

ASSESSING THE IMPACT OF URBAN AGRICULTURE ON ECONOMIC LIVELIHOOD OF CALABAR METROPOLIS, CROSS RIVER STATE

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ABSTRACT: An assessment of the impact of urban agriculture was carried out in Calabar Metropolis with the aim of harnessing potential agricultural lands and human (youth farmers) resources on the fringes of the metropolis. The study employed survey research method using questionnaire instrument to solicit information from youth farmers in the metropolis. Purposive sampling method was adopted in the collection of data. A total of sixty youth farmers were sampled from six locations, viz: Anatigha, Atimbo, Ekorinim, Satellite Town, adjoining areas of University teaching hospital and pamol (old rubber plantation). Data was subjected to descriptive and inferential statistical analyses. Result revealed chi-square test statistic of 140.126 and 83.742 with a p-value of ($p < 0.00 < 0.05$), implying that at a 0.05 level of significance, there is an association between food availability and urban agriculture. Similarly, the result of the second hypothesis on urban agriculture and economic livelihood shows that there is a strong correlation of ($r = 0.729$ or 72.9 percent), all these summed up to show that there is significant relation between the variables at ($p = 0.000 < 0.05$) level of significance. This suggests that urban agriculture can scale up food production, guarantee sustainable economic livelihood and reduce youth restiveness due to their involvement in urban agriculture. The study recommends conscious government policy and legislation that will make land spaces at the fringes accessible to farmers as to encourage participation in urban agriculture.

Keywords: Assessing, Impact of Urban Agriculture, Economic Livelihood, Calabar Metropolis

INTRODUCTION

Urban agriculture is an agricultural innovation that integrates traditional and modern farming methods with the aim of achieving sustainable food production in the urban setting. Agricultural production process is usually domiciled within a viable agro-ecological context that ultimately underpins food production activity. Consequently, farmers' migration to suitable locations where agricultural production can thrive becomes inevitable. Location preference is a function of some basic environmental determinants such as favourable climatic condition, land availability, soil fertility, soil organic matter, texture and structure that allow for moderate infiltration of water for agricultural purpose. In the circumstance, the peri-urban area otherwise known as the fringes usually constitutes an ideal environment for food production processes hence, undisturbed by human activity.

Peri-urban agriculture simply refers to food production industry located on the fringes of a town, city or metropolis. Mougeot (1994) posited that this type of agriculture has to do with growing and raising, processing and distributing a diversity of agricultural products using human, land, and water resources on the fringes of a town. Undoubtedly, peri-urban agriculture is obviously recognized as an asset as it provides other forms of economic benefits for urban populace. One of the major features of peri-urban agriculture is that it is capable of integrating both economic and ecological benefits to the people. Thus, there is efficient utilization of potentially viable agricultural land for far-reaching economic benefits. Direct and indirect benefits have been linked (Redwood, 2008 and Mougeot, 2005). Social integration (Smart, 2015), socio-economic livelihoods, for the middle and poor income members of the society has been stressed (Zezza and Tascotti, 2010). Income is saved for legitimate things (Simatele et al., 2008, Simatele 2012 and Zezza et al., 2010).

Agriculture at this level provides a gateway through which food security can be achieved. Lack of food security; hunger, poverty, poor economic livelihoods are significantly interrelated and have human right implications. Thus, overall improvement in the above mentioned variables tantamount to a corresponding improvement in the wellness and psychological health condition of the people and this can be achieved through urban agriculture. Urban agriculture is increasingly gaining prominence in the global food production space thus, driving food production processes at both subsistence and commercial levels with relatively high health, economic and food security benefits. However, it has been misconstrued as an exclusive preserve of the elderly, less privileged members of the urban dwellers as well as a hobby for retired civil servants; literally excluding the youths who are supposedly the main driving force ('power horse') in food production process who could as well leveraged on its socioeconomic and food production benefits. It is in this regard that the study seeks to ask such questions as; can urban farming really guarantee improved economic livelihood and ensure food availability or can youths leverage on it for better economic livelihoods? Attempt to answer these questions will provide a veritable platform to effectively solving the numerous socioeconomic, financial and food scarcity challenges confronting urban people and to ensure positive youths engagement with a view to addressing youths restiveness and their involvement in anti-social vices.

STUDY AREA

Calabar, the capital of Cross River state is located at the extreme south eastern Nigeria between longitude 8^o16¹E and 8^o17¹E and within latitude 4^o48¹ and 4^o55¹. The area experiences maximum rainfall which starts from late February through October. It has relative humidity between 80% and 100% and vapour pressure, in the air averages 29milibas throughout the year (CRESPA, 1999). The topography is generally regarded as a low-lying topography which washes its sediments into the Qua river in the North. The soil is moderately fertile especially within the metropolis as it is generally characterized by coastal plain sandy soil and extremely rich in the fringes with basic soil nutrients that underpin crops’ growth. This so because substantial amount of nutrients required by plants are supposedly undisturbed due to the absent of human activities in the affected locations.

