THE ROLE OF URBAN AGRICULTURE ON JOB CREATION: EVIDENCE FROM SMALL AND MICRO FARM ENTERPRISE PARTICIPANTS OF JIMMA TOWN, OROMIA REGION, ETHIOPIA

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Abstract

The study was focused on the role of urban agriculture in job creation evidence from small and micro-farm enterprise participants of Jimma town, Oromia region, Ethiopia**.** One of the current issues in Ethiopian cities is unemployment. To address the overcrowding issue, the Ethiopian government has developed a program that encourages small and micro-farm business participants (SMFEs). An evaluation of the contribution of SMFEs to the creation of job prospects in Jimma Town is attempted in this thesis. Representatives from 82 cooperatives of SMFEs provided primary data for the study. Additionally, secondary data from the Jimma Town Industry Development Office and Enterprise were gathered. Descriptive statistical tools, including tables, frequency distributions, and percentages, were employed in the data analysis process to characterize the replies about the contribution of urban agriculture to employment creation. The study found that SMEs were successful in providing work for a large number of people. Only 4.9% of the SMFEs' representatives had prior work experience, while the majority (95.1%) had no prior work experience. The study found a favourable correlation between the expansion of SMEs and the creation of jobs. It is therefore essential to integrate the development policy of SMFEs with urban unemployment. Urban agriculture farming policy execution requires comprehensive strategies that incorporate several government agencies. The capacity of municipalities to handle the relationship between the informal economy and urban agriculture insecurity must be strengthened to promote the SMFEs sector. Additionally, institutions that offer a supportive environment for SMFEs must be improved. Instead of rushing to open more SMFEs, the government should concentrate on supporting the expansion of already-established SMFEs.

Keywords: Jimma, Ethiopia; urban agriculture; SMFEs; job creation; unemployment.

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INTRODUCTION

Urban agriculture contributes to a wide variety of urban issues and is increasingly being accepted and used as a tool in sustainable city development. Some forms of urban and pen-urban agriculture are based on temporary use of vacant lands, but urban agriculture as such is a permanent feature of many cities in developing as well as in developed countries, and positively contributes to sustainable city development if properly managed. United Nations Development Program (UNDP) estimated that some 800 million people, or nearly 8% of the world's population, are now engaged in urban agriculture worldwide (Gittelman, 2009). For many urban populations, an important source of food is urban and Peri-Urban Agriculture (UPA). However, in recent years urban agriculture has gained in popularity and is being promoted as a means of sustaining the livelihoods of poor and otherwise unemployed urban dwellers (Gittelman, 2009).

However, literature in many African countries including Ethiopia indicated that urban agriculture remains unrecognized, unassisted and discriminated against. (World Bank, 2013). Consequently, it is largely ignored in the planning and development policies of cities.

Ethiopia is the second most populous country in Africa next to Nigeria with a population estimated at 99.39 million in 2015 of which 19.4% live in urban and peri-urban areas (CSA, 2016). Between 2007 and 2015 nineteen million people were added to the population. The population size is growing by 2.9 per cent per year and is expected to nearly double in less than 33 years to around 185 million in 2050 (MUDHo, 2015).

The project convinced urban authorities that agricultural production could enhance food security, employment creation, micro-enterprise development, waste recycling, and the building of communities.(van Veenhuizen, R, 2011, pp.1470-1483). The findings showed that if properly supported, urban agriculture can improve the local economy because of its multiple benefits of employment, income, and improved livelihood and food security. (Mensah, JK, 2023, pp.1086-1099)

Statement of the Problem

The informal production of food in city areas, a phenomenon known as urban agriculture (UA), has been a widespread strategy adopted by urban dwellers in many sub-Saharan African cities to cope with increasing poverty, caused by increasing population pressure and economic collapse. This phenomenon is also evident in Ethiopia. In the context of widespread urban unemployment and poor living conditions, the formal support of UA activities could play an important role in alleviating urban poverty. (Ashebir, D; Pasquini, M and Bihon, W, 2007, pp.218-228).

