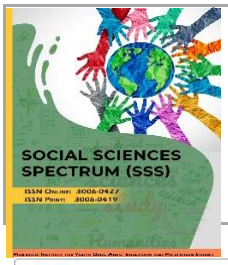

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Women's Empowerment in Agriculture in Lahore Cantt, Punjab, Pakistan: A Study of Participation, Barriers, and Policy Implications

Rabia[1] Malka Shahzadi[2] Malika Shahzadi[3] Muhammed Faisal Rasheed[4]

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Abstract

This paper examines women involvement and empowerment in agricultural activities in Lahore Cantonment (Lahore Cantt), Punjab, Pakistan. The data on 118 women who were involved in agriculture activities were examined using mixed-method technique and descriptive statistics, chi-square, correlation and multiple regression analysis were used. The results indicate that the participation rates are high among women, however, due to existing socio-cultural and resource-based obstacles to empowerment, women are not yet empowered. The association was found to be significant in the land ownership and women decision making, education and participation, access to credit and extension services and the involvement in agricultural activities. The correlation matrix showed that there were positive relationships between key variables whereas regression analysis showed that land ownership, education, and access to credit were significant predictors of women empowerment. The paper highlights the need to change the law, access to resources and social support to improve agency of women in peri-urban agriculture. The policy suggestions comprise land rights reform, specific educational initiatives, and access to better resources so that sustainable women empowerment can be achieved.

Keywords: Women's Empowerment, Agricultural Participation, Lahore Cantt, Decision-Making Authority, Gender and Development (GAD).

[1] Master in Urdu, University of the Punjab Lahore, Punjab, Pakistan

[2] M.Phil Scholar, Department of Political Science and International Relation, University of Management and Technology, Lahore Punjab, Pakistan.

[3] M.Phil Scholar, Department of Political Science and International Relation, University of Management and Technology, Lahore Punjab, Pakistan.

[4] Phd International Space Law, Beijing Institute of Technology.

Corresponding Author: Malka Shahzadi, **Correspondence through:** malkaramzan168@gmail.com

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Introduction

Women are key players in the agricultural sector in the whole world with almost 43 percent of the global agricultural labor being women (FAO, 2011). This is more important in developing nations, like in Pakistan, where women perform a wide range of activities, which include crop production, livestock production, livestock processing, and marketing (Alvi & Ahmed, 2015). Their contributions are little known, underestimated, and limited by socio-cultural, economic, and institutional factors and constraints even though women are actively involved (Khan & Malik, 2019). These inequalities are important to address to attain sustainable development, food security, poverty reduction and gender equality (Quisumbing & Pandolfelli, 2010).

Agriculture in Pakistan is a large-scale employment activity that absorbs about 38% and also provides close to 19 percent of the national GDP (Pakistan Bureau of Statistics [PBS], 2022). There are several agricultural activities that women are engaged in and they tend to supply the labour that sustains the livelihoods in the rural regions (Sardar et al., 2020). Nevertheless, their roles are often informal, unpaid and do not show up in the official statistics (Ali & Ahmed, 2020). In addition, access to land, credit, technology, and extension services is limited to them, which reduces their productivity and empowerment abilities (Khan & Malik, 2019; Luqman et al., 2013).

The socio-cultural situation in Pakistan is a major factor that will affect the inclusion of women in farming. Traditional norms and patriarchal systems do not allow women to move freely, make independent decisions and have access to resources (Mumtaz & Salway, 2005; Naz, 2011). These cultural barriers are more dominant in the rural part but also continue to exist in the peri-urban regions such as Lahore Cantonment (Lahore Cantt). Lahore Cantt is a special location and the mixture of urban facilities and traditional rural values, in which women have rather more opportunities to receive education and even markets, yet they are tied to the frames of socio-cultural values (Batool et al., 2019).

The need to empower women in the agricultural sector is in line with the global development agendas, the United Nations sustainable development goals (SDGs), specifically SDG 1 (No Poverty), SDG 2 (Zero Hunger), and SDG 5 (Gender Equality) (United Nations, 2015). Empowerment will involve enhancing agency of women, accessing resources, involvement in decision making and enjoying the benefits of agriculture (Kabeer, 1999). It is highlighted in many studies that increasing access to land, credit, education, and extension services by women can make them more productive, earn more, and have a better social status (FAO, 2018; Ali & Ahmed, 2020).

