Turkish Journal of Agriculture - Food Science and Technology, 11(6): 1051-1055, 2023
DOI: https://doi.org/10.24925/turjaf.v11i6.1051-1055.5471

Turkish Journal of Agriculture - Food Science and Technology

Available online, ISSN: 2148-127X | www.agrifoodscience.com | Turkish Science and Technology Publishing (TURSTEP)

Farmers' Adaptation to Covid-19 Pandemic in Akwa Ibom State

Jemimah Timothy Ekanem[1,a,*], Godwin Edem Akpan[2,b]

[1]*Department of Agricultural Economics and Extension, Faculty of Agriculture, Akwa Ibom State University, Obio Akpa Campus, Nigeria*
[2]*Department of Agricultural Engineering, Faculty of Engineering, Akwa Ibom State University, Ikot Akpaden, Nigeria*
[*]*Corresponding author*

ARTICLE INFO

Research Article

Received : 10-09-2022
Accepted : 25-04-2023

Keywords:
Farmers
Covid-19 Pandemic
Adaptation
Extension services
Global Health

ABSTRACT

The study focused on how farming communities cope with the COVID-19 pandemic in Akwa Ibom State. Specifically, how farmers are affected by the pandemic, their coping strategies, contributions of extension service towards their adaptation, and the support they need to better adapt to the pandemic were examined. A multistage sampling procedure was used in selecting 300 respondents across the agricultural zones in the study area. Descriptive statistics were used to analyse data obtained from the respondents through a well-designed questionnaire. The majority of the respondents have experienced limited access to agricultural inputs (87.9%), limited access to the market (79.6%), unavailability of the labour force at critical times of agricultural production and harvesting (68.7%), health risk and fear (72.6%), increased transportation cost (87.4%), unavailability of facemasks and hand sanitizers (89.1%), dwindling and uncertain finances (92.4%). Majority of the farmers asserted that they had to rely more on the radio (87.6%), religious leaders (67.2%), community leaders (65.4%), and extension agents (45.3%) for COVID-19-related information. They depended more on herbs and traditional medications (72.4%) and had to trek long distances to market farm produce and get inputs (69.7%) to cope with the impact of the pandemic. Contributions from extension services reported by the respondents were majorly from text messages and phone calls. The majority of the respondents solicited regular assessment of COVID-19 impacts in their communities to identify other specific challenges and needs of farmers for a better and timely response.

[a] *jemimahekanem@aksu.edu.ng* *https://orcid.org/0000-0001-9303-8862* [b] *godwinakpan@aksu.edu.ng* *https://orcid.org/0000-0002-9307-7829*

Introduction

Farmers engage in agriculture for local food production and as a source of revenue in Nigeria. Asides, the agriculture sector provides job opportunities, thereby growing the economy of the nation. Farmers are usually faced with many challenges such as climate change, lack of information, and insufficient financial support. Valliant et al. (2019) assert that farming operations are full of problems that put farmers in a situation for financial needs, chemical needs, market needs, transportation, and disease challenges. Pandemics, epidemics, or other ailments had always affected the health of rural farmers thereby interfering with their primary roles in food production and marketing (Babu, 2020). Izuogu et al. (2020) opined that emerging challenges of rural farm family livelihoods as presented by several epidemics are solved by the advisory and supportive roles of the agricultural extension workers.

Assessing the impact of the COVID-19 pandemic on the agricultural sector gives sufficient information on the disruption of the Nigerian population's food supply chain. The epidemic poses health and food security challenges to farmers. As stated by Omekwe and Obayori (2020), the lockdown measure and restriction of movement during the COVID-19 pandemic contributed to a shortage of labour for agricultural production in Nigeria. Due to the lack of mechanized farming gear, agricultural labour in Nigeria is performed manually on a regular basis. Annually, peak agricultural activity necessitates a high need for labour, but the lockdown and movement restrictions hampered farmers' and labourers' access to farmlands (Obayori et al., 2020). As a result, the available manpower for farming decreased, and agricultural production decreased across the country. The harvesting period of some crops especially the highly perishable ones was affected also, due to timing and shortage of labour, leading to spoilage of ready-to-harvest farm produce and food losses (Omekwe and Obayori, 2020, Angelos and Nicole, 2020). Also, travel bans and limitations resulted in the disruption in fertilizers and other agrochemicals importation and seed supply chains limiting agricultural yields (Obayori et al., 2020). Due to the rising number of COVID-19 cases, agricultural processing enterprises and industries were forced to work in shifts, lowering the available workforce to ensure food safety and quality (Angelos and Nicole 2020). According to a Sasakawa online survey for Nigeria, 88 percent of

