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RESEARCH ARTICLE

CHARACTERIZATION OF COTTON FARMERS IN THE SOUTH-SUDANIANZONE OF BURKINA FASO

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ABSTRACT

Our study aims to characterize the cotton producers of Burkina Faso in order to assure the sustainability of their farming system. For this purpose, we carried out surveys on 90 cotton farmers established in the cotton belt located at the South-sudanian area. The investigations revealed that the access to the farm land for cotton cultivation is by inheritance. The age groups of [20-40] and [41-60] correspond to the majority of cotton producers accounting respectively for 45.83% and 50%. Furthermore, our results showed those farmers organize themselves into producer groups. They have a low educational level while having long experience in the cultivation of cotton produced exclusively during the rainy season. In addition to the cotton farming, their other activities are particularly trade and small-scale breeding. We come to the conclusions that it would be interesting to make the cotton producers benefited of training in sustainable farming system.

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INTRODUCTION

The South-sudanian area of Burkina Faso is its cotton belt. However, cotton cultivation faced for many years the problem of gains due to the decline in yields related to inappropriate agricultural practices (Pouya *et al.*, 2013). Indeed, current farming systems face a limited organization of producers and a considerable land pressure (Traoré *et al.*, 2007). Despite the state multiple supports, the cotton sector copes with the problem of farmer organization. These conditions jeopardized the production profitability in cotton thought it is the main cash crop for the country. As very little scientific information exists about the cotton farmers of Burkina Faso, we get interest in how those farmers organize themselves at the South-sudanian area. The overall objective of our study is to characterize cotton farmers to ensure the sustainability of their farming system in Burkina Faso.

MATERIALS AND METHODS

Survey site: We carried out our study in the Hauts-Bassins region from South-sudanian area of Burkina Faso, its cotton belt.

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Our survey site spreads out along 06 villages located in 03 provinces namely Houet, Kénédougou and Tuy. The interview was realized in the following villages: Tondogosso and Baré (Houet), Dohoun and Kari (Tuy), Guéna and Sidi (Kénédougou). The survey areas were chosen along a south to west transect considering the experience of farmers on cotton cultivation.

Survey methodology: The cotton producer opinions were gathered through surveys in the six selected villages over a 6-month period from June 2018 up to December 2018. The opinion polls concerned both sexes. A sampling of 30 producers per village, then an overall of 180 producers were chosen. The selection of farmers to investigate was made in cooperation with producer groups and according to their cotton farming system. A semi-structured questionnaire was administered to the selected cotton farmers. This questionnaire was pre-tested with 5 producers from Tondogosso village before administering to the whole sampling. The interview approached the average age of farmers, their educational level, their experience in the cotton farming, their level of organization and their activities. The survey was carried out in two stages: an interview with all farmers operating under their manager and a field cotton growing visit.

Data analysis: The collected data were entered in Excel and statistical analyzes were performed in SPSS 12 Fr and XLSTAT 2007. The variance averages were compared at statistical significance of 0.05 resorting to Newman-Keuls comparison test (Δ NK5%).

RESULTS AND DISCUSSION

Results

Age of the cotton farmers: Our investigations showed that the age groups of [20-40], [41-60] and over 60 account for 45.83%, 50% and 4.17% of the total respectively. By comparing the age groups between villages (Figure 1), it turned out that the group of [20-40] are larger in the village of Tondogosso, followed by Baré, Guéna, Kari, Dohoun and Sidi. This trend was inverted for the age group of [41-60]. The age group over 60 only existed in the two villages of Guéna and Sidi.

Educational level of the cotton producers: The educational level of cotton producers for all the survey sites appeared to be low averaging about 20%. Our results (Figure 2) showed that those cotton producers are more or less literate according a particular education domain. The percentage of those who knows how to write and read ranged between 12.5% (Kari) to 37.5% (Dohoun). Those who attended Koranic school also ranged between 12.5% (Sidi) to 37.5% (Dohoun and Guéna). About primary school attendance, it ranged between 25% (Dohoun) to 50% (Tondogosso and Baré). However, we got only 25% who attended till the secondary school in Tondogosso. Concerning the non-school enrolment, it ranged between 25% (Tondogosso) to 62.5% (Sidi).

Experience in cotton cultivation: The Table I below shows the cotton farmers' years of experience in cotton cultivation. Considering the average values, most of the producers had between 10 to 30 years of experience followed by the group of