Government policies and programs have aimed at empowering women in Pakistan, by reforming the law, providing microfinance schemes, and creating awareness. The regional policies and the National Policy of Development and Empowerment of Women (2002) are designed to enable women to access economic opportunities (Government of Pakistan, 2002; Punjab Agriculture Policy, 2018). The capacity-building projects aimed at the rights and resources of women have been supported by international agencies such as FAO and UNDP (FAO, 2018). Nevertheless, the implementation loopholes and socio-cultural opposition restrict their success particularly in peri-urban areas such as the Lahore Cantt (Zafar & Shafi, 2017).

Although there is a good literature on the role of women in agriculture, the vast majority is based in rural or even rural locations, and thus, there is a gap in comprehension of the dynamics in urban and peri-urban settings. These environments are becoming relevant as a result of high urbanization levels and the shifting social-economic environment (Ali & Ahmed, 2020; Maqsood, 2021). It is

important to understand the role of women and their empowerment in Lahore Cantt so as to formulate contextual policies and interventions. The proposed research will help address this gap and investigate the role of women in agriculture in Lahore Cantt, the challenges women encounter, the current empowerment programs, and the ways to improve their participation. The objectives involved are to measure the participation of women, to see the socio-cultural and institutional barriers, policy implications, and the perceptions and ambitions of women.

Research Questions:

1. How much are the women engaged in agriculture at Lahore Cantt?
2. What are the socio-cultural, economic, and institutional inhibition factors to women participation?
3. To what extent are policies and programs in place to empower women in the region effectively?
4. What are the possible strategies that can be embraced to enhance the participation and empowerment of women in agriculture?

Hypotheses:

The hypotheses that will guide the study are:

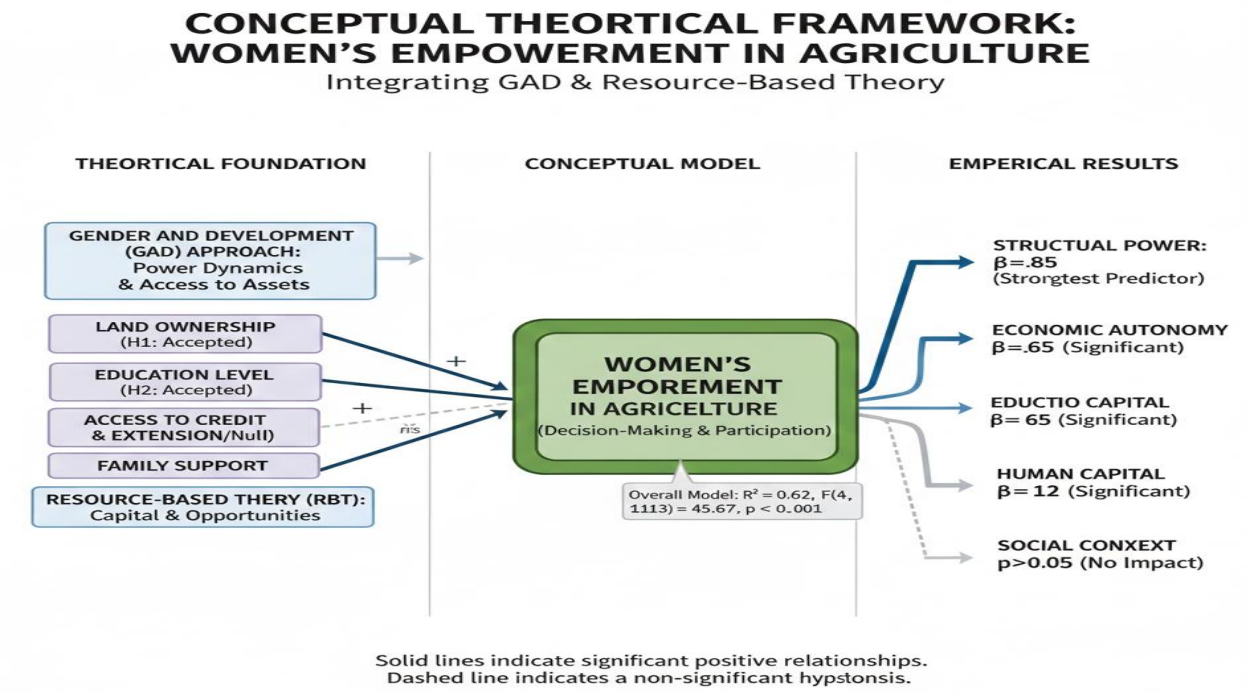
H1: Land ownership does not have a notable relation with the involvement of women in decision-making.