Urbanization is one of the major issues facing today and is to its extent unique in world history. Neither national government bodies nor local governments are well prepared to deal appropriately with this development but none of them can afford to ignore this phenomenon. Recent surveys suggest that the locus of poverty is shifting to urban areas. (Van Veenhuizen, R. 2006)

Rapid population growth in cities is caused by the in-migration of rural people in cities but also by population growth in the cities themselves. Unemployment, down of basic civil services (water supply, food supply, housing, health care, schools, transport, market facilities, and waste management) and lack of food are consequences of this growth of population.

In Jimma town, like other towns in the country, the population is changing radically, so unemployment rates are increasing as of its population. Though unemployment in the town is high; up to the knowledge of the researcher, there are different studies to tackle these problems various tools for reducing unemployment which ultimately improve the urban agriculture of the town are not given the proper attention they deserve.

However, some fundamental questions regarding this intervention remain unanswered. Renewed interest in the topic did not necessarily converge with new knowledge about urban agriculture, but little is known about the true extent and impact of urban agriculture on urban livelihoods in general. Moreover, in many studies of urban agriculture, researchers have mainly been interested and emphasized its role towards household food security. Even though highly similar to this study, there is a difference in the lack of inferential studies on how the SMFE's growth links with job creation and the city. Thus, the researcher wanted to see the situation in Jimma town as there is no similar work done in the study area. The researcher assesses the determinant factors for urban agriculture and how they link with job creation in Jimma town. Thus, the study was conducted to fill these empirical and knowledge gaps. While the true capacity of the sector towards employment generation has not been in-depth revealed. The actual extent and consequences of urban agriculture on urban lifestyles, in general,

remain not fully understood its potential, despite a renaissance of interest in the field. Therefore, this study aims to assess the role of the sector and its contribution towards employment creation in the study areas.

Research Question

1. What is the extent of job creation in the urban agriculture sector in Jimma Town, Oromya Region, Ethiopia?
2. What are the factors that contribute to job creation in small and micro-farm enterprises in Jimma Town?
3. What are the main activities in which individuals are employed in the urban agricultural sector?
4. What are the policy and regulatory frameworks that support job creation in urban agriculture?
5. What are the challenges faced by small and micro-farm enterprises in Jimma Town regarding job creation?

Objective of the study

The main objective of the study was the impact of urban agriculture on job creation in Jimma Town, Oromia Ethiopia.

The specific objectives of the study include:

➢ To determine the number of employment opportunities generated by small and micro-farm enterprises participating in urban agriculture in Jimma Town.
➢ To identify and analyze the factors that contribute to job creation in the urban agricultural sector.
➢ To assess the main activities and roles in which individuals are employed within the urban agriculture sector.
➢ To explore the policy and regulatory frameworks that support job creation in urban agriculture in Jimma Town.
➢ To understand the challenges faced by small and micro-farm enterprises in Jimma Town regarding job creation and their implications.

The research has based its study on Jimma town. Sources of starting information were obtained from Jimma Town Enterprise and the industry development office report. The study covers small and micro-farm enterprise participants' aspects of urban agriculture on job creation. In this case, data was collected through the acting members of the SMFEs. Next respondents also show a tendency of underestimating their current capital; this is because they may fear tax and other related problems. Despite the above limitations, it was expected that the data was reliable and adequate to achieve the objectives set forth for the study.

The organization of the research is communicated as follows: the first chapter is about the introduction(background, statement of the problems, research objectives, research questions & others). The second chapter is devoted to the literature review (both theoretical as well as empirical, conceptual frameworks and others). The third chapter is allocated to the research methodology (research design, population, sampling and sample size, data nature & analysis etc). The fourth chapter is given to the results and discussions of the research findings. The last chapter tells us the summary and recommendations of the research by establishing its place in the knowledge of the specific field of study

Literature Review
Theoretical Review

This section deals with the theoretical framework of the issue of urban and peri-urban agriculture, Urban agriculture and job creation, Urban Agriculture Yesterday and today, Urban agriculture and economic, social and environmental developments, The concept of unemployment, and The contributions of Urban Agriculture on job creation.

In many countries, the definition is based on a threshold number of inhabitants. Hence, when the population of a region exceeds a certain threshold number, that region is considered urban. While, for example, a threshold number of inhabitants in a settlement exceeding 5000 is considered urban in Ghana, the threshold number should be more than 10,000 to reach the urban status in Italy and Senegal (Drescher and Lanquita, 2002). Some governments base their definition on combinations of criteria, such as population density, political functions or predominant activity of the region (Drescher and Laquinta, 2002).