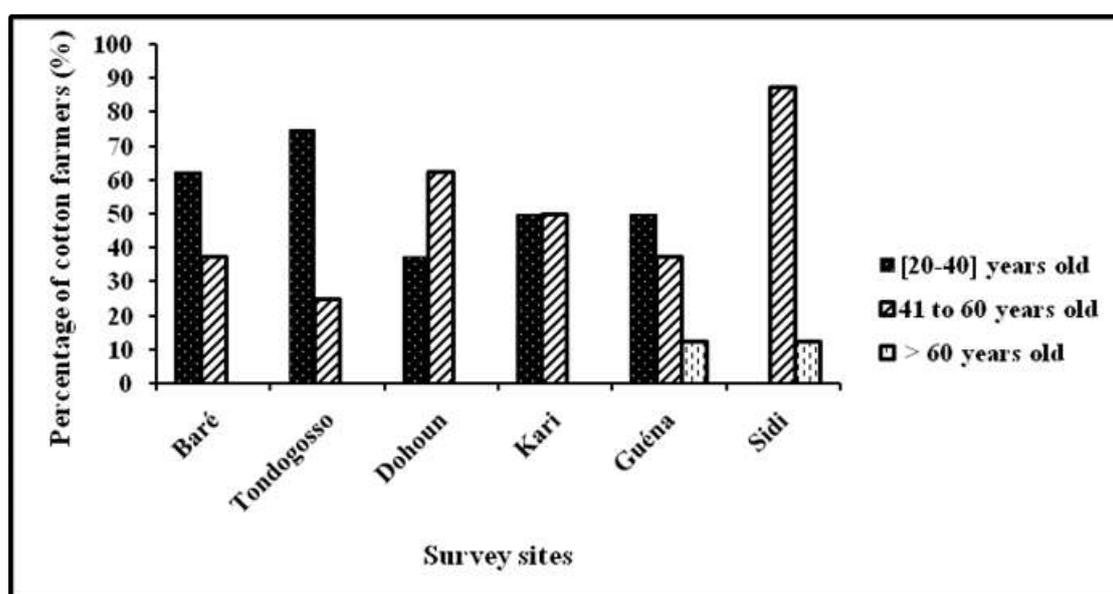


Figure 1. Age group of cotton farmers per village

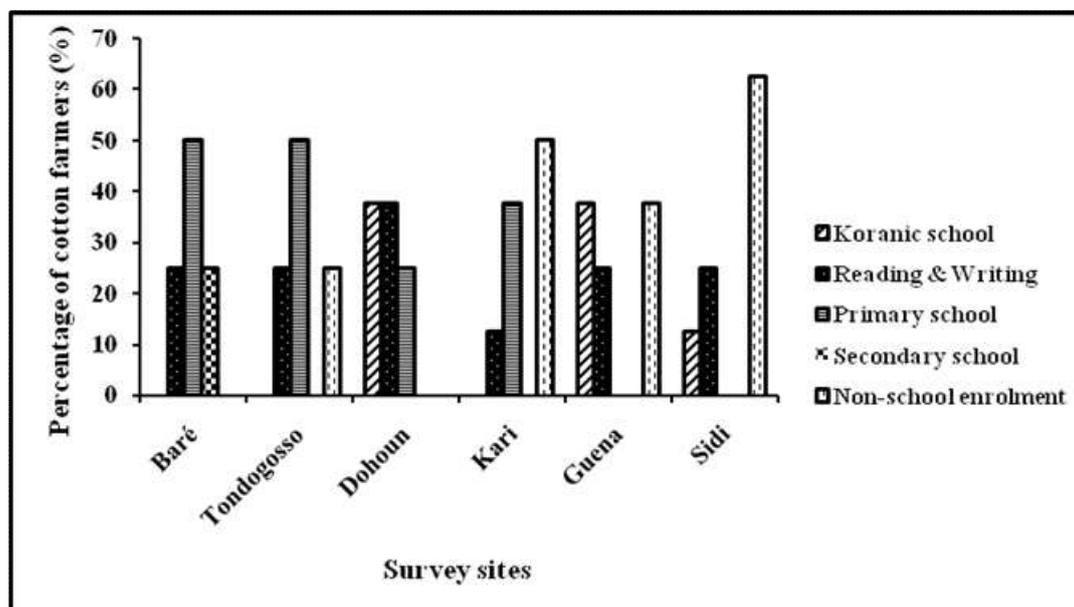


Figure 2. Educational level per survey sites

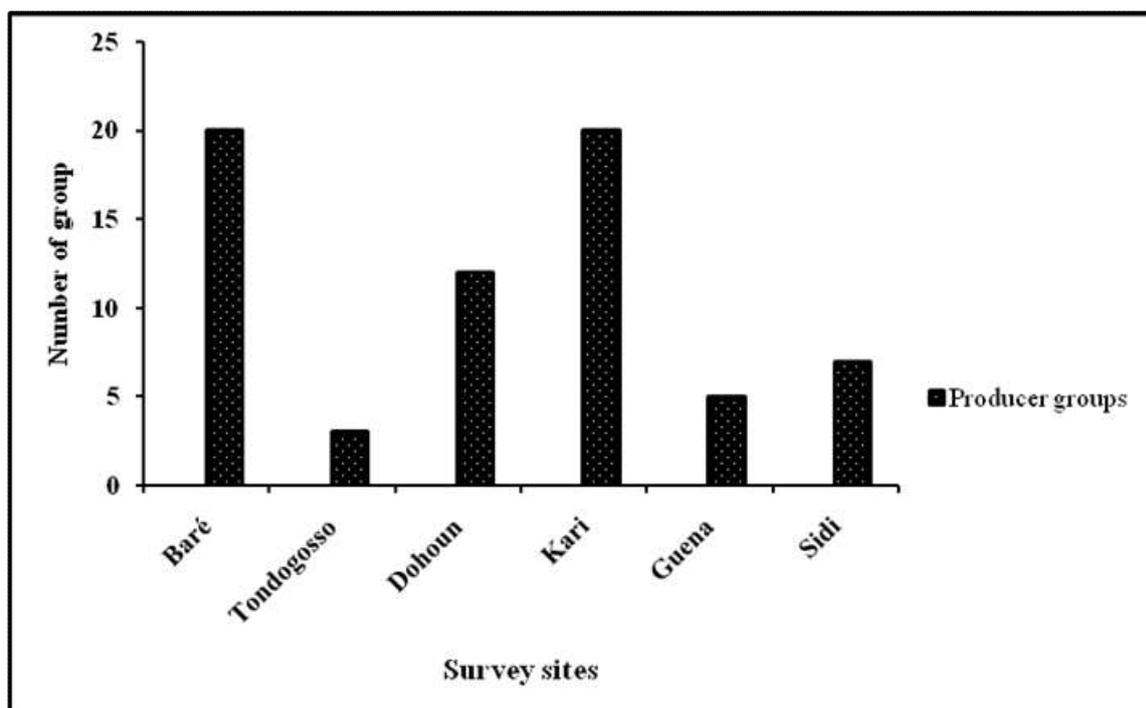


Figure 3. Producers groups per survey sites

Village	Years		
	Less than 10	10 to 30	> 30
	Percentage of Farmers (%)		
Baré	02	86	12
Kari	03	86	11
Dohoun	08	82	10
Sidi	10	80	10
Guéna	12	78	10
Tondogosso	15	78	07
Means	8	82	10
Probability	0.9		
Significance			

Table 2. Main and secondary activity of the producers

Type of activities	Producers across the main activity (%)	Producers across the secondary activity (%)
Rainfed agriculture	100	-
Vegetable crops	-	5
Trade	-	73
Livestock	-	22

Source: Hien (2018)

whom who had less than 10 years and the smallest group over 30 years. By comparing the survey sites, the “Less than 10 years” group of the cotton producers from Tondogosso and Guéna were the most experienced while those from Kari and Baré had the least experience. This trend is reversed for the group over 30 years. In all of the villages, the group between 10 to 30 years was enough experienced ranging from 78% to 86%.

Producer groups: The average number of producer groups was about 12. The survey results (Figure 3) showed that the villages of Baré and Kari had the largest producer group (20) while the village of Tondogosso showed the minor ones (3). The survey sites of Sidi and Guéna indicated intermediate values.

Activities of producers: The activities of producers are shown in Table 2.

It appeared that 100% of respondents practiced rain fed agriculture as their main activity. In terms of secondary activities, most of respondents were in trade followed by livestock and vegetable crops.

DISCUSSION

Our surveys showed that in the villages of Kari, Dohoun and Sidi, most of producers were over 40 years old. This fact could be related to the conditions of access to land by inheritance from father to son. These results are consistent with those of Bayala (2011) and Paré (2017). Moreover, this could be explained by the previous introduction of the cotton crop in the South sudanian area of Burkina Faso. Such an observation was made by Ouédraogo (2016). Our results showed that the cotton producers had a low educational level. These circumstances make it difficult their access to new technologies like agricultural equipment, improved varieties and technical