METHODOLOGY

The study employs a survey research design. Martyn (2008) described it as an effective tool in assessing opinions and trends; discreet variables were used. Data were obtained from primary source through questionnaire instrument. Purposive sampling method was adopted to obtain firsthand information only from the affected farmers. Consequently, 60 youth farmers who farm in the fringes, were sampled. Multi-stage clustering sampling techniques was employed in the first stage, clustering of Calabar Metropolis into individual local government areas – Calabar South and Calabar Municipality. The second stage was the selection of six (6) land areas within the fringes where farming activities is predominant. The study sites include the fringes of Anatigha, Atimbo, Ekorinim, Satellite Town, University of Calabar teaching hospital and Pamol.

A total of sixty (60) questionnaire were administered to sixty (60) young farmers purposively in the following study locations. Anatigha = 10 Atimbo = 10 Ekorinim =10 Satellite town =10 Teaching hospital = 10 and Pamol = 10

A field assistant was employed to interface with the farmers on the field to elicit information as well as distribute questionnaire. The distribution was based on unbiased assessment of areas with large agricultural lands at the fringes. The questionnaire was designed to cover socioeconomic characteristics of farmers, farm size, land tenure system and reason for farming on the fringes of Calabar Metropolis.

DATA ANALYSIS AND RESULT

Descriptive and inferential statistical analyses were employed. Studies have shown that urban farm has greatly affected the people but the question is to what extent has it affected the young people economic livelihoods or does it really guarantee food security in the study area?

Results of this work reflect the outcome of study conducted to reveal impact of peri-urban agriculture and the socioeconomic livelihood of the young people. These people are involved in agricultural activity in the metropolis but their contribution seems unnoticed in the food production industry. Questionnaire was targeted at the real youth farmers essentially to know how they fared and their participation in the entire process. To achieve this, an assessment of the level of satisfaction was carried out. Furthermore, the study equally attempted to investigate food production status in terms of availability. Thus, the degree/level of production was assessed on the basis of how much of this food produced is available for consumption.

Table 1: Level of Youth Participation in Urban Agricultural Practice

	Frequency	Percentage
Very high	36	60.0
High	9	15.0
Low	5	8.3
Very low	10	16.7
TOTAL	60	100.0

Table 2: Response on Food Availability Status as a Result of Youth Involvement in Agriculture in the Metropolis

	Frequency	Percentage
Very high	31	51.7
High	14	23.3
Low	4	6.7
Very low	11	18.3
TOTAL	60	100.0

The study hypothesized that there is no significant relationship between urban agriculture and the economic livelihood of the youth. Pearson Product moment correlation was used to test this hypothesis. Result indicates that urban agriculture has significant impact on the economic livelihood of the young people in the metropolis.

Table 3: Cross Tabulation of Level of Urban Agricultural Practice and Level of Food Availability

Level of urban agricultural practice	Level of food availability					Total
		Very high	High	Very low	Low	
	3	0	0	0	0	3
Very high	0	23	6	2	2	33
High	0	2	8	0	0	9
Low	0	3	0	2	0	5
Very low	0	1	0	0	9	10
TOTAL	3	29	14	4	11	60

Table 4: Chi-square tests

	Value	DF	Asymp. Sig. (2-sided)
Pearson chi-square	140.126 ^a	16	0.000
Likelihood ratio	83.749	16	0.000
No. of valid vases	60		

a. 22 cells 88.0% have expected count less than 5. The minimum expected count is 14

The chi-square test was run to assess the degree of association between food availability and urban agricultural practice that determine the volume of food availability in the metropolis. The result of the chi-square test shows that the Pearson chi-square test statistics is 140.126a and the p-value of (p = 0.00 < .05). The likelihood chi-square test statistics is 83.742 and the p-value is 0.00. Therefore, at a significant level of 0.05, it can be concluded that there is an association between food availability and urban agriculture.

Furthermore, the cross tabulation of the chi-square test analysis shows that 23 respondents who claimed that level of food availability is very high. Claimed it is as a result of urban agriculture whereas, 0 respondents who asserted that food availability percent is very low, also claimed that urban agriculture is very low.

The engagement of young men and women has huge economic significance. The result of level economic benefits are associated with agricultural activities clearly indicates that urban farming is worthwhile. The financial status of urban farmers was seen to improve with agriculture better as indicated by the responds gotten from the questionnaire.

Table 5: Showing Financial Status of Young People Owing to their Involvement in Agriculture

	Frequency	Percentage
Very high	30	50.00
High	20	33.3
Low	3	5.0
Very low	7	11.7
TOTAL	60	100.0

Meanwhile, table showing the level of urban agricultural practice has been shown in table 1 above. Therefore, a correlation between urban agricultural practice and economic (enhance financial status) benefits associated with it are presented below:

		Level of urban Financial status agricultural practice		
Pearson correlation	Level of urban agricultural practice	Correlation	1.00	*.729
		coefficient sig. (2-tailed)	-	.000
		N	60	60
Financial status	Financial status	Correlation	.729**	1.00
		coefficient sig. (2-tailed)	.000	-
		N	60	60

**correlation is significant at the 0.01 level (2tailed)

The Person product-moment correlation coefficient was run to determine the relationship between the urban agriculture and level of economic livelihood enhancement of the farmers in Calabar Metropolis. The data showed no

violation of normality. The result of analysis shows that there was a strong correlation of ($r=0.729$ or 72.9 percent) between urban agriculture and economic livelihood enhancement in the metropolis of Calabar at ($p = 0.000 < 0.005$) between the two variables.

