Kirango but grew up in Sansanding (or Sinsani the local name for the town), which was the original site for the Office dam. Mr. Diarra was one of the children transported by truck to the event.

Every year for the new agricultural campaign, administrators sent hundreds of families at a time to the Office. They routinely collected the names of male "consentants" and the number of family members from appointed local chiefs.³⁸⁴ The very first towns were settled by families in the Macina and Ségou regions. In later years, recruits and their families traveled long distances from their hometowns, some stretches by foot, others by boat or truck. Women and children often arrived very ill; some died en route. The project regularly suffered population losses from waves of fleeing individuals and families (see Table 4).³⁸⁵ Many of those selected fled even before making the journey to the Office, especially those from Upper Volta.³⁸⁶ The reality was nothing like the confident predictions of farmers flocking to well-watered fields and prosperity.

The Office du Niger was already subject to criticism for harsh labor practices and the poor material conditions of its villages by the late 1930s. In 1938, the short-lived Popular Front government in France commissioned several inquiries into conditions in French West Africa. Mme. Denise Savineau toured the project as part of her investigation into the situation of women across French West Africa. She reported: "In the villages that surround the Office, no one wants to be a part of it. On the contrary such a neighbor is unwelcome." She observed flooding in these neighboring towns, forced labor to build the project roads, and strict control of movement in the area.³⁸⁷ It is no wonder that neighboring towns refused incorporation. Savineau, like other critics, also observed the overwhelming presence of mosquitoes, high levels of malaria, and dysentery in Office villages. She pointed out that women and children in these towns

³⁸⁴ ANOM FM 1TP/735. Inspection des Travaux publics, Office du Niger, 1935/1942, Enquête sur la situation de la colonisation, fiches individuelles des colons, 1938.

³⁸⁵ Beusekom, *Negotiating Development*, 88-89, 153-60.

³⁸⁶ Magasa, Papa-Commandant a Jeté Un Grand Filet Devant Nous, 89-111.

³⁸⁷ Mme. Denise Savineau, "La Famille en A.O.F.: Condition de la Femme," Rapport d'ensemble no. 18, c. 1938, page 93.

disproportionately suffered and died from these illnesses.³⁸⁸ In 1937, the year before Savineau submitted her report, the health service at the Office reported high numbers of yellow fever cases.³⁸⁹ In 1938, the official who surveyed households in villages along the Macina Canal also observed farmers afflicted with guinea worm.³⁹⁰ The canals flooded the fields of surrounding villages and concentrated water-borne illnesses in Office towns. Rather than attract farmers, modern irrigation technology initially repelled neighboring populations and harmed the health of Office residents.

Savineau further observed that the Office pressured male farmers to exact taxing labor from their wives and children.³⁹¹ Women and children weeded and harvested the fields. Wives cooked and traveled long distances between their kitchens and the Office cotton and rice fields to deliver the midday meal. They also carried food to family members working in food crop fields distantly located from town and from the irrigated fields. Some of the family food fields were at such a distance that during the busy rainy season, some family members moved to temporary housing next to the fields to complete the work.³⁹² The Office partially prepared cash-crop fields for settlers, but when families arrived they had to cut down bushes and trees in forested areas to plant their personal millet and maize fields.³⁹³ Savineau did not observe women cultivating their

³⁸⁸ Mme. Denise Savineau, "La Famille en A.O.F.," 92.

³⁸⁹ANM 1 R 58 FR, Office du Niger Note sur le recrutement dans le Baninko 1930–1944, Note from Dr. Sice of the Office du Niger Health Service, October 25, 1937.

³⁹⁰ ANOM FM 1TP/735, Inspection des Travaux publics, Administration General, Office du Niger, 1935/1942, Enquête sur la situation de la colonisation, fiches individuelles des colons, 1938, Folder 22 Nemabougou.

³⁹¹ Savineau, "La Famille en A.O.F," page 94.

³⁹² Interview by author with Djenebu Coulibaly in Kolony (km 26), March 27, 2010.

³⁹³ Interview by author with Fatoumata Coulibaly in Kolony (km 26), March 24, 2010; Interview by author with Djenebu Coulibaly; Interview by author with Djewari Samaké in Kolony (km26), March 29, 2010; Interview by author with Moctar Coulibaly and Mariatou Traoré in Sirakora, April 28, 2010.

own fields for food or profit at the Office, as it was typical elsewhere.³⁹⁴ Life at the Office was dire, and it was especially so for women.

Chronic food shortages were another glaring problem for the Office. Farmers were allowed little land for food production as compared to the crop rotations alotted earlier settlers at Niénébalé. In the first years at Niénébalé, residents actually grew more food than cotton. There, in 1928, a Niénébalé family typically cultivated 115.45 hectares (ha) of millet, 12 ha of manioc, 6.55 ha of corn, 7 ha of potatoes, and .28 ha of rice. They also grew 112 ha of peanuts, both a food and a cash crop. In addition, they grew watermelons and niébé beans in unregulated plots. That same year they grew only 32 ha of cotton.³⁹⁵ Agronomists at the station had to persistently pressure farmers to increase the area planted in cotton. The variety and high percentage of food crops cultivated at the experimental station responded to real food needs: Planners at the Office took no account of what the Niénébalé settlements revealed about the optimal balance of food and cash crops.

When preparations for the new Office settlers were made, more effort and money was expended on preparing irrigated fields and purchasing equipment than on assuring their food or other material needs. In 1936, the Office du Niger planned to build five new villages near Kokry. A total budget of 1,235,000 Francs was approved in July of that year, but as with other financial matters at the Office du Niger management of the budget was poor and line items did not always total the budgeted amount.³⁹⁶ Funds were designated for the construction of the villages, basic housing for 135 families, and an instructor's house. Technology outweighed all

 ³⁹⁴ Savineau, "La Famille en A.O.F.," page 91. According to Moctar Coulibaly, some women in Sirakora did initially cultivate peanut fields at a distance from town. Interview by author in Sirakora, April 28, 2010.
 ³⁹⁵ ANM 1 R 76 FR, Colonisation Indigène de Niénébalé 1928–1935, Rapport sur la colonisation à Niénébalé Campagne 1929–1930.

³⁹⁶ Richard Roberts points out the poor accounting of managers at the Office du Niger and the fact that Bélime had free reign for spending—often going over budget for the construction of the dam and irrigation works. Roberts, *Two Worlds of Cotton*, 233.

other costs. The funds allocated for land clearing, mechanical labor in the fields, and extending the irrigation system were estimated to cost 510,000 FR. Settler housing was estimated at 210,000 FR. The budget allotted 2,000 FR. per family for the purchase of oxen, plows, rakes, and carts. Only 1,000 FR. was set aside to purchase 6 months worth of food rations for each family—the smallest budgeted expense.³⁹⁷ Then in 1938, the Gruber Canal ruptured near Niono leaving many settlers in the cotton sector with no harvest to sell and little to eat. The ensuing floods ruined cotton and food crops in all the villages along the canal. One village, Fouabougou, was moved to another location as a result. Officials compensated farmers for the lost crops, but widespread food shortages nevertheless resulted.³⁹⁸ For all the expense of the irrigation technology it was highly unreliable. The Office introduced yet another element of uncertainty into the lives of farmers throughout the region.

Recruitment for the project intensified the material stresses upon people in areas already hard hit by environmental catastrophes. In the early 1930s, a series of droughts across the colony hurt farmers. Officials reported that the 1934–1935 harvest would be poor because the rains had stopped early. In response, the Governor requested reports on the food situation from every region. That same year, recruiters heavily targeted Ouahigouya in part because the region had suffered due to drought and locusts.³⁹⁹ In fact, recruiters hoped to take advantage of poor harvests to recruit families with seemingly few other options. For example, Office agent Mr. Blanc told Sériwala residents that if they remained they would die from hunger, but that if they moved to the Office they would have food.⁴⁰⁰ Other Office agents like Mr. Mougenot offered

³⁹⁷ ANM 1 R 41 FR, Office du Niger Documentation Divers 1933–1934, Programme de Travaux d'Aménagement du Casier Rizicole de Boky-Wéré.

³⁹⁸ ANM 1 E 42 FR, Office du Niger Documentation, 1937–1946, 1938 Folder.

³⁹⁹ ANM 1 R 175 FR. Rapport Tournée Cercle de Tougan, 1932–1935.

⁴⁰⁰ ANM FR 1 R 42 Office du Niger Documentation, 1937–1946, Enquete aupres de l'Office A/S de recrutement 1938, Testimony from Koké Samaké, October 5, 1938.

men meat if they agreed to sign up for the project. When faced with refusal in Siguiné, he retaliated by ordering the village to send twelve men to work on a nearby road and threatened to recall the oxen and plows in use in the village.⁴⁰¹

On the long journey to the Office many recruits and their families already suffered from hunger. In 1941, a large number of Mossi recruits died en route to Niono from hunger related illnesses. An investigation into the deaths led by Joseph Rocca-Serra found that when the group of 1,170 people left the Upper Volta, they did not have enough provisions for the several-week trip. He blamed the *Naba*, the Mossi political leader, rather than recruiters, for failing to provide the families with the necessary supplies. Before reaching Niono, 24 people in the group were dead and another 50 died shortly upon arrival at the Office. Women and children were the most affected. Office medical staff attended to many more who arrived ill or became sick in their new village.⁴⁰² Months later, widespread illness--especially dysentery--persisted in their village. In response, medical observers advised the Office against an abrupt change from millet to rice in their diet. In fact, this was a general medical suggestion for similar problems across the Office, one that shifted responsibility for the ill health of settlers away from coercive recruitment and towards cultural difference.⁴⁰³

⁴⁰¹ ANM 1 R 42 FR, Office du Niger Documentation, 1937–1946, Enquête auprès de l'Office A/S de recrutement 1938, Testimony from Mamourou Coulibaly, November 25, 1938.

⁴⁰² ANM 1R 58 FR, 1941 file.

⁴⁰³ ANM 1 R 51 FR, Office du Niger Alimentation-Colons 1938, Note du Chef du Service de Santé, No. 358/SS, March 26, 1938.

Following the 1937-1938 agricultural year, a French administrator conducted an evaluation of colonization for the nine existing Office towns in the Kokry sector.⁴⁰⁴ At the time, the towns ranged unevenly in size from 13 to 95 families: Nara (13 families), Ouahighouya (13 families), Bamako-Koura (20 families), Bediambougou (22 families), Dar Salam (25 families), Medina (28 families), Nemabougou (38 families), Sangarébougou (74 families), and Dembougou (95 families). The nine towns (consisting of 328 families in total) were situated near one another and comprised the entire Office farming community along the Macina Canal. The survey included a set of questions for each family about conditions in their Office fields and town to which the administrator recorded responses from each male household head including the number of hectares cultivated, the man's region of origin, and his evaluation of the farming equipment, Office housing, and of the village chief. Unsurprisingly, many of the responses recorded by the administrator through his translator were formulaic positive assessments of colonization such as, "Very happy to be here" or even, "Very unhappy upon arrival. Now happy to be here." Other recorded responses reiterated Office propaganda such as listing a man's reasons for coming to the project as: "To be assured of eating" or "To earn money." Nevertheless, many of the evaluation forms provide fragmentary insights into daily life in the first Office towns.⁴⁰⁵

The town Dar Salam was established in 1936, and at the time of the administrative evaluation twenty-five families lived and worked there. Very few residents of Dar Salam knew one another prior to their arrival at the Office. In total, the families came from 22 different

 ⁴⁰⁴ There is no indication in the archive records as to which administrator(s) conducted the surveys in each town.
 ⁴⁰⁵ ANOM FM 1TP/735, Inspection des Travaux publics, Office du Niger, 1935/1942, Enquête sur la situation de la colonisation, fiches individuelles des colons, 1938.

towns in the neighboring Ségou region (2 of the 25 families migrated from towns located at a greater distance to the west near Kayes and Kita respectively). For the period from 1937 to 1938, the administrator recorded a total population of 317 people (82 men, 84 women, 25 elderly residents, and 123 children). Every evaluation form noted that the male household head was a "volunteer" when he came to the Office in 1936. In reality, the men were not volunteers. Fifteen out of the twenty-five forms explicitly stated that the household head had been "selected" by his regional colonial administrator to settle at the Office. These men's response that they were "very unhappy" upon arrival no doubt reflected that coercion. However, the administrator qualified these responses with "Now happy to be here." The 25 men interviewed in Dar Salam shared many complaints with the male household heads in the other eight Office towns. For example, the houses built by the Office for its settlers were not adequate for the size of many families, or they were already in need of repair. The work-oxen provided by the Office on credit were frequently described as poorly trained, unable to work or in some cases one or more of the oxen had died. With regard to the rice fields, the men complained that irrigation in some areas was unduly difficult, the dykes were poorly constructed, and that invading grasshoppers damaged the harvest.⁴⁰⁶

Dar Salam stood out from the group of towns evaluated that year in that it was plagued by internal political conflict. Eighteen of the twenty-five male heads of household in Dar Salam complained about the abuses of the Office-appointed village chief Mamadou Keita. Notably, Demba Kamara told the administrator that Keita treated the other farmers as if they were his slaves. Similarly, Falé Coulibaly complained that Keita forced him to work on the chief's own rice fields. Coulibaly's claim was supported by the fact that Keita farmed many more hectares

⁴⁰⁶ ANOM FM 1TP/735, Inspection des Travaux publics, Office du Niger, 1935/1942, Enquête sur la situation de la colonisation, fiches individuelles des colons, 1938, Folder 18 Dar Salam.

than other men with households of similar or even larger size. Keita claimed the right to farm 26.5 total hectares of Office land for a household that consisted of 13 people (including 5 men and 5 women of working age). By contrast Falé Coulibaly farmed only 14.5 Office hectares even though his household had the same number of working men and women. In fact, Coulibaly's total household of 17 was larger than Keita's family by 4 when children and elderly members were included. Another farmer Fankélé Coulibaly whose household had 27 members (including 6 men and 7 women of working age) only worked 18 total hectares of Office land. Other complaints suggest that Keita confiscated farming equipment that had been distributed to other farmers to farm his own extensive hectares. For example, Mama Touré told the French administrator that Keita took his plow and his oxen. Likewise, Menkoro Komare repored that Keita confiscated other people's animals (work-oxen, goats, and other domestic animals). Chief Keita also took Sekou Coulibaly's rice fields, offering him other fields that the record suggests were less desirable. Finally, the chief confiscated Baba Diao's granary, presumably to store the chief's surplus rice.⁴⁰⁷

The tense political situation in Dar Salam manifested itself in several physical confrontations. Amadou Koita and Lassenou Konate both complained that Keita hit their wives; Konate was extremely upset with the chief because he had used a stick to hit Konate's wife. Several men also claimed that Keita insulted their families and threatened them harm. Another man, Lamine Cisse, reported that he was almost driven to blows with the chief in one instance. Four men, including Konate, told the administrator that they were ready to leave the Office if Keita was not removed. Clearly a large number of farmers did not believe that Keita had a legitimate claim to authority in Dar Salam. Yet, the coercive manner of recruitment and imposed

⁴⁰⁷ ANOM FM 1TP/735, Inspection des Travaux publics, Office du Niger, 1935/1942, Enquête sur la situation de la colonisation, fiches individuelles des colons, 1938, Folder 18 Dar Salam.

authority of the Office led Keita to believe that he could treat his fellow farmers as though they were captives.

None of the evaluations from other towns suggested that other Office-appointed chiefs abused their authority as Keita did, but clearly the Office administrators turned a blindeye to the Dar Salam chief's actions prior to the survey in 1938.⁴⁰⁸ His impunity created an environment of uncertainty with regard to land and equipment distributions in Dar Salam. In addition, farmers in nearby Medina suffered from physical abuse at the hands of the European instructor suggesting a wider climate of intimidation.⁴⁰⁹ Perhaps the marginality of those farmers susceptible to coerced settlement made them particularly vulnerable to abuse and disrespect once on Office lands.

Cultivating Hunger

Often Office staff blamed farmers for the poor agricultural and economic performance of the scheme in its first decade. Though many settlers sabotaged irrigation works or deliberately refused to work, all residents worked hard to eat. For example, instructors noted that settlers spent more time on their food crops in rain-fed fields than they did attending to their irrigated cash crop fields.⁴¹⁰ Women in particular worked in millet fields without the much-vaunted plow.⁴¹¹ Officials promised rations to first-year settlers but their distribution was irregular and not sufficient to satisfy food needs.⁴¹² In January 1937, the Office du Niger sought the eviction

⁴⁰⁸ In the late 1940s, the Office-appointed chief of Sangarébougou, Mamadou Sangaré, was the center of local tensions over his political alliance with the former Director Emile Bélime. Sangaré's activism in favor of land ownership rights led to his eviction from the Office, but into the 1950s he continued to speak in favor of Bélime in Sangarébougou and elsewhere in the Office where he was met with both support and antagonism. AON 111 Dossier Confidentiel, Colonisation 1953/1956 (Affaire Sangaré).

⁴⁰⁹ ANM FM 1TP/735, Inspection des Travaux publics, Office du Niger,1935/1942, Enquête sur la situation de la colonisation, fiches individuelles des colons, 1938, Folder 18 Dar Salam and Folder 20 Medina.

⁴¹⁰ Beusekom, *Negotiating Development*, 124.

⁴¹¹ Interview by author with Moctar Coulibaly and Mariatou Traoré in Sirakoro, April 28, 2010.

⁴¹² Beusekom, *Negotiating Development*, 94.

of several settlers in Kokry area villages for failure to attend to their irrigated fields. N'Golo Tangara was one of the settlers targeted for eviction that year. The instructor for his village observed that he spent too much time hunting.⁴¹³ Hunting may have been an occupation or pastime for Tangara, but it was also a way to provide meat for meals and a valued good to exchange for grains. Men and women also spent a great deal of time fishing.⁴¹⁴ There was simply no way for families to survive without supplementing their rations.

Severe food shortages across the Kokry area in 1938 brought attention to the multiple problems of food supply at the Office. By January of that year, colonial officials were investigating reports of shortages. Officials sent forty additional tons of rice and twenty-five tons of millet to be sold at fixed prices to Kokry farmers.⁴¹⁵ Local administrators were also ordered to oversee the construction of reserve food granaries, a policy dating to the years after the 1913–1914 famine in the colony.⁴¹⁶ The Gruber Canal rupture had damaged crops in Niono, but technical problems were not faulted for the crisis in Kokry. The French investigators and officials charged with looking into the food crisis blamed the project's strict controls over the sales of rice, the excessive surveillance of Office settlers, and in general the failure of the institution to address local food needs.

In August of the same year, the Governor of the French Soudan wrote to the territorial government:

I take advantage of this occasion to point out the inconvenience of too large an extension of rice cultivation on Office lands to the detriment of millet cultivation, which is the Sudanese staple. At Baguinèda for example, all the harvested rice is exported to Senegal and it is the farmers on dry land who provide millet for the colons. During the lean season just before harvest, in fact, then, it is hardly surprising that rather than being able to count

⁴¹³ ANM 1 R 33 FR, Office du Niger Colonisation Indigène, 1927–1944.

⁴¹⁴ Interview by author with Sékou Coulibaly and Kadiatou Traoré in Nyamina, May 31, 2010.

⁴¹⁵ ANM 1 R 51 FR, Office du Niger Alimentation-Colons, 1938.

⁴¹⁶ ANM 1 R 51 FR, Office du Niger Alimentation-Colons, 1938.

on assistance from the Office regarding provisions for the population of indigènes, which seems rational, around 1,600 tons of millet must be sold to colons, tons that they consume, but do not produce.⁴¹⁷

In short, while the Office supplied a regional market, it failed to feed its farmers. Instead, villages were importers of their preferred grains grown elsewhere. There was also no guarantee for the quality of imported food. In fact, the shipment of millet that was collected and sold that year in Kokry had been rejected by the Labor Service; its sale in Kokry led to yet another investigation.⁴¹⁸

In response to accusations that Office policy aggravated and even caused food shortages, M. Bauzil, one of the head engineers and planners, responded that the poor material condition of settlers was due to their own improvidence. By way of explanation, he suggested that families sold their household goods before moving and upon arrival complained of poverty. According to Bauzil, these were fraudulent claims:

In fact, most of the time, at the announcement of their departure for colonization, the indigènes, who otherwise would have lived from their own resources in their home villages, hurry about selling all that they own and declare upon arriving at the irrigated lands to be completely without the means of subsistence.⁴¹⁹

Office planners imagined that settlers would arrive with stores of food and basic possessions. In fact, officials often stated that rations would be distributed only to families in need. However, it is unlikely that men and women forced to moved to the new Office villages, often from long-distances, and without much notice, would arrive with enough food for six months and all their necessary domestic items. Bauzil's accusation of African imprudence was questioned even by

⁴¹⁷ ANM 1 R 51 FR, Office du Niger Alimentation-Colons, 1938, letter dated August 17.

⁴¹⁸ During the investigation the administrators who had approved the contaminated shipment claimed that the millet refused by the labor service was subsequently cleaned and processed before its shipment to Kokry. ANM 1 R 51 FR, Office du Niger Alimentation-Colons 1938.

⁴¹⁹ ANM 1R 51 FR, Office du Niger Alimentation des Colons 1938, letter dated January 11, 1938.

his contemporaries, but he was correct that many families may have left behind necessary but heavy household items.

Colonial investigators cited several other problems related to food supplies for all settlers. A few medical experts at the Office attributed the high numbers of dietary related illnesses and general poor health of Office residents to an abrupt dietary transition from millet to rice. The head of the Health Service reported that existing rations were not adequate for the heavy labor expected of all residents. For one thing, the promised rations for new immigrants did not include meat.⁴²⁰ Moreover, he reported that rations were habitually reduced or withheld as a form of work discipline.⁴²¹ Another administrator revealed that many families survived only by procuring food in their home towns and bringing it to the Office.⁴²²

The emphasis in accounts of poor nutrition on the shift from millet to rice was significant. Settlers preferred eating millet, but the grain was also important on a nutritional level. While some administrators believed rice was a healthier grain that millet, other scientists such as the agronomist Auguste Chevalier noted that millet was more nutritious than rice. In fact eating only rice was related to several diseases of malnutrition such as beri beri.⁴²³ Chevalier expressed his concerns about the make-up of farmer diets at the Office in a 1939 report commissioned by the metropolitan government. In particular, he questioned the claim that rice production at the institution would address local food needs: "[Rice cultivation in West Africa] will never satisfy local food needs as they are already constrained [by relatively limited protein consumption]. As

⁴²⁰ ANM 1 R 51 FR, Office du Niger Alimentation-Colons 1938, Note du Chef du Service de Santé, No. 358/SS, March 26, 1938.

⁴²¹ Magasa, Papa-Commandant a Jeté Un Grand Filet Devant Nous, 95.

⁴²² ANM 1 R 42 FR, Office du Niger Documentation 1937–1946, Enquête auprès de l'Office A/S de recrutement 1938, page 3.

⁴²³ During the Second World War research on rice consumption and beri beri brought greater attention to malnutrition and the impacts of hunger and starvation. Dana Simmons, "Starvation Science: From Colonies to Metropole," in *Food and Globalization: Consumption, Markets and Politics in the Modern World*, ed. Alexander Nützenadel and Frank Trentmann (New York: Berg, 2008).

I wrote elsewhere the base of Soudanese food is sorghum, millet, and fonio. These grains are richer than rice in nutritional terms." He continued, "Millet has more vitamins than rice. The latter eaten alone causes nutritional deficits for populations who do not supplement it with meat and vegetables. Sorghum on the other hand in the form of couscous, cakes, or cooked dough is a complete food to which the [African] is well adapted." His conclusion was clear, "We must therefore permit the Soudanese to eat sorghum, and the other related grains, as their staple food and only secondarily develop rice cultivation."⁴²⁴ Chevalier strongly opposed the idea promoted by Office officials that irrigated rice cultivation was a solution to famine. It was creating hunger.

Inspector Carbou had similar concerns, but he also emphasized the problem created by strict controls over rice sales in Kokry. He pointed out that men had no control over their household's harvest. This impeded their ability to provide necessary and diverse foodstuffs for their families. In particular, Carbou reported the complaints of men who wanted to give their wives or daughters small amounts of rice to exchange in the market. He wrote:

with respect to the rice belonging to him [the settler], the Office must leave him free. If he wants to send his wife or his daughter to the market to exchange a calabash of rice for dried fish, seasonings, milk, or something else, it is his business, and he should not be obstructed. If he is tired of eating rice, and if he wants to eat millet[,] he should be free to buy some millet with a little rice. The monitors and cercle guards should not bother him for that.⁴²⁵

Carbou also noted, in favor of this suggestion, that the men he met were not opposed to using their stores to constitute food reserves or seed reserves. They simply needed to be able to sell some of their rice. Despite the strict controls over the harvest sales, farmers routinely sent their

⁴²⁴ANM FM 1 TP/878 Inspection Généraux des Travaux publics, Office du Niger, "Rapport à la commission parlementaire chargée d'une enquête sur l'Office du Niger : observations sur les travaux scientifiques et agronomiques relatifs à la culture du cotonnier et des plantes vivrières dans la vallée du Niger par le professeur Chevalier, membre de l'Institut, 17 janvier 1939," page 23.

⁴²⁵ANM 1 R 42 FR, Office du Niger Documentation 1937–1946, Enquête auprès de l'Office A/S de recrutement 1938, pages 3–4. NB. Inspector Carbou is only referred to by his last name in this document.

wives or daughters-in-law to the market with small amounts of rice to exchange for the things they needed to cook: millet, shea butter, *soumbala*, fish, and dried leaves for sauces. In Kokry, many women walked to the Macina⁴²⁶ market to sell small piles of rice, called "doromé, doromé."⁴²⁷ Women in Niono also sold doromé piles of cotton for the same reason.⁴²⁸ These doromé doromé sales helped to supplement the meager diet of Office families.

"Ko ka gelen": Missing Women and the Demographic Crisis

A few years into the establishment of the scheme officials came to realize that there were very few women in Office towns. In 1937, when administrator Floch was visiting the project he noted the conspicuous absence of women in its settlements. Responding to this observation a local staff member dismissed Floch's remark and suggested that it was normal for married women to be in their natal villages.⁴²⁹ Certainly it was not unheard of for women to leave or even abandon their husbands, but they only did so when the conditions of their marriage were untenable.⁴³⁰ Floch was noting a problem that would lead to a social and political crisis.

Demographic problems at the large-scale project were foreshadowed by a population shift at the pilot scheme Niénébalé. Statistics from the first few years at Niénébalé documented overall population growth and successful expansion with the creation of an additional village.

⁴²⁶ The French colonial administration established a town called Macina as an administrative center that served much of the area under the jurisdiction of the Office. This administrative center was located in the region of the same name. When referring to the administrative center I use the spelling: Macina. To refer to the region I use the spelling Masina.

Each small pile sold for one *doromé* the smallest unit of currency.

⁴²⁸ Interview by author with Djenebu Coulibaly and Djewari Samaké in Kolony (km26), March 22, 2010; Interview by author with Rokia Diarra in Nara, April 29, 2010.

⁴²⁹ ANM 1 R 28 FR, Office du Niger Organisation Administrative des Terres Irriguées 1937–1947, Report by Administrator Floch, August 6, 1937.

⁴³⁰ See Chapter 5 in Roberts, *Litigants and Households*.

During those early years women also outnumbered men. However, by its fourth year there were 181 male workers to only 104 women, and 102 children.⁴³¹ Men would consistently outnumber women at the larger Office scheme. For example, the first town in the Sahel zone (Niono) was created in 1937, and population statistics for that year recorded 81 men and only 71 women.⁴³²

The demographic situation of Dar Salam in 1938 was also telling. Families in Dar Salam tended to be smaller than the ideal size for a household in the region. For instance, only four out of the 25 families in Dar Salam counted twenty or more members. Another 13 families ranged in size from 10 to twenty members. At least eight Dar Salam families had fewer than 10 people (including children).⁴³³ Ideally, the household was a multi-generational unit bringing together several brothers (and sometimes male cousins), their wives, children (and the wives of male children), grandchildren, and other dependents. Small households more often than not were signs of discord, political trouble, or another crisis. A family with fewer than ten people would have had even fewer members to do work in the fields and in the household.

Beyond the question of productive labor, large households had a rich affective life. This aspect of family life is suggested in a comment from Kariba Tangara who told the administrator conducting the household survey in Sangarébougou that he was "happy to have made some money," but that he "was alone" and "missed his family." As a matter of fact, Tangara was quite alone in the fields and in town as he was listed as a "family" consisting of one person by the administrator. He was also the only man listed from his home town Karagoudie.⁴³⁴

 ⁴³¹ ANM 1 R 76 FR, Colonisation Indigène de Niénébalé 1928–1935, Report from the 1929–1930 Agricultural Year.
 ⁴³² ANM 1 R 63 FR, Office du Niger, Note sur les méthodes de colonisation indigène 1935–1937.

 ⁴³³ ANOM, FM 1TP/735, Inspection des Travaux publics, Administration General, Travaux, Office du Niger,
 1935/1942, Enquête sur la situation de la colonisation, fiches individuelles des colons, 1938, Folder 18 Dar Salam.
 ⁴³⁴ ANOM, FM 1TP/735, Inspection des Travaux publics, Administration General, Travaux, Office du Niger,
 1935/1942, Enquête sur la situation de la colonisation, fiches individuelles des colons, 1938, Folder 18 Dar Salam.

Part of the reason for the small size of many families in Dar Salam was that they were not complete households. Many men in Dar Salam indicated to the interviewer conducting household surveys in 1938 that they left much of their family behind to come to the Office. In response to the question "Did your entire family migrate?" nine men specifically said that their brothers "stayed behind" or "did not come." These statements should be interpreted to mean not only that those households were missing the brothers of these men but also that their brothers' wives, children, and other dependents were absent. Even some men who reported households ranging between 10 and 20 people indicated that their households were missing people. Some of the same men in Dar Salam also noted that they had left their mothers behind, indicating that Office households were not only numerically incomplete but that they were also missing several generations of members. Put another way, the recruitment of these men for the Office broke up larger households.⁴³⁵

At first glance, the population numbers collected from the individual household surveys for Dar Salam give the appearance of an equal gender distribution between men and women of working age. Dar Salam had a population of 82 men and 84 women (without counting the numbers of children and elderly residents). In addition, ten of the 25 total households included more women than men; seven other households had equal numbers of men and women, leaving only 8 households with more men than women. Demographically speaking the biggest concern for Dar Salam residents seems to have been the small size of some households and the limited number of workers across the generations. However, many households clearly lacked women. For example, Garantigui Tangara's household consisted of fifteen total people: five men of working age, eight elderly members, and only two women to cook for the entire household.

⁴³⁵ ANOM, FM 1TP/735, Inspection des Travaux publics, Administration General, Travaux, Office du Niger, 1935/1942, Enquête sur la situation de la colonisation, fiches individuelles des colons, 1938, Folder 18 Dar Salam.

Moussa Traoré's household included four men, one elderly member, one small child, and only one woman to cook for all seven people. This means that one woman would have had to cook every day and perform every food preparation task until she found other women willing to share cooking duties with her. Mama Toure's household had no women at all. When the administrator surveyed this household, he reported only Mama (recorded by the administrator as an elderly resident) and two young children. Toure and his children must have relied on adult women from other families to prepare their food every day.

The very small "family" headed by Toure was not uncommon in Dar Salam. Several families in Dar Salam had only one adult male and one or two women. For example, the head of family number 19, Demba Kamara, was joined by one woman (presumably his wife) and three young children. The couple would have had to do all the fieldwork and the household labor with very little help. In Sangarébougou (the first Office town) more than half of the 74 families consisted of either one to two men and one woman or one man and one to two women. Three families in Sangarébougou had no women at all. Similarly sized families were common in the eight Office towns but rare in the home towns of men and women who came to the Office. Indeed women who grew up at the Office remember their childhood households as being extremely small.⁴³⁶

By 1944, when Inspector Lenoir visited the Office he noted with concern the seeming predominance of men across the Office. He drew attention in his report to a study done the preceding year by Dr. Ethès of the Health Service who similarly reported that the demographic

⁴³⁶ Interview by author with Fatoumata Coulibaly, Kadja Mallé, Mariam Mallé, Aminata Dembélé, and Kadja Koné in Kouyan-Kura, May 27, 2010.

situation was unfavorable for young men seeking to marry.⁴³⁷ Indeed, few girls ever actually migrated to the Office with their parents or for marriage between 1935 and 1945.

While researching living conditions at the Office Inspector Lenoir discovered that many young girls had been left in hometowns when other family members moved to the Office. He credited this to pressure from grandparents who stayed behind and refused to send their granddaughters.⁴³⁸ Lenoir reported:

Some [settlers] are able to gain enough money to send back to their elder relatives remaining in the village who, however, are the most hostile to leaving home. They keep their children close to them and in all cases resolutely oppose the departure of young girls. This hostility, considering the influence of the elderly, is a considerable obstacle to the peopling of the Niger Valley."⁴³⁹

His framing of the situation suggested that financial conditions for settlers were favorable but that conservatism among elders was to blame for the shortage of women. Setting Lenoir's flawed assumption of financial prospects for farmers aside, what is clear is that the most senior family members refused to join settlers. Recruiters even sometimes sought young families specifically for their labor potential—those recruited therefore have tended to see Office settlement as a temporary stage of life like circulatory labor migration.⁴⁴⁰ This manner of recruitment was unlikely to foster permanent attachment among settlers to their Office towns, especially given the conditions of their creation. The relative youth of recruits made the high death rates at the Office all the more indicative of the extremely poor living conditions there (See Table 4).

⁴³⁷ According to Lenoir, Dr. Ethès reported that in some towns the ratio of men to women remained as low as 130 to 100. ANM 1 R 42 FR, Office du Niger Documentation 1937–1946.

⁴³⁸ ANM 1 R 39, Office du Niger, Questions de peuplement 1944–1945, Report no. 3/I. G.AA, February 9, 1945.

 ⁴³⁹ ANM 1 R 39, Office du Niger, Questions de peuplement 1944–1945, Report no. 3/I. G.AA, February 9, 1945.
 ⁴⁴⁰ Beusekom, *Negotiating Development*, 69.

Senior family members in the villages of origin overwhelmingly refused to send young girls to the project. Assane Plea was a young girl when she moved to Kouyan-N'Péguèna in the cotton sector, one of the rare girls sent to help relatives. Assane distinctly remembers that she saw immediately that her new home had few people when compared to her parent's large household in Macina. To her small households indicated poverty.⁴⁴¹ Given Savineau's description of conditions for women at the Office in the late 1930s, it is not surprising that grandparents hesitated before sending their granddaughters there, or that some women would flee. Indeed, Inspector Lenoir ignored the fact that many men also ran from Office towns.⁴⁴² Office villages were just barely populated.⁴⁴³

Male farmers who did stay could not help but take notice that their wives were leaving. Some even tried to retrieve their fleeing spouses. For example, in 1938, Nambolo Dembélé left his Office town to reclaim his wife who had returned to her home in San with their child. Nambolo was attacked by two brothers of the local canton chief when he reached San. Nambolo then traveled to Macina to lodge a complaint with the administrator Joseph Rocca-Serra. In Dembélé's recorded testimony, he claimed that he was attacked because his presence in San might provoke interest in colonization at the Office.⁴⁴⁴ It is just as likely that the two men were protecting Dembélé's wife from the prospect of returning to the Office. In fact, few settlers, whether men or women, thought of the Office villages as home. Most viewed them as akin to

⁴⁴¹ Interview by author with Assane Plea in Kouyan-N'Péguèna, May 28, 2010.

⁴⁴² Beusekom, *Negotiating Development*, 153-60.

⁴⁴³ In fact, when one young worker from Markala, the site of the dam, traveled to Niono to build Office villages in the 1940s, he returned quickly because he thought it was desolate and devoid of people. Interview by author with Fodé Traoré and Koké Coulibaly in Markala-Kirango, February 3, 2010.

⁴⁴⁴ Dembélé noted that he had also been commissioned by a fellow settler to carry some of his belongings back to the Office. Dembélé appears to have accomplished neither the return of his wife nor the transport of his fellow's belongings. ANM 1 R 28 FR, Office du Niger Organisation Administrative des Terres Irriguées 1937–1947, Affaires du 'Nia' du Massabougou et plaintes de Nambolo Dembélé, colon, 1938.

seasonal farming encampements where a few family members went to work temporarily during the farming season.⁴⁴⁵

Similarly, men in Dembougou sought help from the Office to either call for their wives to join them or to facilitate a divorce. In 1938, Nioumanta Amadou reported a household of four people: himself, one woman and two children. He indicated in his household survey that his family was complete except for his wife (perhaps a second wife), and that he wanted the Office to help him bring her to Dembougou. Guediouma Diarra in the same town had a similar problem. He asked the Office either to help him bring his wife, or to obtain the return of the brideprice he paid to her family since they refused to send her to him. He reported himself, one wife, and two children. In both cases it is possible that the one reported wife was also the woman who was missing.⁴⁴⁶

When the Colonial Government released its major inquiry into the Office in 1945 (the Reste Mission), it included a demographic study by G. Lefrou. He reported a massive departure of women from the town Dar-Salam. He also recorded low numbers of girls in the population at Baguinèda (one of the experimental stations). For Lefrou, the low numbers of girls across the project was an early indicator of depopulation. Not only were women leaving, there were very few girls to ensure the next generation.⁴⁴⁷

⁴⁴⁵ ANM 1 R 42 FR, Office du Niger Documentation 1937–1946, Enquête auprès de l'Office A/S de recrutement 1938, page 3.

⁴⁴⁶ ANOM, FM 1TP/735, Inspection des Travaux publics, Administration General, Travaux, Office du Niger, 1935/1942, Enquête sur la situation de la colonisation, fiches individuelles des colons, 1938, Folder 19 Dembougou.
⁴⁴⁷ By 1945, the Office had established family demographic charts to count the numbers of children (divided by 0–8 years of age and 8–15 years of age), adults (15–55 years of age), and the elderly (55 years of age and older). Within each category the total number of children, adults, and elderly members was further categorized by gender. The charts also recorded the total number of births and deaths for that year. Building on the information already being collected Lefrou proposed that with more complete recording, the demographic situation in Office towns would inform demographic analysis of French West Africa more broadly. Despite the demographic irregularities, Lefrou suggested that the possibilities for accurate demographic reporting at the Office had great scientific value. ANM 1D

Long-time cotton sector resident Djewari Samaké remembered that people did not wish to marry their daughters in Office towns because of the harsh labor conditions. She explained that it was because there was too much work for women.⁴⁴⁸ Certainly, the first generation worked extremely hard, especially harvesting cotton. It was a difficult task and was customarily accomplished through women's and children's labor. When only small amounts of cotton were grown for domestic use, the harvest was manageable. With the introduction of industrial cotton agriculture, women remembered that picking and cleaning cotton became unending tasks.⁴⁴⁹ This was in addition to all the work women did to cultivate and prepare food. When women were pregnant or caring for newborns, they still had to work in the fields.⁴⁵⁰ Many settlers in the rice sector refused to cultivate cotton when instructors arrived with new tools to prepare additional fields for cotton.⁴⁵¹ Even without the burden of cotton production, women in the riceproducing areas also worked hard during the harvest. They collected rice cut by men and transported it long-distances to the granaries.⁴⁵² Many women who grew up at the Office

⁶⁶⁰ III FR, Mission de Monsieur le Gouverneur Général Reste à l'Office du Niger, 1945, Médecin-Colonel G. Lefrou, "Étude Démographique des Populations de l'Office du Niger," pages 21, 31, 33. ⁴⁴⁸ Interview by author with Djewari Samaké, Kolony, March 29, 2010.

⁴⁴⁹ Interview by author with Djenebu Coulibaly and Djewari Samaké, Kolony, March 22, 2010; Interview by author with Fatoumata Coulibaly, Kolony, March 24, 2010; Interview by author with Hawa Coulibaly in Fouabougou, March 30, 2010; Interview by author with Aramata Diarra in Fouabougou, March 30, 2010; Interview by author with Fati Kindo in Kossuka May 11, 2010. In the nineteenth century Maraka merchants had developed a local cotton and textile industry using slave labor. In this context large-scale cotton industry was directly associated with servile status setting a precedent for how farmers would likely perceive cotton cultivation at the Office. One major difference is that grain production was the predominant activity on Maraka plantations. See Roberts, Warriors, Merchants, and Slaves, Roberts, Two Worlds of Cotton.

⁴⁵⁰ Interview by author with Mme. Dagno Adam Bah in Markala, February 6, 2010.

⁴⁵¹ Interview by author with Moctar Coulibaly and Mariatou Traoré, Sirakora, April 28, 2010.

⁴⁵² Interview by author with Moctar Coulibaly and Mariatou Traoré, Sirakora, April 28, 2010; Interview by author with Hawa Diarra in Nara, April 30, 2010; Interview by author with Alimata Dembélé, Nana Dembélé, and Moussa Coulibaly in Koutiala-Kura, May 3, 2010; Interview by author with Mariam "Mamu" Coulibaly in Kankan (formerly Sangarébougou), May 4, 2010.

remember their childhood households as extremely small.⁴⁵³ A small number of women shared a large labor burden.

Parents unwilling to send their daughters may not have feared only the heavy labor regime. In the early years, some towns were so isolated that lions roamed the immediate countryside. Some of the forested lands around Office towns were also off-limits because residents believed that the areas were inhabited by dangerous spirits.⁴⁵⁴ Moreover, illness was rampant and those who lived outside the Office knew this. The Office was not regenerative or plentiful; it was dangerous and deserted.

Intense colonial surveillance in the fields and in towns by unsupervised male staff was also a danger to women. In 1944, investigators collected testimony that women were at risk for physical or sexual abuse at the hands of African staff. That year, Mamadou Traoré was one of the thousands of disgruntled farmers in Niono who threatened to leave. When he was interrogated about why he wanted to leave, one reason he gave was that a monitor had "abused" his daughter. Another man, Nianzon Coulibaly complained that a monitor "took" his wife.⁴⁵⁵ As the sociologist Amidu Magasa noted in the 1970s such abuse was not without precedence in the Ségou region during colonial rule. In an interview he conducted with an elderly Fatumata Kulubaly she recounted how the colonial census was conducted. During the census agent's visit, several women would be requisitioned to cook or provide sexual services. Those who performed unsatisfactorily were publicly stripped and beaten.⁴⁵⁶

⁴⁵³ Interview by author with Fatoumata Coulibaly, Kadja Mallé, Mariam Mallé, Aminata Dembélé, and Kadja Koné in Kouyan-Kura, May 27, 2010.

⁴⁵⁴ Interview by author with "Mamu" Coulibaly, Kankan, May 4, 2010. Tchaka Diallo, a former tractor driver, also remembers lions in the wilds as he and other workers prepared land for villages and fields. Conversation between author and Tchaka Diallo in Markala, February 3, 2010.

⁴⁵⁵ ANM 1 R 42 FR, Enquête auprès de l'Office A/S de recrutement 1938, Office du Niger Documentation 1937– 1946.

⁴⁵⁶ Magasa, Papa-Commandant a Jeté Un Grand Filet Devant Nous, 32-33.

At the Office there were simply very few young girls, young wives, or unmarried women. Many families chose to marry daughters who grew up at the project to men in outside towns.⁴⁵⁷ Customarily marriages connected families and towns, and parents sent young women where they already had family or social relations.⁴⁵⁸ Families living at great distances from their home regions faced difficulties in maintaining those reciprocal family ties. A small number of girls married into the Office, but at first there were very few other Office towns around and even fewer where families knew one another. In such cases, young women were sometimes married in their own Office town.⁴⁵⁹

Djewari insistently recalled that there were just no women available for marriage to men in the family. It was a "ko ka gelen," or trying affair. As a result, young men were not getting married. Djewari explained to me that even men with beards had not yet married because there were no young women around. She emphasized that this was the case "yoro be, jamana be," or everywhere in the whole region. It was not just that there were no women your own household "dukono." It was a problem for everyone.⁴⁶⁰ Djewari's recollection that there were no women to marry anywhere is perhaps explained by the increase in female pawnship across the region in the 1930s and early 1940s.⁴⁶¹

Indeed, the administrator-ethnographer, Henri Ortoli, recorded the predominance of women and girls as pawns in the 1930s, as well as its general increase during times of famine. Men in charge of a du, or household, could exchange the labor services of a junior member of the

⁴⁵⁸ Maria Grosz-Ngaté, "Monetization of Bridewealth and the Abandonment Of 'Kin Roads' To Marriage in Sana, Mali," *American Ethnologist* 15, no. 3 (1988).

⁴⁵⁷ Interview by author with Djewari Samaké, Kolony, March 29, 2010.

 ⁴⁵⁹ Interview by author with Djenebu Coulibaly, Kolony, March 27, 2010; Interview by author with "Mamu" Coulibaly, Kankan, May 4, 2010; Interview by author with Fatoumata Coulibaly, Kolony, March, 24, 2010.
 ⁴⁶⁰ Interview by author with Djewari Samaké in Kolony (km 26), June 2, 2010.

⁴⁶¹ Ghislaine Lydon, "Women in Francophone West Africa in the 1930s: Unraveling a Neglected Report," in *Democracy and Development in Mali*, ed. R. James Bingen, David Robinson, and John M. Staatz (East Lansing: Michigan State University Press, 2000); Klein and Roberts, "The Resurgence of Pawning in French West Africa During the Depression of the 1930s."

household for grain or other needed items.⁴⁶² As an administrator for the Ségou region during this same period, Ortoli documented a series of poor harvests, drought, and famine.⁴⁶³ These were exactly the conditions that contributed to pawnship. For the Sansanding region immediately neighboring the first Office installations, Ortoli observed:

The poor cantons in the north of the Ségou Cercle along the left bank of the Niger are peopled by Bambaras and a small number of Markas. After several years of bad harvests, several families (about 70) have left their villages for good and moved to more favorable lands on the right bank of the river.⁴⁶⁴

His observations suggested an atmosphere of general population instability at precisely the moment when administrators began recruiting. This was also when finding brides in the neighboring Office was a "ko ka gelen."

There is evidence to suggest that many of the first women at the Office were pawns, in fact the most vulnerable girls and young women. When families were selected to send people to the Office it was likely that they would send a pawn whenever possible (who would have been an outsider to the family) over a daughter or other family member. A 1935 institutional report suggested just this; pawns had been sent to work at Niénébalé.⁴⁶⁵ They were often unlucky enough to be the ones sent to the Office.⁴⁶⁶ During the same time period, administrators

⁴⁶² Ortoli, like other administrators noted a semblance between this practice and slavery, but that it was common for male creditors to marry female pawns. Henri Ortoli, "Le Gage Des Personnes Au Soudan Français," *Bulletin de l'Institut Français d'Afrique Noire* (1939).

⁴⁶³ ANM 1 E 70 FR, Rapports de Tournée Cercle de Ségou, 1932–1935.

⁴⁶⁴ ANM 1 E 70 FR, Rapports de Tournée Cercle de Ségou, 1932–1935, October–November 1932. Similar conditions were noted by administrator Fabre in neighboring regions.

⁴⁶⁵ ANM 1 D 212 FA, Coutumiers Mossi 1933–1935. This file consists mostly of correspondence related to Catholic missionary concerns in 1933 for pawning in Ouagadougou. The Office would later heavily recruit from this Mossi region. The inclusion of the report on pawning at the Niénébalé station of the Office with reports on pawning in Mossi regions suggests that at least some administrators correlated pawnship with the Office.

⁴⁶⁶ It is perhaps the case that some of the women I interviewed who came to the Office as young girls were pawns. Few directly indicated as such. However, one woman who I interviewed several times suggested in a separate conversation that she and her whole family came from a servile status. Other women spoke more freely about their mothers-in-law coming by force with their husbands but not necessarily as pawns.

recorded female pawnship resulting from poor harvests in Tougan, which was one area severely impacted by Office recruitment.⁴⁶⁷

Inspectors and local officials took notice of the demographic crisis because young men were vocal in their complaints about marriage, and their frustrations were potential fuel for political unrest. Thus the situation was worrisome to administrators. It was further cause for concern because the lack of women undercut early expectations for natural population growth, and continual recruitment was costly. Recruitment would continue to be necessary for future production unless young men at the Office were able to marry. One solution would be to ensure unmarried women migrated with families. For example, in 1941, recruiters in Ouahigouya, Tougan, and Koutiala were specifically instructed to try to ensure that greater numbers of young girls migrated:

Office du Niger recruiters working with Cercle Commandants will, in the same interest, also serve as intermediaries between settlers who want to marry from their home region, or want to send for remaining members of their families. With the agreement of Cercle Commandants, they will bring together the settler's family members and the parents of young girls sought in marriage to inform them of conditions at the Office and convince them to leave their villages[...].⁴⁶⁸

Other officials suggested the Office distribute travel passes to young men to return home, find wives, and return.⁴⁶⁹

In other towns, a similar demographic situation led men who were in charge of an Office family to pursue other strategies to increase the number of people in their households. In Sangarébougou, Seriba Samake reported a satisfactory harvest but suggested that it had been

⁴⁶⁷ ANM 1 D 210 FA, Rapport sur la traite des femmes et des enfants 1933 (report dated January 23, 1934).

⁴⁶⁸ ANM 1 R 58 FR, Office du Niger Note sur le recrutement dans le Baninko 1930–1944, Project d'instruction pour le recrutement des colons dans les cercles de Koutiala, de Tougan, et de Ouahigouya, 1941 Folder.

⁴⁶⁹ ANM 1 R 39 FR, Office du Niger Questions de peuplement 1944–1945, J. Lenoir, Report no. 3/I. G.AA, February 9, 1945.

possibly only because family members from his village N'Tama who also lived in Macina region came to help out with his work in the fields. Some men specifically told the administrator conducting the 1938 survey that they had asked for a brother to join them. Also in Sangarébougou, Semougou Coulibaly reported that his brother and mother were going to join him that year. At the time of the survey his household consisted of two men, two women, and two children. Bokari Coulibaly, who was in Sangarébougou with only his wife, also called for a brother to come help him. Bare Diarra was in the exact same situation but found little sympathy from the administrator. The latter noted in the survey records that Bare was a "mauvais colon" (bad settler), even though he had paid the advances made to him in the previous year by the Office. In all these cases the men who said that they had called for male family members to join them probably also anticipated that the wives of those brothers would also come. In one case, the specific need for women came up during a survey interview. N'Fa Bary who lived in Dembougou explained during his interview that he was going to use the money he earned from selling his crops to the Office to increase his household size by paying for his brothers to marry.470

The unfavorable demographic situation was exacerbated by the recruitment of single men. Family settlement was the ideal for planners. This was not always the reality. For example, single brothers often migrated together.⁴⁷¹ Some young single men who had been wage workers for the Office or elsewhere also joined existing Office households.⁴⁷² By and large single young men were most often recruited for other conscripted labor, and they were also frequently sent to fulfill labor requirements at the Office. Propaganda reflected the targeting of

⁴⁷⁰ ANOM, FM 1TP/735, Inspection des Travaux publics, Office du Niger, 1935/1942, Enquête sur la situation de la colonisation, fiches individuelles des colons, 1938.

⁴⁷¹ Interview by author with Hawa Diarra, Nara, April 30, 2010.

⁴⁷² Interview by author with Mme. Dagno Adam Bah in Markala, February 6, 2010; Interview by author with Fatoumata Coulibaly, Kolony, March 24, 2010.

young single men by recruiters.⁴⁷³ This is apparent in the 1938 testimony of Koké Samaké who told the Ségou administrator Robert Léon how he was recruited:

The propaganda started some time before our departure from Sériwala. It started with Sériwala village where Mr. Blanc came to tell people that they had nothing to eat and that it seemed better to enter colonization. People at first refused.

To persuade them Mr. Blanc reportedly added:

come with me, if you stay you will die from hunger. Me, I have money and food. When you come you will find things to eat. All those who do not have wives will have them. If you come, I will give you money. You are dying from misery. With me you will have things.[...]⁴⁷⁴

This kind of propaganda misrepresented what settlers could expect (including finding women available for marriage). Even where Office statistics recorded large households, they were predominantly male as many of the women who were initially recorded in censuses later returned home.

Viable households were very much an issue at the Office. Colonial ethnographers frequently noted the predominance of large patriarchal households in Africa. This was true of the well-known ethnographer-administrators Maurice Delafosse, Charles Monteil, and Henri Labouret who worked in the French Soudan. In fact, supporting patriarchal authority was often a political tactic.⁴⁷⁵ In a region where well-being was assured by living in a household with large numbers of people to work, the households at the Office were only supported by a small number of people and few women. Anthropologists and historians have long theorized that value was expressed through social relationships and reproduction in Africa, a dynamic referred to as the wealth-in-people. Jane Guyer and Samuel Belinga updated this theoretical model pointing out

⁴⁷³ Monica van Beusekom similarly noted that mostly single men migrated to the Office. Beusekom, *Negotiating* Development, 65.

⁴⁷⁴ My italics. ANM 1 R 42 FR, Office du Niger Documentation 1937–1946, Enquête auprès de l'Office A/S de recrutement 1938, Testimony from Koké Samaké, October 5, 1938. ⁴⁷⁵ See Wooten, "Colonial Administration and the Ethnography of the Family in the French Soudan."

that people bringing a range of specific skills and knowledge were particularly valuable—"labor" was not generic.⁴⁷⁶ Across the French Soudan women's knowledge of food production and preparation—specifically the cooking labor of young wives—was highly valuable. This was particularly the case at the Office, where the conditions for food production and preparation were materially challenged.

Historian Monica van Beusekom rightly pointed out that the colonial officials in charge of recruiting families for the Office feared that the family was in decline and no longer served as a stable social unit in the French Soudan. The Office promoted settlement, at least rhetorically, as a solution to this crisis. Initially these administrators wanted to send "nuclear" families with the idea that young couples would be more receptive to the new farming techniques and social structures of the Office.⁴⁷⁷ Her suggestion that this was a deliberate strategy is supported by the fact that administrators regarded brothers in Office towns to *each* be the head of one family.⁴⁷⁸ Certainly this would explain the pattern of small households and the tendency of administrators to conflate "family" and "household." Moreover, it is not clear whether or not the administrator who conducted the early household surveys understood what was meant by the responses "part of [my] family stayed behind" or "I left my brothers at home." What Officials overlooked was that these small units were perceived by their members, especially the men, as incomplete. This strategy to re-order family organization conflicted with the more pressing goal of recruiting sufficient numbers of male workers for the fields.⁴⁷⁹ The recruitment of single men accomplished

⁴⁷⁶ Jane I. Guyer and Samuel M. Eno Belinga, "Wealth in People as Wealth in Knowledge: Accumulation and Composition in Equatorial Africa," *Journal of African History* 36, no. 1 (1995).

⁴⁷⁷ Beusekom, Negotiating Development, 42-46.

 ⁴⁷⁸ ANOM, FM 1TP/735, Inspection des Travaux publics, Office du Niger, 1935/1942, Enquête sur la situation de la colonisation, fiches individuelles des colons, 1938.
 ⁴⁷⁹ Van Beusekom suggested that the top priority of Office administrators was the recruitment of adult male workers.

