PERCEPTIONS OF THE IMPACT OF ORGANIC MARKET GARDENING IN THE COMMUNES OF GREATER OUAGA IN BURKINA FASO.

Abstract:

In Burkina Faso, organic market gardening is struggling to become widespread, due to uncertainties about its capacity to effectively meet current challenges of food security and natural resource preservation.The benefits of this production model remain poorly understood. This study aimed to analyze producers' perceptions of the impacts of organic market gardening. To this end, a survey was conducted with 102 organic market gardeners and 20 stakeholders involved in promoting organic market gardening in particular, and organic agriculture in general. A mixed-methods approach, combining quantitative and qualitative methods, was carried out from May to December 2024 in the municipalities of Greater Ouagadougou. The analyses employed descriptive statistics, the chi-square test of independence, and content analysis. The results show that organic market gardening generates socio-economic and agronomic benefits.It is perceived as a means of economic empowerment for producers and improved socio-economic recognition for women. It also contributes to the development of market innovations, particularly direct sales and online sales. Furthermore, organic market gardening is perceived as: a means of increasing agricultural yields (68%), a source of improved income (71%), a means of income diversification (52%), a driver of health and quality of life, as well as a tool for strengthening human and social values. The economic empowerment of producers is determined by factors such as income growth ($p < 0.0001$), direct sales at the farm gate ($p < 0.0001$), crop preservation ($p < 0.0001$), cultivated area ($p = 0.0005$), gender ($p = 0.0073$), and experience ($p = 0.0208$). Given its socio-economic importance to producers, its promotion must be the subject of agricultural policies adapted to the needs of the stakeholders.

Key words: -:
Burkina Faso, Organic market gardening, Perceptions, impact, Income

INTRODUCTION

In Burkina Faso, the agricultural sector plays a strategic role in improving food security and rural household incomes. However, production systems continue to face ongoing degradation of natural resources and increasingly marked climate variability (INSD, 2022). The situation remains particularly concerning in the vegetable sector, which provides fresh produce to consumers. In Burkina Faso, the use of bio-inputs in vegetable farming remains marginal. Vegetable production practices are still largely dominated by the use of chemical fertilizers and pesticides (MAHRH, 2007). This production model is neither sustainable nor viable. This excessive reliance on chemical inputs leads to residual pollution of soils, water, plants, and food.
In Burkina Faso, 31% of land is degraded by chemical inputs (MAAH, 2018). The growth rate of pesticide use had already reached 11% per year (Toé, 2010). Uncontrolled use, sometimes with unregulated products, constitutes a major risk to the health of both producers and consumers. Indeed, food poisoning linked to pesticides has caused 25 deaths in recent years in several localities, according to the Burkinabè daily newspaper "Burkina 24" of May 21, 2021. Faced with the limitations of conventional market gardening, organic market gardening appears as a viable and promising alternative. According to Muscănescu (2013), this alternative completely

excludes the use of chemical inputs. Organic market gardening in Burkina Faso adheres to organic production standards and specifications established by the National Council for Organic Agriculture through the Participatory Guarantee System (BioSPG) organic certification. This alternative has the advantage of protecting not only the producer but also the consumer. It improves the environment and the socioeconomic conditions of organic producers. For Meemken *et al.* (2018), organic farming is synonymous with sustainable agriculture. In terms of environmental impacts and climate change, organic farming is less polluting. It is an agricultural model with enormous benefits in terms of achieving food sovereignty, strengthening social ties, economic inclusion, and connecting producers and consumers (CNABio, 2017). Despite its socioeconomic, agronomic, and environmental performance, often highlighted by its proponents, organic market gardening struggles to gain traction and develop on a large scale. How can agriculture be practiced without resorting to chemical inputs? Is organic farming truly suitable for a country like Burkina Faso?Uncertainties persist regarding its capacity to meet current challenges, particularly in terms of food security and environmental protection. These doubts are all the more legitimate given that the positive impacts of this production method remain poorly understood, insufficiently capitalized upon, and rarely analyzed. Solid scientific evidence capable of convincing skeptics remains far too limited.In light of this reality, it seemed essential to us, within the framework of this study, to give a voice to organic producers in order to gather their perspectives on the impact of this agricultural model in the municipalities of Greater Ouagadougou. We therefore formulated the following central question: what are the market gardeners' perceptions of the performance of organic market gardening practices?

1. Methodological approach

1.1.Theoretical framework

On the Perception of Innovation's Usefulness as a Source of Commitment for Organic Producers.

Producers' commitment to organic agriculture can be analyzed from two perspectives. On the one hand, social perceptions, representations, and positive assessments of the benefits of this agricultural model contribute to strengthening their involvement. On the other hand, judgments that emphasize its uselessness fuel skepticism and hinder adoption of organic agriculture. Drawing on the diffusion theory of innovation, Rogers (1995) highlights the notion of relative advantage, which corresponds to the perceived usefulness of innovation compared to existing practices.