According to Mougeot (2000), the general definition of urban agriculture is the growing of plants and the raising of animals for food and other uses within cities and peri-urban areas. It also includes the production and delivery of inputs and the processing and marketing of products. Mougeot (2000) goes on to argue that the lead feature of urban agriculture, which distinguishes it from rural agriculture, is its integration into the urban economy and ecological system.

From the aforementioned definitions, Renevan (2006) concludes that urban agriculture is an industry located within or on the fringe of a town,

which grows or raises, processes and distributes a diversity of food and non-food products, using largely human and material resources, products and services found in and around that urban area. Generally, the urban farmers are men and women coming from all income groups. However, the majority of them are low to medium-income earners, who grow food for self-consumption or supplementary income (Bakker et al., 2000). Low-income farmers practice urban agriculture mainly to survive and achieve a combination of nutritional and socio-economic benefits. Middle-income home gardeners practice urban agriculture mainly to provide supplementary food and /or income. Agribusiness farmers practice urban agriculture to obtain income, although these are often in the minority. In the second and third categories are found people who have their gardens maintained by their servants and watchmen. Most of the cultivation is informal, with little, if any support (Jacobi et al., 2000).

Thus urban farmers do not form a homogeneous group of people but can be found almost among every socioeconomic group in an urban area. Although urban agriculture is mostly practised at the household level, in several places farmers work together. One striking feature of urban agriculture is that most of the time it is a spontaneous and informal activity, and not officially planned. As a result, facts and figures on who the urban farmers are and how many they are most of the time missing.

Historical overview
Ancient origins
Urban and peri-urban agriculture is not a new phenomenon; it existed in pre-industrial societies, and its roots can be traced back to ancient civilizations worldwide (Lee-Smith & Memon, 1994; Mougeot, 1994; Nugent 2000; Van Veenhuizen et al., 2001). Furthermore, Mougeot (1994) claims that several ancient civilizations had developed complex urban and peri-urban agriculture systems and technologies; for example, the Persians and Romans created advanced hydraulic facilities and agricultural drainage schemes respectively, while the "Islamic empire" used its "postal service" to gather information on food prices and food supplies to prevent shortages. However, as technology ushered urban human settlements into the industrial era, urban farming practices were deemed inappropriate and were subsequently assigned to rural regions (ibid.).

Modernity
For many Western countries, the more recent history of urbanism, associated with the Industrial Revolution, has resulted in the separation of "urban" from "agriculture" – except concerning recreational gardening, or in times of crisis (Lee-Smith & Memon, 1994). During both world wars in the last century, urban agriculture comprised an important part of food production throughout Europe, where backyard "victory" gardens often meant survival (The Urban Agricultural Network, in *City Farmer*, 2001). In general, the status of the agricultural sector has shifted from that of a source of food security to that of an industrial-style sector based on technological development and commercialization (Janssen & Braunschweig, 2003).

Urban and peri-urban agriculture ensures job creation
Numerous claims have been made regarding the global reach of urban and peri-urban agriculture and its significance in the developed and developing world. The Technical Centre for Agricultural and Rural Cooperation points out that urban and peri-urban agriculture is practised worldwide, with global estimates ranging from 700-800 million urban farmers. The reasons for practising urban and peri-urban agriculture are varied, and include social, economic and cultural factors (Mlozi, 1996: 48). Urban and peri-urban agriculture in developing countries is often mentioned as an important part of the urban food supply continuum. Mougeot (2002: 1) states: "200 million [of 800 million] urban farmers are considered market producers, employing 150 million people full-time". He adds: "Urban agriculture is thus an important supply source in developing-country urban food systems, a critical food-security valve for poor urban households." Many observers note the inclusiveness of urban and peri-urban agriculture, as it appears to cut across socio-economic boundaries, thriving both in developing countries and in western countries (Davis et al., 1999; Dahlberg, 1999; Mlozi, 1996). Sachs and Silk (1987: web source) introduce the issue of the retention of traditional knowledge and related rural-to-urban migration issues into the debate, by arguing that, although many people in Western countries have lost their links with the land over the last several generations, such is not the case for most of those who are now migrating into cities of the developing nations. While some of these migrants may not like the idea of continuing to work the land, the fact remains that

they do have the survival skills necessary to produce their food if they have access to the resources.

