

## EFFECTS OF COVID-19 ON PRODUCTION ACTIVITIES OF YOUNG AGRICULTURAL ENTREPRENEURS IN KADUNA STATE, NIGERIA

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### ABSTRACT

The study investigated the effect of COVID-19 on production activities of the young trained agricultural entrepreneurs in Kaduna State. Employing random sampling procedure, 300 respondents were sampled from the list of young, trained farmers and other youths that registered with the Kaduna State Agricultural Development Agency (KADA) training and capacity development intervention. Primary data were collected through the administration of structured questionnaires. Ninety percent of the respondents were male, while the mean age was 33.6 years. Majority (72.0%) of the respondents had a drastic reduction in demand for their goods and services, 62.0% had a restricted access to agricultural inputs supply, while 53.0% experienced direct effect on their production cost. To mitigate the effect of COVID-19, Some (56.0%) maintained contact with their customers using Facebook while some 55.0% used Instagram. The study concluded that respondents were hit by containment measures adopted to prevent the global spread of COVID-19. Kaduna state government through the Kaduna Agricultural Development Agency training and intervention programme should provide adequate support in form of credit, quality and subsidized inputs as well as useful agricultural businesses information to the trained agripreneurs.

**Keywords:** COVID-19, Young trained agripreneurs, Kaduna State Agricultural development agency, training and intervention programme

### INTRODUCTION

Corona virus disease (COVID-19), a novel disease, became known in December 2019 when it was first identified in reported cases of patients with pneumonia admitted in hospitals in Wuhan, China (WHO, 2020). This disease, which usually spread through airborne zoonotic droplets; infect people when they come in close contact with the cough and sneeze of persons who have symptoms from the virus (WHO, 2020). To curb the spread of COVID-19, virtually all countries of the world including countries in Sub-Saharan Africa (SSA), introduced containment measures. The region responded promptly by closing their airports and land borders before any COVID 19 cases were confirmed. Countries in SSA closed their schools, banned public gatherings and put in place other social distancing measures (Frank and Massoud, 2020). These measures were put in place to restrict movement of people worldwide and enforced the containment, globally. The implementation of the global containment actions to COVID-19 pandemic in Sub-Saharan Africa and particularly in Nigeria further compounded the existing economic crisis in the country, with the attendant effects on the economic activities of Nigerian youths.

To engage Nigerian youths with viable and sustainable agricultural businesses and liberate them out of poverty and economic hardship, Kaduna State Government had partnered Leventis Foundation Nigeria, a Non-Governmental Organization (NGO) with mandate to train youths and develop their capacity in agriculture and agro-allied businesses in Nigeria. Through this partnership, about 3,000 interested youths had been trained by the Leventis Foundation Nigeria in Kaduna State and supported with credit facilities since inception of the

programme in 1988. This is done to adequately position the young trained agricultural entrepreneurs (agripreneurs) as the major drivers of agricultural economy and change agents in the State. Majority of these trained agripreneurs were registered alongside other youths, registered under the youths' training and capacity development intervention programme of the Kaduna State Agricultural Development Agency (KADA) to further benefit from the State's interventions.

Food and Agriculture Organisation [FAO, (2020b)], reported that young people, especially rural youth and informal workers, are particularly vulnerable to the impacts of disruptions caused by the COVID-19 pandemic. The disruptions in agricultural value chains caused by the pandemic, according to FAO (2020b) are exacerbating the existing challenges that young agripreneurs face when engaging in agrifood systems. To strengthen the food system and drastically reduce all forms of insecurity in Kaduna State, a research into the effect of COVID-19 on the young trained agripreneurs in the State becomes very necessary. This study therefore assessed the effects of COVID-19 on the young trained agripreneurs in the state. Specifically the study:

- 1 describe the socioeconomic characteristics of the young trained agripreneurs in the state
- 2 identify the production activities involved in by the respondents
- 3 determine the effects of COVID-19 on their production activities
- 4 Describe strategies adopted to cope with COVID-19 in the area