farmers surveyed were unable to access their farms, 83 percent were unable to receive extension services training, 71 percent were unable to obtain pre- and postharvest handling services, and 76 percent of agro-processors were unable to access raw materials due to limited market availability (GAP report, 2020).

The COVID-19 pandemic has not just initiated a crisis for the farmers, it has also deepened existing ones. It is important to ask how farmers have been affected. What are their coping strategies? What support do they need to carry on and/or recover while improving their livelihoods? It is of great concern that the COVID-19 pandemic will pose dire consequences for food security unless adequate and coordinated food safety measures are established. The measures should ensure that the food supply chain must continue to function, the health of food system operators must be safeguarded and measures to ease the economic blow from the loss of income must be put in place. Information, advice, and coaching for rural dwellers from trusted rural communication and education institutions, such as the Agricultural Development Programme, are critical in responding to a crisis like this (Umeh et al., 2018).

Apparently, the study on farmers' adaptation to the COVID-19 pandemic is important because it sheds light on the resilience of the agricultural industry in the face of unprecedented challenges. Farmers have been at the front line of feeding the nation during the pandemic, and their ability to adapt to changing market conditions and supply chain disruptions has been critical in maintaining the food supply. Farmers are continuing to work and risk their own health to be able to feed families during the pandemic, and most are operating without sick pay or health insurance but continue to harvest to maintain our nation's resilient food supply. The study of farmer adaptation to COVID-19 could help identify effective strategies and practices that can be implemented in future crises to ensure the resilience of the agricultural industry and the security of our food supply.

The COVID-19 pandemic is not the first situation that has called the agricultural extension system to action in an unfolding disaster. As an institution with trained technical staff who are trusted by communities, and with local reach and communication skills, the extension system has supported and educated communities during crises such as HIV/AIDs, Ebola, Avian influenza, natural disasters, and pest infestations (Umeh and Ekwengene, 2017). Historically, the 2014-16 Ebola outbreak in West Africa caused 11,325 deaths in Guinea, Liberia, and Sierra Leone and had widespread economic and social consequences. Extension agents in Sierra Leone were trained in social communication to promote preventive and behavioural change messages through community sensitization meetings and radio talks. Agricultural extension, therefore, plays an indispensable role at the frontline of the response to the pandemic in rural areas. The ability of farmers in Akwa Ibom State to contribute and participate effectively in agricultural development in the state amidst the pandemic depends on their ability to optimize and leverage the services and supports of the agricultural extension agents, the health workers, and the information at their disposal.

Therefore, the main objective of the study was to assess farmers' adaptation to the COVID-19 pandemic in Akwa Ibom State and the specific objective are to:

- Examine how farmers in Akwa Ibom State were affected by the COVID-19 pandemic;
- Assess their coping strategies;
- Examine the contributions of extension services toward their coping strategies.
- Identify farmers' needs gaps**.**