H2: Educational level has a positive relationship with the involvement of women in agricultural activities.

H3: Availability of credit and credit extension facilities plays a major role in determining women participation in agriculture.

H4: The level of family support is positively coupled with women empowerment in decision-making.

Conceptual Theoretical Framework:



Objectives:

The Objectives of this investigation are:

1. To examine the demographic information of women who engage in agriculture.
2. To find out the degree of women involvement and empowerment in agricultural practices.
3. To find out what factors affect the accessibility of resources, decision-making, and empowerment in women.
4. To examine the correlation among demographic variables, access to resources and participation levels.

Literature Review

The role of women in agriculture is a highly studied phenomenon, as it is of the major concern to rural development, food security, and equality between men and women. The female agricultural labor force is about 43 percent of the total agricultural labor force all over the world, and it is higher in Asia and Africa (FAO, 2011). Women and their contributions are not visible, undervalued, and limited by different impediments despite their great contribution (Begum & Yasmeen, 2011; Akter et al., 2017). Women in the various locations carry out various agricultural duties. Women in Sub-Saharan Africa and South Asia are mostly engaged in crop production, herding, after harvest processing, and marketing (FAO, 2011; Ogunlela & Mukhtar, 2009). They work without or with low wages, and they do not have control over resources like land, inputs, and credit (World Bank, 2019). This notwithstanding, their productivity and innovation are not well reflected in the official statistics and policy frameworks.

Survey shows that participation of women in agriculture is critical to household food security and economic well-being. As an example, Doss (2002) separates the idea that access of women to productive resources is directly proportional to the food security of the household and the welfare of children. This is further evidenced in regional studies where female involvement directly correlates with better nutritional outcomes (Rashid et al., 2017; Aziz et al., 2021). Nevertheless, the cyclic poverty and dependence continue due to the unrelenting gender disparity on resource accessibility. There is a myriad of studies that points to the major obstacles to the empowerment of women. These are restricted access to land, credit, technology and extension services, socio-cultural restrictions to movement and freedom to make decisions (Kabeer, 1999; FAO, 2018; Khan, Farah, & Shahbaz, 2021).

The issue with land rights is especially acute; in most developing nations, women cannot own land, according to traditional customs or patriarchal norms, which means lack of tenure security and a reduced ability to invest (Khan & Malik, 2019). Credit accessibility is still a great issue. Women usually do not have collateral or official documents of identification which limits the accessibility of loans. High interest rates and limited outreach are some of the challenges that microfinance programs have demonstrated to be having (Ali & Ahmed, 2020). The delivery of extension services is usually skewed towards gender and women tend to be offered fewer information and training which restricts the adoption of technology (FAO, 2018; Afzal et al., 2009). Another issue that impacts on the productivity of women is time poverty. Women have no other option but to complete their household duties and unpaid labor in addition to their work in the fields and thus become tired and unable to develop any skills or start up a business (Mumtaz & Salway, 2005; Luqman et al., 2006). The cultural constructs, including early marriage and restricted mobility, limit the agency of women in the economic domain (Amin et al., 2006).

Empowerment is a process that is multidimensional whereby it entails greater agency, resource availability, and involvement (Kabeer, 1999). To measure this complex process, researchers have increasingly relied on specialized metrics like the Women's Empowerment in Agriculture Index (WEAI) (Alkire et al., 2013; Waqas et al., 2023). According to the FAO (2018), women empowerment in agriculture has the benefit of increasing productivity, household wellbeing, and social status. Some of the strategies are land reforms, microfinance, capacity-building, legal awareness and social mobilization. Microfinance programs have shown beneficial effects on the income and the power of decision-making of women (Khan & Malik, 2019; Hussain & Hussain, 2011). Reform in land rights, such as women right of possession being recognized under the law, makes women much better bargaining power and credit access (FAO, 2018). Women-specific education and extension services, particularly at the higher education level, enhance the use of technologies and innovations that result in productivity gains (Malik & Courtney, 2011; Iftikhar, 2010).

