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Urban Agriculture for Socio-economic Development in Kwara State, Nigeria

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Abstract

Urban farming contributes significantly to food security and improvement in standard of living of urban households in most developing countries including Nigeria. The thrust of this paper is to compare involvement and non involvement of people in urban and peri-urban agriculture in Offa town. For the study, about 120 farm families and 120 non-farm families were sampled with the use of questionnaire administration. Data obtained were subjected to descriptive statistical technique such as frequency tables and percentages. The results revealed that families who were engaged in urban agriculture were involved in it both on part-time and full-time bases in order to supplement the income from their primary occupation, as a source of employment, gain access to nutritious food, start new businesses and also for food security. This in turn has improved their wellbeing when compared with non-farm families. Whereas, the non-farm families could not generate additional income that can be used for basic necessities of life and most of them do not have savings because they live on meager income obtained from their primary occupations. It was further revealed that some farmers especially women were engaged mainly in vegetable production and this fetched them an average of N50, 000 monthly during the period of research. Conclusion was based on recommendations that urban agriculture should be given high priority in development plans and should be given official recognition by the government.

Introduction

Agriculture plays significant roles in economic development of most developing countries. It is a sector that provides food for everybody within a country and contributes substantially to foreign exchange earnings through export. Agriculture has been viewed from different perspectives by researchers. While some view it from the rural perspective others viewed it from the urban. In essence, whichever way it is being viewed, it is an engine of growth of a nation. It also provides employment for people and a source of raw materials to some industries. Although, farming in the

cities is not new, but the concept of “urban agriculture” is a new phenomenon. The advent of urban agriculture is as a result of insufficiency in the foods produced in the rural areas which are no longer enough for the growing urban population. Therefore, a lot of people have to look for other ways of producing their foods in the urban areas. Furthermore, rapid rate of urbanization coping with high level of poverty in the last few decades necessitated the need for people to find alternative ways of generating additional income.

The National Population Census of 2006 put the population of Nigeria at about 140million with the growth rate of 2.83% as against 2% of agricultural production. The effect of this is that there will be high incidence of poverty and food insecurity. Poverty is an intractable problem which affects both rural and urban population; however, the urban population feels the impact more than the rural. This is as a result of highly monetized nature of urban living. In a bid to get out of poverty, urban agriculture came into existence and a lot of people are now engaged in it in order to supplement their income, generate employment as well as for food security. Urban agriculture is defined as the practice of farming within the boundaries of towns or cities (Tunde, 2011). Farming in this sense involves crop cultivation, animal rearing, and fish farming among others. In this definition of urban agriculture, the location of farms plays the most important role. There are two main types of urban cultivation, enclosed cultivation and open-space cultivation. Urban agriculture complements food brought from rural areas and also serves as food and nutrition security for the urban households. This paper examines the significance of urban agriculture on socio-economic well being of its practitioners using Offa in Nigeria as an example.

Study Area

Offa town is the study area and is located in central Nigeria with a population of 114,000 (as of 2005). The town is located on latitude $8^{\circ}30''$ and longitude $4^{\circ}35''$ (see fig. 1). It is bounded in the North by Erinle, Ijagbo in the South, in the West by Igosun town and in the East by Ipe. The climate of Offa is characterised by wet and dry seasons. It has a mean annual rainfall of between 1000mm and 1500mm. The temperature ranges from between 33°C - 38°C . The vegetation in Offa is savannah and the city

is noted for its weaving and dyeing trade, using vegetable dyes made from locally grown indigo and other plants. The climate of Offa is suitable for agriculture and other economic activities. Sweet potatoes and maize are the favourite staple foods of the indigenes in the town. Domestic animals raised in the town include: cattle, goats and sheep.

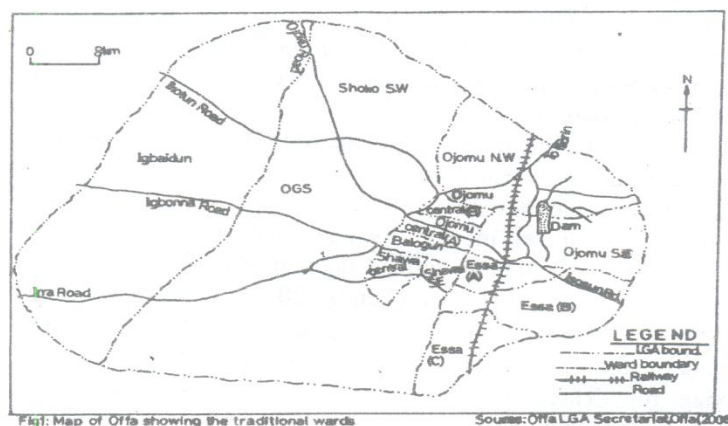


Fig1: Map of Offa showing the traditional wards

Source: Offa LGA Secretariat (2006)