According to him, this concept is essential for understanding the collective dynamics of engagement. He distinguishes five stages in the process of adopting an innovation within a society: becoming aware of the product, evaluating its relevance (relative advantages and effects), deciding to adopt it, experimenting, and then confirming the adoption decision.As Millerand (1998) points out, the specific characteristics of the innovation and the perceptions that individuals develop about it determine their acceptance and agreement. For his part, Olivier de Sardan (1995) reminds us that the diffusion of innovations, particularly in agriculture, depends on several factors: the relative benefit they provide, the associated risks, their compatibility with the existing technical system, and their apparent degree of complexity.From a complementary

perspective, Davis (1989) shows that perceived utility is a central factor in the adoption of technological innovations, alongside ease of use. Finally, Roussy *et al.* (2015) show that perceptions of utility are closely linked to individual preferences, economic constraints, and collective representations.

1.2.Study Area

This research was conducted in the municipalities of Greater Ouagadougou, one of the main organic production areas in Burkina Faso (CNABio, 2017). This geographical area encompasses the urban municipality of Ouagadougou and seven surrounding rural municipalities: KomkiIpala, Komsilga, Koubri, Pabré, Saaba, Tanghin-Dassouri, and Loumbila, a municipality in the Oubri region (Figure 1). Greater Ouagadougou is bordered to the north and east by the Oubri region, to the south by the Nazinon region, and to the west by the Nando region. Annual rainfall varies between 700 and 1000 mm.

The territory benefits from a dense hydrographic network, favorable to market gardening. Its climate is of the Sudanian-Sahelian type (INSD, 2020). Its area is estimated at approximately 3,304 km². The population, estimated at 3,900,384 inhabitants, represents 14.8% of the national population. It comprises 49.2% men and 50.8% women. The area is predominantly urbanized. The choice of this study area is explained by the strong presence of producers certified organic by the Participatory Guarantee System (BioSPG), specializing in organic market gardening. These producers supply the capital with organic products, the demand for which is growing.

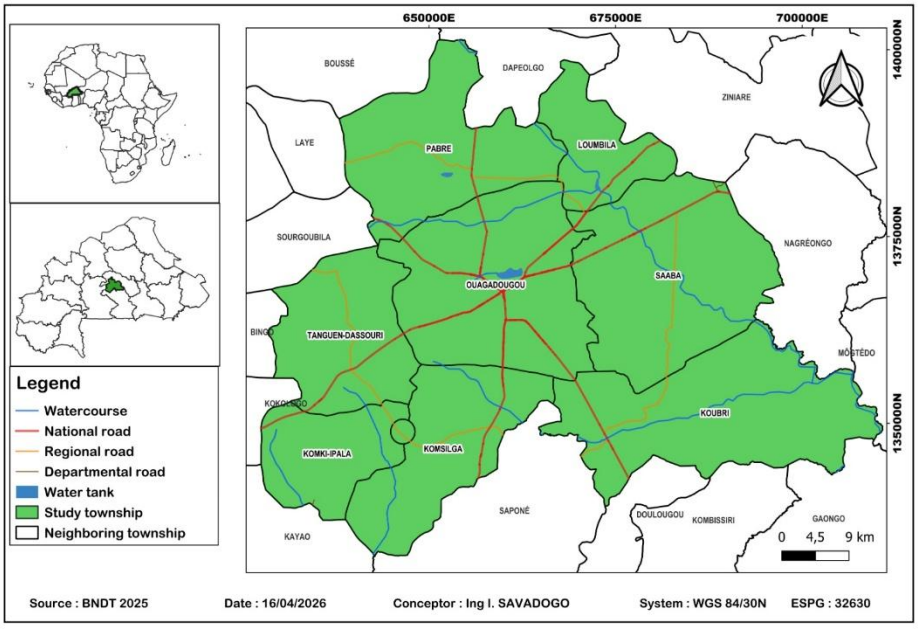

Figure 1: Study Area Map

1.3.Sampling

The surveyed population consists primarily of organic market gardeners with at least three years of experience in organic market gardening within the municipalities of Greater Ouagadougou.

This three-year threshold was chosen to better understand the dynamics specific to organic market gardening practices.

A simple random sampling method was used, drawing from the exhaustive list of market gardeners provided by the National Council for Organic Agriculture.

The sample size was determined using the formula from Real *et al.*, 1997.

n=⌊〖tp〗^2×p(1-p) ×N ⁄〖tp〗^2×p(1-p) +(N-1) ×y^2 ⌋.

With: n = sample size; N = target population size; P = expected or actual proportion of a response, set to 0.5 by default; tp = confidence interval; y = margin of error. The 95% confidence interval corresponds to tp = 1.96 and y = 5%. Thus, 102 producers were selected based on their compliance with the BioSPG regulations.

In addition, resource persons were consulted. Using the purposive selection technique, 20 key stakeholders from government agencies, non-governmental organizations (NGOs), and associations working in the fields of agroecology and organic agriculture were included in the survey.

