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Case Study

Urban Sack Farming: Economic and Environmental Implications in Obio/Akpor Local Government Area of Rivers State, Nigeria.

Chimka Owhorkaire Emenike and Ajoku Bright Chika

Affiliations

Ignatius Ajuru University of Education, Port Harcourt.

Abstract

Sack farming and other forms of urban agriculture have been found to be effective ways to advance environmental and economic sustainability in peri-urban locations like Obio/Akpor Local Government Area in Rivers State, Nigeria. Urban sack farming has become a viable way to deal with urban environmental and economic problems. The purpose of this study is to demonstrate the major environmental and economic advantages of urban sack farming in Obio/Akpor Local Government Area. The study made use of Purposive Sampling Techniques. 204 respondents were selected who participate in urban sack farming. Primary data was the major source of data for the study. Data collected were analyzed with descriptive statistical tools including frequency, and percentages. Urban sack farming generates financial opportunities, creates jobs, and improves food security for urban dwellers; these benefits are examined in this paper through a thorough examination. The study also looks into the benefits of urban sack farming for the environment, such as reduced pollutants, water efficiency, and soil conservation. This study intends to educate policymakers, urban planners, and agricultural stakeholders about the potential of this novel farming technique to support environmentally conscious urban agriculture and sustainable urban agriculture in Rivers State by showcasing the benefits of urban sack farming. The study concludes that the economic and environmental advantages of urban sack farming in Obio/Akpor, Nigeria, including reduced household food costs, increased profitability, job generation, and enhanced savings. It contributes to improved soil health and air quality, serving as a viable livelihood strategy for urban residents, especially the densely populated and economically disadvantaged.

Keywords: Economic; Environmental; Urban Sack Farming

INTRODUCTION

Some people may find the word “urban agriculture” oxymoronic because, according to Merriam Webster (2015), regions lacking agricultural are classified as urban, while areas used for farming are typically regarded as rural. Because of the tremendous cultural growth that has occurred in the nature of “the country” and “the town,” as well as the ties that exist between them, the boundaries between rural and urban areas have always been arbitrary. Reintegrating food production into the urban environment is being supported by a movement at the moment (Levkoe 2006; Ladner 2013). This has happened in the past, as have cultural eras when the lines separating the country and the town were drawn more sharply (Lawson 2005; Way 2010).

At the moment, urban agriculture is seen as a way to combat air pollution in cities and to prepare for climate change. Urban agriculture, according to De Zeeuw (2011), is important for greening cities and enhancing the microclimate of the city, as well as for boosting productivity through the reuse of organic waste and the reduction of excessive energy use. Urban agricultural areas also contribute significantly to environmental sustainability, lower air pollution, and enhance the aesthetics and comfort of people’s homes (Cahya, 2014). As a result, urban agriculture not only enhances air quality but also immediately lessens the amount of waste that the city must handle from industry and residential sources.

Cities in the global north and south have different goals when it comes to urban agriculture. In the latter, farming is usually done for aesthetic or recreational purposes, while it can also be done for household. During economic downturns, food availability becomes ubiquitous (McClintock, 2010). In the former, farming is mostly done for commercial purposes as well as to meet household food needs (Amponsah, Vigre,

***Corresponding Author:** **Dr. Chimka Emenike**, Ignatius Ajuru University of Education, Port Harcourt, Nigeria/Africa. **Email:** chimka.emenike@iaue.edu.ng.
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Braimah, Schou, & Abaidoo, 2016). While vacant areas of post-industrial landscapes are utilized for agriculture, households in the global south often cultivate on undeveloped lands, marginal lands, and community plots primarily for food for home consumption. In the cities of the global north, agricultural uses include rooftops, balconies, and more lately, empty lots, road medians, and parks (McClintock, 2010).

People in many cities, especially in the global south, rely heavily on urban agriculture as a source of employment and their primary source of income (Darkey et al., 2014; Zezza & Tasciotti, 2010). According to the International Labour Organization (2013), 2100 farm laborers in Morogoro and 6400 in Mbeya, Tanzania, work as attendants or fodder collectors in urban agriculture. In a similar vein, jasmine cultivation provides a living for some 120,000 low-income households in Manila, Philippines, which include farmers, garland manufacturers, and garland sellers (IPC, 2007). The traditional literature is replete with examples of how urban agriculture contributes to job development (Amponsah et al., 2015; Sinclair, 2010; Tiongco, Narrod, & Bidwell, 2010). The common consensus is that, as shown, urban agriculture plays a significant role in creating jobs throughout the global south. According to a study by Prain and Lee-Smith (2010), households in Yaounde, Cameroon, and Kampala, Uganda, that used the produce from their farms were able to save a portion of their earnings. After starting their own farm, people might stop spending money on some agricultural supplies. More so, Smit, Nasr, and Ratta (2001) contend that urban farming households in Zambia saved 10% to 15% of their food expenditures. Moreover, research conducted in Bangalore, Nairobi, Accra, and Lima showed that household savings from their own food production allowed them to buy different kinds of food (World Bank, 2013). For example, according to the World Bank (2013), households in Bangalore were able to save anywhere from 1.30 to 80.00 USD each month.