Methodology

The study was conducted in Akwa Ibom State in the Southeast ecological zone of Nigeria. It is situated between latitudes 4° 32^{I} and 5° 53^{I} North and longitudes 7°30^{I} and 8° 25^{I} East. The State has a total population of 7,245, 935,746 (National Population Commission NPC, 2006) with an estimated total area put at 7,081km² (2,734 sq m). Moreover, 73 percent of the population lives in rural areas. Akwa Ibom State is made up of six agricultural zones spread across the three Senatorial Districts with each Senatorial District having two zones, viz- Etinan and Uyo zones belonging to Akwa Ibom North East (Uyo) senatorial district, Eket and Oron zones belonging to Akwa Ibom South (Eket) senatorial district while Abak and Ikot Ekpene zones belong to Akwa Ibom North West (Ikot Ekpene) senatorial district. The study population comprised all the practicing farmers in the six agricultural zones in Akwa Ibom State. A simple random sampling technique was used to carry out a proportional selection of blocks from each of the six (6) zones using 20% as a benchmark. In addition, a random sampling technique was used to carry out a proportional selection of cells from the selected blocks in each zone using 20% as a benchmark which was followed by the sampling of ten households in each of the selected cells using a systematic random sampling technique. Household heads who were farmers were allowed to respond to the questionnaire. Hence, approximately 10 blocks, 30 cells, and 300 practicing farmers were sampled across the state. Table 1 below gives clearer information on the sampling procedure and sample size. Primary data were collected and analysed using descriptive statistics such as mean, mean ranking, and standard deviation.

Table 1. Sampling Frame of the Study

S/N	AZS	BAZ	SBRS	TCSB	PSSB	SRSH
1	Uyo	8	2	10	5	50
2	Etinan	4	1	8	4	40
3	Eket	7	2	10	5	50
4	Oron	4	1	4	2	20
5	Abak	9	2	12	6	60
6	Ikot Ekpene	8	2	16	8	80
	Total	40	10	66	30	300

AZS: Agric Zones in Akwa Ibom State; BAZ: Total no. Blocks in each Agricultural Zone; SBRS: 20% Selection of Block(s) via random sampling; TCSB: Total No. of Cells in the Sampled Block(s); PSSB: 20% Proportional Selection of cells from sampled Blocks; SRSH: Systematic Random Selection of 10 Households in Each Sampled Cell

Table 2. Effect of the COVID-19 pandemic on the respondents

Effects	Mean	SD	MR
Prices of inputs generally increased	3.40	0.82	1st
Not easy to access feeds for my livestock at a cheaper rate	2.96	1.13	2nd
It wasn't easy to have access to vaccines and other veterinary services because they were too costly	2.92	1.71	3rd
I didn't have any source of credit during the planting season	2.86	1.18	4th
The cost of transporting my farm produce increased	2.78	1.32	5th
Dwindling and uncertain finances/income	2.78	1.21	5th
It wasn't easy to access agricultural extension services	2.68	1.11	7th
It was easy to move my farm produce to any point of sale	2.60	1.12	8th
It was easy to sell my farm produce at a profitable price	2.52	0.97	9th
Working on the farm posed fear for the health and became risky	2.50	1.13	10th
It was easy to get storage facilities for my farm produce	2.42	1.10	11th
I do proper processing and packaging of my farm produce	2.40	1.07	12th
It wasn't easy to have access to facemasks and hand sanitizers	2.39	1.28	13th
It was easy to access enough labour for my farm operations	2.30	1.08	14th
It was easy to access information on new farming technology	2.24	1.12	15th
It was easy to get fertilizer for my farm	2.22	1.04	16th
It was easy to get/use improved seedlings for planting	2.19	1.17	17th
It was easy to acquire more land for farming activities	2.14	1.13	18th
I had difficulty harvesting farm produce	2.10	1.10	19th
It was easy to get pesticides/insecticides for my farm	2.09	1.13	20th