⁴⁷⁹ Van Beusekom suggested that the top priority of Office administrators was the recruitment of adult male workers. Beusekom, *Negotiating Development*, 45.

neither goal, but it did isolate those men given the comment by Kariba Tangara who was the sole person in his Office "family."

Upon closer examination of the 1938 survey records from the eight Office towns, it becomes clear that several men who were in charge of an Office "family" were not interested in breaking off to form permanent nuclear families. Wherever possible they tried to expand and extend their Office households. In Dar Salam, Amadou Koita was the head of family number 18 in Dar Salam. He came to the Office with two women (probably his wives) and five young children. His household constituted as such was relatively small, with only three adults and five children to feed. Rather than move to the Office with this small family unit alone, Koita called another man and his small family to join them. Mamady Togoba, who was in charge of family number 24, told the administrator that he came to the Office because Koita had "decided the question for him." The administrator did not write down the specific relationship between the two men (cousins, friends, etc.), but it is likely that the two "families" ate together and helped in one another's Office fields. Togoba brought two women and two children with him to the Office. Together the Koita and Togoba families would have constituted a viable household of 13 people (2 men, 4 women, and 7 children).⁴⁸⁰ In Dembougou two other larger household units were likely formed between two groups of brothers. Fassoum Tangara who headed family number 7 was the brother of Ba Tangara who headed family number 16. They each brought one wife to the Office and several children. In the same town, Nene Coulibaly (family 2) was the brother of N'Tio Coulibaly (family 8). In all the Coulibaly's consituted a household of 23 (3

⁴⁸⁰ ANOM, FM 1TP/735, Inspection des Travaux publics, Office du Niger, 1935/1942, Enquête sur la situation de la colonisation, fiches individuelles des colons, 1938, Folder 18 Dar Salam.

men, 6 women, and 14 children).⁴⁸¹ These households were the exception, as most men (and women) struggled to form viable households with few demographic resources.

Conclusion

By the end of the first decade of the scheme's operation, the absence of women had prompted a demographic crisis with political dimensions. In 1944, persistent poverty at Niono gave rise to the threat of a mass exodus resulting in a series of negotiations and conferences. At least one thousand male farmers asked for property rights and monetary compensation, a demand that administrators proposed to address through the distribution of rice or cooking oil.⁴⁸² This response showed some recognition of common complaints from residents about food shortages. It was also an acknowledgement that farmers did not grow what they needed to eat and did not earn enough to purchase it. That year, the Office and local administration shipped food assistance and increased the prices paid for cotton.⁴⁸³ The crisis in Niono had been building for a decade. In the previous year, 960 people had already left Niono. It was a loss of significantly more people than the 692 new settlers who arrived that year (See Figure 4).⁴⁸⁴

All the protestors complained of food shortages, but Investigator Pruvost, who was looking into the 1944 disturbance, noted a generational divide in the demands. Married men complained that they saw little profit and that the work regime for growing cotton was too

⁴⁸¹ ANOM, FM 1TP/735, Inspection des Travaux publics, Office du Niger, 1935/1942, Enquête sur la situation de la colonisation, fiches individuelles des colons, 1938, Folders 18 and 19 Dar Salam and Dembougou.
 ⁴⁸² ANM 1 R 39 FR, Office du Niger Questions de Peuplement 1944–1945, Account from an administrative

conference held May 1, 1944 [The actual report is without a date].

⁴⁸³ ANM 1 R 39 FR, Office du Niger Questions de Peuplement 1944-1945, Rapport de l'Inspecteur des Colonies Pruvost Commissaire de Gouvernement auprès de l'Office du Niger sur le peuplement des terres aménagées par l'Office du Niger, page 8. See also Beusekom, *Negotiating Development*, 159.

⁴⁸⁴ ANM 1R 42 FR, Office du Niger Documentation 1937–1946, 1944 File.

harsh.⁴⁸⁵ Young men were more concerned that living at the Office made it hard for them to marry. The young men who voiced frustrations over not finding wives also demanded cloth.⁴⁸⁶ This request was ignored because local reports cited an abundance of cloth available in the area.⁴⁸⁷ Officials no doubt failed to recognize that this demand was related to young men's complaints about marriage. Men gave gifts of cloth to new brides, their mothers-in-law, and other new female in-laws.⁴⁸⁸ Cloth was a symbol of a man's material circumstances. Ironically, the administrator who recorded the canal celebration just over a decade earlier had foreseen economic progress in the availability of imported cloth. In 1944 young men at the Office protested that they had no cloth to give.

In describing the conditions leading up to the crisis Inspector Pruvost wrote:

This sector [Niono] does not have a good reputation among the indigènes [natives]; it is far from the river, located in harsh woods, and farmers concentrate essentially on cotton cultivation. This requires a lot of work with little remuneration unlike rice cultivation. It is subject to frequent flight, almost a quarter of those who entered since its origin.⁴⁸⁹

Another investigating official noted that only a few families had food stores in Niono that year and that often even those stores were insufficient.⁴⁹⁰ These were the worst conditions of the much-maligned Office.

⁴⁸⁵ Married men tended to be in their mid-thirties and older based on the recollections of my informants. Senior men in an Office household tended to be the oldest married man meaning that a senior man at the Office was not always elderly.

 ⁴⁸⁶ ANM 1 R 39 FR, Office du Niger Questions de Peuplement 1944-1945, Rapport de l'Inspecteur des Colonies
 Pruvost Commissaire de Gouvernement auprès de l'Office du Niger sur le peuplement des terres aménagées par
 l'Office du Niger, page 5. NB. Men at the Office tended to marry in their early thirties according to informants
 ⁴⁸⁷ ANM 1 R 39 FR, Office du Niger Questions de Peuplement 1944–1945, Untitled account from an administrative conference held May 1, 1944, [the actual report is without date].

⁴⁸⁸ Interview by author with Djewari Samaké, in Kolony (km 26), March 29, 2010.

⁴⁸⁹ ANM 1 R 39 FR, Office du Niger Questions de Peuplement 1944–1945, Rapport de l'Inspecteur des Colonies Pruvost Commissaire de Gouvernement auprès de l'Office du Niger sur le peuplement des terres aménagées par l'Office du Niger, page 4.

⁴⁹⁰ ANM 1R 42 FR, Office du Niger Documentation 1937–1946, 1944 File.

The demographic crisis only exacerbated the problem of food shortages. In fact, Djewari remembered the 1944 crisis as being exclusively about women. In her description of the event she explained that the young men got together and all said they would leave if they could not marry.⁴⁹¹ The young men's complaints were also a concern for senior men who needed cash to help their juniors marry. The problem was not just the lack of food stores, it was the lack of women to prepare even the small amount of food available. For her, the whole event centered on women. They were the ones who sold small bits of cotton in the market for sauce ingredients. They pounded millet for the main dish *toh* and carried the meal to the fields. Women assured daily survival. Young men also needed wives to establish themselves. Vernacular demographic knowledge also associated women with food production and prosperity for without women there was nothing to eat and little for young men to demonstrate their material status.

As Stacey Holden has recently argued in the case of Morocco, a government that could ensure the food supply in a territory susceptible to environmental distress, even an authoritarian one, could maintain power. However, unrest resulted when the royal or colonial state failed to meet its food security obligations.⁴⁹² Settlers at the Office protested during moments of food crisis. The absence of women exacerbated the moments of extreme food crisis. It also brought to light how little the planners understood about the relationships between labor, agricultural wealth, and women. Office policies were far too simplistically directed at planting people in the environment. The planners imagined population to be something that could be altered and directed by technology. Far from the promised land of plenty, the dramatic environmental change of the landscape at the Office of an entire region desolated and depopulated the entire

⁴⁹¹ Interview by author with Djewari Samaké, Kolony, March 29, 2010. Her oral testimony is doubly significant because she lived in the town closest to the center of the Office's Niono administration where the protesters confronted officials.

⁴⁹² Stacey E. Holden, *The Politics of Food in Modern Morocco* (Gainesville: University Press of Florida, 2009).

Chapter 4: "We farmed money" Re-Shaping the Foodscape and Women's Marketing, ca. 1944-1965

Sometime in the mid-1940s when Mamu Coulibaly learned that she would marry a farmer at the Office du Niger she had already been told that "wari be sene" or that people farmed money there. She knew that farmers grew rice and cotton but most importantly they acquired cash. Women too farmed money at the Office. Because of this Mamu heard that "fen tun be soro" or things could be found. These *fenw* (things) included many new metal house goods and food stuffs. Mamu's husband had gone to the Office by force with his parents. Mamu knew this family history of forced settlement but she was happy to marry there. When as a new bride she rode to her new home atop a cow she took it as a symbol of the things that could be found with cash at the Office. Mamu was among the second generation of women to come to the Office and joined a cohort of women who were also trying to farm money for themselves. After arriving in her new home Kankan, she like many other women brewed millet beer (dolo) and sold it in town.⁴⁹³ She had some free time to brew in part because she lived in a town where farmers grew rice, which at the time required less female labor than cotton. Brewing beer was the way that Mamu farmed money. However much colonial planners of the project emphasized agricultural production and the disciplined organization of labor, women's everyday lives suggested that the history of colonial agriculture was also shaped by consumption and choice.

The first generations of women at the Office were met with unfamiliar surroundings and a lack of nearby rural resources such as plantations of specific food trees and limited access to garden plots. In time these women, their daughters, and succeeding female migrants set about

⁴⁹³ Interview by author with Mariam (Mamu) Coulibaly in Kankan (formerly Sangarébougou), May 4, 2010.

turning their new environment into a useable foodscape. Wherever possible they transformed their new surroundings by planting gardens and food trees. They also integrated the most dramatic feature of the Office landscape—the canal running along the edge of their new towns into their foodscape. Women quickly learned where to purchase the foodstuffs they simply could no longer produce themselves. Making use of a variety of resources had always been a part of how women managed the available foodscape. Now many Office women like Mamu needed to earn money in order to do marketing on a regular basis for food production. Increasingly, provisioning a household required detailed knowledge of colonial markets. In addition, rice would slowly become a staple of the rural populations who came to work at the project; women learned to cook the crop that their families cultivated, but they also purchased the preferred millet when possible. The foodscape was shifting but women shaped it as much as possible to fit their own needs.

By the mid-1940s the Office had greatly expanded its geographical boundaries. Many of the oldest Office towns were now surrounded by men's cash-crop fields and by other Office towns. Women still did not have their own irrigated fields, but they had to grow or buy food somehow. Women who remained in Office towns—or moved to the Office after its first decade—learned to make the canals, irrigated fields, and markets productive. The new conditions women faced called for a re-ordering of the landscape of resources for food production. For some women like Mamu, farming money was new and intriguing, but it was also the only way for some women to feed their households, especially if they wanted the meal to be tasty.

The Office after 1944: Reshaping the Foodscape

Before 1944, the Office was not a place where women (or men) wanted to live. During World War II, especially during the period of Vichy control in French West Africa (1940-1944), men and women were subject to strict labor controls. Travel outside of Office towns or fields—even to their own millet or corn fields, or to forested areas—nominally required staff permission. In this environment women had difficulty cultivating food because it required significant labor outside the designated Office territory. *Hors casier* (non-Office) fields were far away from project towns, as were the useful trees and bushes found in the increasingly distant *kongo*.⁴⁹⁴ Moreover, men who were in charge of a family's Office fields often did not earn enough from the sale of cotton or rice to buy what was needed to eat or cover other household expenses. During the war farmers increasingly protested policies regarding labor constraints, travel, pricing, fees, and access to land. At the end of Vichy rule in 1944 the Office began to ease travel restrictions and to compromise on other demands. Between the mid-1940s and late 1950s, many men decided to stay and farm and more women settled as wives at the Office.

Claiming the Office

Even though only men sought land ownership and men were responsible for the debt payments and fees, these and other issues affected entire households. One of the most salient concerns was the water fee, which together with the charges for other agricultural services sometimes cost farmers as much as fifty percent of the harvest.⁴⁹⁵ Men and women opposed

⁴⁹⁴*Casier* denoted a particular sector or zone in the Office where farmers sold their crops; *hors casier* meant outside of the Office.

⁴⁹⁵ Farmers frequently protested the amount they were charged for water fees. ANM 1 R 1572 II FR, Affaires Agricoles Office du Niger 1955-1956. The percentage of farmer harvests collected by the Office in payment for

these fees as well as irregular weighing practices, unjust evictions, and the unfounded arrest of farmers.⁴⁹⁶ Men sometimes recorded grievances with the government official in Macina or with their local Office instructor.⁴⁹⁷ Women were also active protesters. For example, in 1955 three women in Kankan (formerly Sangarébougou) were arrested for insulting the town's *dugutigi*. Alimata Dembélé, Fatoumata Barry, and Téné Diarra were all angered by the *dugutigi*'s failure to address their families' grievances against the Office. Subsequently, the three women and their families were evicted.⁴⁹⁸

After World War II men and women wanted improved conditions but did not want to

leave their Office homes. By this point many women and their families had lived at the Office

for over a decade. Eviction would have deprived them of land at and around the Office that they

had worked and maintained for years. Women in particular had planted gardens and trees and

established market relationships. Through their labor men and women were beginning to claim

the Office as their own.

fees is recorded in a letter from Deputé Modibo Keita to the Office du Niger Direction. ANM 1 R 1572 II FR, Affaires Agricoles Office du Niger 1955-1956, letter dated September 12, 1956.

⁴⁹⁶ AON 111 Dossier Confidentiel, Colonisation 1953/6 (Affaire Sangaré); ANM 1 R 1572 II FR, Affaires Agricoles Office du Niger 1955-1956.

AON 118, Dossier Divers; ANM 1 E 40 FR, Rapports Politiques et rapports de Tournées Cercle de Ségou I (1923-1939); ANM 1 E 40 FR, Rapports Politiques et rapports de Tournées Cercle de Ségou II (1940-1959). ⁴⁹⁸ AON 111, Dossier Confidentiel, Colonisation 1953/6 (Affaire Sangaré). The town Kankan was particularly fraught with political tension after its first chief Mamadou Sangaré was evicted in 1943. Sangaré had been a clerk for the colonial government and was encouraged by the first Director General of the Office, Emile Bélime, to found Sangarébougou as a model town. From the start Sangaré was a vocal supporter of Bélime. Many early residents of Sangarébougou protested Sangaré's heavy hand. After Bélime was ousted from the colonial administration for his open collaboration with the Vichy regime, Sangaré was also ousted. Following Sangaré's eviction the town was renamed Kankan by the farmers. In succeeding years Sangaré requested readmission to the Office. He also began to organize for farmer's land rights a cause then supported by Bélime. Sangaré gained some support from Office farmers but also opposition. In February 1955 when he returned to his former town for a political rally he and his entourage were attacked by men and women wielding sticks. In fact, Mamu Coulibaly, who was a resident at the time, remembered women in town arguing over the politics of Sangaré's eviction and continued activity in town. For the most part, protests in Kankan revolved around access to resources and grievances over Office policies. Interview by author with Mariam (Mamu) Coulibaly in Kankan, May 4, 2010. Documentation of Sangaré's eviction and his relationship to the Office and with Bélime is found in ANM 1 R 1572 II FR, Affaires Agricoles Office du Niger 1955-1956, Distribution permis d'occupation ou evictions, See also, Schreyger, L'Office du Niger au Mali 1932 à 1982, 5-6.

Farmer protests were supported by a growing number of African labor activists and political leaders.⁴⁹⁹ Political newspapers published reports of evictions, arrests, and other complaints. In particular, they accused the Office of poorly managing land allotments. For example, in the 1950s, many farmers were relocated to new towns only to find that their new fields were extremely unproductive. They then attempted to return to their original Office towns. In their place, the original farmers found new Mossi settlers from Haute Volta.⁵⁰⁰ Each group had a stake in land that they had worked and improved, making for uneasy relations between different generations of settlers. Major African labor groups and political activists petitioned the Office administration to respond to settler needs for good land, to redress past wrongs, and to change its policies on behalf of farmers.⁵⁰¹ In response to repeated criticisms the Office did reverse several eviction orders in 1955.⁵⁰²

Markala, the site of the central dam, was a center for labor and political activism. It had become an industrial workers' town and home to clerks and other African professionals working for the Office. ⁵⁰³ A great deal of labor action in this period addressed the pay and labor

⁴⁹⁹ Deputé Modibo Keita even visited the Office in the late 1950s to investigate reports of abuse by the institution against farmers. Keita was a leading African politician in the 1950s and would be the first President of the Republic du Mali. See, ANM 1 R 1572 II, Affaires Agricoles Office du Niger 1955-1956.

⁵⁰⁰ANM 1 R 1572 II, Affaires Agricoles Office du Niger 1955-1956. After the war, the Office aggressively recruited farmers among the Mossi and Samogo of neighboring Haute Volta. Frequently these families were recruited by force. Magasa, *Papa-Commandant a Jeté Un Grand Filet Devant Nous*.

⁵⁰¹ Unfavorable articles on the Office appearing in African papers in the 1950s were collected and reviewed by the Director General of the Office, as were petitions to the project administration. Copies of the *Essor* for this period and *Le Reveil* for 1945-1948 are also available in the ACI building of the Archives Nationales du Mali. On this point Monica van Beusekom does well to point out that political and labor leaders opposed abusive practices at the Office not the idea of improving or developing agriculture through irrigation or industrial farming. Monica M. van Beusekom, "Individualism, Community, and Cooperatives in the Development Thinking of the Union Soudanaise-Rda, 1946-1960," *African Studies Review* 51, no. 2 (2008). See also, AON 111, Dossier Confidentiel, Colonisation 1953/6 (Affaire Sangaré).

⁵⁰²ANM 1 R 1572 II, Affaires Agricoles Office du Niger 1955-1956.

⁵⁰³ Markala was home to several sections of the Office that employed wage workers. Some workers continued construction on the dam and irrigation works. Other workers manufactured plows, carts, and other agricultural equipment in the industrial workshop. Office jobs also included driving transport vehicles, tractors, harvesting machines, or other heavy equipment. Additional work included canal and machine maintenance. CAOM FM

concerns of these workers. Worker protests began in 1945 and continued until 1947 when Office employees went on strike.⁵⁰⁴ As the protests gained strength one of the leading local labor activists, Jacques Doumbia, was arrested. Prior to his arrest, a large crowd of workers and their wives blocked the local guards from reaching Doumbia. He was arrested only after the administration sent troops from Ségou to Markala. Then the crowd of men and women walked to Ségou in protest.⁵⁰⁵ Following the strike in 1948, the Office did agree to allow for African representation on the Administrative Council to the Office du Niger. Office employees were granted one representative of their choosing. Farmers were represented by three to five leading farmers, but these men were chosen by the governor.⁵⁰⁶ Despite the increasing visibility of labor organizers among Office wage workers the Office refused to recognize a similar labor union for farmers.⁵⁰⁷ As such they had a much harder time petitioning the Office administration or colonial government. Farmers had to stake their claims by other means.

Farming at the Office was far from the ideal of industrialized agriculture once imagined by its planners. By the end of the war, the heart of the Office—the irrigation system—was neither efficient nor cost-saving. Farmers protested the high costs of water vigorously. Meanwhile officials countered that what they collected in fees did not even cover the cost of

²TP/104, Inspection générale des Travaux publics Office du Niger, 1946/1952; CAOM FM 3TP/332, Inspection générale des Travaux publics, Office du Niger, 1952/1957. ⁵⁰⁴ In 1947 a general strike was in force across French West Africa. The Office strke and other coordinated protests

³⁰⁴ In 1947 a general strike was in force across French West Africa. The Office strke and other coordinated protests were closely connected to labor actions by railroad workers and political organizing by the Rassemblement Démocratique Africain (R.D.A.). Cooper, *Decolonization and African Society*, 241-47.

⁵⁰⁵ Interview by author with Bakary Marka Traoré in Markala-Diamarabougou, January 23, 2010. When recounting this story Traoré hinted that Aoua Keita was among the leaders of the protest and march to Ségou. Aoua Keita was a leading political and women's rights activist who worked as a mid-wife for the Office medical services in Markala during this time. Aoua Kéita, *Femme d'Afrique: La Vie d'Aoua Kéita Racontée par Elle-Même* (Paris: Présence Africaine, 1975), 48-82.

⁵⁰⁶Schreyger, *L'Office Du Niger au Mali 1932 à 1982*, 169, 77, 83.

⁵⁰⁷ Farmers were not formally organized into a union until 1954. Beusekom, "Individualism, Community, and Cooperatives in the Development Thinking of the Union Soudanaise-RDA, 1946-1960," 5-6.

providing water or other agricultural services like field preparation.⁵⁰⁸ Moreover, the pace of settlement and production over the first decade did not match the administration's hopes. Officials blamed these setbacks on wartime reductions in staff and financing.⁵⁰⁹ Yet during the war, rice from the Office helped provision military troops in West Africa and at the West African capital Dakar.⁵¹⁰ In fact many Office employees who came to the institution after 1944 believed that the war had brought the Office into being.⁵¹¹ For women, the Office became a viable place to live after they had transformed it into a resource for local needs rather than for provisioning a distant war.

Over time, women made use of the resources available at the Office to re-engineer their food production system. They literally transformed the Office into a new kind of food resource. The ways in which women turned the natural and technical infrastructure of the Office into new food resources is examined in the first section of this chapter. The second portion covers the increased importance of cash-earning for women as money now played a new role in the foodscape and agricultural production. Preparing a meal meant producing food from few resources and through novel means.

Gender and Office Infrastructure

The establishment of the Office du Niger brought considerable change to the rural landscape.

The large dam fed large and small irrigation canals cutting into the landscape. New roads linked

⁵⁰⁸ AON 111, Dossier Confidentiel, Colonisation 1953/6 (Affaire Sangaré), letter from Tony Revillon to Cornut-Gentille Haut-Commissaire de la Republique de l'AOF a Dakar, January 6, 1953.

⁵⁰⁹ Spitz, Sansanding: Les Irrigations Du Niger, 63-70.

⁵¹⁰ ANM 1 Q 1700 III FR, Ravitaillement en Céréales des populations de l'A.O.F., 1944.

⁵¹¹ Interview by author with Mme. Koné Mariam Diarra and Tchaka Diallo in Markala-Diamarabougou, January 26, 2010.

major project towns and political centers. The Office dominated the agricultural landscape. While the canals, roads, and fields came to be ordinary elements of people's surroundings they did not go unnoticed. They were new and highly visible.⁵¹² For example, water ran everywhere and then suddenly it was cut at the end of the agricultural campaign leaving empty ditches that ran alongside towns. The man-made dam and irrigation canals were meant in part to demonstrate mastery over nature and its rural residents. These measured fields were an attempt to erase older forms of land distribution and customary claims to natural resources. To use the language of James Scott, Office administrators sought to control agricultural production by making rural life "legible" to its agricultural staff.⁵¹³

On a basic level, the network of canals and roads created by the Office helped to consolidate the scheme's territory. The irrigation works not only watered the crops, they demarcated Office fields and lands. Every rectangular field was nominally the same size and treeless.⁵¹⁴ In regional agricultural practice dating at least to the eighteenth-century trees served to mark land claims and boundaries. They also functioned to integrate production from the fields and forested areas. Under Office management an administrator assigned and recorded the allotment of hectares to only one male household head. Additionally, new Office roads connected project towns and centers but distanced residents from important non-Office towns.

⁵¹²On this point I agree with Libby Freed who earlier argued that technologies of landscape order were distinct in colonial Africa. She uses the example of roads to show that such infrastructures did not become unremarkable elements of the modern landscape as theorized by other historians. Rather, they were clearly visible and imbued with political meaning. In making this point, Freed was responding to Paul Edwards who previously asserted that in the so-called modern world people become accustomed to the technological infrastructures of daily life so that they appear to be a part of the environment. Freed, "Networks of (Colonial) Power: Roads in French Central Africa after World War I," 218; Edwards, "Infrastructure and Modernity: Force, Time, and Social Organization in the History of Sociotechnical Systems."

⁵¹³ James C. Scott, *Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed*, The Yale Institution for Social and Policy Studies Series (New Haven, CT: Yale University Press, 1998).

⁵¹⁴ Interview by author with Fati Kindo in Kossako, May 11, 2010. Interview by author with Hawa Diarra in Nara, April 30, 2010. The fact that the Office cut trees to make fields was something remarked upon by regional observers. For example, Hawa Diarra had heard before coming to the Office that to make the fields "people had to cut trees."

The project design created other kinds of boundaries by delineating two distinct cultivation areas. The cotton sector was centered around the administrative center Niono and the rice sector near Kokry and Kolongotomo. Though Bélime believed each sector would be profitable, prior to 1945 the primary difference between the cotton growing area and the rice growing one was overwhelmingly economic. Farmers who grew cotton earned less money even though it was a more labor intensive crop than rice. Women living in the cotton sector also had less time for gardening or other cash earning activities. This separation was reinforced by the very fact that the cotton and rice sectors were a great distance apart. The two main canals the Canal du Macina and the Canal du Sahel fed each sector and a large area of non-Office territory separated the two. Niono and Kokry-Kolongotomo were only connected by Office roads that passed numerous non-Office towns. Nevertheless, the production landscape in both areas was unlike that found in surrounding regions.

The Office was not just in the fields. The technological aspects of the project were accompanied by a considerable administrative bureaucracy that influenced how men and women interacted with this infrastructure. The new towns also reflected a changing political order. The entire *Office* became an ever apparent element of daily life and work. Much about the scheme was unquestioningly intrusive: where to live, how to work, even what to eat. At the same time, colonial officials could hardly demonstrate mastery over every aspect of daily life at the Office.

Water for the household

The concepts of canal building and irrigation were not new to farmers in the French Soudan. Rice was long cultivated by irrigation south of the Middle Niger region and the flood plain cultivation technique practiced in the Macina was a water management system that maximized river water use. Oral traditions from the Segu Empire also record a major canal building project a few miles from the site of the Markala dam. Sometime in the mid-1800s a female bard named Musokura Jabate pressured the Bamana prince Nci Jara to bring the river to Banbugu where he held his seat of power.⁵¹⁵ Musokura shamed Nci for not providing his followers at Banbugu with water. She claimed that there was not even enough water to bathe. After her interview with Nci his father sent workers to dig a canal from the Niger River to Banbugu passing Tio and Diamarabougou.⁵¹⁶ For three years workers used axes and hoes to dig the canal. About one hundred years later when the French oversaw canal construction for the Office they similarly relied on large amounts of manual labor.⁵¹⁷ Neither canals nor the technique for their construction was especially revolutionary to women just moving to the Office.

One important aspect of the Bamana canal to consider is the role women customarily played in water management. Bamana oral accounts emphasize that water was a woman's concern. Women could not ensure the well-being of people in the empire without water. Indeed, an abundance of water was one marker of status. The bard Musokura claimed that in the empire's capital Segu (which was located by the river) women bathed three times a day. In other words access to water afforded a comfortable life for women in Segu. At the same time Musokura cried that "thirst is about to kill Banbugu Nci's slaves and the people he

⁵¹⁵ Banbugu is the written form of the town name that conforms to Bamana orthography and is employed by the historian Catherine Bogosian. Catherine Bogosian, "Forced Labor, Resistance and Memory." Official town signs now use the orthography Bambougou or Bambougouji.

⁵¹⁶ The course of the canal passed by Diamarabougou which was incorporated with Kirango under the French to constitute what is today the town of Markala.

⁵¹⁷Interview by author with Ceson Dembélé in Bambougouji, June 3, 2010. See also, Bogosian, "Forced Labor, Resistance and Memory," 84-88. Bogosian cites an interview she conducted with Yah Balla Dembele in Markala, July 15, 2000.

administers."⁵¹⁸ In short, water was also essential to rule—here it is also associated with slave labor. Strikingly, Musokura associated water with women and daily life. Women with great access to water in Segu had the luxury of many baths, but also the time to bathe three times in a day. The female bard also reinforced that it was women's duty to ensure the water supply. When Nci failed to provide water in Babugu, it fell to a woman to protest such conditions and suggest the solution. The oral historical narrative anticipates the likelihood that when women came to the Office, water management would be one of their first concerns.

What distinguished the Bamana canal from the irrigation system of the Office was the purpose of the canals, their appearance in the landscape, and the quality of the water. The Bamana canal was meant to bring water from the river to Banbugu then located some walking distance from the river. Water would facilitate bathing, cooking, and other daily tasks. It was a man-made waterway but not meant to radically alter the agricultural landscape or agricultural practices. Musokura and Nci's canal was also meant to improve access to water for household use. In fact, today it appears very much like an extension of the river. The artificial waterways of the Office were intended to change agriculture, and the water supply to the canals was shut off in the dry season when the fields were fallow.⁵¹⁹ The canals were not really intended to address household water needs. Women, by contrast, understood that water was a year-round domestic necessity.

To women, the canals were most obviously a source of water to be used for domestic purposes including cooking, drinking, and washing. Cooking millet dishes or rice (as well as the sauce) required quantities of water on top of the amount needed for drinking. The canals were

⁵¹⁸ Bogosian, "Forced Labor, Resistance and Memory," 84-85.

⁵¹⁹ This was a point of criticism raised during the official Mission Reste in 1945. CAOM FM 3TP/334, Inspection générale des Travaux Publics, Office du Niger 1952/1957, Report by M. Dorche 1945 (Reste Mission).

located near Office towns. Women did not have to walk far to reach them, which made water collection from them relatively easy. When Sitan Mallé was a child in Kouyan-N'Péguèna her mother and other women used canal water for all their cooking and washing, especially of household items and clothes.⁵²⁰ Women in other towns similarly used the canals for all their water needs when it was available.⁵²¹ They often treated the canals as they would have a river. Women piled big rocks from the bed of the canal up to its edge to form something like a staircase. This provided women better access to the water, and the rocks served to scrub against the clothes during washing. This practice employed by women living near the Niger River Office women replicated in the canals.⁵²² The rock staircase also created a meeting point for women to work and talk together. In each town women had access to a water resource like this because the new towns were all lined along one of the major canals or a significant off-shoot. The major difference was that river water flowed constantly (even when the waters were low) while canal water could be stagnant. Canal water was also cut at the end of the agricultural campaign—ironically it was highly seasonal.

For several months during the year, water was abundant. Women had access to canals, wells, and for women living in the region from Kolongotomo to Kokry, the river.⁵²³ In some cases women distinguished between the quality of water from each source. In Kouyan-Kura

⁵²⁰ Interview by author with Sitan Mallé along with Aïssata Mallé, Salimata Samaké, Assane Plea, and Mariam Sall in Kouyan-N'Péguèna, April 10, 2010. Sitan's parents were among the first group of farmers in Kouyan-Kura and her recollection speaks to the early adaption of canals for women's daily work.

⁵²¹ Interview by author with Bintu Traoré, Mariam Doumbia, and Fanta Sogoba in Molodo-Centre, April 15, 2010; Interview by author with Kono Dieunta in Kokry, May 3, 2010.

⁵²² Interview by author with Mariam (Mamu) Coulibaly in Kankan (formerly Sangarébougou), May 4, 2010; Interview by author with Kono Dieunta in Kokry, May 3, 2010.

⁵²³ Interview by author with Alimata Dembélé and Moussa Coulibaly in Koutiala-Kura, May 3, 2010; Interview by author with Mariam (Mamu) Coulibaly in Kankan (formerly Sangarébougou), May 4, 2010; Interview by author with Fati Kindo in Kossako, May 11, 2010.

women collected well-water for cooking and drinking but washed with water from the canal.⁵²⁴ Women in Molodo-Bamana similarly used canal water only for washing and relied on wells for their other needs.⁵²⁵ Undoubtedly canal water was frequently unhealthy to drink, as many early families discovered. Nevertheless, it was suitable for washing cooking *minauw* and clothes. The canals eased the labor of water collection for these tasks. When the canal water was drinkable, women's water collection task was all the more lightened.

Women who did use canal water for drinking and cooking often stopped using it in the period just before the waters were cut to their towns. They had to judge when it was safe for consumption and learned the seasonality of the water irrigation system. Ordering labor around a cycle like this was not new as women were accustomed to dealing with the seasonal nature of other resources. Indeed, swamps and marshes were seasonal water bodies common in many areas of the French Soudan. This new seasonal water resource was easily adopted for a new work calendar. It made sense to use the canals when the water was available and clean enough for either consumption or household use. During the canal's dry period until the waters returned for the next agricultural season women near the river in towns like Koutiala-Kura walked to the river for their water.⁵²⁶ Elsewhere as in San-Kura women switched to well water.⁵²⁷

Despite the irregularity of the canals, water was readily available at the Office by comparison to surrounding towns. Across the region (even in some areas as yet unprepared by the Office for irrigated cultivation) the available groundwater supply increased. For example, in

⁵²⁴ Interview by author with Fatoumata Coulibaly, Kadiatou Mallé, and Maïssa Sountura in Kouyan-Koura, April 14, 2010.

⁵²⁵ Interview by author with members of the women's group Sabali, Hawa Coulibaly (President of the women's group and wife of the *dugutigi*), Mariam Sango, Djéné Mariko, Adam Coulibaly, and Nyé Diarra in Molodo-Bamana, April 19, 2010.

⁵²⁶ Interview by author with Alimata Dembélé and Moussa Coulibaly in Koutiala-Kura, May 3, 2010.

⁵²⁷ Interview by author with Wassa Dembélé and Kalifa Dembélé in San-Kura, May 5, 2010.

Molodo-Bamana wells had always been very deep. People had to use animal labor--donkeys or camels--to help with the digging of a new well. To draw water from the wells also required a lot of force. An adult had to pull about 22 arm lengths (both right and left) for one measure of water. After the Office was established it became much easier to dig a well and draw water.⁵²⁸ In towns further outside the Office like Monimpébougou, digging a well and drawing water from it required a great deal of labor. Women there still pulled 15 double arm-lengths or more for one measure of water well into mid-century.⁵²⁹ Farmers in towns situated closer to the Office canals—such as Macina—could use water from the Office for their fields because canals frequently overflowed and flooded nearby fields.⁵³⁰ In those cases the canals became a shared resource.

Because of the availability of water at the Office, women had choices over how to manage it for the household. In Nara, women chose to use well water for all their needs. To facilitate washing work the Nara women built an in-ground basin to use for washing cooking *minauw* and clothes.⁵³¹ They just had to draw enough water from the well and pour it into the basin to do the washing. It took less time and energy to fill the basin than to carry water from the canal. It also meant good quality water for all their work and family consumption. Finally, it allowed women to stay closer to home. Where women used canal water they did so because it

⁵²⁸ Counting the number of arm-lengths required to draw water from the well was a common method for measuring the depth of the well. Interview by author with Nianzon Bouaré and Harouna Bouaré in Molodo-Bamana, April 16, 2010. Fati Kindo made a similar observation comparing her parents home region in Burkina Faso to towns in the Office. Interview by author with Fati Kindo in Kossako, May 11, 2010.

⁵²⁹ Interview by author with Moussa Diawara, Aminata Tangaré, and Hawoyi Diawara in Boky-Wéré, May 7, 2010. ⁵³⁰ Conversation between author and Assane Plea in Kouyan-N'Péguèna, April 14, 2010.

⁵³¹ Interview by author with Hawa Diarra in Nara, April 30, 2010.

relieved their labor. In general, Office women had greater choices over how to manage their water resources and associated labor than women in many non-Office towns.⁵³²

Moreover, the canals brought valuable food resources: fish and rice. Men and women could literally catch fish within a few steps from where women were cooking. They could also catch fish in flooded rice fields.⁵³³ According to Kono Dieunta, "jege tun be yalla yalla" or "the fish were out wandering." What she meant was that fish for the sauce was readily available. Women remembered always cooking fish. While other ingredients may have been hard to come by, for much of the year women were assured of the availability of fish. More broadly, Dieunta was conveying that women were able to create good quality food if they used the resources before them. Kono, who comes from a fishing family, credited the water for that abundance.

In Sokolo the northern most edge of the Office, residents remember the canals "brought" water, fish and rice. All these things were previously scarce in Sokolo a region that was historically rich in millet and cattle. With the arrival of the Office the new water wealth was especially remarkable.⁵³⁴ Fish and rice were also increasingly in supply after the Office moved into the region. This newfound water abundance was not without disadvantages: water borne diseases plagued men, women, and children. Like the memory of finding *jéba* in a time of famine (see chapter 1), nostalgia for plenty in water and fish should be set against a background not only of increasing illness, but of the poverty of other necessary resources.

⁵³² Interview by author with Hawa Coulibaly in Fouabougou, March 30, 2010.

⁵³³ Interview by author with Sékou Coulibaly and Kadiatou Traoré in Nyamina, May 31, 2010; Interview by author with Yaini Tounkara and Seyba Coulibaly in Kolony, August, 7, 2010.

⁵³⁴ Interview by author with Amadou Sow and Sekou Sallaouloguem in Molodo-Centre, April 8, 2010.

The Loss of Women's Gardens and the Kongo

With the loss of space for gardens and the diminishing *kongo* around many areas of the Office, women began marketing to earn cash and purchase foodstuffs they could no longer produce themselves. To do so women spent more of their labor time traveling Office roads to get to markets. Women traveled these routes by foot for most of their trips. Near Kokry and Kolongotomo the Niger River continued to be important for all transportation especially when the main road that ran alongside the river was flooded.⁵³⁵ In this case, women paid for passage along the river. In the same region, women could also pay for a quick passage across the canal that ran parallel to the main road. Otherwise they walked a great distance on the path from their town to the Office bridge that connected with the main road.⁵³⁶ Once on the road even women new to the region could follow them to Office-sponsored markets or other regional ones.

The official purpose of the roads that were maintained by the Office was to transport crops, facilitate the maintenance of the irrigation infrastructure, and supervise agriculture. They were made from dirt and the major ones were wide enough to support the traffic of four-wheeled vehicles, digging machines, and other equipment.⁵³⁷ From the 1930s, the colonial government of French West Africa concentrated several road and other transportation improvement efforts around the newly planned scheme.⁵³⁸ Planners laid out the roads as they added new towns, and they paid more attention to commercial transport needs and access for local staff than daily use

⁵³⁵ Interview by author with Kono Dieunta in Kokry, May 3, 2010; Interview by author with Assane Coulibaly in Sirakoro, April 28, 2010.

⁵³⁶ Personal conversation between author, Bintou Diarra, and Aïssata Coulibaly on the road from Kossuka to Kolongotomo, May 11, 2010. Both women were rural women development workers employed by the Office du Niger in 2010.

⁵³⁷For more on the construction of Office roads see Magasa, *Papa-Commandant a Jeté Un Grand Filet Devant Nous*, 24-29.

⁵³⁸ CAOM FM 1TP/51, Inspection générale des Travaux publics, Soudan Français (Haut-Sénégal-Niger)/Mali, Routes, circulation, et transports routiers, Correspondance et renseignements concernant le réseau routier du Soudan français (1932).

by residents.⁵³⁹ Only small numbers of vehicles were available to women for transport when they arrived for the first time with their families or as a new wife. Other vehicles and even carts were not widely available for travel until after the war.⁵⁴⁰

First and foremost, women needed to get to markets where they could purchase foodstuffs. Their marketing activities were more successful as they learned to navigate the shifting geography of the Office and the surrounding areas. In the early years women were restricted to travel within the Office. Knowing how to get to the Office-operated markets was critical. In Molodo, women quickly learned the new route between their town and Niono when they were conscripted to bring provisions to workers building the road. This was even before their town had been fully integrated into the Office.⁵⁴¹ For most women, the first journey to the town in the Office where they moved or married took them along some of these new roads. This was their introduction to the routes around their new town. Learning to navigate these roads was especially important for women who arrived in relatively isolated towns. For example, as a child Kaliffa Dembélé traveled by foot and car with his mother and father to San-Kura. Their home region San was a considerable distance from the Office. They and a large group of recruits from the San region were led to San-Kura by Office agents.⁵⁴² Their whole journey was laid out according to how Office planners and agents perceived the geography. The roads, markets, and region were all new, meaning that women did not readily know where the popular non-Office markets were located.

⁵³⁹ Since World War I, the administration sought an improved transportation infrastructure for the export of agricultural products in the colony. ANM 1 Q 77 FR, Ravitaillement des grains 1913-1919; ANM 1 Q 272 FR, Grains Limitation Centres commerciaux points de traite 1928-1934.

⁵⁴⁰ Interview by author with Aramata Diarra in Fouabougou, March 30, 2010. Vehicle traffic in the French Soudan increased after the war. The colonial government documented significant increases in road travel between 1947 and 1952. CAOM 3TP/30, Inspection générale des Travaux publics, Afrique occidentale française, Routes, circulation et transports routiers, Notes sur Travaux Routiers A.O.F. 1953/1960.

⁵⁴¹ Interview by author with *dugutigi* Nianzon Bouare and Hawa Koulibaly in Molodo-Bamana, May 29, 2010.

⁵⁴² Interview by author with Wassa Dembélé and Kalifa Dembélé in San-Kura, May 5, 2010.

Even after women had greater freedom to travel, those new to the Office continued to use this first trip to orient themselves. When Kadja Coulibaly married a wage worker at M5 in the new mechanized rice sector near Molodo-Center, she traveled from her hometown outside the Office to Niono by car. The Office driver sent to pick her up quickly joined the first administrative road and then followed project routes. He dropped her off in Niono the major Office market town for the region. From there to M5 she rode on the back of a bicycle, a slower trip but one easier to follow.⁵⁴³ Even before arriving in M5 she knew where she would go to do her marketing and she had an idea of the distance she would have to walk.

Once at the Office, women expanded their geographic knowledge of the Office and region. First—and second—generation women attended yearly Office parties where they met other women. Women and men tended to look for other people from the same region to exchange news. In so doing, they mapped where they each now lived in the Office.⁵⁴⁴ Women even traveled to different Office centers every year because the location for the parties rotated regularly. At the same time, women gathered information about towns and sites outside the Office where they could obtain millet or other desirable foodstuffs. For example, longtime residents of the region or women who had arrived earlier than others exchanged market tips and details about where specific items were available with newer women. Women also learned about older routes that connected important regional centers such as Monimpébougou and Sandsanding to other towns.

⁵⁴³ Interview by author with Kadja Coulibaly in Kokry, May 2, 2010.

⁵⁴⁴ Interview by author with Tchaka Diallo in Markala-Diamarabougou, January 27, 2010; Interview by author with Aïssata Mallé and Assane Pleah in Kouyan-N'Péguèna, May 28, 2010.

First and second generation women created new social and market maps as they lived and moved around the Office. This mental (and social) labor helped them to manage their engagement with the changing economic and agricultural layout of the region. Many second generation women grew up in one Office town and married in another.⁵⁴⁵ Women also moved when the male head of their household requested land in a more fertile region under Office control.⁵⁴⁶ Wives of workers also became wives of farmers when former Office employees requested Office land.⁵⁴⁷ As women moved they built and reinforced social ties across Office towns. The generation of young women who grew up at the Office also brought specific knowledge about their home town and its surrounding markets and resources to the town where they married. They also learned from other women already resident in their new households about the particularities of that area. This type of exchange was further built into the practice of senior women mentoring new wives.

This process was not seamless. The Office administration frequently and often by force re-located some households to found new towns, or in some cases moved entire towns.⁵⁴⁸ For example, Fouabougou—a town that had been relocated once because of flooding along the Gruber Canal—was divided after World War II. Some families stayed and other residents moved to the nearby new town Sangnoma. Many young men from Fouabougou chose to move

⁵⁴⁵ Interview by author with Assane Coulibaly in Sirakoro, April 28, 2010; Interview by author with Moctar Coulibaly and Mariatou Traoré in Sirakoro, April 28, 2010; Interview by author with Mariam (Mamu) Coulibaly in Kankan (formerly Sangarébougou), May 4, 2010.

⁵⁴⁶ During World War II, much land prepared by Office workers ended up being abandoned by farmers because of its poor quality. AON 1, L'Office du Niger: Note de Presentation Technique, May 15, 1960, page 4.

⁵⁴⁷ Interview by author with Moctar Coulibaly and Mariatou Traoré in Sirakoro, April 28, 2010; Interview by author with Mme. Dagno Adam Bah in Markala-Diamarabougou, February 6, 2010.

⁵⁴⁸ Interview by author with Assane Coulibaly in Sirakoro, April 28, 2010; Interview by author with Moctar Coulibaly and Mariatou Traoré in Sirakoro, April 28, 2010; ANM 1 R 1572 II FR, Affaires Agricoles Office du Niger 1955-1956.

because they would receive their own land allotment and gain control over their own Office harvest. These young men brought their wives or began looking for one.⁵⁴⁹ Women did not always have the same choices. As in the case of the first Fouabougou move, relocations were sometimes driven by hardship. For Fouabougou settlers this meant the loss of property and food stores due to flooding.

New Office towns and markets were plotted over existing social and economic geographies. For example, young men in Nara sought wives from the Sibila region located between the two major Office regions. Most of the first families in Nara came from a small town near there and they maintained special ties with remaining families.⁵⁵⁰ Families in Nyamina also maintained a similar social relationship with Tièmadeni (a town outside the Office). Many women from Tièmadeni married into families in Nyamina and young women from Nyamina often married men in Tièmadeni.⁵⁵¹ These types of social exchanges were common across the French Soudan.⁵⁵² At the Office, they helped foster economic relationships separate from the Office structure. Relations living outside the project benefited in turn through the exchange of millet or sauce ingredients for cotton or rice from the Office. These types of mutually beneficial arrangements were not common for all Office towns or residents, but where they existed they were quite important.

In the postwar years, the Office became a dynamic social and economic space for workers who had access to cash and for young residents of farming towns. Young men working for wages at the Office helped create new economic niches. After the Office opened a new town

⁵⁴⁹ AON 138/2 Notes et Reflexions au sujet du rapport de M. Dumont by the Service de l'Exploitation, c. 1950-1951.

⁵⁵⁰ Interview by author with Rokia Diarra in Nara, April 29, 2010.

⁵⁵¹ Interview by author with Sékou Coulibaly and Kadiatou Traoré in Nyamina, May 31, 2010.

⁵⁵² On historical marriage practices in the region see, Grosz-Ngaté, "Monetization of Bridewealth and the Abandonment Of 'Kin Roads' To Marriage in Sana, Mali."

at km 39 it became a well-known center for after-hours leisure. Machine operators and other workers traveled to km 39 at night to purchase drinks and host dance parties. To foster a festive atmosphere the workers paid musicians to play and encouraged local young women to dance. Women who sold food or drinks also made cash during these parties. In the same region of the Office, workers frequented the new market at the town called B6. As wage workers these young men had cash year-round to purchase goods (many sold by women) in the market.⁵⁵³

For Tchaka Diallo, who worked as a tractor driver, the Office was very "cosmopolitan." In his words, "you could always find people from your home at the Office." He further explained that this was because there were people from everywhere living and working at the project. This was his definition of cosmopolitan. Tchaka traveled to every sector of the Office for his work and always looked for people from his home region of Koutiala. He was a Christian and went to Church in Koutiala-Kura (New Koutiala) where many other Christians formerly connected to the Protestant mission in Koutiala lived. Many of his fellow Christians came to the Office as forced settlers, whereas he was a voluntary wage laborer. His association to the Office differed from that of the settlers, but they connected because they came from "the same place" and shared the same religion. When Tchaka began looking for a wife he approached a man who was several years his senior from Koutiala. The man was then working in Macina in an administrative post and had befriended the younger man. Tchaka never had to go home to look for a wife because he married this man's daughter.⁵⁵⁴

By the same token, daughters of farmers sometimes married wage workers. Adam Bah was a young woman whose father settled at the Office to farm after working on the dam in

⁵⁵³ Interview by author with Tchaka Diallo in Markala-Diamarebougou, March 10, 2010.

⁵⁵⁴ Interview by author with Tchaka Diallo in Markala-Diamarebougou, January 27, 2010.

Markala. She won the local (Office sponsored) beauty pageant and was sought after as a potential bride. Adam eventually married an African agricultural staff member after being courted by many other workers.⁵⁵⁵ The point here is not that the Office became an idyllic "ilôt de prosperité" (island of prosperity) as Bélime and other officials alleged, but that men and women worked to make the Office an economically and socially viable place to live.

The Impact of an Expanding Office

In the postwar years, the irrigated area of the Office and the number of its towns expanded. Plans dating from the 1930s for the Office included a vast amount of territory that by the late 1940s was not yet open for irrigated farming. With each year more of this farmland was cleared and new towns were established with the idea of reaching those initial estimations. Following the opening in the 1950s of the new sectors based at Molodo-Center and Kouroumary the French official Inspector Mazodier approved the institution's plans for even further expansion in 1957.⁵⁵⁶ This pattern continued into the 1960s with the establishment of the N'Debougou and Dogofry sectors near Sokolo.⁵⁵⁷

In this process, existing towns were integrated into the irrigation infrastructure and more new towns were created. For example, Nyamina was created near Molodo in 1945. A young

⁵⁵⁵The beauty pageant was one of several events hosted by the Office to foster social life after multiple critics remarked on the lack of animation in economically struggling towns. Interview by author with Tchaka Diallo in Markala-Diamarebougou, March 10, 2010; Interview by author with Madame Dagno Adam Bah in Markala-Diamarebougou, January 25, 2010; Interview by author with Madame Dagno Adam Bah in Markala-Diamarebougou, February 6, 2010.

⁵⁵⁶ AON 138/3, Reorganisation de l'Office du Niger, Rapport Rossin, January 1957. This reported included notes from the mission by Inspector General Mazodier. See also, AON 138/5, Reorganisation de l'Office du Niger, Rapport de Monsieur le Gouverneur de la FOM Romani Commissaire du Gouvernement, December 1956.

⁵⁵⁷ AON 464, IER Division d'Etudes Techniques, 1980, Etude Socio-Economique des Exploitations des Colons de l'Office du Niger.

Sékou Coulibaly and his parents were among the first group of settlers there. As Sékou grew up he witnessed the Office grow. When Sékou was still young he watched the construction of neighboring Sokorani. Office workers dug the canal until it extended to Sokorani just down the road from Nyamina; this is also what happened with Bo a town that predated the Office but in these years began farming cash-crops by irrigation. What Sékou saw was that when the "water" reached a town it would then become part of the Office.⁵⁵⁸ Office geography in many senses followed the water. Baba Djiguiba who was a driver for the Office similarly described the order of events in the construction of new towns: First the canal was dug and the town was built, then they brought people who cut the trees, followed by the machines that created the fields.⁵⁵⁹

A continually expanding Office disrupted and re-ordered the regional landscape. More and more nearby towns were compelled to formally associate with the institution or lose their access to land. For example, in the mid-1950s the towns of Tomi and Niaro were pressured to join the Office for fear of forced relocation. Farmers in both towns had used excess water from over-flowing canals in their own fields. In response the Office administration threatened to evict the entire populations of both towns if they did not agree to pay for use of the water and join the Office.⁵⁶⁰ Towns at the edges of the Office that refused incorporation frequently lost their customary rights to land. Boky-Werean old town near Kolongotomo and Kokry that continued to resist the incursion of the Office ended up losing some of their land holdings as new towns were created.⁵⁶¹ Other towns that refused to farm for the Office simply lost their claim to

⁵⁵⁸ Interview by author with Sékou Coulibaly and Kadiatou Traoré in Nyamina, May 31, 2010. The town of Bo only joined the Office after 1958. When the town initially requested integration with the Office it was refused entry because of its elevation in relation to the Molodo swamp. AON 196, Correspondance Directeur General 1957-1960, letter dated November 13, 1958.

⁵⁵⁹ Interview by author with Baba Djiguiba in Molodo-Centre, April 10, 2010.

⁵⁶⁰ AON 156, Essor articles folder, "Motion from the Syndicat Autonome des Agriculteurs et colons Nigeriens," *Essor* n. 2737 March 24, 1958.

⁵⁶¹ Interview by author with Moussa Diawara, Aminata Tangare, and Hawoyi Diawara in Boky-Were, May 7, 2010.

settlement under a colonial government supportive of Office expansion; these populations were relocated outside the expanding Office territory. This expansion impacted Office residents whose towns were also moved without the consent of farmers. As late as 1955, labor and political activists were requesting information from the administration about forced relocations of Office towns.⁵⁶² Despite the best efforts of many Office residents to transform the space of the Office, they still faced the constraints and uncertainties of living at directly under colonial rule.

Finding Space for Trees and Gardens

Even though the Office claimed a large territory, access to land was a problem for women and men. Office allotments per household were not always big enough for large households to earn enough profit and feed their members.⁵⁶³ Women had little access to land to cultivate sauce ingredients or common land to collect wood for fuel or to harvest fruits and nuts. Residents were even prohibited from entering some nearby lands that had been classified as protected forests.⁵⁶⁴ For example, the government classified territory from Mio near Sansanding to N'Zirakoro as a protected forest. This move outlawed cutting firewood from the area.⁵⁶⁵ As the Office expanded, women encountered more irrigated fields and canals than wooded areas.

Office administrators were aware to some extent that settlers wanted access to more trees. Agricultural experts in particular promoted the planting of fruit trees to supplement the diets of

 ⁵⁶² AON 111, Dossier Confidentiel, Colonisation 1953/6 (Affaire Sangaré), Simple Questions, June 10, 1955.
 ⁵⁶³ The size of land allotments was a frequent complaint of farmers who brought grievances to their instructor or the administration. ANM 1 R 1572 II FR, Affaires Agricoles Office du Niger 1955-1956.

⁵⁶⁴ Local farmers in and outside the Office protested such restrictions on common land. AON 156, *Essor* articles folder, Motion from the Syndicat Autonome des Agriculteurs et colons Nigeriens, from the *Essor* n. 2737 March 24, 1958.

⁵⁶⁵ AON 156, *Essor* articles folder, Motion from the Syndicat Autonome des Agriculteurs et colons Nigeriens, from the *Essor* n. 2737 March 24, 1958.

settlers. Indeed, some new Office towns benefitted from mango and other fruit trees that were planted by the Office.⁵⁶⁶ These trees were appreciated but they did not solve the problem of specific tree loss for women. They especially needed wood for cooking fuel and access to products from baobab, shea and *nere* trees. In fact, when new Office fields were prepared baobab trees were routinely poisoned to make it easier to clear the land.⁵⁶⁷ This created a serious void in women's foodscapes.

Few women moved to a new Office town where they could readily find all the trees and plants essential to the manufacture of sauce ingredients or other food. Office towns were sometimes located near a plantation of *one* of the kinds of trees that women needed to make foodstuffs. Other women came to towns without any nearby tree resources. Where possible women planted the trees they needed. In Nara women purchased *namugu* (made from baobab leaves) for sauces until they started planting their own baobab trees in town.⁵⁶⁸ Their choice of location was restricted by the way the town and fields were already laid out, but they planted where they could.

Most women also lost access to rainy season foods like wild rice. As late as 1957 women living at the former experimental town of Niénébalé collected wild rice along the banks of the Niger River. After the Office formally integrated Niénébalé into its structure the administration subsequently granted several farming concessions to European owners on nearby lands. In 1957 a European wife living at one of the concessions tried to chase women from Niénébalé away

⁵⁶⁶ Interview by author with Djenebu Coulibaly and Djewari Samaké in Kolony (km 26), April 9, 2010; AON 118/2, Director Georges Peter, "Un Exemple d'Assistance Technique: L'Office du Niger," January 1, 1955.

