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# Eating Bitter to Taste Sweet: An Ethnographic Sketch of a Chinese Agriculture Project in Senegal

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AN ETHNOGRAPHIC SKETCH OF A CHINESE AGRICULTURE PROJECT IN SENEGAL**

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**ABSTRACT**

This is a case study of Chinese agriculture interventions in Senegal. As Chinese land-based investments multiply across the African continent, I focus on a single government-run agriculture demonstration centre outside Dakar to provide insight into the daily realities of Chinese and African interactions on African land. Using an actor-oriented analysis approach, I apply ethnographic methodologies to examine practices and discourses on agrarian change and management among Chinese and Senegalese informants. I show how differences in conceptualisation of Senegal's agriculture produce unanticipated project outcomes as individual social actors select management actions from distinct repertoires of skills, ideologies, technical understandings, social connections and philosophies. This discussion reveals that while these processes may often be understood to occur on a battlefield, managing agrarian change is as much an improvisational dance as it is a battle, and that actors' improvisations can sometimes lead to meaningful cooperation off-stage. Though this is not an example of a transnational commercially-driven 'land grab', I argue that understanding Chinese and African interactions in this agriculture intervention provides crucial insights into the relationship between corporate Chinese strategies in Africa and impacts on the ground. These findings thus contribute to a new framework of analysis and research methodologies for future studies of land deals in Africa.

## 1 INTRODUCTION

*The camera pans over a quiet, well-kept road in a Senegalese village. Peppy electronic keyboard music plays as the image zooms in on a well-worn sign reading 'Long Live Sino-Senegalese Friendship' in French and traditional Chinese characters.*

*A female narrator's voice explains in French that 'Beijing has sent agronomist missionaries' to this village, 'come to train the local peasants.' The film cuts to a field of lush green vegetables in neat rows, carefully labelled in French and Chinese. 'These fields are their laboratory,' continues the narrator. 'The Chinese have tested over thirty Chinese varieties here, and have adapted twelve so far.' A group of Chinese and Senegalese talk to each other and shake hands, and focus turns to a Chinese man in jeans. The narrator says that this is the director of the mission, 'and he must show that China is helping Senegal.' The man explains that the Chinese are here to help the Senegalese peasants. 'We want to teach them how to cultivate - not to sell them produce, just to help them.'*

*Next they are shown arriving in another field, and the narrator explains that the Chinese 'go out to the fields each day and provide free on-site trainings to the peasants.' On this particular day, they are helping farmers with tomatoes.*

*The narrator explains, 'They have to be taught everything—that tomatoes need light, and that they need to be tied up regularly.' The Chinese are shown grasping the plants and telling the farmers in French that they have misunderstood the directions. 'This is precious advice that will allow them to increase their production,' says the narrator, explaining that the Chinese have already provided training for 2,300 farmers in the region.*

*'But the peasants have doubts about the real interests of these kind-hearted Chinese,' continues the narrator. The screen cuts to a farmer. 'Truly,' he says, 'I ask myself questions sometimes. What is their interest? As Muslims, we can work for God. But non-Muslims—you see a guy there, he helps you out, and you wonder, what is his interest?' The Chinese workers stand by awkwardly as the farmer continues. 'There is an interest there that I don't understand. It is a new form of colonization.'*

*The film shows the group walking through the fields with African music playing in the background. 'To take, one must first know how to give,' the narrator suggests, 'China envisions its engagement with Africa in the very long term. To nourish its spectacular growth, it will need African land in the future. Thanks to the mission, they will know where to cultivate.' (Horeau & Denis 2009)*

### 1.1 CURRENT PARADIGMS AND GAPS IN CHINA-AFRICA LITERATURE

In less than four minutes of film, France 2 television reporters captured the three conflicting mainstream frameworks for understanding China's engagement in African agriculture (Horeau & Denis 2009). These can be summarised as follows: China as development partner, colonizer, or economic competitor (Alden 2007, p.5).

The development partner narrative, captured in the film's portrayal of untrained, ignorant Senegalese peasants, emphasizes the value of China's development experience for transforming Africa through South-South collaborative efforts (Goldstein & Reisen 2006; Le Pere 2007; Moyo 2010; Rotberg 2008; Taylor 2006). The colonizer framework views China's recent wave of aid and diplomatic efforts in Africa as part of a protracted political effort to oust both Western and African control over politics on the continent, as expressed in the farmer's question about the motivation of the non-Muslim Chinese workers (Australia et al. 2008; Gaye 2006; Von Braun & Meinzen-Dick 2009). The economic competitor narrative,

which shows up in the clip's concluding remarks on China's long-term goals, sees China engaged in a neoclassically-driven, self-interested grab for resources to feed its fast-paced economic growth (Fishman 2005; Junger 2007; Rotberg 2008; Wild et al. 2006).

As China continues to grow and integrate into the global economy, its environmental issues and resource management practices increasingly become questions of global concern. China's agriculture has been a particular focus for writers inside China and elsewhere, especially since the 1990's when Lester Brown's dire predictions about China's future food security left researchers wondering how China would feed itself as it 'mov[ed] up the food chain' (Brown 1995, TOC). In recent years, China's increasing agricultural engagement in Africa has drawn new waves of attention, with particular focus on corporate-driven land deals—the so-called 'land grabs'.

While analytical approaches such as the one portrayed in the France 2 clip continue to dominate most media headlines, literature does exist to provide a somewhat more complex picture and question the assumptions behind the simplistic 'threat' and 'opportunity' narratives (Alden 2007; Brautigam 2009; Cheru et al. 2010; Marks 2008; Taylor 2006), providing, for example, the historical and policy context (Ai 1999; Alden 2007; Bergsten 2008; Brautigam 1994; Brautigam 1998; Brautigam & Tang 2009; Broadman et al. 2007) and emphasizing the need to examine multiple perspectives on the issues (Brautigam & Tang 2009; Harneit-Sievers et al. 2010; Large 2008; Manji & Marks 2007). This literature emphasizes that there are 'many Chinas and equally, many Africas' and that it is therefore misleading to represent any single Chinese strategy at work on the continent (Taylor 2006, p.161). Furthermore, it highlights that Chinese engagement with Africa is not a new phenomenon, but has deep historical roots reaching perhaps as far back as the tenth century (Bergsten 2008; Duyvendak 1949; Filesi 1972).

In agriculture in particular, Chinese activities have complex motivations. The literature highlights how Chinese patterns of engagement have shifted over the past fifty years from a focus on diplomatic aid in competition with Taiwan in the 1960's to a 'consolidation' approach focusing on joint venture-supported grants during the 1980's and 90's, and finally to an emphasis on mutual benefits and China's greater 'going global' strategy in the past decade (Brautigam & Tang 2009). Limited literature has also attempted to debunk myths about so-called large-scale Chinese farming for export. It has repeatedly argued that the scale of China's engagement is still unclear but likely much smaller than claimed (Brautigam & Tang 2009; D. Large 2008; Scissors 2010), and that most production is currently not exported (Cotula et al. 2009; Brautigam 2009). Finally, it has shown how Chinese activities contrast with often-damaging Western engagement during this time, which shifted from colonial control to structural adjustment to a more recent focus on increasing agriculture investment (Moyo 2010; Barry Sautman & Hairong. Yan 2007; B. Sautman &

Hairong Yan 2009).

