

# Effect of Covid 19 on Household Food Security in Ekiti State

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**Abstract:-** COVID-19 has provided a significant challenge to a variety of societal institutions, including health, education, food, and economic institutions, all across the world. It has impacted both developed and developing countries. Prior to COVID-19, many countries, particularly those in the Third World, such as Nigeria, were suffering from hunger and food insecurity. The study looks on how the virus affects food security in Ekiti State, south-west Nigeria. The information was gathered through the use of a questionnaire in a descriptive study methodology. The study discovered that the effects of the COVID-19 pandemic include: a lack of money to buy food, a rise in food costs, and panic buying. The majority of the respondents were unable to receive any sort of assistance, and the study suggests that the government and other relevant bodies devise a comprehensive intervention to help disadvantaged households.

**Keywords:-** COVID 19, Food Security, Household, Pandemic, Ekiti State.

## I. INTRODUCTION

A global pandemic is not a novel prospect for humanity, as there have been multiple previous pandemics, which include: the Spanish flu 1918-1919, Asian flu 1957-1958, Hong Kong flu 1968-1970, and HIV/AIDS from 1981 to date. Each pandemic has had an impact on the world's human activities and economic progress. Currently, COVID-19 is a threat to us (2019 coronavirus disease). Severe Acute Respiratory Syndrome Coronavirus 2 causes COVID-19, a contagious disease (SARS-CoV-2). The first documented case of COVID-19 was discovered at the heart of the coronavirus outbreak in Wuhan. Because of the novelty of the viral strain, the sickness spreads at an unparalleled rate among individuals, wreaking havoc on people's lives and well-being and necessitating a series of preventative and control measures. Some measures, such as limiting people's mobility and closing highways, ports, industries, airports, trade, and financial institutions for a period of time, have nearly brought the global economy to a halt (Bahadur and Bashyah, 2020).

The COVID-19 pandemic's travel restrictions disrupted agricultural input supply networks, reducing employees' access to farming and hence their pay and land area, and restricting the flow of products to processing units and markets at important seasonal times. The pandemic have a major impact on livestock supply chains, with serious consequences for pastoralist families, while those involved

in fishery farming may find it extremely difficult to sell their products, resulting in significant revenue losses and earnings, reduced diets in the face of health crises, and general pliability. (Dennison Himmelfarband Baptiste, 2020). Individual distancing measures have been imposed by governments throughout areas since the WHO declared COVID-19 a universal pandemic on March 11<sup>th</sup>, 2020. These include strict limits on individual mobility, laws, and, in certain circumstances, complete closure. Businesses, financial institutions, commercial hubs, public facilities, and educational institutions have all shuttered, putting a stop to economic life. This has led to significant sales and job losses, as well as the prospect of business failure, particularly among small and medium-sized businesses (SMEs).

Food security is now being impacted by the virus's effects on food availability and demand. In addition, both of these would have diverse repercussions on the disadvantaged and vulnerable, including a greater influence on them, by cutting real wages, food production, and distribution, as well as improving care tasks (Olowookere, Ala and Adedeji, 2022): The epidemic consequences are especially dangerous in places where there are already humanitarian crises, as they directly affect people's health and lives, and where health systems are already overcrowded and hunger levels are high. The devastation of livelihoods, food supply networks, food distribution, critical services, and humanitarian assistance are all indirect effects (Dennison Himmelfarband Baptiste, 2020).

## II. STATEMENT OF THE PROBLEM

Food security refers to the availability and accessibility of a sufficient supply of nutritious food. Food insecurity could emerge as a result of a drop in international trade, disturbance in the food supply chain, and lower food production. Small-scale farmers and fishermen may find it difficult to sell their products, resulting in a decrease in their income and purchasing power. According to the FAO, COVID-19-related food insecurity have a particularly negative impact on the poorest and most vulnerable members of society. (BahadurPoudel et al.2020.) COVID-19 is released at a time when hunger and malnutrition are on the rise. According to FAO (2020), due to the global catastrophe caused by the pandemic, an additional 83 million people were hungry in 2020, with the number possibly reaching 132 million. In comparison, there are currently 690 million starving people, while 135 million people are facing severe food insecurity at the same time and require immediate humanitarian assistance.