One of the most important and dynamic economic sectors in Nigeria is still agriculture. Up to 22.86% of Nigeria's GDP is generated by it, and 70% of the country's workforces many of whom are rural women are employed by it. With an estimated 196 million people living there, Nigerian agriculture, like that of many other African nations, is mostly focused on food crops for the domestic market. Nigeria continues to be a net importer of food despite this fact for a variety of reasons. First of all, most of the nation's agriculture-related businesses are small-scale and lack innovation in terms of inputs, harvesting, processing, distribution, and market accessibility (NBS, 2018).

The past few decades have seen a surge in interest in potential urban food production sites due to a variety of shifting social and political viewpoints, realities and perspectives related to the economy and environment, and technological advancements (Delind 2011; CockrallKing 2012). A very diverse and dynamic urban agricultural environment has arisen, catering to a variety of purposes such as enjoyment, community building, profit-making, or subsistence. Examples of this include small commercial farms of various kinds, the cultivation of a wide range of crops both indoors and outdoors, and backyard, community, and school gardens.

This study focused on economic and environmental benefits of urban sack farming in Obio/Akpor Local Government Area of Rivers State.

MATERIALS AND METHODS

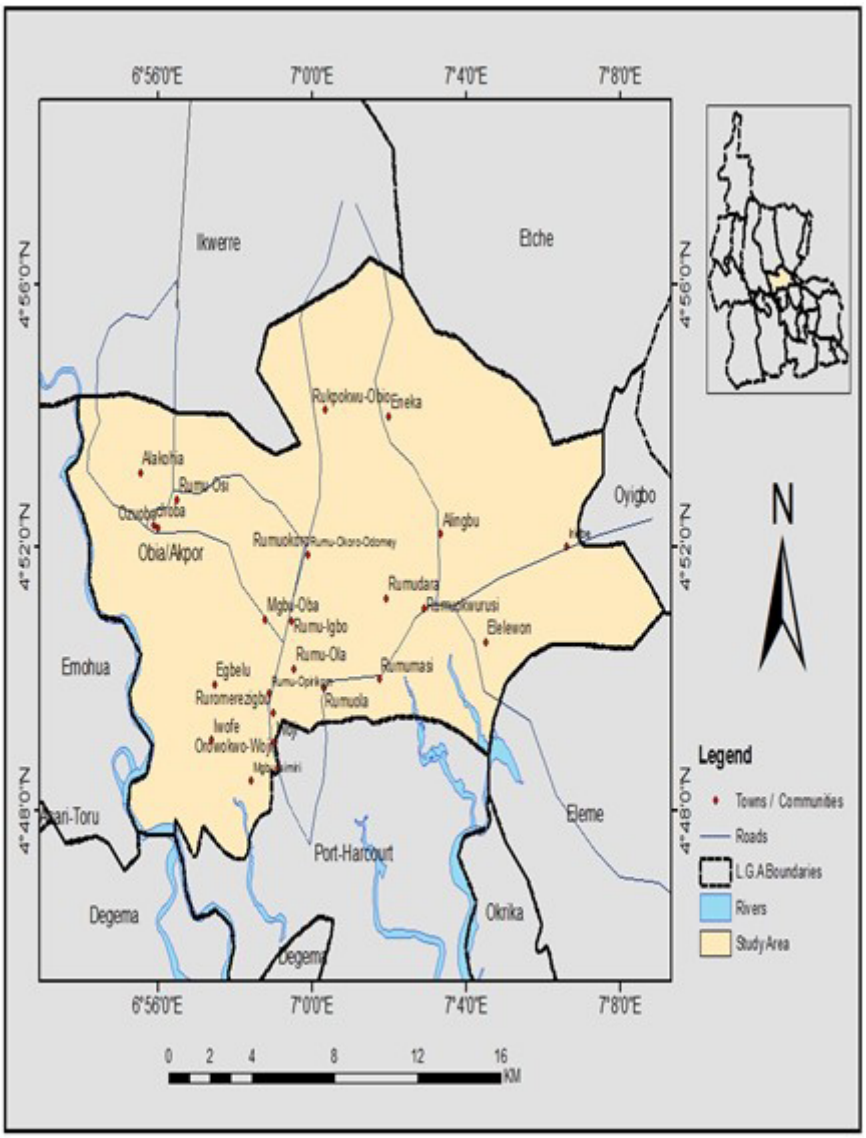
Study Area

Obio/Akpor is a local government area in the metropolis of Port Harcourt, one of the major centers of economic activities in Nigeria, and one of the major cities of the Niger Delta, located in Rivers State. The local government area covers 260 km2. Obio-Akpor has its headquarters Rumuodomaya. The original indigenous occupants of the area are the Ikwerre people. Obio/Akpor is bounded by Port Harcourt (local government area) to the south, Oyigbo and Eleme to the east, Ikwerre and Etche to the north, and Emohua to the west. It is located between latitudes 4°45'N and 4°60'N and longitudes 6°50'E and 8°00'E.