Despite these efforts in the literature to move beyond the mainstream paradigms for understanding Chinese agriculture interventions in Africa, important knowledge gaps remain. Specifically, there is a marked lack of direct engagement with Chinese actors in these land-based interventions. At best, literature discussion of the 'Chinese perspective' is understood in terms of Chinese scholars or civil society practitioners located in China (Harneit-Sievers et al. 2010). Though Brautigam and Tang (2009, p.705) observe that Chinese perspectives of Chinese engagement in African agriculture 'contrast sharply' with images outside China, they skim over their 'extensive field research' to provide only descriptive examples of a few cases, focusing instead on general patterns of China's policies. This is certainly a useful starting point. However, such generalizations have yet to be moderated by explorations into the particulars of Chinese agricultural management experiences on the ground. Without observing and talking with the Chinese and Africans involved in these projects, too many researchers are left with only vague generalisations and postulations as to how and why the Chinese are engaging in agriculture on the continent. The result is much 'self-referential logic' of analysis (Daniel. Large et al. 2008, p.58), rumour-spreading (Brautigam 2010) and disinformation (Scissors 2010).

This paper aims to narrow this gap through an ethnographic case-study exploration of a group of Chinese agronomists in Senegal. While this example is not a commercial-driven land transaction, it provides insights into Chinese strategies for land interventions in the region, as well as methodologies for further research of Chinese corporate-led land deals around the world.

## **1.2 SEARCHING FOR A NEW FRAMEWORK: AGRICULTURE AS PERFORMANCE**

To move beyond the limitations in the existing China-Africa literature discussed above, I build on work in sociology and political ecology of agrarian change using ethnographic methods (*cf* Berry 1993; Leach et al. 1999; Long & Long 1992; Mitchell 2005; Mosse 2005; Li 2007). At the heart of the conflicting narratives portrayed in the France 2 clip above is a debate about how Africa's rural environment is changing and how the land should be managed. Do Africans need outside experts to bring them new varieties and show them how to cultivate their land? Should these interventions be motivated by science? profit? God? Who should have rights to land resources? These questions are not new, but the increasing presence of Chinese actors has renewed them. Each of the framings above provide different answers to these questions. My aim is to shed new light on the questions themselves by examining Chinese agricultural engagements as a performance. Understanding this performance requires analysis of many actors on a dynamic stage, with

clashing repertoires and multiple directors.

The focus in much of the China-Africa literature on Chinese policies and general trends in African agriculture is misleading because policy models and outcomes always have obscure relationships. My point is not simply to observe the well-reviewed gap between policy and practice (Berry 1993; Hart 2002; Scott 1998; Scoones 2009; Vorley 2001). Rather more delicately, it is to suggest that, 'the practices of development are in fact concealed rather than produced by policy' (Mosse 2005, p.1). In other words, Chinese agricultural policies and project outlines actually obscure the messy realities of implementation on the ground. Our ability to engage with 'the Chinese in Africa' then, requires careful analysis of both policy *and* practice.

I echo Mosse's call for analysis of the development *process*, 'to reinstate the complex agency of actors in development at every level' (Mosse 2005, p.6). In the context of Chinese interventions in African agriculture, such a lens draws our attention away from judging articulated policies only, or looking for project success or failure. For example, instead of postulating whether China intends to 'take' or 'give' in rural Senegal, we can examine *how* the Chinese team and their Senegalese partners are actually implementing the current land intervention. In other words, I ask questions of how Chinese agriculture practices actually manifest in Africa.

Process-focused insights into Chinese engagements in Africa are particularly important in addressing agricultural interventions, which take place in dynamic socio-ecological systems across specific times and locales. Indeed, agrarian change and management is fundamentally about changing the ecological basis of human sustenance, and this has significant economic, cultural and ethical implications. Berry argues that agrarian change in Africa has in fact been shaped less by 'bad policy' than 'by the way power, economy and culture have come together at particular times and places' (Berry 1993, p.15). A breadth of research has similarly explored the dynamic nature of rural livelihoods (Ellis 2000; Scoones 2009) and the contested nature of agrarian futures (Berkhout et al. 2003; Bernstein & Byers 2001; Borras 2009).

From this perspective, agricultural management is not a structural relationship driven by a rationally-based purpose, but a 'battlefield' of ideas, resources and actors (N. Long & A. Long 1992). Understanding the interplay of these factors requires an 'actor-oriented' approach (Ibid., p.5), emphasizing the interactions of social actors in an arena of conflict. While the concept of a battle arena is useful for understanding unexpected environmental management processes, we will see that interactions are not always negative. They can also produce cooperation and accommodation.

Building on this understanding of environmental management within an arena of negotiation, I draw on Richards' suggestion (1993, p.70) that agriculture is best seen as a



performance, 'a combination of practice and received knowledge, and simply the ability to improvise and act quickly, think on your feet when things don't go as planned (as they never really do on stage).' Agriculture management interventions such as those observed by the Chinese in Africa similarly benefit from analysis as performance, where social actors are given a project-design script, but where events on stage are shaped by those actors' interpretations and improvisation.

Such analysis calls for what Mosse (2004, p.8) terms an 'ethnography of policy and practice,' asking 'not whether but *how* development projects work; not whether a project succeeds, but how success is produced.' As noted earlier, researchers have so far avoided ethnographic explorations of Chinese agriculture interventions in Africa. According to my informants, this is due to the closed nature of the Chinese in Africa. I argue that it is precisely because Chinese agricultural activities in Africa are not easily observed publicly that ethnographic methods such as participant observation and interviews are useful tools for developing the context and nuanced complexities of these interventions. By focusing on practices over events, ethnography is able to handle conflicting views of reality simultaneously (John L. Comaroff & Jean. Comaroff 1992, p.37) and allows the researcher to explore the complex relationship between attitudes and behaviour by blurring the lines between observer and observed (Fetterman 2010; Davies 2007; Hammersley 2001).

Specifically, I explore the following questions through this case study: How do Chinese agronomists interpret Senegal's agriculture and how do they think it needs to be managed for optimal production? How does this differ from and interact with Senegalese interpretations and management processes? And finally, how does the transfer of Chinese best practices in agriculture function on the ground in Africa?

### **1.3 RESEARCH SETTING, METHODS AND LIMITATIONS**

Taking a rapid-assessment ethnographic approach, I conducted fieldwork during May and June 2010 in the Republic of Senegal (See Figure 1), a democratic, secular but predominantly Muslim country in West Africa that gained independence from France in 1960. With 60% of its population living below \$2 USD per day, Senegal ranked 166<sup>th</sup> of 180 nations in the 2009 U.N. Human Development Index (UNDP 2009). It has a population of 12.8 million, and although roughly 75% of the population is employed in agriculture (USDA 2010), that sector only contributes about 17% of the country's GDP (NA 2008). Most of Senegal is in the Sahel dessert and the primary form of agriculture is rain-fed smallholder subsistence production of millet, sorghum, rice and horticultural goods, though some cash crops are grown, primarily peanuts and cotton (FAOStat 2010). Senegal is a net food importer, especially of rice, wheat, dairy and processed foods (Ibid.).