According to the World Bank, the virus' economic repercussions might push nearly 100 million people into extreme poverty. Increased unemployment, income loss, and rising food prices are threatening food access in both developed and developing countries, with long-term consequences for food security. The pandemic has the potential to send national economies into recession, thus governments should take prompt efforts to mitigate long-term repercussions on food systems and food security (FAO's 2020).

COVID-19 would result in a decrease in the labor force, affecting incomes and livelihoods as well as labor-intensive forms of production, putting developing countries in particular danger in Sub-Saharan Africa, where most countries face food shortages and where the pandemic is spreading at critical times for both farmers and herders (Ragasa&Lambrecht,2020).On February 27, 2020, the first case of COVID-19 was filed in Nigeria. Since then, it has had an impact on Nigeria's economy, as well as the agricultural and food industries. In the world's ten most vulnerable countries to famine, according to a UN assessment, five are in Africa, with Nigeria being one of them. More people died as a result of this "hunger epidemic" than from COVID-19. The epidemic reduced agriculture, which accounts for roughly 20% of Nigeria's GDP, by 12% or more (AGRA2020). On Monday, March 15th, 2020, the Nigeria Center for Disease Control (NCDC) verified six coronavirus cases in Ekiti State, making it the first incidence of Covid-19 in the State. Since the outbreak of the virus, the six cases were the first to be confirmed in Ekiti State. (NCDC Confirms 6 Coronavirus Cases in Ekiti State -, n.d.) Lockdowns of all clubs, schools, churches, markets, and other social engagements, among other non-pharmaceutical interventions, were accompanied by proof of the dreaded virus.

Agriculture is the most important occupation in Ekiti State. Commercial crops include maize, rice, sorghum, millet, cassava, and yam. Sheep and goats are also widely raised throughout the state, particularly in rural areas. Similar to poultry production, rabbit breeding, and pig farming, individuals engage in additional large-scale livestock production operations (Group and State, 2015).The majority of the studies on how the COVID-19 has influenced food security were reviewed. This empirical study, on the other hand, aims to look at the impact of COVID-19 on food safety Ekiti State homes. This will enable policymakers and other stakeholders to comprehend the suffering caused to persons by the dreaded coronavirus pandemic at this time, allowing for unambiguous solutions, particularly in the area of food security.

### III. RESEARCH OBJECTIVES

- To determine how COVID-19 has impacted food security in Ekiti State.
- To investigate measures aimed at decreasing the effects of COVID-19 on household food security in Ekiti State.
- Propose methods to mitigate COVID-19's implications on household food security in Ekiti State.

## IV. CONCEPTUAL CLARIFICATIONS

### A. Food Security

Food security is defined as "the availability of adequate food supply of fundamental foodstuffs at all times to sustain a steady expansion of food consumption and to counteract volatility in production and pricing" (Fawole and Zkan, 2017). This occurs when everyone has unrestricted access to a healthy cuisine that meets their nutritional needs and allows them to live a balanced and active lifestyle (1996 World Food Summit). Food security was recently redefined in 2001, shortly after the announcement of the Millennium Development Goals (MDGs), which recognized food security as a global concern in the face of rising global food insecurity, particularly in developing countries, as "a situation that exists when all people, at all times, have physical, social, and economic access to sufficient, safe, and nutritious food that meets their dietary needs and food preferences for an active and healthy life."

