



Land policy, family farms, food production and livelihoods in the *Office du Niger* area, Mali



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ABSTRACT

The objective of this paper is to analyze: 1) the policy conditions under which family farms in the *Office du Niger* area could invest in land; 2) the impacts of various scenarios of land and other policies; 3) the opportunity costs of allocating land and irrigation water to players other than family farmers. A thorough field survey, based on the concept of farming system and combining quantitative and qualitative methods of data collection and processing, was carried out in 2011 involving 380 family farm managers. Models were elaborated from the numerical data. Results indicate that family farmers could invest in land under the following conditions: that they possess an animal-drawn or a motorized piece of equipment, engage in at least one dry-season crop, obtain relatively high yields and have access to irrigated areas more extensive than in 2010. To meet these conditions, proactive policies, pertaining to land, irrigation, credit and inputs are required. Allotting new irrigated land to family farmers could, according to one policy scenario, lead to the creation of tens of thousands of farm jobs and livelihoods. This could, according to another scenario, lead to hundreds of thousands of additional tonnes of rice, thereby exceeding the threshold of grain self-sufficiency. Thus, the opportunity costs of allocating land and irrigation water to investors other than farming families are particularly high.

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1. Introduction

Following the surge in agricultural commodity prices on international markets in 2007/2008, many governments questioned the relevance of pursuing a strategy of procurement on international markets in order to ensure food security in their own countries. Many nations then initiated policies to boost domestic agricultural production (Bricas and Daviron, 2009). Meanwhile, agri-food firms sourcing on these international markets were also led to question the security of their supplies. There ensued a major development of large-scale land acquisitions, by firms, transnational or not, by sovereign funds and by other types of players, foreign or domestic (Anseeuw et al., 2012; White et al., 2012; Land Matrix, 2014; Gironde et al., 2015). Beyond the debates about their causes and consequences, these events have revived the substantive debate about the social type of farm – family, capitalistic, cooperative, or other – best able to ensure food security, rural development and a reduction in poverty (Sourisseau, 2014). In this perspective, De Schutter (2011) advocates an assessment of the opportunity costs

of allocating land, and irrigation water where applicable, to new investors rather than local peasant families.

The case of Mali sheds particular light on these debates. Indeed, as early as the beginning of the new century, the government of that country sought to attract new land investors. In 2006, it enacted a Farm Bill which did recognize the existence and the expertise of family farms, but which also facilitated allocations of land to new players (*Assemblée nationale de la République du Mali, 2006*), especially in the *Office du Niger* area (hereafter referred to as ON). This area, located more than 200 kilometers northeast of Bamako, in the inner delta of the Niger River, comprises about 98,000 ha of irrigated land. At the present time, it is cropped almost exclusively by family farmers (Bélières et al., 2011): they cultivate rice in the wet season (June–October) on all the irrigated land, rice in the hot dry season (February–June) on nearly 20% of this land, and vegetables (mainly shallot and also tomato, okra, sweet potato) in the cold dry season (November–March) on about 5% of this land (Bélières et al., 2003; Samaké et al., 2008; Dave et al., 2012). In addition, a large plantation of sugarcane, of 6400 ha, employs wage workers (Sangaré, 2010). This area is considered as the rice bowl of Mali since it alone provides about 45% of national rice production and supplies other parts of the country (Kuper et al., 2002; Cissé et al., 2012).

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The policy of attracting new investors to this region was motivated by the budgetary constraints of the State, which does not have sufficient funds to finance new irrigation facilities. It was also based on the assumption that the new investors would be better able to increase agricultural production than existing family farms (Oakland Institute, 2011). At the end of 2011, nearly 600,000 ha of undeveloped land, an area six times larger than that which is at present irrigated, were allocated to new players (Hertzog et al., 2012). Yet, even though estimates of the irrigable area vary from one author to another, all agree that such a large area cannot be irrigated all year round given the limited capacities of the present irrigation system (Sangaré, 2010).

In this context, which it considered uncertain and threatening, the Union of Farmers of the *Office du Niger* (*Syndicat des exploitants agricoles de l'Office du Niger*, SEXAGON) put forward proposals to reform access to land in this area. The SEXAGON (2010) notes that the areas cropped by family farmers are generally too small to meet the basic needs of families, that their access to land (usually through an annual lease, renewable by tacit agreement) is insecure, that new publicly-funded developments are very few, and that the government favors land allocations to new players promising to invest. Based on these observations, the SEXAGON proposes that family farmers, hitherto beneficiaries of their plots on payment of a single hydraulic tax, should make in addition a significant annual contribution for the allocation of new plots. This contribution would feed into an investment fund aiming to finance new facilities for family farmers, hence the name of this proposal, "Investor Peasants". In exchange for this payment, limited in time, farmers would have access to new plots via a secure emphyteutic lease, transmissible to their heirs, that could be mortgaged in order to obtain credit (SEXAGON, 2010; Dave et al., 2012; Keita, 2012).