FIGURE 1: MAP OF SENEGAL AND NIAYE REGION<sup>1</sup>



My research focused primarily on an agriculture training centre (the ‘Centre’) managed jointly by the Chinese and the Senegalese government, with aid funding from the Chinese Ministry of Commerce. The Centre is located to the northeast of Dakar, in the agricultural zone known as the Niaye. I lived on this farm for two weeks, working alongside a team of seven Chinese agronomists (the ‘Chinese team’), three Senegalese government-employee agronomists and a handful of farm labourers. During this time, I also accompanied the Chinese team to trainings and site visits on nine other farms ranging in size from less than five hectares to more than 200,000 hectares (See Table 1 for summary of sites). In addition, I spent two weeks in the capital city of Dakar conducting interviews with NGOs, media and aid agencies, while living with a Chinese family above a restaurant that uses vegetables from the agriculture training centre in the Niaye.

TABLE 1: SUMMARY OF SITES VISITED

FARM LOCATION	SIZE HECTARES <sup>2</sup>	LAND TENURE	INTERVENTIONS	OBSERVED CROP VARIETIES	TARGET MARKET
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<sup>1</sup> Adapted from (UN 2004). Fieldsites not highlighted to protect informant anonymity.

Greater Dakar	15	Government (the Centre)	Chinese	Mixed Chinese varieties, mango	Domestic
Greater Dakar	10	Inheritance	Chinese	Chinese turnip, African eggplant	Domestic
Greater Dakar	5	Inheritance	Chinese	Carrots, cabbage, tomatoes	Domestic
Greater Dakar	5	Inheritance	Chinese	Bell pepper, cabbage	Domestic
Greater Dakar	100	Inheritance	FAO/Local NGO	Cabbage, bell pepper, mint	Domestic
Greater Rufisque	6	Inheritance	Taiwanese (past)	Onions, peanuts, carrots, pepper, cabbage	Domestic
Lac de Guier	200,000	Private title	Chinese (sought)	Tomatoes, potatoes, eggplant	Export
St. Louis	230	European Corporate	French	Corn	Export
St. Louis	20	Corporate	None	Tomatoes	Export
St. Louis	1000	Private title	Chinese (sought)	Rice	Domestic

I conducted 52 unstructured interviews with 44 men and eight women, including 32 West Africans, 16 Chinese, two Americans, one French and one Taiwanese.<sup>2</sup> My informants ranged in age from 23 to 65 years old and included 16 people employed in non-agriculture related jobs, 15 farmers, 12 government officials and nine agricultural researchers and rural development workers in NGOs or aid organizations. The average length of time that the 16 Chinese informants had spent in Africa was three years, with some individuals having lived there as long as six years. I have changed names and left site locations vague to protect the identity of all informants. (See Appendix 1 for details on informants and Table 2 for summary).

TABLE 2: SUMMARY OF INFORMANTS

ORIGIN COUNTRY	QUANTITY # PERSONS	AFFILIATION				SEX	
		RESEARCH/NGO/DEV	GOV	AGRICULTURE	OTHER	M	F
China	16	0	8	0	8	11	5
Africa	32	7	4	14	7	29	3
Other	4	2	0	1	1	4	0
<b>Total</b>	<b>52</b>	<b>9</b>	<b>12</b>	<b>15</b>	<b>16</b>	<b>44</b>	<b>8</b>

All interviews were open-ended covering the following general themes: Informant self-introduction including age, work and time in Africa; perceptions of farmland and 'proper'

<sup>2</sup> I speak fluent Mandarin Chinese and French and conducted 21 interviews in French, 17 in Mandarin Chinese, 11 in Wolof with French translation, and three in English.

agriculture; challenges in Senegalese agriculture including historical agrarian change and current or projected issues; solutions to these challenges; roles of different actors including foreign groups in general and the Chinese specifically; and conflicts between these different actors and modes of resolution. In interviews with agriculture workers, I also asked about land tenureship, specific farming techniques, and current and past avenues for receiving agricultural knowledge.

In addition to direct interviews and organised site visits, living on a Chinese-managed farm for two weeks and taking road trips with Chinese and Senegalese informants provided opportunities for informal observation and active participation in farm and social activities. I gathered insight into Chinese watering and harvesting techniques, for example, through participant observation working alongside Senegalese and Chinese workers in daily watering and bi-weekly harvesting of crops at the Centre. I took detailed notes of observations and reflections each day and coded my notes to identify dominant themes and sub-themes in an inductive process of analysis.

My four years of experience working in rural agriculture development and living in China and was central to my reading of Chinese activities in Senegal and my ability to gain the trust of my Chinese informants, and immerse myself in their experience of life in Senegal. On the other hand, this intimacy meant that the lines between participant and observer often blurred. While I have stressed the importance of ethnographic fieldwork for access to information about the Chinese in Africa, I caution that all ethnographic research findings are heavily influenced by the researcher's own biases from past experience, encounters in the field, and ability to gain the trust of informants in the research process (Hammersley 2001). Similarly, my insights into Senegalese perspectives were limited by my relative inexperience with Senegal's culture, language and agriculture. Finally, my research findings are also limited by a heavy gender imbalance in my informants and by the short timeframe of my fieldwork.

Despite these limitations, my aim was to draw a portrait of a specific Chinese agriculture project in one location, not to provide definitive conclusions about Chinese impacts on the agriculture of a continent. I believe this approach was justified in this case by the need to examine critically the degree to which the assumptions underlying standard paradigms of China's agricultural engagement in Africa accurately reflect empirical reality.

## **2 CASE STUDY BACKGROUND**

At the time of research, China's engagement in Senegal's agriculture took the form of a government-run aid programme running two agriculture training centres, one located near Dakar and focused on vegetable production, and the other near Podor focused on rice.

Other than the use of these two sites for demonstration and training purposes, I did not find evidence of any land leases to Chinese companies or government agencies for agricultural purposes in Senegal. However, as an agriculture aid programme, this case provides a glimpse into the daily realities of Chinese agriculture practices in an African setting. In particular, it highlights the problems with linking Chinese policies for Africa with realities of Chinese activities and impacts on the ground. Both the research findings and the methodologies employed can be applied in further research into other Chinese land deals on the continent.

## **2.1 SENEGALESE AGRICULTURAL POLICY AND CHINESE AID**

After years of minimal public-sector involvement, the Senegalese government has recently identified agriculture as a key development strategy, and food security as a primary policy focus (USAID 2010). This follows a general trend in the global development community towards reinvigoration of agriculture aid and investments (FAO 2009a; WB 2008). Although the Grand Offensive for Food and Abundance (French acronym GOANA) campaign launched by President Abdoulaye Wade in 2008 aims to increase domestic food production and achieve self-sufficiency by 2015 (Wolfe et al. 2009), this does not mean excluding international players. On the contrary, the president has actively promoted international cooperation towards these goals, in the form of agriculture trainings, aid assistance and corporate investments. The current Chinese engagement in Senegal's agriculture falls into this context, and the president has repeatedly defended the presence of the Chinese, stating that they benefit the country's agriculture. As he told France 2 reporters, 'What [the Chinese provide] is a relationship with the Senegalese, bringing technology, know-how and management' (Horeau & Denis 2009).

Although the People's Republic of China only re-established diplomatic ties with Senegal in 2005, Senegal has had continual relations with 'China' since its independence, alternating between the Republic of China (Taiwan) and the PRC in a sort of diplomatic ping-pong. Others have observed how China and Taiwan have used agriculture as a diplomatic weapon elsewhere (Brautigam 1994; Brautigam 1998; Brautigam & Tang 2009). Indeed, the agriculture training centre was originally built by the Taiwanese in 2002 in a country-wide effort to build Senegalese diplomatic loyalty through investment in agriculture.

