Socio-economic determinants of cucumber production amidst covid-19 pandemic in Ikwerre local government area of rivers state Nigeria

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The study was conceptualized to examine Covid-19 impact on the Socioeconomic determinants of Cucumber farmers in Ikwerre Local government area of Rivers State Nigeria. The specific objectives were to describe the socioeconomic characteristics of cucumber producers and identify the challenges faced by cucumber producers due to covid-19 pandemic. A multistage sampling technique was employed in the selection of location and respondents. The data were collected from 120 smallholder cucumber farmers. The primary instrument used for data collected was structured questionnaire. Data obtained was analyzed by descriptive statistics and analysis of variance (ANOVA). Results indicated that the average age of respondents was 40 years. Slightly more than half (55.83%) of respondents were females. Also majority (77.50%) of the cucumber farmers were married, while 97.50% of respondents were literate. The results further showed that (55.83%) of respondents were medium sized operators owing average farm sizes of 0.8 ha. Sixty-six percent (65.83%) had a household size of 6- 9 persons with an average of 7 persons. Majority (80.83%) had less than 10 years of experience (average experience of 9 years). The challenges faced by organic cucumber producers through covid-19 pandemic were, insufficient fund, lack of access to market, post- harvest loss, cost of transportation, drop of price of yield, storage facilities, and high cost of input.

Key words: Covid-19, socio-economic, determinants, cucumber, farmers.

INTRODUCTION

Agriculture has been described as the most important sector in Nigeria in terms of its contribution to the gross domestic product (GDP), after oil (Bakare, 2013). Thus, agricultural sector provides employment to the rural population, raw materials to agricultural related industries and provides food to the teaming population (Bakare, 2013). Despite the contribution of agriculture to Gross Domestic Product in Nigeria, food production has not been able to keep pace with population growth (Abdulrahaman, 2013).

Cucumber (*Cucumis sativus* L.) belongs to the family of cucurbitaceae and is an important vegetable crop (Eifediyi and Remison, 2010). Cucumbers are long, cylindrical green fruits that contain about 95% of water, and are for this reason it is often recommended as natural diuretics and helpful for body building (Wilcox et al., 2015). Cucumber is an annual deep-rooted crop with tendrils and hairy leaves. In typical commercial operations, cucumbers are grown in polythene-mulched beds with drip irrigation. Cucumbers are planted year round. They can be directly seeded or transplanted. The growing of vegetables like cucumber can result in high yield even on small farm land (Pozderec et al., 2010). Although vegetable production has been an ongoing practice as a source of livelihood for many people in Nigeria, it is a relatively recent addition to the diet of Nigerians. The broad objective of this study was to examine Covid-19

impact on the Socioeconomic determinants of Cucumber farmers in Ikwerre Local government area of Rivers State Nigeria. The specific objectives were to describe the socioeconomic characteristics of cucumber producers and identify the challenges faced by cucumber producers through covid-19 pandemic.

MATERIALS AND METHODS

Study area

Ikwerre local government area is in Rivers State of Nigeria, which the State was created out of the old eastern Region on May 27th, 1967 with its capital in Port Harcourt. The State has 18 Local Government Areas. The state has an estimated population of about 6.5 million people who have a rich cultural heritage (Ndubueze-Ogaraku, 2017). The state covers a total of 11,077 square kilometers land area and is bordered to the South by the Atlantic Ocean, to the North by Anambra, Imo and Abia State, to the east by Akwa- Ibom State to the West by Bayelsa and Delta States. Majority of the rural populace engage in farming. The animals raised in the Local Government Area are poultry, sheep, goat, rabbits and pigs. Fish farming and shrimping along the coast are of economic importance to the local government Area (Ndubueze-Ogaraku, 2017) (Figure 1).

