



AgEcon SEARCH

RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

No endorsement of AgEcon Search or its fundraising activities by the author(s) of the following work or their employer(s) is intended or implied.

INSTITUTIONAL TRUST AS A DRIVER OF POLICY PERCEPTION: LESSONS FROM COTTON FARMING IN BURKINA FASO

Yacouba Kagambega

Department of Economics, LERE/DES, Nazi Boni University, 01 BP 1091,
Bobo-Dioulasso 01, Burkina Faso, ORCID: 0000-0001-8722-9702

Patrice Rélouendé Zidouemba

Department of Economics, LERE/DES, CEDRES and LABEA, Nazi Boni
University, 01 BP 1091, Bobo-Dioulasso 01, Burkina Faso
Email: patrice.zidouemba@gmail.com , ORCID: 0000-0002-7389-5605

Abstract

This paper explores the role of institutional trust in shaping cotton producers' perceptions of cotton policy in the Hauts-Bassins region, Burkina Faso's main cotton-growing area. Against a backdrop of declining production since 2014, the study examines how trust in sectoral institutions – particularly cotton companies – affects farmers' evaluations of implemented policies and their level of engagement. Drawing on survey data from 369 producers in the municipality of Léna (within the SOFITEX zone), the study models farmers' policy perceptions – categorized as poor, good, or very good – using an ordered logistic regression approach. Findings reveal that institutional trust emerges as a key determinant of favorable policy perception, alongside age and total farm size. Conversely, greater farming experience is associated with more critical views. The results point to a persistent mistrust of cotton sector authorities, who are often perceived as detached from producers' realities. To enhance the effectiveness and legitimacy of cotton policy, the study recommends strengthening institutional trust through participatory governance, transparent communication, and increased involvement of smallholders in decision-making.

Keywords: Cotton policy, Farmers' perceptions, Institutional trust, Agricultural governance, Burkina Faso

JEL Codes: H83, O13, Q12, Q18

1. Introduction

Since 2014, cotton production in Burkina Faso has been on a downward trajectory, as highlighted by FAO (2021). This persistent decline contrasts sharply with the growing national demand, estimated between 600,000 and 800,000 tons. However, the output from the country's three main cotton companies – SOFITEX (West), FASOCOTON (Center), and SOCOMA (East) – has stagnated around 150,000 tons (CCI-BF, 2021). Despite the implementation of awareness-raising and communication strategies by both public authorities and cotton firms, the anticipated recovery has not occurred (Konsimbo, 2019). As a result, a growing number of domestic oilseed processors, both industrial and artisanal, have turned to importing cottonseed from neighboring countries like Benin, Côte d'Ivoire, and Ghana to meet their needs.

Yet the challenges associated with cotton production go beyond its agricultural dimension. Cotton plays a pivotal role in the national economy by sustaining thousands of jobs along the value chain and supporting the development of localized agrifood systems (SYAL). Its by-products, such as seeds and cottonseed cake, are essential components of animal feed and contribute to food security within the livestock sector. These spillover effects can help enhance livestock productivity and income levels, while also mitigating recurrent tensions between herders and farmers in contexts of increased pressure on natural resources, exacerbated by climate change.

While the economic literature has extensively explored the factors influencing cotton productivity – ranging from price incentives and tariff mechanisms (Ogbu & Gbetibouo, 1990; Savadogo et al., 1995; Koffi-Tessio, 2000; Ndieng, 2003; Douya, 2009) to non-monetary variables such as input use, landholding size, labor availability, and producers' human capital – less attention has been paid to the way farmers perceive cotton policy itself. Yet, these perceptions could critically influence their willingness to engage with, or withdraw from, the institutional and strategic frameworks set by policy actors.

As Narayana and Parikh (1981) pointed out, agricultural choices are not exclusively driven by economic or technical considerations. They are also shaped by subjective interpretations of the institutional and environmental context. Farmers, as rational agents, make decisions based on how they perceive the risks, constraints, and opportunities surrounding them (Brossier et al., 1984). Understanding how they evaluate public policy is therefore essential for identifying the factors that condition their support or resistance to reform efforts.

In this context, the present study investigates the factors influencing cotton producers' perceptions of cotton policy in Burkina Faso, with a specific focus on the Hauts-Bassins region. The objective is to understand how producers assess the current policy framework and to identify the key drivers behind those perceptions. Ultimately, the analysis aims to offer insights into the causes of farmers' progressive disengagement and to inform the development of more inclusive and responsive agricultural policies.

2. Review of the Literature

In behavioral and agricultural economics research, perception is widely recognized as the lens through which individuals interpret environmental cues and make decisions. For example, a study examining farmers' perceptions of land protection in China highlights how values, risk evaluations, and social context influence behavioral intentions – and core to this is the idea that perception mediates the translation of environmental information into action (Liu & Luo, 2018). In the agricultural domain – particularly in the cotton sector – this concept offers valuable insight into how farmers respond to policy measures, technological innovations, and market dynamics.

In Sub-Saharan Africa, cotton production faces a complex web of challenges: volatile prices, limited input access, weak technical support, and increasing exposure to climate-related risks (Amanet et al., 2019). These objective constraints intersect with more subjective elements, such as how producers perceive agricultural policies, sectoral institutions, and broader economic conditions. Numerous studies have sought to identify the drivers of such perceptions, whether they are institutional, technical, or socioeconomic in nature. For instance, Padhy et al. (2021) investigated sources of stress in cotton farming and how they are perceived by producers. Their analysis revealed that variables like farm size and the frequency of interaction with extension agents directly affect perceived stress levels, underscoring the psychological importance of regular technical support.

In a more recent study, Deshmukh and Bhandarwar (2023) assessed how farmers viewed an emergency cotton policy implemented during the winter season. The results showed that factors such as household income, land tenure, membership in producer organizations, and

frequent interaction with technical services were positively and significantly associated with favorable policy perceptions. Meanwhile, farming experience, educational attainment, and household size enhanced producers' understanding of the program, illustrating the relevance of human capital in policy engagement.

Socioeconomic characteristics also shape farmers' adaptive capacity and production outcomes. Bindu and Maurya (2022) emphasized that age, experience, and education contribute positively to farmers' ability to navigate sectoral constraints and adopt coping strategies. Other research has examined perceptions of technological change. Zeldu and Sekar (2015), for example, found that landowners were less likely to adopt genetically modified cotton (Bt cotton), suggesting an unexpected resistance to innovation even among those with secure land tenure.