Covering around 10sqmi, Obio/kpor is generally a lowland area with average elevation below 30 meters above sea level. Its geology comprises basically of alluvial sedimentary basin and basement complex. The thick mangrove forest, raffia palms and light rainforest are the major types of vegetation. Due to high rainfall, the soil in the area is sandy or sandy loam. It is always leached, underlain by a layer of impervious pan. The 2006 Census held a population of 464,789 for Obio/Akpor Local Government Area of Rivers State.

The economy of Obio/Akpor is based on oil and gas, agriculture, and fisheries. The local government area is home to a number of oil and gas companies, including Shell, Chevron, and ExxonMobil. There are also a number of agricultural businesses in the area, including palm oil plantations, rubber plantations, and cassava farms. Obio-Akpor is also a major fishing center, and the local government area is home to a number of fish markets.

Figure 1. Study Area



Source: *ESRI ArcGIS, 2023*

Sampling Technique

The study made use of Purposive Sampling Techniques. 204 respondents were selected who participate in urban sack farming.

Method of Data Collection

Primary data was the major source of data for the study. To acquire information about the economic and environmental effects of urban sack farming in Obio/Akpor Local Government Area of Rivers State, a structured questionnaire, interviews, and photos were used to elicit information. People that practice urban sack farming in Obio/Akpor Local Government Area is the target populations.

Data Analysis

Data collected were analyzed with descriptive statistical tools including frequency, and percentages.

RESULTS

Table 1 above shows the responses of the respondents of the economic benefits of urban sack farming in Obio/Akpor Local Government Area of Rivers State.

Table 1. Economic Benefits of Urban Sack Farming.

S/N		SA	%	A	%	D	%	SD	%	Total	%
1.	Urban sack farming has helped you reduce household food expenses	114	55.88	67	32.84	14	6.86	9	4.41	204	100
2.	Urban sack farming is profitable	117	57.35	58	28.43	17	8.33	12	5.88	204	100
3.	Urban sack farming contribute to economic growth and job creation	73	35.78	119	58.33	5	2.45	7	3.43	204	100
4.	Urban sack farming helps you increase your savings.	108	52.94	74	36.27	18	8.82	4	1.96	204	100
5.	Urban sack farming is a viable business opportunity	75	36.76	116	56.86	5	2.45	8	3.92	204	100

It shows that 55.88% of the total respondents strongly agreed that urban sack farming has helped reduce household food expenses, 32.84% agreed, 6.86% disagreed whereas 4.41% strongly disagreed. This statistics that urban sack farming helped reduce household food expenses.
The table shows that 57.35% of the total respondents strongly agreed that urban sack farming is profitable, 28.43% agreed, 8.33% disagreed whereas 5.88% strongly disagreed. This indicates that urban sack farming is profitable.
The table also shows that 35.78% of the total respondents strongly agreed that urban sack farming contribute to economic growth and job creation, 58.33% agreed, 2.45% disagreed whereas 3.43% strongly disagreed. This indicates that urban sack farming contributes to economic growth and job creation.
The table also shows that 52.94% of the total respondents strongly agreed that urban sack farming helps increase their savings, 36.27% agreed, 8.82% disagreed whereas 1.96% strongly disagreed. This indicates that urban sack farming helps increase savings.
The table shows that 36.76% of the total respondents strongly agreed that urban sack farming is a viable business opportunity, 56.86% agreed 2.45% disagreed whereas 3.92% strongly disagreed. This indicates that urban sack farming is a viable business opportunity.

Table 2 above shows the responses of the respondents on the environmental benefits of urban sack farming in Obio/Akpor Local Government Area of Rivers State.