The agriculture training centre is one of thirty-four such centres established by the Taiwanese throughout Senegal in the early 2000's. Though trainings began in 2004 under the Taiwanese, China re-established diplomatic relations with Senegal in 2005 with the condition that Senegal cut ties with Taiwan. As part of this agreement, China signed a memorandum of understanding (MOU) promising to take over just two of the training

centres—one for rice and one for horticulture (MOFCOM 2009). The agriculture training centre is the latter of these two projects and provides the case for this study.

Though the Chinese agronomist team does sell what it produces to the local Chinese community in Dakar, the agriculture training centre is far from self-sufficient and currently has no investment from Chinese enterprises. Following directly on the heels of the Taiwanese and written into the agreement for re-establishing diplomatic relations, then, the agriculture training centre can best be described as a project in diplomacy aid agriculture.

According to informants, the agriculture training centre was strategically placed in the coastal Niaye zone to capitalize on its ideal agricultural conditions and improve local horticultural capacity through international cooperation. Since 2006, the centre's training and agricultural research activities have been jointly run by Senegalese and Chinese agronomists. Three Senegalese government staff positions have remained relatively constant while the Chinese teams of seven agronomists work on two-year contracts.

## **2.2 COLLABORATION IN PAPER AND PRACTICE**

The Memorandum of Understanding (MOU) establishing the collaboration between Senegal and China at the Centre is just two pages long. It sets out a two-year contract between the two governments and states that China is to provide personnel, agricultural equipment, and supplies to the Centre at an estimated cost of 700,000 USD per year. For its part, Senegal is to provide personnel, land and the Centre's facilities. These are to be 'at the disposition of the Chinese' for agricultural 'research, demonstration and training'. The collaboration is placed in the context of 'mutually beneficial' South-South collaboration and non-loan-based aid meant to help Senegal improve its agricultural management. Thus the MOU makes clear that the project is meant to be a technical cooperation between the two governments, and that agricultural trainings are to take place, but it does not assign agency to these activities, leaving the Senegalese staff and Chinese team to interpret their respective roles themselves.

In practice, this interpretation is guided heavily by the budget arrangements outlined in the MOU. Since each government provides personnel for the project out of their own government offices, the Chinese aid workers are paid much higher salaries than the provincial-level Senegalese employees. This inequality might have been overlooked, except that the Senegalese, with their government providing only the land, water and electricity, must rely entirely on the Chinese for all operating expenses, from office equipment to training expenditures. This structural inequality leads to resentment and conflicts between the two sides resulting in project activities not originally in the MOU. As will be explored later, this creates further conflict, but also unanticipated opportunities for meaningful collaboration.

The Chinese agronomists explained that their job is to maintain a functional demonstration farm and provide horticultural training and assistance to Senegalese farmers. They do this through three primary activities: 1) experimenting and adapting Chinese varieties to the local climate on a small plot next to their living compound; 2) producing adapted varieties on the main demonstration plots; and 3) conducting agricultural trainings and providing donations of seeds, fertilisers and other materials to Senegalese farmers. I observed and participated in all three of these activities during my fieldwork.

On the Senegalese side, staff mostly focus on administrative duties in the office, though one staff person, Samba, had recently begun developing a three-hectare piece of land to help cover the Centre's operational costs. In addition, they occasionally host agricultural trainings by other organisations for a fee. For example, during my fieldwork, a local NGO held a weeklong workshop on agro-ecology sponsored by the U.N. Food and Agriculture Organisation (FAO).

In addition to these conceptual divisions of labour, the Chinese and Senegalese also divide themselves spatially in the Centre. They manage separate fields on the property, with separate labourers and revenue streams, and organise separate farmer trainings. They work in separate office buildings and take meals separately, the Chinese eating their own homemade food from ingredients grown on-site or imported from China, and the Senegalese hiring a cook to make local dishes with mostly purchased goods. Furthermore, the Senegalese largely stay in their office, while the Chinese could be found throughout the grounds, working in their experimental plot or with the workers in the field, or away on site visits or delivering vegetables to Dakar.

### **3 THE IMPROVISATIONAL PERFORMANCE OF AGRICULTURE MANAGEMENT**

The image of agriculture management work occurring in a battlefield arena is a fitting metaphor for the hostility I encountered between the Chinese and Senegalese workers at the Centre. However, despite the outright antagonism in this so-called 'cooperation' project, the project was being implemented: Chinese and Senegalese government workers were showing up for work; Chinese vegetable varieties were being grown by Senegalese workers; and Senegalese farmers were receiving trainings from Chinese agronomists.

My interest here is to decipher this management process. To better understand the processes of negotiation and accommodation between the Chinese and Senegalese at the agriculture training centre, this paper explores the agricultural management project as performance: Chinese and Senegalese actors each find ways to play their part so that the show can go on. As noted earlier, this process of agricultural management is better understood as an improvisational dance rather than a linear, scripted play with clear

direction and outcomes. Indeed, we will see that for some of the actors, what happens offstage is in fact the more meaningful part of the performance.

### 3.1 SCENE 1: EATING BITTER TO TASTE SWEET

If the Chinese team's agricultural management work is to be understood as a performance, we may begin by asking what kind of a performance it was meant to be. As noted earlier, Chinese and Senegalese staff were given only vague guidelines in a brief MOU signed at the ministerial level between the two governments. At the Centre, both Senegalese and Chinese staff agreed that this project design—the script for their performance—was flawed.

Senegalese staff member Ousmane explained to me that the agreement was flawed from the beginning because it was developed at the ministerial level and signed between the foreign affairs offices of the two governments without soliciting input from those actually involved. 'Everything in this agreement assumes China is a superior agricultural country, and places all the power in their hands. It states that China will send a team to support producers in the region through horticultural trainings. The Centre, the fields, the buildings—everything is given freely to the Chinese. The Chinese are to give Senegal just 400,000 RMB (60,000 USD) per year.' What bothered Ousmane more than this inequitable arrangement was the fact that the operational money is managed entirely by the Chinese agronomists, with little going to the Senegalese staff:

*A team comes every two years. They bring everything they need—fertilizers, tractors, seeds, pesticides, everything—in a big ship. They come, and they begin to work. When the first Chinese mission came, they said they couldn't pay the Senegalese because it wasn't anticipated. They only had their own budget. But they are here; they use the Centre's water and electricity, and the government pays for it. They grow, they sell, they come, they go—and they give absolutely nothing back to the Centre. The result is that we fight with the Chinese each day in order to get anything.*

Even though the Chinese agronomist team had most of what it needs for operations, they recognize limitations in the project design as well. Chen, a senior team member, had many ideas for improvement, including increasing the budget so the Chinese could better supplement the Senegalese staff wages:

*Our work is very limited based on the contract. To really have an impact, to really change farming in Senegal, each Chinese team would need to stay much longer, maybe ten years. And we would need a budget for Senegalese staff and on-site trainings. Our trainings have not gone well because if you don't pay people they won't come.*



Thus both the Senegalese and the Chinese actors felt constrained in their performance by the script they had been assigned.