⁵⁶⁷ ANM RFD 253, Direction Technique No. 14, Problèmes Culturaux et Mécanisation Agricole de l'Office du Niger, 1955.

⁵⁶⁸ Interview by author with Rokia Diarra in Nara, April 29, 2010.

from an area along the river. The women were there to collect wild rice and even had to compete for access to the uncultivated land at the edge of the river.⁵⁶⁹

From the founding of the Office, women worked to remake the irrigated farmland and surrounding areas for their own purposes. One of the first things that many farm families did upon arrival was to clear land beyond the Office for additional rain-fed fields where they grew millet, corn, and other food crops. The settlers who were the first to arrive quickly claimed land for this purpose. This meant that farmers in towns established in later years had less access to land for additional farming. However, farmers in towns at the edges of the Office were able to claim fields just outside the area claimed by the Office. Even though farmers depended on rain for these additional harvests they like some neighboring towns benefitted from excess water in the irrigation system. Whenever possible they even channeled the water to their neighboring food fields.⁵⁷⁰

Early labor restrictions on women and men meant that farmers had little time to devote to their rain-fed fields. Much of this work had to be accomplished at night. The same was true for women's cultivation in gardens or in the available *kongo*.⁵⁷¹ Mamu Coulibaly remembered only working in the millet fields and that at first women had no gardens.⁵⁷² This was perhaps one reason that women increasingly purchased ingredients that required extensive labor time to produce.

⁵⁶⁹ AON 156, *Essor* articles folder, "Echos de Brousse de Nienebale," from the *Essor* n. 2515, June 4, 1957. ⁵⁷⁰Beusekom, *Negotiating Development*, 121-26.

⁵⁷¹Beusekom, *Negotiating Development*, 121-26.

⁵⁷² Interview by author with Mariam (Mamu) Coulibaly in Kankan (formerly Sangarébougou), May 4, 2010.

Despite these restrictions women did cultivate small gardens.⁵⁷³ To do so, they had to carve out space where they could. Some women grew food plants in small plots they prepared next to the canals. In Nara, women grew onions and okra in the space available between the rice fields and the canals.⁵⁷⁴ Even though the land was not always "very good,"⁵⁷⁵ it enabled women who were expected be working in the fields to cultivate some sauce ingredients. Many of the women cultivating garden crops in the early years were older women. They were less frequently monitored by guards and not expected to labor as heavily in the Office fields. However, they had to work if the household was going to eat.⁵⁷⁶ In Mossi towns women also planted cotton, okra, corn, sweet potatoes, and *ngoyo*⁵⁷⁷ in small open areas next to their houses. This had been common practice in their home region Ouahigouya.⁵⁷⁸ Replicating it at the Office made intense use of what little land was available. In San-Kura women planted cotton in small nutrient rich dirt mounds called *tungo* built by termites and other insects. They lived in the rice sector but still needed cotton to make clothes or earn cash. *Tungo* dotted the land in and around the rice fields, and women in the same region also grew calabashes, *da*, and okra in the mounds.⁵⁷⁹

At the end of the war, Governor Reste sponsored an investigation—commonly called the Mission Reste (1945)—into Office financial and social policy. The resulting series of reports recommended among other changes that the institution henceforth provide women and elderly residents with garden plots. This particular recommendation came on the heels of widespread

⁵⁷³ Monica van Beusekom also found that some women maintained small gardens for onion, okra, peanuts, and cotton despite labor time constraints and the problem of accessing fields. Beusekom, *Negotiating Development*, 98. ⁵⁷⁴ Interview by author with Rokia Diarra in Nara, April 29, 2010.

⁵⁷⁵ Comment from Alimata Dembélé that the land right next to the canals was not the best quality. Interview by author with Alimata Dembélé and Moussa Coulibaly in Koutiala-Kura, May 3, 2010.

⁵⁷⁶ Interview by author with Fatoumata Coulibaly in Kolony (km 26), March 24, 2010; Interview by author with Djenebu Coulibaly and Djewari Samaké in Kolony (km 26), April 9, 2010.

⁵⁷⁷ A type of bitter eggplant.

⁵⁷⁸ Interview by author with Fati Kindo in Kossako, May 11, 2010.

⁵⁷⁹ AON 367/8 Rapport Annuel Kokry-Kolongotomo, 1948-1949.

food shortages at the Office, and the investigating officials clearly could not ignore the devastating impacts of the shortages.⁵⁸⁰ Over the following decade women's gardening activity greatly increased, and the shift was fresh in women's memories in the first decade of this century. For example, Fatoumata Coulibaly came to Sabula in the late 1950s from another Office town called Tongoloba where her parents had been brought by force. Growing up in Tongoloba very few women had plots to grow sauce ingredients. By the time she arrived in Sabula, women there were planting gardens with onions, peppers, garlic, and tomatoes. To water the gardens Fatoumata remembered that women at first filled calabashes with water and splashed it over their plants. After she arrived in Sabula, they also began to build small channels in the plots to water by small-scale irrigation.⁵⁸¹ One possible reason for the latter change might be that gardening had become established enough that women could mark ownership over their plots. This was all the more necessary following a 1955 order for bulldozers to flatten the termite mounds in rice fields which women had previously used to garden.⁵⁸²

During this period men gradually allotted women garden plots in their Office fields implicitly acknowledging women's gardening activities as integral to the household. When Hawa Diarra arrived in Nara in the late 1950s, her husband gave her a parcel to grow peppers, garlic, and tobacco. She grew the tobacco for sale in the Macina, Kokry, and Kuna markets.⁵⁸³ In Kokry, the wives of workers also maintained small plots behind the row of workers' houses. These plots were granted by local Office officials.⁵⁸⁴ By 1960, it was common for men with Office land to also provide their wives with a small garden. Even a woman whose husband did

⁵⁸⁰ AON 367/8 Rapport Annuel Kokry-Kolongotomo, 1948-1949. See also, Schreyger, *L'Office du Niger au Mali* 1932 à 1982, 96.

⁵⁸¹ Interview by author with Fatoumata Coulibaly and Oumou Sow in Sabula, May 10, 2010.

⁵⁸² ANM RFD 253, Direction Technique No. 14, Problèmes Culturaux et Mécanisation Agricole de l'Office du Niger, 1955.

⁵⁸³ Interview by author with Hawa Diarra in Nara, April, 30, 2010.

⁵⁸⁴ Interview by author with Kono Dieunta in Kokry, May 3, 2010.

not grant her access to land could rent space in another man's fields. Generally half of women's gardening produce was for home consumption, but the remaining half was sold.⁵⁸⁵

The assignment of garden space to women was by no means inevitable, and some men retained sole control over the garden plots on their Office lands. For example, men in San-Kura grew peppers, onions, and tobacco for sale; they also gave some of the food stuffs to their wives.⁵⁸⁶ As labor constraints in the fields eased after the war, many men increased the amount of time they spent cultivating grains and vegetables for home consumption and sale. A 1954 manual for European instructors even directed staff to offer men small parcels of land for food cultivation.⁵⁸⁷ Gardening soon provided income to supplement what men earned from cotton or rice. In Kouia gardening was so extensive that the town reputedly produced almost all the sauce ingredients sold for the large Niono market.⁵⁸⁸ By 1959 Office Staff in the Kouroumary sector were even urging men to cultivate gardens as an extra source of income.⁵⁸⁹ Another change following the war and the Reste Mission was that more of the rice grown in Office fields was retained for consumption or for sale in local markets.⁵⁹⁰

When the French agricultural expert René Dumont toured the Office in 1950, he noted that gardening families fared especially well. He described a household in Lafiala:

A large family does a better job farming and is better off than the average family. Therefore, visitors are often taken to see the Bandiené Tangara household counting 13 men, 14 women, in total 44 members [including children]. They cultivate 28 hectares and are still in need of land. The gardens here are fertilized and in the rainy season are

⁵⁸⁵ Interview by author with Djewari Samaké in Kolony (km 26), March 29, 2010.

⁵⁸⁶ Interview by author with Wassa Dembélé and Kalifa Dembélé in San-Kura, May 5, 2010.

⁵⁸⁷ AON 11, Vade Mecum de l'Instructeur de Colonisation en Centre Cotonnier, c. 1954, page 11.

⁵⁸⁸ AON 138/2, Rene Dumont, [Incomplete Report] Réorganisation de l'Office du Niger, c. 1950, page 10.

⁵⁸⁹ Dramane Doumbia cited in Dougnon, *Travail De Blanc*, *Travail De Noir: La Migration des Paysans Dogon vers L'Office du Niger et au Ghana (1910-1980)* 176.

⁵⁹⁰ AON 132/2, Delegation au Paysannat, Remy Madier, Organisation des Associations Cooperatives Agricoles, March 1958; Interview by author with Tchaka Diallo and Mme. Kone Mariam Diarra in Markala-Diamarebougou, January 26, 2010. Comment by Tchaka Diallo.

planted in corn, millet, dah [sic], and cotton. Thanks to early watering in the dry season peppers, calabashes, tomatoes, potatoes, and assorted sauce ingredients are grown. At the edge of swampy or stagnant waters it is tobacco, garlic, and onion. [...] With well cleaned earth from the best garden land, they manufacture bricks for their houses.⁵⁹¹

As observed by Dumont, farmers used whatever land was available to grow as many grain, vegetable, and other crops as possible. Canal water was also used for dry season gardens before it was cut off. In effect, the farmers extended the irrigation season to benefit their dry season activities. It is also worth noting here that the model of a successful family was large and included as many or more adult women as adult men.

During the period observed by Dumont, many men like Tangara did see their incomes from cash crops briefly rise, especially in the cotton sector. However, their profits quickly fell. In response, many male farmers in the Niono area increased their gardening activities. In fact, 28 percent of cultivated land in the Niono sector was taken up by garden plots for the 1958 to 1959 agricultural season.⁵⁹² Large-scale cash-crop farming was simply not enough to pay taxes, maintain social ties, and support a family's other needs. In those years, men (a few not all) began producing some of the things women needed to cook, but women's efforts to provide sauce ingredients continued to be essential.

Buying the Sauce

Women's food production was greatly altered by the labor and geographic constrains of the Office, and increasingly marketing occupied more of women's overall labor time. In some areas women still made much of what they needed to cook and maintain a household. When women

⁵⁹¹ AON 138/2, Rene Dumont, Réorganisation de l'Office du Niger, c. 1950, pages 6-7.

⁵⁹²Schreyger, *L'Office du Niger au Mali 1932 à 1982*, 159-62.

did not have access to fields, or the specific trees and plants necessary for making a meal they purchased the raw or processed ingredients. As a result, they devoted more energy to cashearning work. Women who did well in their marketing endeavors prepared tasty meals, while women who were less successful at preparing their own foodstuffs or earning cash had trouble making quality meals.

Women in towns that predated the Office and were later integrated into its farming structure continued to produce many of the ingredients necessary for cooking and household maintenance. For example, women in Molodo-Bamana were fortunate to have personal fields because the town had rights to land predating the establishment of the Office. When the town leaders agreed to join the Office, they retained rights over common lands and fields beyond the irrigated areas.⁵⁹³ As a result, women maintained much of their previous labor regime. They grew millet, peanuts, beans, and *da* in fields beyond the limits of irrigated Office farming. They also tended surrounding trees and bushes for sauce ingredients.⁵⁹⁴

Women's harvests in Molodo enabled them to easily continue cooking for local tastes. Millet was the staple grain for the main dish *toh*, *moni*, and local couscous. Peanuts were grilled, ground into a paste called *tegedege* for a sauce that accompanied rice. They were also used to produce cooking oil. Women cooked the beans they grew and used leaves from the bean plants in some sauces. *Da* was another plant whose leaves were dried and ground to make a sauce ingredient. Women also used *sege* or potash obtained by burning dried millet stalks to make soap when cooked with shea oil. Most of what women needed was still obtained from the fields or cultivated from the communally controlled *kongo*.

⁵⁹³ Interview by author with Harouna Bouaré and Nianzon Bouaré in in Molodo-Bamana, April 16, 2010.

⁵⁹⁴ Interview by author with Hawa Coulibaly, Mariam Sango, Djéné Mariko, Adam Coulibaly, and Nyé Diarra in Molodo-Bamana, April 19, 2010; Interview by author with Harouna Bouaré and Nianzon Bouaré in in Molodo-Bamana, April 16, 2010.

When Molodo joined the Office women maintained control over many food resources, but they also did more work in the millet fields. This was a recognizable change in their work rhythm. Under the Office farm labor was now divided between the millet fields and the irrigated Office rice fields where men were largely occupied with the latter. Men were responsible for following the Office labor calendar, paying the institution's fees, and delivering the harvest for sale. The varieties of cotton and rice cultivated for the Office required properly timed fertilizer and pesticide treatments. This work followed a strict schedule that was new to most farmers.⁵⁹⁵ Though men still helped to prepare the millet fields and to bring in the harvest, women were largely responsible for the crop. Women also weeded in the Office fields and helped during the harvest. Field labor was intensified for everyone in the household.

The nearby Office center Niono offered an attractive marketing option for women. After Niono's founding in 1937, women began to travel the new road to its growing market. There they purchased fish from Bozo sellers.⁵⁹⁶ Many women from other Office areas fished, whereas women from Molodo chose to purchase fish. They were also busy farming, cultivating *kongo* foods, and processing them. The trip to Niono by foot added labor time, but it was a quicker trip than traveling to the older regional markets.⁵⁹⁷ Fresh and dried varieties of fish were now readily available in a nearby market and added to the flavor and nutrition of the sauces prepared to go with the main dish. Molodo women also bought salt, which had long been available from Saharan traders but was then also offered in Niono. To do this marketing, women sold small quantities of rice from their husband's fields. Women with their own fields also sold millet and

⁵⁹⁵Emile Schreyger previously examined the demands of the Office labor schedule in Schreyger, *L'Office du Niger au Mali 1932 à 1982*, 112, 15-16, 18.

⁵⁹⁶ Interview by author with Hawa Coulibaly, Mariam Sango, Djéné Mariko, Adam Coulibaly, and Nyé Diarra in Molodo-Bamana, April 19, 2010.

⁵⁹⁷ Molodo-Bamana also had its own small market once a week. Personal communication with N'Faly Samaké in Molodo-Bamana, April 9, 2010.

peanuts from their own harvests. Many Molodo women had a cash income, but unlike many other women at the Office were less reliant on it for food production.

In other towns where women had less access to common lands or personal fields they purchased more of what they needed to cook. Women who did garden had only a small plot. Many new towns also lacked the cultivated plantations of trees like shea or *nere* that existed in long standing towns like Molodo. Women from other towns near Niono purchased basic necessities like millet, cooking oil, shea butter, *soumbala, tegedege*, okra powder called *gamugu*, and soap. Such extensive marketing was unnecessary for most women in Molodo but common in towns created by the Office.

For women who did need to buy more to cook, the Office marketplace offered a diversity of foods for common dishes and new sauces. Women in the cotton sector especially remarked upon the appearance of tomatoes and onions in the Niono market. Women similarly found a variety of goods at the Office market in Kokry. Sellers from non-Office towns near Kokry like Bolodi offered peppers, onions, tomatoes, garlic, and potatoes, some varieties of which had been introduced by colonial botanists looking to expand garden production.⁵⁹⁸ In the late 1950s, women could purchase a large sack of sweet potatoes for 400 to 500 FR, which was a good price for women.⁵⁹⁹ Across the Office, women also cultivated guava and mango fruits from trees planted in new towns by Office staff.⁶⁰⁰ Women's lack of access to fields and the absence of

 ⁵⁹⁸ Information for food plants introduced by colonial botanists and later sold in Office markets is found in a variety of botanical reports located in the Office du Niger Archives. AON 367/8, Report for Kokry, n.d. [likely 1948-1949]; AON 30, Dossier Robarty Botanique; AON 93 Dossier Botanique (Suite); AON 85, Introduction de Plantes à Soninkoura.
 ⁵⁹⁹ Interview by author with Hawa Diarra in Nara, April 30, 2010. Historian James McCann identifies sweet

⁵⁹⁹ Interview by author with Hawa Diarra in Nara, April 30, 2010. Historian James McCann identifies sweet potatoes or yams historically as an important staple food in the Mande world of West Africa. European observers remarked that poor farmers without millet or yams grew rice. While European observers may not have understood agricultural wealth in the region certainly yams were a luxury in a region where they were not easily cultivated. In fact sweet potatoes were widely planted south of the Middle Niger in what is today Guinea and southern Mali. McCann, *Stirring the Pot: A History of African Cuisine*, 38, 41-44.

⁶⁰⁰ Interview by author with Oumou Dembélé in Kouyan-N'Goloba, April 13, 2010.

many products from cleared forests constrained food production and preparation, but nearby markets offered a somewhat expanded selection of foods for women who were successful at earning cash. Seasonal variety from the fields and commons was long important in local diets, and the new types of foods helped women to maintain diversity in what they prepared. For example, Bintu Dembélé, who grew up in the Office town B1 eating mostly the sauce made from *da*, started purchasing ingredients for peanut, onion, and okra sauces after she married in Sokorani.⁶⁰¹ The changes to her sauce ingredients were noticeable but not necessarily an undesirable change in the meals she prepared for her husband and their household.

For the most part women supplied their cooking and household needs through a combination of marketing, home manufacture, and farming. For example, many households cultivated *da*. Families growing rice for the Office also increasingly ate rice where millet was now a cash purchase. Most women and men also fished in the canals meaning that the sauce frequently included fresh fish. Just south of Niono, shea trees were scarce, but baobab trees were plentiful. Here, women bought shea oil and butter, but dried and pounded baobab leaves for use in sauces. Elsewhere, women purchased this powder called *namugu*, but made their own cooking butters and oils. Women in San-Kura not far from Kokry used the nuts from shea trees near their town to make butter. They also used shea butter to make soap, but had to purchase *sege* to do so. In the same town women purchased *nere* grains but made their own *soumbala* from the grains.⁶⁰² Women from both the irrigated cotton and rice areas produced cotton thread, but those in the rice zone purchased cloth when they went to the market for peanuts, soap, and

⁶⁰¹ Interview by author with Daouda Bouaré and Bintu Dembélé in Sokorani, June 1, 2010. Hawa Diarra similarly remembered that by the 1960s women both purchased and cultivated onions for the new onion sauce. Interview by author with Hawa Diarra in Nara, April 30, 2010.

⁶⁰² Interview by author with Wassa Dembélé and Kalifa Dembélé in San-Kura, May 5, 2010.

other goods^{.603} Similar to the practice of women from Molodo-Bamana, most women earned cash for their purchases by selling small piles of rice or cotton from their family's Office fields.⁶⁰⁴

In time a specialized regional trade developed between Office towns and non-Office centers. For example, the non-Office town Sibila (near Sansanding) traded in shea butter. The Somono fishing town Tomi produced smoked fish. Sellers from the western Bendugu region supplied *soumbala*. Farmers in millet growing areas like Monimpébougou, Dioro, and Bako often sold millet, as well as *sege*, *tegedege* (in the rainy season), okra, shea butter, and *soumbala* in Office towns or markets.⁶⁰⁵ Mossi women also purchased *boombo*, a tree product from their home region in Haute Volta. *Boombo* was necessary for cooking a specific sauce and grew to the south of Segou in Konobougou. From there, sellers brought it to Office markets catering to Mossi towns.⁶⁰⁶

Women from Office towns also brought goods to exchange in the regional trade. Women near Niono sold cotton and cotton thread to traders and weavers.⁶⁰⁷ In Kokry, women sold calabashes and rice.⁶⁰⁸ Assane Coulibaly from Sirakoro in the rice sector exchanged rice directly for *namugu* with sellers from Monimpé, Boky-Wéré, and Kuna.⁶⁰⁹ Women were more successful in these kinds of trades if they were well-versed in the regional market geography and

⁶⁰³ Interview by author with Wassa Dembélé and Kalifa Dembélé in San-Kura, May 5, 2010.

⁶⁰⁴ Interview by author with Djenebu Coulibaly and Djewari Samaké in Kolony (km 26), April 9, 2010; Interview by author with Oumou Dembélé in Kouyan-N'Goloba, April 13, 2010; Interview by author with Fatoumata Coulibaly, Kadiatou Mallé, and Maïssa Sountura in Kouyan-Koura, April 14, 2010; Interview by author with Fati Kindo in Kossako, May 11, 2010; Interview by author with Mariam (Mamu) Coulibaly in Kankan (formerly Sangarébougou), May 4, 2010.

⁶⁰⁵ Interview by author with Hawa Diarra in Nara, April 30, 2010; Interview by author with Wassa Dembélé and Kalifa Dembélé in San-Kura, May 5, 2010; Interview by author with Kono Dieunta in Kokry, May 3, 2010; Interview by author with Assane Coulibaly in Sirakoro, April 28, 2010.

⁶⁰⁶ Interview by author with Fati Kindo in Kossako, May 11, 2010.

⁶⁰⁷ Interview by author with Mamadou Djiré in Niono, August 7, 2010.

⁶⁰⁸ Interview by author with Rokia Diarra in Nara, April 29, 2010.

⁶⁰⁹ Interview by author with Assane Coulibaly in Sirakoro, April 28, 2010.

the Office roadways. It also helped if women were able to manage their time to allow for cashearning and marketing along with their farming and cooking work.

Many sellers from the non-Office regions traveled directly to Office towns to sell their goods. Aramata Diarra grew up in Siribala just south of Niono and as a young girl traveled as far as the market in Sansanding. It was at least a day's trip from her home town to Sansanding. After she married in Fouabougou, she no longer needed to travel to purchase goods. She bought everything she needed from traveling sellers.⁶¹⁰ Bozo fishermen and women from Kokry-Bozo supplied fresh and smoked fish to the Kokry Office market. They also traveled to nearby Office towns selling basic items like salt, shea oil, *soumbala*, *namugu*.⁶¹¹ Cattle herding men and women also frequented many Office towns selling milk and meat. Mamu Coulibaly remembers paying only 10 FR in Kankan for a packet of meat from traveling herders (which may have been a sign of hardship on the part of the herders).⁶¹² Most of the goods sold in Office towns were affordable. Purchasing from traveling sellers meant women saved travel time, especially in the first decade when travel was more difficult and free time harder to come by. Moreover, Office staff sometimes confiscated the guns of farmers meaning men had fewer opportunities to supplement the household meat supply through hunting activities.⁶¹³ It was often easier for women to purchase basic ingredients like meat, fish, salt, or tree products from sellers who came right to their town. However, women exerted less control over prices in these situations.

Other women chose to buy and sell in regional markets outside the Office. Women persisted in traveling to these markets despite early constraints on their movements. In the first

⁶¹⁰ Interview by author with Aramata Diarra in Fouabougou, March 30, 2010.

⁶¹¹ Interview by author with Alimata Dembélé and Moussa Coulibaly in Koutiala-Kura, May 3, 2010; Interview by author with Wassa Dembélé and Kalifa Dembélé in San-Kura, May 5, 2010.

⁶¹² Interview by author with Mariam (Mamu) Coulibaly in Kankan (formerly Sangarébougou), May 4, 2010; Interview by author with Alimata Dembélé and Moussa Coulibaly in Koutiala-Kura, May 3, 2010.

⁶¹³ AON 111, Dossier Confidentiel, Colonisation 1953/6 (Affaire Sangaré), Simple Questions, June 10, 1955.

decade of the project, guards working for the colonial administration often stopped women precisely because they were selling rice and cotton in other markets.⁶¹⁴ Travel restrictions were lifted after 1945 after which time it was common practice for women to sell cotton and rice in markets across the region for cash that they then used to purchase food stuffs.⁶¹⁵ Women from Nara near Kokry often traveled to the large regional market in Dioro where they purchased *namugu, soumballa*, unprocessed *nere* seeds, salt, and shea butter. The Dioro market offered a great variety of ingredients women needed to cook. Women could also sell rice to local merchants and consumers for a better price than the prices the Office offered their husbands.⁶¹⁶ Rokia Diarra who grew up in Nara also traveled as a young woman to Macina to buy very large dried fish.⁶¹⁷ Both the Dioro and Macina markets were at least a day's travel from Nara, whereas the Kokry market was less than an hour's distance by foot. Women weighed the time for travel against greater selection and often chose the market with more to offer.

Simply put the Office markets only addressed some of women's household needs. Certainly, better prices for cotton and rice in outside markets were one good reason to travel to a distant market. In fact, the regional market at Siengo gained local prominence due in part to the sale of cotton and rice by Office farmers.⁶¹⁸ However, some markets also fit better into women's labor schedule. For example, all Office markets operated on Sunday. It was the day all European and African staff were off from work.⁶¹⁹ Women who cooked throughout the week often needed to do some marketing on other days too. In many cases, women also had family

⁶¹⁴Beusekom, Negotiating Development, 96.

⁶¹⁵ See, Schreyger, L'Office du Niger au Mali 1932 à 1982, 135.

⁶¹⁶For a comparison of Office prices to regional markets see, Beusekom, Negotiating Development, 131-45.

⁶¹⁷ Interview by author with Rokia Diarra in Nara, April 29, 2010. During the interview she lamented the fact that she can no longer find the same large fish and joked that they all went somewhere, but she didn't know where. ⁶¹⁸Beusekom, *Negotiating Development*, 132.

⁶¹⁹ Conversation between author and Bintou Dieunta an animatrice for the Office du Niger in Kokry, April 30, 2010.

relations near a preferred regional market. Regional markets were sometimes more attractive economically and socially.

Budgeting Cash Earnings and Labor Time

Producing a meal at the Office required the management of cash resources as well as knowledge of the markets, of the changing *kongo*, and of agriculture. A woman's food budget included contributions in kind from the male household head who was in charge of the Office cotton or rice fields. Women still labored in those fields, but no longer received land for their own fields in exchange. Each woman cooking received small quantities of the Office harvest to sell. To the cash gained from these sales, women added income earned from their own enterprises.

When René Dumont toured the Office in 1950 he took particular note of women at the scheme. In his report to the Office administration, Dumont highlighted women's responsibility for the household budget: "Women who are essential to the prosperity of small farms not only because of their labor but also because they control the farm's budget, participate only minimally in agricultural activity in Africa."⁶²⁰ While Dumont certainly overlooked women's farm labor, he was right about the importance of women's budgeting. Indeed, the ability to earn cash and plan for essential food purchases became increasingly important for a family's well-being. The more cash available to a woman to purchase ingredients, the better her sauce. Even if she could make some of what she needed to cook, she still had to buy many basic ingredients. Women with more cash either from the sale of Office crops or from other work increasingly made better food. Most everyone was eating *toh*, but the better-off farm households had tastier sauces.⁶²¹ In

⁶²⁰ AON 138/2, Critique de R. Dumont (Intéressant le Service des Recherches), February 5, 1951.

⁶²¹ Interview by author with Sékou Coulibaly and Kadiatou Traoré in Nyamina, May 31, 2010.

other cases, women in some towns were better situated to benefit from tree and other wild resources than others, or had better access to markets making for economic differentiation between women beyond the larger divide between cotton growers and rice growers.

To make the best use of divergent resources women's work routines had to allow time for marketing, field work, the production of some ingredients, and of course cooking. Women's work calendars varied across the Office. Around Niono, the calendar for cotton cultivation influenced much of women's time especially during the harvest. In areas where Office farmers grew rice, women devoted less time to field labor but time spent in the field was more directly related to food production. Additionally, women incorporated new elements into their calendars such as knowing the days for certain markets or the schedules of traveling merchants. Work varied according to how much purchasing women needed to do each week and which tree and other raw resources were immediately available. For example, young women like Fatoumata Coulibaly who grew up manufacturing soap from shea butter and sege in the Office town Tongoloba started purchasing soap when she married into a household in Sabula. The same ingredients were no longer available to her, so she shifted her manufacturing and purchasing time.⁶²² Fatoumata also grew up with a sense of the natural geography around Tongoloba. She knew where to find certain wild nuts and other plants. After she married her sense of the Office resource geography expanded to include where to buy some of those same products.

Office Food Distributions

For many years food stuffs distributed by the Office substituted for some of the products women previously produced. First year settlers in Nyamina and other towns received somewhat regular rations of millet, oil, canned meat, and canned fish. The canned items required extra

⁶²² Interview by author with Fatoumata Coulibaly and Oumou Sow in Sabula, May 10, 2010.

labor to prepare the meat and fish for cooking, and women had to adapt recipes that called for fresh meat and fish, or dried fish.⁶²³ Assane Coulibaly remembered that rations in Sirakoro continued well after her first year at the Office. She received what she thought was good quality peanut and cotton oil, locally caught fish, other fish varieties, and salt from the local African monitor. For her, the rations were indispensable to preparing meals and stocking up on necessary items.⁶²⁴ Her memory of these items offers a striking contrast to the first years of colonization when the rations were poor quality and insufficient in quantity. As new towns popped up around the Office from the late 1940s into the 1950s, first year settlers in those towns probably received rations akin to what Assane remembered receiving. It is also possible that her household qualified for the rations because of poor harvests or an exceptional relationship between her husband and Office staff members.

For Assane, the institution of the Office itself became a food resource akin to the *kongo*. For example, the Office made much of the oil it distributed. An oil factory in Niono processed oil from cotton seeds and manufactured cooking oil and soap for distribution and sale. During the 1950-1951 agricultural year, the Office sold a liter of oil for 80 FR which was lower than the advertised Ségou market price of 120 FR per liter of oil. The Office also processed peanut oil from peanuts grown in Riziam (S-8).⁶²⁵ Undoubtedly the oils tasted different from what women produced from shea nuts or even from their own peanuts. Assane certainly found the oils to be good quality for cooking and thought she was able to make very tasty meals with her oil rations. Ready-made soap and oil also saved her and other women time manufacturing or marketing for the same ingredients. However, these distributions were not consistent in every town or reliable

⁶²³ Interview by author with Sékou Coulibaly and Kadiatou Traoré in Nyamina, May 31, 2010. Women in Kolony (km 26) also vividly remember food distributions. Interview by author with Djenebu Coulibaly and Djewari Samaké in Kolony (km 26), March 22, 2010.

⁶²⁴ Interview by author with Assane Coulibaly in Sirakoro, April 28, 2010.

⁶²⁵ AON 138/2 Notes et Réflexions au sujet du rapport de M. Dumont by the Service de l'Exploitation, c. 1950-1951.

resources for all women. Many complaints from male farmers during this period in fact were about favoritism that some farmers received because of their political affiliation or social relationship with Office monitors or workers.

Wives of wage workers received greater rations than farmer's wives. Kadja Coulibaly who was married to a thresher operator in the late 1950s received a meat ration of mostly fresh mutton every 3 days. At the end of the month she also received milk, salt, *soumbala*, oil, powdered milk, and sugar.⁶²⁶ Kono Dieunta, who married a worker in Kokry, remembered receiving oil and European soap although she also made her own soap from shea butter and *sege*. Sometimes the monthly ration also included millet then a luxury for people living in the rice sector.⁶²⁷ The rations in Kokry were distributed from a large warehouse that housed rice processing equipment and bags of processed rice. When it came time for the distribution, the worker's wife who was in charge of distribution rang a bell. All the wives expecting to receive a ration walked to the warehouse. Then the woman in charge called out each workers name at which point his wife stepped forward to receive the ration.⁶²⁸ It was a regimented system that worker's wives incorporated into their food planning.

Men, women, and children also supplemented their personal store of basic goods from distributions at yearly parties. Office residents attended New Year's Day and Bastille Day events hosted by the Office and the colonial administration where they competed in friendly games for gifts of cash, soap, cloth, and foodstuffs.⁶²⁹ All the items were basic necessities. In addition, the Office organized yearly harvest parties that offered food to Office families and sometimes to

⁶²⁶ Interview by author with Kadja Coulibaly in Kokry, May 2, 2010. At the time Kadja and her husband were living near Molodo-Center because he worked for the all-mechanized sector of the Office.

⁶²⁷ Interview by author with Kono Dieunta in Kokry, May 3, 2010.

⁶²⁸ Interview by author with Kadja Coulibaly in Kokry, May 2, 2010.

⁶²⁹ Interview by author with Sékou Coulibaly and Kadiatou Traoré in Nyamina, May 31, 2010.

people from towns outside the Office. For parties in Niono people came from as far as Monimpé (non-Office) and Diabali (incorporated in the early 1960s). The Office even offered transportation. Aissata Mallé remembers that when a group arrived "someone immediately would lead the whole party from our town to a place to eat saying: 'Kouyan-N'Pequena! Here is your food!'" ⁶³⁰ People went in part because of the food, and because they associated the parties with harvest celebrations. Certainly, such celebrations were the occasion for public ritual demonstrating the Office providing for its farmers. Indeed in 1939, the Office made a prominent announcement of its end of harvest party at Baguineda in *Les Cahiers Coloniaux*; the publicity served to gain sympathy for the Office at a time when it was sharply criticized in France.⁶³¹ For rural residents, the parties were also part of the constellation of ways to get and enjoy food. The parties were perhaps necessary rituals because many women struggled during the rest of the year to produce or purchase soap, let alone cook regular meals amidst still problematic food shortages. Not all women were able to integrate their marketing, gardening, farm work, and cooking seamlessly.

"Wari be sene" (We Farmed Money)

Mamu Coulibaly (whose story opened this chapter) and other women in Office towns found many ways to earn cash. Mamu was a beer brewer and seller: women in the region had long brewed beer for income. When women arrived at the Office many continued this work, selling to men who had ready access to cash from the Office. Farmers earned cash from their crop sales, and workers like Tchaka Diallo earned significant wages. Young men who earned wages at the

⁶³⁰ Interview by author with Aïssata Mallé and Assane Plea in Kouyan-N'Péguèna, May 28, 2010; Interview by author with Mamadou Seyba Coulibaly and Yaini Tounkara in Kolony (km 26), April 1, 2010.
⁶³¹AON 79/1, Les Cahiers Coloniaux, July 15, 1939.

Office were also ready to spend some of it on leisure activities like beer drinking. However, many of the women's clients were farmers from their Office hometown. In San-Kura near Kokry women sold beer every Sunday. The sellers opened small *dolosow* or beer houses where they could reportedly make the sizeable sum of 10,000 FR in one day. They sold mostly to men, but other women and brewers also drank on Sunday, a lively day at the Office.⁶³² Men were free from field labor and a convivial atmosphere was steeped in the familiar taste and smell of millet beer.

Successful brewers often had enough cash from their earnings to pay for their household needs and to support the purchase of new clothes.⁶³³ Prior to World War II most Office married women wore only a long skirt. Older women at the Office today attributed this nakedness to a lack of money.⁶³⁴ When women began to earn more cash, they often purchased cloth to make long skirts and blouses (*dulokiw*) in addition to clothing their children. By the 1950s and 1960s, most women at the Office wore blouses, as testament to women's economies. Now older women laugh at the memory of the days without *dulokiw*.⁶³⁵

Later in this period some men stopped drinking beer for religious reasons,⁶³⁶ but brewing remained a major cash-earning activity into the first decade of independence (1960s). In fact, administrative reports from the 1950s suggest beer drinking was the predominant leisure activity

⁶³² Interview by author with Wassa Dembélé and Kalifa Dembélé in San-Kura, May 5, 2010.

⁶³³ Interview by author with Wassa Dembélé and Kalifa Dembélé in San-Kura, May 5, 2010.

⁶³⁴ Many women laughed when viewing pictures of women at the Office without *dulokiw* (blouses). Most often their comments were also unprompted by me. During these interview moments, I often asked questions about the labor women were performing in the photos, but many women remarked on this economic difference as reflected by the women's clothing.

⁶³⁵ Interview by author with Hawa Coulibaly in Fouabougou, March 30, 2010; Interview by author with Fatoumata Coulibaly, Kadiatou Mallé, and Maïssa Sountura in Kouyan-Kura, April 14, 2010.

⁶³⁶ See, Maria Grosz-Ngaté, "Memory, Power, and Performance in the Construction of Muslim Identity," *PoLAR: Political and Legal Anthropology Review* 25, no. 2 (2002); McCann, *Stirring the Pot: A History of African Cuisine*, 35.

in many towns.⁶³⁷ During local harvest festivals women also began to prepare a lemon and ginger drink called *lemburuji* for men who "prayed." For these men, women also made teas from citronella and other herbs such as *shukolan*. By the 1960s local harvest parties featuring beer drinking waned in some measure due to reduced millet beer consumption in general.⁶³⁸ None of the non-fermented drinks offered the same kind of cash-earning opportunity for women as beer brewing, but their preparation demonstrated the variety of beverage making skills that women incorporated into their culinary repertoires. Diversity was always important to local diets and something women continued to provide during festivals and other special occasions.

Women engaged in several other activities to earn cash. As previously mentioned some women had personal fields because of their location in older towns. They sold crops from these fields as well as small amounts of produce from the Office fields. In fact, an administrative review of household incomes at Kokry and Kolongotomo for 1948-1949 listed the sale of paddy by women as an important element in family budgeting. By this period, many women in the Kokry and Kolongotomo sectors also gardened along the edges of Office fields or in separate plots.⁶³⁹ Women with special craft or other skills practiced trades like pottery-making, hair dressing, or praise-singing for special events. These long-standing women's trades were

⁶³⁷ AON 138/2, Réorganisation de l'Office du Niger, Service de l'Exploitation, Notes et Réflexions au sujet du rapport de M. Dumont, c.1951.

⁶³⁸ Women explained the dating of shirts as a common item of clothing to me by saying that most women wore shirts just before the time of the first Malian President Modibo Keita. Interview by author with Fatoumata Coulibaly, Kadiatou Mallé, and Maïssa Sountura in Kouyan-Kura, April 14, 2010; Interview by author with Aissata Malle and Assane Plea in Kouyan-N'Péguèna, May 28, 2010; Interview by author with Kadja (Ma) Coulibaly, Fatoumata Guindo, Fatmatu Zaré Coulibaly, and Lalafacouma Tangara in Koue-Bamana, May 26, 2010. During the latter interview, the women in Koue-Bamana that I interviewed insisted that the harvest parties ended because of the rise in Islam in the region. The millet beer drinking that had characterized the parties was no longer acceptable to Muslims.

⁶³⁹ AON 367/8, Kokry-Kolongotomo, Rapport Annuel, 1948-1949.

particularly lucrative.⁶⁴⁰ Women without these special skills had fewer options for cash-earning and were more dependent on their agricultural production, access to a garden plot, and the ability to travel in order to market.

A large majority of women earned money through agricultural and household tasks performed outside of their own households. During harvest time men in need of extra laborers for their fields would pay women to help bring in the cotton or rice harvest. Every three days or so, during the harvest, one or two men called for groups of women to assist them in the fields. Around Kokry field owners gave women the measure of one calabash of rice for their work.⁶⁴¹ During the same period, young boys were called to help cut crops and young girls could also earn cash by bringing water the boys working in the fields.⁶⁴² In the cotton sector, women's major cash-earning activity was spinning cotton thread for sale in Niono and other markets.⁶⁴³ In Kouyan-N'Péguèna and Fouabougou first-generation women also cut wood for sale and used the cash to purchase ingredients in the nearby Niono market. As the trees available for fuel grew farther from town,⁶⁴⁴ women pursued other means to earn cash.⁶⁴⁵ Some women hand-threshed rice or pounded millet for other households with few women. They also washed clothes for unmarried workers who were lived nearby.⁶⁴⁶

⁶⁴⁰ Interview by author with Madame Dagno Adam Bah in Markala, February, 6, 2010; Interview by author with Kono Dieunta in Kokry, May 3, 2010; Interview by author with Bintu Traoré, Mariam Doumbia, and Fanta Sogoba in Molodo-Centre, April 15, 2010.

⁶⁴¹ Interview by author with Kadja Coulibaly in Kokry, May 2, 2010.

⁶⁴² Interview by author with Daouda Bouaré and Bintu Dembélé in Sokorani, June 1, 2010.

⁶⁴³ Interview by author with Djenebu Coulibaly and Djewari Samaké in Kolony (km 26), March 22, 2010; Interview by author with Hawa Coulibaly in Fouabougou, March 30, 2010; Interview by author with Niono merchant Mamadou Djiré in Niono, August 7, 2010.

⁶⁴⁴ René Dumont remarks on a visible level of deforestation around the Office. AON 138/2, Réorganisation de l'Office du Niger, [Incomplete] Report by Renée Dumont, c. 1950, pages 13-14.

⁶⁴⁵ Interview by author with Sitan Mallé in Kouyan N'Péguèna, April 12, 2010; Interview by author with Hawa Coulibaly in Fouabougou, March 30, 2010.

⁶⁴⁶ Interview by author with Madame Dagno Adam Bah in Markala, February, 6, 2010; Interview by author with Hawa Coulibaly in Fouabougou, March 30, 2010.

Young unmarried women were interested in earning cash for other purposes. In the mid-1950s, a young Adam Bah spent her free hours preparing for a future marriage. Her family farmed cotton and rice on Office land near Niono. When she was not working in the fields she joined small groups of girls who collected rice from the pig pens of the local French Office staff. Adam remembers that the guard in charge let them go into the pens to pick up any uneaten rice. In one week the girls collected enough rice to fill a sack that could be sold for 1,500 FR in the market. Once the girls filled a sack, they loaded it on a neighbor's cart headed for the market. When their seller returned, the girls split the profits. Adam Bah earned enough by the time of her marriage to buy her own serving bowls. All the other girls also purchased goods for their weddings from the profits. Like other women in the French Soudan, Adam's mother prepared and purchased most of the kitchen and other household goods, or *minauw*, needed for her daughter's married life. However, Adam, like other young women in the second generation at the Office, used her own cash to supplement what her mother could provide. Such cash earnings increased the quantity and quality of goods a young woman brought with her to a new home.⁶⁴⁷ Indeed, Adam's mother also gave her daughter 20 tafew (measure of cloth for a long skirt).⁶⁴⁸ She even had gold left over from her own saved inheritance to gift it to her daughter.⁶⁴⁹

Adam's cash-earnings and that of the other girls was possible and essential because of a unique set of circumstances at the Office. Nearby markets were readily buying rice, the girls had access to this market. They grew up learning how to make cash using anything that was

 $^{^{647}}$ Djewari Samaké recounted that daughters in the second Office generation collected more household goods before their wedding than previous generations, much of it stored in a *kesu* (trunk). Some of the items were purchased by the bride-to-be. Some of a mother's the additional purchases were supported by cash gifts from the husband to-be. Interview by author with Djewari Samaké in Kolony, March 29, 2010.

⁶⁴⁸ Women also used *tafew* for their husbands or children's clothes.

⁶⁴⁹Adam Bah's grandfather was a jeweler who left his daughter, Bah's mother, an inheritance of gold which she used for major purchases like her daughter's wedding gifts. The gold wealth gifted to Bah was relatively unique among women at the Office. However, her story only amplifies the strategies of young women and their mothers in preparing for a wedding and the activities of young women at the Office. Interview by author with Madame Dagno Adam Bah in Markala-Diamarabougou, February 6, 2010.

available. In many ways the second generation of women at the Office grew up with an awareness of the particular resources of the project such as the possibility of rice collection in the pig pens of French staff. Pigs were not widely kept by farmers. Yet, girls and young women knew rice could be collected from pig pens. As the young girls worked and prepared for marriage they were also preparing for life as wives at the Office. Knowing how to earn cash had become a prerequisite for provisioning the household in basic necessities, but not necessarily a sign of increased wealth.

Even men had greater needs for cash. Men in charge of Office households needed money to finance marriages for their sons. Office staff remarked in the 1950s that farmers sometimes sold the cattle and the plow they had received on credit from the Office for this purpose.⁶⁵⁰ Cash income was a necessity, but even having some cash did not guarantee more than subsistence. The head of the household could readily be in debt to the Office. Indeed, many women were not always able to buy all the foodstuffs that they needed, let alone cloth or other value goods.

While many household's struggled with debt or simply with getting enough to eat, some women earned enough cash not only to feed their families but to invest their earnings.⁶⁵¹ René Dumont observed that a few women in Kokry even purchased gold and other jewelry. The women able to save such stores of cash were most often wives of workers with easy access to garden plots in town and reserved employment winnowing rice for the Office.⁶⁵² Based on observations from a tour of the Office, Dumont believed that areas with high rates of *dolo*

 ⁶⁵⁰ AON 111, Dossier Confidentiel, Colonisation 1953/6 (Affaire Sangaré), Simple Questions, June 10, 1955.
 ⁶⁵¹ Monica van Beusekom similarly argues that while many farmers were impoverished by poor conditions at the Office dating to its founding, many other households fared well. This gap can be explained by the quality of different land allotments, the relative wealth of some farmers prior to coming to the Office, government connections, and the number of workers in the household. Beusekom, *Negotiating Development*, 108-10.

⁶⁵² AON 138/2, Réorganisation de l'Office du Niger, Report by René Dumont, c. 1950. Interview by author with Kono Dieunta in Kokry, May 3, 2010.

consumption were also the wealthiest.⁶⁵³ Certainly his observation would attest not only to the presence of men with enough cash to purchase beer, but of women who made a profit from brewing. In Molodo-Center, wives of workers who earned money in town were less able to invest in garden activities because of the scarcity of plots. They often saved their earnings to purchase cattle. Women in Kolony and Koue-Bamana also aspired to cattle ownership. If women had just a little cash set aside, they tended to purchase cloth which could be gifted, resold, or used to make items of clothing.⁶⁵⁴ Mothers of young women also saved their extra cash to purchase household goods for a soon-to-be married daughter.

While all women may have "farmed money" at the Office du Niger as it was phrased by Mamu Coulibaly, the goal of farming money was not always accumulation. Of course, a few women were able to save enough money to purchase cloth or even cattle. However, the phrase "farming money" captured the fact that women's agricultural labor was bound up in cash-earning and the market to a greater degree than in the earlier part of the century. It had also become an essential element of the new Office foodscape. Women needed money to provide food for their families, especially if they wanted to cook tasty food like millet *toh* or prepare a sauce with *namugu* or shea butter. The value of agricultural production was still connected as much to taste as it was to the amount of money that women earned.

⁶⁵³ AON 138/2, Réorganisation de l'Office du Niger, Report by René Dumont, c. 1950.

⁶⁵⁴ Interview by author with Bintu Traoré, Mariam Doumbia, and Fanta Sogoba in Molodo-Centre, April 15, 2010. During this interview Sékou Sall Oulogeum intervened to reinforce the fact that women who earned cash purchased cattle. He added that a few women even built their own homes in town. Interview by author with Fatoumata Coulibaly and Yaini Tounkara in Kolony, May 25, 2010; Interview by author with Kadja (Ma) Coulibaly, Fatoumata Guindo, Fatmatu Zaré Coulibaly, and Lalafacouma Tangara in Koue-Bamana, May 26, 2010.

The Shift to Rice: Adapting a Cash-Crop as a Food Crop

As women integrated aspects of the Office infrastructure into their labor routines, they also began to switch from cooking millet to cooking rice. This transformation in the diet of Office settlers first occurred in the predominantly rice producing sectors Kolongotomo and Kokry. The cotton and rice grown intensively at the Office created new labor conditions and constraints on food production. The burdensome labor time spent on the cotton harvest determined to some extent the amount of time left for food production. In the rice sectors farmers grew a crop that could be eaten. The white rice variety promoted by Office staff members was different from many rice types already cultivated in the region. It may have been less tasty than other kinds of rice, but women put a great deal of effort into making it a more familiar food.

For the most part, the switch to cooking Office rice was most noticeable for women accustomed to processing and cooking millet. In some towns women exchanged rice for millet because of this preference. Women in Nara exchanged rice from their Office fields for millet from a town near Monimpé called Fy.⁶⁵⁵ Women in Togolo-Kura similarly acquired millet locally for cooking and *dolo* preparation. Kono Dieunta, who grew up in a fishing family, was familiar with rice dishes, but she remarked that women in the predominantly Bamana town preferred to cook millet because they believed it was more filling than rice.⁶⁵⁶ This preference for the way food made a person feel had been an important element of the foodscape. Slowly, the eating habits of people accustomed to eating millet changed as they began to appreciate the taste of Office rice.⁶⁵⁷

⁶⁵⁵ Interview by author with Rokia Diarra in Nara, April 29, 2010.

⁶⁵⁶ Interview by author with Kono Dieunta in Kokry, May 3, 2010. On this point, the historian James McCann surmises that much attachment to specific staple crops in West Africa had to do with texture and their bulk rather than flavor. McCann, *Stirring the Pot: A History of African Cuisine*, 33.

⁶⁵⁷ Interview by author with Assane Coulibaly in Sirakoro, April 28, 2010.

Gradually, rice consumption increased across the Office.⁶⁵⁸ The shift occurred not just because farmers were growing rice, but because women who previously cooked millet learned to make use of the rice they cultivated for the Office. Women who had previous experience preparing local varieties of rice quickly adapted their knowledge to the new Office variety. For example, Assane Coulibaly had learned rice preparation techniques from a Fulani woman in Ségou prior to moving to the Office. After she moved to Sirakoro she learned a technique for making rice *toh* which was a Bamana dish ordinarily made from millet.⁶⁵⁹ In this way cooks approximated the texture of millet *toh* that was so pleasing to local tastes. By the late 1950s when Hawa Diarra arrived in Nara from a millet producing town she found that people in her new town only ate rice. She had to learn how to cook it. To this end a senior woman in the household was assigned to teach her to prepare the new staple grain.⁶⁶⁰

In time, women began to make most of their staple millet dishes with rice: *toh*, *dege*, and *seri*. Rice was pounded like millet and cooked into the dough-like dish *toh*. It was also transformed into a warm porridge called *seri* and a cold porridge called *dege*. For these dishes women handled rice as they would have handled millet. They pounded the grain to transform its texture and then cooked it.⁶⁶¹ Rice was also prepared simply as the cooked grain with a sauce poured over it. In Kokry farmers lived at the edge of the Macina region where many Fulani and Bozo women already made specialty rice dishes. Bamana farmers in the Macina region were also accustomed to eating rice cultivated in the flood plains.⁶⁶² In these cases, the grain variety

⁶⁵⁸Schreyger, L'Office du Niger au Mali 1932 à 1982, 143.

⁶⁵⁹ Interview by author with Assane Coulibaly in Sirakoro, April 28, 2010.

⁶⁶⁰ Interview by author with Hawa Diarra in Nara, April 30, 2010.

⁶⁶¹*Dege* is an exception. Women did not cook *dege*. *Dege* powder was prepared by pounding the grain. It was later mixed with water or milk to make a cold porridge.

⁶⁶² Interview by author with Kono Dieunta in Kokry, May 3, 2010. Interview by author with Aïssata Mallé and Assane Pleah in Kouyan-N'Péguèna, May 28, 2010.

changed but women prepared familiar sauces to go with the new rice.⁶⁶³ For example, Kono Dieunta continued to make Bozo sauces especially *chouchou* a red sauce made with a lot of fish and topped with heated oil just before serving.⁶⁶⁴ In Sirakoro older women made a specialty smoked rice or *malokene* that they sold in local markets like Dioro.⁶⁶⁵ These techniques for making satisfying meals with the new and widely available staple were shared with new women when they married into Office households.⁶⁶⁶ Second generation women especially grew up learning to prepare rice in a variety ways.⁶⁶⁷ In this way, women adapted the cash-crop rice to their cooking generation by generation.

The switch to rice came about a decade later in the cotton sector where farmers continued to grow millet in fields outside the Office. In the project field designated as the *baloforo* (roughly translated as the food field) farmers also cultivated mostly millet and corn. Many residents recall that people living in the cotton sector did not even have wild rice to eat before 1945.⁶⁶⁸ However, a few farmers began grew rice in the *baloforo*.⁶⁶⁹ Because cotton was so labor intensive, some towns that were integrated into the cotton sector actually refused to any cultivate cotton and negotiated with the Office to grow rice.⁶⁷⁰ After the major protests from young men in 1944 the Office changed its policy and placed less emphasis on cotton production.

⁶⁶³ Interview by author with Kono Dieunta in Kokry, May 3, 2010; Interview by author with Aïssata Mallé and Assane Pleah in Kouyan-N'Péguèna, May 28, 2010.

⁶⁶⁴ Interview by author with Kono Dieunta in Kokry, May 3, 2010. *Chouchou* is my approximation for how to spell the name of the sauce Dieunta mentioned to me.

⁶⁶⁵ Interview by author with Assane Coulibaly in Sirakoro, April 28, 2010.

⁶⁶⁶ Interview by author with Alimata Dembélé and Moussa Coulibaly in Koutiala-Kura, May 3, 2010; Interview by author with Mariam (Mamu) Coulibaly in Kankan (formerly Sangarébougou), May 4, 2010.

⁶⁶⁷ Interview by author with Fatoumata Coulibaly and Oumou Sow in Sabula, May 10, 2010.

⁶⁶⁸ Interview by author with Amadou Sow and Sekou Sallaouloguem in Molodo-Centre, April 8, 2010.

⁶⁶⁹ Interview by author with Fatoumata Coulibaly, Kadiatou Mallé, and Maïssa Sountura in Kouyan-Kura, April 14, 2010.

⁶⁷⁰ Interview by author with Nianzon Bouaré and Harouna Bouaré in Molodo-Bamana, April 16, 2010. In the rice sector Moctar Coulibaly claims that farmers also refused to grow any cotton in Office fields when the instructors brought the tools for cotton planting (a specialized rake). He said they would only grow the rice. Interview by author with Moctar Coulibaly and Mariatou Traoré in Sirakora, April 28, 2010. Similarly, Office administrators recorded the negotiations with farmers in Sokolo to only grow rice. AON 106, Correspondance Directeur General 1957-1960, June 12, 1957.

Beginning with the 1945-1946 agricultural campaign, rice was integrated into the cotton sector's crop rotation schedule. Farmers continued to sell the cotton they grew but kept the rice for home consumption. This move alleviated to some extent the on-going food crisis in the sector.⁶⁷¹ The improved food situation was also due to increased gardening.⁶⁷² For example, when farmers began planting rice, women started planting okra by the sides of the rice fields.⁶⁷³

After 1945 settler households increasingly planted rice in the Niono sector, but the switch to eating rice was gradual. Initially some of the Office fields were set aside for rice, but crop rotations in cotton fields still allowed for some millet cultivation in off-years. A decade later some farmers were still growing millet in their Office fields. Then in 1954 a new policy called for the substitution of all millet and sorghum rotations with rice in Office fields. The policy shift did not necessarily reflect a taste preference for rice among farmers. Official documents indicate that the move was meant to eliminate any remaining labor overlap between the millet and cotton harvests.⁶⁷⁴ However, as the historian Monica van Beusekom demonstrated in her study of the Office, this shift was due in large part to on-going dissatisfaction with cotton as a cash crop and farmer efforts to improve their economic prospects.⁶⁷⁵

Even though the substitution of rice for millet was slow, women remember it as a major event. For one, the switch radically changed and eased women's field labor.⁶⁷⁶ Hawa Coulibaly explained that with cotton cultivation women could only spin cotton at night to make money for foodstuffs, soap, and clothes. When her husband began cultivating rice in Fouabougou she had

⁶⁷²Interview by author with Hawa Coulibaly in Fouabougou, March 30, 2010. By 1958, 28% of cultivated land in the Niono sector was planted with vegetable crops. See Schreyger, *L'Office du Niger au Mali 1932 à 1982*, 162. ⁶⁷³ Interview by author with Baba Djiguiba in Molodo-Center, April 10, 2010.