### METHODOLOGY



The study was conducted in Kaduna State. The State shares border with Katsina, Kano and Zamfara States to the north; Plateau and Bauchi States to the east; Niger State to the West, Federal Capital Territory (FCT) to the Southwest and Nasarawa State to the south. It is situated on latitude 10.3764° N and longitude 7.705° E. The major occupation of the people of the State is farming, with majority involved in the cultivation of grains or cereal crops and livestock. The population of the study comprises all the young agricultural entrepreneurs under the KADA training and capacity development intervention between 2010 and 2018. Multistage sampling procedure was adopted in sample selection. In the first stage, four (4) Agricultural Development Zones (ADZs) of KADA namely Lere, Samaru, Maigana and Birnin Gwari Zones were purposively selected because of the spread of the young agricultural entrepreneurs across all the zones in the State. The second stage involved random selection of 2 local government areas (LGAs) from each ADZs to give 8 LGAs. In the third stage, 2 communities were selected from each of the local government areas to give 16 communities. In the last stage, 30% of the total population of the young agricultural entrepreneurs from each community were selected using random sampling technique to give 300 respondents who were interviewed for this study. Primary data used for the study were collected through the administration of structured questionnaires. Data collected include socioeconomic characteristics of respondents, production activities of respondents, effects of COVID-19 on their agricultural businesses and strategies adopted to mitigate these effects. The dependent variable of the study was the effects of COVID-19 and was measured using a 3-point Likert-type scale with response categories not serious effect assigned a score 1, serious effect assigned a score 2 and very serious effect assigned a score of 3, based on the respondents' responses to the 12 effects of COVID-19 identified and listed. Effects of COVID-19 with mean score less than or equal to 2 were categorised as very mild effects while those with mean scores greater than 2 were categorised as very strong effects.

Production activities of respondents was measured using a 3-point Likert type scale with response options: low (1), moderate (2) and high (3) on a number of identified agricultural production activities which include: land preparation, planting activities, fertilizer application, weed control, harvesting, brooding, rearing, fattening and breeding, processing and marketing. Frequency counts and percentages were employed to describe the socioeconomic characteristics of respondents and strategies adopted to cope with COVID-19 in the area.

## RESULTS AND DISCUSSION

### Socioeconomic characteristics

Table 1 shows that 90.0% were male, while 10.0% were female, implying that agricultural production enterprises in the State is male dominated. To corroborate the findings of this study, Mgbanya, Eze, Amuta and Igwe (2019) and Sinah (2019) reported that 65.8% and 57.5% of their respondents were male, respectively. The mean age of respondents was 33.6 years indicating that respondents are still young. This is in conformity with the a-priori expectation. This youthful age should position the respondents to be active agricultural business managers. Mgbanya, Eze, Amuta and Igwe (2019), reported similar age as the age when most farmers are actively engaged in agricultural production. The findings of Sinah (2019) and Reddy and Sundaram (2022) were slightly different from the findings of this study. While Sinah, (2019) reported that most (45%) of the respondents in his study were over 50 years old, Reddy and Sundaram (2022) reported the average age of the respondents in their study as 26.7 years. The result further reveals that 80% of the respondents were married while 20% were single. This indicates that majority of the respondents are married. Marriage is expected to confer on the respondents, the responsibilities to operate agricultural business more profitably, because it is believed that married farmers usually have more needs than the single. Hence, they would be willing to be more commitment in the operation of their agricultural businesses Mgbanya, *et al.* (2019) and Sinah (2019) also reported in their findings that majority of the farmers in their studies were married. Result shows that 20% of the respondents had primary school education, 50% had secondary school education, while 30% had tertiary education. This shows that majority (80%) are educated above primary school level. This is expected to influence their access to agricultural production information, that when properly utilized; will impact their production output positively. The mean years of farming experience, according to the result was 12.2 years. This is an indication that respondents had appreciable years of experience in farming business and should have acquired enough agribusiness experience to excel in their chosen agricultural enterprises. Sixty five percent of respondents in the study of Sinah (2019) had between 1 to 10 years of farming experience. These years of farming experience are considered reasonable enough to position them for increased output of various crops cultivated. The mean household size was 8 persons, an indication that respondents had relatively good number of people in their households that could provide labour required at all stages of production. The mean household size reported by Mgbanya, *et al.* (2019) was 7 person which is which is similar to the result of this study. The table also reveals that