Additional Senegalese resentment about the Chinese stems from the fact that the Taiwanese before them had operated on a much larger budget. Ousmane explained to me that compared to the Chinese team of seven with only two vehicles, the Taiwanese had employed 25 salaried workers at the Centre and had at least ten vehicles to visit local villages each day. They had also paid him \$300 USD per month to supplement his personal government salary. 'Under the Taiwanese, we had plenty of funds for everything,' explained Lamine, another Senegalese employee at the Centre. 'Back then, we could have lodged you for free, no problem. But that is no longer possible. Now we are obliged to charge a small fee, and to find other ways to sustain the Centre.' Similarly, Staff member Samba reasoned that China should be providing much more than it does. 'China is a much bigger, more powerful country than Taiwan.<sup>3</sup> It should do ten times what Taiwan did, but it doesn't even do one-fifth.' In the theatre of the agriculture training centre then, the Chinese replacement act is handicapped in its performance by a relative shortage of stage props compared to their Taiwanese predecessors.

Senegalese farm workers on the demonstration plots also compared the Chinese unfavourably to the Taiwanese, especially in terms of communication. Fallou, a farmer who had worked at the Centre from the beginning, explained that the Taiwanese had received language training and were able to communicate with the workers in basic French. 'With the Taiwanese, we could work together in the field, and chat while working. If they saw problems in my work, after a few days they would tell me. They would say, 'It should be done this way or that way,' and that way I learned.' The Chinese team, by contrast, only had one translator, and Fallou said he was rarely in the fields.

*When I chat with you, as I do now, everything in my heart I can give to you. And you also, all the things that are in your heart you can talk about with me. So we can know a lot about each other, and we can work better together. But now, there is only one Chinese who speaks French, and he stays indoors most of the time. I only talk to him if I have a problem or need something. It is more difficult now to learn. If there are problems, I don't always know what to do.*

When I asked the Chinese team if they thought language training would help them implement the project more smoothly, they all said that was not necessary because they had a translator. As they saw it, their job was to show the Senegalese the mechanics of planting, watering and harvesting, not to socialize in the fields.

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<sup>3</sup> Samba had many debates with Chen about how developed China was. He insisted that China is developed, while Chen countered that China has only surface-level wealth and that there are still vast numbers of people living in poverty in China.

Casual socializing, however, is an important part of Senegalese agricultural performance repertoire. Senegalese informants across all my interviews stressed agriculture as a social affair, with Senegal's changing agrarian landscape understood in deeply socio-ecological and economic terms. In my time at the Centre and during site visits in the region I often observed workers chatting together by the side of the fields over afternoon meals or tea, and they were always eager to have me join them. But the Chinese, who see agriculture work and social life in two separate arenas, prefer to work for long hours in the field and only socialize afterward. Senegalese staff member Samba explained that this is a source of tension between the Senegalese and Chinese staff:

*The Chinese want the workers to come and work for eight hours. But we have a different approach. We work for a few hours, then rest by the side of the field, chat with our friends, drink some tea, share our stories. Then we are reenergized and can work again. If you make someone do farm work for eight hours straight, it is impossible. You can't get anything done in the end because you are so exhausted. This is something the Chinese do not understand.*

If the project design is structurally flawed then, communication barriers lead to further problems as cultural misunderstandings go uncorrected. To the Chinese, Senegalese workers' emphasis on the social aspects of agricultural performance appears to be laziness. For example, one morning that vegetables were due to be shipped to Dakar, I observed Senegalese workers dropping off vegetables and the Chinese agronomists collecting, weighing and sorting them. Chinese agronomist Li explained to me that originally they had had the Senegalese do the processing as well, but had grown impatient with them. 'We should be able to do this smoothly, but the workers are so slow that it hinders our workflow. It makes this process really long.'

Chinese informants explained Senegal's agricultural failures through the lens of an innate Chinese ability to endure hardship (吃苦), literally "to eat bitter", which they felt the Senegalese lacked. As Chen explained,

*The biggest problem with agriculture in Senegal is peoples' mentality. They are very easily satisfied. If they have enough to eat, they won't work anymore. There is a lot of arable land that they don't use. In China, even though many of the farmers are uneducated, they are eager to absorb new information, and delight in improving agricultural management. They are very happy to learn new techniques.*

This perception affected the Chinese team's interpretation of problems at the Centre. For example, the trainings they had tried to conduct at the Centre early in the project had not gone well because, explained Chen, the trainees had been reluctant to do physical labour.

'We wanted them to work alongside us in the field so they could get practical training. But they felt that the physical work was too tiring. They weren't willing to eat bitter.'

So central is socializing to the Senegalese repertoire for agricultural management, however, that the unwillingness of the Chinese agronomists to integrate affects the Senegalese perception of their ability to train them. Ousmane, who had worked for decades training farmers in the region, emphasized the importance of connecting with the farmers and knowing their problems in order to help them.

*The State wants the Chinese to be there, but in reality I don't see the utility because they don't know any more than I do. How can they understand the peasants better than I do, when they don't know the fields? When they don't know the reality here?*

For the Chinese, who see their role as primarily one of technology transfer, the hostility of the Senegalese towards collaboration is bewildering. 'Our work should be a collaboration with the Senegalese government staff,' said one team member. 'But in reality, they don't help much. I get the feeling that they aren't really interested in training. They are only interested in how much money they can get. They rarely come to the office, and once you pay them, they just leave. We should be able to work together and learn from each other, but government officials are all like that here.' Thus, Senegalese desire for social integration with their fellow training partners became a battle of work ethics with the Chinese.

Ultimately, these conflicts have led both the Senegalese and Chinese to decide that collaborating on agriculture trainings—the central focus of their project—is not something that they want to do. This does not, however, mean an end to the performance.

### **3.2 SCENE 2: IMPROVISATION IN THE BATTLEFIELD**

Upon this stage full of conflicts, both the Chinese and Senegalese actively pursue different coping strategies, improvising and redefining their performance on an ongoing basis.

The Senegalese staff reason that if the Chinese are not going to provide a budget for them to perform agriculture trainings, they will not perform them. As Ousmane explained:

*The Chinese said they could not pay us to run the Centre, that this was to come from the Senegalese government. I said, okay, fine, I will come to work and we can greet each other and that will be that. Then, when the Chinese decided they wanted to work with us, they approached me and said that they wanted to work with me. They said they knew what of the success the Taiwanese had had was thanks to me, because I had been here with them. They said they wanted to do the same. I said, 'No, because what you have you keep for yourselves.' The government pays me to come to the office, so I come. But if the State does not give me the means to work, I will not work. If you want me to work, you have to give me the budget to do so.*

Instead of developing trainings in collaboration with the Chinese, then, the Senegalese focus their efforts on bringing revenue to the Centre for other activities. When I asked Lamine, a senior staff member, what his job is, he did not even mention collaboration with the Chinese. 'My primary job is to provide trainings to contribute to the growth of Senegal's agricultural sector, with the ultimate goal of reducing poverty. I have a training program, but no budget to carry it out. Therefore, my job is to assess the needs of the Centre and to design training plans to match those needs. I will submit those plans, and try to find external sources of funding to carry them out. We will proceed with trainings only if we succeed.' During my research, Senegalese staff obtained revenue by hosting an agricultural training by another NGO, and by charging me for my room and board. Samba had also recently begun developing a three-hectare plot of the agriculture training centre land to provide additional revenue.

Whereas the Senegalese cope by bolstering their revenue, the Chinese strategy is to assist these efforts with whatever means they can find. They attempt to support Senegalese revenue-building activities by providing salary supplements for the agriculture training centre staff from earnings in the demonstration plots, and by supporting Samba's field. Chen explained, 'We sell the produce from our demonstration plots because it would be a waste otherwise. What good would it be to demonstrate a farm only to throw away what you produce? But it is also to help the Senegalese staff. We use the revenue to pay the workers and give the staff extra salary because their government doesn't give them much. This isn't really something we have to do, but we think it is the right thing to do.' In addition, they provide inputs of fertilisers, seeds and advice for Samba's fields.