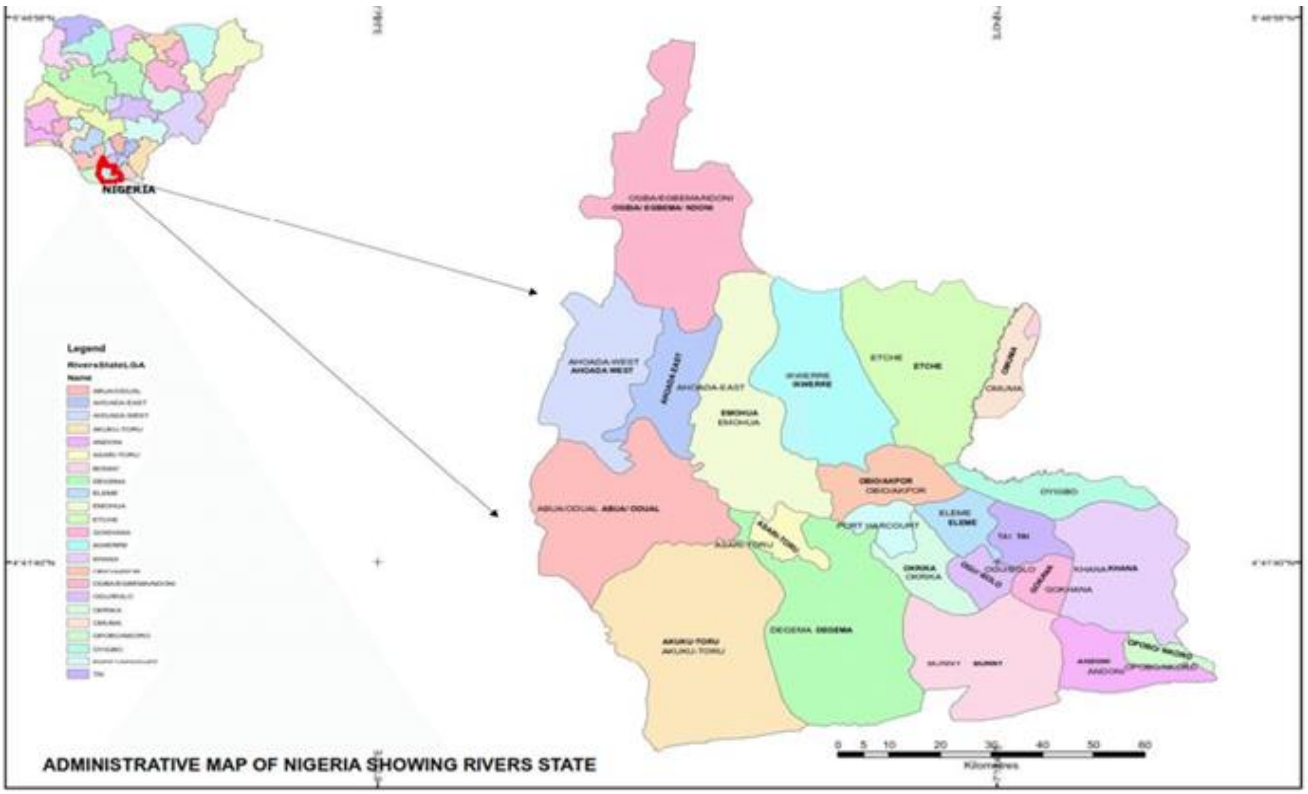

Figure 1. Political map of Rivers State. Researchgate.net 2018.

Sampling technique and sample size

The study population were 1,090 registered cucumber smallholder farmers residing in Ikwerre Local Government Area. Purposive, Multistage and random sampling technique was adopted for this study. In the first stage Ikwerre Local Government Area were purposively selected due to higher concertration of cucumber farmers.

In the second stage, from the local government selected four communities which were Adanta, Agwa/Nuahua, Agwara, and Igwuruta were randomly selected. In the third stage, from each of the four communities selected, 30 cucumber farmers were randomly selected, giving a total number of 120 cucumber farmers that were

selected for the study.