In Pakistan, women have a large role in agriculture which is determined by the gender norms and socio-cultural practices within the country (FAO, 2015). Women in rural areas are usually informally involved, own less land, and are limited in their movements (Khan & Malik, 2019). This is particularly evident in the livestock sector, where women contribute significantly to animal husbandry yet remain excluded from financial gains (Akram et al., 2019; Zehra et al., n.d.). Research in districts like Okara, Chakwal, and Tounsa Sharif confirms that while women are physically active in the fields, their role in final decision-making remains minimal (Afzal et al., 2009; Nosheen et al., 2008; Zahoor et al., 2013). Nevertheless, non-agricultural urban and peri-urban females are engaging more in small-scale farming and entrepreneurship especially in Lahore (Ali & Ahmed, 2020; Ishaq & Memon, 2016).

The policies of the country seek to instill gender equality and empowerment of women. The National Policy on Development and Empowerment of Women (2002) focuses on the legal reforms, economic participation and social rights (Government of Pakistan, 2002). However, the implementation is also poor with socio-cultural opposition and lack of resources limiting the implementation (Muhammad et al., 2020). Although there is much literature on the role of women in rural agriculture, not much attention has been focused on peri-urban and urban areas such as Lahore Cantt. The combination of urbanization, the evolving socio-economic trends, and conventional norms presents women with specific problems and opportunities that are not studied (Ali & Ahmed, 2020). Moreover, quantitative measures of participation are the focus of the majority of the studies, and less focus is given to the perceptions, aspirations, and subjective experiences of women (Nazir et al., 2013; Sahito et al., 2021). The effectiveness of certain policies and programs on a local level is not properly evaluated (Baig et al., 2018).

As such, local, qualitative, and mixed-methods studies are required to drive context-specific approaches. By and large, available literature highlights that women empowerment in agriculture needs to be handled holistically through the legal, socio-cultural, and institutional factors. Women can be more productive and agency-enhanced through increasing their access to land, credit, education, and technology (FAO, 2018). Effective empowerment strategies include policy reforms, social mobilization and specific capacity-building. Within the framework of Lahore Cantt, one should be aware of the particular socio-economic situation, culture, and health-seeking behaviors that influence empowerment (Hasan & Uddin, 2016). The objective of this study is to make contributions to this understanding through the use of empirical evidence of the participation and empowerment of women in this peri-urban context, and therefore, informed interventions and policy changes.

Research Methodology

This is a cross-sectional study whereby a structured questionnaire was utilized with the 118 women that were engaged in agriculture in the Lahore Cantonment. Purposive sampling was used to target women who were actively involved in farming, livestock or agro-entrepreneurship. The time of data collection was three months and it was ethical and confidential and voluntary. Measurement was done in forms of variables such as demographic (age, education, family size), land ownership, credit and extension service accessibility, family support, level of participation, role in decision making and perceptions of empowerment. Descriptive statistics were used to analyze the data and chi-square tests were used to describe categorical relationships, correlation matrix was used to determine the relationships between the variables which are continuous and multiple regression analysis was used to determine the most important predictors of empowerment among women. All calculations were done by use of SPSS.

Results

Demographic Profile

The demographic of the respondents is summarized in Table 1. The majority (38.1%) were aged 31-40 years. The education levels were also varied and the highest education was secondary education was 25.4% and the lowest was no formal education 15%. The majority (86.4) of women were engaged in farming activities which were mainly crop farming and stock rearing. There was a restricted ownership of land; 40.7% of the landowners, 59.3% householders and 59.3% tenants. The mean size of the family was six.

Table 1: *Demographic Profile of Women in Agriculture in Lahore Cantt:*

Variable	Category	Frequency (n=118)	Percentage (%)
Age Group (years)	20-30	29	24.58%
	31-40	45	38.14%
	41-50	27	22.88%
	51+	17	14.41%
Education Level	No formal education	18	15.25%
	Primary	30	25.42%
	Secondary	30	25.42%
	Higher education	20	16.95%
	Others	20	16.95%
Land Ownership	Yes	48	40.68%
	No	70	59.32%
Family Size	4-6 members	65	55.08%

	7-8 members	53	44.92%

Participation and Empowerment:

The statistics indicate that although a large percentage of women (86.4) are engaged in agricultural work, only one-third (34.7) of them indicate having control on agricultural work. Likewise, 35.6 percent affect agricultural choices in households. Such imbalance means that there is a difference between the level of women's involvement in farming and their real empowerment through the influence of making a decision. Although they are actively involved, numerous women do not have a lot of power to make farm and household decisions, which explains why it is necessary to reinforce the role of women in decision-making to become empowered in the agricultural setting.