50% were engaged in crop production solely, 20% engaged in livestock production solely, while 30% engaged in integrated production of crops and

livestock. This shows the popularity of various farming systems in the area.

**Table 1: distribution of the respondents by socio-economic characteristics (n=300)**

Characteristics	Frequency	Percentage	Mean
<b>Sex</b>			
Male	270	90.0	
Female	30	10.0	
<b>Age</b>			
20-30	95	31.7	
31-40	165	55.0	
41-50	40	13.3	33.6
<b>Marital Status</b>			
Married	240	80.0	
Single	60	20.0	
<b>Educational Qualification</b>			
Primary	60	20.0	
Secondary	150	50.0	
Tertiary	90	30.0	
<b>Years of farming</b>			
10-15	175	58.3	
16-20	105	35.0	
21-25	20	6.7	12.2
<b>Household size</b>			
1-5	78	26.0	
6-10	152	50.7	
11-15	70	23.3	7.8
<b>Major enterprise type</b>			
Crops	150	50.0	
Livestock	60	20.0	
Crops and livestock	90	30.0	

Source: Field survey, 2020

**Production activities of respondents (n=300)**

Results in Table 2 show that activities such as land preparation (69.0%), planting (75.0%), weed control (65.0%) as well as fattening and breeding (19.0%) were moderately engaged in by respondents. Fertiliser application (70.0%) as shown in the table may fall into low category of level of production activities, due probably to either non availability or high cost of the input during COVID-19. Low level of fertiliser application may drastically reduce crops yield and consequently affect the level of income of the respondents. The level of brooding (28.0%), rearing (25.0%), processing (78.0%) and marketing (70.0%) activities was high. This may be due to the perceived importance of the activities to the success of both livestock and crops enterprises. It could also be because respondents were able to carry out these production activities more easily in their homes and were therefore able to overcome all obstacles to production activities presented by restriction on movement of people during COVID-19. These findings were corroborated by the findings of Chukwuemeka and Mma (2020) and Daniel, Christopher, Andres and Haoyu (2020) who deduced that production activities of most

entrepreneur, particularly the youths in SSA would be slowed down due to the scourge of COVID-19.

**Effects of COVID-19 on respondents**

Results in Table 3 show that 72.0% of respondents experienced very serious effect of COVID-19 on demand for their goods and services. Sixty two percent, 53.0%, 60.0% and 62.0% also experienced very serious effect on their access to production inputs, cost of production, farm income and ability to meet domestic needs, respectively. This is an indication that respondents were actually hit by the scourge of COVID-19. The effect of COVID-19 on access to production inputs among the respondents will have serious multiplier effect on their activities. It will therefore limit the respondents' ability to scale up their production activities, increase their yields and output and negatively affect their productivity. Few, (40.0%) and 49.0% experienced serious effect on marketing and processing and transportation cost, respectively while 74.0% experienced serious effect on access to farmland. The observed effect on transportation cost and access to farmland may be due to measures globally adopted to mitigate the effect of COVID-19. This will however affect production



performance of the respondents. Respondents may not either break even or have reduced profit from their production activities. Identifying and adopting timely and effective containment measure against COVID-19 must therefore be seriously considered to sustainably mitigate the impact of COVID-19 and

afford the respondents opportunities for sustainable production activities. The findings of this study is corroborated by the report of FAO (2020b). According to FAO (2020b), COVID-19 negatively impacted household food security, demand for goods and services as well as to production inputs