⁶⁷¹ Interview by author with Hawa Coulibaly in Fouabougou, March 30, 2010.

⁶⁷⁴ AON 11, Vade Mecum de l'Instructeur de Colonisation en Centre Cotonnier c. 1954, page 32.

⁶⁷⁵ Monica van Beusekom argued previously that the switch from cotton to rice at the Office was a result of pressure from farmers in the cotton sector. In this way, farmers negotiated some of the terms of 'development' at the project. Beusekom, *Negotiating Development*.

⁶⁷⁶ Interview by author with Djenebu Coulibaly in Kolony, March 27, 2010.

time available during the day make money in other ways.⁶⁷⁷ Women who arrived in Fouabougou after the switch to rice also had a much lighter labor load than had been experienced by their predecessors. The switch became a major generational marker among women.⁶⁷⁸

Rice cultivation also helped women to feed their families. Aramata Diarra remembered particularly that it was much easier to get foodstuffs for the family once they started growing rice.⁶⁷⁹ Rice was not only a food but a resource that women used to acquire the grains they preferred or good sauce ingredients. By the end of the 1950s women who arrived in the cotton sector found that in towns like Kouyan- N'Pequena people now ate mostly of rice.⁶⁸⁰

In this same postwar period, the whole Office came to be associated by other farmers in the region with rice. Some early French scientists had (incorrectly) believed that rice was a better food than millet. This was a notion picked up by Office and other colonial officials. For them, a shift from millet to rice consumption was a step forward for the overall economic and social development of the region. Other colonial scientists like August Chevalier had earlier tried to point out the high nutritional value of millet and the dietary risks of eating mostly rice (as had been the case for many early Office settlers).⁶⁸¹

When more farmers at the Office actually started to eat more rice than millet, Office administrators claimed that it was due to their policies. The Office Director General Georges Peter gave a speech in 1955 promoting the Office. In it, he emphasized the role of the scheme in

⁶⁷⁷ Interview by author with Hawa Coulibaly in Fouabougou, March 30, 2010.

⁶⁷⁸ Interview by author with Oumou Dembélé in Kouyan-N'Goloba, April 13, 2010; Interview by author with Hawa Coulibaly in Fouabougou, March 30, 2010; Interview by author with Djenebu Coulibaly in Kolony, March 27, 2010. ⁶⁷⁹ Interview by author with Aramata Diarra in Fouabougou, March 30, 2010.

⁶⁸⁰ Interview by author with Aïssata Mallé and Assane Plea in Kouyan-N'Péguèna, May 28, 2010.

⁶⁸¹ CAOM FM 1 TP/878, Inspection générale des Travaux publics, Office du Niger, "Rapport à la commission parlementaire chargée d'une enquête sur l'office du Niger: observations sur les travaux scientifiques et agronomiques relatifs à la culture du cotonnier et des plantes vivrières dans la vallée du *Niger* par le professeur *Chevalier*, membre de l'Institut, 17 janvier 1939," page 23.

providing rice to other colonies. He triumphantly proclaimed: "Finally, Africans are turning away from millet and now prefer rice."⁶⁸² That same year the controller of the Niono sector reported to the administration in Ségou that the Office had helped prevent famine in the colony in 1954.⁶⁸³ Ironically, these same officials emphasized the production of broken rice favored by Senegalese consumers over the local preference for unbroken rice.⁶⁸⁴ By 1960 Office officials were pitching the scheme as a development program aimed at providing food sovereignty. The renewed institutional mission was laid out as follows: "[C]reate in the heart of Africa a real bread basket. It will be free from dependence on climate and ready to alleviate local food shortages still frequent to this day. It will also provide food for the urban centers."⁶⁸⁵

Eventually, the Office gained a reputation as a center of rice production. Sékou Coulibaly and other farmers who grew up at the Office also came to see rice cultivation as a means of assuring "*securité alimentaire*" or food security for the immediate region. The political phrase *securité alimentaire* had become a part of the culture of interaction between the farmers and Office instructors.⁶⁸⁶ Sékou explained *securité alimentaire* in this way: "Farmers from the rain-fed regions grow the millet. Because of "ja" (drought) in the region, it was also important to have rice. The rain may stop before the millet ripens but with the water from the canals Office farmers can still give water to the rice." In his framing, rice did not replace millet but was more

 ⁶⁸² AON 118/2, Georges Peter, "Un Exemple d'Assistance Technique: L'Office du Niger," January 1, 1955, page 13.
 ⁶⁸³ AON 111, Dossier Confidentiel, Colonisation 1953/6 (Affaire Sangaré), Letter from Chabert the Controller of Niono to the Head of the Service d'Exploitation in Ségou, April 9, 1955.

⁶⁸⁴ CAOM, Inspection générale des Travaux publics, Office du Niger, Note sur la commercialization du riz June 15, 1954.

⁶⁸⁵ AON 1. L'Office du Niger: Note de Presentation Technique Mai 15, 1960, page 4.

⁶⁸⁶ Monica van Beusekom asserts that the terms of development were shared between French experts and administrators and African political leaders during this period. In this case, some Office farmers also shared in that discourse. Beusekom, "Individualism, Community, and Cooperatives in the Development Thinking of the Union Soudanaise-RDA, 1946-1960."

akin to foods for the lean season or even a famine food eaten in times of extreme shortage, especially due to drought.

In a way, Office rice became like the grains that women previously found in the *kongo*. When surrounding towns suffered from poor harvests, Office farmers often sold rice to their neighbors.⁶⁸⁷ This they did clandestinely, even though Official rhetoric had long associated the Office with assuring the food supply. Office farmers actually turned the Office into a regional food source. The shift to rice was due in some measure to the constraints of Office cash-crop production. A significant outcome of Office agriculture was the change in consumption habits (though not necessarily taste preferences) among project residents, the only rural population in the colony to predominantly eat rice outside of the urban areas.

Conclusion

Women who learned to use the canals, roads, machines, and markets of the Office efficiently were able to make up for the loss of fields, trees, and other food plants. In so doing, they altered their labor calendars and engaged in new tasks to feed their families. Their labor took on new and sometimes changing seasonal qualities, especially when they moved from one region of the Office to another. Extensive cash-earning replaced much of women's home manufacture of food stuffs. In many ways, they treated the Office and its particular land organization and infrastructure like a new *kongo*. In these years, the content of women's labor changed but what women did was still food production. Both men's and women's work changed at the Office, but the way men and women ordered household agricultural production along gendered lines still held sway. Where men earned wages it was men's work. When women

⁶⁸⁷ Interview by author with Wassa Dembélé and Kalifa Dembélé in San-Kura, May 5, 2010.

earned cash they were provisioning the household. In effect, women managed the shifting foodscape in a way that made sense to their understanding of gender roles, but first and foremost addressed what people wanted to eat.

Chapter 5: Metal Pots and Buckets

The Power of Modest Household Technologies at the Industrial Office, ca. 1946-1965

Starting in the late 1940s, people living in agricultural towns run by the Office began to hear the new sound of young women energetically stirring and whipping the staple dish *toh* in new metal cooking pots. As the large wooden spoon, the *toh pasa*, struck against the metal pot, it generated a clanging loud enough to be heard from outside the courtyard. The clang of the *toh pasa* against the metal pot signaled that the meal was soon ready. The noise also sounded the call of a subtle revolution in labor-saving household technology, in the aesthetics of cooking, and in the daily experience of eating. This transformation unfolded slowly, a clanging heard in one compound, and then another, each owner developing her own stirring style. Within a few decades cooking looked and sounded different in the new pots. *Negeda*, as the new pots were called, cooked faster and required less wood than the clay pots women had previously used to prepare meals. Shiny new metal household goods from the market were also durable and needed to be replaced less often than clay pots or calabashes. From the late 1940s into the mid 1960s, young brides bringing metal pots and buckets into households slowly changed women's cooking routines and the way people ate.

This modest technological revolution had a significant impact on daily life, but was less dramatic than the technology directly associated with the agricultural project in which the women lived. After the Second World War, the Office established an all-mechanized sector employing only wage workers and several semi-mechanized towns where new settlers employed industrial farm machines such as tractors and threshers. More than ever, Office planners put their faith in large-scale technologies to improve agricultural output in the colony.⁶⁸⁸ Yet, the canals sometimes failed to deliver water, the new tractors did not guarantee high yields, and the threshing machines often arrived in the fields several months after the harvest. To manage these unpredictable elements of the Office infrastructure and their impact on daily life, women adopted new household goods such as metal pots which were well-suited to the unique resources and constraints of the Office. Women had always managed their labor with modest technologies. Their work routines at the increasingly industrial Office were no exception. In the postwar years, the Office was indeed a technological landscape, but for women it was one where large-scale and small scale technologies intersected. As the new sights and sounds of cooking became part of the texture of daily life, the metal pots and buckets slowly became pervasive elements in the making of a new agricultural landscape where the rural and industrial overlapped.⁶⁸⁹

Deforestation and Wood Fuel Shortages

The clanging sound and energetic sight of women whipping and stirring millet and rice *toh* signaled a range of changes taking place in the rural French Soudan at mid-century. These changes were connected to what people ate, their daily welfare, the agricultural economy, and the environment. Before the founding of the Office, the Niger Delta region was sparsely populated and had far fewer fields when compared to the postwar years. At the time, the region had been rich in wood, trees, and bushes providing nutritious fruits, leaves, and nuts.⁶⁹⁰ In the

⁶⁸⁸ Documentation for this trend towards increased mechanization at the Office du Niger is available in several reports from the Public Works administration for French West Africa. CAOM FM 3TP/172, Inspection générale des Travaux publics, Office du Niger, 1947/1953; CAOM FM 3TP/334, Inspection générale des Travaux publics, Office du Niger, 1952/1957; CAOM FM 2TP/104, Inspection générale des Travaux publics, Office du Niger, 1946/1952. See also, Schreyger, *L'Office du Niger au Mali 1932 à 1982*, 136-68.

⁶⁸⁹ In my attention to the sensory experiences of the everyday, I draw from the foundational work by anthropologist Paul Stoller on the senses and the quotidian. Stoller, *The Taste of Ethnographic Things: The Senses in Anthropology* (Philadelphia, PA: University of Pennsylvania Press, 1989.

⁶⁹⁰ AON 30 Dossier Robarty Botanique; AON 93 Dossier Botanique (Suite).

thirty years following the creation of the Office, thousands of hectares were cleared for new towns and fields. More wood was also cleared to fuel the first tractors and steamers and railroad engines that transported crops and building materials. This activity resulted in a rapid clearing of the forested areas, which had an immediate impact on people living in the region.

Women immediately perceived deforestation as a problem as wood fuel and food resources were harder to come by. At first some women collected wood for cooking fuel where the tractors and bulldozers had pulled trees from the ground.⁶⁹¹ Over time the places where good fuel wood was available came to be farther and farther from any Office town. Women spent four to five months in the dry season collecting wood for the year. In towns founded by the Office, especially in the cotton zone, new settlers often had to cut down trees for millet fields, inadvertently contributing to the loss of other necessary food stuffs.⁶⁹² While the Office planted fruit and other trees in new towns, the trees planted by the French were not the varieties that were locally used the most for food, fuel, or medicine. The need for very specific trees by rural residents was lost on Office planners. Even the Office botanist Guy Roberty, who expressed great interest in local flora and fauna, was puzzled as to why local farmers in the Ségou region generally left some species of trees uncut in their fields.⁶⁹³

The immediate effects of large-scale technology and heavy machinery were felt by women in their increased work load. They were also felt by everyone living in Office towns in the loss of tasty food products. When I interviewed Djenebu Coulibaly, she remembered pounding and processing leaves for different sauces as a child with her mother. When, as a

⁶⁹¹ Interview by author with Mariam Coulibaly in Kankan (formerly Sangarébougou), May 4, 2010.

⁶⁹² Interview by author with Djewari Samaké in Kolony March 29, 2010; Interview by author with Hawa Coulibaly in Fouabougou, March 30, 2010; Interview by author with Aissata Mallé, Salimata Samaké, Sitan Mallé, Assan Plea, and Mariam Sall in Kouyan-N'Péguèna, April 12, 2010.

⁶⁹³ AON 118/2, "Un Exemple d'Assistance Technique: L'Office du Niger" by Georges Peter, 1955; AON 30/5, Dossier Botanique, Mission du Botanist à Baroueli, Niénébalé, Baguinèda du 8 au 11 Mars 1937.

young bride, she came to Kolony (km26), the first Office town in the cotton sector, she could no longer find the trees that provided those leaves. She recalled that Europeans planted mangos, now a common market fruit sold during the dry season, but that the French also cut down the the trees that provided sauce ingredients. Even today, although there are many trees in Office towns, she is adamant that there are "*no longer any trees*." The trees Djenebu remembered from her childhood and in her home town are no longer growing. The important trees are gone.⁶⁹⁴

The loss of foodstuffs from the *kongo* was profound across the region, and the dwindling supply of these resources was a process that many regional residents witnessed. The historical fear of such losses is stored in the local account of how the town Molodo-Bamana joined the Office in the 1940s. It is the oldest existing town in the Molodo sector of the Office, and according to town elders was founded at least two hundred years before the French conquest. The leaders of Molodo-Bamana initially refused official requests and later orders to submit to Office control. However, once new project towns began to surround the Molodo and the surrounding wooded areas became scarce, townspeople grew worried. Harouna Bouaré, a town counselor, explained that it was then that their notables brokered an agreement with the French administrator Joseph Rocca-Serra to join the Office. Rocca-Serra agreed not to cut down specific trees important to the town's food supply. Because of this promise, Molodo-Bamana joined the Office. The trees included baobabs, the leaves of which are pounded for various sauces, tamarind trees, which provided fruits, and a small tree with bitter fruits called *béré*, which was consumed only in the event of hunger or famine.⁶⁹⁵ The town had no choice but to

⁶⁹⁴ Interview by author with Djenebu Coulibaly in Kolony (km 26), April 9, 2010. Another woman Djewari Samaké recalled Europeans poisoning trees. The high level of botanical exchange introduced by botanists and agronomists may also have introduced diseases that attacked trees that she remembers dying during her childhood. Interview by author with Djewari Samaké in Kolony (km 26), April 9, 2010.

⁶⁹⁵ Interview by author with town head Nianzon Bouaré and his counselor Harouna Bouaré in Molodo-Bamana, April 16, 2010. Laurence C. Becker noted similar tendencies to preserve specific tree varieties among inhabitants around the Faya forest in Mali (between Bamako and Ségou). Interviewees reported that "in the past" shea,

join the Office and try to maintain the landscape that they relied upon for their sauces and yearround food-supply.

The people of Molodo had good reason for concern. The Office's botanist Guy Robarty noted the problem of deforestation on lands occupied by the institution as early as 1937. Even if he had been puzzled as to the local practice of leaving some trees in fields, he understood the dangers of too much tree loss.⁶⁹⁶ Elsewhere in the colony, the administrative demand for wood fuel by the military and transportation services led to forced woodcutting for state use and bans on cutting by African residents in state preserves along the railroad tracks and by major rivers. These measures to control wood use dated to at least 1915. During and after the Second World War, the administration's need for wood fuel only increased.⁶⁹⁷

The increasingly denuded landscape was a major concern for women, who not only collected fuel for cooking from the forest areas, but also gathered ingredients for the daily sauce. This environmental shift was connected to technological change. At the same time that young women began cooking in metal pots, they started using the time saved from wood collection and cooking to earn cash to buy the sauce ingredients from women in neighboring towns outside of the Office.⁶⁹⁸ It was not surprising that when a woman had more cash to purchase good ingredients her sauce was better. Most likely, the women in those households also had metal pots.

tamarind, and other trees were protected. Laurence C. Becker, "Seeing Green in Mali's Woods: Colonial Legacy, Forest Use, and Local Control," *Annals of the Association of American Geographers* 91 no. 3 (2001): 512. ⁶⁹⁶ AON 30/5, Mission du botaniste à Barouéli, Niénébalé, Baguinèda du 8 au 11 Mars 1937.

⁶⁹⁷ Becker, "Seeing Green in Mali's Woods," 507-508. The French policy of the forest as a site for fuel production during the war was matched by similar forest policies in France when wood was rediscovered as a major fuel source given the wartime shortages of other fuel sources. However, the Vichy government was not successful at increasing the production of wood fuel in France. Chris Pearson, "The Age of Wood': Fuel and Fighting in French Forests, 1940-1944," *Environmental History* 11 (2006): 775-803.

⁶⁹⁸ Interview by author with Hawa Coulibaly in Fouabougou, April 19, 2010.

Metal Pots: Gendered Labor, Household Goods, and Value

Young brides were at the vanguard of creating a new technologically managed rural world at the Office. When a new wife moved in to her husband's household she brought with her a wealth of pots, buckets, cloth, stools, and calabashes purchased for her by her mother.⁶⁹⁹ During the rainy season, which was also the wedding season, the major Office market in Niono was flooded with mothers buying household goods for their daughters.⁷⁰⁰ When it came to domestic tools and technologies, women were savvy producers, consumers, and users. Some items, such as a cotton mosquito net, a woman could make for a new bride herself. This item was especially necessary because the Office canals attracted mosquitoes carrying malaria and other diseases even during the region's dry season.⁷⁰¹ Many of the items necessary for food preparation such as the mortar and pestle were ordered in advance from artisans and carefully examined for quality before purchase. Local female potters produced the necessary clay goods such as water jars and steamers.⁷⁰² Calabashes and locally produced cloth were purchased in the market and increasingly so were metal pots and buckets. In the postwar years mothers still assembled the basic items their daughters needed for marriage, but daughters were beginning to purchase additional items for themselves.

In the first half of the century, a new bride's husband ordered a *bogoda* (clay pot) for his wife which might vary in size with the anticipated number of people in the household for whom

⁶⁹⁹ Interview by author with Djenebu Coulibaly in Kolony, March 27, 2010; Interview by author with Mariam Coulibaly in Kankan (formerly Sangarébougou), May 4, 2010.

⁷⁰⁰ Interview by author with Mamadou Djiré, in Niono, August 7, 2010. In 2010 Djiré was an elderly merchant in Niono who inherited his trade from his father who also worked in the colonial Office market at Niono. Djiré spoke to the history of the market in Niono, but the same predominance of women in the market during the rainy season was likely to be the case in the Kolongotomo and Kokry markets. Today Niono is a large regional market while the other two Office markets did not grow to the same extent.

⁷⁰¹ Interview by author with Djenebu Coulibaly in Kolony (km 26), March 27, 2010.

⁷⁰² Frank, "Marks of Identity."

she would be cooking in her new home.⁷⁰³ Beginning in the late 1940s, mothers began purchasing large metal pots for their daughters that were big enough to cook for households of thirty people.⁷⁰⁴ The first large imported *negeda* were so heavy that when filled with water or *toh* they had to be carried by two women.⁷⁰⁵ Although the new pots were clearly cumbersome, they provided significant labor savings in the time women expended collecting wood and cooking. The metal pots took less time to heat, cooked at least twice as fast as clay ones, and as a result used much less wood to fuel the fire.⁷⁰⁶ All of these future savings made it worthwhile for a mother to invest in a metal pot for her daughter, even though the groom was expected to purchase the *bogoda*. While a few men purchased metal pots for their wives, these purchases were generally made by middle-aged and older women preparing for a daughter's wedding.⁷⁰⁷

The pots, calabashes, cloth, stools, and other items a bride brought to her new household were displayed for the wedding. This display was socially important for young women, as historian Barbara Cooper has demonstrated for twentieth-century Niger, because the gifts were more than useful household items. The quality and quantity of the goods were a demonstration of her social network and value as many of the items were gifts from her mother's friends.⁷⁰⁸

⁷⁰³ Interview by author with Djewari Samaké in Kolony (km26), June 2, 2010.

⁷⁰⁴ This time frame for the introduction of metal pots reflects the chronology of market purchases by women at the Office du Niger. Other markets in the Soudan, such as Bamako, offered imported metal goods earlier than 1940, but the women I interviewed did not recall seeing many of these heavy iron pots or hearing about metal pot purchases until the years roughly after World War II. Based on demographic statistics collected by researchers and Office officials, households ranged in size from 7 to 40 members from the late 1940s into the the 1960s. The women I interviewed confirmed this range of household sizes, but their recollections of cooking more often depicted very large households, or cooking for large parties of people attending festivals or parties.

⁷⁰⁵ Interview by author with Hawa Diarra in Nara, April 30, 2010.

⁷⁰⁶ Interview by author with Fatoumata Coulibaly, Kadja Mallé, Mariam Mallé, Kadja Koné, and Aminata Démbélé in Kouyan-Kura, May 27, 2010.

⁷⁰⁷The age of women purchasers of metal goods was described by the merchant Mamdou Djiré as broadly middleaged or old, by which I take it to mean women old enough to have marriageable daughters. Djiré apprenticed with his father who was in charge of their market spot during the time period covered in this interview, and thus remembers age from the vantage point of a young boy and teenager. Most women I interviewed noted that women in their generation tended to marry around what they guessed to be twenty years old. Interview by author with Mamadou Djiré, merchant, in Niono, August 7, 2010.

⁷⁰⁸ Barbara Cooper refers to the display women made with these items in their personal rooms. The women I spoke to remembered the parade of goods made during the bride's trip to her new home. Cooper's observations about

This message was reinforced by the mother's additional expense in buying a cooking pot and the visual aesthetic of the new metal good.⁷⁰⁹ Once the bride headed for her new home, she was accompanied by a host of female relatives and friends who carried the items on their heads to make a show of the young woman's arrival. This journey was often made by foot, but during this period some Office brides arrived atop a cow, by horse, and in the later years by car.⁷¹⁰ New wives of African staff such as tractor or thresher drivers might even undertake a portion of the journey in one of the Office vehicles.⁷¹¹ When women made the journey by foot it was tiring,⁷¹² but the bridal parade was always a festive event.

The journey to the Office was often a day's trip from the bride's home town. Her arrival was always a spectacle. First, it was a fun event for a nervous young woman being transported by novel means and for her friends who were carrying the bride's new collection of household goods. Spectators knew right away that the parade of travelers was escorting a bride. The metal pots shined among the collection of goods that the young woman's friends carried on their heads. In this way, new domestic technologies such as metal pots (and buckets) entered family life through a celebration expressing hopes for the future. The event was also a carefully crafted presentation of a technologically savvy bride. A cow might convey the success of a new husband's household, or a car to his position at the Office. The metal pots and buckets were all about the bride.

⁷¹⁰ Interview by author with Mariam Coulibaly in Kankan (formerly Sangarébougou), May 4, 2010.

demonstrating social value translate well into this very public showing-off of goods. See, Barbara Cooper, *Marriage in Maradi: Gender and Culture in a Hausa Society in Niger, 1900-1989* (Portsmouth, NH: Heinemann, 1997), 103.

⁷⁰⁹ Today young women purchase enamel pots for similar purposes. Jerimy Cunningham studies this pattern in the Djenné area and found that women emphasized the importance of purchasing the newest and trendiest styles of enamelware. Women used some of these items (notably serving dishes), but most of the collection was re-gifted to other women. His analysis places emphasis on the perceived value imbued in these items on display and in their social exchange rather than on their daily use. Jerimy J. Cunningham, "Pots and Political Economy: Enamel-Wealth, Gender, and Patriarchy in Mali," *Journal of the Royal Anthropological Institute* 15, no. 276-294 (2009).

⁷¹¹ Interview by author with Kadja Coulibaly in Kokry, May 2, 2010.

⁷¹² Interview by author with Hawa Diarra in Nara, April 30, 2010.

Once the bride was settled in her new home, her metal household goods played a further role in helping her to establish a comfortable place in the new household. In the French Soudan a new wife was often considered an outsider until she demonstrated a willingness to work and support her husband and his family. This meant working in the family's fields, drawing water for the household, collecting or purchasing ingredients for cooking, preparing meals, and bearing children.⁷¹³ Women who came to the household equipped to do this work with pots, calabashes, buckets, and other household tools earned a measure of respect for their willingness to prepare for and take on their new role.⁷¹⁴ When women brought metal house goods with them into marriage they also signaled to their new family members that they were going to shape the conditions under which they carried out their labor obligations.

From this perspective, the shiny new metal pots and buckets marked the new generation of young women, and they made individual women highly visible to their female in-laws. This group included a mother-in-law and sisters-in-law, whom a young woman would want to impress with her domestic and culinary skills. One woman I interviewed, Fatoumata Coulibaly, remembered her desire to be perceived as adept at using her metal pot not long after she arrived as a new bride in the Office town Sabula. One day, while cooking, she accidentally burned her leg on the hot metal. She held herself back from crying out so as not to let the other, more senior, women in the household learn of her clumsy mistake.⁷¹⁵ In Fatoumata's thinking, a woman who knew how to use the new kind of pots was a successful wife and valuable contributor to the household. She wanted to maintain this image.

⁷¹³ For more on women's status and marriage see, Grosz-Ngaté, "Hidden Meanings."

⁷¹⁴ On this point Cunningham argues that the contemporary possession of enamel pots helps young women demonstrate their positive work ethic as new brides today purchase many of their own household goods. They, they work hard to accumulate such goods before marriage. Cunningham, "Pots and Political Economy: Enamel-Wealth, Gender, and Patriarchy in Mali."⁷¹⁵ Interview by author with Fatoumata Coulialy in Sabula, May 10, 2010.

New wives often apprenticed with an older female in-law to learn how to cook rice or specific sauces,⁷¹⁶ but a young woman entering with new metal cooking pots would have had the opportunity to showcase her innovative use of them. The way for a young woman to show off her new metal pots (and cooking technique) was through the sound her cooking made in the compound. Fatoumata quickly learned that this was not always so easy. Even if a young wife knew how to make the *toh pasa* clang in her new metal pot, she could also make a mistake and her burn herself on the hot metal. In that case, she knew she could not scream because it would be the sound of inexperience, or poor cooking.

Cooking with a Metal Pot: A Technique of the Body

The newness of the pots and the special qualities of the women who possessed them were both displayed through action. Arriving in visible possession of one or more metal pots was just one step in the process. By cooking with a metal pot effectively women reminded their household and the whole town of her social value and economic potential. For example, a woman with metal pots often had more time to devote to income earning. At the same time, she dutifully fulfilled her cooking duties. This was the case even though the time these younger women spent on cooking was shorter. More than that when a woman with a metal pot was cooking, everyone within earshot knew that she was cooking. It was an audible reminder of her arrival in town, the wealth (of household goods) she brought, and the network of women who supported her in her new married life.

Displaying the values and meanings bound up in the metal pot was a sensory and bodily experience for women as they changed their stirring techniques. Residents at the Office were

⁷¹⁶ When I asked women how they learned to cook rice if they came from predominantly millet producing areas, they were most often surprised by the question. To them the answer was easy, they just learned. When I pressed further, many explained that an older woman in the household would show them what to do.

told over many years of living at the scheme that they were engaged in bringing "modern" farming and "civilization" to the French Soudan. Women may not have used the term modern to describe their metal pots but they were cognizant of the changes brought about in their daily life because of those pots. Metal pots became a pervasive audible and visible testimony to change. *Toh* preparation in particular became very much a performance as women cooked more and more with metal pots. Cooking faster meant stirring faster. Assane Plea remembered when her younger sister began to cook with the metal pot: "it was as if she were dancing." ⁷¹⁷ As *toh* cooked it became thick in the pot (clay or metal), and to stir it quickly required a great deal of force. Women used all of their whole upper body strength to do the stirring: pulling and pushing the *toh pasa* through the dough and then passing the spoon around the edges of the pot. The task engaged the whole body. This is why Assane's sister looked to her like she was dancing. She was moving her whole body to cook. It was a scene visible across the Office, as women vigorously mixed the dough: the *toh pasa* struck the side of the pot rhythmically and women danced while cooking. *Clang...clang...clang...clang.*.

Making toh was very much a "technique of the body" to use the words of Marcel Mauss. He theorized that people educate their bodies to perform certain daily tasks from the most basic to those requiring special skill. In this way the body itself is an instrument for human action. He further argued that bodily habits for a given task are subject to change. Mauss used the example of swimming but the analysis is apt here. The first generation of women learned to slowly stir *toh* in clay pots but adjusted their bodily movements to do the same task in a metal pot. The learned body movements of cooking changed and were passed on to younger generations of women. It so happened that cooking in a metal pot required bigger and more dramatic

⁷¹⁷ Interview by author with Assane Plea in Kouyan-N'Péguèna, May 28, 2010.

movements, making cooking a more spectacular endeavor even as it remained a mundane daily activity.

Assane laughed heartily when she described her sister's technique to me, but then added that her father complained about the taste of the *toh*. She explained that if you went too fast and forgot to add water to the top of the dough after mixing, the *toh* lost some of its flavor.⁷¹⁸ For some young women, the fast stirring and cooking went hand in hand with skipping steps. These cooks perhaps paid more attention to the clanging and dancing than watching their toh. In any case, even older men in the household noted the arrival of the new pots. The whole domestic atmosphere changed and men could not help but notice. In fact, toh tasted different from a metal pot even if the cook remembered all the steps.⁷¹⁹ Women certainly noted the change in the taste of their food, but mothers and daughters continued to purchase and use metal pots despite complaints from men in the household.

Young wives were adamant about their cooking expertise even though *toh* from metal pots tasted different from *toh* made in clay pots. This was especially true for women who arrived in rice growing towns and learned to make rice *toh*. Their food tasted doubly different. Yet, they insisted that they always made the same food. These cooks made millet or rice *toh*, with an emphasis on *toh*.⁷²⁰ In the women's recollections, what mattered was not that they cooked millet or rice. Neither did it matter that they cooked in metal or clay pots. For them, the important fact was that with their skill they continued to prepare familiar meals. As an object of study, food preparation and consumption has been perceived to be an area of social stability even

⁷¹⁸ Interview by author with Assane Plea in Kouyan-N'Péguèna, May 28, 2010.

⁷¹⁹ Tania Winther made the same observation about the change from clay to aluminum pots during her research in contemporary rural Zanzibar. Winther, *The Impact of Electricity*, 197-208. ⁷²⁰ Interview by author with Assane Coulibaly in Sirakora, April 28, 2010.

conservatism.⁷²¹ On a superficial level, the insistence by women in this generation that they prepared the same *toh* seems to support this notion of social continuity through food. Yet women readily adopted rice as the staple grain for making *toh* and added new ingredients to their sauces. Women who owned metal pots were made aware that their meals tasted new or different. In the face of such perceived criticisms, they perhaps insisted that the food was the same.⁷²²

Women were concerned with satisfying the tastes of their fathers and later husbands and in-laws. It was part and parcel of fitting into the new household as a young wife. Nevertheless, the younger generations of women at the Office also had a role in reshaping their family's food tastes. For example, cooks safeguarded the texture of *toh* all the while adding new ingredients to its preparation or to the accompanying sauce. They also prepared the meals in new cooking vessels that altered the resulting flavors of the dish. The second generation of women at the Office had their own definition for what constituted *toh*. Good *toh* was an elastic concept, and the new definition was in some ways a response to changing technological resources, the environment, and women's labor interests.

When I asked women to contrast their own work during this period with the work of their mother's generation, many women responded that the only work their mothers did was make *toh*. The only other work their mother's did was to carry *toh* to the fields to feed family members working there. These women also helped in the fields, but in their daughter's minds cooking took a predominant role in their mother's work lives. Certainly, for their mothers it was a more time consuming task to make *toh* in a clay pot. For both generations it was also the most

⁷²¹ Jack Goody, *Cooking, Cuisine, and Class: A Study in Comparative Sociology* (New York: Cambridge University Press, 1982).

⁷²² Tanja Winther similarly noted that the taste of food prepared over electronic cookers in late-twentieth century Zanzibar changed from the taste of food prepared over wood fires. Women and men noted the change but women appreciated the possibility to save labor time by using the electronic cookers. Her findings differ in that her informants believed that they could not cook *all* of the same things with electricity. Winther, *The Impact of Electricity*, 198-208.

technically complex portion of the meal. A good cook knew when to begin stirring, and for how long. She also knew when to add water to the top of the dough to give the *toh* the right consistency: it had to be easy for family members to take and handful from the bowl and be pleasing in the mouth. The textures had to be just right. Where women saw change between the generations was in the range of activities they were able to accomplish that had been impossible for their mothers. They cooked *and* earned cash.

The cooking pot may be a modest technology, but as Judith McGaw observed the history of gender and technology demonstrates that simple technologies (frequently called "feminine technologies") require complex knowledge.⁷²³ Owning a metal pot entailed more than simply cooking with it. A woman had to remember that the metal pot near her legs could become extremely hot. Knowing how to use a metal pot also meant knowing how to keep it clean or shiny. Women who had these new metal items maintained them carefully. A new clay pot had a red-brown color but was quickly charred by the cooking fire. With the introduction of metal pots young women added an additional step to the way they cleaned, so that the metal would not blacken like earthenware.⁷²⁴ Women worked to keep their pots looking shiny and new.

Before placing the pot on the fire, the woman cooking coated it with a few handfuls of earth from near the hearth and mixed it with a small amount of water. She covered the bottom and sides of the pot almost up to the opening. When the pot was on the fire, the mud was burned, not the pot. After the meal was cooked, when she was cleaning, she scrubbed to remove the mud. The pot retained its metallic shininess, a visible testament to her other domestic skills. When women described this process, the word they used for the result, *jè*, could be translated to

 ⁷²³ Judith A. McGaw, "Reconceiving Technology: Why Feminine Technologies Matter," in *Gender and Archaeology*, ed. Rita P. Wright (Philadelphia, PA: University of Pennsylvania Press, 1996), 25.
 ⁷²⁴ Interview by author with Kadja (Ma) Coulibaly, Fatoumata Guindo, Fatoumatou Zaré Coulibaly, and

⁷²⁴ Interview by author with Kadja (Ma) Coulibaly, Fatoumata Guindo, Fatoumatou Zaré Coulibaly, and Lalafacouma Tangara in Koué-Bamana, May 26, 2010.

mean clean or bright.⁷²⁵ I draw another insight from McGaw who pointed out that by examining feminine technologies we see that "technology" is often as decorative as it is functional.⁷²⁶ The look of the pot had a lot to do with its success. The new pots were functional in that they saved labor time. They were also heavy and unwieldy especially the biggest ones. One other consideration was that they were attractive. A metal pot brought a pleasing new visual aesthetic to cooking to accompany its new sounds.

The Postwar Metal House Goods Market

After the Second World War the metal house goods market expanded in French West Africa. Growth in this sector was rooted in the war itself. During the war, the colonial government operated two foundries in Dakar for producing iron goods to support the war effort. Historian Emily Osborn, who has examined this history in detail, has pointed out that much of this metal production involved a new technique called sand-casting. Men working in the factories (many of whom had previous metal-work training as blacksmiths) discovered that the technique worked well with scrap aluminum, and scrap metals were increasingly available in Dakar at the time. When these metal workers left the foundries after the war, many of them opened their own blacksmith workshops across French West Africa and employed the new sand-casting technique with scrap aluminum. They also trained apprentices from across the region. This technological know-how among men was thus transmitted across most of French West Africa including in French Soudan.⁷²⁷

⁷²⁵ Based on my participant observation, cooks in rural Mali using metal pots still use this method for maintaining their pots.

⁷²⁶ McGaw, "Reconceiving Technology," 20.

⁷²⁷ Emily Lynn Osborn, "Casting Aluminum Pots: Labour, Migration and Artisan Production in West Africa's Informal Sector, 1945-2005," *African Identities* 7, no. 3 (2009): 376.

Interestingly, the first goods that these blacksmiths made from aluminum were cooking pots and other household items. Prior to the war, metal cooking pots and buckets were introduced in colonial markets by French merchants but the goods made up only a small proportion of French imports. These merchants imported more European manufactured cloth, soap, and cooking oil.⁷²⁸ The newly trained blacksmiths slowly increased sales of their metal wares in local markets.⁷²⁹ In the first few years, it is likely that some of these items produced in Senegal were sold to traveling merchants who frequented markets in the French Soudan. Aluminum is a light metal when compared to iron making the new pots much lighter than the imported iron ones on the market. The new aluminum pots solved some of the inconveniences of the earlier imported iron cooking pots. The older iron pots had been affordable because as some Office women put it, "the tubabs [Europeans] wanted women to buy [the imported iron pots]."⁷³⁰ However, the aluminum pots were even cheaper. The male blacksmiths also had to compete with women potters who produced clay pots.⁷³¹ One reason that they might have focused on goods made specifically for women was that there was a ready market for domestic goods and cooking pots.

Gradually the local production of metal cooking pots increased and spread to the French Soudan and the Office region. Osborn's work helps to situate this history. First, the availability of scrap aluminum increased following the war. Then in the 1950s aluminum sand-casting technology was transferred to artisans and workshops in Bamako. By the 1960s, the number of

⁷²⁸ Jacques Marseille, *Empire Colonial Et Capitalisme; Histoire D'un Divorce* (Paris: Albin Michel, 1984), 49-55.

⁷²⁹ Osborn, "Casting Aluminum Pots," 376.

⁷³⁰ Interview by author with Fatoumata Coulibaly, Kadja Malle, Mariam Malle, Kadja Kone, and Aminata Dembele in Kouyan-Kura, May 27, 2010.

⁷³¹ Female potters ultimately lost a great number of their regular consumers in these years, but they continued to produce and sell other necessary items such as water jars and steamers. Cunningham, "Pots and Political Economy: Enamel-Wealth, Gender, and Patriarchy in Mali," 281; 84.

these workshops increased as the availability of aluminum spread more widely because of the emergence of scrap-metal dealers across the interior markets.⁷³²

Markala, with its workshops for the repair of industrial machines and for the manufacture of agricultural equipment, was a site where these new artisans could easily acquire scrap metal. The Office also offered several expanding colonial markets in which blacksmiths could sell their wares. From the late 1940s to the 1960s, women at the Office increasingly purchased these aluminum pots and other metal goods (serving spoons, buckets, etc.) for their daughters. This technological shift was made possible by new metal-working techniques transferred from France and Senegal during World War II. It was also made necessary by accelerated deforestation associated with the rapid expansion of farmland under the project. The modest technological innovations in the French Soudan were tied both to global industrial transformations and to women's food preparation needs.

Metal House Goods and the Office Economy

By the end of the 1950s, Office administrators regarded metal cooking pots as items of first necessity and paid close attention to the prices for pots and other basic goods in the markets. Their particular concern was that project farmers ought to be paid enough for their crops to purchase such items. In 1959 François Wibaux the Director of the Office wrote to the colony's Ministry of Commerce, Industry, and Transport requesting an increase in the sum the government paid to Office farmers for rice.⁷³³ He explained that the daily cost of living had

⁷³² Osborn, "Casting Aluminum Pots," 377.

⁷³³ By this point, colonial French West Africa was undergoing political restructuring as the colony gained greater autonomy from France. African political leaders also held a measure of power in the new government structure. Tony Chafer, *The End of Empire in French West Africa: France's Successful Decolonization?* (New York: Berg, 2002).

increased over the past decade while the price paid for rice paddy had dropped.⁷³⁴ Clearly this was a problem for an Office administration that had long tried to make good on its claims that the scheme would improve the standard of living for its farmers. In the letter, Wibaux cited the costs for basic items like sugar, salt, cloth, and metal cooking pots. In a little over a decade metal house goods had become as essential to an Office household as salt or cloth both widely recognized by the administration as basic necessities.

In the decades following the Second World War, colonial officials sought to improve living conditions at the Office more directly. This had been one of the main objectives of the Mission Reste in 1945 and succeeding policy changes that directly addressed farmer complaints. More broadly, the colonial government was concerned with the demands for greater political, economic, and social freedom across the colony. It is, therefore, not surprising that Wibaux expressed concern for the cost-of-living at the project. It was a matter of politics. His 1959 letter clearly demonstrated this change in attitude toward farmers.

However the letter also revealed the Director's assumption that it was male farmers who brought new technologies into the household. From the point of view of Office administrators, the economy of the Office revolved around men's incomes. This was represented more specifically by the income earned by male household heads rather than the incomes of junior men. Wibaux seemed not to have been aware that cooking pots and many other basic necessities were purchased by women. Their visible presence in the marketplace was unmistakable to the Soudanese blacksmiths and merchants.

In general, Office women earned less than men at the project, but their wages and savings were enough to support the expense of a metal cooking pot. In the same letter quoted above,

⁷³⁴ AON 106, Correspondance Directeur General 1957-1960, letter dated January 29, 1959. The majority of women, interviewed by me, who arrived at the Office just before or after 1960 recall bringing at least one metal pot purchased by their mother with them to their husband's household.

Wibaux listed the price of an average metal pot as 305 FR in 1959, up from 255 FR in 1953. In 1959, a sack of 25 kilograms of salt cost 405 FR, or slightly more than the cost of a metal cooking pot.⁷³⁵ While the cost of the new pot was an investment, it was within the price range of bulk common food stuff purchases. More to the point, the purchase of a metal pot was within the realm of possibility for many mothers. Even with inflation, the pots remained accessible technologies. In fact, the purchase of a metal pot for a daughter became a greater necessity as wood for fuel in areas surrounding the Office became scarce. By the 1960s, middle-aged mothers were reliable rainy season customers for a new market in metal household goods.

By contrast, senior men paid a great deal more from their incomes to support the infrastructure and associated agricultural technologies of the Office. The plow which was the farming technology most consistently promoted by the Office was a major expense. Most men only obtained the use of a plow on credit from the Office, or they borrowed one from a fellow farmer. In fact, the purchase of a plow was out of reach for many farmers already indebted to the Office.⁷³⁶ In the 1950s, as industrial technologies and mechanized farming increased at the Office, it became even more difficult economically speaking to obtain the plow. From 1953 to 1959 the price for a plow rose from 8,000 Fr to 10,000 Fr.⁷³⁷ When Wibaux appealed to the colonial government in 1959 to raise prices paid to farmers, he also raised the issue of the high cost of irrigated water and mechanical services. In 1959 these fees were out of proportion with men's earning power. The director was voicing a common complaint of farmers. Men's decreased earning power, as he observed, did effect the welfare of families. Given the hard

⁷³⁵ AON 106, Correspondance Directeur General 1957-1960, letter dated January 29, 1959. The majority of women, interviewed by me, who arrived at the Office just before or after 1960 recall bringing at least one metal pot purchased by their mother with them to their husband's household.

⁷³⁶ Monica van Beusekom points to the general situation of indebtedness to the Office. Beusekom, *Negotiating Development*, 103-110. ⁷³⁷ AON 106. Correspondance Directeur General 1957-1960, letter dated January 29, 1959.

economic times, women's access to new domestic technologies helped alleviate the burden of household expenses, especially those associated with food preparation.

Plows and Carts: Gender, Technology, Ownership, and Labor

The plow was not intended to address the needs of families concerned with daily survival and the quality of their food. The plow was promoted as a means of increasing cash crop yields. For agronomists and planners the plow was a male technology. In later decades, the promotion of the plow was expected to reduce the demand for women's labor in the fields. Even development specialist Ester Boserup (who, in 1970, directed the attention of scholars to the predominance of women in agricultural activities in Africa) emphasized men's use of the plow. She argued that increased plow use would lead to a reduction in women's labor in the field and an increase in their non-farming income-earning activities.⁷³⁸ By the time Boserup was writing, women at the Office had been farming and plowing for decades.

Office farmers, both men and women, also associated the plow with men even though women regularly worked with the plow. In a telling example, from the Office town Sokorani, Fanta Sogoba and her sister plowed their family fields because the family had no sons. The Sogoba girls were well-known for preparing their fields earlier than most other families who did have sons.⁷³⁹ It was widely recognized that the Sogoba girls were quite skilled at preparing fields with their family's plow. Wives also plowed when a husband or brother-in-law was ill, or there were no young men in the household to help with field labor.⁷⁴⁰ Both men and women at

⁷³⁸ Ester Boserup, *Woman's Role in Economic Development* (London: Earthscan Publications Ltd., 1989).

⁷³⁹ Interview by author with Bintu Traoré, Mariam Doumbia, and Fanta Sogoba in Molodo Center, April 15, 2010. Several men were present during this interview including Sekou Sall Ouloguem who enthusiastically recalled that Sogoba and her sister were widely-known for their plowing skills. ⁷⁴⁰ Interview by author with Moctar Coulibaly, Mariatou Traoré, and her son Arouna Coulibaly.

the Office were fully aware that many women plowed. Yet, the masculine associations of the plow persisted among settlers. Even women who plowed regularly thought of it as men's work.

Scholars in Feminist Technology Studies over the past twenty years have argued that technology and gender are co-produced, meaning that each is shaped by the other. Some technologies become expressly associated with a masculine or feminine identity.⁷⁴¹ Thus, gender ideals shaped the plow as a technology even as men's and women's roles were defined (and redefined) by plow use. Fanta, who was famed for her plowing skill as a young woman, explained many decades later that plows were associated with men because to work the plow you had to have big muscles.⁷⁴² Yet other work associated with women also required great strength: carrying heavy loads of wood, drawing and carrying water, and moving heavy metal pots to and from the fire. In addition, the use of the plow for farming was as novel for men as it was for women. Clearly there were other reasons for the plow to be associated with men.

On one level of analysis, the Office distributed plows only to men. This fact influenced to some extent how men and women perceived the plows. They were also owned by men, just as metal pots came to be a woman's possession. Men's ownership of plows was an important unstated factor in how the technology was locally perceived. On another level of analysis, it becomes clear that whoever worked with the plow (a man or a woman) made a statement about their family's fortunes. A man plowing spoke to the good standing or health of a household head who was able to purchase or access a plow. A woman plowing was more often an indication of

⁷⁴¹ Faulkner, "The Technology Question in Feminism," 84. See also, Jessica Smith Rolston, "Talk About Technology: Negotiating Gender Difference in Wyoming Coal Mines," *Signs: Journal of Women in Culture and Society* 35, no. 4 (2010). Rolston demonstrates the way that talking about how women use male associated industrial technology helped women negotiate the workplace and their place in it as women, often reinforce the masculine association.

⁷⁴² During an interview with Fanta Sogoba in Molodo-Centre, I showed Fanta a posed picture of a family from the Office and what looked to the author like a young woman holding the family's plow because of her dress. Sogoba objected and explained that the arms of the person holding the plow looked very strong and to hold the plow it had to be a young man. Interview by author with Fanta Sogoba in Molodo-Centre, April 15, 2010.

illness in the family or other misfortune than a testament to uncommon female strength. In this way, families in possession of a plow had an interest in reinforcing its masculine association, even if it was sometimes operated by women from the household.

Ultimately, the introduction of the plow at the Office impacted how women participated in farming and agricultural production. Despite the fact that some women could be skilled at using a plow, it introduced a technological differentiation between men and women. Men most often used the plow to prepare fields while women continued to use the *daba* (small hoe) for subsequent tasks like weeding. When there were no sons or other young men in the household women did all this labor. The introduction of the plow by European agricultural staff brought a set of European gender ideas to agriculture. Men farmed, plowed, and controlled land. This ideology was reinforced by the way the Office distributed land permits, seeds, and farming technologies. While the successes of the Office's early techno-agricultural interventions were inconsistent, globally they ensured that women had very little access to land to farm or garden for home consumption or sale. Owning a plow had become a claim to land, and women possessed neither.

Women's technologies were also highly gendered. They purchased most of a household's domestic technologies. Those same tools tended to assist food preparation rather than cultivation. The new *negedaw* enabled women to cook more quickly, and the new cooking techniques associated with the metal pots produced a finished meal more quickly. In fact, older women around the Office often noted that young women would not be able to cook in the old earthenware pots because if they stirred so fast and quickly the *bogoda* (clay pot) would break.⁷⁴³ Moreover, women owned their metal pots (as opposed to male ownership of the clay *bogodaw*).

⁷⁴³ Interview by author with Nianzon Bouaré and Hawa Coulibaly in Molodo-Bamana, May 29, 2010.

This gendered shift in the ownership of a specific domestic technology translated into more control for women over their own labor time.

The audible and visible everyday use of *negedaw* made plain the changing gender-labor dynamic. Anthropologist Jane Guyer pointed out several decades ago that although women in Africa have long cooked, the meaning of that work has been historically contextual: through cooking, women engaged in the domestic realm and market economy in significant ways.⁷⁴⁴ This line of analysis is applicable to cooking at the Office. The shift from clay to metal pots sheds light on the history of a technical and sensory process that at first glance did not appear to change much about women's labor, and yet such subtle shifts were motivators and signals of broader social transformations.

The most obvious transformation was that women's work day was gradually modified with the introduction of metal house goods. Women continued to labor long days, but the distribution of their labor was new. The alteration in women's temporal regimes was something that men and women noted in their daily lives. It entailed changes in the activities of younger wives, who had more time for cash-earning activities such as cotton spinning, rice winnowing, etc. Therefore, women who obtained small plots started market gardening, and all women spent less time around the cook fire or collecting wood. Sauces increasingly had new ingredients like onions and other purchased food stuffs like *tegedege* (used to make peanut sauce). Men and women at the Office could literally see and taste the innovations in the younger women's cooking.

⁷⁴⁴ For example, cooking food for wage workers as a supplement to their pay is different from preparing food for a household of mostly family members. In this example, as cooking changes, the work of producing food takes on a different relevance within the larger economy. Jane Guyer, "Female Farming in Anthropology and African History," in *Gender at the Crossroads of Knowledge*, ed. Micaela di Leonardo (Berkeley, CA: University of California Press, 1991).

By the 1950s, another significant labor shift was connected to the introduction of carts at the Office. For several months after the harvest and before the next rains, women carefully calculated the amount of wood fuel they needed for the year. In an unrelated development, administrators promoted the use of carts by men to assist in field labor. Carts pulled by donkeys slowly appeared in Office towns, and they were largely purchased by male household heads. Like the first large metal pots, the first carts (dating to the 1930s) were slightly unwieldy. They had heavy metal wheels and a similarly heavy wooden frame.⁷⁴⁵ Only large oxen, a breed foreign to the French Soudan, could pull the first models. Eventually, the first carts were replaced by lighter ones that donkeys, a cheaper animal, could pull.⁷⁴⁶ A cart was first introduced to facilitate farm work. Tools, seeds, and grains were more easily transported from town to field and field to granary by cart. However by the 1960s, the increased purchase and use of carts at the Office had the additional effect of reducing women's work load.

The gendered shift occurred when some men began collecting large quantities of wood fuel that they then transported using their carts. This change coincided with the time when wood was found at distances greater than men's wives could walk. As it was explained to me, the men who collected wood did so out of a need for additional income. After a man returned with a load of wood, he often gave his wife (or wives) some of the wood, and then he sold the excess in the big Office markets. A few women explained this change by saying that the men who collected wood for their wives loved them.⁷⁴⁷ This characterization alludes to the fact that these men were

⁷⁴⁵ AON 138/2, Rapport de visite à l'Office du Niger de Mr. le Professeur Réné Dumont, c. 1950. Dumont also visited the Office in 1961. The file contains documents pertaining to both visits.

⁷⁴⁶ Interview by author with Hawa Coulibaly in Fouabougou, March 30, 2010 ; Interview by author with Fatoumata Coulibaly, Kadiatou Mallé, and Maïssa Sountura in Kouyan-Koura, April 14, 2010.

⁷⁴⁷ Interview by author with Hawa Coulibaly in Fouabougou, March 30, 2010; Interview by author with Rokia Diarra in Nara, April 29, 2010; Interview by author with Fatoumata Coulibaly, Kadja Mallé, Mariam Mallé, and Kadja Koné in Kouyan-Koura, May 27, 2010. Some of the women jokingly said that the men who started collecting wood for their wives did so because they loved them too much in response to the author's question about how the change came about. The women I interviewed only mentioned married men owning carts. Archival evidence of the

doing women's work. The men who collected wood were by these women's standards definitions helping women with their household labor duties. For the men to do so, the elderly women who recalled this change surmised, they must have acted out of love. By the end of the 1960s, this was a major unforeseen shift in the division of labor across Office households and it was a change that was not necessarily embraced in other rural areas of the French Soudan.⁷⁴⁸

Office planners (including the project's main architect, Emile Bélime) had promoted oxen-drawn plows and carts from early in the project's history. They anticipated that the cart would promote cattle raising alongside farming because it required the use of oxen. For many years, the well established local distinction between herding and agricultural livelihoods troubled administrators. Worried about political unrest among mobile herding populations, the promotion of farming accompanied by cattle raising was also designed to settle nomads and semi-nomads in the French Soudan. One aspect of the rhetoric describing the benefits of such a cultural and economic shift included the suggestion that it would improve settler diets by bringing steady meat and milk into farm households.⁷⁴⁹ Indeed, Mamu Coulibaly, the beer brewer who married into a family in the first Office town Sangarébougou, remembered an early emphasis at the project on cow ownership, plenty of cows, and milk. She described the abundance of milk by explaining that her son drank straight from the cow's udders.⁷⁵⁰ It was for her a novelty to have daily access to milk. However, Mamu's experience is not easily generalized for the Office, for Sangarébougou was the model Office town. For many years visitors were brought to this model

number of carts, viewed by the author, only recorded numbers per household, not the identity, age, or marital status of the men purchasing carts.

⁷⁴⁸ Based on participant observation in regions of Ségou outside of the Office, this labor shift was not replicated in other rural areas where women were collecting wood and products from the wilds during the author's field work in 2009-2010.

⁷⁴⁹ The Office in particular was anxious to settle herders whose animals crossed the northern portion of Office lands every year. ANM 1 R 65 FR, Office du Niger, Rapport sur l'elevage et la colonisation indigene en terres irriguees 1934.

⁷⁵⁰ Interview by author with Mariam (Mamu) Coulibaly in Kankan (formerly Sangaréboubou), May 4, 2010.

village to observe successful African farmers. Elsewhere, families struggled with the scarcity and expense of livestock, plows, and carts. As with other technologies, the plow impacted the local food-supply but not in the ways that planners expected.

Even with help from men, the difficulty of acquiring wood fuel was worrisome for women. For example, the loss of many trees translated into increased prices for wooden serving bowls called *kuna*. Just as *toh* was associated by many Office residents with good and filling food, *kunaw* were associated with meal time and proper eating. By the late 1960s, *kunaw* were hard to find in the market.⁷⁵¹ Many women that I interviewed recalled the changed taste of *toh* from cooking in metal pots, but they overwhelmingly appreciated the technological change. However, men and women were consistently nostalgic for *kuna*. When bowls made from metal first came in to the market (1950s-1960s) many older men simply refused to eat from the new vessels.⁷⁵² All residents at the Office recalled the substitution of *kuna* for bowls made from other materials with great regret.⁷⁵³ It was not a change prompted by the benefits of saved-labor or the market cost of such goods. *Kunaw* slowly appeared in fewer quantities in the markets, and women were obligated to purchase other serving bowls.