Overall, the above claims are generally made about a global context. Thus, they dramatically misrepresent urban and peri-urban agriculture in developing countries, with particular reference to localized case studies on the African continent. Again, it is the paucity of empirical research and baseline socio-economic data regarding the impact of urban and peri-urban agriculture on household livelihoods and job creation that this research seeks to address in Jimma town Ethiopia.

Urban Agriculture in Ethiopia

Lee (1997) and Egziabher (1994) stated that the livelihoods of many urban citizens in Ethiopia (e.g. Addis Ababa: economic capital which accounts for over thirty per cent of the total urban population) is heavily dependent on urban farming, but urban policymakers fail to give due attention to urban agriculture during urban planning policy reforms. But according to (Edwards, 2010) as is the case in Ethiopia, urban agriculture can be characterized into three farming systems based on location. These are peri-urban, household or homestead gardening, and vacant-space cultivation. The peri-urban cultivation takes place on lands just outside the built-up areas of the city. Vacant-space cultivation is done in open spaces usually in residential areas, beside waterways (natural and man-made such as drainage channels), and roadsides.

Urban agriculture in Ethiopia is a traditional practice, and the urban-based population does keep cattle, chicken, sheep, or growing rain-fed crops and vegetables, on the plots adjacent to their houses (Gittleman, 2009). In addition to its benefits for the production of foods from vegetables, crops and rearing animals, urban agriculture has socio-economic and environmental benefits. For instance, UA in Addis Ababa creates a large number of employment and source of income for the city residents. People tend to think that urban agriculture is a messy business have little understanding of the environmental benefits of urban agriculture and that people need food production (Robeta, 2011).

Most African cities face significant urbanization-related challenges, such as waste management and drinking water supply; however, it is not surprising that urban agriculture in general does not get much political attention. As reported from southern, eastern and western Africa, it is usually ignored or tolerated without any significant restriction or support. In municipal planning, it is usually missing from the agenda (Drechsel, Cofie & Niang (2008). The situation was not different in Ethiopia. Lee (1997) and Egziabher (1994) stated that the livelihoods of many urban citizens in Ethiopia (e.g. Addis Ababa: economic capital which accounts for over thirty per cent of the total urban population) is heavily dependent on urban farming, but urban policymakers fail to give due attention to urban agriculture during urban planning policy reforms.

Many countries have established national MSME policies, strategies and programmes that outline how the government will work with other public and private stakeholders to promote entrepreneurship and MSME development, often with the support of donor and development agencies. In some cases, specific legislation and public agencies have been developed.

Methodology and Data

This research adopts a mixed-methods approach, combining quantitative surveys and qualitative interviews to explore the employment generation potential of urban agriculture in Jimma Town. A stratified sampling technique is employed to select small and micro-farm enterprises, ensuring representation across different socio-economic strata. Surveys are conducted to collect quantitative data on employment patterns, income levels, and agricultural practices, while qualitative interviews provide insights into the factors influencing job creation within these enterprises.

The primary data was collected from the sample small and micro-farm enterprise participants through a pre-tested structured interview questionnaire. To generate qualitative data, separate checklists have been prepared and applied to conduct key informant interviews and Focus group discussions. A group of 14 key informants were discussed. Moreover, Secondary sources in this study have been collected from officially published and unpublished materials, reports and other materials used by the office of Jimma Town Enterprise and Industry Development. SMFE representatives were interviewed using a structured questionnaire at the city level. The questionnaire covers different topics to capture relevant information about the characteristics of urban agriculture. Detailed questions were asked about types of urban agriculture production by SMFEs. The questionnaire was prepared as simply as possible considering respondents' various backgrounds. Later, it was translated into Oromifa the commonly spoken and official language of the town.

Key informants were interviewed about the extent of urban agriculture in their town, locations of urban agriculture, characteristics of urban agriculture, and addresses of SMFEs in the study areas. They were asked about types of common urban agriculture production systems in the town, common uses of urban agriculture producers, challenges and opportunities in urban agriculture, the contribution of urban agriculture on job creation and the proportion of SMFEs involved in urban farming in the town.