**Table 2: Production activities of respondents**

<b>Percentage</b>			
<b>Production activities</b>	<b>Low</b>	<b>Moderate</b>	<b>High</b>
Land preparation	19.5	69.0	11.5
Planting	14.7	75.0	10.3
Fertilizer application	70.1	10.8	19.1
Weed control	6.8	65.2	28.0
Harvesting	12.8	10.2	77.0
Brooding	66	0.6	28.0
Rearing	70.1	4.9	25.0
Fattening and breeding	65.4	19.1	15.5
Processing	13.9	10.1	76.0
Marketing	10.5	18.5	70.0

Source: Field survey, 2020

**Table 3: Effects of COVID-19 on respondents**

<b>Effects of COVID-19</b>	<b>Percentages</b>		
	<b>Not serious</b>	<b>Serious</b>	<b>Very serious</b>
Demand for goods and services	8.0	20.0	72.0
Access to input	16.0	22.0	62.0
Cost of production	17.0	30.0	53.0
Marketing and processing	50.0	40.0	10.0
Transportation cost	38.0	49.0	13.0
Household food insecurity/profit margin	10.0	78.0	12.0
Farm income	2.0	38.0	60.0
Ability to meet domestic needs	15.0	23.0	62.0
Closure of enterprise	30.0	45.0	25.0
Access to farmland	22.0	74.0	4.0
Access to labour	16.0	52.0	32.0
Attendance at training	13.0	75.0	12.0

Source: Field survey, 2020

### **Strategies adopted by the respondents to mitigate effects of COVID-19**

According to results in Table 4, 56.0% of respondents maintained regular contact with their customers using Facebook, 55.0% employed Instagram, Twitter users accounted for 65.0% of the respondents, while 70.0% of the respondents used WhatsApp. This was deemed possible probably because respondents were adjudged to be relatively educated, to have good understanding of the use of social media handles and to have access to them.

The scourge of COVID-19, according to the respondents, had improved their adaptation ability. Most of the respondents (60.0%), reported to have cultivated land close to their residence that were hitherto left uncultivated to make up for loss of uncultivated farmland due to restriction on movement. Some (45.0%) of the respondents adopted the use of animal dung as feasible substitute to inorganic fertilizer. Use of animal dung might have been considered as viable option to the use of

inorganic fertiliser by the respondents because of its availability and high cost of inorganic fertiliser due to restriction of movement. Some (15.0%) developed alternative feed for their livestock while about 37.0% switched over to the use of soaked neem tree's leaves as valid alternative to inorganic pesticides. The adoption and use of soaked neem trees as pesticide by respondents may be due to the availability of neem trees in the area, the ease of production of the neem solution and its little or no residual effect on both crops and livestock. Respondents also adopted processing and value addition techniques to curtail the effects of COVID-19. Few of the respondents (30.0%), who were into livestock enterprises embarked pro-actively on processing of their poultry products to improve their storage-ability and monetary value.

Some of the respondents (55.0%), who specialised in crop production left their crops on the field to dry to optimum moisture content as opposed to selling fresh to would-be buyers. This is expected

to reduce cost of processing and overall cost of crop production. Sixty two percent of the respondents decided to pasteurize their vegetables like tomatoes, pepper and onion to increase the crop's shelf life and attract better monetary value. Measures employed globally to prevent the spread of COVID-19 provided opportunity for majority of the respondents

to diversify their businesses and earn extra income from multiple sources. Few (32%) explored the opportunities presented by the scourge of COVID-19 to diversify into the sales of face mask and face shield, 45% diversified into the sale of hand sanitizer while about 51% were involved in the production of liquid soap.

