

RESEARCH ARTICLE

Challenges Encountered by Urban Women Farmers in their Agricultural Activities

Olufemi Damilola Blessing

Centre for Gender and Social Policy Study, Obafemi Awolowo University, Ile-Ife, Osun State, Nigeria

Received: 05-05-2019; Revised: 10-06-2019; Accepted: 01-08-2019

ABSTRACT

The roles of women in agricultural production, particularly in food production and processing are very germane. Despite this fact, women are often faced with severe constraints that affect their agricultural productivity. This study examined the challenges facing urban women farmers in Lagos Metropolis. A total of 255 urban women farmers were sampled from three different locations with the metropolis. Focus group discussions and in-depth interview were organized to further elicit information on the subject matter. Using the grand mean score, the study revealed that the most severe challenges faced by the women farmers in their urban agricultural activities are access to credit facilities, access to land and access to adequate input, respectively.

Key words: Access to, challenges, control over, urban agriculture, urban women farmers

INTRODUCTION

Urban agriculture (UA) is gradually becoming a contemporary issue, becoming more important within the urban household and economy. It can simply be defined as the production, processing, and marketing of agricultural produce within and around cities.^[1] The Food and Agricultural Organization (FAO) (2002) defined "UA as the growing of plants and the raising of animals for food and other uses within and around cities and towns, and related activities such as the production and delivery of inputs, processing, and marketing of produce."^[2] UA is an informal sector activity that contributes greatly to the economy of the urban area, production of food within the household; it is a means of survival and sustainable development as it can be practiced by both female and male urban poor.^[3]

UA is on the increase in many states in Nigeria, especially Lagos State.^[4] This may be due to the continuous rural-urban migration and natural growth rate within the city.^[5] For instance, the Lagos State has been growing rapidly since its creation in 1967. In 2006, the National

Population Census estimated that the population of Lagos State was 9,013,534, but in 2015, the Lagos State Government estimated that the population of her State is 21 million which is twice the initial number. Meanwhile, the FAO issued a warning that increases in population in urban areas in the developing world will be accompanied by worsening food shortages as well as extreme hunger, food insecurity, and poverty.^[6]

Women who are often disproportionately affected by poverty, profoundly use UA as a major source of revenue to sustain and safeguard their families through subsistence agricultural production.^[7] More men than women are involved in the formal sector employment, while larger proportion of women are in the informal production sector such as fashion designing, petty trading, hairdressing, catering among which urban agricultural activities are included (Federal Office of Statistics, 2003).^[8] Since UA can often be combined with other domestic activities, hence, women constitute an essential part of urban farmers (Resource Centers on UA and Food Security, 2007).^[9] UA represents a way for unskilled and uneducated women to enter into the business realm.

The roles of women in agricultural production, particularly in food production and processing are very germane. It varies by region, local customs, culture,

Address for correspondence:

Olufemi Damilola Blessing

E-mail: dammydarego@ymail.com

traditional beliefs, and also by crops. Together with the men, women perform significant roles in production for subsistence and generating income. Despite this fact, women often have limited access and control over critical productive resources primarily because men as community, political, or religious leaders often control more resources, and hence, allocate more resources to themselves.^[10] In essence, women are usually faced with different challenges in their entrepreneurship activities most especially access to productive resources such as land, labor, and capital. Olawepo and Fatulu (2012) averred that access to land by most married women were usually through their spouse.^[10] In the same vein, they are often subjected by the decision of landowners who are usually men. It is important to note that land is a critical agricultural productive resource without which agricultural production might be more challenging. Furthermore, women who have little access or no control over land might not have access to credit which usually involves collateral, i.e., ownership of land to acquire it. This, in turn, affects their productivity and often limits them to subsistence production as they could find it challenging to buy critical agricultural resources such as fertilizers, pesticides farm tools, and seeds.^[11] This existing gender inequalities often has detrimental effect on women's ability to perform their traditional role of providing food, health, care of themselves, aged, their husbands, children, especially their female wards. As such, it is important to critically examine the challenges faced by women entrepreneurs in their agricultural activities in the urban area.