Visually metal bowls looked different. Kuna were dark brown, the wood blackened over a flame to preserve the material. The largest of these wooden bowls allowed families of fifteen or more to eat around the same *kuna*.⁷⁵⁴ New metallic bowls came in smaller sizes meaning

⁷⁵¹ Interview by author with Mamadou Djiré, merchant, in Niono, August 7, 2010.

⁷⁵² Interview by author with Mamadou Djiré, merchant, in Niono, August 7, 2010.

⁷⁵³ Interview by author with Fatoumata Coulibaly and Yaini Tounkara in Kolony, May 25, 2010; Interview by author with Daouda Bouaré and Bintu Dembélé in Sokorani, June 1, 2010; Interview by author with Brahmin Fané in Markala, June 3, 2010; Interview by author with Mamadou Djire, in Niono, August 7, 2010.

⁷⁵⁴ Conversation with Hawa Fonba in Kalaké-Bamana, October 2, 2010. Kalaké-Bamana is in the Ségou region south of the Office area, but shares the cultural food history of most Office families and was a recruitment zone for the Office.

fewer people ate around one bowl, changing the social habits of eating.⁷⁵⁵ Perhaps *toh* made in a metal pot had a displeasing taste to some at first, but the memory of the technological change and improvement overshadowed the change in taste. The metal material also provided tangible cooking benefits. Metal serving bowls did not offer the same conjunction of technological, environmental, and aesthetic benefits.

Canals and Buckets: Integrating Industrial and Domestic Technologies

Water technologies were integral to the Office as an industrial agricultural project, but the canals also affected domestic life, especially with regard to water collection. The canals also unexpectedly impacted daily food production. Sékou Coulibaly, whose parents were among the first families at Nyamina, remembers that men and women fished in the canals and in the fields when they were flooded. Everyone engaged in fishing, but as with most activities it had its own gender dynamic. Men most often fished with nets while women used a round wooden cage or basket called a *chu*.⁷⁵⁶ The biggest catch of the year, he recalled, was when the water supply was cut off, leaving an abundance of fish near the drains.⁷⁵⁷ They lost their water, but were able to catch and prepare a store of an important food resource. The dried fish caught during this part of the year supplied residents with a much needed sauce ingredient and proteins. Many older residents who grew up at the Office were nostalgic for the food from their younger years, and such memories most often centered on the abundance of fish in the sauce.⁷⁵⁸ For families

⁷⁵⁵ Interview by author with Fatoumata Coulibaly, Kadja Mallé, Mariam Mallé, Aminata Dembélé, and Kadja Koné in Kouyan-Koura, May 27, 2010.

⁷⁵⁶ Both the net and the *chu* required the fisher to enter the water. Women dropped the *chu* into the water and grabbed fish through the larger hole in the top or bottom of the basket with their hands as the fish swam through the smaller side openings. Both techniques were described to the author by Sékou Coulibaly in Nyamina, May 31, 2010 and observed during field work.

⁷⁵⁷ Interview by author with Sékou Coulibaly, in Nyamina, May 31, 2010.

⁷⁵⁸ Interview by author with Fatoumata Coulibaly, Kolony (km 26), March 24, 2010; Interview by author with Kono Dieunta in Kokry, May 4, 2010.

coming to the Office from the river region, fish would have long been a staple of their diet. Women in these families helped to ensure the familiar taste of their food when they cooked with fish. For new families who arrived at the Office from other regions, the abundance of fresh fish was a tasty and perhaps luxurious addition to the sauce.

The availability of food and other resources necessary to produce food was an on-going concern for women. They could spend an entire season calculating wood needs, but they measured water requirements daily. Water was essential for preparing the breakfast porridge, *môni*, the *toh* and its sauce, not to mention the need for water for drinking, washing the cooking pots, doing laundry, and for toilet needs. To supply the water needed to feed and care for everyone in the household, women made numerous trips over the course of a day to draw water. Among the new metal goods in the market, buckets were another modest labor-saving technology. With the new metal buckets a woman made fewer trips to the canal or to the well because she could now carry one bucket (or a large *baarakolo*) on her head and carry a bucket full of water by hand because of its handle.⁷⁵⁹ Water collection now took less time.

Like the first metal pots, the buckets were weighty, but proved useful. For example, a metal bucket full of water on top of a woman's head was less likely to break when she moved the bucket from her head to the ground. *Baarakolo* and calabashes tended to break with the same motion. With some of the calabashes women also had to cover the top with a smaller calabash to prevent spilling, an old labor practice called *ka guan*.⁷⁶⁰ Buckets eliminated this extra labor step.⁷⁶¹ Cooking was a physical task from water collection to threshing and pounding grain.

⁷⁵⁹ Large calabash with a small hole cut into the top for carrying water.

 $^{^{760}}$ Ka guan is the inifinitive form of the verb, the root being guan.

⁷⁶¹ Interview by author with Bintu Traoré, Mariam Doumbia, and Fanta Sogoba in Molodo-Centre, April 15, 2010; Interview by author with Alimata Démbélé, Nana Démbélé, and Moussa Coulibaly in Koutiala-Kura, May 3, 2010.

For women who counted the number of arm lengths needed to draw water, fewer arm lengths expended at the well meant more energy for other important tasks.

Drawing water from the canal (when it was possible) even eliminated some of this labor. To get water from the canal women simply filled their buckets (or calabash etc.) by dipping it into the irrigated water source (sometimes with the aid of a rock staircase). These quotidian changes in women's domestic labors were unforeseen by the men who designed the dam and its canals, but proved important for daily life. Women were best able to take advantage of these man-made resources with the introduction of buckets. A bucket full of water may have been slightly heavier than a calabash full of water, but women were more assured of not losing any water, thereby eliminating unnecessary trips. In essence, the buckets served to mediate women's engagement with the water and the canals both of which were hallmarks of industrial agricultural technology at the Office.

Buckets, like the metal pots, were another new item gifted to women at the time of their marriage by mothers willing to spend a little extra for more efficient and sturdy household goods. Buckets were a similarly substantial investment for mothers, but one for which the positive benefits were felt daily. The adoption of both domestic technologies (metal buckets and the metal pots) was unlike the dramatic entry of industrial agricultural technologies (eg. tractors) at the Office. The latter anticipated radical changes to work processes in the fields and required a great deal of expert maintenance.⁷⁶² Buckets and pots fit well into women's already established work routines and required little upkeep. In addition, the new metal items ensured that young

⁷⁶²How domestic technologies fit into a woman's daily work routine impacts which technologies are adapted. This was explored by Joy Parr for Canadian women who unlike their American counterparts did not adopt automatic washers until the 1960s because their households were not equipped with electricity or running water, or out of a concern for excess water use. Parr points out that successful household technologies fit into the larger technological system of the home. Joy Parr, "What Makes Washday Less Blue? Gender, Nation, and Technology Choice in Postwar Canada," *Technology and Culture* 38, no. 1 (1997).

women would not need to spend money to replace their household items as often. Calabashes, spoons cut from small gourds, and *bogodaw* all broke fairly easily. ⁷⁶³ Over time, as with the metal pots, the buckets were understood to be a necessity. In effect, mothers who bought new metal buckets and pots for their daughters assisted the second generation of women in managing their access to two necessary natural resources for cooking: wood and water. They also, perhaps inadvertently, helped satisfy the need for tasty food in the face of a radically changing environment.

Tractors and Threshers: Debt and Empty Bellies

In the postwar years, the subtle changes in women's purchasing and daily use of new domestic goods contrasted sharply with their engagements with the often intrusive, large-scale technologies that planners assumed would modernize farming. From the outset, the technological centerpiece of the Office, its irrigation system, was prone to flooding. At other times, administrators cut water to particular towns for the failure of its farmers to pay project fees.⁷⁶⁴ Despite such inconsistencies in the irrigation infrastructure, promoters of the Office continued to herald irrigation and later mechanized farming at the project as major technical achievements in Africa. In the late 1940s, Office administrators pushed for massive mechanization, including the founding of an entirely new mechanized rice sector in Molodo-Centre (near Molodo-Bamana). The project was funded in part by the American Marshall Plan, which was intended to promote global economic recovery after the war. About a decade later in

⁷⁶³ Interview by author with Fatmata Coulibaly in Kolony (km 26), February 9, 2010. Fatmata Coulibaly was also one of the rare owners of a small metal mortar and pestle. She said she made this relatively expensive purchase because she knew the items would last, unlike the wooden mortar and pestle that many women still preferred. Her daughter-in-law Yaini Tounkara made the point about the small gourd spoons breaking easily and that it was necessary for cooking equipment and eating utensils to last. Interview in Kolony (km 26), May 25, 2010. ⁷⁶⁴ ANM 1R 42 FR; Monica van Beusekom, *Negotiating Development*, 164.

1955, the Director General of the Office, Georges Peter, was promoting the Office as a model for colonial development based, in particular, on its technological achievements. He claimed that the Office had in fact turned desert into profitable farm land and raised the standards of living and civilization of its African farmers.⁷⁶⁵ These were ambitious (and highly value laden) claims. On the ground, the impact of project technologies was not so easily measured.

The mid-century push to increase mechanization at the project was part of a larger effort by the administration to improve the institution's production figures and profit.⁷⁶⁶ Following a pause after the war, the fully mechanized rice sector called CRM (Centre du Riz Mécanisé) was opened in 1945 at Molodo-Centre.⁷⁶⁷ At CRM, agricultural machines were employed for field preparation, planting, and harvesting. There were no farmers with Office fields at CRM. Instead wage workers helped to operate the machines and to bag the harvest. In the following year, the Director General of the Office (at the time Pierre Viguier) even investigated the purchase of equipment for mechanized tobacco cultivation.⁷⁶⁸ Tobacco was a secondary crop that many Office farmers planted because it was a profitable garden crop, which explained Viguier's interest in the possibilities for its industrial cultivation. Large-scale tobacco cultivation was not pursued any further, but the example speaks to the larger trend towards mechanization.

Throughout the 1950s mechanization increased and the large technical infrastructure was expanded and reinforced. Additional American Marshall Plan funds supported the 1952 opening

⁷⁶⁵ AON 118/2, Georges Peter, "Un Exemple d'Assistance Technique: L'Office du Niger," January 1, 1955. The notion that the irrigation system of the Office transformed desert into productive farm land was a rhetorical claim dating to before the project opened, but a common rhetorical description of Office promoters into the 1960s. The same claim was the major theme of the promotional booklet produced by the Office called "La Delta Réussucite" c. 1961 (From AON 6 bis). This picture of the region as a desert is highly misleading as the region now hosting the Office du Niger was before the project's founding one of the largest grain producing regions in French West Africa. ⁷⁶⁶ The shift to mechanization was noted by Emile Schreyger. See, Schreyger, *L'Office du Niger au Mali 1932 à 1982*, 2, 136-37.

⁷⁶⁷ Spitz, *Sansanding: Les Irrigations Du Niger*, 63-70. Schreyger, *L'Office du Niger au Mali 1932 à 1982*, 154-58. Beusekom, *Negotiating Development*, 140; 70-71.

⁷⁶⁸ AON 106, Correspondance Directeur General 1957-1960, August 1946.

of the semi-mechanized cotton sector called Kouroumary. There farmers tended to individual plots with the aid of new agricultural machines. This new sector was located just north of Niono and Molodo and drew water provided by the Canal du Sahel. In Kouroumary all the field preparations were done by tractor. Office instructors did not encourage plow use as had long been the case elsewhere at the project. Farmers in Kouroumary paid for the use of the harvesting and threshing machines. In this semi-mechanized sector, men and women still planted, weeded, and picked some of the cotton harvest. They also grew rice.⁷⁶⁹ Agricultural equipment across the Office now included not only cattle-drawn plows but bulldozers, tractors, and the double tasked harvesting-threshing machines.⁷⁷⁰ Finally, the French colonial development fund called FIDES supported repairs for the irrigation infrastructure and its expansion during the 1949 to 1950 agricultural year.⁷⁷¹

In 1953, a little less than a year after farming began at Kouroumary, Tony Revillon, a high-ranking metropolitan official who served on the advisory board of the Office, reported to Paris that the mechanized sectors of the institution were profitable.⁷⁷² Revillon's optimistic financial assessment proved hasty: only a few years later in 1957, an unofficial report of the Office's financial standing signaled that the institution was still running at a loss. After the 1956 to 1957 agricultural campaign, the total recorded losses were listed at 500 million frances CFA. The auditors who authored the report cited the extensive costs of mechanical agriculture as one of the major reasons for the institution's financial difficulties. In fact, the Office had not even

⁷⁶⁹ CAOM, 2TP/104, Inspection générale des Travaux publics, Office du Niger 1946/1952, Folder 2. Schreyger, *L'Office du Niger au Mali 1932 à 1982*, 154-55.

⁷⁷⁰ Before 1961 the Office employed machines that could both harvest and thresh the crop. AON 1/1, CCTA-Ségou Aperçu sur L'Office du Niger, 1961, page 2.

⁷⁷¹ ANM RFD 171, Programme de Développement Economique et Social de l'A.O.F., 1949-1950.

⁷⁷² Revillon was on the council overseeing a re-organization of the Office du Niger following World War II. Several letters between Revillon and other government officials attest to his support of the institution and his interest in reinforcing its technical capacities. AON 111, Dossier Confidentiel, Colonisation 1953/6 (Affaire Sangaré).

covered its costs as far back as 1953 when Revillon was touting the successes of mechanization.⁷⁷³ The Office had a top-heavy bureaucracy and was deeply invested in the promises of a costly infrastructure. These sobering facts were glaringly apparent by the late 1950s.

Agricultural interventions elsewhere in the colony during the war years had similarly emphasized mechanical production methods. Metropolitan researchers and agricultural officers encouraged mechanization across the French Soudan in an effort to promote greater production to support the war. In 1942, the Institut Colonial de Marseille funded research for expanded peanut farming using mechanization.⁷⁷⁴ Industrial oil production in the colonies was a particular concern during these years. Local officials also looked into the possibility of industrial shea butter production. Most European observers still believed that female producers would not produce large enough quantities of shea butter for the market. They also assumed that the butter manufactured by African women was of inferior quality. As at the Office, mechanized production implied a process by which European men supervised the wage work of African men using imported machines. Indeed, the proposed scheme for the mechanization of shea butter production anticipated cutting women out of the market altogether.⁷⁷⁵ In the end, the trial scheme for shea butter manufacture failed to come to fruition signaling a trend: mechanization in the French Soudan was reserved for cultivation rather than manufacture. Industrial

⁷⁷³ One other reason for the losses was the repayment of loans. AON 1-4, [unnumbered document] Note sur la situation de l'Office du Niger, c. 1957.

 ⁷⁷⁴ AON 79/1, Dossier Mission Oléagineux, Institut Colonial de Marseille Commission des Matières Grasses,
 Mesures à Envisager Pour le Developpement de la Production Oleagineux en Afrique Occidentale, Arachides, April 1942.

⁷⁷⁵ AON 79/2 Dossier Mission Oléagineux, [Report from the Instutit Colonial de Marseille] Recherches sur le Karité ; AON 79/2 Dossier Mission Oléagineux, Correspondance between A.R.D.I.C. and the Director of Agricultural Services, May 7, 1942.

mechanization did not target women. Nevertheless, women clearly engaged with the process of industrializing agricultural production at the Office.

"Modern" agriculture at the Office in these years referred very specifically to mechanical or motorized farming. This stated goal for the Office anticipated more machines for field preparation, planting, and harvesting which was believed to be more feasible after the Second World War. In the 1950s (and 1960s) agricultural staff continually looked for new ways to revolutionize farmers' methods for field preparation, planting, pesticide and disease control, harvesting, processing, or crop storage, even when it was unnecessary or inefficient. The ongoing assumption was that there must be some technological input that would finally realize the Office's ultimate goal of increasing production and profit. This was one reason that the Office organized some factory processing of the cotton and rice harvests before the raw goods were shipped. In addition in 1946, agricultural staff members investigated the possibility of installing new metal silos in project towns in the hope of reducing storage losses. These commercial silos were large and made of metal rather than mud and thatch. The new silos did not take off with farmers. One reason might have been that the company selling the metal silos charged 55,600 CFA for a five ton capacity silo and an additional 9,000 CFA for transport.⁷⁷⁶ It should have been clear to the Office staff that a farmer already indebted to the project for cattle, plows, water, and mechanical labor fees was not likely to also purchase a metal silo on credit, even if the purchase was made through the local farmers' cooperative. Moreover, granaries made from local materials stored grains and other crops well.

⁷⁷⁶ AON 93/4, Silos en Acier, report by M. Peissi from a conference at the Institut Technique de Batiment et des Traveaux Publics, April 30, 1946.

Internally Office staff worried about improving the institution, but externally they promoted the project as a tremendous success. When in 1955 Georges Peter publicly promoted the Office as an example of successful French colonial development, he did so on the basis of investments made in the technological infrastructure. In "An Example of Technical Assistance: The Office du Niger" Peter claimed that the scheme had created an infrastructure that benefited residents. He wrote: "the Office is a pioneer in public service for the Middle Niger region as a provider of water and electricity and by building and maintaining roads and schools."⁷⁷⁷ Certainly the Office provided water for irrigation, which incidentally made daily water collection easier. Yet, the irrigation system itself was still inefficient and prone to malfunction. Moreover, the dam provided limited electricity only to European staff member's homes and some worksites.⁷⁷⁸ The roads to which he referred only covered Office territory and bypassed older local routes and regional economic centers. Finally, the Office had actually been criticized for the lack of education available for the children of its farmers. Peter's claim that the Office was a model of colonial "assistance" spoke less to the reality of 1955 than to an imagined project.

In truth, the Office was highly unpredictable. Men and women appreciated when the water flowed in the canals. They struggled with the consequences of flooding or water shortages at other times. The new agricultural machines such as tractors and threshers as it turned out were similarly unpredictable. The heavy government investment in technology did not assure men the ability to pay for even basic elements of the Office infrastructure such as the irrigation network let alone road maintenance and schools. As with the metal silos, some proposed Office

 ⁷⁷⁷ AON 118/2, Georges Peter, "Un Exemple d'Assistance Technique: L'Office du Niger," January 1, 1955, page 16.
 ⁷⁷⁸ CAOM FM 3TP/172, Inspection générale des Travaux publics, Office du Niger, 1947/1953, Sansanding :
 Possibilitiés d'Equipment Hydro-Electrique.

technologies were mere window dressing: something new that made the Office appear more modern.

Nevertheless, Office staff and other colonial officials welcomed the drive for increased mechanization with great enthusiasm. For example in 1951, a rice threshing machine that had recently arrived for use in the Niono sector was affectionately named "La Bourguignonne." The name evoked a popular French dish made with beef and red wine.⁷⁷⁹ The name also suggested the ways in which Office staff and other colonial officials associated these and other agricultural machines with France and the best of French culture. Even if the machine was intended to process rice grown in the French Soudan it was familiar to the French staff. It was an emblem of France and served French interests. The name "La Bourguignonne" further hinted that the machine itself exuded positive traits like hardiness (as in the hardiness of the sauce). Later reports suggested that "La Bourguignonne" was not such a good worker. The threshing machines in use during these years such as "La Bourguignonne" did not actually process the majority of the rice harvest in Niono until 1957. Up to that point, the Office still relied heavily on hand-threshing.⁷⁸⁰ The all-mechanical CRM met with similar problems of capacity as late as 1952. The entire sector was supposed to have been prepared by machine that year, but 600 workers had to be brought in to get the fields ready for the season.⁷⁸¹

By 1961, the move to intensify mechanization was recognized as a financial failure⁷⁸² and the CRM was reconverted to family farms. In those same years, the Office ceased using tractors for field labor.⁷⁸³ Privately, the upper levels of the administration admitted that even

⁷⁷⁹ ANM 1 E 40, Rapports Politiques et rapports de tournees Cercle de Segou I (1940-1959), Niono 21-29 Janvier, 1951.

⁷⁸⁰ ANM 1 E 40, 1957, Rapports Politiques et rapports de tournees Cercle de Segou I (1940-1959).

⁷⁸¹ ANM 1 E 40, 1952, Rapports Politiques et rapports de tournees Cercle de Segou I (1940-1959).

⁷⁸² Schreyger, L'Office du Niger au Mali 1932 à 1982.

⁷⁸³ AON 1/1, CCTA-Ségou Aperçu sur L'Office du Niger 1961.

where mechanical labor and harvesting produced more crops, individual farmers did not see any increase in income because the technology was so costly. As a consequence numerous farmers refused to pay for these services. In some cases entire towns refused to pay, as was the case for Segou-Koura and San-Koura in 1958 and 1959.⁷⁸⁴ Other towns sent formal delegates to request assistance from political officials in lowering the fees.⁷⁸⁵ The Office consistently faced problems collecting the water and fees from farmers; it operated in the red for decades.⁷⁸⁶ Large-scale technology at the Office had become a spectacular failure in the same years that women were enthusiastically adopting far more modest technologies.

In many ways, the Office du Niger was an example of a large-scale agricultural development scheme focused on controlling agricultural production over the immediate welfare of participants of the kind studied in *Seeing Like a State* by James Scott.⁷⁸⁷ Office fields were planned according to the rational aesthetics of what looked like modern agriculture to the French colonial eye. This meant straight lines and uniform plots. Office staff members recorded field allotments, projected yields and population numbers, and advised farmers on the use of proper inputs. Yet what enabled the Office stay in operation over the years was the action of farmers and their families. In the vocabulary of Scott, much of this activity was illegible, or out of the range of what the Office administrators chose to see. The vast majority of families cultivated fields outside the prescribed and orderly Office zone. They also regularly avoided collection centers and sold their cotton and rice in domestic markets. At times the institutional technology of the Office facilitated additional food production such as fishing. Men and women also

⁷⁸⁴ AON 106, Correspondance Directeur Général 1957 to 1960.

⁷⁸⁵ For example, Apaye Serou was sent from Niono to meet with the administrator in Segou in 1953 about their request to lowering the fees for land preparation and water services. ANM 1 E 40, 1953, Rapports Politiques et rapports de tournees Cercle de Segou I (1940-1959).

⁷⁸⁶ AON 1, Note sur la Situation de l'Office du Niger c. 1956.

⁷⁸⁷ Scott, Seeing Like a State.

diverted water from the canals to outside food crop fields. However, the supply of water and fish in the canals was unpredictable. Most of the overtly mechanical elements of the scheme were unreliable from day to day.

In the 1950s, many residents were unsurprisingly ambivalent about the possibilities that large-scale technology offered and about the continual push for increased mechanization. For example, farmers were suspicious of the new all-mechanized sector and what it meant for their livelihoods. In a 1957 article in the African newspaper L'Essor, the writer accused an Office staff member of refusing farmers the right to expand their cultivation activities in favor of machines meant to put men out of work.⁷⁸⁸ The newspaper consistently adopted pro-labor views and often printed exposés about conditions for farmers at the Office. This article posed the question: what did it matter for farmers if the Office increased production if the people the project claimed to be helping struggled to make a living? This very tension had been foreshadowed by Belime's contradictory emphasis on bringing large numbers of farmers to the project and at the same time planning for future motorized cultivation that would reduce the number of field workers. From the perspective of farmers, the Office promoted production at any cost, whether by man or machine. Men living at the Office wanted to increase their own farm production by planting more fields, but their understanding of a good harvest did not necessarily match the official emphasis on cash-crop yields.

Tractors, harvest machines, and industrial rice threshers epitomized modern agriculture for the colonial administration. Yet, these same machines, rather than improving food security, all had in many instances the effect of reducing what farmers and their families had available to them to eat. Even where people grew rice, families often paid so much in fees that after the sale of the harvest families went hungry. It was for this reason that women's agricultural production

⁷⁸⁸ AON 156, Essor articles folder, "Echos de la Colonisation" *L'Essor* Nº 2676, Tuesday December 31, 1957.

and cash-earning for food purchases were so important in the same period. In September 1956, a group of farmers from Kossouka, in the rice zone, requested millet and seeds for the next planting season from their local administrator. The administrator had called the meeting to discuss water fees, but the farmers were more concerned with what they would eat in the season after the sale of the harvest.⁷⁸⁹ Once farmers had sold their crop to the Office, they had only the cash or grain, they had put aside to get them through the next six months until the first harvest of the next season. The Kossuka farmers insisted that project staff ought to address their pressing food needs first.

Most often male household heads did not receive enough money through sales to the Office to purchase extra grain when the need arose. This was generally during the hungry season, when grain prices were at their peak. During the rainy season many families, like the families of the farmers in Kossouka, were forced to eat their seed store to get by. When the income of the household head suffered due to the high price of all the technological services, families had less to eat unless the woman cooking that day was able to cover the costs of the grain and sauce. It was also in large part because of the Office tractors and bulldozers that wild food products were noticeably scarce in this season. The strategy employed by most farmers, especially in the area where they grew cotton instead of rice, was to spend more time on millet fields planted outside of the project land area.

The rice harvesters and threshers, in particular, had the added inconvenience of slowing the harvest season. These machines were large and unwieldy. When they were most needed in the fields, the roads and paths were still muddy from the rainy season and often got stuck on their way to the fields.⁷⁹⁰ The roads to Office towns were in constant need of repair, and travel to the

⁷⁸⁹ AON 118/25.

⁷⁹⁰ AON 118/2, Georges Peter, "Un exemple d'Assistance Technique: L'Office du Niger," January 1, 1955.

Kokry area was often undertaken by motorized boats on the Niger River. Boats also transported paddy, but the large unwieldy machines of so-called modern agriculture meant the threshing lasted well into the months of the hot season—when local markets were full of product months earlier. Most farmers were cash-strapped until they sold their harvest. Waiting to sell crops to the Office prolonged the end of the hungry season. The fuel requirements for these machines, and the large number of workers required to thresh the thousands of kilograms of paddy per day also added to costs. The accumulated water, tractor, harvest, and threshing costs that farmers were expected to pay meant that these technologies had an ongoing cost, yet farmers saw little in return.⁷⁹¹ This contrasted with the one-time investment women made in household goods from which they saw immediate benefit in easing their burden of making food on a daily basis.

Threshing Machines and the Gender of the Harvest

Even where machines, such as the industrial rice threshers, offered potential laborsavings for women, they were not generally employed to process grains for home consumption. Women by and large processed rice for home consumption by hand. When the agronomist Réné Dumont visited the Office in 1950, he suggested women would have more labor time to spend in the fields, thereby increasing production, if the Office employed the threshers for home use. The reply from one staff member to Dumont's suggestion was dismissive. His internal response to Dumont's suggestion about giving women access to the project's much lauded technology was twofold: 1) women do not farm and 2) men at the project opposed mechanized threshing or modernization for their wives.⁷⁹² Dumont did not overtly suggest mechanized threshing as a

⁷⁹¹ Like other large industrial machines, the threshers were also dangerous. The death of a farmer, due to an accident during use of a threshing machine in 1960, is recorded in the Office archives. AON 106, Correspondance Directeur Général 1957 to 1960, May to June 1960.

⁷⁹² AON 138/2, Notes et Reflexions au sujet du rapport de M. Dumont Service de l'Exploitation, c. 1951.

means to empower women, but couched his idea in terms favorable to the colonial economy. From this perspective, technology for women would also mean an increase in crop production.

For the Office official, women did not factor into agricultural production at the Office. For that matter, he seemed to think Office technology had nothing whatsoever to do with women. He reinforced this viewpoint with a colonial official's fear about disrupting gender and labor relations in the home and in so doing undermining African men's authority. This Official depicted African men (and not the European administered Office) as holding their wives back from accessing technology. He missed one reason men most likely opposed greater mechanical threshing. The more rice was processed by the Office, the more the household head was charged for fees. This always reduced the household head's profit, and the well-being of his family.

This internally documented exchange between two colonial experts highlighted the institutional shaping of access to technology along gender lines. Initially, men were urged to purchase plows and to use them to increase cash-crop production. Men were also expected to pay for a host of mechanical services. While planners anticipated that plows, technical mastery of irrigation canals, and heavy machinery would transform the men into modern farmers, no official expected threshing machines to make modern women. The Office staff member who objected to the mechanical threshing of rice for domestic use reinforced this masculine bias. In this way the institution determined who was supposed to use and benefit from French agricultural equipment. Moreover, French officials had long expected that the technology they brought to the French Soudan to be used by African men exclusively to increase their participation in the colonial market. Modern agriculture for colonial export was already a male affair, even when women were ready to adopt new French technologies for domestic use.

271

agricultural change. Women at the Office made themselves modern when they chose to draw water with a bucket or prepare food in a metal pot. In addition, women made use of project's industrial machines.

While the Office threshers did not process much rice for home use in the 1950s, women did make use of the machines to support household needs. Women were widely employed to clean the grains processed by these machines. During the harvest, male workers operated the thresher while women winnowed by hand to the side. They normally did this work in exchange for rice to sell or less commonly for cash. The cash that women eventually made from this labor did not lessen the cooking load at home, but it did support the purchase of foodstuffs. Women were not obligated to do this work; rather they chose it as a way to earn extra cash. Male farmers by contrast were obligated to use the industrial machines in their fields.

In the cotton-growing region, women also entered the industrial production process by assisting the male household head at harvest time. Picking cotton was labor intensive work, and the surplus of domestic cotton that women processed for her family did not benefit from any industrial processing, as was the case for export cotton. As with other infrastructural elements of the project, women adapted the industrial farming machines to their labor regime. When machines for processing the harvest were introduced they eased some of the added burden on women that the Office had created. For example, up until the late 1950s women manually cleaned all the cotton delivered to the Office. Women had long done this work. However, the scale of cotton production greatly increased the amount of cotton that women had to clean. By 1960, cotton sold to the Office was cleaned by machine in a factory in Niono.⁷⁹³ The increased use of threshing machines similarly translated into a lighter overall load of rice threshing for

⁷⁹³ Interview by author with Hawa Coulibaly in Fouabougou, March 30, 2010.

women in other sectors of the scheme. Machines eventually processed more of the harvest intended for sale, leaving women to process the rice kept for home consumption.⁷⁹⁴

Women and Machines in Mechanized Molodo

Bintu Traoré moved to Molodo-Center (the site of the all-mechanized CRM) in the 1950s. Bintu remembered that when she arrived all the women in town (who were mostly wives of CRM wage workers) were buying their sauce ingredients in the market. Bintu came from a small town near Boky-Werewhere women harvested and processed what they needed to cook. Faced with a new cash-oriented sauce market, Bintu joined other women in town who winnowed next to the Office threshing machines.⁷⁹⁵ In fact, most women at Molodo-Center had to purchase their sauce ingredients because all the fields within walking distance were set aside for mechanized rice farming. Molodo was meant to be an industrial farming center. As such, there were no individual farm families, only workers. Thus, women did not even have access to space bordering the rice fields to garden. They also had little access to surrounding common forest areas to collect ingredients because many trees had been cleared for fields (or these areas were controlled by women in Molodo-Bamana).

Given these constraints to women's production, cash was especially important in town. Bintu used cash from her husband's wages and her own earnings to buy cabbage, peanut oil, and potatoes in the market, though like most families of workers her family also ate rice produced at the center.⁷⁹⁶ Her family's diet reflected the prevalence of new sauce ingredients not common in older recipes for sauces made with *datu* or baobab leaves. She used cabbage and other

⁷⁹⁴ Interview by author with Djenebu Coulibaly and Djewari Samaké in Kolony (km 26), March 22, 2010.

 ⁷⁹⁵ Interview by author with Bintu Traoré, Mariam Doumbia, and Fanta Sogoba in Molodo-Centre, April 15, 2010.
 ⁷⁹⁶ Ibid.

ingredients purchased in the market to make sauces to accompany the rice. Another change to the diet was the substitution of rice for millet. Bintu's work for the Office epitomized how women adapted to the particularities of Office life. One such aspect was the prevalence of machines for agricultural production and wage labor.

Increased mechanization provided some women (but not all) with new opportunities to earn cash. Like Bintu, women were paid to winnow or clean rice grains after machines threshed the rice paddy. These machines threshed large amounts of paddy shooting out large piles of rice to be bagged and shipped for sale. It was women's job to clean the rice before it was bagged, and in some places they also bagged the rice. In Molodo where all agricultural tasks were mechanized wives of workers simply winnowed the threshed rice in large hangars. In Kokry the oldest center for rice collection wives of wage workers also did this grain processing work. Women there were paid every 3 days with one sack of rice. Kadja Coulibaly was one of the women selected to winnow in Kokry and remembers that she worked with 14 other women who were also wives of workers.⁷⁹⁷ Fewer women overall worked directly for the Office than men, but the numbers of women who worked alongside these machines was significant. Women in farm households winnowed when the machines came to their fields. Generally the local instructor maintained a harvest schedule. When a town's fields were ready to be harvested, he ordered several machines to facilitate the harvest. Most often men carried the paddy to the machines. When the paddy from one household's fields had been threshed, a group of women from that household winnowed all the rice tossed out by the machine. At the end of the day they

⁷⁹⁷ Interview by author with Kadja Coulibaly in Kokry, May 2, 2010.

each received one calabash of rice. This was the standard labor organization and rate of compensation for women in farm families all around the Office.⁷⁹⁸

The advent of rice threshing machines altered the gender and temporal labor regimes during the harvest. Women were accustomed to transporting cut crops from the fields for storage. While women still transported some of the harvested crops for storage, the paddy that was transported to the machines was carried by male wage workers or by men in the household associated with the field.⁷⁹⁹ Vehicles and carts also transported crops for sale from the fields.⁸⁰⁰ This ordinarily female task was now carried out by men or machines, at least in the Office fields. Some of the men coming to work for wages at the mechanized rice center specifically did this labor for pay. In some cases, young men traveled from Molodo-Bamana to the CRM by foot or bicycle to work during the day and return at the end of the work day. They collected the threshed and processed rice to fill the sacks, and then carried the sacks filled with rice to project store houses.⁸⁰¹ Even though the nature of the harvesting work was gendered as female, working with the machines was associated with men's labor. In fact, men who worked for the CRM were paid cash wages, and they were listed on employment registers. Women were less formally compensated with measures of rice at the end of the day. Moreover, their day-to-day employment was not officially recorded with the project administration.

On the one hand, the arrival of some of these machines saved women from certain labor obligations. Men provided some of women's customary harvesting labor for the portions of the harvest sold to the Office. On the other hand, winnowing large quantities of rice during the

⁷⁹⁸ Interview by author with Tchaka Diallo in Markala-Diamarabougou, January 27, 2010; Interview by author with Fatoumata Coulibaly, Kadiatou Mallé, and Maïssa Sountura in Kouyan-Kura, April 14, 2010.

⁷⁹⁹ Interview by author with Tchaka Diallo in Markala-Diamarabougou, January 27, 2010.

⁸⁰⁰ Interview by author with Fatoumata Coulibaly, Kadiatou Mallé, and Maïssa Sountura in Kouyan-Kura, April 14, 2010.

⁸⁰¹ Interview by author with Nianzon Bouaré and Harouna Bouaré in Molodo-Bamana, April 16, 2010.

harvest added other labor to the work women generally already did during the harvest. Ordinarily, women processed grains as needed for cooking. They did not thresh or winnow great amounts of grain all at once. When harvesting and threshing machines arrived in the fields, women spent all day winnowing so that the bagged rice sold by the Office was clean. This was a practice instituted by Office inspectors in an effort to improve the market quality of the project's rice. In previous decades, officials from the French Soudan received word from administrators in Dakar that some grains furnished in the course of wartime provisioning were substandard. They found fault with the fact that the grains were not cleaned prior to shipment.⁸⁰² Employing women to winnow the rice was one way to address this problem. The Office transformed this particular household task into paid labor, even though women were not considered workers for the Office in the same way as men. The women's efforts could also be categorized as household labor because they used the rice that they received for their winnowing services to cook or 803 purchase other food stuffs.

On the other hand, women continued to thresh rice paddy by hand for home consumption. Men and children also threshed on occasion.⁸⁰⁴ Mechanical threshing services were reserved for the portion of the harvest that was delivered to the Office, and farmers were assessed considerable fees for this service. Therefore, when women threshed by hand they saved on any further payment to the Office. This resulted in savings for the household head (who controlled the Office fields and all associated fees). While women did not see an increase in their own

⁸⁰² ANM 1 Q 190 FA, Rapport d'inspection sur le ravitaillement de la Colonie de l'A.O.F. 1916.

⁸⁰³ During most of my interviews with elderly women at the Office du Niger, they characterized women's activities as household duties. "Work" was more often characterized as wage labor. Even marketing activities did not often qualify for them as work. ⁸⁰⁴ Interview by author with Fatoumata Coulibaly, Kadiatou Mallé, and Maïssa Sountura in Kouyan-Kura, April 14,

^{2010.}

earnings, their extra work did allow men to save on the fees they paid to the Office and thereby more easily contribute to the food budget.

Home-threshing also occupied a significant portion of women's time during the millet grain harvest. In Niono this period coincided with the cotton harvest. When farmers in the cotton sector also began to cultivate rice, administrators for the Office hoped to capture more of women's labor time. In this context, mechanical threshing became a solution to the need for more women in the fields. In 1954, Office administrators instructed staff to encourage mechanical threshing for home consumption. The guide to instructors directed:

Threshing among farmers is done by women who collect paddy from the fields little by little according to family needs. Strictly speaking threshing takes place for 2 or 3 months after the harvest. It would be opportune during the cotton harvest which requires a lot of manual labor to avoid overlap between the two activities. It is advisable for you to persuade farmers to ask for mechanical threshing during the harvest. This way the paddy would be quickly collected and stored away from all sorts of parasites, limiting losses to time and product.⁸⁰⁵

Instead of reducing women's labor time, mechanization in this context only shifted it to the Office fields. Mechanization would most benefit the project not women. By contrast, women chose more often to manage their labor time in ways that most enhanced the production of food for the household. They spent valuable time winnowing in order to gain rice and ultimately cash for marketing. They also hand threshed rice and millet for home consumption. However, they were happy to allow machines to clean the cotton harvest. Mechanization served women less as a time saver than as a means to acquire cash.

⁸⁰⁵ AON 11, Vade Mecum de l'Instructeur de Colonisation en Centre Cotonnier, c. 1954, page 45.

Conclusion:

The late-colonial Office was certainly not a triumph of industrial technology or modern agriculture as it was promoted by administration officials, even though some residents of the project embraced aspects of the scheme. From the end of the Second World War and into the first decade of independence in the 1960s, the heavy expenses entailed in large-scale irrigation, field preparation, and mechanical harvesting financially crippled both farmers and the Office. The arrival of tractors and bulldozers resulted in fewer wild foodstuffs in the diet of project residents. While many women did made the most of infrastructural changes, the benefits of water and fish from the canals were unpredictable and seasonal. Similarly, the rice threshers were unreliable and only indirectly facilitated food preparation. Many of these institutional technologies were mediated by the Office staff, contributing to their unpredictability. Women made the shifting foodscape productive through the use of technologies that were more modest in design than the great irrigation and industrial farm envisioned by Emile Bélime.

Technologies coded as feminine such as buckets, cooking pots, and other metal items like wash basins increasingly made their way into Office households. Mothers were the first to invest in these new goods, and in so doing they helped their daughters negotiate their labor time and rapid environmental change more effectively. For these women, pots and buckets were easily acquired with a trip to the market and a little bargaining skill. Modest technologies entered the Office through the regular social rhythm of rainy season weddings, whereas large scale technology had the trappings of the colonial (and later postcolonial) state. The domestic shift to metal house goods unfolded over the decades of the political shift to independence. For women this technological change was the more salient one than the political break with France in 1960. Through the incorporation of modest domestic technologies women altered their daily routines in ways that enabled them to negotiate many of the unforeseen consequences of the Office such as deforestation and reduced male income. The positive daily impact of these technologies for food preparation and the quotidian sensory experience of that labor contrasted with the ambiguous effects of the large-scale institutional technology. It bears repeating that households integrated the aluminum pots and metal buckets far more readily than they were able to adapt tractors and threshers to daily farming conditions. Relatively cheap as a technology, the pots and buckets had a sweeping impact on women's labor, their economic capacity, and the way the community experienced food and labor time on a daily basis.

At the same time, women's adoption of these modest technologies coincided with women's daily use of the canals, threshers, and other large-scale technologies of the project. Women worked hard to turn what were often dramatic changes (in the environment, to their labor regimes, to the tastes of food, etc.) into manageable aspects of daily life. When the canals did not flood, women easily gathered water in a basin or a bucket from its waters for household use. Many women also owned a metal pot because her mother had earned cash in Office markets. Other women worked with machines for cash, and they in turned purchased customary and new ingredients to make dishes that were familiar and satisfying. In time, women came to appreciate the possibilities for increased mechanical threshing and processing services for the cotton and rice harvests. By the 1960s, greater mechanization freed up women's time for cashearning activities and other food production labor. At the Office, industrial and domestic technologies were intricately connected in women's experience.

Chapter 6: Rice Babies and Red Millet Embodied Politics and the Fight for Local Food Security, c. 1960-1985

Imagine that it is close to three in the morning in Mali sometime between 1975 and 1979. Fatoumata Coulibaly rises to go into the irrigated rice fields that she, her husband, and their household tend for the state-run agricultural project (still called the Office du Niger by the first two succeeding post-colonial governments). Fatoumata calls for her sister-in-law be on the lookout for the guards while she prepares to leave. Fatoumata dresses in a big *duloki* (tunic) over her wrap and grabs some extra cloth. The household food stores are close to empty and she needs to get some more rice from the fields. The memory of the massive Sahel drought in Mali is fresh. The "Great Drought" was a major event in the early 1970s that had provoked famine across the Sahel region. After 1974, the cash-strapped Malian government moved to tightly control rice production at the project. Farmers and their families only had the right to a limited ration from the fields that they cultivated, and they had to be in possession of a paper permission slip to take any rice home. Otherwise, one of the guards stationed between the fields and project towns would confiscate all grains being transported from the field. If a woman did not have the paper providing authorization she did as Fatoumata did: she found a way to sneak more rice home, or go hungry until the next ration day.

In these years many farm households at the Office did not earn enough from their official rice sales to the state grain board to pay for other food. Women like Fatoumata cooked the rice they took from the fields or sold it for fish or salt. If women got their hands on some rice from the fields it was always to eat, or to sell and buy something to put in the sauce. This particular

morning Fatoumata and her companion left for the field, not following the road but winding through other people's fields until they reached to their own household's rice crop. Fatoumata had set aside some rice the day before when she was working in the field. Now she wrapped it with her extra cloth into a small round package that she tied around her stomach and under the big over shirt. She was now pregnant with a *rice baby*. She would later use the same ruse to carry the rice to the market. She told me with a laugh that when she got to the market: "it was like you gave birth."⁸⁰⁶ Certainly it was a happy occasion to have made it all the way to the market. However, Fatoumata's association of hiding rice as many women did during this time with childbirth speaks both to the difficult bodily experience of hunger and to the gendered nature of food politics from the era. Eating every day required a great deal of effort in the midst of a large-scale agricultural enterprise that was unique in increasing its overall grain production during the 1970s. For women, post-colonial food politics (starting in the 1960s) still entailed learning how to provide food even in times of stress. As Fatoumata's story makes plain politics also had a lot to do with women's bodies.

The Politics of Food Sovereignty, 1960-1985

The decade leading up to independence in 1960 was a period of tremendous political change across French West Africa. A number of leading African politicians sought reform within the French political structure amidst more radical calls for immediate independence. The influential Soudanese politician Modibo Keita (who had become a Deputé in the national French parliament in 1956 and was the first President of independent Mali in 1960) promoted a path to independence that guarded the integrity of the territorial unit of the colonial A.O.F. (French West

⁸⁰⁶ Interview by author with Fatoumata Coulibaly, Kadiatou Mallé, and Maïssa Sounturu in Kouyan-Kura, April 14, 2010.

Africa). He and other French West African political leaders who favored territorial unity believed that a new African state that was significant in size would wield more political and economic power than individual smaller states could on their own. However, the series of political reforms passed between 1956 and 1957 called the Loi-cadre created a political environment that favored independence for individual colonies. Keita formed a short-lived Federation of Mali with Senegal, Haute-Volta, and Dahomey, but the fragile political unit quickly fell apart. Ultimately the Soudan claimed its post-colonial sovereignty as the Republic of Mali.⁸⁰⁷

These political and structural changes had significant implications for the Office du Niger. Under colonial rule the scheme drew financial and political support from the territorial A.O.F. government in Dakar (Senegal). The A.O.F. budget collected revenue from all of the colonies in French West Africa and divided it between the colonies for their own budgets alotting a significant amount for the Office du Niger in the French Soudan. This redistribution practice was a source of tension among African politicians who claimed that colonies such as the Soudan, which was not among the richest of the colonies, benefited unfairly from this arrangement.⁸⁰⁸ The Office had also drawn labor support from elsewhere in the A.O.F., particularly Haute-Volta. In return for this support, the Office was expected to produce rice for the larger region (and principally Senegal), and the project served this function throughout the colonial era. The Office served French West Africa not just the Soudan. Men (and, as we have seen, women) from all over the A.O.F. had built the Office (both as workers and farmers).

Following the political reforms of the 1950s and the move to independence in 1960, the Office became a state-run project belonging to the Republic of Mali. The flow of capital shifted

⁸⁰⁷ Chafer, The End of Empire in French West Africa, 148, 63-89, 94-96.

⁸⁰⁸ Chafer, The End of Empire in French West Africa, 154-56.

from what had been a shared territorial burden (with increasing support from metropolitan France through its development fund FIDES) to a national burden. During the first three decades of independence the succeeding post-colonial governments sought additional financial and technical support from China, the Soviet Union, and France.

In these years, the Office went from being the model project of a colonial regime to become the keystone of a newly independent nation's agricultural policy. From 1960, the first two post-colonial governments in Mali singled out the Office as a vital national institution.⁸⁰⁹ Mali was predominantly rural, and agriculture was the most important sector of the economy. In 1961 the remaining French staff members departed from Mali and the entire institution was "Africanized." Postcolonial leaders such as then President Keita (1960-1968) expected the Office to play a major role in national economic development.⁸¹⁰ During the years 1961-1966, the Office received almost 60 percent of the country's total investment in agriculture, which amounted to roughly 38.4 million dollars.⁸¹¹ The Office's role in national development was to be two-fold: 1) to increase the total agricultural production in the country and, in so doing, 2) to increase the total number of agricultural exports. Food security per se was not initially central to independence era agricultural policies. Yet, in a little more than a decade food politics would become central to the mission of the nationalized Office because of widespread drought.

⁸⁰⁹ President Modibo Keita was in office from 1960-1968; General Moussa Traoré oversaw a military regime from 1968-1991.

⁸¹⁰ Monica van Beusekom noted an emphasis on agriculture in the development thinking of nationlist leaders in the French Soudan. Beusekom, "Individualism, Community, and Cooperatives in the Development Thinking of the Union Soudanaise-RDA, 1946-1960."

⁸¹¹ Schreyger, L'Office du Niger au Mali 1932 à 1982, 222-225.

Collective Production in the 1960s

Not long after independence, the Office issued a call for new settlers. A plethora of new towns and irrigated fields followed this recruitment drive. Men, such as Kono Dieunta's father, were attracted by the promise of productive land. Kono's father moved his entire family including his daughter Kono and her husband to Tongolo-Kura. There she remembers that people came from "everywhere" to make use of irrigation for farming.⁸¹² Dominant political rhetoric depicted the arrival and work of the new farmers as overtly patriotic. In 1962, the state-supported newspaper *L'Essor* published an article extolling the Office as a "national worksite." Photos of extensive cotton fields and piles of processed cotton accompanied the text suggesting an abundance of wealth both for the nation and for farmers (who were assumed to be male).⁸¹³ The post-colonial Office, like its colonial predecessor, chose which crops new settlers such as Kono and her family would grow. Office cotton (rather than food crops like rice, or even millet) as depicted in the article represented the fruits of patriotic labor.

The Office retained much of the colonial era orientation and focus upon cash-crop farming. Under the Keita administration the Office pursued a program of intensified cotton and rice production.⁸¹⁴ Agricultural policy at the Office continued to emphasize production for the urban and export markets to the detriment of local food needs. The new Malian administrators oversaw cotton production with renewed vigor as all households, even in the former rice sectors,

⁸¹² Interview by author with Kono Dieunta in Kokry, May 3, 2010.

⁸¹³ "L'Office du Niger: Instrument important de la réalisation du Plan quinquennal" *L'Essor*, 1962. This article was accessed in the 1962 collection of issues from *L'Essor* in the National Archives du Mali. However, the 1962 volume is in poor condition and some articles lack specific date references. An announcement in the January 13, 1962 paper issued the call for new farmers to request entry at the Office.

⁸¹⁴ In fact, former colonial era French experts such as Maurice Rossin and Claude de Caso continued to advise the Office administration through international research and aid channels.

were required to grow some cotton. Farmers who refused to grow cotton risked eviction.⁸¹⁵ Grown on a large-scale cotton was labor intensive, and the commercial varieties promoted by the national Office still demanded a great deal of work that fell at the same time as the grain harvest was underway. Picking cotton remained women's work and their food cultivation activities again suffered. For these reasons, farmers who had been at the project for decades under colonial rule had long preferred rice as a cash-crop.⁸¹⁶ In short, cotton for many farmers represented the worst of the colonial era. Yet, the Office of the 1960s vigorously pursued *increased* cotton cultivation.

While cotton was the poster crop, the Office also pursued intensified rice cultivation. The new administration sought to shift Mali's position from an overtly colonial, and federal, food production center to a national one. They now strongly associated rice production with provisioning Mali's urban markets, even though some Malian rice was still sold in the regional export market (predominantly to Côte d'Ivoire).⁸¹⁷ The heightened national emphasis for rice production was in part a consequence of the closing of diplomatic relations with Senegal in 1960. During the colonial era, Senegal had been the biggest purchaser of Soudanese and Office rice. In fact, the Office suffered significant financial losses when Mali could no longer collect debts on rice for that had already been delivered to Senegal. In an attempt to nationalize control over the rice delivered to the market, the Keita government declared a state monopoly over the Office harvest. This policy forced farmers to sell rice (and cotton) to the Office at fixed prices, which

⁸¹⁵ AON 5-13 unnumbered, Directives pour la culture intensive du coton campagne 1960-1961 ; AON 61/6, Djibril Aw, Contribution à la Préparation du Plan de Redressement et de l'Assainissement de l'Economie Nationale, March 14, 1966.

⁸¹⁶ Indeed, farmers continued to refuse to grow cotton well into the 1960s. AON 61/6, Djibril Aw, Contribution à la Préparation du Plan de Redressement et de l'Assainissement de l'Economie Nationale, March 14, 1966.

⁸¹⁷ AON 106, Correspondances Directeur General 1957-1960, letter dated 30 September 1960; AON 61/7, Situation de l'Office du Niger au Moment du Transfer des Pouvoirs de la République Française à la République du Mali, December 1960. Just one year prior, sales of rice to Senegal publicly figured in reporting on relations between the two colonies moving. "Perspective de l'Office du Niger" *Essor* June 12, 1959.

were generally lower than the prices offered in local markets. Farmers could only keep enough rice for home consumption.⁸¹⁸

Initially, the colonial government had also held a monopoly over Office crops. Under pressure to reform in the late 1950s the colonial administration had liberalized agricultural marketing. At that point, farmers were free to sell their harvest on the free market after paying their water and service fees. In 1960, the Keita government reinstated the government monopoly in order to direct the rice harvest to national urban markets and selected export markets.⁸¹⁹ Farmers again struggled to control their own labor and production.

In the interest of nationalizing agricultural production the Office established two state-run farms (at Molodo and Kourouma) in 1962 to produce rice specifically for the urban markets. Both state enterprises employed male wage workers who, unlike farmers, had no rights over the harvest.⁸²⁰ Whereas the administration had long been concerned about losses to so-called illegal sales when farmers sold to outside merchants, the move to employ wage workers enabled the administration to secure direct control over the rice harvest from the state farms. In the 1960's, the Office also founded two industrial sugar production centers with Chinese assistance. These centers were also staffed by wage workers who cultivated, harvested, and processed the final product for the growing national market.⁸²¹ Both state operations marked a shift toward centrally controlled production and a continuation of the mid-twentieth century interest in industrial agriculture. The introduction of sugar realized an idea that had been floated by early

⁸¹⁸ AON 132/1, Note sur L'Etat du colonat par Remy Madier, November 1960.

⁸¹⁹ AON 132/1, Note sur L'Etat du colonat par Remy Madier, November 1960.

⁸²⁰ AON 71/2, Note sur l'exploitation en Régie Directe du Secteur de Kourouma 1975. Schreyger, *L'Office du Niger au Mali 1932 à 1982*, 234-42. Elsewhere administrators expressed the hope that wage work at the Office would prevent rural residents from surrounding areas from leaving Mali for wage work elsewhere. AON 67/4, Rapport d'Introduction Conférence Spéciale Consacrée aux Problèmes de l'ON, December 12, 1966, page 23.
⁸²¹ Schreyger, *L'Office du Niger au Mali 1932 à 1982*, 265-69. AON 52/6 Tchen Chi-Chuan and Huang Uen Yuan, Rapport Technique sur la culture expérimentale de la canne à sucre à l'Office du Niger, République du Mali, 1962-1964, April 1965; Conversation between author and "Baba" Kassambara, a former agricultural engineer and supervisor for sugar production at Dougabougou, in Markala-Diamarabougou, January 26, 2010.

Office planners. It should further be noted that sugar was not an ingredient essential for women's cooking but a new luxury good that accompanied the growing male consumption of imported green tea.⁸²²

Across Mali, Keita's socialist government tried to centralize agricultural production by organizing farmers along collective lines.⁸²³ This included obligatory labor in collective fields, even for urban residents. The profits from these fields were intended to benefit the community and strengthen national unity. In reality, many people resented this extra labor burden and felt that local political leaders of the one-party state used the profits for their own purposes. Office farmers tended to refer to the collective field as the "Party field."⁸²⁴ Not surprisingly, Office staff members noted that most farmers spent more time cultivating their household plots than working in the party fields.⁸²⁵ In fact, some men physically assaulted staff members who attempted to enforce collective work rules.⁸²⁶

In addition, the Office established new towns that were intended to be socialist from the start. Beginning in 1960, these towns were organized as semi-collective endeavors. As was the case in the colonial era, recruitment privileged family settlement. Young men and women made up the majority of "families" in these independence era towns. Male residents--in groups of six to fifteen--worked together in large cotton and rice fields. Everything grown in these fields was

⁸²² Mamadou Diawara and Ute Röschenthaler, "Green tea in the Sahel: The social history of an itinerant consumer good," *Canadian Journal of African Studies* 46 no. 1 (2012): 39-64.
⁸²³ Guy Martin, "Socialism, Economic Development and Planning in Mali, 1960-1968," *Canadian Journal of*

⁸²³ Guy Martin, "Socialism, Economic Development and Planning in Mali, 1960-1968," *Canadian Journal of African Studies* 10, no. 1 (1976). The nationalist political party that took control over the government in the 1960s (USRDA) promoted collective work groups and other socialist leaning initiatives as early as the 1950s. See also Beusekom, "Individualism, Community, and Cooperatives in the Development Thinking of the Union Soudanaise-RDA, 1946-1960," 6-7.