Unfortunately, both forms of help came unwelcomed and bred further conflict, ultimately worsening the Senegalese opinion of the Chinese. Ousmane understood that they sold the produce in order to support the Centre's operations, but he viewed this as the ultimate insult in an already unequal situation. 'The Chinese come with all the equipment they need. What they have, they keep to themselves. And then they use our land and our water, and they sell their produce. They should be giving it to us! What they are doing, it's theft.' Similarly Samba observed that 'The Chinese bring knowledge and materials, but they have abandoned their objective of training in order to go into production and sell the produce. They do what they want to do, and they don't listen to us.' On script, the MOU does not mention how the produce from the Chinese demonstration plots is to be handled, leaving the actors to battle it out on stage.

Samba also complained that he does not receive enough help from the Chinese in developing the new farmland for the Centre. He copes by selling some of the fertilisers the Chinese gave him to purchase other inputs such as pesticides. Though to Samba this

seemed a reasonable method of attaining pesticides when he had no other funding, it outraged the Chinese. Chen explained, 'We don't bring the fertiliser all the way from China so that he can turn around and sell it. What is the use of that? We want him to use it on his field.' So the Chinese agronomists began limiting the amounts of fertilisers and seeds they give to Samba. The field became an arena of tense negotiation, as revealed in this exchange on my second day at the Centre:<sup>4</sup>

**Chen:** *Your eggplant and tomatoes are growing well, but to be honest, you have not done well with the cabbages. They are very unhealthy. Perhaps you have overreached yourself in the size of your field. It would have been better to plant a smaller area, and do it well.*

**Samba:** *It is an issue of funds. We have to develop all of this land to support the centre.*

**Chen:** *But if it were smaller, you would use fewer seeds, less water, less fertilizer, and less labour. Wouldn't that be cheaper?*

**Samba:** *Yes, but then I would have less to sell. The centre needs the money. If you would help me, then I could do it smaller.*

**Chen:** *We are trying to help you. But helping isn't always about giving more and more money. You ultimately need to be able to support yourself and your labour. When you do it this large all at once and it doesn't succeed, it is just a waste. You could grow less, but select varieties that are going to give you a better price in the market. You have to work within your means.*

**Samba:** *Yes, I am accustomed to having people give me money for these things [Laughs]. But I believe I will succeed. I just need more time.*

**Chen:** *It is still a waste to do such a large field if it all dies. For example, think about our cucumber tent in our compound. How large is it?*

**Samba:** *Not very large.*

**Chen:** *That's right, it's only 120m<sup>3</sup>, about the size of this small plot here. But we were able to produce 1200 kg of cucumbers from that small plot.*

**Samba:** *Wow, 1200 kg. That IS impressive [nodding].*

**Chen:** *You don't need a big space to produce well and earn money. We would just like you to think about your approach.*

**Samba:** *Yes, but I don't want to change my approach. My trust is in God. I just need a little more time, more water and more fertiliser.*

**Chen:** *Yes, but you can't just only rely on chemical fertilizers. Those that we give you only have three of the essential nutrients in them. You have to nurture the soil with organic fertilisers to get all of the nutrients the plants need.*

**Samba:** *You just have to let me do it for a bit longer and I will succeed. God will help me. You don't believe in God so you tell me to plant according to your methods, but these are not His wishes.*

**Chen:** *Okay, okay. We are just trying to help you do better.*

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<sup>4</sup> This exchange took place in Mandarin since Samba received hydraulics training in China during the 1970's and speaks Chinese.

**Samba:** *You won't give me more money. Only God will help me.*

This scene reveals the conflicts and active negotiations between two very different repertoires of agricultural management. Samba, whose ultimate goal is to produce revenue for the Centre, performed his role by repeatedly appealing for funds and additional inputs from the Chinese. He portrays himself as a vehicle for God's will, not fully responsible for or in control of his own actions. Chen, whose aim is to impart systematic agricultural methodology at the Centre, ignored reference to God and appealed to reason and logic using supporting evidence in an effort to win Samba's allegiance. Both men stood stubbornly in their perception that their method was the better method. Chen insisted that his model of rationed, methodical expansion of the field and focusing on growing techniques over revenue was the only way to make it work; Samba was likewise convinced that his model of large-scale development would succeed with just a little more time, resources or, if those failed, divine intervention. Though Samba accommodated Chen slightly in admitting that his cucumber harvest was impressive, ultimately both players lost this battle.

### **3.3 SCENE 3: TAKING THE PERFORMANCE OFF-STAGE**

Before leaving China, the Chinese team had received a warning from their predecessors who were finishing two years at the Centre: 'Don't even bother coming here! They will be happier if you just give them money.' Despite this discouraging advice, the Chinese team did come, and through their improvisations on stage, found great fulfilment in agricultural activities 'off-stage'. One or two days a week, they travel out of the Centre to conduct trainings and demonstrations for dozens of smallholder farmers and farming communities in the region. 'If we just followed the contract, we wouldn't make much impact,' explained Chen. 'We do more because while we are here we want to do something useful. What's the point of coming here and staying two years if you don't help?'

I visited four of these farms with the Chinese agronomists, and also returned on my own to speak with the farmers. In contrast to the Senegalese at the Centre, not one farmer trainee off-site complained about the Chinese interventions in their land. In fact, all informants had positive things to say, sometimes quite enthusiastically, about the Chinese agricultural assistance. One farmer ran to his fields mid-interview, pulling out carrots to demonstrate the difference between carrots with grown using his traditional methods and those produced using the Chinese techniques (Figure 2). 'The Chinese give us the means to work,' he explained. 'Their techniques are so important. Before, we used to water and water, and it would all just disappear. Their techniques keep the water in the soil so it can keep feeding the plant for a long time afterward. Water is expensive, and with this method we can produce more using less. And it keeps the nematodes out as well. We used to have many

attacks, but there is not one bad carrot in this plot using the Chinese method. The Chinese are good—very, very good.'

FIGURE 2: CARROTS GROWN USING CHINESE (LEFT) AND TRADITIONAL (RIGHT) METHODS



Another farmer similarly explained, 'The Chinese proverb that it is better to teach a person to fish than to give him a fish is proven in my field because you can clearly see the difference between my old method and their techniques.' He showed me two small plots of turnips side by side—one plot stunted and with withered leaves and the other, the Chinese-managed plot, much taller with healthy dark leaves. 'I now use less water, my plants grow better, and I spend less money. I earn more than before while actually spending less money and less time in the field. My techniques before also led to a lot of problems with pests. But after the Chinese told me to put the organic material in the soil from the beginning, I have far fewer pest problems than before. I have almost no attacks.' Thus, with free donations of farming materials and careful, regular attention to methods, these Senegalese farmers embraced the Chinese team's agriculture performance methods.