Conceptual Clarifications Urban Agriculture

Different scholars and associations have defined urban agriculture in different ways. Although, urban agriculture as a concept originated from United States in the 1950's. It refers to agricultural activities in urban and peri-urban areas by making use of the land, natural ecology and environment resources (Cai et, al.2004). Urban agriculture is the growing, processing and distribution of food and other products through intensive plant cultivation and animal husbandry in and around cities. It includes green belts around cities, farming at the city's edge, vegetable plots in community gardens and food production in thousands of vacant inner-city lots (Community Food Security Coalitions of North American Urban Agriculture Committee 2003).

It was further stressed that urban agriculture comprises fish farms, farm animals at public housing sites, municipal compost facilities, school yard, green houses, restaurant-supported salad gardens, backyard orchards, rooftop gardens and beehives, window box garden and much more. In a similar view, Rootpedia (2008) claims urban agriculture is the production of food within the boundaries of a city. Urban agriculture can be a pot of herbs grown on a balcony, backyard gardening, greenhouses, market and community gardens, edible landscaping and even beekeeping.

The practice of crop cultivation and livestock keeping within the boundaries or the immediate periphery of a city is what Madden and Chaplone (1997) regarded as urban agriculture. The choice of what to produce and how to produce it is determined by the culture, traditions, market, water supply, rainfall, climate, exposure to sun, soil condition, plot size and distance from home. Also, family and individual resources, land availability and location are critical determinants of the type of urban agriculture practiced. In essence, urban agriculture is divided into five broadly defined farming systems: aqua-culture, horticulture, animal husbandry, agro-forestry and other farming activities.

Remeniyi (2000) while trying to define urban agriculture says it is the production for domestic consumption or sale of food grains, tree crops, fish raising, horticultural produce and animal products. Conventional cropping of food grains, tree crop fruit, nut growing, honey harvesting, kitchen vegetable, herb gardening, nursery activity, dairy production, poultry rearing, flower and shrub growing, mushroom raising, production of soil through composting, gathering of plant material for use in handicrafts, cooking or as a fuel source are also included.

Dima and Ogunmokun (2001) defined urban and peri-urban agriculture as the process of producing agricultural commodities within demarcated urban and edges of urban areas. Urban agriculture has been practiced illegally, discreetly and without technical support by local authorities or the relevant ministries of agriculture.

Mougeot (2000:10) in a review of definitions commissioned by International Development Research Centre (IDRC) proposed that

“Urban agriculture is an industry located within (intra-urban) or on the fringe (peri-urban) of a town, a city or a metropolis, which grows and raises, processes and distributes a diversity of food and non food products (re-) using largely human and material resources, products and

services found in and around that urban, and in turn supplying human material resources, products and services found in and around that urban area, and in turn supplying human material resources, products and services largely to that urban area”.

FAO (2001), regarded urban agriculture as small areas within the city for growing crops and raising small livestock or milk cows for own-consumption or sale in neighborhood, markets as differentiated from peri-urban agriculture which are farm units close to town which operate intensive or commercial farms. Urban agriculture is an industry that produces processes and markets food and fuel, largely in response to the daily demand of consumers within a town, city or metropolis. It may be on land, and water dispersed throughout the urban and peri-urban area applying intensive production methods, using and re-using natural resources and urban wastes to yield a diversity of crops and livestock (UNDP, 1996). Put together therefore, urban and peri-urban agriculture, focus on urban cultural values, natural, human and fiscal resource use, land use planning and management, food and energy production, food security, technology, education, recreation, environmental conservation, micro-climate modification, income generation and recycling of wastes and used water.

Methods of Study

Primary information was obtained with the use of copies of questionnaire distributed to 120 farm families and 120 non-farm families in Offa town in order to compare their well-being. In all a total of 240 respondents were sampled. This number was picked as a result of researcher's knowledge of the study area and as a result of obtaining large numbers of urban farmers on their farms. The study employs stratified purposive technique to sample the respondents. Data gathered were analyzed with qualitative and quantitative methods.