Table 2. Environmental Benefits of Urban Sack Farming

S/N		SA	%	A	%	D	%	SD	%	Total	%
1.	Urban sack farming maintains soil health	73	35.78	120	58.82	7	4.41	4	1.96	204	100
2.	Urban sack farming reduces the need for chemical pesticides and fertilizers	104	50.98	79	38.73	5	2.45	16	7.84	204	100
3.	Urban sack farming reduces waste generation and promotes recycling	121	59.31	69	33.82	6	2.94	8	3.92	204	100
4.	Urban sack farming helps improve urban air quality	113	55.39	77	37.75	8	3.92	6	2.94	204	100
5.	Urban sack farming reduces loss of biodiversity	106	51.96	64	31.37	19	9.31	15	7.35	204	100

Source: *Researchers Fieldwork 2023.*

It shows that 35.78% of the total respondents strongly agreed that urban sack farming maintains soil health, 58.82% agreed, 4.41% disagreed whereas 1.96% strongly disagreed. This statistics indicates that urban sack farming maintains soil health.
The table shows that 50.98% of the total respondents strongly agreed that urban sack farming reduces the need for chemical pesticides and fertilizers, 38.73% agreed, 2.45% disagreed whereas 7.84% strongly disagreed. This indicates that urban sack farming reduces the need for chemical pesticides and fertilizers.
The table also shows that 59.31% of the total respondents strongly agreed that urban sack farming reduces waste generation and promotes recycling, 33.82% agreed, 2.94% disagreed whereas 3.92% strongly disagreed. This indicates that urban sack farming reduces waste generation and promotes recycling.
The table also shows that 55.39% of the total respondents strongly agreed that urban sack farming helps improve urban air quality, 37.75% agreed, 3.92% disagreed whereas 2.94% strongly disagreed. This indicates that urban sack farming helps improve urban air quality.

The table shows that 51.96% of the total respondents strongly agreed that urban sack farming reduces loss of biodiversity, 31.37% agreed, 9.31% disagreed whereas 7.35% strongly disagreed. This indicates that urban sack farming reduces loss of biodiversity.

DISCUSSION

Economic Benefits of Urban Sack Farming

Responses of the respondents towards the economic benefits of urban sack farming in Obio/Akpor Local Government Area of Rivers State. Findings from the study reveal that urban sack farming is economically beneficial to participants in the local government. In line with the study of Gallaher et al., 2013 whose study identified the economic importance of sack farming in Kibera, Nairobi Kenya. Findings also reviewed majority of the respondents agreed that urban sack farming is profitable. This is in line with the study of Food and Agricultural Organization, 2007 on the importance on profitability and sustainability of urban and peri-urban agriculture.

Majority of respondents also have high perception that urban sack farming can contribute to economic growth and job creation and also increase savings, this aligns with the study of Kamadi 2012 whose study identified poor and needy students of the Olympic High School in Kiberia, Kenya pay school fees and generate income by supplying vegetables grown from sack farming. Findings from the study also reveal that urban sack farming is viable business opportunity. This is in line with study of Likitswat 2021 on his study urban farming: opportunities and challenges of developing greenhouse business in Bangkok Metropolitan Region.

Environmental Benefits of Urban Sack Farming

Responses of the respondents towards the environmental benefits of urban sack farming in Obio/Akpor Local Government Area of Rivers State. Findings from the study reveal that urban sack farming is environmentally beneficial to participants in the local government and it is in line with the study of Alexandra et al., 2022 on Strengthening Vegetable Production and Consumption in a Kenyan Informal Settlement: A Feasibility and Preliminary Impact Assessment of a Sack Garden Intervention. Findings also reviewed majority of the respondents agreed that urban sack farming reduces the need for chemical pesticides and fertilizers. This is in line with the study of Food and Agricultural Organization, 2007 on the importance on profitability and sustainability of urban and peri-urban agriculture.

Majority of respondents also have high perception that urban sack farming reduces waste generation and promotes recycling, this aligns with the study of Tapia et al., 2021 monitoring the contribution of urban agriculture to urban sustainability: an indicator-based framework, Sustainable Cities and Society. Findings from the study also reveal that urban sack farming helps improve urban air quality. This is in line with study of Nasruddin et al., 2022 in their study Urban Farming: Empowerment to Increase Economic, Education, and Nutritional Benefit for the Sub-Urban Community. The study also reveals that urban sack farming reduces loss of biodiversity. This is in line with study of Tresch et al., 2019 on their study Direct and indirect effects of urban gardening on aboveground and below ground diversity influencing soil multi-functionality.

CONCLUSION

The study examined the economic and environmental benefits of urban sack farming in Obio/Akpor Local Government Area of Rivers State, Nigeria. The study concludes that Urban sack farming has been found to reduce household food expenses, profitable, contributes to economic growth, job creation and increase savings. It is also a viable business opportunity, maintaining soil health, improving urban air quality. The study revealed that urban sack farming has numerous economic and environmental benefits to residents of urban areas.

Urban sack farming has shown that this form of small-scale urban agriculture can have significant benefits for urban residents, particularly those in densely populated areas with limited space. It can also provide a viable livelihood strategy for the urban poor, contributing to economic gain.

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