1.4.Data collection and analysis

In this research, we adopted a mixed-methods approach combining quantitative and qualitative methods (Campenhoudt*et al.*, 2017). This approach has the advantage of allowing the collection and analysis of both numerical and discursive data at different stages of the process (Creswell and Plano, 2007). Quantitative data were collected using a questionnaire focusing primarily on organic market gardeners' perceptions of the impact of organic market gardening in the municipalities of Greater Ouagadougou.The questionnaire addressed several points, including: the socio-demographic characteristics of the organic producers surveyed; the contribution of organic market gardening to the producer's socio-economic empowerment; the impact on the organic producer's quality of life; the effects on agricultural yields, producer income, soil health, and the strengthening of human and social relationships. This data was supplemented by qualitative surveys conducted through semi-structured interviews with key informants. The collected data focused on the stakeholders' vision and perceptions of organic production, their varying perceptions of the economic and agronomic profitability of organic production, and the impact of organic production on improving and strengthening collaboration among stakeholders.The questionnaire responses were entered into an Excel spreadsheet and then analyzed using descriptive and multivariate methods. The interviews were fully transcribed using F4 and Good Tape software. The resulting corpora were then subjected to content analysis.The analytical model used to identify market dynamics and innovations is primarily a thematic content analysis (TCA) proposed by Paillé and Mucchielli (2021). Proportions were calculated and then submitted to a rating scale (Table 1). This scale was based on the Likert scale (Lemaine, 1967), developed in the 1930s by the American psychologist, statistician, and sociologist Rensis Likert (1903–1981).

Table 1 : Scale for assessing market dynamics and innovations

Frequency (%)	Corresponding symbol	Appreciation
1-35	+	Emerging
36-45	++	Moderate
46-55	+++	Significant
56 and more	++++	Very signicant

The chi-square test of independence was used to detect the existence of significant relationships between the explanatory variables and producer empowerment at the 5% level. Cramer's V coefficient was then used to assess the strength of these relationships.

2. Results

The results highlight a plurality of perceptions regarding the socio-economic and agronomic benefits linked to the practice of organic market gardening in the municipalities of Greater Ouagadougou.

2.1.Socioeconomic benefits of organic market gardening

Producers perceive the socio-economic benefits of organic market gardening at several levels, including the emergence of socio-economic dynamics and the development of market innovations (Table 2). They also highlight the increase and diversification of income sources, the development of organic markets, the improvement in the producer's quality of life and health, and the strengthening of human and social values.

Table 2 : Market innovations associated with organic market gardening

Social dynamics and market innovations	Frequencc (%)	Level of intensity
Fieldside sale	65	++++
Improving the social image of women	55	+++
Women's economic empowerment	45	++
Digital marketing	45	++
Delivery	45	++
Contract farming	35	+

Légend : Emerging=+ ; Moderate=++ ; Significant=+++ ; Very significant++++.

2.1.1. Transformation of the economic and social role of women

The results (Table 2) highlight a gradual transformation in the socio-economic role of women in market gardening. Indeed, approximately 55% of producers believe that organic market

gardening contributes to improving the social image of women producers, while 45% report a strengthening of their economic autonomy. Increased income contributes to greater participation of women in household expenses and family decision-making.

2.1.2. Development of markets and shops selling organic products

Farm-gate sales are the most common method (65%), followed by digital marketing (45%) and home delivery (45%). The increasing use of digital platforms and social media by organic producers has revolutionized their market access. Producers use platforms like Facebook, WhatsApp, and TikTok to sell their organic products, thereby increasing their reach and accessibility.Mr. Y.S. describes how these digital tools facilitate networking and direct sales: "*Many producers have created Facebook and WhatsApp platforms where they post available organic products… Interested consumers order online and receive home delivery.*" This shift to digital has also encouraged innovation among young producers, who see online sales as an opportunity to enter agriculture while adopting modern and efficient business models.

Moreover, an institutional representative explains it this way: "*Many young people want to sell online. They handle the marketing of organic products on social media and gradually build a customer base*." (Y.S., CNABio).Furthermore, there has been strong growth in markets and shops in Ouagadougou dedicated solely to the sale and distribution of organic and agroecological products. Initially considered niche markets, the city of Ouagadougou now boasts more than a dozen markets and shops specializing in the sale of organic products.

The organic markets identified through our interview data are: the Rosa market in Ouaga 2000, the Club de l'Étrier market, the Loumbila market (held every Sunday), the Bois area market, and the Dassasgho organic market. We also have at least four shops selling organic products: Eco-bio Panier Tampouy and Eco-bio Panier Koulouba, Boutique Napambéogo, Boutique Bio Farmer Market, and Boutique BIOGRACED in the 1200 Logements district. These markets and shops facilitate the rapid distribution of organic products.N.S., an organic producer, emphasizes the importance of these markets for organic producers, stating: *"Organic producers are rubbing their hands together today because there are enough sales outlets for their products. There is also a diverse customer base because demand is high and supply often struggles to meet it."*

2.1.3. Increase and diversification of income sources

Organic market gardeners associate their activity with an increase and diversification of their income. Indeed, 71% of producers have recorded an average improvement in their income after a few years of practicing organic market gardening. In addition, 25% report a very significant increase, while 3% observe a stagnation (Figure 2).

Furthermore, organic market gardening is often accompanied by related activities (livestock farming, beekeeping, fish farming, etc.). These activities generate additional income, which helps improve producers' annual earnings. As a result, 52% of market gardeners tend to agree that this practice promotes the diversification of income sources.