Food security in a society is based on three fundamental pillars according to Pan American Health Organization (2009). These include: food availability, food access, and food consumption. Food availability denotes the physical availability of enough food to feed the entire population. It is in the markets and supermarkets, on farms and in backyard gardens, or has arrived as a result of food assistance. People have access to food if they have food access. Households can obtain food in a variety of methods, including by rising, purchasing, trading, or receiving food as a gift, through social services, or through food assistance. Food security is ensured when households have sufficient resources, such as land, money, or social relationships, to receive sufficient quantities of healthy food. Food utilization is the term used to describe how people's bodies use the food they eat. The best use of food is contingent on proper food storage and processing, overall nutrition and health status, the availability of safe drinking water, and suitable health and sanitation facilities (Olowookere et al.2022).

### B. COVID-19 Pandemic

According to the South Morning China Post, the first human cases of COVID-19, the sickness caused by the novel coronavirus producing COVID-19, eventually dubbed SARS-CoV-2, were initially reported by officials in Wuhan City, Hubei Province, China, on November 17, 2019. (Global and Alert, 2020). Since then, the number of illnesses and deaths has skyrocketed over the world. COVID-19 is an infectious disease that causes cough, fever, and trouble breathing in more extreme cases. This disease is primarily disseminated through touch (Agusi et al.,2020)

The disease has developed across the world and appears to be a dire emergency. On 11 March 2020, WHO declared COVID-19 a pandemic meeting the 100,000 infected individuals' epidemiological criterion in not less than 100 countries (Callaway, 2020) cited in (Ohia et al., 2020). When an Italian national arriving in Nigeria via Lagos Airport tested positive for the virus on 27 February 2020, the first confirmed COVID-19 incident in Nigeria was revealed. A second case of the virus was registered in Ogun State on March 9, 2020, when a Nigerian citizen on transit

from Milan to Lagos came into contact with an Italian citizen. However, an increase in recorded cases and consequent mortality has been registered (Agusiet al, 2020)

*C. Empirical Review*

The effect of COVID-19 disease related events on agriculture was studied using data from the Food and Agriculture Organization (FAO), the World Health Organization (WHO), and scientific and technical records; Siche (2020) found that there was sufficient evidence to determine the effects of COVID-19 on agriculture. Jámbor et al. (2020) analyze global newspaper articles and blogs to summarize the early facts published on the impacts of COVID-19 on agriculture up to 10 April 2020, revealing that agricultural-related pandemic effects caused by the virus can be classified into Supply, production, labour, food protection, food safety, commerce, and other impacts. Furthermore, Abdul (2020) demonstrates that the more stressful the number of lockdown days and restrictions on mobility between states, the more seriously it impacts the economy (food prices spike, rise in transportation costs, marketer hoardings grow, and increase in post-harvest losses).

Bahadur Poudel et al. (2020) discovered that the pandemic procedures and provisions of COVID-19 interact with the market's supply chain, resulting in disrupted manufacturing and distribution, as well as a lack of labor and input supply. The impact on livestock, poultry, fisheries, and milk production, according to the research, is significant. During a pandemic, it is impossible to sow spring crops like corn, sunflower, spring wheat, or open-field vegetables. The epidemic has had a substantial impact on food security as a result of manipulating the supply chain, which the government needs to solve quickly.

Similarly, in its investigation to examine the impact of COVID-19 on small progressive farmers in Rivers State, Nigeria discovered that they were affected, since they market their commodities and make enormous profits with no losses (Anagah, 2020).

Daniel et al.(2020) investigated the impact of the coronavirus pandemic in Nigeria on agricultural operations

and food availability. The study's data came from official government sources, and the correlations were determined using regression analysis. The study found that COVID-19 had a favorable long-term influence on agricultural activities and food availability, as expected, implying that an increase in COVID-19 is responsible for the unit increase in the Nigerian consumer price index. It was also suggested that the government's attempts to halt the virus's spread and impact be stepped up in order to ensure a healthy environment in which agricultural activities may continue. Monotorium should also be granted to selected farmers, SMEs, agro-allied industries, and businesses in order to assist them with their operations. Hossain (2020) emphasized the potential challenges given by COVID-19 to the agro food sector, as well as each member's coping strategy for resolving the impending famine and preventing hunger. The public's accessible knowledge was aggregated, and observations were taken from people who work in the public, corporate, academic sectors and agro-food-related fields. COVID-19 poses a variety of dangers to member countries, including immediate, medium-term, and long-term food security, according to the research. Farmers should have access to vital agricultural inputs like fertilizers and healthy, high-quality seeds, according to the report.