⁸²⁴ Jean Marie Kohler, "Les Mosi de Kolongotomo et la Collectivisation à l'Office du Niger (Notes Sociologiques)," Travaux et Documents de l'ORSTOM No. 37 (Paris: ORSTOM, 1947), 26, Schreyger, *L'Office du Niger au Mali 1932 à 1982*, 232.

⁸²⁵ AON 67/4, Conférence Spéciale Consacrée aux Problèmes de l'Office du Niger 12 Décembre 1966 Rapport d'Introduction.

⁸²⁶ AON 67/1, Rapport d'Activité de l'Office du Niger, 1964-1965, page 13. AON 67/4, Rapport d'Introduction Conférence Spéciale Consacrée aux Problèmes de l'ON, December 12, 1966, page 19.

sold to the Office, and each household had the right to only one smaller rice field (allotted to the most senior male in the family). In Lago-Tominian (a semi-collective town established in 1961 where the French sociologist Jean Marie Kohler conducted research in the 1970s) women were also expected to do their household labor together. All women were grouped into one work unit rather than organize their labor, as was customary, by family affiliation. Collective women's work included wood collection, cooking, gardening, and field labor, especially during the harvest.⁸²⁷

Most of the new semi-socialized towns at the Office yielded only poor harvests and social unrest. The Keita government set the goal of reaching 30,000 tons of cotton and 87,000 tons of rice by 1966 in the government's five-year economic plan (1961-1966). The 1966 results were disappointing for officials. The Office only collected 6,200 tons of cotton and 41,400 tons of rice. Rice production was even down by slightly more than 10 tons from 1959, the last year of colonial rule, when the Office collected 53,111 tons. The only small improvement was in the production of cotton, which had only been 4,300 tons in 1959. Yet, in those eight intervening years, production was only up by about 2,000 tons of cotton.⁸²⁸ Simply put, the strict controls over Office farmers did not result in higher production yields. The fact that Office staff routinely re-located presumably under-performing farmers to the semi-collective towns as a punishment also did not help improve production.⁸²⁹ Collective organization was an unwelcome intrusion into daily life. The government mandated that farmers sell their harvests communally and to

 ⁸²⁷ Kohler, "Les Mosi de Kolongotomo et la Collectivisation à l'Office du Niger (Notes Sociologiques)," 46.
 ⁸²⁸ Schreyger, *L'Office du Niger au Mali 1932 à 1982*, 224, 71.

⁸²⁹ Kohler, "Les Mosi de Kolongotomo et la Collectivisation à l'Office du Niger (Notes Sociologiques)," 50.

purchase basic foodstuffs and other goods together.⁸³⁰ Many residents, especially those living in semi-collective towns, abandoned the fields and their homes.⁸³¹

Faced with decreasing production figures, Office administrators re-organized collective field labor in 1966. They reduced the size of the collective fields and began distributing profits more evenly between members of what were now more strictly organized male work groups. In previous years under Keita, the profits had not been uniformly distributed among farmers but were given out according to who put more work into the field. Such determinations were subjective and invited political or other manipulation. Yet, the new financial and labor reforms were tempered by the creation of local surveillance committees.⁸³² Farmers who had been at the scheme during the colonial era had prior experience with scrutiny over their labor time and economic activities. Such controls would continue over the following two decades with negative implications for overall production and, as was also the case in the colonial era, over what people had to eat.

Throughout the 1960s, the poor financial state of the Office inherited from the colonial government persisted and worsened. One result was the degradation of much of the technical infrastructure. Canal maintenance suffered as did the upkeep of tractors, threshers, and the like. The fiscal troubles of the institution were matched by the persistently poor economic state of its farmers. Farmers still sold their harvests for little profit. Yet, they paid very high prices for basic food stuffs like peanuts, fresh meat, milk, fresh fish, shea butter, and onions. Prices in Office areas were much higher than the cost for the same products in other regions. For example

⁸³⁰ Schreyger, Schreyger, L'Office du Niger au Mali 1932 à 1982, 228-34.

 ⁸³¹ Kohler, "Les Mosi de Kolongotomo et la Collectivisation à l'Office du Niger (Notes Sociologiques)," 46.
 ⁸³² Schreyger, *L'Office du Niger au Mali 1932 à 1982*, 232. Kohler, "Les Mosi de Kolongotomo et la Collectivisation à l'Office du Niger (Notes Sociologiques)," 46-48.

in 1961, shea butter was 54.9 CFA⁸³³ per kilogram outside the Office and 65.8 CFA per kilogram in Office regions.⁸³⁴ In some cases, prices in Office markets were more than double the average rural price: in 1961, fresh meat cost 21.3 CFA per kilogram on average, but at the Office the same meat cost 63.6 CFA. This price disparity was consistent into the 1970s and 1980s.⁸³⁵

During this period, farmers originally from the former Haute Volta colony (later renamed Burkina Faso) left en masse for their home regions. ⁸³⁶ A large number of people in these families had been brought by force to the Office. Their departure was due both to the increasingly poor economic situation and the repressive climate of surveillance. Mossi farmers who had trouble sending grains home because of the strict cereal controls opted to send cash. However, beginning in 1962, farmers were paid in the new national Malian franc. The new Malian currency was only used in Mali, and it had very little value in Haute Volta.⁸³⁷ This situation aggravated the economic reasons for their departure. Mossi farmers who remained remember that during this time entire nearby Mossi towns left the scheme. They attributed this flight largely to the strict controls.⁸³⁸ As of 1966, at least 30,000 farmers (mostly Mossi) had left

⁸³³ The CFA or West African franc is based on the former French colonial currency in the region, which in Mali was replaced by the Malian franc between 1962 and 1984.

 ⁸³⁴ Schreyger, *L'Office du Niger au Mali 1932 à 1982*, 275. Schreyger cites "Enquête Budgétaire dans le delta central nigérien-zone inondée--Office du Niger, mission socio-économique," Paris, Janvier 1961, pages 61-63.
 ⁸³⁵ The author witnessed the same price disparity for basic goods while researching in the Office region. Basic

⁵³³ The author witnessed the same price disparity for basic goods while researching in the Office region. Basic foodstuffs as well as other goods like soap were significantly higher in Office markets than in Ségou and rural towns to the south of the Office.

⁸³⁶ The departure of Mossi families began in the 1960s under the Keita government. Schreyger, *L'Office du Niger au Mali 1932 à 1982*, 254.

⁸³⁷ Interview by author with Mme Koné Mariam Diarra and Tchaka Diallo in Markala-Diamarabougou, January 26, 2010.

⁸³⁸ This was the case of Mossi families formerly living in Riziam a town that is now populated by Bozo families. Interview by author with Fati Kindo in Kossako, May 11, 2010. Similarly in the late 1970s, the sociologist Amidu Magasa recorded the testimony of several farmers from the former Haute Volta whose had family members return home following Malian independence. Magasa, *Papa-Commandant a Jeté Un Grand Filet Devant Nous*.

the Office. ⁸³⁹ Thus, even though new farmers were being recruited, the total Office population dropped from 38,321 to 29,802 between 1960 and 1969 (see Table 5).⁸⁴⁰

The economic situation of Office farmers was aggravated by the newly created Economic Police. This national military unit confiscated surplus agricultural products (like rice, cotton, or millet). Officers from this force frequently patrolled the markets and took what people were trying to sell. What constituted a surplus was generally decided by the police on the spot.⁸⁴¹ At the Office, additional guards working for the institution worked with the Economic Police. Both groups tightly guarded the harvest for the state and harassed women in particular. Both the Economic Police and the Office guards set a precedent for militarized agricultural control at the Office which would continue for roughly fifteen years.

Political and Environmental Challenges in the 1970s and early 1980s

President Keita was overthrown by a military coup in 1968 and succeeded by General Moussa Traoré. One of Traoré's first acts was to abolish the collective fields. Other scholars have argued that this move was one of the reasons that few people protested the overthrow of the Keita government.⁸⁴² In 1970, Traoré also abandoned the labor intensive cultivation of cotton at the Office, which had long been unprofitable for farmers and the enterprise.⁸⁴³ Certainly, men and women at the Office appreciated these immediate policy changes. Women remember clearly

⁸³⁹ AON 67/4, Rapport d'Introduction Conférence Spéciale Consacrée aux Problèmes de l'Office du Niger 12 Décembre 1966.

⁸⁴⁰ L'Institut de l'Economie Rurale [hereafter IER] BKO CO 1694, Office du Niger, Conférence spéciale consacrée aux problèmes de l'Office du Niger, 1979, pages 4, 19.

 ⁸⁴¹ Interview by author with Moussa Diawara, Aminata Tangara, and Hawoyi Diawara in Boky-Were, May 7, 2010.
 ⁸⁴² R. James Bingen, "Overview-the Malian Path to Democracy and Development," in *Democracy and Development in Mali*, ed. R. James Bingen, David Robinson, and John M. Staatz (East Lansing: Michigan State University Press, 2000), 46.

⁸⁴³ AON 61/4, Rapport au Comité Militaire de Libération National, Elargi au Gouvernement 1971 ; Schreyger, L'Office du Niger au Mali 1932 à 1982, 282.

when they stopped growing cotton altogether because it relieved them of the onerous labor of picking it from the fields.⁸⁴⁴ Nevertheless, the post-colonial political shifts did not necessarily leave residents (especially women) with a clear memory of the political chronology.

For Office residents the arrival and long-standing presence of the Economic Police and similarly tasked Office guards was a major temporal marker that traversed both the Keita and Traoré eras.⁸⁴⁵ Even after people stopped farming cotton, the labor regime continued to be difficult in part because farmers now retained less of their rice. For example, the Office under the Traoré government reported that in one month in 1971 the Economic Police seized as much as 20,700 tons of rice. A decade later, during the 1981/82 harvest, the Economic Police seized a total of 75, 392 tons of rice roughly equivalent to the amount taken in 1971.⁸⁴⁶ In the absence of other immediate alternatives, Moussa Traoré's government, like the Keita administration, treated the Office as key to the development of the national economy. Traoré continued to direct the majority of funds for agricultural improvement to the Office. In the 1970s, much of this funding was used for the repair and maintenance of the scheme's vast irrigation system. In 1978, the Office even broke ground on the new Costes-Ongoïba Canal in order to open more land for irrigated cultivation. Office administrators also sought to update and expand the institution's store of heavy machinery such as tractors and mechanical planting machines, as well as transport vehicles.⁸⁴⁷ Little money went to relieving the difficult social and economic realities facing most farmers.

⁸⁴⁴ Interview by author with Djenebu Coulibaly and Djewari Samaké in Kolony (km 26), March 22, 2010; Interview by author with Hawa Coulibaly in Fouabougou, March 30, 2010.

⁸⁴⁵ During my interviews some interviewees even disagreed over whether or not the guards were around under Keita or Traoré. Interview by author with Bakary Traoré in Markala-Diamarabougou, January 23, 2010.

⁸⁴⁶ AON 67/2, Conférence Régionale des Cadres Rapport Office du Niger, March 4, 1971; AON 237/4, Rapport de fin de Campagne 1981-1982, pages 9-10.

⁸⁴⁷ Schreyger, *L'Office du Niger au Mali 1932 à 1982*, 225, 82-83. AON 1-4 unnumbered, The Niger Development Corporation 1932-1981, c. 1981; AON 52/5, A. Ouattara, Réflexions sur le Réaménagement à l'Office du Niger Historique de la Mécanisation, 1972.

By contrast, most women clearly associated "Modibo's time" as a period when women's labor had been collectively organized in the interests of the new nation. Women's memories of the era were marked by the independence parties during which they all worked together to prepare food. Most often recollections of the festivities were nostalgic: women remembered bountiful food and, in many cases, new kinds of prepared treats and dishes like salty flour pastries, macaroni with sauce, and tea. Women made money selling some of the more specialized treats during festivities. These occasions were also punctuated by games and dancing.⁸⁴⁸ Obviously the atmosphere created by the guards strongly contrasted with these yearly times of plenty (most likely funded by proceeds from the collective fields). It may be for this reason that women remembered these times so fondly. This picture of abundance despite the difficult conditions during the rest of the year may also have been so vivid because these years were followed by a decade of hunger.

Women in older (pre-1960) towns did recall that under Modibo Keita all women, no matter where they lived, were obligated to work together.⁸⁴⁹ Several women that I interviewed said that organization of collective female labor during "Modibo's time" was a precedent for contemporary women's income-generating groups organized by the Office beginning in the 1990s.⁸⁵⁰ Women had always organized themselves for household labor. What distinguished the new groups was, for the women I interviewed, their economic nature. Accordingly, the activities of the new women's groups could be properly called "work" because the women saw

⁸⁴⁸ Interview by author with Aissata Mallé and Assane Pleah in Kouyan N'Péguèna, May 28, 2010; Interview by author with Sékou Coulibaly and Kadiatou Traoré in Nyamina, May 31, 2010.

⁸⁴⁹ Interview by author with Djenebu Coulibaly in Kolony (km 26), March 27, 2010.

⁸⁵⁰ Interview by author with Djenebu Coulibaly and Djewari Samaké in Kolony (km26), March 22, 2010; Interview by author with Djenebu Coulibaly in Kolony (km 26), March 27, 2010; Interview by author with Hawa Coulibaly in Fouabougou, March 30, 2010.

some monetary gain. Other tasks such as cooking, washing clothes, and transporting grains were not *baara* (work) because women earned nothing for this labor.

Djenebu Coulibaly compared contemporary women's groups (which she saw emerging in this time) to men's *tons*. Men at the Office were formally organized as early as the 1930s into associations to raise credit for activities like collective agricultural equipment purchasing.⁸⁵¹ More broadly tons in Bamana culture are male work groups for collective tasks. Collective work groups often received some payment in exchange for their services. Djenebu and other women emphasized in interviews with me that both men's and women's *tons* involved shared income generation. Women working together to accomplish household tasks was not the same.

I raise the issue of revenue generating "work," as separate from other labor, because it suggests a larger point about the early post-colonial era. The customary labor that women or their mothers did collectively—albeit in familial groupings—did not bring them any profit. With externally organized labor under the auspices of nation building women saw opportunities for earning some cash income. This was not necessarily the goal of the Keita government. In fact, most of the year women had very little time to earn any income through other activities like cotton spinning or marketing. However, the independence parties created a space for women to engage in wage labor. By this logic, the labor of men and women in the collective fields that brought little gain throughout the 1960s, 1970s, and early 1980s was not "work." Most of the early post-colonial era was characterized by heavy labor and the seizure of potential profits.

In the years immediately following the coup, the region was hit by drought and the threat of famine (roughly 1968-1974). In response, policy makers under Traoré elaborated a national

⁸⁵¹ On this point see Gregory Mann and Jane I. Guyer, "Imposing a Guide on the *Indigène*: The Fifty Year Experience of the *Sociétés De Prévoyance* in French West and Equatorial Africa," in *Credit, Currencies and Culture: African Financial Institutions in Historical Perspective*, ed. Endre Stiansen and Jane I. Guyer (Uppsala, Sweden: Nordiska Afrikainstitutet, 1999). See also, Beusekom, *Negotiating Development*, 137; 52; 71-77.

strategy for food production and agricultural sovereignty. Because the Office made use of irrigation from the Niger River, it was a centerpiece of this effort. Great pressure was brought to bear on farmers. Even though millet remained the predominant staple of rural populations, rice was considered a critical national staple because the numbers of urban residents eating rice had increased (including workers on the state payroll).⁸⁵² As a result, the supply and price of rice was politically very important. Mali had to import rice to meet the growing demand after 1968.⁸⁵³ The Office produced forty percent of the total national consumption of rice.⁸⁵⁴ In fact, while overall food production decreased in Mali between 1960 and the mid-1980s, the Office increased its rice production during a brief period in the mid to late 1970s.⁸⁵⁵ In 1968/69 the total recorded production of rice paddy was 45,000 tons. It went up to 75,000 tons in 1972/73 (probably due more to increased yields than to closer state control of the harvest).⁸⁵⁶ Certainly, the Office alleviated some of the urban and state need for rice.⁸⁵⁷ However, in the actual context of national food supply, its contribution was very limited. Ironically, even Office residents who were farming for the nation relied heavily on food aid.

⁸⁵³ At the same time, Mali continued to export some of its rice harvest up through 1964. AON 23 bis, ADRAO, Etude Prospective de l'Intensification de la Riziculture à l'Office du Niger (République du Mali), 1974, page 5.
⁸⁵⁴ AON 227/2, World Bank, Mali Office du Niger Rapport d'Identification, June 30, 1978. This report was prepared for the working group Cultures Irriguées of the CILSS of the meeting held September 19-22, 1978 in Dakar; See also Schreyger, *L'Office du Niger au Mali 1932 à 1982*, 287; Salifou Bakary Diarra, John M. Staatz, and Niama Nango Dembélé, "The Reform of Rice Milling and Marketing in the Office Du Niger: Catalysts for an Agricultural Success Story in Mali," in *Democracy and Development in Mali*, ed. R. James Bingen, David Robinson, and John M. Staatz (East Lansing: Michigan State University Press, 2000).

⁸⁵² The Traoré government also established several other rice production programs including Riz Segou and Riz Mopti. AON 23 bis, ADRAO, Etude Prospective de l'Intensification de la Riziculture à l'Office du Niger (République du Mali), 1974, page 5.

⁸⁵⁵Lucy E. Creevey, "The Role of Women in Malian Agriculture," in *Women Farmers in Africa: Rural Development in Mali and the Sahel*, ed. Lucy E. Creevey (Syracuse: Syracuse University Press, 1986), 54. Schreyger, *L'Office du Niger au Mali 1932 à 1982*, 284.

⁸⁵⁶ AON 23 bis, ADRAO, Etude Prospective de l'Intensification de la Riziculture à l'Office du Niger (République du Mali), 1974.

⁸⁵⁷ Mariam Koné a former clerical worker for the Office du Niger recalled that wage workers received rice for half price during the 1970s and early 1980s. Interview by author with Mme. Koné Mariam Diarra and Tchaka Diallo in Markala-Diamarabougou, January 26, 2010.

In 1974, the Traoré government reinstituted the state monopoly at the Office. The prevailing logic was that greater control over the harvest would allow for even greater national productivity (meaning the amount of the harvest sold to the national agricultural marketing board OPAM, or confiscated by state agents to the same end).⁸⁵⁸ In support of this policy, the Director of the Office, Issa Ongoïba, claimed that the institution was the only agricultural program in the country that could produce during a drought. He argued for its region-wide, even global, importance.⁸⁵⁹ Other government officials also held up the Office as an example of success when they lobbied for outside financial assistance.

Elsewhere, Ongoïba admitted that the spectacular results of those years had not come without a great deal of effort. Although production went up in those years, the percentage of the harvest that farmers kept for themselves declined. In each of the years from 1968 to 1973, farmers only took home 20,000 tons of rice. This was the case even in the years of increased production.⁸⁶⁰ Moreover, more people lived at the Office in those years (see Table 5).⁸⁶¹ Farmers kept less of the rice, but Ongoïba continued to push them to work in the hopes of maintaining or improving the scheme's production numbers. In 1975, he ordered the suppression of all cultivation activities not related to rice. He also banned famers from working in outside fields. He even instituted a tax on garden crops (onions, peppers, and other sauce ingredients).

⁸⁵⁸ The Office des Produits Agricoles du Mali (OPAM) purchased rice and other agricultural products at nationally fixed prices in order to subsidize a low sale price to consumers. OPAM actually sold its products (including food aid) to wholesalers who marketed the grains or other goods to the army, other public services, and consumer cooperatives. OPAM was founded in 1965 but did not become operational on a grand scale until the 1970s. AON 424/1, L'Economie Malienne à la veille de l'Indépendance, c. 1974. See also Diarra, Staatz, and Dembélé, "The Reform of Rice Milling and Marketing in the Office Du Niger: Catalysts for an Agricultural Success Story in Mali," 173-75.

⁸⁵⁹ AON 67/1, Rapport du Directeur Générale de l'Office du Niger 1974. A few years later, a report for the World Bank recorded an increase in production numbers during the 1970s from 40,000 tons to 90,000 total tons of rice per harvest. AON 227/2, World Bank, Mali Office du Niger Rapport d'Identification, June 30, 1978.
⁸⁶⁰ Schreyger, *L'Office du Niger au Mali 1932 à 1982*, 282.

⁸⁶¹IER BKO CO 1694, Office du Niger, Conférence spéciale consacrée aux problèmes de l'Office du Niger, 1979, pages 4, 19.

The director justified these restrictions with the argument that any other work detracted from the rice fields. Finally, he called for the intensification of surveillance by the Economic Police and Office guards.⁸⁶²

Certainly, food supply was a critical national concern. Thousands of Malians died from the effects of starvation in these years. Because of the human impact in Mali, the country received an important percentage of drought related regional emergency assistance that was estimated for the entire region at 360 million dollars. This included emergency food aid and support for long-term agricultural projects. The most impacted countries (Mali, Mauritania, Niger, Senegal, Upper Volta, and Cape Verde) formed the Committee for Drought Control in the Sahel (CILSS). Among other activities, the political group petitioned collectively for drought related foreign assistance. The Club du Sahel (made up of international agencies like the World Bank and aid granting countries like France, the United States, and Germany) sent representatives to hear CILSS proposals. All parties emphasized irrigation projects—such as the Office du Niger-- as essential. The CILSS referred to the Office in one report as a "tache verte" or green spot amidst the drought.⁸⁶³ Of the 2.4 million hectares of irrigable land under consideration for funding, 2 million were in Mali.⁸⁶⁴ Former colonial officials like Maurice Rossin (an ex-Office Director), then working for various agricultural aid agencies, also strongly

⁸⁶² AON 61/5, Issa Ongoïba, Rapport de la tournée du Directeur Général effectuée du 3 au 22 Mai 1975 dans les différent Centres et Secteurs de l'Office du Niger; AON 61/2, Issa Ongoïba, Mission de contrôle et de vérification des Travaux de la Campagne 1974-1975.

⁸⁶³ AON 227/5, Allocution du Secrétaire Exécutif du CILSS, c. 1978.

⁸⁶⁴ The 2.4 million dollar figure excludes Senegal. Anne de Lattre and Arthur M. Fell, *The Club Du Sahel: An Experiment in International Co-Operation* (Paris: Organisation for Economic Co-Operation and Development (OECD), 1984), 29, 36-46. In 1975, the Office Director even briefly considered re-opening a former pumpirrigation agricultural station in the northern lake region of the Niger water system. The pump works dated to the 1940s (when it had been abandoned) and were in such disrepair that Director Ongoïba dropped the idea. AON 61/3, Mission Effectuée du 14 au 21 Juin 1975 Dans le Cadre de l'Evaluation des ACTIFS Physiques de l'Office du Niger.

supported investment in the Office du Niger.⁸⁶⁵ As others have pointed out, this "food security" approach lent itself to technical solutions rather than political ones.⁸⁶⁶

The region again suffered from rain shortages and drought between the years 1982 and 1984. After the long food crisis of the early 1970s, most Sahelien governments including Mali had increased their available grains stores. ⁸⁶⁷ Nevertheless, droughts in the 1980s would still prove difficult for Mali's rural populations. The Agricultural Ministry reported that rain and flood levels leading up to the 1982 harvest were lower than they had been even in 1972 and 1973. ⁸⁶⁸ In response, the Traoré government continued to present the Office to outside donors as a critical instrument in what had become a national fight for food self-sufficiency. ⁸⁶⁹ Outside observers who visited the Office on behalf of international donors and food aid projects frequently noted that rice was an urban food and thus not necessarily a solution to millet shortages among the predominantly rural population.⁸⁷⁰

Despite the low flood waters at the Office, farmers were able to grow rice. Yet, they too suffered from food shortages. In 1981, Victor Douyon, who was the director of the institution's small social services administration (Division Paysannat), grew concerned about the numbers of young people migrating outside the Office for work. Douyon blamed some of this migration on

⁸⁶⁵In particular, Rossin believed that the dam and major works of the Office were then underutilized and could be better used to vastly expand irrigated agriculture. He further argued that it had the potential to be a major grain supplier for the whole region. Maurice Rossin, "L'Office Du Niger Un Vieil Aménagement Plein D'avenir," *Actuel developpement* 11, no. Janvier-Fevrier (1976). An excerpt of this article is in the Office du Niger Archives under AON 70/1, Extrait de la Revue 'Actuel Development' par M. Roussin no. 2 Jan-Fev 1976.

⁸⁶⁶ Alex de Waal, *Famine Crimes: Politics and the Disaster Relief Industry in Africa*, African Issues (Bloomington, IN: Indiana University Press, 1997), 54.

⁸⁶⁷ Jonathan Derrick, "West Africa's Worst Year of Famine," African Affairs 83, no. 332 (1984).

⁸⁶⁸ As early as 1982, the Traoré government launched an initiative to secure national food-security amidst another potential environmental crisis. However, the Agricultural Ministry admitted that despite the government's interest in food sovereignty, cereal production for 1982 would not cover national needs. AON 282/2, Rapport de Situation sur les activités du département depuis le 22 septembre 1982 Ministère de l'Agriculture Cabinet.

⁸⁶⁹ AON files 1-4 unnumbered, The Niger Development Corporation 1932-1981, c. 1981; AON 274/2, Quelques Observations sur le Rapport de Mme. CORREZE intitulé "L'Organisation collective des paysannes la situation des femmes" Ministère de l'Agriculture, May 17, 1981.

⁸⁷⁰ AON 247/4, Notes Relatives au Rapport 'Organisation Collectives des Paysans de Madame CORREZE la commission, January 23, 1981.

the fact that during several months of the year there was simply not enough food to feed the project's residents. Douyon feared that Office population numbers were actually in decline. In 1981, the total recorded population for the Office region was 58,150.⁸⁷¹ This official census number was up considerably from 1979 when the total population was at 52,529 (see Table 5).⁸⁷² However, Douyon was concerned that many of the young people were not actually present to do the work of cultivation. In addition, he noted that most families did not even have enough agricultural equipment to do the work. In such cases family members performed extra labor for other farmers in exchange for the loan of equipment.⁸⁷³ This desperate picture of daily life was far from the image conjured up by the Office's moniker the "Grenier de l'Afrique" (Africa's Breadbasket).

Most men and women who were resident at the Office during this period point out that there was not strictly speaking famine at the project. Nevertheless, they did have stark memories of hunger. Even though they worked hard in the fields and were growing rice, they had to, as many men said, "steal" from their own fields. The Economic Police only permitted them to keep a very small portion from their harvest. In the fall of 1973, farmer complaints about insufficient food even led officials to raise the official amount of the ration from 270 kilograms of rice per person to 300 kilograms per person.⁸⁷⁴ The increase did little to ease the persistent hunger of the men and women who were expected to do intensive agricultural labor in the interest of "feeding the nation." Moreover by the 1980s, the ration had fallen even below the initial 270 kilograms

⁸⁷¹ AON 247/5, Recensement Annuel Population Colons au 30 Juin 1981.

⁸⁷² IER BKO CO 1694, Office du Niger, Conférence spéciale consacrée aux problèmes de l'Office du Niger, 1979, pages 4, 19.

⁸⁷³ AON 278/27, Victor Douyon, Notes sur l'Exode Rural dans la Zone de l'Office du Niger, January 13, 1981.

⁸⁷⁴ AON 67/3, Résolution du Séminaire des 5 et 6 Novembre 1973 Tenu à Niono sur le problème d'exploitation des Terres Irriguées de l'Office du Niger.

per person ration to 250 kilograms per person for the year.⁸⁷⁵ After the earlier drought the ration was all the more strictly enforced because of the increased presence of the Economic Police. It all had the effect of creating hunger among Office farmers who had rice in their fields but often not enough to eat.⁸⁷⁶

Agricultural Year	Total Number of Towns	Total Number of Families	Total Population
1960/61	-	-	38,321
1961/62	-	-	37,210
1962/63	-	-	37,348
1963/64	-	-	35,022
1964-65	-	-	33,467
1965/66	-	-	33,370
1966/67	-	-	31,210
1967/68	-	-	30,873
1968/69	106	3,235	29,803
1969/70	106	3,209	30,356
1970/71	106	3,357	33,302
1971/72	112	3,381	34,435
1972/73	114	3,392	35,092
1973/74	123	3,672	38,970
1974/75	125	4,153	44,363
1975/76	127	4,367	47,460
1976/77	130	4,542	49,624
1977/78	134	4,751	51,052
1978/79	136	4,663	52,529
1979/80	-	-	-
1980/81	-	-	58,150

Table 6. Office du Niger Population 1960-1979. Source. L'Institut de l'Economie Rural (IER), BKO CO 1694, Office du Niger, Conférence spéciale consacrée aux problèmes de l'Office du Niger, 1979, pages 4 and 19; AON 247/5 Recensement Annuel Population Colons au 30 Juin 1981.

⁸⁷⁵ AON 237/4, Rapport de fin de Campagne 1981-1982, page 4.
⁸⁷⁶ Institut de Recherches et d'Application de Methodes de Developpement [hereafter IRAM], "Office Du Niger; L'Organisation Collective Des Paysans, La Situation Des Femmes," (Paris: Institut de Recherches et d'Application de Methodes de Developpement, 1981), 1; 26-31.

Hunger Migrants: Creating Local Food Aid

The problems of food at the Office notwithstanding, it became a refuge of sorts and host to thousands of hunger migrants and new settlers. The Office became a source of regional food aid largely through the exchange of female labor for food.⁸⁷⁷ It is no coincidence that the population of the Office rose dramatically beginning in 1969 when some northern regions were already suffering from poor rains. The official population census recorded 30,356 residents for the 1969/1970 year. Even though many areas began to recover in 1974 after several years of poor harvests, the entire decade was characterized by food shortages across most of the country.⁸⁷⁸ During this time, the Office population steadily rose. By 1980/81 the total was 58,150 people (see Table 6).⁸⁷⁹ In only ten years, the population had almost doubled.

In 1981, the largest populations were in the sectors that were closest to the paths of many northern migrants: Niono, N'Debougou, Molodo, Kourouma, and Dogofiry (see Table 6). Residents in the Macina area suggested that migrants went more frequently to other areas of the Office because there was no (paved) road to Kokry and there was less vehicular traffic there than in the other areas.⁸⁸⁰ Residents of Molodo-Center remember that so many women came to work in the Office fields during the famine years that it would not be possible to count them all.⁸⁸¹ Women made up a large proportion of the migrants, but at times whole families migrated

⁸⁷⁷ Studies of migration during the drought of 1983-1985 documented the particular increase in the number of female (and children) migrants. See, Sally E. Findley, "Does Drought Increase Migration? A Study of Migration from Rural Mali During the 1983-1985 Drought," *International Migration Review* 28, no. 3 (1994).

⁸⁷⁸ Some observers pointed to the inefficiency of the national marketing board OPAM as a reason for the on-going troubles of the agricultural economy. Diarra, Staatz, and Dembélé, "The Reform of Rice Milling and Marketing in the Office Du Niger: Catalysts for an Agricultural Success Story in Mali."

⁸⁷⁹ IER, BKO CO 1694, Office du Niger, Conférence spéciale consacrée aux problèmes de l'Office du Niger, 1979, pages 4, 19; AON 247/5, Recensement Annuel Population Colons au 30 Juin 1981.

⁸⁸⁰ Comment from Tafron Dembélé during interview by author with Assane Coulibaly in Sirakoro, April 28, 2010. ⁸⁸¹ Interview by author with Baba Djiguiba in Molodo-Center, April 10, 2010; Interview by author with Amadou Sow and Sekou Salla Ouloguem in Molodo-Center, April 8, 2010; Schreyger, *L'Office du Niger au Mali 1932 à 1982*, 322.

together.⁸⁸² Many of these migrants arrived from regions at some distance from the Office. Women and men from nearby regions also traveled to the Office. In Kokry, people even came from Monipé which in the past had furnished Office residents with millet.⁸⁸³

Many of these women and men stayed with relatives who were Office farmers. Women winnowed in the fields of their family members in exchange for rice to sell or smuggle home. Migrant women also helped Office women thresh and pound grains for daily cooking. One longtime female resident in the Niono sector told me that as soon as some women left to take the rice back home, more would come to take their place.⁸⁸⁴ Some women and men who had no relations in the scheme also came to cut the rice paddy and winnow. They all came in the hopes of earning enough rice to help alleviate food shortages at home. They were also avoiding possible starvation. In another person's memory, there were so many migrants that "they could not all find *jatiggys*" (hosts). One household in Molodo-Center hosted as many as 100 people during an especially difficult agricultural year. Hawa Diarra explained the overwhelming number of Monipé migrants in similar terms: they could not feed them all.⁸⁸⁵

Most of these migrants shared the popular perception that there was no famine at the Office. Hawa in Kokry told me that during these hard times they did not experience "famine" because of the rice. Of course there is merit in her statement. Office farmers grew a lot of rice and were able to support hundreds of people from their limited rations. Mariam N'Diaye Thiam, who worked at the time for the Ministry of Rural Development in Markala and in towns on the

⁸⁸² Interview by author with Fatoumata Coulibaly, Kadiatou Mallé, and Maïssa Sounturu in Kouyan-Kura, April 14, 2010.

⁸⁸³ Interview by author with Hawa Diarra in Nara, April 30, 2010.

⁸⁸⁴ Interview by author with Oumou Dembélé in Kouyan-N'Goloba, April 13, 2010.

⁸⁸⁵ Interview by author with Mme. Koné Diarra and Tchaka Diallo in Markala-Diamarabougou, January 26, 2010; Interview by author with Fatoumata Coulibaly, Kadiatou Mallé and Maïssa Sounturu in Kouyan-Kura, April 14, 2010; Interview by author with Hawa Diarra in Nara, April 30, 2010; Interview by author with Sékou Salla Oulogeum in Molodo-Center, April 8, 2010.

Office Sector	Population (1981)
Sectors near a major roadway	
Niono	8,423
N'Debougou	13,057
Sahel	4,300
Molodo	8,177
Kourouma	8,449
Dogofiry	7,251
Sectors with limited roadway traffic	
Kolongotomo	4,313
Kokry	4,180
Total Population	58,150

Table 7. Office du Niger Population by Region Reflecting the Arrival of Hunger Migrants, 1981. Source. AON247/5 Recensement Annuel Population Colons au 30 Juin 1981.

periphery of the Office, recalled that at the time the Office seemed like an "îlot de prosperité," an island of prosperity. She said this because they "had rice," whereas the women with whom she worked survived because of food aid distributions.⁸⁸⁶

Migration in some cases led to permanent settlement at the Office. While many women migrants returned to their home regions at the end of the harvest, some men decided to request entry to the Office as farmers.⁸⁸⁷ The women who came as brides to the Office in these years distinctly remembering that they arrived "under Moussa." This perhaps was one way for families in suffering regions to look after their daughters, though no woman gave this as a reason for her marriage. The Office even resettled some families hardest hit by the famine, including 38 Tuareg families from the northern Niafunké region. This was as late as 1986. During the drought large numbers of cattle were lost in Mali and across the region. The losses were substantial for many herders in the Macina and to the north of the Office.⁸⁸⁸ The group of Tuareg herders from Niafunké was especially hard hit: 17 adults died just before the move for

⁸⁸⁶ Interview by author with Mme. Thiam Mariam N'Diaye in Bamako, February 1, 2010.

⁸⁸⁷ Interview by author with Sékou Salla Oulogeum in Molodo-Center, April 8, 2010.

⁸⁸⁸ Derrick, "West Africa's Worst Year of Famine," 283, 95; Jeremy Swift, "Sahelian Pastoralists: Underdevelopment, Desertification, and Famine," *Annual Review of Anthropology* 6 (1977): 475.

lack of food. Finally, they were settled in the N'Debougou sector where they joined many other migrants and recently settled Office families.⁸⁸⁹

One draw for this particular group may have been that they immediately received food assistance once their status as new Office farmers was formalized. This included corn flour, vegetable oil, canned fish, canned chicken, and powdered milk. Moving the family was a considerable endeavor; two large Office trucks carried 20 young men to the site of their new town. The young men were expected to establish the settlement including setting up the housing. Another large truck would carry the food aid, firewood, and housing materials. Finally, the move meant that these herding families would begin farming rice full-time. Only a small number of young men would continue to tend to the animals left in their herd.⁸⁹⁰ The challenge to herders during the drought was not only for their immediate subsistence needs but for the survival of their herding livelihoods.

People who lived in towns very near to the Office also traveled there just to try and buy some rice. In Boky-Were, people generally went to Kolongotomo where prices were cheaper than in other nearby Office towns.⁸⁹¹ Elsewhere, people secretly purchased rice in smaller project towns. For example, in Molodo-Bamana, men arrived from all over by bike carrying with them an empty canvas or other bag. Upon arrival the visitor purchased rice from a farmer and hid it in their bags. They hoped to avoid the guards and carry their food purchase home.⁸⁹²

⁸⁸⁹ AON 247/22, Situation des Installations des Nouveaux Colons sur les Terres Irriguées de l'O.N., No. 23/DPC, Campagne 1980-1981.

⁸⁹⁰ AON 410/7, Compte Rendu de Mission Effectuée par le Chef du Bureau Paysannat de l'Office du Niger 26 juin 1985 ; AON 410/9, Repartition des Dons du Programme Alimentaire Mondial aux nouvelles colons (Tamachecks) du 2è trimèstre 1986, April 9, 1986.

⁸⁹¹ Interview by author with Moussa Diawara, Aminata Tangara, and Hawoyi Diawara, in Boky-Were, May 7, 2010.

⁸⁹² Interview by author with Nianzon Bouaré and Harouna Bouaré in Molodo-Bamana, April 16, 2010.

Perhaps in response to the numbers of visitors and migrants departing with rice, a few administration officials suggested formalizing the informal aid that farmers already provided to family members. As early as 1973, it was apparent that Office farmers wanted to and did send rice to family members outside of the project area. Douyon at the Division du Paysannat proposed in a letter to the Director that families who were not indebted to the institution be given permission to send rice from their family ration to outside relations. He reasoned that a family of up to ten people could spare 330 kilograms of rice (roughly one year's ration for one person at the Office). He further calculated that a household with between 11 and 30 members could spare 600 kg (about the ration for two people). Finally, Douyon thought that families with 30 or more members could spare up to 1,000 kg (a little more than the ration for 3 people). These calculations in no way approached the numbers of family members and other visitors coming to the Office. Also, many families who were indebted were clearly already helping to feed others.

In the same letter, Douyon included a calculation of the percentage of families per sector that might qualify for consideration. Kourouma had the fewest families in debt: a total of 456 families or about 79 percent of families would be eligible. In Niono, 870 families or about 66 percent would qualify; in Molodo 332 families or 50 percent of families met the criteria. Each of these sectors also hosted large numbers of migrants and new farmers (see Table 6). In Kolongotomo, one of the poorest areas, only 245 families or 28.5 percent of families were not indebted to the scheme. In total, Douyon estimated that qualified families could send roughly 840 tons of rice to family members in need of food assistance: 199.6 tons from Kourouma, 392.1 tons from Niono, 136 tons from Molodo, and 111.4 tons from Kolongotomo (see Table 7). He reasoned that families would ultimately send between 20% and 30% of their total ration (slightly above his strict mathematical calculation). This was a significant portion of their ration. Finally, Douyon argued that his proposed program would be a stimulant to production. He reasoned that families would feel greater ownership over the harvest and appreciate the opportunity to support their family members.⁸⁹³ From the archival record, it is not clear whether or not families ever received the right to send rice to their families as Douyon recommended. However, his interest in such a program implied that people were already supporting their relations with the rice that they had. It further suggested that administrators were fully aware of these actions.

Office Sector	Number of Families Free of Debt	Number of Indebted Families	Percentage of Debt Free Families	Estimated Tonnage to be sent to Relatives
Sectors with more				
than 50% of families debt free				
Kourouma	456	572	79.72%	199.6
Niono	870	1,304	66.73%	392.1
Sectors with 50% or		1,00		0,211
fewer families debt				
free				
Molodo	332	657	50.83%	136
Kolongotomo	245	859	28.52%	111.4
Office totals	1,903	3,392	56.1%	839.1

Table 8. Office Sectors under Consideration to Allow Families Permission to Send Rice to Relatives. Source. AON 247/26, Letter 006/DPC from Chef de la Division du Paysannat et de la Cooperation to the Directeur General Office du Niger dated January 23, 1973.

Even as the Office indirectly addressed the problem of food shortages in neighboring regions, the high numbers of people living at the Office exacerbated the hunger of Office residents. The official rice ration that Douyon used in his calculations was based on the reported number of residents in the household and not the large number of visitors that a given family hosted during the harvest. The rise in the official census numbers reflected some of this

⁸⁹³ AON 247/26, Letter 006/DPC from Chef de la Division du Paysannat et de la Coopération to the Directeur General Office du Niger dated January 23, 1973.

migration. However, most farmers agreed that their ration never covered all of the people living with them. When these migrants were at the Office they were fed, but their numbers stretched the ration thin. This greater number of mouths to feed increased the need for secret trips to the fields.⁸⁹⁴ For almost two decades the Economic Police and Office guards jointly exerted strict control over the harvest. The result was a new seasonality of predominantly female migration to earn food, the simultaneous population explosion in the Office, and smuggled rice babies.

Rice Babies: The State, Embodied Food Production, and Hunger

The severe droughts of the 1970s and the 1980s across the Sahel generated a virtual industry on famine, food aid, and appropriate international intervention.⁸⁹⁵ Most analysts at the time argued for the need for temporary food-aid, drawing critical attention to the slow arrival of such assistance in the initial years of the 1970s crisis. Great attention was also brought to bear on the Sahelien climate. Yet other scholars have cautioned that an emphasis on rainfall and the environment obscures the social and political forces that shaped food crises. They argue that a broader view of food production, the economy, and the state is necessary to understand the underlying causes of food shortage and famine.⁸⁹⁶ As it will become clear, the distinction that

⁸⁹⁴ IRAM, "Office Du Niger: L'Organisation Collective Des Paysans, La Situation Des Femmes," 28; Schreyger, *L'Office du Niger au Mali 1932 à 1982*, 322 ; Interview by author with Amadou Sow and Sekou Sall Ouloguem in Molodo Center, April 8, 2010.

 ⁸⁹⁵ See for example, Jonathan Derrick, "The Great West African Drought, 1972-1974," *African Affairs* 76, no. 305 (October 1977); Derrick, "West Africa's Worst Year of Famine;" Carolyn M. Somerville, *Drought and Aid in the Sahel: A Decade of Development Cooperation* (Boulder, CO: Westview Press, 1986); René Dumont and Charlotte Paquet, *Pour l'Afrique, J'accuse: Le Journal d'un Agronome au Sahel en Voie de Destruction* (Paris: Plon, 1986).
 ⁸⁹⁶Some observers like René Dumont argued that such policies were rooted in the colonial era, which created a

some observers like Rehe Dumont argued that such policies were rooted in the colonial era, which created a policy dynamic that economically disadvantaged countries like Mali. Dumont was a former colonial agricultural specialist who had even advised the Office. Dumont and Paquet, *Pour l'Afrique, J'accuse: Le Journal d'un Agronome au Sahel en Voie de Destruction.* See, also, Sen, *Poverty and Famines: An Essay on Entitlement and Deprivation*; Sara Berry, *No Condition Is Permanent: The Social Dynamics of Agrarian Change in Sub-Saharan Africa* (Madison, WI: The University of Wiconsin Press, 1993); Vaughan, *The Story of an African Famine: Gender and Famine in Twentieth-Century Malawi*; Michael Watts, *Silent Violence: Food, Famine and Peasantry in Northern Nigeria* (Berkeley, CA: University of California Press, 1983).

Malian officials made between the devastated areas in need of food and the productive areas of the Office obscured the reality of hunger for Office residents.

Bodily Techniques for Food Production and Preparation

Women are central to the story of hunger and food at the Office during these years. Women's responses to the cereal controls at the Office were marked by specifically gendered claims to the harvest. Women made and gave birth to rice babies. They also made rice bundles to conform to their bodies in other ways. It is useful here to recall Mauss's analysis of bodily techniques.⁸⁹⁷ Women at the Office turned their ordinary bodies into fully pregnant ones. Because pregnancy was understood to be a normative state for women a rounded belly should have gone unremarked by the guards. Hiding rice was also accomplished by mimicking the act of carrying a child (rice bundle) on the back. In this way, women transformed mundane bodily acts which were perceived as part of normal women's being (pregnancy) or ordinary female behavior (carrying a child) into a subversive act. In a sense the women's bodies became tools for collecting the harvest.⁸⁹⁸

In Mali growing, harvesting, and cooking food was already an embodied and interactive process between people and their environment. This was certainly true for men in the fields as male cultivation and related physical exertion has long been highly celebrated in local art and

⁸⁹⁷ Marcel Mauss, "Techniques of the Body," in *Incorporations*, ed. Jonathan Crary and Sanford Kwinter (New York: Zone Books, 1992).

⁸⁹⁸ In making my point, I draw on ideas developed by Marcel Mauss who described bodies as natural tools for men and women. Mauss, "Techniques of the Body," See also Rosemary Joyce who updates Judith Butler's theories about gender and performance. Rosemary A. Joyce, "Feminist Theories of Embodiment and Anthroplogical Imagination: Making Bodies Matter," in *Feminist Anthroplogy: Past, Present, and Future*, ed. Pamela L. Geller and Miranda K. Stockett (2006: University of Pennsylvania Press, 2006).

dance.⁸⁹⁹ Men carried out much of their field labor from the months leading up to the rainy season until the end of the harvest.⁹⁰⁰ Food production and preparation for women is a year round endeavor. To get a sense of this daily embodied and sensorial labor, imagine a woman winnowing grains by using the wind. She would have stood tossing grains up in the air from a calabash. She then judged when the grains were clean by touch or sight. During the dry season, the same woman would have recognized specific wild grains upon sight or gauged the quality of seasonal fruits by touch. These kinds of sensory skills also served women who examined foodstuffs in the market. Women in Mali used their *musow minauw* (women's things) to enhance their perception of the readiness of food such as when they pounded grain, or gauged that the cooking *toh* was ready. The right feeling of ground millet or husked rice started with the feel of the pestle a woman's hands. Similarly, the texture and consistency of *toh* was measured by the pressure against the *toh pasa* in the cooking pot. This was all manual labor, but it engaged more than just physical exertion. Moreover, the repetition of familiar food preparation actions (and the addition of new ones) took on great significance when food was scarce.

Women at the Office made food by living in and interacting with the very particular space of the project's technological apparatus and altered natural environment. For example, women drew water for cooking from the canals when the water level was high and they could see that it was clear enough. During the years of drought and intensified surveillance the Office environment changed. This altered how women engaged with the agricultural space. Most obviously, their bodies became essential for hiding and keeping as much of the harvest as possible. The setting further changed with the arrival of food aid cereals. These were grown

⁸⁹⁹ Most recently the anthropologist Stephen Wooten examined the artistic aspects of agricultural ritual and dance for southern Bamana groups in Mali. Wooten, *The Art of Livelihood*.

⁹⁰⁰ When the Office introduced a multi-season growing year in the late 1980s this pattern changed to extend the time of men's labor in the fields.

outside the region and were often of poor quality. Women still had to transform them into edible meals. To do so, they drew on their own acquired sensory knowledge of food, taste, and aesthetics.⁹⁰¹ Women's manual labor operated in coordination with the senses and their techno-industrial environment.

Office Surveillance and Rice Babies

During the hard years of drought in the region, the foodscape that women had worked hard to re-engineer in previous decades had to be re-worked. In the subsequent discussion, I emphasize the ways in which women's food production and preparation was an acutely embodied experience. Women were responsible for an overwhelming number of mouths to feed. The number of women at the Office to do field labor multiplied during the harvest which helped distribute some of this labor between women. In all cases, providing a meal for an increasingly large Office household depended on the ability of its women to manipulate the appearance of their bodies. Finally, in the subsequent section I examine the ways that hunger and new unpalatable food aid required new bodily discipline.

After the appearance of Economic Police and other guards, women across the Office began smuggling rice from their household fields. When I asked residents (women and men) about the guards, the memory of women hiding rice under their clothes was always the first thing mentioned. Most everyone also emphasized to me that all women did this; no one woman was

⁹⁰¹ Recently, Joy Parr called on historians of the environment and technology to consider the intersection of these two fields from a gendered perspective. She revisits questions related to how people experienced their surroundings as the techno-nature setting changed. Her key concern is the body in these histories. I draw on her discussion of the senses in this regard. Joy Parr, "Our Bodies and Our Histories of Technology and the Environment," in *The Illusory Boundary: Environment and Technology in History*, ed. Martin Reuss and Stephen H. Cutcliff (Charlottesville: University of Virginia Press, 2010).

isolated in secretly taking rice. Many women like Fatoumata Coulibaly (who told the story about giving birth to rice in the market) laugh now when they recall the practice. Women tied small rice packages over their stomachs as if it was a pregnancy, or on their backs as if it was a baby being carried by its mother. A few women also hid rice around their bottoms. When a woman was caught carrying rice in this way by a guard it was often preceded by a comment like: "You're butt is not that big; you have something."⁹⁰² Most likely, this comment underscored the fact that women were in these lean years extremely thin. It also reveals the gendered and sexualized dimension of struggles over the harvest.

Comments about women's bodies highlight the level to which women were under scrutiny. The words employed also emphasized the women's vulnerability. Other guards questioned women who suddenly appeared pregnant overnight.⁹⁰³ Yaini Tankara (who moved to the Office in the 1970s to marry her husband and was a young woman at the time) surmised that women hid rice in this way because the guards would not touch a married woman. Yet, she admitted that when guards questioned her she quickly gave up her rice out of fear.⁹⁰⁴ From other women's accounts it is apparent that the guards physically searched any woman they suspected of smuggling rice. Other women who were afraid of being touched under their clothes hid rice under or in their head wraps.⁹⁰⁵ Another strategy was to wear the biggest clothing possible to simply cover their bodies and the rice baby.⁹⁰⁶ Older women were certainly aware of, or had previously experienced, unwanted physical attention from monitors during the colonial era. The archival record further suggests that complaints by women in this regard continued into the early

⁹⁰² Interviews with Yaini Tankara in Kolony (km 26), March 31 and April 1, 2010; Interview by author with Fati Kindo in Kossaka, May 11, 2010.

⁹⁰³ Interviews with Yaini Tankara in Kolony (km 26), March 31 and April 1, 2010.

⁹⁰⁴ Interviews with Yaini Tankara in Kolony (km 26), March 31 and April 1, 2010.

⁹⁰⁵ Interview by author with Hawa Coulibaly in Fouabougou, March 30, 2010.

⁹⁰⁶ Interview by author with Assane Coulibaly in Sirakoro, April 28, 2010.

1960s.⁹⁰⁷ Once the guards were on the look-out for women smuggling rice, the possibility for unwanted touching and molestation only increased.

Djewari Samaké (who moved to the Office during the colonial era) did not laugh when she discussed the guards. She recounted going into the fields very early in the morning with her sister. Like many other women she only went for rice in the company of other women. Djewari's hiding method was to put some rice in a wash basin under a cloth. Then she told me, "the guards were always watching for people coming from the fields, if they saw you they would search everywhere including your head, belly, and back."⁹⁰⁸ If the guards searched Djewari's basin first and found her rice, she was saved from being touched in this way. When the guards did find rice in a woman's clothes or in her head wrap, they often violently tossed the cloth back at her.⁹⁰⁹ It was a time of physical hunger, but also one of very intimate intrusions into women's bodily space and household labor by the state.

Women were particularly aggrieved by the guards and felt strongly that they had the right to the rice that they took. Customarily women had the right to glean the grain fields not just at the Office but across Mali.⁹¹⁰ Left-over grains were considered a surplus to the harvest, and women had the right to sell whatever they collected from the ground or to use it for home consumption. For this reason Aramata Diarra emphasized to me that what she did was not "stealing," as rice smuggling was called by male farmers. Aramata only took what rice she could gather from the ground.⁹¹¹ The gendered language is interesting to note. Men said when they

⁹⁰⁷ AON 106, Correspondance Directeur General 1957-1960, letter dated January 28, 1960.

⁹⁰⁸ Interview by author with Djewari Samaké in Kolony (km 26), March 27, 2010.

⁹⁰⁹ Interview by author with Oumou Dembélé in Kouyan-N'Goloba, April 13, 2010.

⁹¹⁰ This is a point made in the report supervised by Madame Correze for the Ministry of Agriculture and supporting agricultural development and research institutions. IRAM, "Office Du Niger; L'Organisation Collective des Paysans, la Situation des Femmes," 32.

⁹¹¹ Interview by author with Aramata Diarra in Fouabougou, March 30, 2010.

took rice it was like "stealing" from their own fields. Women only described to me their actions: cutting, threshing, and bundling the rice out of eyesight. They also described the threat of violence for women caught with rice. Women clearly felt that the illegitimate actions lay with the guards. Even if the Office enforced a ration on the men, women believed that the guards should let them as *women* take some rice.

Customarily, women acquired grains through a variety of means such as gleaning. These means were especially important for women who didn't have their own fields. Another way that young women acquired small amounts of millet, or rice, was to set some aside for themselves when they winnowed for the household. ⁹¹² When women performed labor in a man's fields during the harvest they were also generally paid with a measure of grain. ⁹¹³ In all these cases, women earned or claimed relatively small quantities of grain, usually no more than a calabash's worth. Women seem to have considered the rice smuggling as a form such customary rights. In fact, some guards did let women pass once in a while without searching them.

With the arrival of the guards, women could not always be sure that their customary rights would be upheld. Sometimes, gleaned rice was confiscated. Rice that women earned by doing work in their husband's or other men's fields was also subject to confiscation. During the harvest, even during the difficult years of drought and heavy surveillance, men in charge of fields would call women from their own and other households to help bring in the crop. In return, women were normally paid with a calabash of rice. The militarized production and control of the harvest disrupted these otherwise typical exchanges. In these cases, women did

⁹¹² The anthropologist Maria Grosz-Ngaté noted that women in the region regularly took small amounts of grain for themselves when they winnowed the cut grains from the household fields. All of this harvest was formally controlled by the male head of the household. Women were able to take these grains because no men were allowed in the area where women winnowed. Senior men generally tolerated this practice as long as the amount taken was not excessive. Grosz-Ngaté, "Hidden Meanings," 177.

⁹¹³ Ibid.: 176.

not have written permission from an Office staff member to carry their rice earnings home.⁹¹⁴ They only had the consent of the man in charge of that field. The problem was that he no longer legally controlled his household's production. As it has been elsewhere noted, the state monopoly over the harvest undercut farmer (male) profits.⁹¹⁵ It is also clear that enforcing state control over production disturbed household dynamics and the gendered distribution of the harvest.