Statement of the problem

The significant contribution of female entrepreneurs to the development of different sectors of the economy, most especially the agricultural sector has been empirically reported in various micro-level studies in Nigeria.^[12-14] UA presents an opportunity for female entrepreneurs to contribute immensely to food security, reduction of poverty, malnutrition, and hunger in the urban area. However, female entrepreneurs are mostly confronted with constraints in accessing critical productive resources most especially land, capital, and technological implements among others. Adedayo and Tunde, (2013) on the challenges of women in UA in Kwara State revealed that women in UA are faced with lots of challenges that limit their roles in agricultural

production.^[14] Some of the major challenges identified were lack of credit facilities and restricted accessibility to land among others. However, the study was limited to Kwara metropolis with less population compared to highly urbanized areas such as Lagos State. The results obtained there may not be sufficient enough to generalize for highly urbanized areas. Therefore, as more women take option in urban farming against all the odds, it is, therefore, important to document their challenges in their entrepreneurship activities in the urban area.

Objectives of the study

The main objective of this study is to assess the challenges facing urban women farmers in their entrepreneurial activities in Lagos metropolis. The specific objectives are to:

1. To describe the sociodemographic characteristics of female entrepreneurs participating in agricultural production activities in the study area
2. To examine the urban women farmer's entrepreneurial activities and the outcomes; and
3. To identify the constraints faced by urban women farmers in their agricultural production activities.

METHODOLOGY

This is a descriptive cross-sectional study that was conducted among urban women crop farmers in Lagos metropolis. A multistage sampling technique was used for the study because of the complex distribution of urban crop farmers within the study area. At the first stage, purposive sampling technique was used to select three local government areas (LGA) (Ojo LGA, Kosofe LGA, and Surulere LGA) from the three senatorial districts within the state, based on their agrarian nature. At the second stage, purposive sampling technique was also used to select three metropolitan wards (Ojo, Alapere, and Tejuoso) from each LGA, respectively. Finally, snowballing sampling technique was used to select 255 urban female crop farmers. A standardized structured questionnaire, focus group discussion (FGD), and in-depth interview (IDI) were used to elicit information from the urban women entrepreneurs, and different stakeholders. Univariate analyses were used to present data through frequency distribution

and simple percentages while qualitative data was analyzed along the study themes.

RESULTS AND DISCUSSION

Objective 1: Socio-demographic characteristics of the respondents

Table 1 presents data on the sociodemographic characteristics of the respondents. The age distribution of respondents indicated that a higher proportion of respondents (46.2%) fell within 40–49 years; whereas more than one-third of the respondents were <age 40. Cumulatively, 82.1% of the respondents were <50 years of age. More so, the minimum and the maximum ages of the respondents were 25 years and 65 years, respectively, whereas, the mean age was 43 ± 7.31 years. This shows that majority of the farmers are in their middle age and are more likely to be active and productive in their entrepreneurial activities as postulated by Ango *et al.* (2011).^[15] Data on the ethnic group of respondents show that majority of the respondents were from Igbo

ethnic group of Southern part of Nigeria. This is in line with Ogunlela and Mukhtar (2009) which avers that the major occupation of Igbo women appears to be more of farming than trading, whereas Yoruba women are more into trading than farming.^[16]

Data on marital status revealed that majority (86.1%) of the respondents were married, with a mean family size of 5. These results suggest that the care of families coupled with many other responsibilities of women appeared to be one of the major reasons they are engaged in urban agricultural activities. Inference from the data on education indicated that respondents who have formal education (90.8%) are higher than those with no formal education (9.2%). Furthermore, as high as 21.9% of the respondents had tertiary education. This is corroborated by Asadu *et al.* (2016), that urban farmers have formal education even up to the tertiary level.^[17] It is, therefore, anticipated that education has a positive impact on the behavior of farmers adopting new agricultural innovations (Ajibefun and Aderinola, 2004); and their level of participation in agricultural activities (Abubakar *et al.*, 2009). This indicates that urban women farmers in the study area are not only regular farmworkers, but educated people who are either not employed in the formal sector or using agriculture to supplement their income.^[18,19]

Table 1: Demographic characteristics of the respondents

Socio-demographic characteristics	Frequency (n=251)	Percentage
Age		
<40	90	35.9
40–49	116	46.2
50+	45	17.9
Minimum age=25 years; maximum=65 years; mean age=43 years; SD=7.316		
Marital status		
Single/separated	12	4.7
Married	216	86.1
Widowed	23	9.2
Family size		
<5	89	35.7
5–7	148	59.4
>7	12	4.8
Minimum no.=3; maximum no.=12; mean=5; SD=1.381		
Ethnic group		
Yoruba	47	18.7
Igbo	115	45.8
Other ethnic (Edo, Delta, Calabar, Rivers, Tiv, Benue)	89	35.5
Education qualification		
No. formal education	23	9.2
Primary	74	29.5
Secondary	99	39.4
Tertiary	55	21.9