On the institutional front, Kabwe et al. (2018) explored cotton governance in Zambia and Zimbabwe through the lens of contract farming and informal practices. Their findings revealed deep-seated distrust between farmers and institutions, driven by perceptions of unfairness and lack of transparency – factors that ultimately undermine the sector's economic sustainability.

With respect to policy reform, Bofo et al. (2018) compared producers' views in Ghana and Burkina Faso. While Ghanaian farmers overwhelmingly viewed reforms negatively – largely due to opaque price-setting mechanisms – those in Burkina Faso expressed more mixed opinions, recognizing improvements in sectoral organization but criticizing persistent shortcomings in compensation and input delivery.

Input use is another area where farmer perception has drawn scholarly attention. Khan and Damalas (2015) analyzed perceptions of pesticide use and found that education, income, farming experience, scientific orientation, and media exposure were positively correlated with favorable views, whereas age had a negative influence – indicating greater reluctance among older farmers to adopt chemical inputs. In Myanmar, Khin Khin Mu et al. (2018) examined fertilizer management practices and found that low yields and profitability were closely linked to poor fertilizer application, highlighting the importance of technical knowledge in achieving better performance.

Organizational aspects have also been explored. Aydođdu et al. (2021) studied the factors influencing farmers' willingness to form agricultural unions. Their results suggest that younger producers – often more educated but economically constrained – were more inclined to engage in collective action to enhance bargaining power and improve service access.

Together, these studies underscore the diversity of factors influencing cotton producers' perceptions, spanning personal characteristics, institutional relationships, and technological or organizational dynamics. However, there remains a notable gap in the literature concerning how producers perceive national cotton policy in Francophone Sahelian countries, particularly Burkina Faso. This study aims to fill that gap by investigating the drivers of policy perception among farmers in the Hauts-Bassins region and examining how those perceptions shape their willingness to participate in the revitalization of the cotton sector.

3. Material and Method

3.1. Study Area

Situated in western Burkina Faso, the Hauts-Bassins region stands out as one of the country's leading economic and agricultural zones. It comprises three provinces – Houet, Kénédougou, and Tuy – with their administrative centers located in Bobo-Dioulasso, Orodara, and Houndé, respectively. From an administrative standpoint, the region includes 3 urban municipalities, 30 rural ones, 33 departments, 483 villages, and 45 sectors. Spanning 25,479 km², it covers around 9.4% of the national territory and is home to an estimated 2.24 million residents, based on recent figures from INSD (2023).

Beyond its demographic significance, the region boasts a relatively vibrant economy, fueled by industrial, artisanal, and commercial activities. It hosts key agro-industrial entities such as the Société Burkinabè des Fibres Textiles (SOFITEX) and the Filière Sahélienne du Coton (FILSAH), which are integral to its economic structure and regional development (INSD, 2023).

Geographically, the landscape of Hauts-Bassins includes a mix of peneplains, plateaus, hills, and low mountains, with altitudes ranging from 250 to 700 meters. Its soil profile is equally diverse but can be broadly categorized into two dominant types:

- Sesquioxide-rich soils with significant organic content, formed from the breakdown of tropical ferruginous soils (leached or not);
- Hydromorphic soils, particularly abundant in Houet province, which are well-suited to rice farming and horticultural production.

In Kéné Dougou province, most soils are deep (over 100 cm), moderately drained, and mineral-rich but deficient in organic matter – characteristics that favor the cultivation of cash crops like cotton, sesame, and groundnuts. In Tuy province, arable land makes up roughly half of the provincial area, pointing to considerable agricultural potential (INSD, 2023).

Climatically, the region falls within the North Sudanian tropical zone, experiencing annual rainfall between 800 mm and 1,100 mm. The year is divided into two main seasons: a dry season and a rainy one. However, climate change has increasingly disrupted this pattern, causing more erratic rainfall both in terms of quantity and distribution across agricultural seasons (INSD, 2023).

Hauts-Bassins is also recognized as a major hub for cotton production. Cotton is widely cultivated as a key cash crop, embraced by many farmers (Schwartz, 1993), and provides essential cash income for rural households (Gafsi & M'Betid-Bessane, 2003). The sector plays a critical socio-economic role, supporting nearly four million individuals directly, and many more indirectly through related activities such as input supply, agricultural financing, processing, and marketing. Its overall contribution to the national GDP exceeds 4% and accounts for close to 14% of export earnings (AICB, 2023).

Despite this central role, the 2023–2024 cotton season reveals troubling signs. A total of 283,845 producers were registered nationwide, but both output and cultivated acreage have sharply declined. The sector's highest production levels were recorded in 2014–2015, while 2023–2024 marks a new low. Similarly, the maximum area under cultivation was reached in 2017–2018, followed by a significant drop in the most recent campaign (AICB, 2023).

This downward trend raises critical questions about the underlying reasons for farmers' decreasing engagement in cotton cultivation. Moving beyond the technical and economic dimensions, this study aims to explore how cotton producers in the Hauts-Bassins region perceive national cotton policy. A deeper understanding of their perception can help cotton companies assess the degree of trust they enjoy among producers and refine their communication and intervention strategies accordingly.

3.2. Data Collection

In Burkina Faso, cotton marketing and ginning are carried out by three regionalized companies, each operating within a defined geographic area. The Société Burkinabè des Fibres Textiles (SOFITEX) operates in 20 provinces, FASOCOTON in 12, and SOCOMA in 6 (AICB, 2008). Despite their regional divisions, these companies implement a unified national cotton policy under the coordination of the Interprofessional Cotton Association of Burkina Faso (AICB).

This study concentrates on the SOFITEX zone – the country's largest and most productive cotton-producing area – located in the western part of Burkina Faso. Given the security

challenges present at the time of data collection, fieldwork was restricted to Houet province, and more precisely to six villages within the municipality of Léna. The choice of this municipality was guided by two primary criteria: (i) its notable contribution to regional cotton output and (ii) its relatively favorable security conditions, which permitted safe access for researchers.

Houet province was selected on the grounds that it could serve as a proxy for the broader Hauts-Bassins region. This assumption rests on two main factors: first, the agro-climatic conditions in western Burkina Faso’s cotton zones are largely consistent; and second, the implementation of cotton policy is standardized nationwide, regardless of which company is in charge of extension and producer support.