Three samples are taken one for the sub-city, the other for SMFEs and the last for types of urban farming. Purposive sampling, simple random sampling and stratified sampling were taken for sub-cities, SMEFs and types of urban farming

respectively. According to the Jimma town enterprise and industry development office number of small and micro-farm enterprises (SMEs) in the town was estimated to be 458. However, out of the 8 sub-city, the majority and concentration of common urban farming types in which nine types of SMFE were found in four sub-cities. So, thus four sub-cities 1, 2, 5 and 7 were selected purposively. Then, a sampling frame was developed based on the data gathered by the Jimma town enterprise and industry development office. Around 106 SMFEs were found in the four sub-cities as estimated. Then, stratified sampling was employed to select the sampled respondents from nine types of urban agriculture.

Table 1: Sampling distribution among types of urban agriculture in the sampled Sub cities

Production	Types of UA	Total number of urban SMEF				Total	Sample size per type of UA				Total sample size of SMFE per UA
		Sub-city 5	Sub-city 1	Sub-city 2	Sub-city 7		Sub-city 5	Sub-city 1	Sub-city 2	Sub-city 7	
Livestock	Dairy	5	3	7	3	18	3	2	6	2	13
	Poultry	2	1	2	2	7	1	1	1	1	4
	Honeybee	1	1	1	2	5	1	1	1	1	4
	Fattening	17	5	8	6	36	13	4	6	5	28
	sheep and goat	10	8	6	5	29	7	6	5	5	23
	Animal nutrition			1	1	2			1	1	2
Crop production	Seedling	1	1		1	3	1	1		1	3
	Irrigation	1	1		2	4	1	1		1	3
	Sugar cane	1			1	2	1			1	2
Total		39	20	25	22	106	28	16	20	18	82

The collected data has been analyzed in terms of the number of respondent characteristics and perceptions. Descriptive statistics such as frequency distribution, mean, median and standard deviation, proportion, ratios and percentage have been employed. Similarly, the contribution of urban agriculture to employment creation has been studied in the town. Moreover, a multiple linear model has also been employed to determine the role of urban agriculture on job creation. The research employed STATA version 13 for data analyses. Micro Soft-Excel has been also used for drawing graphs and plots depending on its convenience. The inferential data has been analyzed using econometric models.

The model used was explicitly expressed as follows below;

$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \beta_{11} X_{11} + \beta_{12} X_{12} + \beta_{13} X_{13} + \beta_{14} X_{14} + \beta_{15} X_{15} + \beta_{16} X_{16} + e_i$

Where: Y_i represents the number of employees on the farm, β_0 = constant, β_i = estimated coefficients of the explanatory variables, X_i = explanatory variables, e_i= error term

The analysis was done using the OLS (ordinary least square) regression model ($Y= \beta X + e$) with the assumption that the model error, e, is independently and normally distributed or INN(0, σ2), and has an expected value of zero and equal variance in the target population (Gujirati, 2003).

Table 2: Description of variables Names and Symbols

Variables name	Symbols	Expected sign
Calculated job created	Job created	Dependent variable
License required for starting SMFEs	License requirement	-
Age	Ageofrespondants	+
Marital status	Martalstates	-
Before 5 years employees	before5ye	-
Farm type	Farmtye	-
Educational level	Education level	+
Calculated employee	Calculatedemployees	+
Environment pollute	Environment pollution	-
Agricultural inputs	Agrcalturalinput	+
Farming size	Farm size	+
Start-up capital	Startup capital	+
Gender	Gender	-
Established Year	Stablishedyear	+
Facing constraints	Faceconstrents	-
Unskilled employee	Unskilledemploye	-
Farming location	Frmloction	+

Dependent variable:
Y = Calculated job created

Explanatory variables:
X_1 = License required for starting SMFEs (a precondition for starting SMFEs)
X_2 = Age (Age of SMFEs representative respondents (in years)
X_3 = Marital states of SMFEs representative respondents
X_4 = Before 5 years employees of SMEFs
X_5 = Farm type of SMFEs
X_6 = Educational level of SMFEs representative respondents
X_7 = Calculated employees of SMEFs
X_8 = Environment polluted by SMEFs
X_9 = Agricultural inputs of SMEFs
X_{10} = Farming size of SMEFs
X_{11} = Start-up capital of SMEFs
X_{12} = Gender (Sex of SMFEs representative respondents)
X_{13} = Established Year of SMEFs
X_{14} = Facing constraints of SMEFs
X_{15} = Unskilled employee in the SMEFs
X_{16} = Farming location of SMEFs