Method of data collection
Primary and secondary data were used for the study. The primary data was obtained from questionnaire administered to the cucumber farmers.

RESULTS AND DISCUSSION

Socio-economic characteristics of small scale fluted pumpkin organic farmers
The socio-economic characteristics of smallholder cucumber farmers were discussed under the following, Age, Sex, Marital status, Educational level, Household size, Years of farming experience, Farm size, Mode of Operation, Frequency of extension contact per year.

Age
The results of age distribution showed that majority (66.66%) of the respondents were within the age bracket of 31-40 years in Table 1. The respondents are expected to be active on farm activities and up to date in cucumber production. It indicated that cucumber farmers were within the productive age economically and it gives good ground for smallholder cucumber farmers in the study area. The average age of cucumber farmers in the study area was 40 years. The farmers are still young and are capable of impacting positively on cucumber production. This result agrees with the findings of Okonkwo-Emegha et al. (2019) who reported that the dominance of the age bracket of 31-40 years of vegetable farmers in South-South zone of Nigeria.

Sex
Slightly more than half (55.83%) of the respondents were female and fairly good proportion (44.17%) are males (Table 1). This implied that sex can influence the quality of work carried out by an individual. This result showed that females were more in cucumber production in the study area. This result agrees with the findings of Ndubueze-Ogaraku (2017) who stated that the population of women were higher in crop production.

Marital status
The result showed that (77.50%) of the respondents were married, fair proportion (14.17%) were single in Table 1. This implied that married farmers concentrate more in their business and also have the benefit of family labor than the singles. This result is in line with the report of Okonkwo-Emegha et al. (2019) who reported that good number of small scale farmers are married and have better performance and efficiency in vegetable production.

Educational level
The results showed that (97.50%) of respondents were literate in Table 1. A poor proportion (2.50%) had no formal education. This implied that education attainment of cucumber farmers could influence attitude to production and increase skills for high gain. This finding is in line with Ndubueze-Ogaraku (2017) who reported also that about 80.00% of the farmers had some formal education which indicates good understanding among vegetable farmers.

Farm size in hectare
More than half (55.83%) of the respondents were medium size operators of (0.6-1.0 ha). The average farm size of operation was 0.8 ha in the study area in (Table 1). This implied that cucumber farmers in the study area were smallholder producers. This agrees with the report of Nigeria Organic Agriculture Network (NOAN) (2012) that majority of the farmers in Africa are small-holder farmers.

Household size
Majority (65.83%) had a household size of 6- 9 persons. The average household size was 7 persons in the study area (Table 1). This indicates that most cucumber farmers have relatively large household sizes with the advantage of family labour. This implied that the engagement of family labour will reduce cost to an extent, thereby increasing efficiency. This result agrees with the findings of Okonkwo-Emegha (2019) who reported that average household size of small-scale farmers was within 6-10 persons.

Farming experience
Majority (80.83%) of the respondents were within the years of farming experience of below 10

Table 1. Distribution of the socio-economic characteristics of the respondents (n=120).

Variable	Frequency	Percentage	Mean/mode
Age (years)			
20 and below	1	0.833	
21 – 30	14	11.67	
31 – 40	80	66.66	40 years
41 – 50	24	20.00	
51 and above	1	0.833	
Sex			
Male	53	44.17	
Female	67	55.83	Female
Marital status			
Single	17	14.17	
Married	93	77.50	Married
Widow/widower	3	2.50	
Divorced	7	5.83	
Educational level			
No formal education	3	2.50	
Primary	1	0.833	Tertiary
Secondary	29	24.17	
Tertiary	87	72.50	
Farm size			
0.5 and below	30	25.00	
0.6 – 1.0	67	55.83	0.8 ha
Above 1.0	23	19.17	
Household size			
Less than 2	3	2.50	
2 – 5	20	16.67	7 persons
6– 9	79	65.83	
10 and above	18	15.00	
Years of experience			
Below 10	97	80.83	
10–15	18	15.00	
16 – 21	3	2.50	9 years
Above 21	2	1.67	
Frequency of extension contact per year			
Less than 3 times	99	82.50	
3-4 times	21	17.50	
5 times and above	0	0	

Source: Field Survey (2020).

years. The average farming experience was 9 years in the study. The result implies that the higher the years of farming experience the greater use of skills and sustenance for efficiency in production. It agrees with the findings of Olowa (2016) who stated that farming experience of about 9 years provide efficiency and mastery of the enterprise.