Women needed rice not just to eat but to sell in exchange for necessities like salt, fish, other sauce ingredients, or soap and clothes for the family. In previous decades many women had become adept at marketing cotton and rice for other foodstuffs. As the government controls tightened, women struggled just to keep some rice to sell. In addition, a significant number of male farmers saw absolutely no profit for at least a decade under the Traoré regime.⁹¹⁶ The families of these men must have relied heavily on women's efforts. Even families with cash on hand found it difficult to purchase other cereals like millet from outside the Office. The barriers that kept rice from leaving the Office also prohibited millet from circulating.⁹¹⁷

The need to sell rice for other foodstuffs compounded women's already weighty duties. Women rose at two or three a.m. to collect rice that they had set aside the day before, and often from there they headed directly to the markets, which were sometimes at a great distance. Women undertook these trips knowing that, even if they successfully hid the rice leaving the fields, they could be stopped en route to the market and searched. This happened to Assane Coulibaly one day when she was lucky enough to find a ride to Macina on a wagon. That same

⁹¹⁴ IRAM, "Office du Niger; L'Organisation Collective des Paysans, la Situation des Femmes," 30, 35-36.

 ⁹¹⁵ Diarra, Staatz, and Dembélé, "The Reform of Rice Milling and Marketing in the Office Du Niger: Catalysts for an Agricultural Success Story in Mali."
 ⁹¹⁶ A 1981 report specified that this was the case for the years 1968/69 to 1978/79. See, IRAM, "Office du Niger;

⁹¹⁶ A 1981 report specified that this was the case for the years 1968/69 to 1978/79. See, IRAM, "Office du Niger; L'Organisation Collective des Paysans, la Situation des Femmes," 29.

⁹¹⁷ IRAM, "Office du Niger; L'Organisation Collective des Paysans, la Situation des Femmes," 29.

day she lost all her rice.⁹¹⁸ Assane Plea who lived just opposite from Niono, a major Office market town, transported her rice by wading through the water of the canal separating her town from Niono. This task was made easier because the water levels in the canal had dropped due to the drought. As Assane crossed, she pushed a wash basin containing her smuggled rice covered with a cloth. In this way she hoped to miss the guards who focused the most attention on the fields and roads.⁹¹⁹ Now the canals, which were symbols in many ways of state control over production (colonial and post-colonial), could enable women to circumvent the cereal controls and unwanted searches.

Even when women could avoid being searched, the guards were a part of daily life. Office guards did not carry guns, but they nevertheless physically represented the coercive surveillance of the state over Office residents. Guards watched the fields during the day and at night. When men demonstrated to me how they "stole" rice from the fields at night, they mimicked looking over their shoulder as they cut and threshed rice.⁹²⁰ People felt as if the guards could be anywhere. These men could even enter your house to confiscate rice. This was Maïssa Sounturu's unfortunate experience one day when she was carrying a rice bundle to her house in Kouyan-Kura. She told me that the guard followed her all the way from the field. She ran to her house hoping to escape him, but the guard entered her yard and then her house taking the rice.⁹²¹ Maïssa's story demonstrates the ability of the state to intrude into domestic space.

⁹¹⁸ Interview by author with Assane Coulibaly in Sirakoro, April 28, 2010.

⁹¹⁹ Comment from Assane Plea during interview by author with Aissata Mallé, Salimata Samaké, Sitan Mallé, Assane Plea, and Mariam Sall in Kouyan-N'Péguèna, April 12, 2010.

⁹²⁰ Interview by author with Mamadou "Seyba" Coulibaly and Soumaïlla Diaou in Kolony (km 26), March 26, 2010; Interview by author with *dugutigi* Nianzon Bouaré and Harouna Bouaré in Molodo-Bamana, April 16, 2010.

⁹²¹ Interview by author with Fatoumata Coulibaly, Kadiatou Mallé, and Maïssa Sounturu in Kouyan-Kura, April 14, 2010.

During the harvest, male farmers were officially permitted to take rice from their fields once a week. The formal process was as follows: the male head of the household requested permission from his monitor for the amount of rice he wished to take. Typically, the staff member allotted the man about half of the quantity that he requested.⁹²² Farmers tended to have very exact memories of getting these paper permissions for rice. Moussa Coulibaly remembered that every Friday his family was allotted only two sacks of rice.⁹²³ Given the overburdened size of most households, even two large sacks of rice would not feed the family for the whole week. Once a man had the paper in hand, he had to show it to the guard who would allow the farmer to pass. He and other accompanying family members then had to hand-thresh their ration.⁹²⁴

Generally, every town had at least four guards. Two men were stationed in town and two more watched at strategic points along the roads from the fields and leading out of town.⁹²⁵ Residents were more numerous, but the guards constituted a considerable force. For example, there were 408 guards working at the Office in 1982: 107 in Macina (Kokry and Kolongotomo sectors), 85 in Niono, 40 in Molodo, 70 in N'Debougou, and 106 between Kourouma and Dogofiry. This number did not even include the Economic Police guarding the frontiers of the Office. In Macina, there were more guards proportionally than in any other region. In 1982, the 107 men posted in Macina guarded 4,773 hectares of rice as compared to only 85 guards for 7,500 hectares in Niono, or 40 guards for roughly 5,103 hectares at Molodo (see Table 8). This

 ⁹²² Interview by author with Mamadou "Seyba" Coulibaly and Soumaïlla Diao in Kolony (km 26), March 26, 2010.
 ⁹²³ Interview by author with Alimata Dembélé, Moussa Coulibaly, and Nana Dembélé in Koutiala-Kura, May 3, 2010.

⁹²⁴ Interview by author with Sékou Coulibaly and Kadiatou Traoré in Nyamina, May 31, 2010; Interview by author with Alimata Dembélé, Moussa Coulibaly, and Nana Dembélé in Koutiala-Kura, May 3, 2010; Interview by author with Hawa Diarra in Nara, May 7, 2010.

⁹²⁵ AON 237/8, Plan de Battage et Commercialisation Campagne 1982-1983 (10 Janvier 1983). In the Niono sector, men similarly remembered four guards being stationed in their towns. Interview by author with Mamadou "Seyba" Coulibaly and Soumaïlla Diaou in Kolony (km 26), March 26, 2010.

distribution suggests that some areas were more highly suspected of smuggling rice. Not incidentally, the Macina sectors of Kokry and Kolongotomo were the poorest areas of the Office.

The guards were stationed at the Office for the duration of the harvest, as many as eight months of the year. This was the case for the 1982/83 agricultural season when several threshing machines were in disrepair. For this reason, the collection of the harvest that year went into May.⁹²⁶ During this time, the guards were tasked with making sure all rice was collected by the Office (save the household ration). The state controlled harvest was further overseen by teams of workers who threshed, packed, and transported the rice. Rotating teams of at least 21 Office workers did this work across the Office territory. This additional state presence included one man to operate the thresher, 16 men to feed paddy into the machine, two men to sew and repair sacks, one repair worker, and one transport driver.⁹²⁷ The threshers only processed the rice for sale outside the Office. As noted above, farmers had to hand-thresh what they ate.

Sector	Number of Guards	Number of Hectares	Number of Hectares/Guard*
Macina (Kokry and Kologotomo)	107	4,773	45
Niono	85	7,500	88
Molodo	40	5,103	128
N'Debougou	70	9,309	133
Kourouma and Dogofiry	106	4,825.7 (Kourouma) 4,067 (Dogofiry)	84
Total	408	35,577.7	87

Table 9. Guards per Sector, 1982-1983 Agricultural Season. Source. AON 237/5, Plan de Campagne Rizicole1982-1983. *Figures for Number of Hectares/Guard are rounded up or down.

⁹²⁶ AON 237/5, Plan de Campagne Rizicole 1982-1983.

⁹²⁷ AON 237/5, Plan de Campagne Rizicole 1982-1983.

In the face of such controls, women had to exert extra energy in their efforts to provision the family. To women's already physically intense labor routine was added nighttime trips to the fields. Moreover, this additional effort did not always yield success as sometimes women were able to hide rice to eat or sell, and sometimes it was taken. It was a heavy load to cook and work in the field during the day, then to rise very early to take rice from the fields. On those days women also had to hand-thresh the rice in the field without the guard seeing.⁹²⁸ This was all the more fatiguing because the women most in need of rice were likely to be chronically hungry. When the guards confiscated rice from a woman it often meant that her family did not eat that night.⁹²⁹

While women assured much of the household grain and food supply, both men and women circumvented the strict controls. It was not a coordinated effort per se, but both husband and wife knew the other was sneaking rice from the fields (as well as co-wives, sisters, and brothers-in-law). Often women did not tell their husbands which evening they planned to go into the field.⁹³⁰ This way, women controlled how they would use the rice they took. It was perhaps easier for women to "glean" and hide rice than it was for their husbands to "steal" it. When men went into the fields at night, they did not necessarily go to great lengths to conceal what they took. Certainly, they were on the look-out for guards. They also walked through the fields to avoid the roads.⁹³¹ At the same time, some men took a cart with them so as to collect a large

⁹²⁸ Interview by author with Oumou Dembélé in Kouyan-N'Goloba, April 13, 2010.

⁹²⁹ Interview by author with Fatoumata Coulibaly and Oumou Sow in Sabula, May 10, 2010.

⁹³⁰ Interview by author with Djenebu Coulibaly in Kolony (km 26), March 27, 2010.

⁹³¹ Interview by author with Alimata Dembélé, Moussa Coulibaly, and Nana Dembélé in Koutiala-Kura, May 3, 2010.

amount of rice.⁹³² Other men simply carried the rice in a bundle from the field and only occasionally tried to hide it in their headgear.⁹³³

Men had another option for augmenting the store of rice at home. The worker who drove the threshing machine often negotiated in the fields with farmers to record a smaller harvest. He allowed the farmer to take some rice sacks home in addition to the ration; in exchange for this assistance, the farmer gave the operator one or two sacks for himself.⁹³⁴ Kadja Coulibaly, the wife of a former thresher operator, knew that their household stores in Kokry were always full of rice precisely because her husband engaged in this kind of negotiation.⁹³⁵ It is worth noting here that wives of workers continued to benefit from their position vis à vis the institution during the post-colonial era, especially in relation to food rations and provisioning. Strikingly men could take a larger amount of rice home after one day of negotiation with the thresher operator than any one person could take from a clandestine trip to the field. This rice was meant to bolster the grain stocks for the rest of the year. One farmer I spoke to was adamant that men took rice not to sell but to eat.⁹³⁶ The smaller amounts women took fed the family a day at at time. This meant that women made many more trips and were at increased risk of searches.

⁹³² Interview by author with Sékou Coulibaly and Kadiatou Traoré in Nyamina, May 31, 2010.

⁹³³ Comments from Mamadou "Seyba" Coulibaly during Interview by author with Mamadou "Seyba" Coulibaly and Soumaïlla Diao in Kolony (km 26), March 26, 2010; Comment from "Seyba" Coulibaly during an Interview by author with his mother Fatoumata Coulibaly in Kolony (km 26), March 24, 2010; Comments from Moussa Coulibaly during Interview by author with Alimata Dembélé, Moussa Coulibaly, and Nana Dembélé in Koutiala-Kura, May 3, 2010; Interview by author with Nianzon Bouaré and Harouna Bouaré in Molodo-Bamana, April 16, 2010.

⁹³⁴ Interview by author with Amadou Sow, and Sékou Salla Ouloguem in Molodo-Center, April 8, 2010.

⁹³⁵ Interview by author with Kadja Coulibaly in Kokry, May 2, 2010.

⁹³⁶ Interview by author with Alimata Dembélé, Moussa Coulibaly, and Nana Dembélé in Koutiala-Kura, May 3, 2010.

Mechanized State Control, Hand-Threshing, and Food Sovereignty

From the perspective of the Traoré government, the Office and its large-scale irrigation infrastructure was a success in the 1970s. The years when rice production numbers dramatically rose were held up for observers as evidence. In fact, international funders like the World Bank advised even greater investment in improving the irrigation works. They also encouraged increased mechanization as a means of maximizing the size of the harvest. When the Traoré government approached the World Bank for funding in 1978, the official report actually credited increased mechanical threshing with the earlier dramatic increase in production. Ultimately, the Bank supported the request to improve these capacities.⁹³⁷ The funding was expected to reinforce national food security. In practice, the technical apparatus had always emphasized production for sale to the broader region undermining local food needs.

For much of the early post-colonial era, many mechanical elements of the scheme, such as those for field preparation and harvesting, were actually in decline. This meant greater manual labor was needed, especially given the institution's high production estimations. In any case, farmers benefitted little in saved labor time from tractors, or harvesting and threshing machines. On the one hand, this was because fewer of these machines were in operation.⁹³⁸ On the other hand, even where mechanical cultivation or irrigation helped to increase production, families were allotted insufficient rations no matter the harvest size. Mechanization actually disrupted local food autonomy and did little to alleviate the demand for women's labor.

Hand-threshing during the 1970s and 1980s marked an abrupt shift for women from the 1960s. Despite the financial and social problems of the Keita era, by the mid-1960s more and

 ⁹³⁷ AON 227/2, Mali Office du Niger Rapport d'Identification, June 30, 1978 [Report prepared for the World Bank working group Cultures Irriguées which was affiliated CILSS for the September 1978 meeting in Dakar].
 ⁹³⁸ Schreyger, *L'Office du Niger au Mali 1932 à 1982*, 338.

more of the rice kept at home for consumption had been processed by machine.⁹³⁹ This was despite the fact that other mechanical services were already in decline by that time. The Office encouraged farmers to prepare their fields using plows in these years, in part because the machines for this purpose were expensive for farmers and the Office. For most of the 1960s the same number of harvesting and threshing machines as were purchased in the 1950s remained in operation.

Yet as the presence of the military guards increased, more rice was threshed by hand. Women (and men) manually processed all rice taken in secret. As early as 1965 (only five years into independence), Office administrators reported to the Keita government that farmers routinely hand-threshed rice surpluses. They suggested that it was done to avoid administrative controls and to sell their harvest for higher prices on the black market. A report from the same year blamed these farmers for the underwhelming results of the Office's cotton and rice production; the logic in the argument being that the Office was productive but that too much of the harvest was sold illicitly. Following the 1965 report and similar assessments of farmer subterfuge, the Economic Police force at the Office was reinforced, which simply led to more hand-threshing.940

The resistance of farmers to government efforts to control the sale of their harvest by controlling the harvesting machines was not new. Since the opening of the Office men and women resisted selling all of their production to the institution because it consistently offered poor prices in comparison to local markets. When the Office liberalized the market in the late colonial era, women began to process less cotton by hand and to thresh less rice by hand. Most likely this was due in part to the increasing number of processing machines at the Office during

⁹³⁹ Interview by author with Djenebu Coulibaly and Djewari Samaké in Kolony (km 26), March 22, 2010; Interview by author with Hawa Coulibaly in Fouabougou, March 30, 2010. ⁹⁴⁰ Schreyger, *L'Office du Niger au Mali 1932 à 1982*, 262.

the 1950s. Farmers could also sell most of the Office processed harvest outside the institution's marketing infrastructure. The trend to increased mechanical processing was only gradually reversed after the Keita government declared a monopoly over the Office harvest in 1960.⁹⁴¹

Just when women had become accustomed to the option of mechanical threshing, the number of working machines dropped. In the long decade of drought and increased militarization in the 1970s, Office residents threshed everything that they ate. They also threshed whatever amount they attempted to sell on the black market.⁹⁴² Women (and men) simply remember that there were no machines at this time. In any case, there were no machines to help process rice for home consumption. Seyba Coulibaly attributed this to the fact that when the ground was wet the machines could not get to the field.⁹⁴³ Indeed, the farmers who hand-threshed smuggled rice were aided by the frequent delay of the harvest and threshing machines in reaching Office fields.⁹⁴⁴ This was partly due to the disrepair of the roads and the increasingly poor state of the Office's equipment yard.⁹⁴⁵ It was the very moment that the Traoré government was claiming the success of irrigation technology and mechanization for the problem of food sovereignty.

Certainly, farmers hand-threshed when necessary, but they also appreciated the mechanical option. In general, the women I spoke to were enthusiastic about the arrival of the

⁹⁴¹ The monopoly was lifted in 1968 and reinstated yet again in 1974. AON 132/1, Remy Madier, Note sur l'Etat du colonat, November 1960; AON 23 bis, ADRAOW, Etude Prospective de l'Intensification de la Riziculture à l'Office du Niger, 1974.

⁹⁴² Interview by author with Fatoumata Coulibaly, Kadiatou Mallé, and Maïssa Sounturu in Kouyan-Kura, April 14, 2010; Interview by author with Oumou Dembélé in Kouyan-N'Goloba, April 13, 2010; Interview by author with Hawa Diarra in Nara, April 30, 2010; Interview by author with Mamadou "Seyba" Coulibaly and Soumaïla Diao in Kolony (km 26), March 26, 2010.

⁹⁴³ Interview by author with Mamadou "Seyba" Coulibaly in Kolony (km 26), March 26, 2010.

⁹⁴⁴ The same report suggested that black market sales of rice directed cereals grown at the Office outside of Mali to Mauritania. AON 67/1, Rapport d'Activité de l'Office du Niger, 1964-1965.

⁹⁴⁵ Harvesting and threshing machines in Niono were notably in poor condition as early as the 1968/9 campaign. AON 67/1, Rapport d'Activité de l'Office du Niger au cours des trois derniers campagnes 68/69-70/71, page 5 ; AON 67/2, Conférence Régionale des Cadres Rapport Office du Niger, March 4, 1971, page 4.

machines at the Office because they eased some of women's labor burdens. They explained to me that women could "relax a little," or "were not so tired."⁹⁴⁶ In 1972, several officials even noted the existence of illegal (non-state or private) threshing machines in the Office zone. These private machines enabled farmers to process rice they took from the fields more easily.⁹⁴⁷ Women too would have benefitted from the circulation of these machines because hand-threshing had come to occupy so much of their labor time. Officials claimed that the privately operated machines were a detriment to the nation's food supply, and they routinely cited the clandestine sale of rice from the Office as a problem for the institution's financial health and its effectiveness at producing rice. They may have overstated (perhaps deliberately) the importance of rice sold on the black market.⁹⁴⁸ At the same time, women (and men) spent a considerable amount of their labor time processing rice paddy by hand so that they could eat.

Then in the early 1980s, a few officials began to voice concern about the time that women spent threshing rice by hand. The primary worry at this point was the impact of this labor on local diets. In 1981, Victor Douyoun reported four deaths related to malnutrition in Sabula (Kolongotomo sector). The victims in Sabula were diagnosed with Beriberi, an illness caused by a lack of B vitamins.⁹⁴⁹ Beriberi is often related to the consumption of large amounts of white rice (lacking in nutrients as a result of processing).⁹⁵⁰ After an investigation into their

⁹⁴⁶ Interview by author with Djenebu Coulibaly and Djewari Samaké in Kolony (km 26), March 22, 2010; Interview by author with Hawa Coulibaly in Fouabougou, March 30, 2010.

⁹⁴⁷ AON 61/1, Principaux Problèmes de l'Office du Niger, October 12, 1972.

⁹⁴⁸ For example, after the harvest in 1976, Office staff recorded that threshing machines processed 51,520 tons of paddy. Officially farmers hand-threshed only 3,638 tons total for their ration. That same year, the Office reported that the overall amount of the harvest that had been processed mechanically was up. It is unlikely that hand-threshing for consumption and clandestine sale greatly surpassed the recorded three or four thousand tons, or approached anything near the amount processed by machine. AON 70/4, Résultat de la Production et de la Collecte Campagne: 1975-1976.

⁹⁴⁹ AON 247/8, Victor Douyon, Rapport Circonstancie Portant sur Quelques cas de Beri-Beri Apparu à SABULA U.P. 1 Secteur Agricole Kolongotomo, August 30, 1981.

⁹⁵⁰ David McCandless, "Beriberi," in *Thiamine Deficiency and Associated Clinical Disorders* (New York: Humana Press, 2010). See also, Simmons, "Starvation Science."

deaths, Douyon concluded that the problem resulted from a reliance in the diet of Sabula residents on rice and little else. During these years, most Office residents were similarly reliant on rice for most of what they ate every day. It was perhaps for this reason that the situation in Sabula was so alarming. Following the deaths, the Office sent six tons of millet (which provides B vitamins) to prevent any greater mortality in Sabula. The nearby Catholic Mission in Kolongotomo also sent powdered milk, rice powder, sugar, and vitamin B supplements.⁹⁵¹

These cases of extreme malnutrition arose in spite of women's considerable labor and effort to produce and prepare food. In a brief report on the situation Douyon suggested a couple of long term solutions. He advocated adding millet to local diets. He also called for increased gardening by women in town. Both suggestions underscored the lack of diversity in diets not only in Sabula but across the Office. Only a few years earlier, the Office Director had tried to repress such activities because they detracted from overall rice production. With these constraints in mind, it is not surprising that residents suffered from not having enough food other than rice to eat. Moreover, Sabula was just one town out of many negatively impacted by the suppression of food cultivation activities.

Finally, Douyon suggested that the town acquire a mechanical rice thresher to ease women's labor burden. This he thought would allow them more time to garden.⁹⁵² The obvious question is: why were farmers not allowed to use the threshers for their ration in the first place? Around the same time, development experts emphasized the desire among women in Africa for grinding mills. The mills too were meant to relieve women of some of the burden of processing

⁹⁵¹ AON 247/8, Victor Douyon, Rapport Circonstancie Portant sur Quelques cas de Beri-Beri Apparu à SABULA U.P. 1 Secteur Agricole Kolongotomo, August 30, 1981.

⁹⁵² AON 247/8, Victor Douyon, Rapport Circonstancie Portant sur Quelques cas de Beri-Beri Apparu à SABULA U.P. 1 Secteur Agricole Kolongotomo, August 30, 1981.

millet and other cereals.⁹⁵³ At the Office, it is clear that the trappings of improved farming completely missed local needs, for all the talk of "food sovereignty." In Sabula, it was not clear either how residents would best increase their millet purchasing, given the strict cereal controls enforced by the Economic Police. Women would likely have appreciated a mechanical thresher, as women's labor time was a critical for producing food, but the solution simply sidestepped deeper structural issues.

Red Millet: The Taste of Famine

Following the malnutrition scare in Sabula, the region experienced a second acute drought and widespread food shortage. The level of food aid sent to the Sahel increased beginning in the 1980s as this second food crisis emerged.⁹⁵⁴ In this period, food aid from the World Food Program (WFP) would increasingly become a staple of the Office foodscape. Most of the aid sent directly to the Office was reserved for new settlers. Long-time residents had to travel outside the Office to receive assistance. This was the case even for families that had only been settled for a year or two. When grain stores were empty, the *dugtiggy* sent a couple of men to purchase cereals for town families. These representatives purchased mostly red millet from government warehouses in administrative centers such as Macina or Ségou. This particular red food aid marked the way many women and men remembered these years.

Cooking during the *Nyoblékongkong* (The Red Thing Famine), as many residents called the hunger stricken years under Moussa Traoré, was a particular challenge for women. Older women had grown up either with the experience of cultivating dry season foods, or with some

⁹⁵³ Kathleen Cloud, "Sex Roles in Food Production and Distribution Systems in the Sahel," in *Women Farmers in Africa: Rural Development in Mali and the Sahel*, ed. Lucy E. Creevey (Syracuse, NY: Syracuse University Press, 1986), 45. Thiam, "The Role of Women in Rural Development in the Segou Region of Mali," 78.

⁹⁵⁴ Derrick, "West Africa's Worst Year of Famine."

knowledge of cooking wild foods from the *kongo* such as the grains *fonio* and *jéba*. Fewer of these local and often tasty grain alternatives were accessible in these years as most land was now occupied by rice fields. While some Office households succeeded in provisioning its stores in rice, other households were short on grains, especially in the months preceding the next harvest. During some parts of the year families could even go for three or four days without eating.⁹⁵⁵ In Sabula, where Douyon reported the severe cases of Beriberi, Oumou Sow pounded calabashes to eat. Dried calabashes were ordinarily used as vessels for food storage, not food. Yet, with the pounded and ground remains of a calabash Oumou made couscous or *bashi* for the meal.⁹⁵⁶ It was a sign of severe shortage because she had to destroy some of her store of household goods to eat. Oumou literally cooked her wealth to survive.

Seen from the outside, Office residents had rice. Famine, as it was defined politically, did not strike them. However, as the cases of Beriberi in Sabula suggest, severe hunger afflicted most everyone living there. Like other Malians, many Office residents survived the lean months on outside food donations. Certainly, hunger and malnutrition among Office residents was less easily identifiable than the extreme cases of starvation that afflicted people in the regions just north of the scheme. However, political considerations deemed what constituted starvation and need. Most obviously, the bulk of the rice harvest supplied the urban civil servants and military, or was shipped to the nation's urban markets. Yet, there was great need elsewhere. New settlers seeking refuge from highly visible drought conditions received cereals, milk, meat, and cooking oil from World Food Program donations.⁹⁵⁷ Meanwhile, the majority of Office residents were

⁹⁵⁵ Comment from Aissata Mallé during Interview by author with Aissata Mallé, Salimata Samaké, Sitan Mallé, and Assane Plea in Kouyan-N'Péguèna, April 12, 2010.

⁹⁵⁶ Comment from Oumou Sow during interview by author with Fatoumata Coulibaly and Oumou Sow in Sabula, May 10, 2010.

⁹⁵⁷ World Food Aid donations for the Office were shipped first to the project's administrative center in Ségou before being distributed to each sector. Interview by author with Mme. Koné Mariam Diarra and Tchaka Diallo in Markala-Diamarabougou, January 26, 2010.

expected to survive on only the minimal rations of rice while burdened with famine refugees. In fact, the administration (and many Malians outside the Office) believed them to be better off than most. When Moussa Coulibaly, who farmed in the Kokry sector, asked the administration for food assistance he remembered being told that where he was "there was water." He was supposed to "work for rice." The staff member he approached even called him "lazy."⁹⁵⁸ The insult was especially offensive given that the whole project relied on the manual labor of farmers like Moussa.

In reality, long-time residents of the Office suffered from a persistent lack of adequate food and from acute hunger. As was the case in Sabula, many Office residents ate rice (or red millet which will be discussed below) and not much else. When a medical mission from Holland visited the Office in 1981, one nurse noted that Kwashiorkor and Beriberi, two diseases resulting from malnutrition, were prevalent.⁹⁵⁹ A diet of rice alone did not provide protein, causing Kwashiorkor, or B vitamins, leading to Beriberi. This hunger and malnutrition had far reaching and debilitating effects.⁹⁶⁰

The diet of Office residents was grim for more than a decade. Most towns were short on basics like salt and millet, let alone nutritious ingredients like shea butter, baobab leaf powder, and meat. Government organized cooperatives in each town were charged with buying salt, sugar, and other necessary items from the national food agency (OPAM), in turn selling the goods to residents. An investigating team that was sponsored by the Agricultural Ministry and an outside donor group in 1981 reported that OPAM frequently failed to distribute goods to

⁹⁵⁸ Interview by author with Alimata Dembélé, Moussa Coulibaly, and Nana Dembélé in Koutiala-Kura, May 3, 2010.

⁹⁵⁹ The team further diagnosed rampant Impetigo, Tetanus, Bilharzia, and Conjunctivitis among residents. AON 247/31, Rapport de Mission 7 Avril 1981 Jeannette Sidibé et Madame Bolt.

 $^{^{960}}$ As Diana Wylie observes for South Africa, the line between malnutrition and starvation is often politically defined. At the same time, the consequences of malnutrition for overall health can be severe but easily distanced from its political causes. Wylie, *Starving on a Full Stomach*.

cooperatives for lack of supply. Even officials from the Ministry who were critical of the team's findings admitted that OPAM was slow to acquire and distribute basic foodstuffs.⁹⁶¹ In fact, the Division du Paysannat recorded only one distribution of 30 tons of sugar (which provided little nutritional value) to Office cooperatives in 1980.⁹⁶² For the most part, people survived on the ration and what men and women smuggled out of the fields. If they were to eat anything other than rice, women had to sell some. When the rice was gone, only red millet was left.

Food Aid at the Office

Beginning in 1976, the World Food Aid Program provided assistance to the Office. ⁹⁶³ From 1976 until 1987 the kinds of food goods donated remained consistent: donor countries sent grains, vegetable oil, canned meat or fish, and powdered milk. In 1976 and 1977 the Office received millet, and in subsequent years, the institution received mostly ground corn.⁹⁶⁴ Initially, these goods were sold at set prices, probably to workers with cash to spare. In 1981, the prices for these foodstuffs were: 1,200 franc Malien (FM) for 1 sack of corn (50kg); 480 FM for 1 liter of cooking oil; 362.66 FM for 1 tin of canned chicken; 28.26 FM for one can of fish; and 28.26 FM for 3kg of powdered milk.⁹⁶⁵ Few farmers remember purchasing, or indeed even seeing any of these goods.

⁹⁶¹ AON 247/4, Notes Relatives au Rapport "Organisation Collective des Paysans" de Madame Correze la commission 1981 (23 Jan). As of 1984, the Malian government had plans to reform OPAM. See, Derrick, "West Africa's Worst Year of Famine," 290.

⁹⁶² AON 247/28, Victor Douyon, Répartition de 30 Tonnes Sucre en Poudre (600 sacs de 50kg) Entre Unités Coopératives des Secteurs Rizicoles de l'Office du Niger, December 16, 1980.

⁹⁶³ Food aid to Mali as a whole had begun as early as 1972. One example of such aid was the donation of 10,000 tons of millet from the United States, which was reported in the national newspaper. G. Dolo, "Les Etats-Unis font un don de cereales d'une valeur de 500 millions de francs au Mali" *L'Essor*, February 11, 1972.

⁹⁶⁴ AON 410/10, Situation des DONS PAM reçus par l'Office du Niger, November 15, 1984.

⁹⁶⁵ AON 247/30, Victor Douyon, Détermination des Prix Unitaires des Différentes DONS du Programme Alimentaire Mondial, February 23, 1981.

Beginning in 1983, this international aid was integrated into the Office recruitment program. That year, the Division du Paysannat was re-organized and charged with two major tasks: 1) the recruitment of new families and 2) the distribution of food aid to those new families. New settlers were promised food assistance for a brief installation period.⁹⁶⁶ This included the, by then, standard selection of corn, canned meat or fish, vegetable oil, and powdered milk. In 1983/84 the Office provided food aid to 306 new households. As had been the case in the 1970s, an increasing number of households petitioned to join the Office during the drought years of the 1980s.⁹⁶⁷ The total number of families receiving aid more than tripled from 306 to 1,005 in the following year (1984/85). The number increased again to 1,879 families for 1985/86. In fact for each year, the numbers of families receiving aid each month steadily increased between April and October, the months when most households would have run out of their grain stores from the previous harvest.⁹⁶⁸

The basic food supplies donated by the World Food Program all came from the United States and Europe. By and large the United States provided the bulk of the corn flour, vegetable oil, and powdered milk. The U.S. also sent millet to the Office and other government distribution centers, which was what most farmers remember purchasing outside the Office. The

⁹⁶⁶ From the available documentation it is not clear how long new families received aid. It was likely one to two years as had been the practice when the institution provided food to new families in the colonial era.
⁹⁶⁷ In the last recorded year for World Food donations (1986/87) the numbers had fallen to only 252 families still

⁹⁶⁷ In the last recorded year for World Food donations (1986/87) the numbers had fallen to only 252 families still receiving assistance. AON 247, Bureau du Paysannat, Repartition des Dons PAM entre les nouveaux colons des secteurs rizicoles de l'Office du Niger, September 23, 1983 and October 12, 1983; AON 247/17c, Bureau du Paysannat, Repartition des Dons PAM entre les nouveaux colons des secteurs rizicoles de l'Office du Niger, August 23, 1983; AON 410/3, Bureau Paysannat no. 49/BP, Repartition des Dons du Programme Alimentaire Mondial (PAM) entre les nouvelles familles colons des secteurs rizicoles de l'Office du Niger, November 12, 1984; AON 410/9, Repartition des Dons du Programme Alimentaire Mondial (PAM), Bureau du Paysannat, Nos. 117/BP and 220/BP, June-September 1985; AON 410/7, Bureau du Paysannat no. 131/BP, Repartition des Dons du Programme Alimentaire Mondial (PAM) du Mois de Juin 1985 entre les colons des secteurs rizicoles de l'O.N.; AON 410/3, Repartitions des dons PAM des mois d'Octobre, Novembre et Decembre 1985 aux nouvelles familles colons des secteurs rizicoles de l'O.N.; AON 410/3, Repartitions des dons PAM des mois d'Octobre, Novembre et Decembre 1985 aux nouvelles familles colons des secteurs rizicoles de l'O.N.; AON 410/3, Repartitions des dons PAM des mois d'Octobre, Novembre et Decembre 1985 aux nouvelles familles colons des secteurs rizicoles de l'O.N.; AON 410/3, Repartitions des dons PAM des mois d'Octobre, Novembre et Decembre 1985 aux nouvelles familles colons des secteurs rizicoles de l'O.N.; AON 410/3, Repartitions des dons PAM des mois d'Octobre, Novembre et Decembre 1985 aux nouvelles familles colons des secteurs rizicoles de l'O.N., October 14, 1985; AON 426/24, Bureau du Paysannat no. 39/BP Distribution des Dons du Programme Alimentaire Mondial (PAM) aux nouvelles familles colons de l'Office du Niger, August 25, 1987; ⁹⁶⁸ AON 248/19, Direction General Decision no. 006/DG portant reorganisation du Bureau Paysannat de l'Office du Niger, March 9, 1983.

canned fish and meat arrived mostly from Holland with additional shipments from Germany, Norway, Sweden, Denmark, Canada, and the CEE (Central and Eastern Europe).⁹⁶⁹ Humanitarian aid efforts have been criticized by scholars for promoting assistance supplied only from the outside. ⁹⁷⁰ One problem with the standard selection of food assistance in Mali was that these goods were not readily incorporated into local diets or cooking. Neither did they necessarily respond to local health or nutritional needs. For example, powdered milk is not necessarily an easy substitute for fresh milk. To use the powdered milk, women had to have a good supply of clean water, which was not always the case at the Office. Likewise, the cereals provided through this program were appreciated by recipients to ward off starvation, but they also believed them to be the primary cause of digestive illnesses.

One example of a more locally oriented response comes from Markala. Few people in Markala (the old workers town) had direct access to rice during these years because they were not working in Office fields. Mariam N'Diaye Thiam, who was then working with women in Markala and the surrounding rural areas for the Ministry of Rural Development, told me that rice did not come out of the Office. By this she meant that Office rice could not be purchased in Markala even though it was just on the periphery of where it was grown.⁹⁷¹ Towns just outside the Office were severely short on food. Several international agencies distributed food aid in Markala. However, this assistance was not enough. Soon, with the backing of some female aid workers, a group of Markala women created their own cereal bank. They all contributed small

 ⁹⁶⁹ AON 247 and AON 410 include several records for World Food Program donations to the Office du Niger.
 ⁹⁷⁰ One recent example of this analysis addresses medical assistance. See, Peter Redfield, "Cleaning up the Cold War: Global Humanitarianism and the Infrastructure of Crisis Response," in *Entangled Geographies: Empire and Technopolitics in the Global Cold War*, ed. Gabrielle Hecht (Cambridge, MA: MIT Press, 2011), 271-86.
 ⁹⁷¹ Interview by author with Mme. Thiam Mariam N'Diaye, February 2, 2010.

amounts of grain or cash to create a stock for the women to draw from in the case of famine.⁹⁷² In this case, when women took anything from the cereal bank they could be assured of getting something they knew how to cook. They also had a greater assurance of obtaining quality grains.

International food aid is best described as unpredictable.⁹⁷³ This was also true for food donations sent to the Office. For example as of September 1983, only oil, canned fish, canned chicken, and powdered milk had been distributed to the new settlers. The Office warehouses had received no corn from the WFP. The cereal donation finally arrived, and it was distributed in October. One wonders what those families ate in the absence of the corn from April or May until September?⁹⁷⁴ While the delay may have originated with the United States or the Malian administration in Bamako, it was characteristic of the unevenness of outside food assistance. In a similar instance, neither oil, nor powdered milk were available for distribution until the last months of the year in 1985.⁹⁷⁵ Cooking without oil must have especially difficult for women when there was little else to season food or to add vital nutrients. Then in 1986, powdered milk was not available for several months.⁹⁷⁶ Again in 1987, cooking oil was not distributed until the October-December period.⁹⁷⁷ The donations were not reliable sources for all the ingredients women needed to cook.

⁹⁷³Alex de Waal and other scholars of famine have made this broad point for food aid more generally to Africa and other regions. See for example, Waal, *Famine Crimes*.

⁹⁷² Interview by author with Mme. Thiam Mariam N'Diaye, February 2, 2010. The Markala Women's Cooperative was established in 1975. Susan Caughman and Mariam N'Diaye Thiam, "The Markala Cooperative: A New Approach to Traditional Economic Roles"," (New York: Seeds pamphlet series no. 5, 1982).

⁹⁷⁴ AON 247, Bureau Paysannat, Repartition des DONS PAM entre les Nouveaux Colons des Secteurs Rizicoles de l'Office du Niger, September 23, 1983.

⁹⁷⁵ AON 410/3, Bureau Paysannat, No. 239/BP, Repartition des DONS PAM des Mois d'Octobre, Novembre, et Decembre 1985 aux nouvelles familles colons des secteurs rizicoles de l'O.N., October 14, 1987.

 ⁹⁷⁶ AON 410/16, Bureau Paysannat, Repartition des DONS PAM du mois de Juin 1986 aux nouvelles familles colons des Secteurs Rizicoles de l'Office du Niger.
 ⁹⁷⁷ AON 426/24, Distribution des Dons du Programme Alimentaire Mondial (PAM) aux nouvelles familles colons

⁹⁷⁷ AON 426/24, Distribution des Dons du Programme Alimentaire Mondial (PAM) aux nouvelles familles colons de l'Office du Niger 25 August 1987, Mois de Juillet-Aout-Septembre 1987; AON 426/25, Distribution des Dons du

Moreover, these distributions went to a very limited number of people. The largest number of people receiving food aid was not quite two thousand in 1985/86. The total population of the Office was near 60,000 (see Table 5); this left out the vast majority of families. Not only that, they were hosting a very large number of drought refugees unofficially. By all accounts these groups also had great need, especially for protein-rich and other nutritious foods. At least food aid from the WFP included meat, milk, and oil in addition to cereals. Dating to the 1930s, the Office promised to provide new families with food assistance. To receive this help families had to arrive just before the start of the new agricultural season and be in need. This logic continued to hold sway with officials during the 1980s when they distributed international food aid to new settlers. They repeated a pattern that left the vast majority of farmers without reliable assistance. The policy was also based on the assumption that once farmers were installed they just needed to work to grow rice (thereby negating any need for help even during the era of severe rations).

By the end of 1984, Douyon from the Division du Paysannat openly recognized that more families needed assistance. He proposed that 4,000 previously settled households also receive assistance in the coming year. He suggested that helping with food needs would allow them to more easily pay off some of their debt to the Office, an on-going administrative concern.⁹⁷⁸ This last point was probably how Douyon hoped to persuade his superiors. His division was poorly staffed. It also had little power, but his records offer a picture of a man who genuinely wanted to improve the poor conditions of the project's residents. From the existing records for the World Food Aid distributions at the Office, it does not appear that Douyon's suggestion was directly

Programme Alimentaire Mondial (PAM) aux nouvelles familles colons de l'Office du Niger, 3e Trimestre (Octobre-Novembre-Decembre), 13 Decembre1987.

⁹⁷⁸ AON 410/5, Victor Douyon, Compte Rendu de Mission effectuée par le Chef du Bureau Paysannat de l'Office du Niger, December 18, 1984.

implemented. However, the next year the Banque Nationale de Developpement Agricole (BNDA), in cooperation with the Office, began offering agricultural loans for equipment that included food assistance. From the record of meetings between the BNDA and farmers it does appear that the loan scheme was very successful. This was in large part because the Office (or an affiliated outside aid organization) made all of the purchases for farmers; as a result a man who received a loan of oxen would still have to repay the loan if his new animals died. Farmers had little assurance that the aid program would actually be beneficial to them.⁹⁷⁹

Perhaps only the wives of salaried workers for the Office received regular distributions of foods like canned meat and fish. Kadja Coulibaly (whose husband was the thresher operator) cooked with a lot of food aid ingredients. She explained to me that what she called the "fish in a box" was so salty she had to soak it for two hours before cooking it. Even though the canned goods required special handling, Kadja appreciated having access to these goods. She remembers that this food was given to her, but it may have been the case that her husband paid a reduced price for the goods out of his wages.⁹⁸⁰ Her husband similarly could have purchased rice at half price because of his employment.⁹⁸¹ In any case, Kadja's household was more easily provisioned than any of the refugees or farm families so desperately in need of food. Nevertheless, Kadja shared the experience of having to transform what were often unfamiliar or unappetizing ingredients with other women.

⁹⁷⁹ AON 410/11, Drissa N. Keita, Compte Rendu de Mission du Paysannat (conjointe Banque Nationale de Developpements Agricole BNDA) 23 au 29 Septembre 1985.

⁹⁸⁰ I was unable to interview her husband because he was no longer living. Interview by author with Kadja Coulibaly in Kokry, May 2, 2010. ⁹⁸¹ Interview by author with Mme. Koné Mariam Diarra and Tchaka Diallo in Markala-Diamarabougou, January 26,

^{2010.}

Nyoblé: The Red Thing

Canned goods, oil, and powdered milk were not available to all Office farmers. Many women and men recall only red millet. Locally the red millet was called *nyoblé*, or "the red thing." Overwhelmingly this red cereal was understood to be unhealthy to eat, very poor quality, and unappetizing in its appearance. Women recalled that when they opened a sack of red millet it always had a terrible smell.⁹⁸² After people ate *nyoblé* they were often afflicted with stomach aches or konoboli (diarrhea that was symptomatic of several digestive illnesses and other viruses).⁹⁸³ Reflecting on the *nyoblé* one resident quoted the Bamana saying, "Mogo t'i fa fen bla i balo fenyen" or "to not starve you will eat something that will make you ill." The same man blamed a cholera outbreak from this era on *nyoblé*.⁹⁸⁴ Nana Coulibaly who was a young woman at the Office during the drought viscerally recalled eating red millet and said: "you would cry if you ate it."985

Some women also remember what they called "magnomugu." It was a kind of cereal powder that they used to make *bashi* (couscous). *Magnomugu* came in big sacks that resembled the kind used to transport cement. When women opened the sacks, they found insects burrowed in with the grain powder.⁹⁸⁶ It is not surprising that women who were accustomed to cleaning and processing their own grains right before cooking were shocked to be given powder that was unclean. *Magnamugu* was perhaps the ground corn that a few people received in food aid. In

⁹⁸² Interview by author with Moussa Diawara, Aminata Tangara, and Hawoyi Diawara in Boky-Were, May 7, 2010. ⁹⁸³ Interview by author with Fatoumata Coulibaly and Oumou Sow in Sabula, May 10, 2010; Interview by author

with Oumou Dembele in Kouyan-N'Goloba, April 13, 2010; Interview by author with Assane Coulibaly in Sirakoro, April 28, 2010. ⁹⁸⁴ Comment from Sékou Salla Ouleguem during Interview by author with Bintu Traoré, Mariam Doumbia, and

Fanta Sogoba in Molodo-Center, April 15, 2010. Sékou even blamed a cholera outbreak during the period on poor quality red millet. 985 Comment from Nana Coulibaly during Interview by author with Alimata Dembélé, Moussa Coulibaly, and Nana

Dembélé in Koutiala-Kura, May 3, 2010.

⁹⁸⁶ Interview by author with Fatoumata Coulibaly, Kadiatou Mallé, and Maïssa Sountura in Kouyan-Kura, April 14, 2010.

any case, it was poorly packaged and, like the red millet, required adept handling to make it edible. Even when distribution centers offered local types of food like *woso* (sweet potato), it was generally "rotten."⁹⁸⁷

Residents spoke most vividly about *nyoblé*. More than the fact that the red millet made people ill, its color made food visually unappetizing. Most women agreed that it could only be used to make couscous. If you used it to make *toh* it would be red "like blood."⁹⁸⁸ Some women did make *toh* and *dege* with *nyoblé*. To diminish the red color and turn the *toh* black rather than red a woman could add potash to the cooking pot.⁹⁸⁹ The *toh* still made whoever ate it sick to her stomach, but it was more palatable. One donated cereal that was white in color was described to me as "not as bad to eat as *nyoblé*." One likely reason was that its color made it look more like food one could eat. This kind of millet came up in conversation in contrast to the *nyoblé*, and the man who mentioned it emphasized the *white* (not red) color.⁹⁹⁰ Clearly, the distribution of food aid in itself did not constitute food until women made it into something that people could physically stomach eating.⁹⁹¹

Women like Assane Coulibaly who were fortunate enough to have rice year round traded their red millet for other foods stuffs like fish.⁹⁹² Interestingly, she traded her *nyoblé* to nearby Bozo (fishermen) families. In the 1930's, the Office botanist had documented that while fishing

⁹⁸⁷ Interview by author with Fatoumata Coulibaly and Oumou Sow in Sabula, May 10, 2010.

⁹⁸⁸ Interview by author with Moussa Diawara, Aminata Tangara, and Hawoyi Diawara in Boky-Were, May 7, 2010.
⁹⁸⁹ Interview by author with Moussa Diawara, Aminata Tangara, and Hawoyi Diawara in Boky-Were, May 7, 2010.
Interview by author with Fatoumata Coulibaly, Kadiatou Mallé, and Maïssa Sounturu in Kouyan-Kura, April 14, 2010.

 ⁹⁹⁰ Comment by Sékou Salla Ouloguem during interview by author with Bintu Traore, Mariam Doumbia, and Fanta Sogoba in Molodo-Center, April 15, 2010.
 ⁹⁹¹ Peter Redfield discusses what he calls the "kit culture" of medical humanitarian aid, which came out of the

⁹⁹¹ Peter Redfield discusses what he calls the "kit culture" of medical humanitarian aid, which came out of the medical kits assembled increasingly by the humanitarian group Doctors without Borders (Médecins Sans Frontièrs). With the delivery of these kits which included basic medical supplies assembled outside the area of intervention, the group drew away from original impulse of many doctors to find local solutions to medical crises. The logic applies here in that the standard basic foodstuffs in and of themselves did little more than prevent outright starvation. See, Redfield, "Cleaning up the Cold War: Global Humanitarianism and the Infrastructure of Crisis Response," 284.

was the main occupation for Bozo settlements, these groups also grew a kind of red millet that was resistant to river flooding.⁹⁹³ It is not unlikely that an aesthetic familiarity for red millet among Bozo families was why Assane was even able to trade the otherwise detested red thing. At any rate, the red color was perhaps not as distasteful to Assane's Bozo trading partners. For her, the red millet was best used to get other things to eat. Thus, her family got to eat fresh fish. At a time when the water levels were low, fish were a luxury.⁹⁹⁴

Broadly speaking, people understood the red millet to be famine food. One woman who did cook with it told me that it was "for people with hunger." Many other people said that where it came from originally the red millet was animal feed, meaning it was not for human consumption.⁹⁹⁵ It must have been awful to consciously eat something that was not actually food. Nevertheless, for those in grave need, it did ward off starvation. Women (sometimes migrants) even took the broth from cooked red millet in exchange for helping another woman pound the red thing.⁹⁹⁶

There is a historical precedent in the region for associating a type of millet that is red in color with hunger and famine. One particularly hardy millet cultivated by Bamana and other farmers in the first decades of the century in the event of a poor rain or likely poor harvest was a red millet that reportedly gave people stomach aches.⁹⁹⁷ Aissata Mallé, whose family came from the Koutiala region in the colonial era, remembered that her father sometimes grew a kind of red

⁹⁹³ AON 87 Dossier Mil; AON 85/9, Guy Robarty, Introduction de Plantes à Soninkoura, Cultures Vivrières, Mils Indigènes, 1939.

⁹⁹⁴ Derrick, "West Africa's Worst Year of Famine," 283.

⁹⁹⁵ Comment by Office animatrice Bintu Dieunta during interview by author with Assane Coulibaly in Sirakora, April 28, 2010. Comment by Sékou Salla Ouloguem during interview by author with Bintu Traore, Mariam Doumbia, and Fanta Sogoba in Molodo-Center, April 15, 2010.

⁹⁹⁶ Interview by author with Fatoumata Coulibaly and Oumou Sow in Sabula, May 10, 2010. Comments by Oumou Sow.

⁹⁹⁷ This type of millet was classified by the colonial botanist Guy Robarty in his studies of local plants. AON 87 Dossier Mil; AON 85/9, Guy Robarty, Introduction de Plantes à Soninkoura, Cultures Vivrières, Mils Indigènes, 1939.

millet. If he had food made from this grain with him in the field, he would hide it so that other farmers did not see that he was eating it.⁹⁹⁸ Such antisocial behavior around food was extreme and speaks to the desperation of her father for growing and eating it. The foreign red millet similarly evoked feelings of revulsion and shame among those who ate it in the 1970s and 1980s. It was not anything to be openly shared either, but endured for the sake of survival. The more women could do to make it edible, the more their families could actually eat and lessen to some extent their hunger pangs.

Other types of food that women had historically gathered from the *kongo* during lean periods, like wild rice and other grains such *fonio* as well as fruits, were extremely tasty. These wild grains and other foods were no longer found in most areas of the Office. It was even unlikely that women could trade for *fonio* because the women who found these foods no doubt prepared them immediately for consumption. When Office farmers ran out of rice, they were reliant on unappetizing food aid to survive the hungry season(s). The extreme poverty of famine food during the 1970s and 1980s was further expressed in the fact that there was often no sauce to accompany the couscous or *toh* made from red millet. Even families who had access to WFP donations did not receive vegetables in any form (even canned). The gravity of the situation for women is perhaps understood in context with the Bamana saying: "It is for the husband to supply the to [...] and for the woman to supply the sauce."⁹⁹⁹ Despite all these women's physical labor and effort to secure rice or transform red millet, they had a very hard time making any sauce.

Wherever possible women at least added some salt for taste to the water as the *toh* was cooking. According to Aissata Mallé, you would go to a person you thought was selling salt. You would not say the word "kogo" (salt) but ask "do you have something?" If that person said

⁹⁹⁸ Comment from Aissata Mallé in an Interview by author with Aissata Mallé, Salimata Samaké, Sitan Mallé, Assane Plea, and Mariam Sall in Kouyan-N'Péguèna, April 12, 2010. ⁹⁹⁹ Thiam, "The Role of Women in Rural Development in the Segou Region of Mali," 76-77.

yes you would give them some money and hide the salt. To get money for this purchase Aissata sometimes would walk a great distance to cut wood and then sell it in the Niono market.¹⁰⁰⁰ Her recollection suggested that the limited black market was a more efficient way to get some basic cooking ingredients.

Conclusion

Following the famine in the later years of the 1980s, many Office households switched from eating rice to eating local millet. Millet was cheaper per kilogram than rice. This price difference had been typical in the previous decades as well.¹⁰⁰¹ Thus, when farmers were able to obtain millet, it made more sense to sell their rice and purchase larger quantities of millet. This was one strategy to stretch out the grain reserves. A 1972 report for the World Bank noted that Office farmers who could, ate millet or sorghum at least once a day. On a nutritional note, millet provided the B vitamins that families who were unable to purchase millet missed. In the late 1980s, when farmers had fewer constraints on their sales, more people also started purchasing and eating millet instead of rice.¹⁰⁰² Assane Coulibaly explained it to me that ever since the famine there is "no rice" at the Office. Assane was asserting that the economic situation of farmers had not improved in those years.¹⁰⁰³ Of course farmers still grew rice at the Office, but it was too expensive for them to keep it at home to eat. Their diet was perhaps improved, but economically women like Assane felt disadvantaged. Rice did not bring well-being during the famine, nor did it bring wealth after.

¹⁰⁰⁰ Comment from Aissata Mallé during Interview by author with Aissata Mallé, Salimata Samaké, Sitan Mallé, Assane Plea, and Mariam Sall in Kouyan-N'Péguèna, April 12, 2010.

¹⁰⁰¹ AON 61/1, Principaux Problèmes de l'Office du Niger, October 12, 1972.

¹⁰⁰² Interview by author with Alimata Dembélé, Moussa Coulibaly, and Nana Dembélé in Koutiala-Kura, May 3, 2010.

¹⁰⁰³ Interview by author with Assane Coulibaly in Sirakoro, April 28, 2010.

The technological trappings of the post-colonial Office ended up assuring only a bare minimum of food for its residents to survive the long years of drought and hunger. This level of local food self-sufficiency was brought about not by the power of irrigation but through the bodily labor of men and women. Rice grew in the Office fields but men and women labored longer to harvest as much as possible for their households. This labor also took on heightened gender dimensions that put women at risk. Women's rice hiding practices were met with profoundly intrusive responses from the state. As a result, fear of the guards gave new meaning to the hungry season for women.

Forestalling hunger was an embodied experience on several levels. Eating depended on women's abilities to transform the new famine foods such as "the red thing." Hunger in the postcolonial years was accompanied by extremely unpleasant food items that women only partially succeeded in transforming into palatable meals. Also, the hunger of the 1970s and early 1980s was not appeased by tasty seasonal treats or aesthetically pleasing preparations of wild grains. This was a new and unfamiliar kind of hunger amidst the relative plenty of productive rice fields. Hunger was also a matter of taste. The red millet provoked visceral bodily reactions among Office farmers but was desirable to Bozo fishermen. For Bambara farmers the red millet was the emblem of famine and dehumanization, and unlike historical hungry season foods, unpalatable.

The government made much of "food security" as policy for donors and the national media.¹⁰⁰⁴ In practice the national food policy regularly deprived Office farmers of adequate rice supplies to eat or sell. It probably also hindered the extent to which Office farmers could help

¹⁰⁰⁴ *L'Essor* frequently published articles glorifying regions and towns that supplied large amounts of their cereal harvests to OPAM. The newspaper also reported government projections for the harvest and incoming food aid. For example, "Les préparatifs de la campagne de commercialisation 1972-1973: La campagne agricole ne répondra pas à tous nos espoirs," November 1, 1972; "La campagne de commercialisation: 12 villages du cercle de Bamako livrent 82 tonnes de mil a l'O.P.A.M.," January 8, 1972; "La commercialisation des produits agricoles: Un bel exemple de civisme," January 18, 1972.

their rural neighbors. Locally, the priority for food security was to support family members in drought stricken areas no to send to the cities. Food security also meant eating food that actually looked like a local dish and felt less like famine. Officially, there may not have been "famine" at the Office, but residents who lived and worked in the "Africa's Breadbasket" certainly experienced hunger in the midst of plenty.