The selection of villages within Léna municipality followed a two-stage process. First, the municipality itself was purposively chosen based on the above criteria. Then, villages were randomly selected. A total of 369 cotton-producing households were surveyed. The household level was deemed the most appropriate unit of analysis, given the central role of household heads in agricultural decision-making and in forming opinions about public policies.

Data collection involved multiple steps. Within each selected village, interviewers began by identifying a cotton-producing household through simple random sampling. Upon arrival, they explained the purpose of the study to the household head and sought informed consent before proceeding with a semi-structured interview. This approach ensured adherence to ethical research principles, particularly with respect to confidentiality, voluntary participation, and transparency.

Table 1. Summary of Variables and Their Definitions

Variables	Description
Perception	Producer’s perception of SOFITEX cotton policy, measured as an ordinal variable: “0 = Poor”, “1 = Good”, “2 = Very Good”.
Gender	Dummy variable indicating the gender of the household head: 1 = male, 0 = female.
Education	Education level of the household head: 0 = illiterate, 1 = literate or primary education, 2 = secondary education, 3 = tertiary or university education.
Age	Age of the household head.
Experience	Number of years the household head has been involved in cotton production.
Credit	Dummy variable indicating access to credit: 1 = has access to other forms of credit, 0 = no access.
Household labor force	Number of household members aged between 15 and 65 years.
Income	Total household income from all sources.
Farm size	Total agricultural land area (in hectares).
Trust in SOFITEX authorities	Social trust in SOFITEX officials: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree.
Other cash crop	Dummy variable indicating whether the household grows another cash crop: 1 = yes, 0 = no.
Land ownership	Dummy variable for land ownership rights: 1 = owns land, 0 = does not own land.
Cotton promotion exposure	Dummy variable indicating whether the farmer has ever watched a television program promoting the cotton sector: 1 = yes, 0 = no.
Input distribution fairness	Farmer’s satisfaction with the fairness of input and equipment distribution by SOFITEX: 1 = very dissatisfied, 2 = dissatisfied, 3 = neutral, 4 = satisfied, 5 = very satisfied.

The sample size was determined using the following formula by Cochran, (1977) :

$$n = \frac{t^2 p(1-p)}{e^2} \quad (1)$$

Where:

n = sample size,

e = margin of error (acceptable precision level), set at 5%,

p = proportion of the population, set at 0.6775. According to IFDC (2013), the SOFITEX zone accounts.

t = Student's t-value for a 95% confidence level, which is 1.96

This formula assumes a normal distribution and is appropriate when the population is large or the sample size is expected to be greater than 30.

3.3. Model Specification

In this study, producers' perceptions are understood as the product of a cognitive appraisal process through which individuals subjectively evaluate their environment in light of personal experience, aspirations, and socio-professional context. Simply put, a farmer's level of engagement with cotton production is partially shaped by how they interpret the underlying policy framework governing the sector.

This conceptualization draws on Appraisal Theory – a psychological paradigm that attributes emotional and behavioral responses to individual evaluations of specific situations. As outlined by Gardin (2009), such appraisals are shaped by prior experiences, expectations, personal values, and belief systems. Within this framework, Appraisal Theory serves as a useful analytical lens for exploring how cotton producers operating in the SOFITEX zone make sense of national policy based on their lived realities.

Viewed from this angle, the producer acts as a rational decision-maker whose choices are guided by perceived alignment between their goals and the institutional or environmental conditions in which they operate (Brossier et al., 2025). Scherer (2001) further formalizes this evaluative process through a perception function, offering a structured way to analyze how farmers cognitively assess policy interventions and translate them into behavioral outcomes.

$$E = f(p, i, c).$$

where:

- p , which represents the perceived personal relevance of the phenomenon under consideration;
- i , which denotes the individual's perceived control or capacity to influence or respond to the situation;
- c , which captures the coping potential – that is, the resources or mechanisms the individual believes they can mobilize to deal with the context.

Building on this theoretical foundation, the present study applies the appraisal framework to analyze how cotton producers assess the current cotton policy. Perception is empirically measured using a survey item that asks: *“Do you consider the current cotton policy conducive to revitalizing the cotton sector in Burkina Faso?”* Responses are captured through an ordinal scale comprising three levels: *“poor,” “good,”* and *“very good.”*

Given the ordered nature of the dependent variable, the econometric analysis employs an ordered logit model (also referred to as the proportional odds model). This approach is particularly suited for ordinal outcomes, as it estimates the cumulative probabilities of being at or below a certain response level, conditional on a set of explanatory variables. Unlike binary logit or probit models, the ordered logit accounts for the hierarchical structure of response categories (Harrell, 2015).

In recent years, the ordered logit model has gained prominence in agricultural economics for examining farmers' attitudes and perceptions regarding public policies or agricultural innovations (Yarou et al., 2023). In our case, the model allows us to relate producers' perceptions to key explanatory factors, including sociodemographic attributes, farming experience, trust in institutions, access to extension services, and participation in producer organizations.

The use of an ordered logit model is justified when the dependent variable is qualitative with a natural rank order. As highlighted by Grilli and Rampichini (2014), such models – also referred to as ordinal polychotomous regression models – are appropriate when the outcome variable reflects gradations in opinion, preference, or evaluation.

In this context, our dependent variable – producers' perception of cotton policy – includes three ordinal categories. The proportional odds model assumes that the relationship between each pair of outcome groups is the same, an assumption known as the parallel lines assumption or proportional odds assumption (Liu & Koirala, 2012). This implies that the estimated coefficients shift the odds uniformly across all threshold levels of the response variable.

The basic functional form of the ordered logit model can be expressed as:

$$f(x) = \frac{e^{(\alpha+\beta x)}}{[1+e^{(\alpha+\beta x)}]} \quad (2)$$

The cumulative logit function, which expresses the probability of an observation falling in category i or below, is given by:

$$\text{logit } P(Y \leq i) = \ln\left(\frac{P(Y \leq i)}{1-P(Y \leq i)}\right); i = 1, \dots, k \quad (3)$$

The cumulative logistic model can then be written as:

$$\text{logit } P(Y \leq i) = \alpha_i + \beta_{i1}X_1 + \dots + \beta_{im}X_m; i = 1, \dots, k \quad (4)$$

where:

- Y is the ordinal dependent variable,,
- X_1, X_2, \dots, X_m are the explanatory variables,
- α_i is the intercept specific to threshold i ,
- β_j are the common slope coefficients across thresholds.