Data Analysis and Discussion of Results

a) Socio-economic Characteristics of Respondents

The study revealed that 55% men and 45% women were sampled from the farming households while 65% women and 35% men were sampled in the non-farming households. Larger percentage of 88% was between 35 and 60 years with an average household size of 7 people. The

study further revealed that 57% were part-time farmers with main occupations such as civil servants, traders and artisans while 43% were full-time farmers. Furthermore, the educational status showed that 15% of the farm families had no formal education while 85% had formal education. About 30% had no formal education while 70% had formal education in the non-farming households. This signifies that higher percentage of the respondents were educated. From the study, none of the part-time farmers earn up to N30, 000 monthly from their primary occupations. This is very low and a reflection of their involvement in urban agriculture. This amount cannot sustain them to acquire basic necessity of life hence the need find alternative means of making money to meet family needs. The non-farming households sampled revealed that 45% earned less than N10,000 per month, 35% earned between N11,000-N20,000 monthly while the remaining 20% earned between N21,000 and N30,000 monthly from their primary occupation. None of the respondents earned above N30, 000 monthly, an indication that sampled respondents are low income earners.

b.) Participation in Urban Agriculture

(i) Income Realized from Urban Agriculture

As shown in Table 1, most of the sampled respondents (63.3%) from the farming household generated additional income of less than N50, 000 monthly from urban agriculture while 36.7% generated over N50, 000 monthly from urban agriculture. This is associated mainly with the women cultivating vegetables. Income generated together with their main income assisted in coping with the high cost of living found in the study area. According to the sampled respondents, income generated was used to start new businesses, purchase grinding machine household items such as refrigerator, fans among others. This is a very crucial aspect of impact of urban agriculture on its practitioners. By contrast, the non-farming households however depended solely on income from their main occupation which is too low to sustain them on food purchase not to talk about purchasing other household needs and other services to be paid for in the urban setting.

Table 1: Income Realized from Urban Agriculture Monthly

Income	Frequency	Percentage
Less than N10,000	23	19.2
N11,000-N20,000	12	10
N21,000-N30,000	15	12.5
N31,000-N40,000	10	8.3
N41,000-N50,000	16	13.3
Above N50,000	44	36.7
Total	120	100

Source: Author's Fieldwork, 2012

(ii) Employment Generation

When employment generation was considered, urban agriculture provided employment especially for about 43% of the farming households as depicted in fig.3. This is what they practice on full-time basis and majority of them were women in vegetable production. On the other hand, about 57% stated they were engaged in urban agriculture on part-time basis so as to complement income realized from their main occupation. Other group of people that urban agriculture provided employment for is the labourers employed to participate in various activities on the farms.

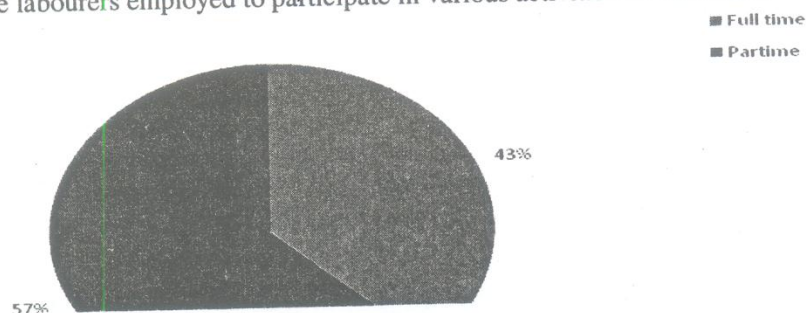


Fig 3: Pie chart showing employment generation of urban agriculture
Source: Computer output/Author's fieldwork, 2012

(iii) Food Security

Food security is very essential in any household within a society. Findings revealed that urban farmers' household had access to fresh food obtained from their farms. Meaning food is available, accessible, affordable and utilized by the urban households involved in farming. These are very important in food security of a household. For instance, the urban farmers' household indicated they consumed fresh fruits, meat, eggs, snails and vegetables such as okro, tomato, fluted pumpkin, leafy vegetables among others produced by themselves while those households who were not involve in farming purchased all the needed foods and at times food consumed by them are no longer in their fresh state since they were not producing it. Non farming households usually consume foods that are of low nutrients because most of these foods are brought into the urban areas from the rural areas and before they got to the urban areas they are no longer fresh as a result of distance covered in getting them to where needed in the urban areas.

(iv) Savings and Assets Acquired

The study revealed that majority (86%) of the farming households were able to save certain amount of money from income realized through urban agriculture annually. Also, 85% acquired assets such as landed properties, motor-cycles (transportation business), and grinding machine just to mention a few with the money realized from urban agriculture. About 15% of the farming households indicated they use the money realized from urban agriculture to pay for their children's school fees, medical bills, electricity bills among others.

c.) Types of Agricultural Production by Farming Households

In the course of this study, different types of agricultural production were identified, and these include backyard farming, livestock production, root tuber production, fishery, snails and poultry production and crop production.

- (i) Backyard Farming: This is a method of farming at the backyard of individual houses mainly for consumption purposes. Vegetables are usually grown at the backyard by urban farming households.