Source: Field Survey, 2021. SD= Standard Deviation. MR= Mean Ranking

Results and Discussion

Effect of COVID-19 Pandemic on Farming Practices

Analysis was done to ascertain the dimensions in which the farmers were affected by the COVID-19 pandemic, especially, during the lockdown period. An examination of their mean responses reveals that farmers were faced with a general increase in the prices of farm inputs. This attracted the highest mean response (M=3.40; SD=0.82) and was ranked as the strongest effect. This was followed by a lack of access to feeds for livestock at a cheaper rate (M=2.96; SD=1.13). It wasn't easy for the farmers to gain access to vaccines and other veterinary services because they were too costly (M=2.92; SD=1.71). The respondents also reported that they didn't have any source of credit during planting season (M=2.86; SD=1.18) as they were already faced with dwindling and uncertain finances/income (M=2.78; SD=1.21) due to the increased cost of transporting farm produce (M=2.78; SD=1.32). They also affirmed that it wasn't easy to have access to agricultural extension services (M=2.68; SD=1.11). This agrees with Omekwe and Obayori, (2020) and Oyetoro et al., (2020). 'difficulty in harvesting farm produce', and 'ease of getting pesticides/insecticides for their farms', were some of the milder effects of the COVID-19 pandemic on farmers. The global pandemic has hit farmers in the study area with disruptions in food security, the health of the farmers and their household members, transportation, finances, and of course demand for their farm produce. It has also increased the cost of doing farm business. This corroborates the report of the ITC (2020) and Angelos & Nicole (2020) who reported that small producers and farmers are very vulnerable to economic and environmental shocks leading to low income and volatile commodity prices; and livelihoods with high labour and operating costs, and limited investment and profit.

COVID-19 Pandemic Coping Strategies among Farmers

Examination of the coping strategies deployed by the farmers during the pandemic revealed that the majority of the respondents relied on extension officers for Covid-19 related information (M=3.10; SD=1.07). They had to depend more on herbs and traditional medications for the prevention of Covid-19 (M=3.06; SD=1.22). Most of them had to stop farming activities for the fear of contracting COVID-19 (M=3.04; SD=1.19). They also had to rely on their community leaders as well as their religious leaders who taught them proper hand washing (M=2.86; SD=1.23). Family members were another source of information on COVID-19 (M=2.69: SD= 1.25) while they had to sell their produce at any price just to get money for survival (M= 2.65; SD= 1.14). However, the practice of backyard farming (M=2.03; SD=1.11), dependence on non-farming sources of income (M=2.21; SD=1.16), and long-distance treks to sell farm produce (M=2.38; SD=1.12) were among the coping strategies least applicable to the farmers.

Not much has been done to understand the coping strategies of farmers towards COVID-19 in recent times. The findings here are quite revealing and agree with the observations of ITC, (2020). The COVID-19 crisis, more than ever before, has exposed the issues and inequalities embedded in our 'business as usual' pattern of farming. It is now clearer than ever that the way farmers used to produce, trade, organize, work, consume, and operate generally must change if they must mitigate the impact of the pandemic and prepare adequately for a better future.

Table 2. Coping Strategies Used by Farmers

	Coping Strategies	Mean	SD	MR
1	Extension officers gave us Covid-19-related information	3.10	1.07	1st
2	We rely more on herbs and traditional medications for the prevention of Covid-19	3.06	1.22	2nd
3	We stopped farming activities	3.04	1.19	3rd
4	We also learned how to wash our hands from community leaders	2.86	1.23	4th
5	We gathered Covid-19 related information from family members	2.69	1.25	5th
6	We sell farm produce at any amount to get money	2.65	1.14	6th
7	Religious leaders taught us how to wash our hands	2.61	1.10	7th
8	I have to trek long distances to sell farm produce	2.38	1.12	8th
9	We are depending more on non-farming sources of income	2.21	1.16	9th
10	We have been doing backyard farming	2.03	1.11	10th
11	We learned social distancing from radio/television	1.94	1.11	11th

Source: Field Survey, 2021. SD= Standard Deviation. MR= Mean Ranking

Table 3. Extension Agents' Contributions to farmers'Coping Strategies

s/n	Covid-19 Coping strategies	Mean	SD	MR
1	They gave us Covid-19 information through text messages	2.28	1.13	1st
2	They taught us how to use face masks	1.81	0.92	2nd
3	Extension agent gave us farming diversification ideas	1.75	0.94	3rd
4	Extension agent taught us social distancing on the phones	1.66	1.11	4th
5	Extension agent came to assess our farms	1.61	0.90	5th
6	Extension agent gave us face masks	1.61	0.91	6th
7	Extension agent gave us hand sanitizers	1.61	0.90	7th
8	Extension agent gave us high-yielding seedlings and cuttings	1.56	0.85	8th
9	Extension agent helped us with ideas to market our produce	1.56	0.82	9th
10	Extension agent helped us with improved farm inputs	1.56	0.88	10th
11	Extension agent helped us secure financial support	1.40	0.82	11th