An ordinary least square (OLS) regression was done to further explore the relationships between the determinant factors of urban agriculture and contributions to job creation.
Most SMEF's operators/owners in Ethiopia do not keep records and they are extremely reluctant to give accounting information to external parties. Thus, it is difficult to get reliable last-minute data on growth. Therefore, to identify the SMEF's growth, the researcher has been taking employment size growth as a means of measuring the SMFE's growth. To do so, Evans's (1986) formula of firm growth is

$$gr = \frac{ln\ St' - ln\ St}{Ea}$$

Where *gr* represents the SMFE's growth, St' represents the SMFE's current employment size, *St* represents the SMFE's initial employment size, and *Ea* represents the SMFE's age.

Result and Discussions
Small and Micro Farm Enterprises are among the major economic activities in the Oromya region next to agriculture (MOFED 2002). Many people in Oromia are employed and get income by working in these organizations. Besides employment and income contribution, they played a great role in the economic development of the region by supplying different goods and services to the community.
This study focuses on the role of urban agriculture in employment creation in Jimma town by reviewing Small and Micro Farm Enterprise participants (SMFEs). The urban enterprises were dairy, poultry, honeybee, fattening, sheep and goat, animal nutrition, seedling, irrigation and sugar cane. These different types of urban agriculture were taken to show a comparison among sectors and provide a good sample size representative of SMFEs. About 82 samples from SMFE participants have been covered by the survey study.

Table 3: Econometric results

job created	Coef.	Std. Err.	t	P>t	[95% Conf.	Interval]
license requirement	-.0382228	.0191757	-1.99	0.050*	-.0765192	.0000737
ageofrespondants	-.0024563	.0211537	-0.12	0.908	-.0447032	.0397906
martalstates	-.0158098	.0688358	-0.23	0.819	-.1532844	.1216648
before5ye	-.0040686	.0028211	-1.44	0.154	-.0097027	.0015655
farmtype	-.0803172	.1263301	-0.64	0.527	-.3326159	.1719814
education level	1.01e-07	1.39e-07	0.73	0.470	-1.76e-07	3.78e-07
calculated employees	.0576139	.046114	1.25	0.216	-.0344821	.1497098
enviromentpollution	-.0847672	.0045391	-18.67	0.000***	-.0938325	-.0757019
agrcalturalinput	.0281038	.0051929	5.41	0.000***	.0177329	.0384748
farm size	.0107851	.0041828	2.58	0.012**	.0024315	.0191387
startup capital	.0015617	.0009941	1.57	0.121	-.0004237	.0035471
gender	-.0020845	.0016429	-1.27	0.209	-.0053655	.0011965
established year	-.0349468	.0357475	-0.98	0.332	-.1063395	.0364459
faceconstrents	-.0193089	.0200176	-0.96	0.338	-.0592868	.020669
unskilled employee	-.0698143	.0223068	-3.13	0.003***	-.114364	-.0252646
fraction	.0079493	.0089325	0.89	0.377	-.0098901	.0257888
_cons	1.083685	.0993354	10.91	0.000	.8852987	1.282072

***, ** and *, statistically significant at 1%, 5% and 10% probability level respectively
Source: From Own Field Survey data calculated, 2023

Table 4: Model fitness output of STATA 13

Source	SS	Df	MS
Model	7.58950012	16	.474343757
Residual	.422695005	65	.006503
Total	8.01219512	81	.098915989

Number of obs	=	82	
F(16, 65)	=	72.94	
Prob > F	=	0.0000	
R-squared	=	0.9472	
Adj R-squared	=	0.9343	
Root MSE	=	.08064	

Source: From Own Field Survey data calculated, 2023

Table 5: Multicollinearity of explanatory variables

Variable	VIF	1/VIF
enviroment~n	3.14	0.318774
calculated~s	2.99	0.334282
agrcaltura~t	1.83	0.546682
fraction	1.69	0.592636
startupcap~l	1.68	0.594056
gender	1.60	0.626257
stablished~r	1.57	0.635142
unskillede~e	1.56	0.640940
before5ye	1.55	0.645152
martalstates	1.42	0.703362
farm size	1.37	0.729088
faceconstr~s	1.26	0.793544
ageofrespo~s	1.24	0.809554
licensereq~t	1.15	0.870988
farmtype	1.15	0.871632
educationl~l	1.13	0.888795
Mean VIF	1.64	