SD: Standard deviation

Objective 2: Urban women farmer's entrepreneurial activities and the outcomes

The data on respondents' entrepreneurial activities and the outcomes are shown in Table 2. Data on type of entrepreneurial activity showed that two-third (66.9%) of the respondents had farming as their main source of income, and less than one-fourth (21.9%) of the respondents had trading as their supplementary source of income. This finding is similar to that of Edeoghon and Izekor (2017) which asserted that urban farmers are involved in other income-generating activities because of the seasonality of agriculture.^[20] Although some of the women have had over 30 years of urban farming experience, the general average score period respondents had been involved in urban farming is 11 years. This may also be attributed to the growing importance and awareness of UA. More so, while some women reported a monthly income of ₦50,000, the general average income reported by the women is about ₦24,000 per month. A similar result was discovered by Edeoghon

Table 2: Socioeconomic characteristics

Socioeconomic characteristics	Frequency (n=251)	Percentage (%)
Main occupation		
Farming	168	66.9
Trading	39	15.5
Civil service	28	11.2
Artisans	16	6.4
Secondary occupation		
Trading	55	21.9
None	96	38.2
Years of farming experience		
≤5 years	56	22.3
6–10 years	86	34.2
11–20 years	84	33.5
21+ years	25	10.0
Minimum years=1 year; maximum years=35 years; mean years=11 years; SD=6.64		
Size of farm land		
<1 acre	168	66.9
1–5 acre	82	32.7
6–10 acre	1	0.4
Monthly income		
≤10,000	27	10.8
10,001–20k	71	28.3
20,001–30k	106	42.2
>30k	47	18.7
Minimum income=N=5000; maximum income=N=55,000; mean income=N=24,000k; SD=12,870		
Number of employees		
No employees	64	25.5
3–1	161	64.1
4 and above	26	10.4
Minimum no. of employ=0; maximum no. of employ=8; mean no. of employee=2		
Types of crop grown		
Only vegetable	210	83.7
Both vegetable and other crops	41	16.3

SD: Standard deviation

and Izekor (2017) which posited that the average monthly income of urban farmers in Ikorodu Lagos was ₦21,760.^[20] This was also not in tune with the findings of Adeyemo and Kuhlmann (2009) where the average monthly income of the urban farmers in Southwestern, Nigeria, was ₦51,294.^[21] This high monthly income was attributed to the farmer's access to credits from the formal sector. The entry of urban female farmers into commercial agricultural production in the study area is, perhaps, a strong indication of economic autonomy and a break in the complementary structure of division of labor by sex. Data on the size of farmland also show that the female

urban farmers are mainly small landholder farmers, with about two-third (66.9%) of the respondents cultivating less than one acre of land. The crops predominantly grown by these women are vegetables such as amaranths, fluted pumpkin leaves, bitter leaf, and celosia. The cereal, root and tuber, and perennial crops were not dominant crops cultivated by the women. The qualitative finding reveals that women are still limited in their choice of crops. This corroborated the findings of Foeken (2005) that urban women farmers in the Southern part of Nigeria, grow mainly annual food crops and vegetables.^[3] This may be attributed to the fact that the production of traditional leafy vegetables may require less demand for water and space, less labor, and low capital investment as noted by Salau and Attah (2012).^[22] The implication of this is that the urban female farmers are not fully exploring the entrepreneurial opportunities in UA. This also shows that women are often being stereotyped in their agricultural production and limited to subsistence production mostly because of their limited access to productive resources.

Objective 3: Challenges affecting urban women farmer's involvement in UA activities

Table 3 shows the degree to which selected features identified from literature affect urban women farmers in their agricultural activities. When the grand mean score of 1.046; standard deviation [SD] = 0.270 was compared with each of the individual mean score, table showed that the most severe challenges faced by the women entrepreneur in their urban agricultural activities are access to credit facilities ($\bar{X}$ = 1.542; SD = 0.658), access to land ($\bar{X}$ = 1.514; SD = 0.628), and access to adequate input ($\bar{X}$ = 1.510; SD = 0.609), respectively; whereas the presence of reptiles ($\bar{X}$ = 0.259; SD = 0.530) do not pose a challenge to them. Other challenges faced by the women entrepreneurs include flood, shortage of labor, high incidence of pest and disease, unpredictable weather condition, lack of time due to the multiple roles of women, theft, among others. This is similar to those experienced by their counterparts in other cities.^[14,23,24]