Source: Field Survey, 2021. SD= Standard Deviation. MR= Mean Ranking

Contributions of Extension Agents to Farmers' COVID-19 Pandemic Coping Strategies

An effort was made to find out if the farmers were receiving any form of assistance from the extension agents which helped them to cope with the adverse effects of covid-19 on their farming activities. The mean responses were computed and ranked. From the findings, the major contributions the farmers received from the extension agents included; Covid-19 information through text messages which attracted the highest mean response and was ranked 1st. This was followed by teachings on how to observe social distancing and how to use face masks (2nd), and ideas on farming diversification (3rd). Extension Agents could not help the farmers with ideas on where and how to market their products as this ranked the 9th. Helping with improved farm inputs (10th) as well as helping secure financial support were not prominent contributions of the extension agents to the farmers during the critical period.

From the findings therefore, it appears the extension agents did not do or are not doing enough in assisting the farmers cope or adapt their farming practices during the pandemic. This corroborates Umeh, Igwe & Anyim (2018). This may have resulted from several factors such as the extension agents themselves not being quite knowledgeable on how best to help the farmers meet the kind of needs they have or lacking the support they need in order to be able to help the farmers. According to Aremu, Kolo, Gana & Adelere (2015), the Nigerian Government has not given agricultural extension the desired attention as there is no policy yet to pave the way and support large financial intervention for agricultural extension and farmer education. Further studies on this will expose the reasons for these inadequacies however, Extension agents need to rapidly adapt to emerging situations and change their approaches to respond promptly to emergency situations affecting farmers.

Respondents' Needs Gaps

The study also examined what help and supports the respondents would need at a critical time of their farming lives. An effort was made to inquire from them in order to actually understand their felt needs. Responses from the respondents were quite revealing. Their mean responses were also calculated and ranked. From the findings, the respondents desire that the 'Government should be informed on the specific challenges and needs of farmers and rural communities.'' It attracted the highest mean response and was ranked 1st. The respondents needed help with ideas to manage intra and inter-community conflicts (2nd). This was a typical case experienced in some cells of Oron and Uyo agricultural zones. The farmers were not just battling with COVID-19, but their lives and properties were also threatened by the communal crisis. The respondents also called for the implementation of better food price regulation policies (3rd). Uncertainty in the prices of both farming inputs and outputs has really taken a deep toll on farming businesses in the study area. There is a strong need for price regulation policies. Other areas of need include; Reduction in transport cost (4th), timely provision of Covid-19 information (5th), timely assessment of COVID-19 impacts in rural areas (6th), provision of face masks and hand sanitizers (7th), help with farming diversification ideas (8th) and help with ideas to market our produce (9th) were some of the needs of the respondents. The respondents also needed help with improved farm inputs (10th).

Table 4. Respondents' need areas

	Needs	Mean	SD	MR
1	Government should be informed of the specific challenges and needs of farmers and rural communities	2.32	0.84	1st
2	Help with ideas to manage intra and inter-community conflicts	2.26	0.83	2nd
3	Implementation of better food price regulation policies	1.97	0.88	3rd
4	Reduction in transport cost	1.96	0.88	4th
5	Timely provision of Covid-19 information	1.86	0.76	5th
6	Timely assessment of COVID-19 impacts in rural areas	1.86	0.84	6th
7	Provision of face masks and hand sanitizers	1.85	0.84	7th
8	Help with farming diversification ideas	1.85	0.90	8th
9	Help with ideas to market our produce	1.80	0.83	9th
10	Help with improved farm inputs	1.75	0.84	10th
11	Help to secure financial support	1.73	0.92	11th

Source: Field Survey, 2021. SD= Standard Deviation. MR= Mean Ranking

Conclusion and Recommendation

This study offers insight into how farming communities coped with the COVID-19 pandemic in Akwa Ibom State. It is expected that the extension service system, saddled with the responsibilities of educating and informing the rural farmers, would have put mechanisms in place to continually render critical services to the farmers and help them better cope with the adverse effect of the COVID-19 pandemic as the farmers need the extension agents most, at such times. According to the findings, the extension services received by the respondents were limited to text messages and phone calls. The majority of the respondents solicited regular assessment of COVID-19 impacts in their communities to identify the specific challenges and needs of farmers for a better response from the government and other agencies. They sought awareness through timely and accurate information about relevant government measures, social protection schemes and ideas, credits, and other preventive measures as well as the distribution of masks and sanitary products. It is very important that the voices of these seemingly voiceless farmers be amplified and heard as they need to develop resiliency for today and growth for tomorrow. Extension services should be more committed to supporting rural farmers to ensure resilience and growth through adversity. They should be properly enabled to discharge their core mandate to their clientele.