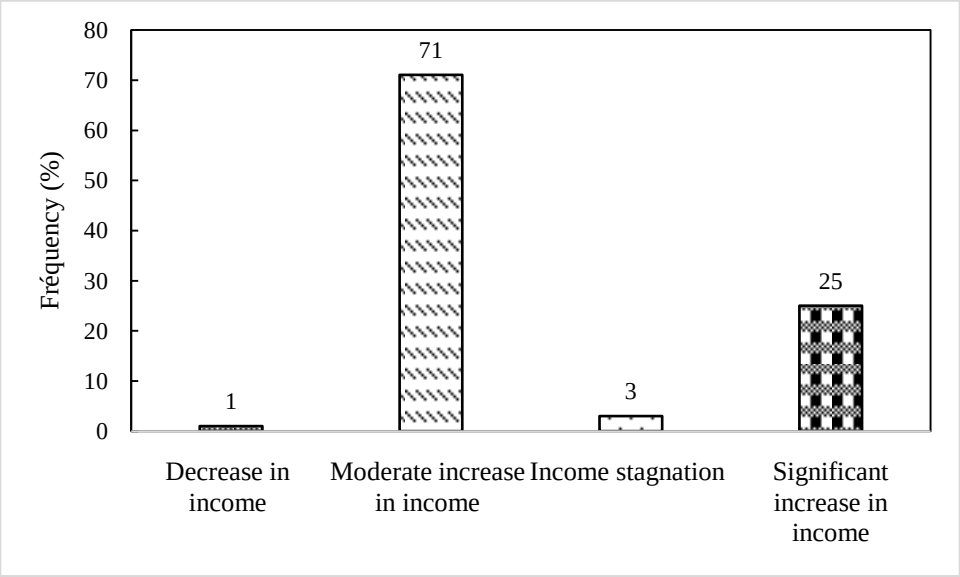

Figure 2 : Farmers' perceptions of changes in income levels

2.1.4. The economic empowerment of producers

The results (Table 3) of the chi-square test reveal varying degrees of intensity in the factors explaining producer empowerment. Indeed, income growth appears to be the primary determinant of producers' economic empowerment, with the strongest intensity ($p < 0.0001$; Cramer's $V = 1$). This result thus reflects a strong interdependence between income improvement and the processes of economic empowerment in organic vegetable farms.

Furthermore, several economic variables showed nearly identical and high levels of association, notably farmgate sales ($p < 0.0001$; $V = 0.525$), crop preservation ($p < 0.0001$; $V = 0.587$), cultivated area ($p = 0.0005$; $V = 0.684$), sex ($p = 0.0073$; $V = 0.319$), and experience ($p = 0.0208$; $V = 0.390$). In contrast, sociodemographic variables such as age and education level did not show a statistically significant relationship.

Table 3 : Relationships between explanatory variables and empowerment

Variables	χ^2	p-value	V of Cramer
Evolution of income	98,000	<0,0001***	1,000
Fieldside sale	24,681	<0,0001***	0,525
Crop preservation	33,816	<0,0001***	0,587

Variables	χ^2	p-value	V of Cramer
Exploited area	45,879	0,0005***	0,684
Sex	7,209	0,0073***	0,319
Experience	14,926	0,0208**	0,390
Age	47,233	0,233	0,694
Educational level	6,765	0,2387	0,263
Organization membership	0,000	1,000	0,063

*Source : Field survey, 2024. ; *** : 1% ; ** : 5%*

2.1.5. Improvement of the producer's quality of life and health

Organic market gardeners consider organic farming to be an activity with positive impacts on their daily lives. This perception is illustrated by the testimony of S.S., an organic producer located on the outskirts of Ouagadougou, whom we met in May 2024:

> *"Women producers who started with nothing and who today take care of their children's schooling. They have even been able to acquire luxury items like a television. Their families eat at least four meals a day. The practice of organic market gardening has contributed enormously to strengthening the food and nutritional security of households."*

For men, the income from organic production allows them to support their families, send some money back to the village, and meet certain basic needs such as clothing, healthcare, and adequate food. "The general observation is that there has been a significant improvement in the living standards of organic producers," emphasizes YS, a member of CNABio. An organic producer based in Loumbila also testifies in these terms:

> *"I earn a very good living and contribute to the family expenses, mainly food and schooling for the children. I was able to buy a moped and my children regularly receive their pocket money each month. All of this is thanks to the income from organic market gardening."*

From a health perspective, organic foods reduce exposure to pesticide residues in food. Furthermore, some respondents pointed out that organic products can have higher levels of certain nutrients, such as antioxidants, vitamins, and minerals. Adopting an organic diet has thus improved the well-being of producers' families and significantly reduced the risks associated

with ingesting potentially harmful substances. Organic producers report that since adopting this practice, they and their families experience fewer health problems related to food poisoning.