Access to credit and capital

One of the most severe challenges faced by the women entrepreneur in their urban agricultural activities was access to credit and capital. Qualitative evidence

Table 3: Distribution of respondents by the challenges encountered in urban agriculture

Challenges	Never freq. (%)	Mild freq. (%)	Severe freq. (%)	Mean (XN)	SD	Rank
Access to credit facilities	23 (9.1)	69 (27.5)	159 (63.4)	1.542	0.658	1
Access to land	18 (7.2)	86 (34.3)	147 (58.6)	1.514	0.628	2
Access to adequate input	15 (6)	93 (37.1)	143 (57)	1.510	0.609	3
Flood	17 (6.8)	97 (38.7)	137 (54.6)	1.478	0.622	4
Shortage of labor	41 (16.3)	118 (47.0)	92 (36.7)	1.203	0.700	5
High incidence of pests and disease	17 (6.8)	166 (66.1)	68 (27.1)	1.203	0.546	6
Unpredictable weather condition	27 (10.8)	162 (64.5)	62 (24.7)	1.139	0.580	7
Lack of time due to the multiple role of women	67 (26.7)	88 (35.1)	96 (38.3)	1.116	0.799	8
Theft	52 (20.8)	131 (52.2)	68 (27.1)	1.064	0.690	9
Discriminatory attitude of men	64 (25.5)	117 (46.6)	70 (27.9)	1.024	0.732	10
Transportation of farm produce	62 (24.7)	133 (53)	56 (22.3)	0.976	0.687	11
Technical know how	78 (31.1)	144 (57.4)	29 (11.6)	0.805	0.624	12
Access to extension services	93 (37.5)	123 (49.0)	35 (14.0)	0.769	0.677	13
Drought	114 (45.4)	103 (41)	34 (13.6)	0.681	0.700	14
Marketing	105 (41.8)	125 (49.8)	21 (8.4)	0.665	0.625	15
Lack of basic amenities	114 (45.4)	112 (44.8)	25 (10)	0.645	0.656	16
Reptiles	197 (78.5)	43 (17.1)	11 (4.4)	0.259	0.530	17
Aggregates		64 (25.5)		112 (44.8)		

SD: Standard deviation

corroborated this further that urban women farmers who belonged to women farmers' group(s) (WFG) were only able to access financial supports, farm inputs, social supports, information, technologies, and gaining bargaining power from their various farmers' groups. While many of those who do not belong to WFG resorted to borrowing from informal lenders such as friends and relatives because they lack collateral security and credit records that can qualify them from lending from formal sources. During one of the FGD sessions, the women farmers unanimously stated that lack of access to formal lending sources and adequate capitals has limited them from adopting new innovative technologies, most especially the use of pumping machines, and also from undertaking new investments.

Access to land

Interview with respondents showed that development and structural activities within the city, and conversion of farming lands to urban uses remain enormous barriers to their production activities across the three (3) LGAs. In this regard, it was gathered from the interview that the vast majority of land cultivated by farmers were unused public lands which were set aside for other purposes. Hence, development and structural activities are pushing urban agricultural production and

urban farmers farther away from the metropolis. Some of these female entrepreneurs were ejected from such lands without proper notification and compensation.

IDI with a 47-year-old urban female farmer in Ojo LGA, Lagos

"I used to farm here in Post service, until my farmland was developed into a football pitch ...I was only able to purchase a piece of land in Imota, Ikorodu, now I am being forced to travel down there daily."

IDI with a 38-year-old urban female farmer in Ojo LGA, Lagos

"My farm in Mile 2 was cleared off without the provision for alternative because the military personnel wanted to construct more staff quarters, leaving me with no other source of income."

Corroborating findings from the qualitative and FGD sessions, it was established during the Key Informant Interviews with Extension officers that vast majority of lands cultivated in the study area belongs to the government, while access to such government land does not present overt gender gaps. This implies that procedurally, both men and women could apply to the government for agricultural farmland within the metropolis (whenever it is available). It is, therefore, interesting to note that urban conditions/situations

are gradually ruling out patriarchal culture and traditions or at least making them less relevant.