**Table 4: Distribution of respondents by adaptation strategies adopted to mitigate effects of COVID-19**

Adaptation strategies adopted by respondents	Frequency	Percentage
Use of Face Book	168	56.0
Use of Instagram	165	55.0
Use of Twitter	195	65.0
Use of WhatsApp	210	70.0
Cultivation of abandoned farmland	180	60.0
Use of animal dung	135	45.0
Use of alternative livestock feed	45	15.0
Use of alternative pesticides	111	37.0
Processing of livestock products	90	30.0
Drying of crops in field	165	55.0
Pasteurisation of vegetables	186	62.0
Diversified into sales of face mask	96	32.0
Diversified into sales of hand sanitizer	135	45.0
Diversified into production of liquid soap	153	51.0

Source: Field survey, 2020

#### CONCLUSIONS AND RECOMMENDATIONS

Based on the results of this study, it was concluded that respondents in the study area were hit by containment measures adopted to prevent the global spread of COVID-19. Despite the effect of COVID-19 on the respondents, coping strategies were developed to mitigate the effects, respond to COVID-19 and adapt to possible future epidemics. The study recommended therefore that the Kaduna State Government through the Kaduna Agricultural Development Agency training and intervention programme should provide adequate support in form of credit, quality and subsidized inputs as well as useful agricultural businesses information to the trained agripreneurs. This should be done to further prevent food insecurity, curtail the scourge of COVID-19 and other possible future epidemics; and productively engage youths.

#### REFERENCES

Chukwuemeka, U. and Mma, A. E. (2020). Understanding the impact of the COVID-19 outbreak on the Nigerian economy. <https://www.brookings.edu/blog/africa-in-focus/2020/04/08/understanding-the-impact-of-the-covid-19-outbreak-on-the-nigerian-economy/>. Accessed on 2 August 2021

Daniel, G. M., Christopher, L., Andres, C. A., and Haoyu, W. (2020). The impact of COVID-19 (Coronavirus) on global poverty: Why Sub-Saharan Africa might be the region hardest hit. <https://blogs.worldbank.org/opendata/imp>

act-covid-19-coronavirus-global-poverty-why-sub-saharan-africa-might-be-region-hardest. Accessed on 2 August 2021.

Food and Agriculture Organisation (2020a). COVID-19 response: inclusion of rural youth in Sub-Saharan Africa. Text by Pozarny, P. Nsanganira, T. & Carlucci, J. In: *FAO Support to investment* [online]. Rome. [Cited 8 July 2020]. <http://www.fao.org/support-to-investment/news/detail/en/c/1275405/>. Accessed on 2 August 2021.

Food and Agriculture Organisation (2020b). *Impact of COVID-19 on informal workers*. Rome. (Also available at <https://doi.org/10.4060/ca8560en>). Accessed on 2 August 2021.

Frank, H. and Massoud, H. (2020). COVID-19 effects in sub-Saharan Africa and what local industry and governments can do. <https://www.unido.org/news/covid-19-effects-sub-saharan-africa-and-what-local-industry-and-governments-can-do>. Accessed on 2 August 2021

Mgbanya, J. C., Eze, A. V., Amuta, L. A., and Igwe, E. O. (2019). Effect of Socioeconomic Characteristics of Youth Farmers on the Rice Production Project in Ishielu Local Government Area of Ebonyi State, Nigeria. *Direct Research Journal of Agriculture and Food Science*. 7(4):70-76

Reddy, S. S. and Sundaram, N. (2022). Analysis of Socioeconomic Status of young migrant farmers in India using probit regression.



*Economic Research - Ekonomska Istraživanja*,  
DOI:  
10.1080/1331677X.2022.2106267  
Sinah, M. Modirwa (2019). Effects of Farmers' Socioeconomic Characteristics on Access to Agricultural Information in Ngaka Modiri Molema District of the Northwest

Province *International Journal of Agricultural Extension*. 7(1):1-7  
World Health Organisation (2020). *Coronavirus disease (COVID-19) advice for the public*. from <https://www.who.int/emergencies/diseases/novel-coronavirus-2019/advice-for-public/>. Retrieved August 21, 2020