2.1.6. Strengthening human and social values

The majority of producers surveyed (66%) believe they have observed a significant reduction in social inequalities since committing to organic market gardening. This shift has fostered the empowerment of vulnerable groups, particularly certified women producers and young people. It has also enabled the establishment of more transparent relationships between producers. Furthermore, it has led to all opinions being taken into account during consultation frameworks in organic agriculture. In addition, 40% of respondents highlighted the strengthening of the link between producers and consumers, often manifested through direct support from the latter to the former.

Furthermore, 55% highlight the promotion of solidarity and exchanges between people from different cultural backgrounds. In addition, 26% of producers observe that organic market gardening has fostered the development of collaborations and alliances between producers, consumers, advisory services, researchers, and teacher-researchers. For 71% of respondents, certified organic production has provided a valuable opportunity to share knowledge, skills, and innovations, thus strengthening a true sense of community. Similarly, 69% note the emergence of horizontal, farmer-to-farmer relationships, while 88% consider certified organic production a powerful means of preserving and promoting local and indigenous knowledge (Figure 3).

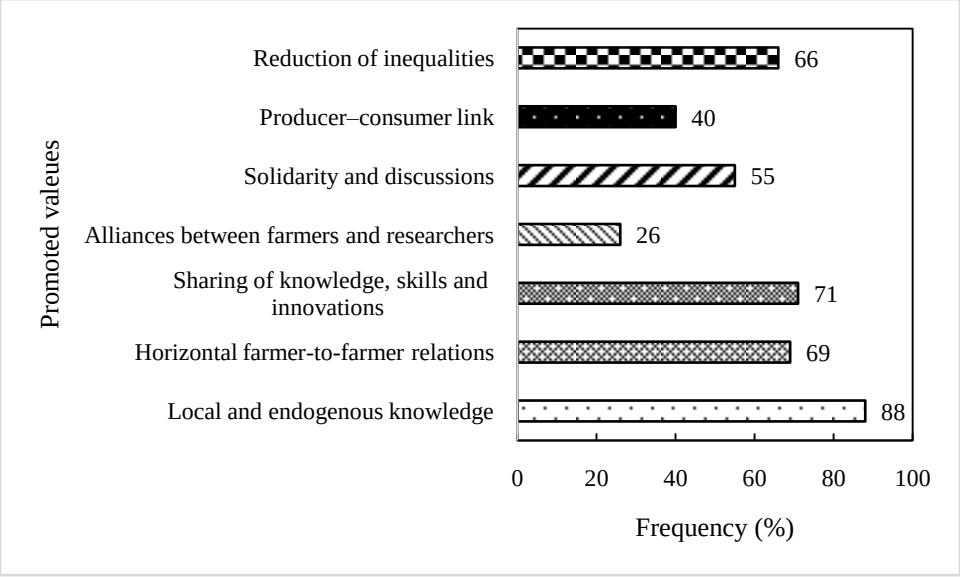

Figure 3 : Human and social values promoted by the practice of organic market gardening

2.2.Impact of organic market gardening on agronomy, storage and conservation

Organic producers acknowledge that the biofertilizers they use improve their soil quality. Regarding the restoration of soil nutrients, 56% of producers believe that biofertilizers contribute significantly, 43% consider them to provide acceptable restoration, while 1% observe only slight improvement. In general, producers emphasize that with continued use, biofertilizers gradually enrich the soil with nutrients, unlike chemical fertilizers which tend to deplete it (Figure 4).

The results reveal that the use of these biofertilizers for soil organic amendment allows for agricultural yields in organic market gardening that are generally comparable to those of conventional systems. Organic market gardening therefore leads to increased agricultural yields, according to 68% of market gardeners.

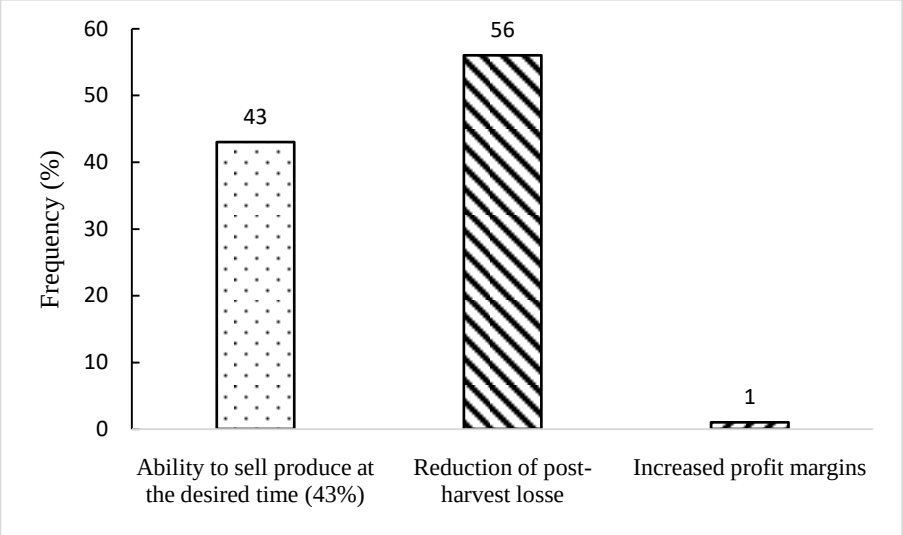

Figure 4 : Farmers' perceptions of soil quality

In terms of preservation, organic market gardening resulted in better preservation of produce (96%). Furthermore, 66% felt that this practice offered them greater flexibility in selling their products at the right time, thanks to an extended shelf life. In addition, 54% of producers stated that organic farming helped reduce post-harvest losses, while 56% reported an increase in their profit margin thanks to organic market gardening (Figure 5).