Chen explained that this work, though limited in scope, is their most consequential contribution to Senegalese agriculture. 'We are able to see right away what the farmer needs, and we can develop our training based on those needs. They are also more willing to work with us in their fields. Senegalese farmers don't like to leave their fields, so if you come to them they are happy. In this way, we can help them correct problems, and they can ask questions about the techniques. This is much more effective than the trainings at the

Centre.’ The Chinese agronomists hope that eventually the Senegalese Centre staff will feel the same way, and that they can expand this aspect of their training work. ‘If the staff would accompany us, we would have a greater impact because they would understand our technique and how it is helping. We could develop trainings to use this information and reach more people.’ Unfortunately, the lack of social integration between the Chinese and Senegalese lead the Senegalese to feel resentful of these efforts and unable to recognise any value it brings to local farmers. As Ousmane explained, “They should be supporting us, working alongside us to share their techniques, but they should not be out in the fields doing the work in our place.” Thus the cycle of misunderstanding continues off-stage, with the Chinese left to puzzle over the Senegalese reaction to their efforts. Chen deplored, ‘We have already done much more than what is in this contract—but they are still not happy.’

This off-stage performance is important not just for what it reveals about the unexpected outcomes of the original project design and our understanding about the relationship between Chinese policies and practices in Africa. It is also instructive as an example of a type of Chinese land-based intervention that can produce positive local feedback. Importantly, these successes off-site were achieved through the social networking efforts of a local Senegalese NGO who work with the Chinese team to identify farmer trainees in the region, provide Wolof translation, and assist the Chinese in navigating the cultural landscape of rural Senegal. The day I accompanied them, the NGO staff did most of the talking, with the Chinese team quietly assessing the field and providing a few suggestions for improvements. In addition, they had the farmers grow the same variety of plants on two side-by-side plots, with one plot using their own methods and one plot following the Chinese instructions. This scientific control-experiment approach to training allowed farmers to compare their own ‘peasant techniques’ to the ‘Chinese techniques’. By leaving the stage of conflict at the Centre, then, and finding new actors able to provide culturally appropriate interpretations of their agricultural performance repertoire, the Chinese team is able to find new actors with whom to collaborate, and another arena in which to perform meaningful agriculture management.

Thus Chinese and Senegalese interpretations and strategies for agriculture change and management interlock through processes of negotiation and accommodation, with varying results. Understanding these interactions as a performance helps us see how the Chinese team’s repertoire of strategies, ideologies and agency affect their relationships with the agriculture training centre staff and workers as well as Senegalese farmers outside of the Centre. We saw that conflicts in project implementation have led the Centre staff to resist collaboration with the Chinese team, while simultaneously pushing the Chinese team to find other avenues of collaboration outside of the Centre. In this way, we can view this Chinese agriculture management project not as a straightforward, linear process of implementing a



project plan but a dynamic, non-deterministic process of improvisational actors continually shaping and reshaping practices, with unexpected and sometimes contradictory effects.

## 4 CONCLUSION

*The environmental catastrophes that we face are not the result of a 'system out of control', but rather are a consequence of a complicated mix of intended and unintended consequences of human action.*

—(Long & Long 1992, p.272)

This study examined a group of Chinese agronomists in Senegal in an ethnographic case study of Chinese agrarian management practices in Africa. I critically examined existing research on Chinese agriculture engagement in Africa and found its scope of inquiry to be limited to generalisations, rendering it unable to provide insight into the empirical experiences of Chinese agricultural interventions on the ground. By reframing the problem as one of a performance in agriculture management, I showed that ethnographic methodologies taking an actor-oriented approach can provide insight into this complex arena.

Though this study was limited by my own biases and lack of experience with Africa, and by the short timeframe of the fieldwork, it was informed by my experience in agrarian management in China. Further, the scope of inquiry was deliberately small, aiming to balance the standard paradigms and generalisations made in China-Africa literature with exploration into the particulars.

Focusing on actor dynamics and analysing agriculture management as performance, I have shown how the Chinese and Senegalese performance repertoires contrast and create conflict among the actors, shaping and reshaping the outcomes of the show. We saw how, despite the project design that envisioned collaboration between the two governments, the actors find the differences to be too great. The only way for the show to continue is for each side to ignore the other. The Senegalese focus on increasing revenue through farm production and hosting external trainings, while the Chinese focus on trainings and consulting outside of the Centre. This is not to say that the project is a failure—indeed, agriculture trainings and research are carried out on both sides. However, I emphasized, as my Chinese informants did, that the more engaging and relevant work for the Chinese agronomists was not in the original project design at all.

### 4.1 SAVOURING SWEETNESS

On my last night at the agriculture training Centre, I showed Chen the France 2 video clip and asked him what he thought of the reporters' conclusion that the Chinese agronomist

team was ultimately part of a scheme to find agricultural land to feed China. Chen nodded thoughtfully before he spoke. 'These reporters also met with the Chinese ambassador in Dakar,' he said. 'Before they came here, the ambassador told us that they would be critical of our work, that they were searching for this colonial angle. But he said, 'let them come anyway, and don't worry about it. They will say what they want. What matters is that you know what your job is.'" Chen further suggested that France has its own interests in Senegal's agriculture. 'They see Senegal as their territory,' he suggested. 'They don't like the idea of Chinese working 'their' land.'

Chen is certainly reasonable to observe that reporters have their own biases about China's involvement in African agriculture. However, by dismissing all criticisms and even *expecting* to be misunderstood by both outside journalists and the agriculture training centre staff, the Chinese agronomists makes no effort to understand how their actions are perceived by others. In this way, they miss the opportunity to bridge gaps, ultimately leading to further misunderstanding.

What then, is the job of these Chinese agronomists in Senegal? In their eyes, they are sharing hard-earned lessons in agrarian management. If the Senegalese would just work harder, and start applying Chinese management techniques, they reason, they could have a robust agriculture sector. But if we have learned anything from our close observation of the Chinese agronomists, it is that land management is about much more than a series of rationally-based actions with linear outcomes. It involves complex agency and requires continual negotiation and accommodation—and ideally, governance structures that respond to and empower this continual learning process.

In a world of increasingly scarce resources and turbulent environmental change, productive sharing of land management strategies between continents can make everyone more resilient. Agriculture, as our primary means of managing the environment to sustain ourselves, is central to this effort. However, collaboration falls short of expectations when actors with conflicting repertoires collide in a clumsy improvisational dance. Each side judges the other, while the world judges both. My ethnographic exploration into this world was an attempt to move beyond these judgements. And yet, dancing between the Chinese and Senegalese worlds myself, I could not help but get tumbled in the vicious cycle of misunderstandings.

If this is a lesson for the field of land-based development interventions and for China-Africa research in particular, it is also a lesson for the Chinese in Africa. Ultimately, the Chinese will have to find a way to continually adapt their bitter crops to the local cuisine before either the Africans or the Chinese can benefit from their sweetness.

## 4.2 IMPLICATIONS

This brief exploration into the agriculture-management experiences of a small group of Chinese agronomists in Senegal cannot be generalized to the wide range of Chinese agricultural engagements in Africa. Nor has this been my aim. However, focusing on the particulars of this case contributes to our understanding of Chinese land-based interventions in Africa and to methodologies for studying them in three important ways.

First, it speaks to the growing body of 'China in Africa' literature aiming to understand China's engagement in African land. As China's environmental issues and impacts increasingly gain global attention, understanding how Chinese actors manage agricultural resources outside of its borders will be crucial to constructive engagement with them. I have criticized the literature's simplistic treatment of this topic, and deterministic analysis of Chinese policies and projects. I have pulled back the curtain a bit on 'Sino-Senegalese Agriculture and Technology Cooperation' to reveal non-linear processes of collaboration, but also of compromise, defiance and coping. In the unanticipated performances that result, we have seen how the individual actors' repertoire of agriculture values, skills and work philosophies are often more important than the title of the show, or how the script is written. The Chinese agronomists and the agriculture training centre employees implement their project, but not as set out in the government MOU.