DISCUSSION

Urban agriculture and food availability

The hike in price of important goods and services in the urban centres is indeed a reflection of changes in the local economy of the affected areas. In Nigeria *visa vis* Calabar, where agriculturally related activities are prevalent. According to UNDP (1996), urban agriculture is an industry that produces, processes and markets food and livestock largely in response to daily demand of consumers within towns and cities.

Result of the first hypothesis indicates that there is an association between urban agriculture and food availability in Calabar Metropolis. It implies that the more people are involved in agriculture, the more food would be available for consumption. Implicit in this result is that quantity and quality are inter-related, thus, having more people simply translate to having more 'quantity' especially having more people who are efficient and productive are bound to produce more result than less productive people. Giving the fact that urban agriculture is usually in the hands of the elderly, less privileged and retired civil servants who are generally less productive in terms of energy expenditure. Mbose-Mensah (1999), reported involvement of migrants who will have to buy land and lack incentive for agriculture; the engagement of able and productive young people in the food production industry especially in urban context will reduce over dependence on the rural agriculture and rather take advantage of the preponderance of land, natural ecology and environmental resources laying in both the urban and peri-urban geographical contexts. Urban agriculture is better carried out in spaces in and around homesteads as well as in large tracts of public or private lands that remain undeveloped for landscaping, urban extension or unsuitable sites for development (Madden and Chaplowe, 1997). The various study areas chosen for this study represent what Madden and Chaplowe (1997) had earlier described as potential sites for urban agriculture.

Obviously, food availability and urban agriculture are closely related and become the most important assets especially when interest is properly galvanized by leveraging on the efficiency of young people as a driving force as well as on the abundance of favourable landscape for crops and livestock production.

The second hypothesis was used to test the relationship between Urban agriculture and economic livelihood of the people. Example, small- or large-scale agriculture (crop farming, livestock) have the capacity of providing alternative to white collar job for the unemployed youths as it can guarantee sustainable economic livelihood (Smart, 2015).

Result shows that there is a strong correlation between urban agriculture and economic livelihood. Table 1 shows that the level of youth's participation in agricultural activity in the Metropolis implying that with adequate provision of incentives, land space amidst others will greatly enhance socioeconomic status of the youths and bring about food availability on a sustainable basis. This clearly indicates that encouragement of youths by providing incentives as well as giving them access to land in the fringes of the town will not only ease them of the problem associated with unemployment but will as well generate sustainable economic livelihood. Sustainable economic livelihood is related to financial independence. Lack of financial independence usually breeds anti social vices. Emphasizing on the financial benefits. Simatele (2008, 2012) posited that the benefit accrued from urban farming, is twice the monthly salary of a civil servant. Zezza and Tasciotti (2010) stated that food produced from urban agriculture is consumed within the home thereby reducing budgeting expenditure and using such money for other essential needs.

From the hypotheses, it is unequivocal that urban agriculture has an obvious positive impact on food availability and on the economic livelihood of the people of the metropolis. Thus, with the involvement of youths in urban farming issues of youth restiveness and other social vices would have been drastically undermined. This is evidence as about 51.7 percent of farmers attested that food supply in their homes was very high owing to youth participation in urban agriculture. Besides, 50.0 percent of the youths contacted attested to their involvement in urban agriculture.

The chi-square test of association between urban agriculture and food availability clearly showed that food provision in the metropolis depended largely on the number of persons (quantity) and the type or category (quality) of people involved in the practice. This is further buttressed by the findings of FAO (1996), Ren Van Veehuizen (2000), Ayaga et al (2005) and Tunde (2011) who validated the claim that food availability and the associated economic benefits are fully determined by involvement in urban agriculture. This finding is similar to that of Novo and Murphy (2000) and Smart (2015) who also agreed that urban agriculture provides social and economic benefits to those who are involved in it.

CONCLUSION

A study on youth's involvement in urban agriculture is an important area of study, giving the stock of energy that can be galvanized for large scale production. This study investigated the impact of urban agriculture on the economic livelihood of the people of Calabar Metropolis with a focus on youth contribution in driving the process of food production. Based on the findings, it would be said that urban agriculture affects the levels of food availability as well as economic livelihood of the people.

Considering the distribution of urban agricultural locations there is no doubt that there is sufficient land for urban farmers to utilize for crop and livestock production. There is no doubt that with the involvement of youths in farming giving the available lands in the fringes of the metropolis; there is a possibility of increasing agricultural production.

Results clearly showed that there was a multiplier effects in terms of food availability and economic benefits. Furthermore, it is a means of achieving sustainable economic livelihood and eradicating social vices.

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