If the coefficients β_j remain constant across thresholds i , then the cumulative odds ratios are proportional – this is the key assumption of the model:

$$\text{odds } (Y \leq i) = \exp(\alpha_i) + \exp(\beta_1X_1 + \dots + \beta_mX_m); i = 1, \dots, k \quad (5)$$

This model thus allows for the estimation of how producers' characteristics affect the likelihood of holding a more or less favorable perception of cotton policy.

The Proportional Odds Model has been widely applied in empirical research across various fields, underscoring its relevance for analyzing ordinal qualitative outcomes. For instance, in Canada, Schaafsma and Osoba (1994) used it to assess quality of life among cancer patients by modeling the factors influencing perceived well-being levels. Adejumo and Adetunji (2013) applied the model in Nigeria to examine academic performance among students based on sociodemographic and instructional characteristics. In a different domain, Das and Rahman (2011) used it in Bangladesh to identify key risk factors associated with child malnutrition. These studies demonstrate the flexibility and robustness of the model in analyzing phenomena where responses are ranked according to preference or severity.

3.4. Model Estimation Using the Maximum Likelihood Method

The estimation of regression models for ordinal dependent variables is typically based on the maximum likelihood method, a standard statistical approach for evaluating nonlinear models. This method identifies the parameter values that maximize the likelihood of observing the given sample data (Anderson, 1984).

In the case of the ordered logit model, the cumulative logits are expressed as a function of explanatory variables X , as follows:

$$g_i = \alpha_i + \beta_{i1}X_1 + \dots + \beta_{im}X_m, \quad (6)$$

There are two types of parameters to estimate:

- The threshold parameters $\alpha_1, \dots, \alpha_{j-1}$, which define the cut-off points between the different categories of the ordinal dependent variable;
- The slope coefficients β , which measure the effect of a one-unit change in an explanatory variable on the probability of falling into a particular category of the dependent variable.

Under the assumption that there exists an unobserved latent variable Y^* , representing the producer's true perception, it is assumed that this latent variable has a conditional expectation $E(Y^*/X) = \beta X$ and a variance normalized to 1. The model then allows for the estimation of the probability that an individual i falls into category j of the ordinal variable Y , using the following equation :

$$P\left(Y_i^* = \frac{j}{X_i}\right) = F(\alpha_j - \beta X_i) - F(\alpha_{j-1} - \beta X_i) \quad (7)$$

where, $F(\cdot)$ denotes the cumulative logistic distribution function, and the bounds are normalized such that $\alpha_0 = -\infty$ et $\alpha_j = +\infty$, ensuring that $F(\alpha_0 - \beta X_i) = 0$ et $F(\alpha_j - \beta X_i) = 1$.

The likelihood function for the full sample is obtained by multiplying, for each individual, the probability of their observed outcome. It is given by:

$$L = \prod \prod p(Y_i^* = j/X_i)^{d_{ij}}, \quad (8)$$

where $d_{ij} = 1$ if individual i belongs to category j , and 0 otherwise. The objective of the estimation is to determine the values of parameters β and α_j that maximize this likelihood function, while respecting the ordering constraints on the thresholds. This procedure enables statistical inference on the effects of explanatory variables on the ordinal perception variable, while preserving the hierarchical structure of response categories.

4. Results and Discussion

The descriptive statistics of the sample (Table 2) provide a detailed overview of the sociodemographic and economic profiles of cotton producers in the study area. Participants' ages range from 20 to 83 years, with a mean age of 43. This wide distribution underscores the intergenerational nature of cotton farming in the region, where both young and older producers actively participate. It reflects the crop's long-standing role as a pillar of rural livelihoods.

On average, respondents reported 13 years of experience in cotton cultivation, with some having practiced for up to five decades. This indicates a strong accumulation of technical expertise and embedded social knowledge surrounding the activity.

In terms of educational attainment, the data reveal a generally low level of formal schooling among producers. Over 61% have never attended school, while roughly 27% are either literate, French-speaking, or have completed primary education. Only 11% have reached secondary education. Interestingly, educational level does not appear to be a key determinant of perceptions toward the cotton policy implemented by the cotton company, suggesting that

other dimensions – such as farming experience or institutional interaction – may play a more influential role.

With respect to land use, the average area allocated to cotton is approximately 2 hectares per farm, with some farms cultivating as much as 12 hectares. The average total agricultural landholding is 4 hectares, suggesting a significant degree of specialization in cotton within overall farming strategies.

The average number of agricultural workers per household is four, reflecting a predominantly family-based labor model common in rural production systems. Additionally, nearly 75% of respondents reported cultivating another cash crop alongside cotton, highlighting a deliberate strategy of diversification to mitigate the risks of price volatility and crop failure associated with monoculture.

The data also show that over 96% of respondents are native to the region. This strong local embeddedness likely contributes to the concentration of larger landholdings among resident farmers, who tend to enjoy more secure land tenure and stronger local support networks.

Finally, access to credit remains a major constraint. Beyond the input financing facilitated by the cotton company, access to external sources of agricultural credit is very limited: 87% of surveyed producers reported no access to such funding. This exclusion is largely due to collateral requirements imposed by financial institutions, which are often tied to land size – thereby marginalizing smallholders with limited land resources.

Table 1. Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Age (years)	369	45.72	11.85	20	83
Cotton farming experience	369	13.50	8.85	2	50
Education level (0–3)	369	1.31	1.57	0	3
Household labor force (≥15 y)	369	4.67	3.27	0	22
Total farm size (ha)	369	8.79	3.82	3	25
Cotton plot size (ha)	369	2.46	1.74	1	12
Access to other credit (0/1)	369	0.13	0.34	0	1
Trust in SOFITEX (1–5)	369	2.21	1.30	1	5
Other cash crop (0/1)	369	0.75	0.44	0	1
Household income (CFA)	369	1,427,473	386,524	775	2,937,500

Source : Authors survey

Note: Education is coded as 0 = no schooling, 1 = literate or primary, 2 = secondary, 3 = tertiary education. Trust is rated on a scale from 1 (no trust) to 5 (full trust).

Table 3 reveals a high level of dissatisfaction among cotton producers in the study area regarding the governance of the cotton sector. Approximately three out of four respondents expressed disapproval of how the sector is currently managed. This broad-based discontent signals a deep sense of economic marginalization and perceived injustice among local farmers.