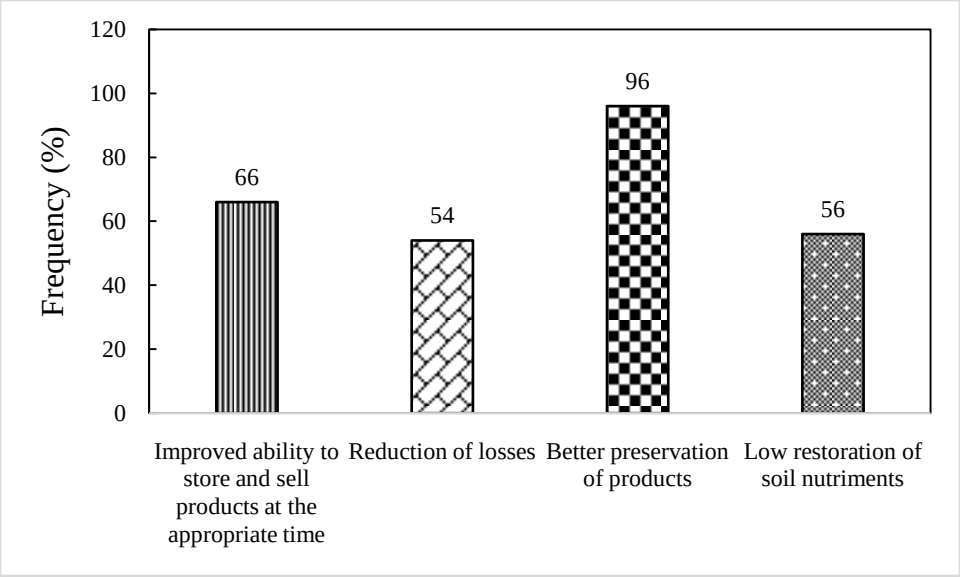

Figure 5 : Farmers' perceptions related to storage and preservation

3. Discussion

3.1.Organic market gardening and socio-economic performance

Producers see organic market gardening as synonymous with increased and diversified income, the development of markets and specialized shops, improved quality of life and health, and the strengthening of human and social values. Organic market gardening also contributes to the economic empowerment of producers, improved socioeconomic recognition of women, and the growth of market innovations.The increase in income is primarily due to reduced production costs in organic farming systems.This rise in income also stems from related activities associated with organic market gardening, which generate additional resources and contribute to improving producers' annual earnings.

Furthermore, the results highlight strong growth in markets and shops dedicated to selling organic products in the city of Ouagadougou. This expansion appears to be directly linked to increased consumer demand for organic products.

The results corroborate those of Boutin *et al.* (2011), who highlight the evolution of markets related to organic production systems. According to their analysis, these markets offer producers the opportunity to sell their products without having to sell them at rock-bottom prices. The number of consumers of organic products is increasing year after year, to the point that supply is struggling to meet demand. This situation has fostered the proliferation of markets, to the benefit of consumers, who now have constant access to organic products, and producers, who improve their income thanks to more appropriate sales channels for their produce. The market for organic products is expected to continue growing, as these products are increasingly appreciated for their taste and nutritional qualities, while also addressing health, environmental, and ethical concerns (Hallam, 2003; Amouriaux, 2000).

Henning's work (1994) also confirms our findings. He indicates that improved income is one of the main drivers of the adoption of organic production systems. He emphasizes that these systems sometimes represent a genuine survival strategy. Compared to conventional systems, organic production ensures a higher income level for producers. Henning also notes that market prospects are favorable for this sector, an idea shared by Dewavrin (2011) and Sahota (2010), who nevertheless stress the need to restructure these markets to better meet consumer expectations.

On a social level, the benefits of organic market gardening affect several dimensions of producers' lives, including improvements in their quality of life and health, as well as the strengthening of human and social values.

Organic producers also report experiencing fewer health problems, both for themselves and their families. This view is shared by Baranski *et al.* (2014), who emphasize that practicing organic agriculture and consuming organic products have a positive effect on quality of life and human health.

Furthermore, the work of Kesse-Guyot *et al.* (2013) and Baudry *et al.* (2015) shows that consumers of organic products are less exposed to overweight, obesity, and related health problems. They generally adopt a healthier lifestyle than consumers of conventionally grown produce.Organic market gardening also has a socio-cultural dimension. Indeed, producers emphasize that this practice reconciles the principles of sustainable agriculture with traditions and local culture, while valuing human and social values, ancestral techniques, and indigenous knowledge. Organic market gardening thus contributes to reducing social inequalities. It often promotes the inclusion of marginalized groups, particularly women and young people, by offering them training and employment opportunities.Authors such as Boutin-Kuhlmann (2012), ReFAB (2011), Reed *et al.* (2008), and Offermann *et al.* (2000) confirm this perception of the social performance of organic agriculture. They argue that organic farming practices generate positive impacts on social dynamics. According to them, it has a favorable effect on social concerns and motivations for conversion. It also influences the issues of land use and development in rural areas while promoting the integration of organic farms into their environment through economic and social ties. It also enhances societal values and those held by organic producers. Finally, it contributes to the protection of local knowledge and improves the well-being of producers and households.