Source: From Own Field Survey data calculated, 2023

Variance inflation factors of the variables (Vif)
Based on this, the findings and results of the survey can be summarized as follows:
A few majorities of the respondents of the farming activity owned participants are led by males this covers 54.9 per cent, and 45.1 per cent of the respondents of the farming activity owned participants are led by females. The socio-cultural attitude could be one of the factors for the decreasing participation of females in farming activity in this study. With regards to the Age group 7.3 percent are under 18 years, followed by 85.4 percent are 18 -35 years age youth, 4.9 percent are 36–65 years age. The rest of the sample respondents are over 65 years those which accounts for about 2.4 percent. From this, it can be drawn that the majority of the SMFEs of participants' age are among the ones the country's desired economic development can be attained. The majority's education levels are from grade secondary level (31.7 per cent). Next to secondary, the respondents with a primary level of education and certificate account for 25.6 and 19.5 per cent of the sample respondents respectively. It can be observed that the majority of the SMEF participants have less than a diploma level of education which is 85.3 percent of the total respondents. The majority of established SMFEs are ten-year establishments. 89 per cent of the SMEFs were established in the years between 2000 and 2005. The rest (11 per cent) are established between 2006 and 2016. This shows that all the selected farming sectors are more than ten years ago, there is no young farming sector in this study. There were no farming cooperatives established after 2016. Regarding the urban farming participants; the fattening farm is more than the other urban farms, in terms of the number of participants established in Jimma town (34.2 per cent). Next to it sheep and goat and dairy farming are established at 28.1 percent and 15.9 percent respectively. From this, it can be concluded that the fattening, sheep and goat and dairy farming are better in the study than other farming participants. However; the dairy farming participants, grew for the last five consecutive years highly (30.8 per cent). The amount of initial capital of SMFEs for starting urban farming ranges from 5,000 - 600,000 Birr. Most of the SMFEs (42.7 per cent) were their initial capital between 25,001 - 50,000 Birr. Next to it the SMFEs (20.7 per cent) were their initial capital between 5,000 - 25,000birr. In others (36.6 per cent) of the enterprises their initial capital was between 50,001-1,000,000 Birr. Fattening needs the highest initial capital from 75,001 – 100,000

Birr (39.3 per cent). The majority (35.4 per cent) of the enterprises have current capital between 100,001 - 200,000 Birr. By comparing the initial capital of the SMEEs with current capital, there are significant differences in the capital amount invested.

In employment creation, SMFEs created jobs for many individuals. Among the SMFE participants, the majority of them (95.1 per cent) had no previous occupations and only 4.9 per cent had had previous occupations. According to this survey, SMFEs created employment opportunities for those owners of SMFEs. Among those owners of SMFEs, 95.1 per cent had been unemployed, which means that SMFEs created jobs for 95.1 per cent of the unemployed community. From this, we can conclude that SMFEs have an indispensable role in employment creation.

From this, we can conclude that SMFEs have an indispensable role in employment creation. According to focus group discussions made with stakeholders, the lowest number of employees among start-ups and current is due to many reasons. First, the cooperatives do not want to increase members or employees. If members increase there will be division of wealth among the current ones. Secondly, due to conflicts that arise among members some of the members quit the job. Finally, some of the members get a better job and withdraw from the cooperative.

Conclusion and Recommendations
In conclusion, urban agriculture plays a crucial role in job creation and livelihood improvement for small and micro-farm enterprise participants in Jimma Town, Oromia Region, Ethiopia. However, realizing its full potential requires addressing underlying challenges and strengthening supportive policies and institutions. Policymakers should prioritize investments in infrastructure, extension services, market linkages, and financial mechanisms to enhance the socio-economic impact of urban agriculture and promote inclusive and sustainable development in urban areas.
According to focus group discussions made with stakeholders, during the start-up of the urban farming operation, a majority of the farms did not face constraints. During operation unlike during the start-up of the farming majority of them face constraints. This is because crop production and livestock farming require skilled manpower. The inability to get skilled manpower or technology may increase problems during operation. In Jimma, regarding the constraints, lack of working place (land) and shortage of capital were found to be the most pressing and leading problems facing

SMEs. However, in this research market problem was not found the most pressing problem. Apart from these lack of inputs, insufficient working premises, lack of knowledge and skills, problems in government procedures, and infrastructural problems constitute the other problem areas.