datasheets. Thus, the low literacy rate of cotton producers justifies their poor agricultural practices which led to low yields compared with potential ones. These results are consistent with those of Toé (2010) and Diallo (2007). Most of the producers had a long experience in the cotton cultivation as this activity seems to be perpetuated as a result of empirical knowledge from generation to generation. These results are consistent with those of Aïwa Aïwa (2015). The largest producer group in the villages of Baré and Kari could be explained by a better organization of the farmers in these locations just as mentioned by Malo (2016). The respondents practiced rain-fed agriculture as their main activity. Our results are in line with those of Sanon (2013). Cotton is harvested at the end of the rainy season. And, over the rainy season, most of the cotton farmers produced in addition vegetable crops on smaller areas which can't meet all their needs. This allows them to obtain additional income sources. Some cotton farmers also raised poultry and livestock especially the small ruminants which benefit of crop residues.

Conclusion

Our study aimed to characterize some cotton farmers in South-sudanian area of Burkina Faso. It emphasized the age group of most of the cotton farmers (about [41-60]), their low educational level (averaging 20%), their large experience in cotton cultivation (between 10 to 30 years), their low level of organization into producer groups and their main activity as rain-fed agriculture. However, to ensure their farming system sustainability, organization into producer groups appear to be a suitable alternative for the cotton crop development strategies. Because the cotton production depends on knowledge of the farmers, it would be interesting to create an umbrella organization for easing their access to emerging technologies about cotton production.

Conflict of interest statement: The authors states there are no conflict of interest in this manuscript.

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