The results show that organic market gardening contributes to improving the social image of women producers and strengthening their economic autonomy. These results highlight that producer empowerment relies primarily on productive capacities, mastery of post-harvest functions, and marketing mechanisms. Improved income contributes to strengthening women's participation in household expenses and family decision-making. These results also align with Naila Kabeer's (1999) perspective, according to which empowerment is based on access to economic resources, increased agency, and the ability to influence social and economic decisions.These results also corroborate Dabiré's (2022) work on women's economic empowerment through agroecological activities in Burkina Faso. Furthermore, testimonies

gathered, supported by Savadogo's (2025) work, indicate that women often develop intensification strategies on small plots of land, enabling them to generate relatively stable incomes.

The results also reveal the rise of market innovations such as direct sales and online sales, which appear to be essential factors in strengthening producers' economic capacities. These observations align with Bellemare's (2018) analysis of the role of market mechanisms in securing agricultural incomes. They also corroborate Leclercq's (2020) work, which shows that Participatory Guarantee Systems strengthen producers' economic capacities through the structuring of marketing channels. Furthermore, they support Amartya Sen's (1999) perspective, for whom development primarily involves expanding individuals' capacity to access economic and social opportunities.

3.2.Organic market gardening and agronomic performance

The agronomic benefits of organic market gardening, according to producers, manifest themselves in improved soil quality, increased agricultural yields, and better storage and preservation conditions for their produce. These effects are directly linked to the use of organic fertilizers.

Organic producers have developed alternatives based on the use of biofertilizers. They believe that adopting organic practices is an effective solution for strengthening soils depleted by agrochemicals. The soil, the primary substrate for production, thus becomes a priority to maintain and regenerate.

The effects of biofertilizers on soil quality are very satisfactory. Chaux and Foury (1994), Stolze *et al.* (2000), Larson (2007), and Birkhofer *et al.* (2008) share this analysis of the agronomic benefits of organic market gardening. Cultivation practices based on the use of organic inputs promote an increase in dry matter content while maintaining a high yield (Chaux and Foury, 1994). Furthermore, soils from organic production exhibit a higher carbon content, reduced acidity, and significantly more dynamic microbial activity (Larson, 2007).Biological inputs also contribute to improving the structure of poor soils, reducing erosion, and increasing water retention capacity (Birkhofer et al., 2008). They thus contribute to a significant improvement in the fertility of depleted and degraded soils by providing a favorable environment for the development of soil organisms (Stolze et al., 2000). Finally, the application of biological inputs facilitates phosphorus uptake, as highlighted by Chaux and Foury (1994).

Regarding yields in organic production, the results indicate that 68% of producers observed an average increase in their production. They emphasize that organic amendments have beneficial effects on soil structure, allowing for yields equivalent to, or even higher than, those obtained in conventional agriculture. Yields in organic vegetable production tend to increase year after year as organic amendments are applied.

However, it is common for yields to appear lower at the beginning of the transition to organic production, while the soil regenerates. Gradually, yields balance with those of conventional agriculture and can even exceed them. Nevertheless, opinions remain divided regarding the capacity of organic agriculture to sustainably improve yields. Boutin *et al.* (2011) observe that yields tend to fall during the first years of conversion, before recovering and reaching levels comparable to, or even higher than, those of conventional agriculture.

Producers (96%) believe that organic vegetable farming promotes better preservation of produce over time. According to them, this increased durability allows them to sell their products at the optimal time, while reducing post-harvest losses. Coulombel*et al.* (2008) confirm this perception and go further, highlighting that the preservation of organic products helps maintain their original characteristics, including nutritional value, texture, and taste.

Conclusion

Organic market gardening offers a credible alternative to conventional agriculture, whose ecological and health impacts are well documented. However, its scaling up to promote sustainable agriculture depends heavily on producers' perceptions of the benefits of this model.

From a socio-economic perspective, producers associate organic market gardening with improved income, diversification of income sources, the development of markets and specialized shops, an improved quality of life and health for their families, and the strengthening of human and social values. It also contributes to the economic empowerment of producers, improved socio-economic recognition of women, and the development of innovative market practices.

From an agronomic perspective, it is seen as a lever for improving soil health, increasing yields, and better preserving agricultural products.

Given these positive perceptions, it is imperative that policymakers integrate organic market gardening into agricultural policies to facilitate its scaling up. This model represents a strategic path toward sustainable agriculture that respects the environment and human and animal health.