Access to adequate input

Interview with the urban women farmers showed that shortage, rising cost of inputs, and unstable market price were also some of the major challenges urban female farmers faced in their productive activities. All these factors combined with inadequate access to credit facilities have hindered the women entrepreneurs from having adequate access to agricultural productive resources which, in turn, has a negative impact on their agricultural production and hence, their profits. Corroborating further with the aforementioned, this study revealed that women do not have access to modern agricultural productive resources, especially mechanized equipment, agrochemicals, improved seedlings, and pumping machine. This implies that women farmers in the study area are still making use of crude and traditional implements in their various urban agricultural activities. This is supported by Adedayo and Tunde (2013) that women farmers in urban areas have difficulties in accessing expensive and essential farming inputs.^[14] The findings also affirmed the study of Carr and Hartl (2010) that women farmers often lack access to irrigation infrastructure and technologies.^[25]

Flood

Increased and austere competition for commercial and residential use of land in the study area often limits the female entrepreneurs to access lands for farming in areas low-lying areas that cannot be developed due to environmental trepidations, most especially flooding. Hence, their farm lands are often flooded, most especially during the rainy seasons, destroying their agricultural produce, and making access to their farms difficult or impossible. FGD sessions with the women farmers revealed that associated with this flood are invasion of very deadly and poisonous reptiles such as anaconda, crocodile, and different poisonous snakes on their farms.^[26,27]

IDI with a 44-year old urban female farmer in Surulere LGA, Lagos

My farm land is in a very low area and prone to flood, so my production is usually intensive during the dry season (November

to March) since I cannot access my farm throughout the rainy season.

IDI with a 52-year old urban female farmer in Surulere LGA, Lagos

There are big reptiles surrounding our farms, even the men are very scared at times. There are crocodiles, a very big python and even reports have it that one big anaconda lives inside the river over there. It is almost impossible to go into the farm without a companion especially late in the evening in order to be safe from these deadly reptiles. My farm is also flooded during a rainy season.

Other challenges faced by the urban female farmers in their entrepreneurial activities includes high incidence of pest and disease, unpredictable weather condition, lack of time due to the multiple roles of women, theft, among others.

CONCLUSION AND RECOMMENDATION

The entry of urban female farmers into commercial agricultural production in the study area is a strong indication of economic autonomy and a break in the complementary structure of division of labor along the sex line. Despite this, the women farmers are still faced with severe constraints in their agricultural productive activity, most especially access to capital and land in the metropolis. Their agricultural activities are being threatened by continuous construction of houses and infrastructures within the city. These may eventually lead to the women's disengagement from agricultural activities within the city. The implication of this is an increase in feminization of poverty in the urban areas as more female-headed households and women who find difficulty in accessing waged labor are becoming more dependent on UA for survival. There is a need for appropriate urban agricultural policies that would help reduce or remove identified constraints facing women in urban agricultural production to further enhance food security and alleviate poverty in the urban area. Since land is one of the critical agricultural productive resources, Government should incorporate UA into the town planning for urban areas in such a way that it will be easier for women to access lands for farming. Government should ensure provision of expensive and scarce agricultural productive resources for women

farmers such as mechanized equipment, irrigation facilities, improved seeds, and agrochemicals. This should be made available through women cooperatives/associations, microfinance, or women in agriculture groups and specially targeted at urban women farmers. This would empower women to enhance household welfare and access to critical resources; and improve their individual status in the society.