This off-stage performance reveals the unexpected outcomes of Chinese policies in Africa. More importantly, it also helps us understand a context in which the Chinese repertoire for agriculture management can be applied with at least some positive results. Where Chinese actors are able to navigate the social context of land relations and agriculture management in Senegal, their technical, methodical approach to farming techniques help smallholder farmers improve productivity and reduce chemical and water inputs. Where the Chinese exist in social enclaves, however, even the most sincere efforts to help will cause damage and inevitably be refused. Emphasizing this aspect in research on Chinese land-based interventions in Africa can help us move past generalisations and blame-game finger pointing about social or environmental successes and failures.

The point is not that Chinese agriculture policies in Africa don't matter, but that they matter in different ways than we might expect. For example, this government agriculture-technology cooperation project may not mean that Senegalese government agronomists are learning and applying Chinese agriculture management practices in Senegal. It may mean, however, that smallholder farmers receive support that makes them sing the praise of the Chinese, and that other Senegalese may find new opportunities to leverage their political power with Chinese agricultural-social networks. Within this framework, even if a master script from Beijing does exist to send land scouts to Senegal for future takeover, the result of

the plan will largely depend on the specific repertoire of those actors they select for the performance, and how that repertoire interacts with that of the Senegalese actors. These findings thus urge researchers of China Africa relations to focus both on the plans from Beijing as well as the actions of Chinese involved in these processes, to build nuanced analyses of the complex agency involved in land-based interventions and agrarian management.

Second, this study has provided a methodology for uncovering the shroud of mystery surrounding Chinese activities in African lands. Much of the misinformation and rumours about large-scale land grabs and sinister Chinese plots in African agriculture is based on a lack of grounded, empirical research. Before my fieldwork, I consulted a wide range of researchers, practitioners, journalists and government employees in Europe, Asia and Africa. Almost universally, I was told that the Chinese farming activities were secretive and would be difficult to research. There is very little information online, and the available information is only in Chinese. Contact information is hard to come by. Those who are contacted tend not to be forthcoming. After five months of preliminary research and unable to make contacts in the Chinese community myself, I left for my research with only the name of the village where the demonstration site was located, and the knowledge that the Chinese had been willing to accommodate the France 2 journalists there in the previous year.

Ethnography, however, proved a powerful tool in overcoming these research hurdles. Participating in Chinese agronomists' lives, working in their fields, sharing meals, taking road trips—all of these activities built trust with my Chinese informants who were not only willing but helpful as I recorded conversations, dug through files, photographed and otherwise intruded into the inner workings of their project. Ethnographic methods helped me set aside assumptions about what 'China' is doing in 'Africa,' and appreciate that management on the ground looks and functions very differently from the upper realms of project design. Thus, if researchers can learn to 'eat bitter' along with the Chinese, their research can be sweetly rewarded.

Finally, and more generally, this research feeds into larger questions of rural land-based interventions and development work. By framing agriculture as a complex arena of biophysical resources, cultural ideology, socio-political factors and economic institutions, actor-oriented analysis can mediate the functionalist bias of environmental management policy. Chinese, Senegalese and other policymakers can begin to see that processes of land management are arenas of conflict and contradiction, and that agriculture can never be fully 'managed' in the sense of fixed inputs and rational actors producing linear, predictable outcomes.

Building on research in political ecology, agrarian change and rural sociology, then, this case study demonstrates that actors in land management and agriculture development

navigate these contradictions on a daily basis. If there is a disconnect between policy and practice, it is because institutional policymakers have not made allowances for these contradictions and negotiations. Actor-oriented ethnographic analysis can help land-based interventions move beyond static 'best practices' toward becoming learning-oriented institutions.

## APPENDIX 1: DETAILED INFORMANT LIST

AFFILIATION	ORIGIN	AGE	SEX		INTERVIEW LANGUAGE			
			M	F	FRENCH	CHINESE	ENGLISH	WOLOF
<b>CHINESE</b>								
Government, MOFCOM-Dakar	China	50	1			1		
Dakar restaurant owner	Fujian	60	1			1		
Dakar restaurant owner	Fujian	60		1		1		
Aquaculture private venture	Fujian	30		1		1		
Dakar shopkeeper	Henan	35		1		1		
Dakar shopkeeper	Henan	40		1		1		
Dakar shopkeeper	Henan	55	1			1		
Dakar shopkeeper	Henan	55		1		1		
Chinese agronomist	Hubei	39	1			1		
Chinese agronomist	Hubei	58	1			1		
Chinese agronomist	Hubei	42	1			1		
Chinese agronomist	Hubei	49	1			1		
Chinese agronomist	Hubei	48	1			1		
Chinese agronomist	Hubei	44	1			1		
translator	Hubei	32	1			1		
Chinese trawling boat	Sichuan	28	1			1		
<b>WEST AFRICANS</b>								
Marché Karmel fruit vendor	Gambia	35	1		1			
Chinese construction company employee	Mauritania	40	1		1			
Senegalese agriculture	Senegal	45	1		1			

NGO								
Senegalese agriculture NGO	Senegal	28		1			1	
Customer in Chinese restaurant	Senegal	35	1		1			
the agriculture training centre staff, administration	Senegal	50	1		1			
the agriculture training centre staff assistant	Senegal	45	1		1			
the agriculture training centre staff, agrotechnician	Senegal	60	1		1			
the agriculture training centre staff, hydrologist	Senegal	60	1		1			
Farmer, the Chinese agronomists demonstration plot	Senegal	60	1		1			
Farmer, the Chinese agronomists demonstration plot	Senegal	55	1		1			
Mouride brotherhood, landowner	Senegal	65	1					1
Mouride brotherhood, landowner	Senegal	25	1					1
Mouride brotherhood, landowner	Senegal	23	1					1
Mouride brotherhood, worker	Senegal	50	1					1
Mouride brotherhood, worker	Senegal	48	1					1
Mouride brotherhood, worker	Senegal	52	1					1
Horticultural technician	Senegal	30	1		1			

FAO/Local NGO program officer	Senegal	35	1		1			
Farmer, the Chinese agronomists trained	Senegal	52	1					1
Farmer, the Chinese agronomists trained	Senegal	49	1					1
Farmer, the Chinese agronomists trained	Senegal	32	1					1
Farmer, the Chinese agronomists trained	Senegal	55	1		1			
Farmer, the Chinese agronomists trained	Senegal	42		1	1			
Farmer, former trainee of Taiwanese	Senegal	54	1		1			
FAO/Local NGO program coordinator	Senegal	57	1		1			
FAO/Local NGO program assistant	Senegal	30	1		1			
Farmer, FAO/NGO trained	Senegal	42	1					1
Farmer, FAO/NGO trained	Senegal	24	1					1
USAID consultant	Senegal	62	1		1			
Journalist	Senegal	55	1		1			
Senegalese agricultural NGO	Senegal	37		1	1			
<b>OTHERS</b>								
Business consultant	Taiwan	30	1			1		
European agrobusiness owner	France	55	1		1			
Peace Corps Volunteer,	USA	23	1				1	



sustainable agriculture								
Peace Corps Volunteer, agroforestry	USA	27	1				1	

<b>TOTALS</b>								
			SEX		INTERVIEW LANGUAGE			
			M	F	FRENCH	CHINESE	ENGLISH	WOLOF
			44	8	21	17	3	11

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