For many producers, cotton is no longer seen as a reliable pathway to improved livelihoods. Instead, there is a growing belief that the economic benefits of cotton production are unequally distributed, favoring intermediaries – particularly cotton company representatives – over those who perform the most labor-intensive tasks. Farmers often articulate this frustration in stark terms: while they bear the physical burden of production, the financial gains are perceived to accrue primarily to external actors with limited connection to the everyday realities of rural communities.

This prevailing sentiment has contributed to a profound erosion of trust in cotton institutions. It underscores the need for a critical reevaluation of how value is shared along the cotton value chain and calls for more equitable and transparent mechanisms to ensure that producers receive a fairer share of the benefits generated by the sector.

Table 2. Level of Trust in Cotton Sector Authorities (SOFITEX)

Response category	Frequency	Percent	Cumulative (%)
Strongly disagree	135	36.6	36.6
Disagree	138	37.4	74.0
Neutral	5	1.4	75.3
Agree	64	17.3	92.7
Strongly agree	27	7.3	100.0
Total	369	100.0	100.0

Source: Field survey data.

As shown in Table 4, more than half of the surveyed producers (52%) expressed a negative perception of the cotton policy implemented by the cotton company in the study area. This critical stance signals widespread dissatisfaction with the strategic orientation and institutional measures intended to support the cotton sector.

Respondents frequently indicated that the cotton company is not perceived as genuinely committed to improving their socioeconomic well-being or supporting their long-term engagement in cotton farming. Many stated that they do not feel aligned with the company's vision, which they see as distant from their everyday realities and lacking inclusiveness in terms of farmer participation in decision-making. Consequently, the current policy framework is often viewed as being formulated without sufficient consideration for the perspectives and priorities of those most directly involved in cotton production.

Nonetheless, it is important to highlight a noteworthy distinction: while respondents voiced strong mistrust toward the individuals representing cotton sector institutions, their criticism of the policy framework itself was somewhat more restrained. This may be explained by the abstract and depersonalized nature of policy, which is understood as a general set of guidelines and intentions – distinct from the concrete actions of specific institutional actors. Such a distinction suggests a partial separation in producers' minds between dissatisfaction with institutional leadership and disapproval of the broader strategic framework in which those actors operate.

Table 3. Perception Level of the Cotton Policy Implemented by SOFITEX

Response category	Frequency	Percent	Cumulative (%)
Poor	192	52.0	52.0
Good	122	33.1	85.1
Very good	55	14.9	100.0
Total	369	100.0	100.0

Source: Field survey data.

Figure 1 reveals a strong alignment between producers' distrust of cotton sector authorities and their unfavorable views of the cotton policy itself. Farmers who report low levels of trust in the company's leadership are also more likely to criticize the policy framework guiding the sector. For many, the current policy is perceived not as a neutral set of strategic guidelines, but rather as a direct reflection of decisions made by institutional actors – decisions that are seen as being developed without meaningful input from the farming community.

This critique extends beyond formal institutional structures. Several respondents reported feeling unrepresented by their designated leaders within producer organizations. These representatives are often viewed as disconnected from the realities of smallholder farmers and ineffective in advocating for their interests, particularly within consultation and decision-making processes. This sense of exclusion contributes to a broader erosion of trust in the governance of the cotton sector and undermines the relational foundations necessary for implementing participatory agricultural policies.

The variance analysis presented in Table 5 supports this interpretation. Results indicate a statistically significant association (at the 1% level) between the degree of trust in cotton sector authorities and negative perceptions of the cotton policy. This finding suggests that producers' evaluations of the policy framework are closely linked to the level of confidence they place in those responsible for its implementation.

Table 4. Analysis of Variance

Source	SS	df	MS	F	Prob > F
Between groups	6.187	2	3.093	116.85	0.0000
Within groups	9.689	366	0.026		
Total	15.875	368	0.043		

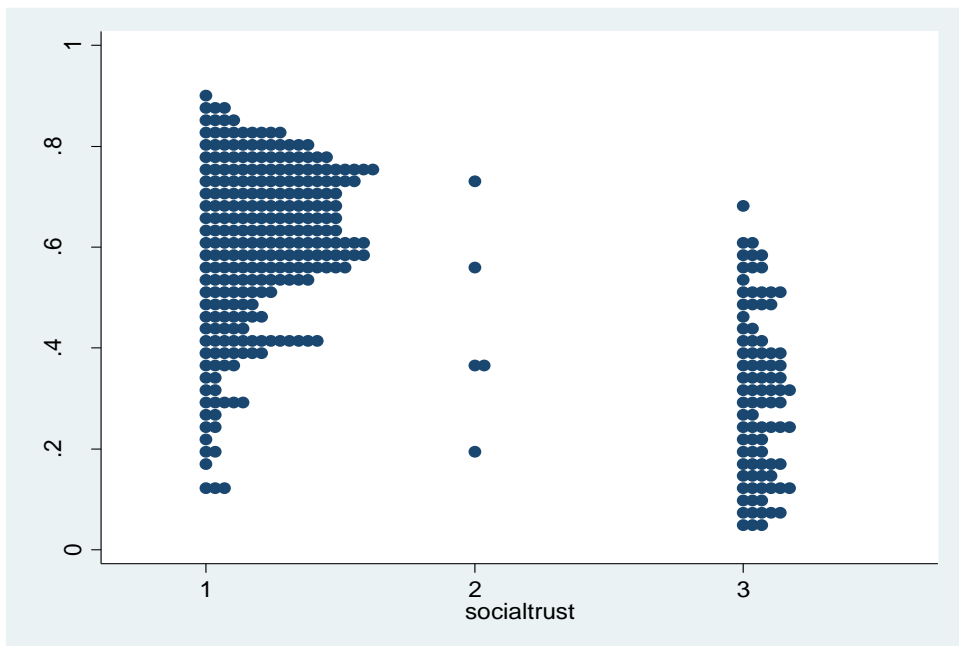


Figure 1 : Distribution of “Poor” Perception of Cotton Policy by Level of Trust in Cotton Sector Authorities

The findings from the binary logistic regression analysis (Table 6), which models producers' perceptions of cotton policy using a dichotomous variable (“good” versus “not good”), reveal that three variables exert a statistically significant influence on perception: producers' age, their years of experience in cotton cultivation, and their level of trust in cotton sector authorities.