REFERENCES

- Drescher AW. What is Urban Agriculture? Discussion Paper, Food Africa Internet Conference, Retrieved 20th September 2007; 2003. Available from: <http://www.foodafrica.nri.org/urbanization/urbanizationdiscussion1.html>. [Last accessed on 2012 Feb 08]
- Food and Agricultural Organization. Issues on Urban Agricultural. Rome: Food and Agricultural Organization; 2002. Available from: <http://www.fao.org/ag/magazine19901sp2.htm>. [Last accessed on 2018 Oct 06].
- Foeken DW. Urban Agriculture in East Africa as a Tool for Poverty Reduction: A Legal and Policy Dilemma? ASC Working Paper, No. 65/2005. Leiden, The Netherlands: African Studies Centre; 2005.
- Lawal MO, Aliu IR. Operational pattern and contribution of urban farming in an emerging megacity: Evidence from Lagos, Nigeria. In: Szymańska D, Biegańska J, editors. Bulletin of Geography. Socio Economic Series, No. 17. Toruń: Nicolaus Copernicus University Press; 2012. p. 87-97.
- Eawag N. Waste Resource in Agriculture, Swiss Federal of Aquatic Sciences and Technology. Rome: Food and Agricultural Organization; 2010.
- Food and Agricultural Organization. Urgent Action needed to Combat Hunger as Number of Undernourished in the World Increases. Rome: Food and Agriculture Organization; 1998. Available from: <http://www.fao.org>. [Last accessed on 2018 Dec 15].
- Hovorka A. Urban agriculture: Addressing practical and strategic needs. *Dev Pract* 2006;16:51-61.
- Federal Office of Statistics. Core of Welfare Indicators. Questionnaire and Combined Six States Reports. Main Obinne (1991) Report. Federal Office of Statistics; 2003.
- Resource Centers on Urban Agriculture and Food Security (RUAF Foundation). "Why Urban Agriculture is Important"; 2007. Available from: <http://www.ruaf.org>. [Last accessed on 2018 Jan 18].
- Olawepo RA, Fatulu B. Rural women farmers and food productivity in Nigeria: An example from Ekiti Kwara, Nigeria. *Asian Soc Sci* 2012;8:108-17.
- Mazhawidza P, Manjengwa J. Research Report: The Social, Political and Economic Transformative Impact of the Fast Track Land Reform Programme on the Lives of Women Farmers in Goromonzi and Vungu-Gweru Districts of Zimbabwe; 2011. Available from: http://www.landcoalition.org/sites/default/files/publication/958/WLR_8_Zimbabwe.pdf. [Last accessed on 2013 Aug 05]
- Boserup E. Women's Role in Economic Development. New York: St Martin's Press; 1970.
- Akinsanmi A, Doppler W, Nwajiuba C. Gender Inequalities and their Implications for Living Standard and Food Security among Male and Female Headed Households in Imo State, Nigeria. Tropentag, Stuttgart-Hohenheim: Conference on International Agricultural Research for Development, October 11-13; 2005.
- Adedayo A, Tunde AM. Challenges of women in urban agriculture in Kwara state, Nigeria. *Sustain Agric Res* 2013;2:1-8.
- Ango AK, Abdullahi AN, Abubakar BB. Role of socioeconomic parameters in determining the efficacy of urban agriculture in providing food security in Birnin Kebbi metropolitan area, Kebbi State, north western Nigeria. *Int Res J Agric Sci Soil Sci* 2011;1:185-92.
- Ogunlela Y, Mukhtar A. Gender issues in agriculture and rural development in Nigeria: The Role of Women. *Hum Soc Sci* 2009;4:19-30.
- Asadu A, Enwelu I, Ifejika P, Igbokwe E. Urban crop production in southeast Nigeria: Potentials and constraints. *Afr J Agric Res* 2016;11:4646-53.
- Ajibefun IA, Aderinola EA. Determinants of Technical Efficiency and Policy Implication in Traditional Agricultural Production: Empirical Study of Nigerian Food Crop Farmers. Nairobi, Kenya: Final Report Presentation at Bi-annual Research Workshop of African Economic Research Consortium; 2004.
- Abubakar BZ, Ango AK, Buhari U. The roles of mass media in disseminating agricultural information to farmers in Birnin Kebbi local government area of Kebbi state: A case study of state Fadama II development project. *J Agric Ext* 2009;13:42-54.
- Edeogbon CO, Izeke B. Food accessibility, distribution and production constraints of urban farmers in Ikorodu Metropolis, Lagos state. *Nigeria IOSR J Agric Vet Sci* 2017;10:8-15.
- Adeyemo R, Kuhlmann F. Resource use efficiency in urban agriculture in South Western Nigeria. *Tropicultura* 2009;27:49-53.
- Salau ES, Attah AJ. A socio-economic analysis of urban agriculture in Nassarawa state. *Prod Agric Technol* 2012;8:17-29.
- Hovorka A. Gender and Urban Agriculture: Emerging Trends and Areas for Future Research. Graduate School of Geography. Worcester MA, USA: Clark University; 2001.
- Barau AA, Oladeji DO. Participation of urban women in agricultural production activities in the Sokoto Metropolis, Nigeria. *J Nat Resour Dev* 2017;7:84.
- Carr M, Hartl M. Lightening the Load. Rome: International Fund for Agricultural Development and Practical Action Publishing Ltd.; 2010.
- Lagos State Government. Lagos State Government Release; 2014. Available from: <http://www.lagosstate.gov.ng/pagelink.php?p=6>. [Last accessed on 2017 Dec 11].
- Lagos State Government. Lagos State Population; 2015. Available from <http://www.lagosstate.gov.ng/pagelink.php?p=6> 171. [Last accessed on 2017 Dec 19].