- (ii) **Livestock Production:** Livestock production involves animals kept for consumption as well as for sale within an enclosed area or at the backyards of individual houses. These include goats, rams, sheep, rabbits and pigs. From the survey, all the sampled farming households kept livestock both for consumption and for sale in the study area.
- (iii) **Root Tuber Production:** Root tubers grown in the study area are sweet potato, yam and cassava. These tubers are usually grown in various farms at the periphery of the town. Large percentage (70%) of the farming households produces sweet potato in the study area.
- (iv) **Fishery, Snails and Poultry Production:** Fish ponds, snails and poultry are usually kept at the back of individual houses and sometimes at the surroundings both for consumption as well as for sale by the urban farmers in the study area.

d.) Farm Characteristics

The sampled farming households were asked about their farm location, 43.3% indicated that their farm is located at the urban periphery while the rest have their farm locations at the backyards, neighborhood, uncompleted buildings and undeveloped land where they planted vegetables, fruits, grains, root tubers, kept poultry and livestock for both consumption and for sale. Furthermore, Table 2 revealed that 55% of the land farm on is not owned by the farmers but rented, borrowed or vacant land. Only 28.3% purchased and owned the land while 16.7% inherited the land.

When the distance of their various farms to their houses were considered, the study revealed that 37.5% have their farms less than 1km from their houses, 19.2% indicated that their farms are between 1-2km distances from their houses. Also, 37.5% have their farms located at a distance of 2-3km while only 5.8% of the farming households revealed that their farms are located at a distance of more than 3km. This is an indication that farmers at the study area are involved in both intra and peri-urban agriculture.

Table 2: Farm Characteristics

Characteristics	Frequency	Percentage
Farm Location		
Backyard	34	28.3
Within the Neighborhood	11	9.2
Uncompleted Building	08	6.7
Undeveloped Land	15	12.5
Periphery of Town	52	43.3
Total	120	100
Tenure		
Purchased land & owned	34	28.3
Inherited land & owned	20	16.7
Rented land, not owned	44	36.7
Vacant land, not owned	14	11.7
Borrowed, not owned	08	6.6
Total	120	100
Distance		
Farms less than 1km	45	37.5
Farms between 1-2km	23	19.2
Farms between 2-3km	45	37.5
Farms above 3km	07	5.8
Total	120	100

Source: Author's Fieldwork 2012

e.) Monthly Expenditure on Food

Both farming and non-farming households were asked on how much they spent on food on monthly bases, and Table 3 revealed that 71.7% of the farming households spent less than N10, 000 monthly on food while 28.3% spent between N11, 000-N20, 000 monthly on food. Farmers that spent up to N20, 000 monthly on food are those on part-time farming at their backyard as a result of lack of access to land. When the non-farming households were considered, it was revealed that all of them spent between N21, 000 and above on food on monthly basis. Nobody spent less than N20, 000 monthly on food. This shows that respondents that are not involved in urban agriculture are at a disadvantage in terms of benefits derived from involvement in urban agriculture in the study area.

Table 3: Monthly Expenditure on Food by Respondents.

Amount	Farming Households		Non-farming Households	
	Frequency	Percentage	Frequency	Percentage
Less than N10,000	86	71.7	-	-
N11,000-N20,000	34	28.3	-	-
N21,000-N30,000	-	-	18	15
N31,000-N40,000	-	-	26	21.7
N41,000-N50,000	-	-	55	45.8
Above N50,000	-	-	21	17.5
Total	120	100	120	100

Source: Author's Fieldwork 2012

Summary and Planning Implications

The study examined urban agriculture in Offa town, Nigeria. Two hundred and forty (240) respondents were sampled consisting of one hundred and twenty (120) farming households and one hundred and twenty (120) non-farming households with the use of well structured questionnaires. Findings revealed that urban agriculture has significant impact on the households involved in the practice when compared with non-farming households. The practice has actually assisted the farming households to supplement the income realized from their primary occupation. Also, most farming households have been able to purchase most of their household needs in addition to maintaining family's food requirements. It has created employment for the people involved in it and those employed as labourers to work on the farms. Urban agriculture ensures food security among its practitioners and enabled them to have some savings. Based on this, the following policy recommendations were proffered: urban agriculture should be incorporated into urban planning. Urban agriculture should be encouraged by campaigning for its support. Policies that will create the enabling environment for urban dwellers to be involved and sustain their involvement in urban agriculture should be created by the government. Finally, urban agriculture should be given official recognition by the government.

Conclusion

In conclusion, urban agriculture has been seen as a panacea to the prevalent economic hardship in the study area. As a means of food security, the practice provides foods for nutritional development. Income

realized from the sales of surpluses can be used to purchase other crops not produced by them and other important non consumable items and assets. This will improve farmer family's livelihood. It can therefore be concluded that urban agriculture if properly practiced could be used as panacea for food security and appropriate way of improving the standard of living of its practitioners especially in the developing world.

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