This paper is based on a study carried out at the request of the SEXAGON, which wished to have a systematic evaluation of the investment capacities of different family farm types. It also aims to test various scenarios of land policy combined with other policies, by assessing their impacts on agricultural employment, on livelihoods, on rice production and on rice marketable surpluses. This is tantamount to assessing the opportunity costs of allocating land and irrigation water in the area to investors other than farming families (De Schutter, 2011).

2. Concepts, field survey and models

2.1. Concepts

The characterization of family or peasant farming has been the subject of numerous publications over the past few decades (Chayanov, 1986; Shanin, 1973; Mendras, 1976; Lamarque, 1991). On the occasion of the proclamation by the United Nations of 2014 as the international year of family farming, reflections on this subject have been deepened and updated. Following Garner and O Campos (2014), we define the family farm as an agricultural production unit "which is managed and operated by a family and predominantly reliant on family labor both women's and men's. The family and the farm are linked, coevolve and combine economic, environmental, reproductive, social and cultural functions". Thus, all or almost all of the agricultural work is carried out by the farm manager and members of his/her family; occasional use of temporary employees is possible but there is no permanent employee. And the structural links between the family and the production unit are materialized especially by "the inclusion of productive capital in the family patrimony and the combination of domestic and productive logics, market and nonmarket" (Bélières et al., 2014). This definition is compatible with the wide variety of family farms in the real world.

The definition of peasant agriculture has not reached a consensus. However, for many authors, it is a type of family farming in which a large share of the production is intended for personal consumption and a large proportion of inputs is produced on the farm itself, hence a large degree of autonomy vis-a-vis marketing channels upstream and downstream (Van der Ploeg, 2013).

In the ON, as in most other rural areas in developing countries, farmers combine farm and non-farm activities (Chambers and Conway, 1991; Ellis, 2000; Davis et al., 2010; Haggblade et al., 2010). Even though farming activities are by far the more important while non-farm activities are generally rather unproductive (Bezu and Barrett, 2010; Losch et al., 2012; Sourisseau et al., 2016), all these activities may contribute to the farm's investment capacity, provided that the incomes they generate are controlled by the farm manager. Thus, in the calculation of this investment capacity, we did not take into account the activities carried out by and for individuals or sub-groups within the family, as they do not contribute to the investments made in favor of the family farm as a whole (Ancey, 1975; Gafsi et al., 2007). But we took into account all the activities, farm and non-farm, carried out on behalf of the entire family. These farming activities are under the responsibility of the family head (usually the oldest married man) who organizes them, pays for the related expenses and controls the use of the products. We apprehended these by recourse to the concept of *farming system*, conceived as the combination of production factors (land, labor, equipment, farm buildings) and production activities (vegetal and animal) on a farm (Colin and Crawford, 2000; Gafsi et al., 2007; Darnhofer et al., 2012). We also used the concept of farming system in a broader sense, that of a category of farm, a category being defined according to two criteria, namely the nature of farm equipment, and the combination of production activities (Mazoyer, 1963).

We call *family farm income* the annual income accruing to the agricultural activities of the whole family. This income is based on the *net* added value, from which wages paid to hired workers, land rents, interest on capital borrowed to buy equipment as well as the hydraulic tax are subtracted. We call *family income* the sum of the family farm and non-farm incomes. And we call *land investment capacity* the difference between the family income and the value of consumption needs supported by the family head (see below).

To evaluate these variables, the concept of farming system was used in a thorough field survey that we shall now present.

2.2. Field survey

This survey combined quantitative and qualitative methods of data collection and processing (Marsland et al., 2000; Kanbur, 2003). It relied mainly on a questionnaire intended for farm managers and including both closed-ended and open-ended questions regarding the farming system and the other activities carried out by family members. This questionnaire was administered in February and March 2011, by ourselves and by 12 interviewers trained for this purpose. It was used with 380 farm managers (and other family members when the farm managers could not provide information about these members' activities), in 19 villages: in each village, 20 farm managers were selected randomly.¹ The villages were spread over 5 out of the 6 sectors of the ON so as to capture the diversity of ecological and social conditions within this area. They were also chosen so as to represent various levels of prosperity, this depending especially on the location vis-a-vis the irrigation system. Each of the 380 interviews produced detailed technical and eco-

¹ Initially, the questionnaire was used with 400 farm managers in 20 villages. But, during data processing, it appeared that the random selection had not been respected in one village, which was then removed from the sample.

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