Frequency of extension contact per year

Majority (82.50%) of the respondents were in contact with extension workers for less than three

times per year. This result implies that extension services were poor in the study area due to covi-19 pandemic and this could affect the level of productivity and efficiency. This result agrees with the findings of K'esit et.al. (2015) who reported that vegetable farmers in Cross River state were not having an adequate extension contact with agricultural extension services.

Constraints faced by cucumber farmers in the study area

The result of the constraints faced by cucumber farmers in the study area (Table 2).

Table 2. Constraints faced by cucumber farmers in the study area.
Distribution of constraints faced by the cucumber farmers (n= 120).

Constraints	Frequency	Percentage
Insufficient fund	113	94.17
Lack of storage facilities	110	91.67
High cost of input	115	95.83
Market problem for output	88	73.33
Post- harvest spoilage	105	87.50
Drop of price of yield	102	85.00
Cost of transportation	115	95.83

Source: Field Survey (2020).
Multiple Response.

Insufficient fund

Majority (94.17%) of the respondents reported insufficient fund as their major constraints. This is in line with findings of Okonkwo-Emegha et al. (2019) who reported that inadequate finance was the major problem of vegetable farmers in South-South zone of Nigeria.

Lack of storage facilities

Majority (91.67%) agreed that lack of storage facilities was their major problem. (95.83%) of the respondents stated that high cost of inputs was the main constraints they faced. Market problem for output, majority (73.33%) of the respondent identified market problem for output as the major constraints. This result is in line with the report of Kutama et al. (2013) that vegetable farmers are faced with difficulties in the marketing and distribution of their goods. Post- harvest spoilage, majority of the respondents (87.50%) reported post-harvest spoilage as a major problem they faced. This is in line with the report of Okonkwo-Emegha et al. (2019) that the cost incurred during the post-harvest contributes to low profit. Drop of price of yield, majority (85.00%) of the respondents reported drop of price of yield due to covid-19 pandemic and irregularities of market system. Cost of transportation, majority (95.83%) reported cost of transportation as a major constraint, because of covid-19 the lock down restricted the movement of people and means of transportation.

Conclusions

The findings of the study showed that socio-economic characteristics of farmers were affected by covid-19 pandemic.

Firstly, average age of the farmers were 40 years, with varying level of literacy dominated the surveyed farmers, (55.83%) of the respondents were female, (77.50%) of the surveyed farmers were married, the average hectare was 0.8, the average household size were seven persons and the average years of experience were 9 years, frequency of extension contact per year (less than 3 times) were (82.50%). Insufficient fund, majority (94.17%) of the respondents reported insufficient fund as their major constraints. Lack of storage facilities (91.67%) agreed that lack of storage facilities was their major problem. Market problem for output, (73.33%) of the respondent identified market problem for output as a problem. Post- harvest spoilage, (87.50%) of respondents

reported it as their major problem. Drop of price of yield and cost of transportation the respondents reported them respectively (85.00 and 95.83%).

RECOMMENDATIONS

(i) Government and financial institution should make credit available to cucumber farmers at relatively low interest rate. This will serve as incentive to production activities in organic fluted pumpkin procedures in South- south zone of, Nigeria.

(ii) The market price of fluted pumpkin pod and leaves should be encouraging to motivate organic fluted pumpkin farmers,

(iii) The Return on pod were major determinants of profitability, farmers should pay serious attention to pod production, to enhance more profit.

CONFLICT OF INTERESTS

The authors have not declared any conflict of interests.

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