Bibliographical references

1. Amouriaux, H. (2000). *Production, transformation et distribution des produits biologiques au Québec : inventaire de la situation et des tendances de développement*. La Pocatière : Centre d'agriculture biologique du Québec, MAPAQ.
2. Baranski, M., Srednicka-tober, D., Volakakis, N., Seal, C., Sanderson, R., Stewart, G. B., Benbrook, C., Biavati, B., Markellou, E., Giotis, C., Gromadzka-Ostrowska, J., Rembialkowska, E. K., Tahvonen, R., Janovska, D., Niggli, U., Nicot, P., Leifert, C. (2014). Higher antioxidant and lower cadmium concentrations and lower incidence of pesticide residues in organically grown crops: A systematic literature review and meta-analysis. *British Journal of Nutrition*, 112(5), 794–811.
3. Baudry, J., Mejean, C., Alles, B., Peneau, S., Touvier, M., Hercberg, S., Lairon, D., Galan, P., Kesse-Guyot, E. (2015). Contribution of organic food to the diet in a large sample of French adults (the NutriNet-Santé Cohort Study). *Nutrients*, 7(10), 8615–8632.
4. Bellemare, M. F. (2018). Contract farming: What's in it for smallholder farmers in developing countries? *Choices*, 33(1), 1–7.

5. Birkhofer, K., et al. (2008). Long-term organic farming fosters below and aboveground biota: Implications for soil quality, biological control and productivity. *SoilBiology and Biochemistry*, 40(9), 2297–2308.
6. Boutin, D., Sanscartier, R., Brunelle, J.-A., Richardson, M., Debailleul, G. (2011). *Contribution des systèmes de production biologique à l'agriculture durable*. Québec : Ministère du Développement durable, de l'Environnement et des Parcs.
7. CEMAGREF (1999). *Agrobiologie et environnement*. France.
8. Chaux, C., Foury, C. (1994). *Productions légumières. Tome 2 : légumes feuilles, tiges, fleurs, racines, bulbes*. Paris : Lavoisier – Tec & Doc.
9. CNABio (2017). *Les Systèmes Participatifs de Garantie (SPG) : un moyen d'accroissement et d'écoulement des productions agricoles*. Burkina Faso.
10. CoulombeL, A., Niquet, G., GOMEZ, C. (2008). Stockage et conservation des récoltes en agriculture biologique. *Alter Agri*, 90, 12–23.
11. Creswell, J. W., Plano Clark, V. (2007). *Designing and Conducting Mixed Methods Research*. Thousand Oaks, CA: SAGE.
12. Dabire, I. (2022). *Agroécologie et autonomisation économique des femmes au Burkina Faso*. Ouagadougou : INERA.
13. Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly*, 13(3), 319–340.
14. Dewavrin, L. (2011). Communication personnelle.
15. Entz, M. H., Guilford, R., Gulden, R. (2005). Productivity of organic cropping in the Eastern Prairies. *University of Manitoba Report*.
16. Goutel, H. (1997). Les agrobiologistes préservent-ils l'environnement ? *Alter Agri*, 25, 4.
17. Guyomard, H. (2013). *Vers des agricultures à hautes performances*. INRA.
18. Hallam, D. (2003). The organic market in OECD countries. In OECD (Ed.), *Organic Agriculture: Sustainability, Markets and Policies*. CABI.
19. Henning, J. (1994). Economics of organic farming in Canada. In Lampkin & Padel (Eds.), *The Economics of Organic Farming*. CAB International.
20. INSD (2020). *Cinquième Recensement Général de la Population et de l'Habitation du Burkina Faso*. Burkina Faso.
21. Kabeer, Naila. (1999). Resources, agency, achievements: Reflections on the measurement of women's empowerment. *Development and Change*, 30(3), 435–464.
22. Kesse-guyot, E., et al. (2013). Consumers of organic products in France. *Innovation Agronomiques*, 32.
23. Leclercq, C. (2020). Les systèmes participatifs de garantie et l'accès aux marchés. *Revue Tiers Monde*, 241, 89–108.
24. Muscănescu, A. (2013). Organic versus conventional: Advantages and disadvantages of organic farming. *Scientific Papers*, 13(1).
25. Meemken, E.-M., Qaim, M. (2018). Organic agriculture, food security, and the environment. *Annual Review of Resource Economics*, 10(1), 39–63.
26. Millerand, F. (1998). Usages des NTIC. Université de Montréal.
27. Olivier de Sardan, J.-P. (1995). *Anthropologie et développement*. Paris : Karthala.
28. Rogers, E. M. (1995). *Diffusion of Innovations* (4th ed.). New York: Free Press.
29. Roussy, C., Ridier, A., Chaib, K. (2015). Adoption d'innovations par les agriculteurs. *International Journal of Agricultural and Resource Economics*.
30. Sahota, A. (2010). The global market for organic food and drink. BioFach Conference.

31. Sen, A. (1999). *Development as Freedom*. Oxford University Press.
32. Stolze, M., Piorr, A., Häring, A., DabberT, S. (2000). *The Environmental Impacts of Organic Farming in Europe*. University of Hohenheim.
33. Toe, A. (2010). Étude pilote des intoxications dues aux pesticides agricoles au Burkina Faso. Rapport.
34. Wynistorf, K. (2003). Des qualités écologiques inconnues surgissent. *Bio Actualités*, 2–3, 13.