Table 5. Binary Logistic Regression Results

Variable	Coef.	Std. Err.	z	p > z	[95% Conf. Interval]
Age	0.0917 ***	0.0137	6.71	0.000	[0.0649, 0.1184]
Education level	-0.0174	0.0777	-0.22	0.823	[-0.1698, 0.1349]
Cotton experience	-0.0729 ***	0.0168	-4.33	0.000	[-0.1059, -0.0399]
Household labor	-0.0426	0.0414	-1.03	0.303	[-0.1238, 0.0385]
Total farm size	0.0656 *	0.0354	1.86	0.064	[-0.0037, 0.1349]
Credit access	0.0760	0.3694	0.21	0.837	[-0.6481, 0.8000]
Household income	2.19e-07	3.64e-07	0.60	0.548	[-4.9e-07, 9.3e-07]
Other cash crop	0.4620	0.2863	1.61	0.107	[-0.0991, 1.0231]
Trust in authorities	0.4666 ***	0.1077	4.33	0.000	[0.2555, 0.6777]
_cons	-5.3003	0.8825	-6.01	0.000	[-7.0299, -3.5707]

Source: Author's computation based on field survey data.

Note: $p < 0.10$ (*), $p < 0.05$ (**), $p < 0.01$ (*). Dependent variable: 1 = favorable perception (“good”), 0 = unfavorable (“poor”).

The regression results reveal nuanced relationships between producers’ characteristics and their perceptions of cotton policy. First, age is found to have a positive and statistically significant effect on the likelihood of holding a favorable view of the policy. This suggests that older farmers tend to adopt a more conciliatory or tolerant stance, possibly due to a broader historical perspective or a greater capacity to adapt to institutional shortcomings over time.

Conversely, the number of years spent in cotton farming is negatively and significantly associated with favorable perceptions. This implies that more experienced producers are less likely to endorse the current policy framework. A plausible explanation is that prolonged exposure to the sector may lead to accumulated frustrations, particularly when initial expectations are not met or when structural constraints persist without meaningful reform.

Most notably, trust in cotton sector authorities stands out as a key driver of policy perception. The relationship is both positive and highly significant, indicating that producers who trust institutional actors are substantially more inclined to view the policy favorably. This finding underscores the central role of institutional credibility and the quality of governance in shaping farmer support for agricultural policies.

Table 6. Ordered Logistic Regression Results

Variable	Odds Ratio	Std. Err.	z	p > z
Trust in authorities	1.517 ***	0.139	4.55	0.000
Age (years)	1.075 ***	0.011	6.83	0.000
Cotton experience (years)	0.946 ***	0.013	-3.93	0.000
Total farm size (ha)	1.064 **	0.033	1.97	0.048
Other cash crop (0/1)	1.443	0.370	1.43	0.153
Education level (0–3)	0.976	0.069	-0.34	0.736
Household labor (≥ 15 y)	0.979	0.036	-0.58	0.560
Household income (CFA)	1.000	3.18e-07	0.15	0.883
/cut1	4.333	0.745		
/cut2	6.356	0.789		

Source: Author's estimation based on field survey data.

Note: $p < 0.10$ (*), $p < 0.05$ (**), $p < 0.01$ (*). Dependent variable: perception of cotton policy (1 = poor, 2 = good, 3 = very good).

The results from the ordered logistic regression (Table 7) reveal that four explanatory variables significantly influence cotton producers' perceptions of the cotton policy implemented by the cotton company. These variables are: trust in cotton authorities, the producer's age, experience in cotton production, and total cultivated land area. Among these, three variables – trust, age, and land area – are positively associated with favorable perceptions, while experience has a negative effect.

Age emerges as a key determinant shaping producers' perceptions of cotton policy. Older farmers are significantly more likely to view the policy favorably. The results indicate that each additional year of age increases the odds of falling into a more positive perception category (“good” or “very good” rather than “poor”) by 7.5%, holding other variables constant. This may reflect a more conciliatory or tolerant attitude among older producers, potentially shaped by accumulated resilience or a broader historical perspective on sectoral evolution. This result aligns with findings from Habtemariam et al. (2016), who reported a similar positive correlation between age and climate change perception in Ethiopia, as well as with Hergon et al. (2004), who identified age as a factor influencing both perception and risk acceptability. Given that the average age in the sample is around 46 years, this trend also raises broader questions about generational dynamics in agriculture, particularly as younger individuals increasingly assume leadership roles within family farming structures.

By contrast, experience in cotton farming is negatively and significantly associated with favorable policy perception. Each additional year of involvement in the sector decreases the likelihood of holding a positive view by 5.4%, all else being equal. This suggests that more experienced producers may have become disillusioned over time, potentially due to unmet expectations or persistent structural inefficiencies. This finding contrasts with previous studies such as Uddin et al. (2017), which found a positive relationship between farming experience and climate change perception in Bangladesh, and Yegbemey et al. (2014), who reported similar results in northern Benin.

Landholding size also plays a significant and positive role. Specifically, a one-hectare increase in total cultivated land raises the probability of a favorable perception by 6.4%, *ceteris paribus*. This may be explained by the fact that larger-scale producers tend to derive greater economic benefits from cotton cultivation and are thus more inclined to support the existing policy framework. Interestingly, this contrasts with the findings of Uddin et al. (2017), who observed a negative association between farm size and perception of climate-related risks in coastal Bangladesh.

Most notably, trust in cotton sector authorities stands out as the strongest predictor of perception. A one-unit increase in the trust index enhances the likelihood of a favorable policy perception by 51.7%, controlling for other factors. This highlights the fundamental role of institutional trust in shaping farmers' attitudes toward agricultural policy. The result supports earlier analyses by Loada (2012), who emphasized the erosion of trust due to repeated unfulfilled commitments by sectoral actors, and by Konsimbo (2019), who noted that ineffective governance mechanisms have further strained relationships between producers and institutions. These findings are consistent with Flynn et al. (1992), who argued that institutional trust is a core determinant of risk perception, particularly in complex, institutionally mediated policy environments.

Taken together, the findings underscore that perceptions of cotton policy are shaped by an interplay of personal (age, experience), structural (farm size), and institutional (trust) factors. They call for a rethinking of policy design and implementation strategies, advocating for more participatory, transparent, and context-sensitive governance models that reflect the diverse needs and expectations of producers on the ground.