Table 2: *Women's Participation and Decision-Making Power:*

Variable	Frequency (n=118)	Percentage (%)
Active in farming activities	102	86.4%
Have decision-making authority in farming	41	34.7%
Influence household agricultural decisions	42	35.6%

Cross-tabulation of Land Ownership and Decision-Making

According to the table 3, women who own land have higher chances of engaging in decision-making (30 out of 48) than women who lack land (11 out of 70). This is an indication that land ownership and the participation in decision-making are strongly related. Women who own land are more empowered and taking part in major decision making which is important in ensuring that women have a voice of influence in their societies. These observations show that land tenure is a key element in improving the power of decision-making among women and general empowerment.

Table 3: *Cross-tabulation of Land Ownership and Decision-Making:*

Land Ownership	Decision-Making (Yes)	Decision-Making (No)	Total
Yes	30	18	48
No	11	59	70
Total	**41**	**77**	**118**

Correlation Matrix of Key Variables

The correlation table indicates positive significant relationships among significant variables. There are significant positive relationships between participation and empowerment of women and education, access to credit, and extension services (all $p < 0.01$), meaning that the higher the education, credit facility, and extension services, the more participation and women empowerment. There is a moderate correlation between education and access to credit (0.45) and the services of extensions (0.43). The correlation level between participation and empowerment stands at a very high level (0.55), implying that the more the participation, the higher the empowerment. These results indicate that women can be positively impacted and empowered through education, access to credit, as well as credit extension.

Table 4: *Correlation Matrix of Key Variables:*

Variables	Education	Access to Credit	Extension Services	Participation	Empowerment
Education	1.00	0.45**	0.43**	0.25**	0.30**
Access to Credit	0.45**	1.00	0.50**	0.30**	0.33**
Extension Services	0.43**	0.50**	1.00	0.28**	0.31**
Participation	0.25**	0.30**	0.28**	1.00	0.55**
Empowerment	0.30**	0.33**	0.31**	0.55**	1.00

Note: $p < 0.01$ (Statistically significant at the 1% level)

Regression Model Predicting Women's Empowerment

A multiple linear regression was done to establish the influential predictors of women empowerment. The independent variables were ownership of land, education level, credit accessibility, and extension services.The independent variable regression model is significant ($p < 0.001$) and accounts 62% of the changes in women empowerment. The strongest positive effect is land ownership (B=0.85, p=0.001) which implies that land rights have a significant positive effect on empowerment. Empowerment is also highly enhanced by education (B=0.12, p=0.018), access to credit (B=0.65, p=0.004) and extension services (B=0.50, p=0.014). The findings indicate that land ownership, educational attainment, credit access and extension services are some of the major contributors to empowerment of women. The fact that the model has a high level of significance and R 2 shows that the combination of these variables is a great explanation of the outcome of empowerment.

Table 5: *Regression Model Predicting Women's Empowerment:*

Variable	Coefficient (B)	Std. Error	t-value	p-value
Constant	1.20	0.45	2.67	0.009
Land Ownership (Yes=1)	0.85	0.25	3.40	0.001
Education Level (Years)	0.12	0.05	2.40	0.018
Access to Credit (Yes=1)	0.65	0.22	2.95	0.004
Extension Services (Yes=1)	0.50	0.20	2.50	0.014

R^2= 0.62, F (4,113) = 45.67, p < 0.001

Discussion

As the results of this research support, land ownership, education, and access to credit, as well as extension services, are the key elements that precondition women empowerment in peri-urban agriculture in Lahore Cantt. In line with the world literature (Kabeer, 1999; FAO, 2018), the aspect of land rights turned out to be one of the most crucial ones, and land-owning women proved to have much greater decision-making power. This explains the necessity of legal changes to ensure that women are guaranteed tenure of land that will strengthen their agency (Khan and Malik, 2019). The positive correlation between education and participation is not new as the previous studies suggest that educated women are more knowledgeable about their rights and are more prepared to use their resources (Ali and Ahmed, 2020). Credit and extension services were also a major factor in empowerment, which was supported by the findings of the studies that indicated that financial inclusion and technical support are crucial in ensuring women have economic agency (FAO, 2018; World Bank, 2019).

