

Extended Abstract

Please do not add your name or affiliation

Poster Title	Empirical evidence on the role of home garden in household food supply during the COVID-19 lockdown among University households, Enugu State Nigeria
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Abstract	200 words max
<p>Most developing countries are facing food insecurity, being exacerbated by the COVID 19 pandemic and this can be addressed by home gardening. This is because home gardening contributes to household food and nutrition security by providing daily and direct access to diverse foods and herbs. This study gives empirical evidence on the role of home garden in food supply among University households during the COVID-19 lockdown. Primary data were collected from university staff using online survey. Descriptive statistic and probit analysis were used to analyse data. The food crops grown in the respondent's home garden were mainly fruits, vegetables, cocoyam, cassava, cowpea, yam, potatoes and pigeon pea. The probit model analysis on socioeconomic factors affecting the choice of home gardening shows that labour, education qualification and number of female household were statistically significant. Furthermore, 40% of the respondents obtained food from their home garden during lockdown. Access to organic food especially vegetables was the reason most respondents gave for having home garden. Though some respondents access food from home garden during the COVID 19 lockdown, the supply is still at minimal level. Therefore, there is need for increased awareness of the benefit of home gardening in promoting food security.</p>	
Keywords	Home-garden, food supply, food insecurity, University household
JEL Code	see: www.aeaweb.org/jel/guide/jel.php?class=l)
Introduction	100 – 250 words
<p>Home gardening promotes food and nutrition security, particularly among households in developing countries. This is because home garden produces variety of healthy and nutritious food all year round and provide direct access to food for households, on a daily basis. In addition, dietary diversification through home gardening has been identified to effectively address most of the micronutrient deficiencies in the developing world (Tucker, 2001). Furthermore, home garden can effectively address sustainable development goals (zero hunger, good health and well being) as it produces diverse foods and promotes good health. It also plays important role in human well being, because it serves as a form of physical activity (Tucker, 2001; Johns, 2007; Ruel, 2003).</p> <p>The Food and Agriculture Organization, FAO, (2004) defined home garden as a farming</p>	

system which combines different physical, social and economic functions on the area of land around the family home to supplement the supply of fresh food at household level. This study seeks to ascertain the role of home garden during the COVID 19 pandemic lockdown. The COVID-19 lockdown which was used as a precautionary measure to curb the pandemic came abruptly and most households were not able to store up sufficient food to serve households during the lockdown period. This aggravated the already existing problem of hunger and malnutrition among households, especially in developing countries (Ral, 2020). Though home gardening is paramount in addressing food insecurity, a lot of household are yet to understand the benefits of home gardening (Chandran, 2020; Reyes-García, *et al.*, 2014).

Methodology

100 – 250 words

The study is carried out in the University of Nigeria, Nsukka (UNN) campus using online survey. The online survey was carried out from April 2020 to June 2020 using Google form to collect data from staff members. It is important to note that the COVID-19 lockdown in Nigeria lasted from 30th March to 4th of May. A total of 100 random households were used for the study. Data collected include, food crops grown in the home garden, constraints and household's perception of home garden contributions to household's food consumption during the COVID-19 lockdown as well as socio-economic characteristics.

Data were analyzed using descriptive statistics and Probit analysis. The probit model was specified as:

$$P(Y = 1|X_1, X_2, \dots, X_n) = \Phi(\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k)$$

$$P_r Y_1 (U = u) = \{\Phi(w_{Y_1}^T)\}^u \{\Phi(-w_{Y_1}^T)\}^{1-u}$$

$$\log y_1 = x\beta + v_i \text{ if } z \alpha_i + u_i > 0$$

$$y_1 = 0 \text{ if } z \alpha_i \leq 0,$$

$$i = 1, \dots, m$$

Where;

Y = binary outcome (1 if household practice home gardening or 0 otherwise), Φ is the cumulative standard normal distribution function.

$X_1 - X_{10}$ = Explanatory variables X_1 = Age of respondent (years)

X_2 = Sex of respondent (Male = 1, Female = 0)

X_3 = Male household size

X_4 = Female household size

X_5 = Monthly expenditure (naira)

X_6 = Marital status (married=1, otherwise= 0)

X_7 = Years of schooling (PhD =1, others = 0) (All respondent has tertiary education)

X_8 = garden size (Plots)

X_9 = Staff category (Teaching staff = 1, Non-teaching staff = 0)

X_{10} = Labour (family labour = 0, others = 1)

μ = error term

Results

100 – 250 words

Among the 100 households used for the study, 75% households were practicing home gardening, while 25% households were not. Most of the respondents, about 70% said access to organic/healthy food was the reason for the home garden. The respondents defined healthy food as a food grown without any form of chemicals such as pesticide, fertilizer, herbicides etc. While among the households that were not practicing home garden, 8% said it was not worthwhile. Another 8% said they have busy schedule and lack time, 24% said it is stressful, while others said there is unavailability of land.

The food crops grown in the home garden includes vegetables, cocoyam, cassava, cowpea, yam, potatoes, pigeon pea and fruits. The fruits include Pawpaw, Mango, Cashew, Avocado pear, Plantain, Orange, Oil palm, Soursap, Moringa, Banana, African cherry, African pear/plum, Guava, Coconut, avocado, cucumber, breadfruit, lemon and cashew. Vegetables grown include Fluted pumpkin leaf, Scent leaf, Green, Bitter leaf, Water leaf, Jute leaves, Wild spinach, Lemon grass, tomatoes, pepper, okra, and garden egg.

Probit analysis showed that labour, level of education and number of female household were statistically significant at 5%. About 40% of the respondents agreed that home garden supplied food during the lockdown. The respondents were also asked the proportion of food that came from home garden in a scale of 1 – 10 (ascending order). Most of the respondents chose, one and two, while none of the respondent chose seven, eight, nine and ten, which indicates that the home garden food supply was minimal.

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Discussion and Conclusion

<i>100 – 250 words</i>

The potential of home garden in household food supply as well as household food security have not been sufficiently explored in developing country. This study gave empirical evidence on the role of home garden in household food supply during the COVID-19 lockdown in the University community, Enugu State Nigeria. The results showed that only 40% of the households attest to food supply from home garden during the COVID-19 lockdown. The remaining 60% not practicing home gardening were as a result, lack of time, unavailability of land and others felt it was not worthwhile. This is why there is a need for awareness and sensitization on the importance of home garden, particularly in developing countries, where there is high rate of food insecurity.

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