**V. RESEARCH METHODS**

The study was carried out in Ekiti State, Southwest Nigeria. Ekiti State is located between Latitudes 7°15' and 8°15' North of the Equator and between Longitudes 4°45' and 5°45' East of the Greenwich Meridian. It is made up of sixteen local government areas. A multi-stage sample technique was employed to pick respondents for the study, within nine local government areas - three each from the three Senatorial Districts of the state namely: Ekiti Central, Ekiti North and Ekiti South being randomly selected. A proportionate random selection procedure was employed to select two communities each from the nine (9) local government areas making a total of 18 communities. Finally, eight households from each of the 18 villages were chosen through systematic sampling. A total of 144 residences were sampled for the study. The Social Science Statistical Package (SPSS) was used to examine the data.

**• Presentation of Data**

Variables	Frequency	Percentages
Age(Years)		
18-25	13	9.00
26-35	25	17.40
36-45	60	41.7 0
46+	46	31.9
Total	144	100
Sex		
Male	104	72.2
Female	40	27.8
Total	144	100
Marital Status		

Single	14	9.70
Married	102	70.8
Divorced	11	7.7
Widowed	17	11.8
Total	144	100
Educational Qualification		
No Formal Education	32	22.22
Primary Education	62	43.10
Secondary Education	38	25.38
Tertiary Education	12	8.30
Total	144	100
Occupation		
Farming	92	63.8
Civil Servant	9	6.25
Trading	13	9.2
Unemployed	22	15.2
Student	8	5.55
Total	144	100
Household Size		
1-5	28	19.44
6-10	83	57.64
11+	33	22.92
TOTAL	144	100

Table 1: Socio-Demographic Data of Respondents

Source: Field survey, 2021

Table 1 shows the socio-demographic information about the participants. 9.0 percent of respondents were between the ages of 18 and 25, while 17.4 percent were between the ages of 26 and 35, according to the survey. 41.70 percent were aged 36 to 45, with 31.9 percent aged 46 and over. The majority of responses appeared to be between the ages of 36 and 45. Men made up the majority of the participants (72.2%), with women accounting for 27.8 percent. The marital status of the respondents revealed that 9.7% were single, 70.8 percent were married, 7.7 percent were divorced, and 11.8 percent were widowed. This indicates that the vast majority of the respondents are married. In terms of educational credentials, 22.22 percent

of respondents have no formal education, 43.1 percent have elementary education, 26.38 percent have secondary school, and 8.3 percent have tertiary education.

According to the respondents' occupations, 63.8 percent are farmers, 6.25 percent are civil servants, 9.2 percent are merchants, 15.2 percent are unemployed, and 5.55% are students. Farmers made up the majority of the respondents. The respondents' household size also indicates that 19.4 percent are 1-5, 57.6 are between 6 to 10, and 22.9 percent are 11 and above, which indicates that in terms of household size, most respondents are with the range of 6 to 10.