5. Conclusion and Policy Implications

This study set out to explore the factors shaping cotton producers' perceptions of sectoral policy in the Hauts-Bassins region – Burkina Faso's leading cotton-producing area. Against the backdrop of a sustained decline in production and increasing tensions between producers and institutional actors, the analysis provides important insights into the roots of producer disengagement. Drawing on data collected from 369 producers in the municipality of Léna and employing an ordered logit model, the results highlight four key determinants of perception: trust in cotton sector authorities, producer age, farming experience, and total cultivated land area.

Of these, institutional trust stands out as the most influential. Producers who express confidence in the leadership of cotton institutions are significantly more likely to view the policy framework in a positive light. In addition, older age and larger farm size are associated with more favorable perceptions, while greater experience in cotton farming correlates with more negative evaluations – likely reflecting disillusionment accumulated over years of exposure to perceived sectoral inefficiencies. These findings point to the importance of moving beyond technical aspects of policy to consider how legitimacy, transparency, and inclusiveness influence farmer engagement.

In response, a number of policy recommendations can be formulated to rebuild trust and enhance producer buy-in. First, transparency in the governance and management of the sector must be strengthened. Second, greater efforts are needed to ensure that producers – particularly smallholders and marginalized groups – are meaningfully represented in decision-making forums. Third, institutional communication strategies should be tailored to account for the diverse socio-economic and generational profiles of stakeholders.

Moreover, improving access to credit and agricultural inputs remains essential, particularly through the removal of systemic constraints that exclude the most vulnerable. Finally, recognizing and empowering youth within cotton organizations is increasingly important, as younger generations are taking on greater responsibilities in farm operations and will shape the sector's trajectory moving forward.

Overall, revitalizing Burkina Faso's cotton sector will require a renewed social contract between producers and institutions – one grounded in mutual trust, participatory governance, and a shared commitment to inclusive rural development.

References

- Adejumo, A. O., & Adetunji, A. (2013). Application of ordinal logistic regression in the study of students' performance. *Mathematical Theory and Modeling*, 3(11), 10-19.
- AICB. (2023). *81ème Assemblée plénière du Comité Consultatif International du Coton (CCIC), Rapport du Burkina Faso*.
- Amanet, K., Chiamaka, E. O., Quansah, G. W., Mubeen, M., Farid, H. U., Akram, R., & Nasim, W. (2019). Cotton Production in Africa. In K. Jabran & B. S. Chauhan (Eds.), *Cotton Production* (pp. 359-369). <https://doi.org/10.1002/9781119385523.ch17>
- Anderson, J. A. (1984). Regression and Ordered Categorical Variables. *Journal of the Royal Statistical Society. Series B (Methodological)*, 46(1), 1-30. <http://www.jstor.org/stable/2345457>
- Aydoğdu, M. H., Sevinç, M. R., & Cançelik, M. (2021). A research on the perceptions of cotton producers to form a producers' union in Şanlıurfa-Turkey. *Journal of Ekonomi*, 3(1), 5-8.
- Bindu, M. H., & Maurya, M. (2022). Socio Economic Study of Cotton Growers and Constraints in Cotton Production in Bhadradi Kothagudem District of Telangana. *Asian*

- Journal of Agricultural Extension, Economics & Sociology*, 40(10), 521-528. <https://doi.org/10.9734/ajaees/2022/v40i1031107>
- Boafo, Y. A., Balde, B. S., Saito, O., Gasparatos, A., Lam, R. D., Ouedraogo, N., Chamba, E., & Moussa, Z. P. (2018). Stakeholder perceptions of the outcomes of reforms on the performance and sustainability of the cotton sector in Ghana and Burkina Faso: A tale of two countries. *Cogent Food & Agriculture*, 4(1), 1477541. <https://doi.org/10.1080/23311932.2018.1477541>
- Brossier, J., Chia, E., & Marshall, É. (2025). Les agriculteurs et leurs pratiques de trésorerie. *Économie rurale*, 161, 46-49. <https://doi.org/10.3406/ecoru.1984.3047>
- Das, S., & Rahman, R. M. (2011). Application of ordinal logistic regression analysis in determining risk factors of child malnutrition in Bangladesh. *Nutrition Journal*, 10(1), 124. <https://doi.org/10.1186/1475-2891-10-124>
- Deshmukh, J., & Bhandarwar, V. (2023). Relationship Between Profile of Rainfed Cotton Growers and Perception of Contingency Crop. *International Journal of Current Microbiology and Applied Sciences*, 12(9), 302-306. <https://doi.org/10.20546/ijemas.2023.1209.029>
- Douya, E. (2009). Analyse des déterminants de l'offre de coton au Cameroun. In A. A. Amin & J.-L. Dubois (Eds.), *Croissance et développement au Cameroun : d'une croissance équilibrée à un développement équitable* (pp. 81-104). Langaa Research and Publishing CIG.
- FAO. (2021). *Crops and livestock products*. <https://www.fao.org/faostat/en/#data/GT>
- Flynn, J., Burns, W., Mertz, C. K., & Slovic, P. (1992). Trust as a Determinant of Opposition to a High-Level Radioactive Waste Repository: Analysis of a Structural Model. *Risk Analysis*, 12(3), 417-429. <https://doi.org/10.1111/j.1539-6924.1992.tb00694.x>
- Gafsi, M., & M'Betid-Bessane, E. (2003). Stratégies des exploitations cotonnières et libéralisation de la filière. *Cahiers Agricultures*, 12(4), 253-260 (251). <https://revues.cirad.fr/index.php/cahiers-agricultures/article/view/30398>
- Gardin, P. (2009). Application de la théorie de l'Appraisal à l'analyse d'opinion. Actes de la 17ème conférence sur le traitement automatique des langues naturelles (TALN 2010),
- Grilli, L., & Rampichini, C. (2014). Ordered Logit Model. In A. C. Michalos (Ed.), *Encyclopedia of Quality of Life and Well-Being Research* (pp. 4510-4513). Springer Netherlands. https://doi.org/10.1007/978-94-007-0753-5_2023
- Habtemariam, L. T., Gandorfer, M., Kassa, G. A., & Heissenhuber, A. (2016). Factors Influencing Smallholder Farmers' Climate Change Perceptions: A Study from Farmers in Ethiopia. *Environmental Management*, 58(2), 343-358. <https://doi.org/10.1007/s00267-016-0708-0>
- Harrell, F. E. (2015) *Regression Modeling Strategies : With Applications to Linear Models, Logistic and Ordinal Regression, and Survival Analysis (2nd edition)*. Springer International Publishing. ,
- Hergon, E., Moutel, G., Bellier, L., Hervé, C., & Rouger, P. (2004). Les facteurs de perception et d'acceptabilité du risque : un apport pour la connaissance des représentations du risque transfusionnel. *Transfusion Clinique et Biologique*, 11(3), 130-137. <https://doi.org/10.1016/j.tracli.2004.07.002>
- INSD. (2023). *Annuaire statistique 2022 de la région des Hauts Bassins*. <https://www.insd.bf/sites/default/files/2024-02/Annuaire%20statistique%202022%20de%20la%20r%C3%A9gion%20des%20Hauts%20Bassins.pdf>
- Kabwe, S., Mutambara, J., Mujeyi, K., Blackmore, E., Vorley, B., & Weng, X. (2018) *Contract farming and informality: drivers and governance responses in Zambia and Zimbabwe*, London, IIED, 182.