Conclusion: "Une Véritable Sécurité Alimentaire"

Throughout the twentieth century, rural food production in colonial French Soudan and postcolonial Mali was labor intensive. From at least the second decade in the century, the French proposed the introduction of various technologies as a means to control and mediate this agricultural labor. Colonial administrators promoted the plow and later large-scale irrigation and industrial tractors and other machines to more efficiently capture men's labor. The goal was not to reduce African men's work burden—afterall enormous amounts of male labor went into constructing the dam at the Office and clearing the fields for the scheme. The goal rather was to channel that labor more efficiently towards the colonial market for the French perceived agricultural production in economic terms. French scientists and administrators documented women's roles in agricultural production but deemed their work to be simply household labor. Improving the quality or efficiency of women's food production and preparation was not a matter for consideration, especially as many colonial officials worried about intruding into the domestic economy.

By looking at women's roles in agriculture, consumption emerges as a central concern not only for women but also for men. Despite official state rhetoric about assuring the food supply in the 1930s and again in the 1970s and 1980s, the guiding concern for the Office was rarely assuring the daily food needs of its farmers or even that of people in the immediately surrounding regions. A sign hangs above the Molodo Sector administrative compound today that reads "Pour une Veritable Securite Alimentaire au Mali et Dans le Reste de la Sous Region," or "For real food security in Mali and the region." It is the motto of the Molodo sector administration.¹⁰⁰⁵ The staff members at Molodo no doubt believe that they have a real role in realizing this goal for the Office in Mali. However, this slogan was a visceral and hard-fought reality among Office men and women in the 1970s and 1980s when they supported thousands of hunger migrants, as well as their own households, from their meager ration and illicitly obtained rice. Office farmers who remember the 1940s also saw themselves fulfilling this role for their neighbors--those hit by poor millet harvests--when selling rice without official permission. This local food security in rice was assured through men's and women's labor. Women at the Office in particular made sure that food security extended beyond the provision of rice to include diverse and nutritious ingredients, familiar textures, and enticing smells in the daily meals that they prepared.



Fig. 2 Motto of the Molodo Zone. Photo by author April 2010

¹⁰⁰⁵ Interview by author with the Directrice of the Molodo Zone Mme. Koumba Djeneba "Ba Djeneba" Diarra in Molodo-Centre, April 19, 2010.

When the concept of food security is expanded to include the sensory aspects of how food tasts, its nutritional content, and the character of the bodily labor necessary to make daily meals, it is women who are at the center of the story. They labored in cotton, millet, and rice fields, but they also produced—or marketed to acquire—shea butter, *soumbala*, and other tasty and vitamin rich ingredients. Women at the Office also retained the texture of *toh* when making it with rice, and they changed the displeasing color of food-aid millet to make it more palatable and familiar. Dramatic changes in the environment and the food resource landscape made this task a consistently challenging one. The aesthetics of food mattered on a very basic level, especially for men and women living at a novel and unpredictable development scheme where being watched was a quotidian experience. Familiar and satisfying food was necessary for survival, and in the absence of women, food crises signaled broader political and social instability.

The changing technological landscape of the French Soudan and Mali, as viewed from the Office, brought about noticeable changes in how men and women experienced the fruits of their agricultural labor. Rice, became a staple food across the region because of the scheme. Moreover, the type of rice that became a staple was the standardized white rice introduced by the French rather than the diverse local varieties that were preferred in the first half of the century. More modest technological changes, such as the introduction of metal pots, further altered the taste of *toh* and other familiar meals. The physical labor that made possible local food production and consumption contributed to the embodied experience for all of the fifty or so years of the Office's colonial and early post-colonial history (c. 1932-1985). In that time, women and men managed and moulded the unwieldy infrastructure of the Office in order to mediate the nature of that sensory experience which entailed both 1) the embodied or physical aspects of productive labor to establish food stores and 2) the sensual aspects of eating (texture, color, flavor, and so on). When women had greater control over their physical labor, the taste of food was more pleasing to eat.

As the late twentieth century droughts in Mali reveal, the environment is at the crux of the food production/ technology/gendered labor relationship. The foodscape was shaped by each of these elements including the availability of food resources, the management of female labor time, and the adoption of tools for food production and preparation. Water and forested land were basic natural elements of this foodscape. Increasingly, the availability of water and *kongo* products was reshaped by the Office, even as women created new resources from the elements of the project (the canals and markets most obviously). The taste, texture, smell, and appearance of food were also always preeminent. At other times, technology was the most prominent feature of the foodscape. However, it was the interplay between the emerging industrial technologies of the twentieth century and women's modest domestic tools that transformed both the colonial and post-colonial foodscapes.

Throughout the century, women's capacity to produce tasty meals was a barometer for the quality of daily life and even "development" at the Office. Even in times of extreme food crisis, taste continued to be paramount to women's food preparation labors as they transformed "the red thing" into palatable food—much as they had earlier learned to transform white rice into familiar meals. In only a few decades, the nutritious and flavorful varieties of local red rice were replaced at the Office by the standardized white varieties of rice intended primarily for export. *Toh* made from rice was in this sense industrial food—or perhaps "modern" in the thinking of Office administrators. The food-aid products of the late twentieth century, such as red millet, were further emblematic of the real challenges women faced in integrating the industrial nature

of agricultural "development" into the quotidian--the canned food and factory processed goods represented the most extreme forms of industrialized food introduced at the Office. Yet the adoption of white rice and food-aid red millet demonstrate exactly how women re-engineered their foodscapes.

Following the "Great Drought" of the 1970s and the food crises of the 1980s, the Office administration established a program for women's development. The sudden emergence of women on the Office development agenda was due in part to pressure from international aid organizations and experts. Strikingly the projects that took hold in the 1990s replicated what women at the project had been doing for decades: market gardening. In conjunction with the allotment of small women's communal gardens, a few newly formed women's groups received solar dryers from a local development organization called Alphalog.¹⁰⁰⁶ Women in these groups processed the onions they grew in their gardens into durable dried foodstuffs for sale in regional markets. Women in the Niono area became particularly well-known for their onions and tomatoes, even in the Bamako market.¹⁰⁰⁷ With respect to the solar dryers, a gendered distinction in the introduction of technologies is apparent in their distribution because women at the Office are still expected to engage in sauce production and the manufacture of foodstuffs rather than large-scale rice production. In fact, a few women were allotted rice fields after 1997, but the emphasis in women's development remains on market gardening. This bias remained in place even after women's groups were recruited to do the work of rice planting in men's fields

¹⁰⁰⁶ Interview by author with Mme. Dagnoko Bintu Kane in Markala-Diamarabougou, March 13, 2010; Interview by author with Mme. Tamboura Fatoumata Guindo in Niono, April 16, 2010. Both Mme. Dagnoko and Mme. Tamboura were employed as a women's development workers for the Office in the late 1980s and were still working as an "animatrices" in 2010. Interview by author with Mme. Koumba Djeneba "Ba Djeneba" Diarria, in Molodo-Centre, April 19, 2010; I7, Interview by author with Djenebu Coulibaly in Kolony (km 26), August 7, 2010. Conversation between author, Mme. Dagnoko Bintu Kane, and members of the Benkadi women's group in Heremakono, February 4, 2010.

¹⁰⁰⁷ Interview by author with rice merchant Cheick Koné in the Niono Placi market in Bamako, December 31, 2009.

beginning in the 1990s. The work of transplanting rice is labor intensive, and women complain of poor compensation. Without their labor, the men's rice fields would not benefit from the rice planting technique that many farmers now employ in the hopes of gaining higher yields at harvest time. The gendered labor of transplanting rice begs for comparison with the physically demanding bodily labor of smuggling rice babies in prior decades.¹⁰⁰⁸

Since the 1990s women's re-shaping of the foodscape at the Office has become more visible to Office officials and others because women gardeners are selling their products to distant markets. In fact, tomatoes and onions from Niono are known to be of good quality and taste. However, women in general continue to struggle with the technological constraints of a scheme that overlooks their broad role in economics at the Office and the regional foodscape. Creating, protecting, and exploiting this foodscape is an on-going process, and it is still a function of the environment, technology, and taste. This relationship is an intimately gendered and embodied experience. Women's actions shape the Office foodscape and, in turn, it shapes what is possible for women in the realm of food production and preparation.

¹⁰⁰⁸ Interview by author with Djenebu Coulibaly and Djewari Samaké in Kolony (km 26), March 22, 2010; Interview by author with Aramata Diarra in Fouabougou, March 30, 2010; Interview by author with Yaini Tankara in Kolony (km 26), March 31, 2010.

Interviews

Cheick Koné, Bamako, December 31, 2009 Bakary, Marka Traoré, Markala-Diamarabougou, January 23, 2010 Mme. Dagno Adam Bah, Markala-Diamarabougou, January 25, 2010 Mme Koné Mariam Diarra and Tchaka Diallo, Markala-Diamarabougou, January 26, 2010 Tchaka Diallo, Markala-Diamarabougou, January 27, 2010 Mme. Thiam Mariam N'Diaye, Bamako, February 1, 2010 Koké Coulibaly and Fodé Traoré, Markala-Kirango, February 3, 2010 Mme. Dagno Adam Bah, Markala-Diamarabougou, February 6, 2010 Tchaka Diallo, Markala-Diamarabougou, March 10, 2010 Mme. Dagnoko Bintu Kané, Markala-Diamarabougou, March 13, 2010 Djenebu Coulibaly and Djewari Samaké, Kolony (km 26), March 22, 2010 Fatoumata Coulibaly, Kolony (km 26), March 24, 2010 Mamadou Seyba Coulibaly and Soumaïlla Diao, Kolony (km 26), March 26, 2010 Djenebu Coulibaly, Kolony (km 26), March 27, 2010 Djewari Samaké, Kolony (km 26), March 29, 2010 Hawa Coulibaly, Fouabougou, March 30, 2010 Aramata Diarra, Fouabougou, March 30, 2010 Yaini Tounkara, Kolony (km 26), March 31, 2010 Mamadou Seyba Coulibaly, Kolony (km 26), April 1, 2010 Daouda Coulibaly, Sokolo, April 5, 2010 Amadou Sow and Sekou Sall Ouloguem, Molodo-Centre, April 8, 2010 Baba Djiguiba in Molodo-Centre, April 10, 2010 Djenebu Coulibaly, Kolony (km 26), April 9, 2010 Djewari Samaké, Kolony (km 26), April 9, 2010 Fatoumata Coulibaly, Kolony (km 26), April 9, 2010 Aïssata Mallé, Salimata Samaké, Assan Plea, Mariam Sall, and Sitan Mallé in Kouyan-N'Péguèna, April 12, 2010 Oumou Dembélé, Kouyan-N'Goloba, April 13, 2010 Fatoumata Coulibaly, Kadiatou Mallé, and Maïssa Sountura in Kouyan-Kura, April 14, 2010 Bintu Traoré, Mariam Doumbia, and Fanta Sogoba in Molodo-Centre, April 15, 2010 Moctar Coulibaly in Molodo-Centre, April 15, 2010 Nianzon Bouaré and Harouna Bouaré in Molodo-Bamana, April 16, 2010 Mme. Tamboura Fatoumata Guindo, Niono, April 16, 2010 Mme. Koumba Djeneba "Ba Djeneba" Diarra, Molodo-Centre, April 2010 Hawa Coulibaly, Mariam Santo, Djéné Mariko, Adam Coulibaly, Nyé Diarra, Molodo-Bamana, April 19, 2010 Assane Traoré, Markala-Kirango, April 24, 2010 Assane Coulibaly, Sirakora, April 28, 2010 Moctar Coulibaly and Mariatou Traoré, Sirakora, April 28, 2010 Rokia Diarra, Nara, April 29, 2010 Hawa Diarra, Nara, April 30, 2010 Kadja Coulibaly, Kokry, May 2, 2010

Alimata Dembélé, Moussa Coulibaly, and Nana Dembélé, Koutiala-Kura, May 3, 2010 Kono Dieunta, Kokry, May 3, 2010 Mamum (Mariam) Coulibaly, Kankan (formerly Sangarébougou), May 4, 2010 Wassa Dembélé and Kalifa Dembélé, San-Kura, may 5, 2010 Moussa Diawara, Aminata Tangara, and Hawoyi Diawara, Boky-Were, May 7, 2010 Fatoumata Coulibaly and Oumou Sow, Sabula, May 10, 2010 Fati Kindo, Kossuka, May 11, 2010 Fatoumata Coulibaly and Yaini Tounkara, Kolony (km 26), May 25, 2010 Kadja Coulibaly, Koue-Bamana, May 26, 2010 Fatoumata Coulibaly, Kadja Mallé, Mariam Mallé, Aminata Dembélé, Kadja Koné, Kouyan-Kura, May 27, 2010 Nianzon Bouaré and Hawa Coulibaly, Molodo-Bamana, May 19, 2010 Aïssata Mallé and Assane Plea, May 28, 2010 Sékou Coulibaly and Kadiatou Traoré, Nyamina, May 31, 2010 Daouda Bouaré and Bintu Dembélé, Sokorani, June 1, 2010 Djewari Samaké, Kolony (km 26), June 2, 2010 Mamadou Djiré, Niono, August 7, 2010 Djeneba Coulibaly, Kolony (km 26), August 7, 2010 Yaini Tounkara and Mamadou Seyba Coulibaly, Kolony (km 26), August 7, 2010

Archival Sources

National Archives of Mali, Bamako (ANM)

I consulted documents from the Fonds Anciens, Fonds Récents, and Fonds Numérique. In the Fonds Récents the agricultural series (Series 1R) contains extensive documentation for the Office du Niger. I also consulted the political records (Series 1E) for the Ségou region and areas of heavy Office recruitment. In addition, I consulted materials pertaining to agricultural policy and food production in the correspondence of the general administrative records (Series 1D) and the economic series (Series 1Q).

Office du Niger Archives, Segou (AON)

The institutional archives of the Office du Niger contain extensive records relating to the technical and administrative functioning of the scheme. In addition, the archive holds botanical research materials pertaining to central and southern Mali for the early twentieth century.

National Archives of France, Aix-en-Provence (CAOM)

The section of the national archives dealing with its colonial territories contains extensive documentation for the Office du Niger up to 1961.

Bibliography

- Adas, Michael. Machines as the Measure of Men: Science, Technology, and Ideologies of Western Dominance. Ithaca, NY: Cornell University Press, 1992.
- Akyeampong, Emmanuel. Drink, Power, and Cultural Change: A Social History of Alcohol in Ghana, c. 1800-Recent Times. Portsmouth, NH: Heinemann, 1996.
- Aldrich, Robert. "Imperial *Mise En Valeur* and *Mise En Scène*: Recent Works on French Colonialism." *The Historical Journal* 45, no. 4 (2002): 917-36.
- Anderson, David. "Depression, Dust Bowl, Demography, and Drought: The Colonial State and Soil Conservation in East Africa During the 1930s." *African Affairs* 83, no. 332 (1984): 321-43.
- Anderson, Warwick. "Introduction: Postcolonial Technoscience." *Social Studies of Science* 32, no. 5/6 (2002): 643-58.
- Arnold, David. "Europe, Technology, and Colonialism in the 20th Century." *History and Technology* 21, no. 1 (2005): 643-58.
- Austen, Ralph A., and Daniel Headrick. "The Role of Technology in the African Past." *African Studies Review* 26, no. 3/4 (1983): 163-84.
- Ballantyne, Tony, and Antoinette Burton, "Introduction: Bodies, Empires, and World" In *Bodies in Contact: Rethinking Colonial Encounters in World History*. edited by Tony Ballantyne and Antoinette Burton. Durham: Duke University Press, 2005.
- Bazin, Jean. "A Chacun Son Bambara." In *Au Coeur de l'Ethnie: Ethnies, Tribalism et État en Afrique*, edited by Jean-Loup Amselle and Elikia M'Bokolo, 87-127. Paris: Editions de la Découverte, 1985.
- -------. "Genèse de l'etat et formation d'un champ politique: Le royaume de Segu." *Revue Française de Science Politique* 38, no. 5 (1988): 709-19.
 - ———. "Princes désarmés, corps dangereux: Les 'rois-femmes' de la région de Ségou." Cahiers d'études africaines 28 nos. 111-112 (1988): 375-441.
- Becker, Laurence C. "An Early Experiement in the Reorganisation of Agricultural Production in the French Soudan (Mali), 1920-40." *Africa* 64, no. 3 (1994): 373-90.
 - ——. "Seeing Green in Mali's Woods: Colonial Legacy, Forest Use, and Local Control." Annals of the Association of American Geographers 91, no. 3 (2001): 504-26.
- Bélime, Emile, Auguste Chevalier, Yves Henry, and Fernand Abraham Bernard. *Les Irrigations Du Niger: Discussions Et Controverses*. Paris: Comité du Niger, 1923.
- Berry, Sara. No Condition Is Permanent: The Social Dynamics of Agrarian Change in Sub-Saharan Africa. Madison, WI: The University of Wiconsin Press, 1993.
- Beusekom, Monica M. van. "From Underpopulation to Overpopulation: French Perceptions of Population, Environment, and Agricultural Development in French Soudan (Mali), 1990-1960." *Environmental History* 4, no. 2 (1999): 198-219.
 - . "Individualism, Community, and Cooperatives in the Development Thinking of the
 - Union Soudanaise-RDA, 1946-1960." African Studies Review 51, no. 2 (2008): 1-25.
 - -. Negotiating Development: African Farmers and Colonial Experts at the Office Du Niger, 1920-1960. Portsmouth, NH: Heinemann, 2002.

- Bijker, Wiebe E., Thomas P. Hughes, and Tevor Pinch, eds. The Social Construction of Technological Systems: New Directions in the Sociology of History and Technology. Cambridge: MIT Press, 2012.
- Bingen, R. James. "Overview-the Malian Path to Democracy and Development." In *Democracy* and Development in Mali, edited by R. James Bingen, David Robinson and John M. Staatz, 245-50. East Lansing: Michigan State University Press, 2000.
- Bogosian, Catherine. "Forced Labor, Resistance and Memory: The *Deuxième Portion* in the French Soudan, 1926-1950." Ph.D. Dissertation University of Pennsylvania, 2002.
- Bonneuil, Christophe. "Development as Experiment: Science and State Building in Late Colonial and Postcolonial Africa, 1930-1970." *Osiris* 15, no. Nature and Empire: Science and the Colonial Enterprise (2000): 258-81.
- Boserup, Ester. *Woman's Role in Economic Development*. London: Earthscan Publications Ltd., 1989.
- Bourdieu, Pierre. *Distinction : A Social Critique of the Judgement of Taste*. Cambridge: Harvard University Press, 1984.
- Bray, Francesca. "Gender and Technology." Annual Review of Anthropology 36 (2007): 37-53.
- Brooks, George E. Landlords and Strangers: Ecology, Society, and Trade in Western Africa, 1000-1630. Boulder, CO: Westview Press, 1993.
- Bryceson, Deborah Fahy. "Alcohol in Africa: Substance, Stimulus, and Society." In *Alcohol in Africa: Mixing Business, Pleasure, and Politics*, edited by Deborah Fahy Bryceson, 3-21. Portsmouth, NH: Heinemann, 2002.
 - ——. "Changing Modalities of Alcohol Usage." In *Alcohol in Africa: Mixing Business, Pleasure, and Politics*, edited by Deborah Fahy Bryceson, 23-52. Portsmouth, NH: Heinemann, 2002.
- Camiscioli, Elisa. "Producing Citizen's, Reproducing The "French Race": Immigration, Demography, and Pronatalism in Early Twentieth-Century France." *Gender and History* 13, no. 3 (2001): 593-621.
- Carney, Judith A. In the Shadow of Slavery: Africa's Botanical Legacy in the Atlantic World. Berkeley, CA: University of California Press, 2010.
- ———. Black Rice: The Origins of Rice Cultivation in the Americas. Cambridge, MA: Harvard University Press, 2001.
- Carney, Judith, and Michael Watts. "Disciplining Women? Rice, Mechanization, and the Evolution of Mandinka Gender Relations in Senegambia." *Signs: Journal of Women in Culture and Society* 16, no. 4 (1991): 651-81.
- Castonguay, Stéphane. "The Transformation of Agricultural Research in France: The Introduction of the American System." *Minerva* 43 (2005): 265-87.
- Caughman, Susan, and Mariam N'Diaye Thiam. "The Markala Cooperative: A New Approach to Traditional Economic Roles"." New York: Seeds pamphlet series no. 5, 1982.
- Chafer, Tony. *The End of Empire in French West Africa: France's Successful Decolonization?* New York: Berg, 2002.
- Chakrabarty, Dipesh. *Provincializing Europe: Postcolonial Though and Historical Difference*. Princeton: Princeton University Press, 2008.
- Chiang, Connie Y. "Monterey-by-the-Smell: Odors and Social Conflict on the California Coastline." *Pacific Historical Review* 73, no. 2 (2004): 183-214.
- Clark, Gracia. *African Market Women: Seven Life Stories from Ghana*. Bloomington: Indiana University Press, 2010.

——. Onions Are My Husband: Survival and Accumulation by West African Market Women. Chicago, IL: The University of Chicago Press, 1994.

- Cloud, Kathleen. "Sex Roles in Food Production and Distribution Systems in the Sahel." In *Women Farmers in Africa: Rural Development in Mali and the Sahel*, edited by Lucy E. Creevey, 19-49. Syracuse, NY: Syracuse University Press, 1986.
- Cohen, William B. "Imperial Mirage: The Western Sudan in French Thought and Action." *Journal of the Historical Society of Nigeria* 7, no. 3 (1974): 417-45.
- Conklin, Alice L. A Mission to Civilize: The Republican Idea of Empire in France and West Africa, 1895-1930. Stanford, CA: Stanford University Press, 1997.
- Connelly, Matthew. *Fatal Misconception: The Struggle to Control World Population*. Cambridge: Belknap Press, 2008.
- Cooper, Barbara M. *Evangelical Christians in the Muslim Sahel*. Bloomington, IN: Indiana University Press, 2006.
 - ——. *Marriage in Maradi: Gender and Culture in a Hausa Society in Niger, 1900-1989.* Portsmouth, NH: Heinemann, 1997.
 - ——. "Oral Sources and the Challenge of African History." In *Writing African History*. edited by John Edward Philips. Rochester, NY: University of Rochester Press 2005.
- Cooper, Frederick. *Colonialism in Question: Theory, Knowledge, History*. Berkeley, CA: University of California Press, 2005.
 - ——. Decolonization and African Society: The Labor Question in French and British Africa. Cambridge: Cambridge University Press, 1996.
 - —. "Modernizing Bureaucrats, Backward Africans, and the Development Concept." In International Development and the Social Sciences: Essays on the History and Politics of Knowledge, edited by Frederick Cooper and Randall Packard, 64-92. Berkeley: University of California Press, 1997.
- Cooper, Frederick, and Randall Packard. "Introduction." In *International Development and the Social Sciences: Essays on the History and Politics of Knowledge*, edited by Frederick Cooper and Randall Packard, 1-41. Berkeley: University of California Press, 1997.
- Cowan, Ruth Schwartz. More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave. New York, NY: Basic Books, Inc., 1983.
- Creevey, Lucy E. "The Role of Women in Malian Agriculture." In *Women Farmers in Africa: Rural Development in Mali and the Sahel*, edited by Lucy E. Creevey, 51-66. Syracuse: Syracuse University Press, 1986.
- Cunningham, Jerimy J. "Pots and Political Economy: Enamel-Wealth, Gender, and Patriarchy in Mali." *Journal of the Royal Anthropological Institute* 15, no. 276-294 (2009).
- Daget, Jacques. "La Pêche Dans Le Delta Central Du Niger." *Journal de la Société des Africanistes* 19, no. 1 (1949): 1-79.
- Davis, Mike. Late Victorian Holocausts: El Niño Famines and the Making of the Third World. New York: Verso, 2001.
- Delafosse, Maurice. Haut-Sénégal-Niger (Soudan Français). Vol. 3. Paris: Émile Larose, 1912.
- Derrick, Jonathan. "The Great West African Drought, 1972-1974." African Affairs 76, no. 305 (October 1977): 537-86.
 - -. "West Africa's Worst Year of Famine." African Affairs 83, no. 332 (1984): 281-99.
- Dettwyler, Katherine A. *Dancing Skeletons: Life and Death in West Africa*. Long Grove, IL: Waveland Press, Inc., 1994.

- Diarra, Salifou Bakary, John M. Staatz, and Niama Nango Dembélé. "The Reform of Rice Milling and Marketing in the Office Du Niger: Catalysts for an Agricultural Success Story in Mali." In *Democracy and Development in Mali*, edited by R. James Bingen, David Robinson and John M. Staatz, 167-88. East Lansing: Michigan State University Press, 2000.
- Diawara, Mamadou. "Development and Administrative Norms: The Office Du Niger and Decentralization in French Sudan and Mali." *Africa* 81, no. 3 (2011): 434-54.
- Diawara, Mamadou and Ute Röschenthaler "Green tea in the Sahel: The social history of an itinerant consumer good," *Canadian Journal of African Studies*, 46 no. 1 (2012): 39-64.
- Douglas, Susan J. "Some Thoughts on the Question "How Do New Things Happen?"" *Technology and Culture* 51, no. 2 (2010): 293-304.
- Dougnon, Isaïe. *Travail de Blanc, Travail de Noir: La Migration des Paysans Dogon vers l'Office du Niger et au Ghana (1910-1980)* Edited by Mamadou Diouf and Peter Geschiere, Histoire Des Suds. Paris: Karthala-Sephis, 2007.
- Dubois, Félix. Notre Beau Niger. Paris, France: Flammarion, 1911.
- Dumestre, Gérard. "De l'Alimentation au Mali." *Cahiers d'Études Africaines* 36, no. 144 (1996): 689-702.
- Dumont, René, and Charlotte Paquet. *Pour l'Afrique, J'accuse: Le Journal d'un Agronome au Sahel en Voie de Destruction*. Edited by Jean Malaurie, Terre Humaine. Paris: Plon, 1986.
- Earle, Rebecca. ""If You Eat Their Food ...": Diets and Bodies in Early Colonial Spanish America." *American Historical Review* 115, no. 3 (2010): 688-713.
- Edwards, Paul N. "Infrastructure and Modernity: Force, Time, and Social Organization in the History of Sociotechnical Systems." In *Modernity and Technology*, edited by Thomas J. Misa, Philip Brey and Andrew Feenberg, 185-225. Cambridge: MIT Press, 2003.
- Ehrenberg, Margaret. Women in Prehistory. Norman, OK: University of Oklahoma Press, 1989.
- Ehret, Christopher. *The Civilizations of Africa: A History to 1800.* Charlottesville: University of Virginia Press, 2002.
- Escobar, Arturo. *Encountering Development: The Making and Unmaking of the Third World*. Princeton, NJ: Princeton University Press, 1995.
- Faulkner, Wendy. "The Technology Question in Feminism: A View from Feminist Technology Studies." *Women's Studies International Forum* 24, no. 1 (2001): 79-95.
- Ferguson, James. Anti-Politics Machine: Development, Depoliticization, and Bureaucratic Power in Lesotho. Minneapolis: University of Minnesota Press, 1994.
- ———. *Global Shadows: Africa in the Neoliberal World Order*. Durham, NC: Duke University Press, 2006.
- Ferguson, Priscilla Parkhurst. "The Senses of Taste." *American Historical Review* 116, no. 2 (April 2011): 371-84.
- Filipovich, Jean. "Destined to Fail: Forced Settlement at the Office Du Niger, 1926-45." *The Journal of African History* 42, no. 2 (2001): 239-60.
- Findley, Sally E. "Does Drought Increase Migration? A Study of Migration from Rural Mali During the 1983-1985 Drought." *International Migration Review* 28, no. 3 (1994): 539-53.
- Frank, Barbara E. "Marks of Identity: Potters of the Folona (Mali) and Their "Mothers"." *African Arts* 40, no. 1 (2007): 30-41.

- Franke, Richard W. and Barbara Chasin. Seeds of famine: ecological destruction and the development dilemma in the west African Sahel. Montclair, NJ: Allanheld, Osmun & Co. Publishers, 1980.
- Freed, Libbie. "Networks of (Colonial) Power: Roads in French Central Africa after World War I." *History and Technology* 26, no. 3 (2010): 203-23.
- Freidberg, Susanne. "Postcolonial Paradoxes: The Cultural Economy of African Export Horticulture." In Food and Globalization: Consumption, Markets and Politics in the Modern World, edited by Alexander Nützenadel and Frank Trentmann, 215-33. New York: Berg, 2008.
- Geiger, Susan. TANU Women: Gender and Culture in the Making of Tanganyikan Nationalism, 1955-1965. Portsmouth, NH: Heinemann, 1997.
- Gengenbach, Heidi. "Tattooed Secrets: Women's History in Magude District, Southern Mozambique." In *Bodies in Contact: Rethinking Colonial Encounters in World History*, edited by Tony Ballantyne and Antoinette Burton. Durham: Duke University Press, 2005.
- Gervais, Raymond R., and Issiaka Mandé. "How to Count the Subjects of Empire? Steps toward an Imperial Demography in French West Africa before 1946." In *The Demographics of Empire: The Colonial Order and the Creation of Knowledge*, edited by Karl Ittmann, Dennis D. Cordell and Gregory H. Maddox, 89-112. Athens: Ohio University Press, 2010.
- Goody, Jack. *Cooking, Cuisine, and Class: A Study in Comparative Sociology*. New York: Cambridge University Press, 1982.
- Grosz-Ngaté, Maria. "Hidden Meanings: Explorations into a Bamanan Construct of Gender." *Ethnology* 28, no. 2 (1989): 167-83.
- - ———. "Monetization of Bridewealth and the Abandonment Of "Kin Roads" To Marriage in Sana, Mali." *American Ethnologist* 15, no. 3 (1988): 501-14.
- Guyer, Jane. "Female Farming in Anthropology and African History." In *Gender at the Crossroads of Knowledge*, edited by Micaela di Leonardo. Berkeley: University of California Press, 1991.
- Guyer, Jane I., and Samuel M. Eno Belinga. "Wealth in People as Wealth in Knowledge: Accumulation and Composition in Equatorial Africa." *Journal of African History* 36, no. 1 (1995): 91-120.
- Harding, Sandra. *Sciences from Below: Feminisms, Postcolonialities, and Modernities.* Durham: Duke University Press, 2008.
- Headrick, Daniel R. *The Tools of Empire: Technology and European Imperialism in the Nineteenth Century.* New York, NY: Oxford University Press, 1981.
- Hecht, Gabrielle. "Introduction." In *Entangled Geographies: Empire and Technopolitics in the Global Cold War*, edited by Gabrielle Hecht, 1-12. Cambridge: MIT Press, 2011.
 - ------. "Rupture-Talk in the Nuclear Age: Conjugating Colonial Power in Africa." *Social Studies of Science* 32, no. 5-6 (2002): 691-727.
- Herbart, Pierre. Le Chancre Du Niger. Paris: Gallimard, 1939.
- Hodge, Joseph Morgan. *Triumph of the Expert: Agrarian Doctrines of Development and the Legacies of British Colonialism*. Edited by Jr. James L.A. Webb, Series in Ecology and History. Athens, OH: Ohio University Press, 2007.

- Hodgson, Dorothy L. and Sheryl A. McCurdy. "Introduction: 'Wicked' Women and the Reconfiguration of Gender in Africa." In "Wicked" Women and the Reconfiguration of Gender in Africa. Portsmouth, NH: Heinemann, 2001.
- Holden, Stacey E. *The Politics of Food in Modern Morocco*. Gainesville: University Press of Florida, 2009.
- Holtzman, Jon. Uncertain Tastes: Memory, Ambivalence, and the Politics of Eating in Samburu, Northern Kenya. Berkeley, CA: University of California Press, 2009.
- Hopkins, Nicholas S. "Authority and Autonomy: Malian Culture and Development since Independence." *Mande Studies* 10 (2008): 73-85.
- Hubbell, Andrew. "A View of the Slave Trade from the Margin: Souroudougou in the Late Nineteenth-Century Slave Trade of the Niger Bend." *The Journal of African History* 42, no. 1 (2001): 25-47.
- Hunt, Nancy Rose. ""Le Bebe En Brousse": European Women, Africa Birth Spacing and Colonial Intervention in Breast Feeding in the Belgian Congo." *The International Journal of African Historical Studies* 21, no. 3 (1988): 401-32.
- Institut de Recherches et d'Application de Methodes de Developpement. "Office du Niger; l'Organisation Collective des Paysans, la Situation des Femmes." Paris: Institut de Recherches et d'Application de Methodes de Developpement, 1981.
- Johnson, Deborah G. "Sorting out the Question of Feminist Technology." In *Feminist Technology*, edited by Linda L. Layne, Sharra L. Vostral and Kate Boyer, 36-54. Urbana: University of Illinois Press, 2010.
- Joyce, Rosemary A. "Feminist Theories of Embodiment and Anthroplogical Imagination: Making Bodies Matter." In *Feminist Anthroplogy: Past, Present, and Future*, eds. Pamela L. Geller and Miranda K. Stockett, Philadelphia: University of Pennsylvania Press, 2006: 43-54.
- Kéita, Aoua. *Femme d'Afrique: La Vie d'Aoua Kéita Racontée par Elle-Même*. Paris: Présence Africaine, 1975.
- Ki-Zerbo, Jacqueline. "Appropriate Technologies for Women of the Sahel." In *Women Farmers in Africa: Rural Development in Mali and the Sahel*, edited by Lucy E. Creevey, 167-77. Syracuse: Syracuse University Press, 1986.
- Klein, Martin. *Slavery and Colonial Rule in French West Africa*, African Studies Series. New York: Cambridge University Press, 1998.
- Klein, Martin A. "Defensive Strategies: Wasulu, Macina, and the Slave Trade." In *Fighting the Slave Trade: West African Strategies*, edited by Sylviane A. Diouf, 62-78. Athens: Ohio University Press, 2003.
 - ——. "Women in Slavery in the Western Sudan." In *Women and Slavery in Africa*, edited by Claire C. Robertson and Martin A. Klein, 67-92. Portsmouth: Heinemann, 1997.
- Klein, Martin A., and Richard Roberts. "The Resurgence of Pawning in French West Africa During the Depression of the 1930s." *African Economic History* 16 (1987): 23-37.
- Koenig, Dolores. "Food for the Malian Middle Class: An Invisible Cuisine." In *Fast Food/Slow Food: The Cultural Economy of the Global Food System*, edited by Richard Wilk. Lanham, MD: Altamira Press, 2006: 49-68.
 - -."Women's Roles in Settlement and Resettlement in Mali." In *African Feminism: The Politics of Survival in Sub-Saharan Africa*. Philadelphia, PA: University of Pennsylvania Press, 1997.

- Kohler, Jean Marie. "Les Mosi de Kolongotomo et la Collectivisation à l'Office du Niger (Notes Sociologiques)." Paris: ORSTOM, 1947.
- Kusiak, Pauline. "'Tubab' Technologies and 'African' Ways of Knowing: Nationalist Techno-Politics in Senegal." *History and Technology* 26, no. 3 (2010): 225-49.
- Labouret, Henri. "L'Alimentation des Indigènes en Afrique Occidentale Française." In L'Alimentation Indigène dans les Colonies Françaises, Protectorats et Territoires Sous Mandat eds. Georges Hardy and Charles Richet. Paris: Vigot Frères, 1933.
 ——. Paysans d'Afrique Occidental. Paris: Gallimard, 1941.
- Laet, Marianne de, and Annemarie Mol. "The Zimbabwe Bush Pump: Mechanics of a Fluid Technology." *Social Studies of Science* 30, no. 2 (2000): 225-63.
- Lattre, Anne de, and Arthur M. Fell. *The Club Du Sahel: An Experiment in International Co-Operation*. Paris: Organisation for Economic Co-Operation and Development (OECD), 1984.
- Leach, James Fairhead and Melissa. "Dessication and Domination: Science and Struggles of Environment and Development in Colonial Guinea." *The Journal of African History* 41, no. 1 (2000): 35-54.
- Lecocq, Baz and Gregory Mann. "Writing Histories of an African Post-Colony: Modibo Ketia's Mali, 1960-1968." *Mande Studies* 5 (2003): 1-8.
- Lefrou, G. "Étude Démographique des Populations de l'Office du Niger." Mission de Monsieur le Gouverneur Général RESTE à l'Office du Niger. Ministère des Colonies, A.O.F., 1945.
- Lerman, Nina E., Ruth Oldenziel, and Arwen P. Mohun. "Introduction: Interrogating Boundaries." In *Gender and Technology: A Reader*, edited by Nina E. Lerman, Ruth Oldenziel and Arwen P. Mohun, 1-9. Baltimore, MD: The Johns Hopkins University Press, 2003.
- Levtzion, Nehemia, and Randall L. Pouwels, eds. *The History of Islam in Africa*. Athens, OH: Ohio University Press, 2000.
- Luning, Sabine. "To Drink or Not to Drink: Beer Brewing, Rituals, and Religious Conversion in Maane, Burkina Faso." In *Alcohol in Africa: Mixing Business, Pleaure, and Politics*, edited by Deborah Fahy Bryceson, 231-48. Portsmouth: Heinemann, 2002.
- Lydon, Ghislaine. "Women in Francophone West Africa in the 1930s: Unraveling a Neglected Report." In *Democracy and Development in Mali*, edited by R. James Bingen, David Robinson and John M. Staatz, 61-86. East Lansing: Michigan State University Press, 2000.
- Magasa, Amidu. Papa-Commandant a Jeté Un Grand Filet Devant Nous: Les Exploités Des Rives Du Niger, 1902-1962. Paris: François Maspero, 1978.
- Mage, Eugéne. Voyage Dans Le Soudan Occidental (Sénégambie-Niger). Paris: Hachette, 1868.
- Mandala, Elias. *The End of Chidyerano: A History of Food and Everyday Life in Malawi, 1860-2004.* Portsmouth: Heinemann, 2005.
 - ———."Feeding and Fleecing the Native: How the Nyasaland Transport System Distorted a New Food Market, 1890s-1920s." *Journal of Southern African Studies* 32, no. 3 (2006): 505-24.
- Mann, Gregory. *Native Sons: West African Veterans and France in the Twentieth Century*. Durham, NC: Duke University Press, 2006.
 - —. "Old Soldiers, Young Men: Masculinity, Islam, and Military Veterans in Late 1950s Soudan Français (Mali)." In *Men and Masculinities in Modern Africa*, edited by Lisa A. Lindsay and Stephan F. Miescher, 69-85. Portsmouth, NH: Heinemann, 2003.

- Mann, Gregory, and Jane I. Guyer. "Imposing a Guide on the Indigène: The Fifty Year Experience of the Sociétés De Prévoyance in French West and Equatorial Africa." In Credit, Currencies and Culture: African Financial Institutions in Historical Perspective, edited by Endre Stiansen and Jane I. Guyer. Uppsala, Sweden: Nordiska Afrikainstitutet, 1999.
- Marseille, Jacques. Empire Colonial et Capitalisme; Histoire d'un Divorce. Paris: Albin Michel, 1984.
- Marsters, Kate Ferguson. "Introduction." In *Travels in the Interior Districts of Africa*, edited by Kate Ferguson Marsters, 1-28. Durham: Duke University Press, 2000.
- Martin, Guy. "Socialism, Economic Development and Planning in Mali, 1960-1968." *Canadian Journal of African Studies* 10, no. 1 (1976): 23-47.
- Martin, M.S., J.H. Westwood, M. N'Diaye, A.R. Goble, D. Mullins, R. Fell, B. Dembélé, and K. Gamby. "Characterization of Foliar-Applied Potash Solution as a Non-Selective Herbicide in Malian Agriculture." *Journal of Agricultural, Food, and Environmental Sciences* 2, no. 1 (2008).
- Mauss, Marcel. "Techniques of the Body." In *Incorporations*, edited by Jonathan Crary and Sanford Kwinter, 454-77. New York: Zone Books, 1992.
- McCandless, David. "Beriberi." In *Thiamine Deficiency and Associated Clinical Disorders*, 31-46. New York: Humana Press, 2010.
- McCann, James C. *Maize and Grace: Africa's Encounter with a New World Crop, 1500-2000.* Cambridge, MA: Harvard University Press, 2005.
- ———. Stirring the Pot: A History of African Cuisine. Edited by David Robinson and Joseph C. Miller, Africa in World History. Athens: Ohio University Press, 2009.
- McGaw, Judith A. "Reconceiving Technology: Why Feminine Technologies Matter." In *Gender* and Archaeology, ed. Rita P. Wright. Philadelphia: University of Pennsylvania Press, 1996: 52-75.
- McGregor, JoAnn. Crossing the Zambezi: The Politics of Landscape on a Central African Frontier. Rochester, NY: Boydell & Brewer Inc., 2009.
- Meillassoux, Claude. *Maidens, Meal and Money: Capitalism and the Domestic Community*. Cambridge: Cambridge University Press, 1981.
- Miescher, Stephan F. Making Men in Ghana. Bloomington, IN: Indiana University Press, 2005.
- Miescher, Stephan F. and Lisa A. Lindsay. "Introduction: Men and Masculinities in Modern African History." In *Men and Masculinities in Modern Africa*. Portsmouth, NH: Heinemann, 2003.
- Mintz, Sidney W. "Food, Culture, and Energy." In *Food and Globalization: Consumption, Markets and Politics in the Modern World*, edited by Alexander Nützenadel and Frank Trentmann, 21-36. New York: Berg, 2008.
- Mintz, Sidney W., and Christine M. Du Bois. "The Anthroplogy of Food and Eating." *Annual Review of Anthropology* 31 (2002): 99-119.
- Mitchell, Timothy. *Rule of Experts: Egypt, Techno-Politics, Modernity*. Berkeley: University of California Press, 2002.
- Monteil, Charles. Les Bambara Du Ségou Et Du Kaarta: Étude Historique, Ethnographique Et Littéraire D'une Peuplade Du Soudan Français. Paris: Émile Larose, 1924. ——. Le Coton Chez Les Noirs. Paris: Émile Larose, 1927.
- Moon, Suzanne. "Place, Voice, Interdisciplinarity: Understanding Technology in the Colony and the Postcolony." *History and Technology* 26, no. 3 (2010): 189-201.

- Moore, Henrietta L. and Megan Vaughan. *Cutting Down Trees: Gender, Nutrition, and Agricultural Change in the Northern Province of Zambia, 1890-1990.* Portsmouth, NH: Heinemann, 1994.
- Mukerji, Chandra. Impossible Engineering: Technology and Territoriality on the Canal Du Midi. Edited by Paul J. DiMaggio, Michèle Lamont, Robert J. Wuthnow and Viviana A. Zelizer, Princeton Studies in Cultural Sociology. Princeton, NJ: Princeton University Press, 2009.
- Nordeide, M.B., A. Hatløy, M. Følling, E. Lied, and A. Oshaug. "Nutrient Composition and Nutritional Importance of Green Leaves and Wild Food Resources in an Agricultural District, Koutiala, in Southern Mali." *International Journal of Food Sciences and Nutrition* 47 (1996): 455-68.

Oldenziel, Ruth. Making Technology Masculine: Men, Women and Modern Machines in America 1870-1945. Amsterdam: Amsterdam University Press, 1999.

- Ortoli, Henri. "Le Gage Des Personnes Au Soudan Français." *Bulletin de l'Institut Français d'Afrique Noire* (1939): 313-24.
- Osborn, Emily Lynn. "Casting Aluminum Pots: Labour, Migration and Artisan Production in West Africa's Informal Sector, 1945-2005." *African Identities* 7, no. 3 (2009): 373-86.
- Oudshoorn, Nelly, and Trevor Pinch. "Introduction: How Users and Non-Users Matter." In *How Users Matter: The Co-Construction of Users and Technology*, edited by Nelly Oudshoorn and Trevor Pinch, 1-25. Cambridge, MA: The MIT Press, 2003.
- Paques, Viviana. Les Bambara. Paris: Presses Universitaires de France, 1954.
- Park, Mungo. "Travels in the Interior Districts of Africa [1799]." ed. Kate Ferguson Marsters. Durham: Duke University Press, 2000.
- Parr, Joy. "Our Bodies and Our Histories of Technology and the Environment." In *The Illusory Boundary: Environment and Technology in History*, ed. by Martin Reuss and Stephen H. Cutcliff. Charlottesville: University of Virginia Press, 2010: , 26-42.
 - ———. "What Makes Washday Less Blue? Gender, Nation, and Technology Choice in Postwar Canada." *Technology and Culture* 38, no. 1 (1997): 153-86.
- Pearson, Chris. ""The Age of Wood": Fuel and Fighting in French Forests, 1940-1944." *Environmental History* 11, no. October (2006): 775-803.
- Perinbam, B. Marie. *Family Identity and the State in the Bamako Kafu, c.1800-c.1900.* Boulder: Westview Press, 1997.
- Peterson, Brian J. Islamization from Below: The Making of Muslim Communities in Rural French Soudan, 1880-1960. New Haven: Yale University Press, 2011.
- Pursell, Carroll. "Feminism and the Rethinking of the History of Technology." In *Feminism in Twentieth-Century Science, Technology, and Medicine*, edited by Angela N. H. Creager, Elizabeth Lunbeck and Londa Schiebinger. Chicago: The University of Chicago Press, 2001: 113-27
- Redfield, Peter. "Cleaning up the Cold War: Global Humanitarianism and the Infrastructure of Crisis Response." In *Entangled Geographies: Empire and Technopolitics in the Global Cold War*, edited by Gabrielle Hecht, 267-91. Cambridge, MA: MIT Press, 2011.
- Richards, Paul. Indigenous Agricultural Revolution: Ecology and Food Production in West Africa. Boulder: Westview Press, 1985.
- Roberts, Richard. "The Case of Faama Mademba Sy and the Ambiguities of Legal Jurisdiction in Early Colonial French Soudan." In *Law in Colonial Africa*, edited by Kristin Mann and Richard Roberts, 185-201. Portsmouth: Heinemann, 1991.

-. "The Coercion of Free Markets: Cotton, Peasants, and the Colonial State in the French Soudan, 1924-1932." In *Cotton, Colonialism, and Social History in Sub-Saharan Africa*, eds. Allen Isaacman and Richard Roberts. Portsmouth: Heinemann, 1995: , 221-43.

- —. "Fishing for the State: The Political Economy of the Middle Niger Valley." In *Modes of Production in Africa: The Precolonial Era*, ed. Donald Crummey and C.C. Stewart, 175-203. Beverly Hills: Sage Publications, 1981.
- ——. Litigants and Households: African Disputes and Colonial Courts in the French Soudan, 1895-1912. Portsmouth, NH: Heinemann, 2005.
- ——. Two Worlds of Cotton: Colonialism and the Regional Economy in the French Soudan, 1800-1946. Stanford: Stanford University Press, 1996.
- ———. Warriors, Merchants, and Slaves: The State and the Economy in the Middle Niger Valley, 1700-1914. Stanford: Stanford University Press, 1987.
- Rodet, Marie. Les Migrantes Ignorées du Haut-Sénégal: 1900-1946. Paris: Karthala, 2009.
- Rolston, Jessica Smith. "Talk About Technology: Negotiating Gender Difference in Wyoming Coal Mines." *Signs: Journal of Women in Culture and Society* 35, no. 4 (2010): 893-918.
- Rossin, Maurice. "L'Office du Niger Un Vieil Aménagement Plein d'Avenir." *Actuel developpement* 11, no. Janvier-Fevrier (1976): 18-24.
- Saidi, Christine. "Pots, Hoes, and Food: Women in Technology and Production." In *Women's Authority and Society in Early East-Central Africa*, 128-46. Rochester, NY: University of Rochester Press, 2010.
- Savineau, Denise. "La Famille En A.O.F. : Condition De La Femme." *Rapport d'Ensemble No.* 18, 1938.
- Scheele, Judith. "Traders, Saints, and Irrigation: Reflections on Saharan Connectivity." *Journal* of African History 51 (2010): 281-300.
- Schiebinger, Londa L. "Feminist History of Colonial Science." *Hypatia* 19, no. 1 (2004): 233-54.
 —. Nature's Body: Gender in the Making of Modern Science. New Brunswick: Rutgers University Press, 2010.
- Schreyger, Emil. L'Office du Niger au Mali 1932 à 1982: La Problématique d'une Grande Entreprise Agricole dans la Zone du Sahel. Paris: L'Harmattan, 1984.
- Scott, James C. Seeing Like a State: How Certain Schemes to Improve the Human Condition Have Failed. New Haven: Yale University Press, 1998.
- Sen, Amartya. *Poverty and Famines: An Essay on Entitlement and Deprivation*. Oxford: Clarendon Press, 1981.
- Seth, Suman. "Putting Knowledge in Its Place: Science, Colonialism, and the Postcolonial." *Postcolonial Studies* 12, no. 4 (2009): 373-88.
- Sheldon, Kathleen E. Pounders of Grain: A History of Women, Work, and Politics in Mozambique. Portsmouth, NH: Heinemann, 2002.
- Shipton, Parker. "African Famines and Food Security: Anthropological Perspectives." *Annual Review of Anthropology* 19 (1990): 353-94.
- Silla Eric. *People are Not the Same: Leprosy and Identity in Twentieth-Century Mali.* Portsmouth, NH: Heinemann, 1998.
- Simmons, Dana. "Starvation Science: From Colonies to Metropole." In *Food and Globalization: Consumption, Markets and Politics in the Modern World*, edited by Alexander Nützenadel and Frank Trentmann, 173-91. New York: Berg, 2008.
- Smith, Merritt Roe, and Leo Marx, eds. *Does Technology Drive History? The Dilemma of Technological Determinism.* Cambridge, MA: The MIT Press, 1998.

- Soares, Benjamin F. Islam and the Prayer Economy: History and Authority in a Malian Town. Ann Arbor: The University of Michigan Press, 2005.
- Somerville, Carolyn M. Drought and Aid in the Sahel: A Decade of Development Cooperation. Boulder, CO: Westview Press, 1986.
- Sorel, François. "L'Alimentation des Indigènes en Afrique Occidentale Française." In L'Alimentation Indigène dans les Colonies Françaises, Protectorats et Territoires Sous Mandat edited by Georges Hardy and Charles Richet. Paris Vigot Frères, 1933: 155-76.
- Spitz, Georges. Sansanding: Les Irrigations du Niger. Paris: Société d'Editions Géographiques, Maritimes, et Coloniales, 1949.
- Stoler, Ann Laura. *Along the Archival Grain: Epistemic and Anxieties and Colonial Common Sense*. Princeton, NJ: Princeton University Press, 2009.
- Stoller, Paul. *The Taste of Ethnographic Things: The Senses in Anthropology*. Philadelphia, PA: University of Pennsylvania Press, 1989.
- Sunseri, Thaddeus. *Wielding the Ax: State Forestry and Social Conflict in Tanzania, 1820-2000.* Edited by James L.A. Webb Jr., Ohio University Press Series in Ecology and History. Athens, OH: Ohio University Press, 2009.
- Swift, Jeremy. "Sahelian Pastoralists: Underdevelopment, Desertification, and Famine." *Annual Review of Anthropology* 6 (1977): 457-78.
- Tauxier, Louis. Histoire des Bambara. Paris, Librarie Orientaliste Paul Geuthner, 1946.
- Thiam, Mariam. "The Role of Women in Rural Development in the Segou Region of Mali." In *Women Farmers in Africa: Rural Development in Mali and the Sahel*, ed. Lucy E. CreeveySyracuse: Syracuse University Press, 1986: 67-79..
- Thiriet, E. Au Soudan Français: Souvenirs 1892-1894, Macina Tombouctou. Paris: André Lesot, 1932.
- Thomas, Lynn. "Modernity's Failings, Political Claims, and Intermediate Concepts." *American Historical Review* 116, no. 2 (2011): 727-40.
- Tilley, Helen. Africa as a Living Laboratory: Empire, Development, and the Problem of Scientific Knowledge, 1870-1950. Chicago: The University of Chicago Press, 2011.
- Toulmin, Camilla. *Cattle, Women, and Wells: Managing Household Survival in the Sahel.* Oxford: Clarendon, 1992.
- Tucker, Jonathan B. "The Lorena Cookstove: Solution to the Firewood Crisis." In Women Farmers in Africa: Rural Development in Mali and the Sahel, edited by Lucy E. Creevey, 179-88. Syracuse: Syracuse University Press, 1986.
- Vaughan, Megan. *The Story of an African Famine: Gender and Famine in Twentieth-Century Malawi*. Cambridge: Cambridge University Press, 1987.
 - —. "Which Family? Problems in the History of the Family as an Economic and Cultural Unit." *Journal of African History* 24, no. 2 (1983): 275-83.
- Verran, Helen. Science and an African Logic. Chicago: The University of Chicago Press, 2001.
- Waal, Alex de. *Famine Crimes: Politics and the Disaster Relief Industry in Africa*, African Issues. Bloomington, IN: Indiana University Press, 1997.
- Wajcman, Judy. *Feminism Confronts Technology*. University Park, PA: The Pennsylvania State University Press, 1991.
 - —. Technofeminism. Malden, MA: Polity Press, 2004.
- Watts, Michael. *Silent Violence: Food, Famine and Peasantry in Northern Nigeria*. Berkeley, CA: University of California Press, 1983.

Webb, James L.A., Jr. "Ecology and Culture in West Africa." In *Themes in West Africa's History*, ed. Emmanuel Kwaku Akyeampong. Athens: Ohio University Press, 2006: 33-51.

- White, Luise. *Speaking with Vampires: Rumor and History in Colonial Africa*. Berkeley: University of California Press, 2000.
- White, Luise, Stephan Miescher, and David William Cohen, eds. *African Words, African Voices: Critical Practices in Oral History*. Bloomington, IN: Indiana University Press, 2001.

Wilder, Gary. "Colonial Ethnology and Political Rationality in French West Africa." *History and Anthroplogy* 14, no. 3 (2003): 219-52.

- ———. "Framing Greater France between the Wars." *Journal of Historical Sociology* 14, no. 2 (2001): 198-225.
- Williams, Rosalind. "The Political and Feminist Dimensions of Technological Determinism." In Does Technology Drive History? The Dilemma of Technological Determinism, edited by Merritt Roe Smith and Leo Marx. Cambridge, MA: The MIT Press, 1998: 217-35.
- Winther, Tanja. *The Impact of Electricity: Development, Desires and Dilemmas*. New York: Berghahn Books, 2008.
- Wooten, Stephen. *The Art of Livelihood: Creating Expressive Agri-Culture in Rural Mali.* Durham: Carolina Academic Press, 2009.
 - ——. "Colonial Administration and the Ethnography of the Family in the French Soudan." *Cahiers d'Études africaines* 33, no. 131 (1993): 419-46.
- Wylie, Diana. "The Changing Face of Hunger in Southern African History 1880-1980." Past & Present, no. 122 (1989): 159-99.
 - ——. Starving on a Full Stomach: Hunger and the Triumph of Cultural Racism in Modern South Africa. Charlottesville: University Press of Virginia, 2001.
- Zahan, Dominique. The Bambara. Leiden: E.J. Brill, 1974.
- ———. "Les Mossis Du Delta Central Nigerien." Office du Niger 1955.
- Zimmerman, Andrew. "A German Alabama in Africa: The Tuskegee Expedition to German Togo and the Transnational Origins of West African Cotton Growers." *The American Historical Review* 110, no. 5 (2005): 1362-98.