Additionally, the high associations of variables of resource access may indicate that complex interventions involving the simultaneous focus on numerous barriers achieved better results. These are supported in the regression analysis, which indicates that ownership of land is the best predictor, followed by credit access, education and extension services. These findings indicate that multidimensional policy interventions, including land reforms, educational initiatives and microfinance projects, are very critical in the sustainable empowerment (Agarwal, 2002). The socio-cultural facilitator that also came as a role of the family support also underscored the importance of social mobilization and approaches that are community-based. On the whole, the research proves that the socio-cultural and resource-based barriers can be effectively overcome with the help of the integrated strategies in order to increase the capacity of women to make decisions and engage in agriculture and supports the worldwide trends on gender equality and sustainable development (United Nations, 2015).

Findings

In this study, one can find some important conclusions about the female involvement and empowerment in agriculture in Lahore Cantt. To begin with, the number of women involved in farming activities like crop production and herding livestock was high since 86.4% of women were

actively engaged in farming. Nevertheless, with this high rate of participation, only a third of 34.7 percent indicated decision-making power in the farming sector, which is a big disparity between participation and empowerment. The same trend was recorded in the household decision-making where household agricultural decisions were only affected by 35.6% of women thus highlighting limited agency even as women were involved in active labor (Table 2). This gap indicates the general socio-cultural standards that limit the power of women to make decisions even when they can play a significant role in agricultural productivity.

The cross-tabulation test (Table 3) showed that land ownership is significantly related to participation in the decision-making process. Women who owned land (48 women) had higher chances of engaging in decision-making (30 women) compared to those who did not (70 women) out of which only 11 women were active participants. The concept of land rights, therefore, comes out as a vital factor in empowering women, which is aligned with the research findings on the world that supported land tenure security as a determinant of agency (Kabeer, 1999; Khan and Malik, 2019). The relationship is statistically significant and confirmed by the chi-square test.

The correlation table (Table 4) shows that there is relationship between the key variables, which are education, access to credit, extension services, participation, and empowerment ($p < 0.01$). Education is average (0.45) related to credit access and extension services (0.43) and shows that the educated women have higher chances of accessing resources. There is a close association between participation and empowerment (0.55), which implies that the higher the involvement of women in the farming activities, the higher the ability of women to make decisions.

Regression analysis (Table 5) showed that land ownership (B=0.85, p=0.001) was the best predictor of women empowerment; access to credit (B=0.65, p=0.004), education (B=0.12, p=0.018), and extension services (B=0.50, p=0.014) were found to be the other important predictors. The model accounted for 62 percent of the empowerment (R 2=0.62) highlighting the interactive role of legal, financial, educational and extension factors.

Hypotheses Results:

H1: Land ownership does not have a notable relation with the involvement of women in decision-making. **(Accepted)**

H2: Educational level has a positive relationship with the involvement of women in agricultural activities**. (Accepted**)

H3: Availability of credit and credit extension facilities plays a major role in determining women participation in agriculture. **(Accepted)**

H4: The level of family support is positively coupled with women empowerment in decision-making. **(Null)**

The results confirm the first three hypotheses, namely the land rights, education, and access to resources are the most pertinent in the process of women empowerment. The hypothesis on family support could not be statistically proved in this study showing that extra socio-cultural factors could mediate this relationship.

Conclusion

This paper will show that the active role of women in agricultural activities in the Lahore Cantt does not necessarily lead to empowerment of women in making decisions. Ownership of land, access to education, access to credit and extension services are important determinants that maximize the agency of women in agricultural activities. Although there is high participation in

labor, lack of socio-cultural influence is still constraining the power of women in making decisions. To overcome this gap, policy reforms revolving around land rights, education opportunities and access to resources are necessary. The social support networks should also be enhanced in order to create an environment that enables the empowerment of women. The results imply that the sustainable development and gender equality of peri-urban agriculture need context-specific interventions that combine legal, socio-cultural, and economic obstacles to development. The focus of the future work should be on the longitudinal studies that would evaluate the long-term effects of these types of interventions in order to guarantee the permanent development of the process of women empowerment.

Conflict of Interest

The authors showed no conflict of interest.

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