- Khan, M., & Damalas, C. A. (2015). Factors preventing the adoption of alternatives to chemical pest control among Pakistani cotton farmers. *International Journal of Pest Management*, 61(1), 9-16. <https://doi.org/10.1080/09670874.2014.984257>
- Khin Khin Mu, K. K. M., Kyaw Ngwe, K. N., Thanda Min, T. M., Aung Naing Oo, A. N. O., & Swe Swe Mar, S. S. M. (2018). Farmers' perception of fertilizer management practices for cotton production in Magway Region of Myanmar. *International Journal of Environmental and Rural Development*, 9(2), 82-87.
- Koffi-Tessio, E. (2000). Incitations et offre du coton au Togo. Une estimation économétrique. *Économie rurale*, 257(1), 78-88.
- Konsimbo, E. F. (2019). *Contribution à l'étude de la performance de la filière coton en Afrique : Une analyse stratégique du système d'acteurs de la gestion des intrants de la zone cotonnière de la SOFITEX au Burkina Faso* [Ph.D Thesis, Université Aube Nouvelle: Centre de Recherche et d'Etudes en Management (CREM)]. Ouagadougou, Burkina Faso. <https://hal.science/tel-03284249>
- Liu, H., & Luo, X. (2018). Understanding Farmers' Perceptions and Behaviors towards Farmland Quality Change in Northeast China: A Structural Equation Modeling Approach. *Sustainability*, 10(9), 3345. <https://www.mdpi.com/2071-1050/10/9/3345>
- Liu, X., & Koirala, H. (2012). Ordinal regression analysis: Using generalized ordinal logistic regression models to estimate educational data. *Journal of modern Applied Statistical methods*, 11(1), 242-254.
- Loada, A. (2012) L'Économie Politique du Succès de la Filière Coton au Burkina Faso: Entre Paradoxes et Incertitudes, *FAC Working Paper* 41,
- Narayana, N. S. S., & Parikh, K. S. (1981). *Estimation of farm supply response and acreage allocation: A case study of Indian agriculture*. I. I. f. A. S. Analysis. <https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=4cdda22c8bd6afe379ad12fc8a87b67701b2c212#page=9>
- Ndieng, M. (2003). *Analyse des facteurs déterminants de la culture du coton au Sénégal* [Mémoire de DEA, Institut Africain de Développement Economique et de Planification (IDEP)]. <https://repository.uneca.org/server/api/core/bitstreams/d71f70d1-1aa0-55b7-9c62-ac0178a214e4/content>
- Ogbu, O. M., & Gbetibouo, M. (1990). Agricultural Supply Response in Sub-Saharan Africa: A Critical Review of the Literature. *African Development Review*, 2(2), 83-99. <https://doi.org/10.1111/j.1467-8268.1990.tb00025.x>
- Padhy, C., Raju, P., & Kumar, R. (2021). Stress factors in cotton cultivation and perception of the growers. *Pharma Innov J*, 10(3), 285-289.
- Savadogo, K., A Reardon, T., & Pietola, K. (1995). Mécanisation et offre agricole dans le Sahel: une analyse de la fonction de profit des exploitations agricoles. *Revue d'économie du développement*, 3(2), 57-91. https://www.persee.fr/doc/recod_1245-4060_1995_num_3_2_923
- Schaafsma, J., & Osoba, D. (1994). The Karnofsky performance status scale re-examined: a cross-validation with the EORTC-C30. *Quality of Life Research*, 3(6), 413-424. <https://doi.org/10.1007/BF00435393>
- Scherer, K. R. (2001). Appraisal considered as a process of multilevel sequential checking. In K. R. Scherer, A. Schorr, & T. Johnstone (Eds.), *Appraisal processes in emotion: Theory, methods, research* (Vol. 92, pp. 92-120). Oxford University Press.
- Schwartz, A. (1993). Brève histoire de la culture du coton au Burkina Faso. In Association « Découvertes du Burkina » (Ed.), *Découvertes du Burkina : 1 (Annales des conférences organisées par le Centre culturel français Georges Méliès de Ouagadougou : 1991-1992)* (pp. 207-237). Sépia; AADB. https://horizon.documentation.ird.fr/exl-doc/pleins_textes/pleins_textes_6/b_fdi_43-44/010005872.pdf

- Uddin, M. N., Bokelmann, W., & Dunn, E. S. (2017). Determinants of farmers' perception of climate change: a case study from the coastal region of Bangladesh. *American Journal of Climate Change*, 6(1), 151-165.
- Yarou, S., Hougni, A., Yessoufou, D., & Yabi, J. (2023). Determinants de la perception des producteurs de soja du Nord-Est du Bénin face aux pratiques de Gestion Durable des Terres. *Agronomie Africaine*, 35(1), 75-89.
- Yegbemey, R. N., Yabi, J. A., Aïhounton, G. B., & Paraïso, A. (2014). Modélisation simultanée de la perception et de l'adaptation au changement climatique: cas des producteurs de maïs du Nord Bénin (Afrique de l'Ouest). *Cahiers Agricultures*, 23(3), 177-187.
- Zelda, E., & Sekar, C. (2015). Bt cotton: Evaluating farmers' perception in Tamil Nadu, India. *International Journal of Agricultural Policy and Research*, 3, 236-241.