References

Africa Center for Disease Control, Coronavirus Disease 2019 (COVID-19). 2021. [homepage on the internet]. Available from, https://africacdc.org/covid-19/. (Accessed 4 January 2021).

Angelos D, Nicole S. 2020. Economic impact of epidemics and pandemics European Parliamentary Research Service (EPRS), PE 646.195.

Aremu P, Kolo I, Gana A, Adelere F. 2015. The crucial role of extension workers in agricultural technologies transfer and adoption, Global Advanced Research Journal Of Food Science and Technology, 4(2): 31 – 48.

Even M, Nyathi P. 2020. Maintaining critical extension services for smallholders during COVID-19.https://www.ifad.org/en/web/latest/-/blog/maintaining-critical-extension-services-for-smallholders-during-covid-1

Food and Agricultural Organization. 2020. Extension and advisory services: at the frontline of the response to COVID-19 to ensure food security, Rome. https://doi.org/10.4060/ca8710en February 2021

Global Gender Gap Report 2020." World Economic Forum, 2019.

Ilesanmi FF, Ilesanmi OS, Afolabi AA. 2021. The effects of the COVID-19 pandemic on food losses in the agricultural value chains in Africa: The Nigerian case study. Public Health in Practice (2). https://doi.org/10.1016/j.puhip.2021.100087 February 12th, 2021

Ilesanmi OS, Afolabi A. 2020. A scope review on home-based care practices for COVID-19: what Nigeria can learn from other countries? Ibom Med. J. 14, 1–9.

Ilesanmi OS, Bello AE, Afolabi AA. 2020. COVID-19 pandemic response fatigue in Africa: causes, consequences, and counter-measures. Pan. Afr. Med. J. 37. 23-39

International Trade Centre (ITC). 2020. Unsung Heroes: How Small Farmers Cope with COVID-19. Geneva.

National Population Commission, NPC. 2006. Nigerian population census report 2006.

NCDC (Nigeria Centre for Disease Control) NCDC; Abuja, Nigeria: 2020. First Case of Corona Virus Disease Confirmed in Nigeria.https://ncdc.gov.ng/news/227/first-case-of-corona-virus-disease-confirmed-in-nigeria Downloaded on March 30th 2020 from.)

Obayori JB, Nchom H, Yusuf LO. 2020. Economics of pandemic in Nigeria: The covid-19 experience, British International Journal of Education and Social Sciences, 7(4):13- 22.

Omekwe SOP, Obayori JB. 2020. The Effect of Coronavirus on Agriculture and Education in Nigeria. Economics and Social Sciences Academic Journal 2(5):46-61

Oyetoro BA, Abdulraheem MI, Adefare T. 2020. Comparative effects of covid-19 pandemic on agricultural production and marketing in Nigeria. Glob. J. Sci. Front. Res. (GJSFR): (D) Agriculture Vet. 20, 24–30.

Umeh OJ, Ekwengene HN. 2017. Determinants of Utilization of Agricultural Extension Packages of Selected Arable Crops Among Farmers in Enugu State, Nigeria. Agricultural Research and Technology Open Access Journal. ISSN 2471-6774. 3(3): 2-3.

Umeh OJ, Igwe KC, Anyim A. 2018. Farmers' Knowledge of the Role of Extension Services in Akwa-Ibom State, Nigeria. Journal of Agricultural Extension. Vol. 22 (3): 12 -32.

Worldometer. 2020 Subregions in Africa by population, Available from, https://www.worldometers.info/world-population/population-by-African-subregion. (Accessed 2 January 2021).