The study indicated that the SMFE's growth and job creation have positive relations. Thus, integrating the urban unemployment and SMFEs development policy is crucial. For the implementation of urban agriculture, farming policy needs holistic approaches that integrate various government institutions. Clear procedures that enhance the implementation of the urban agriculture farming policy and a follow-up mechanism to correct implementation failures shall be arranged. The SMFE sector must be supported by strengthening municipal-level capacity to address the nexus between urban agriculture insecurity and the informal economy and enhancing institutions that provide an enabling environment for SMEs. The focus of the government must be on facilitating the growth of established SMFEs rather than rushing to increase the number of new SMFEs.

Based on the major findings mentioned in the analysis, several policy recommendations have been drawn with the view to improve the role of urban agriculture in contributing to employment creation.

The provision of agricultural product development services such as training technical and managerial, advisory and counselling services are very crucial for the sustainable growth of SMEs. In this regard, support agencies need to tailor their training and advisory services to meet the specific needs and situations of SMFEs. Support organizations can also play facilitating roles by referring and linking SMFEs to other organizations for special skills training. The managerial pieces of training can be how to record, how to do the debit and asset etc. Technical training should be given depending on the type of urban farming so that it will help SMFEs to supply agricultural products in quality and quantity thereby increasing demand for their products. Both these trainings should be given to new as well as existing SMFEs.

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Appendix: Econometric results

```
. summarize jobcreated, detail

                          Calculated Job created
   ────────────────────────────────────────────────────────
>  ────────────────
          Percentiles        Smallest
   1%            0                0
   5%            0                0
  10%            0                0         Obs
>             82
  25%            1                0         Sum of Wg
> t.          82

  50%            1                          Mean
>       .8902439
                          Largest          Std. Dev.
>       .3145091
  75%            1                1
  90%            1                1         Variance
>        .098916
  95%            1                1         Skewness
>      -2.496878
  99%            1                1         Kurtosis
>       7.234399


. tab gender
```

Gender	Freq.	Percent	Cum.
1	45	54.88	54.88
2	37	45.12	100.00
Total	82	100.00	

```
. summarize gender , detail

                              Gender
   ────────────────────────────────────────────────────────
         Percentiles        Smallest
   1%          1                1
   5%          1                1
  10%          1                1        Obs                 82
  25%          1                1        Sum of Wgt.         82

  50%          1                         Mean           1.45122
                          Largest        Std. Dev.      .500677
  75%          2                2
  90%          2                2        Variance      .2506775
  95%          2                2        Skewness      .1960572
  99%          2                2        Kurtosis      1.038438


. tab agegroup
```

Age group	Freq.	Percent	Cum.
1	6	7.32	7.32
2	70	85.37	92.68
3	4	4.88	97.56
4	2	2.44	100.00
Total	82	100.00	

```
. summarize agegroup , detail
```

```
                              Age group
─────────────────────────────────────────────────────────────────
       Percentiles       Smallest
 1%           1                1
 5%           1                1
10%           2                1        Obs                   82
25%           2                1        Sum of Wgt.           82

50%           2                         Mean            2.02439
                      Largest           Std. Dev.      .4707653
75%           2                3
90%           2                3        Variance        .22162
95%           3                4        Skewness       1.510313
99%           4                4        Kurtosis       10.35624
```

```
. summarize education , detail
```

```
                            Education Level
       ───────────────────────────────────────────────────────
       Percentiles       Smallest
 1%           0                0
 5%           1                0
10%           3                1        Obs                   82
25%           6                1        Sum of Wgt.           82

50%          10                         Mean           8.719512
                      Largest           Std. Dev.      3.954289
75%          12               13
90%          13               16        Variance        15.6364
95%          13               16        Skewness      -.5640063
99%          16               16        Kurtosis       2.491511
```