Factors	Frequency	Percentage
Unavailability of foodstuff in the markets due to COVID-19		
Strongly Agreed	37	25.69
Agreed	71	49.31
Strongly Disagreed	27	18.75
Disagreed	9	6.25
Total	144	100
Increase in prices of foodstuff in the market due to COVID-19		
Strongly Agreed	42	29.17

Agreed	81	56.25
Strongly Disagreed	11	7.64
Disagreed	10	6.94
Total	144	100
Lack of fund to buy foodstuff due to COVID-19		
Strongly Agreed	53	36.81
Agreed	73	50.69
Strongly Disagreed	13	9.03
Disagreed	5	3.47
Total	144	100
Panic buying as a result of COVID-19		
Strongly Agreed	62	43.06
Agreed	51	35.40
Strongly Disagreed	20	13.9
Disagreed	11	7.64
Total	144	100

Table 2: The Impacts of COVID-19 on Household Food Security

Source: Fieldwork, 2021

Table 2 illustrates the impact of COVID-19 on household food security. According to the table, the majority of respondents (49.31%) agreed that COVID-19 had caused a shortage of food on the market. It received strong support from 25.69% of respondents, compared to 18.75% who strongly disapproved and 6.25% who also disagreed. This suggested that one of COVID-19's repercussions for domestic food safety was the inability to obtain food on the market.

According to Table 2, 29.17% of respondents strongly agreed, while 56.25 percent agreed. In comparison, 7.64 percent and 6.94 percent of respondents strongly disagreed and disagreed, respectively, on whether Covid-19 effect on market food costs is likewise an effect on household food security. As a result, an increase in food prices is one of COVID-19 effects on household food security. The table also shows that 36.81 percent strongly agreed that the lack of food procurement funding is a COVID-19 effect on

household food welfare, while 50.69 percent agreed. In contrast, 9.03 percent of respondents strongly disagreed, and 3.47 percent of those who disagreed. As a result, it appears that the majority of respondents agreed that one of COVID-19's effects on home food safety is a lack of financial resources to purchase food.

The table also shows that 43.06 percent of respondents strongly agreed that panic buying is one of COVID-19's side effects, and 35.4 percent of the same respondents concurred. However, 13.9% of respondents strongly disagreed that one of COVID-19's consequences on adolescent family food protection is panic buying. However, 7.64 percent of those polled expressed their dissatisfaction with the results. One of the effects of COVID-19 on household food security, according to the highest respondents, is panic buying. As a result, panic shopping is one of COVID-19's effects on household food security.

	Frequency	Percentage (100%)
Federal Government	9	6.25
State Government	13	9.03
Local government	0	0
Philanthropist	19	13.19
Religious Organizations and NGOs	44	30.56
Did Not Receive Any Form of Intervention	59	40.97
<b>Total</b>	<b>144</b>	<b>100</b>

Table 3: Intervention by the Government and Non-Governmental Organization

Source: Field survey, 2021

The views of respondents on government and NGO initiatives is presented in Table 3 above, 6.25 percent of the respondents received intervention from the federal government, 9.03% from the state government, and none of the respondents received intervention from the local government. On the other hand, 13.19 percent of the

respondents received intervention from philanthropists, 30.56 percent from religious organizations and NGOs, while an overwhelming 40.97 percent did not receive any sort of government, religious, and NGO intervention. The majority of respondents, by default, did not receive any sort of interference.

Recommendation	Frequency	Percentage
The government should provide Incentives & Grants	94	65.0
Non-Collateral And Interest-Free Loan	37	25.8
Tax Waiver	13	9.2
Total	144	100

Table 4: Solutions to Reduce the Impacts of COVID-19 on Household Food Security

Source: Field Work, 2021

65 percent of respondents proposed the government offer benefits and grants, 25.8 percent thought the government should give non-collateral and interest-free loans, 9.2 percent prescribed the use of tax waivers.

## VI. CONCLUSION

Since the outbreak of the coronavirus (COVID-19) pandemic disease, many countries, states, and nations have taken a variety of actions, including shutting down their economic activities and borders, ordering their citizens to stay indoors, and following WHO-recommended preventive measures to reduce pandemic disease transmission. The impact of the COVID-19 pandemic on household food security was examined in this study, which took into account the fact that various non-health institutions of society were impacted in order to track the disease's progress. The COVID-19 pandemic, according to the findings, has predominantly impacted family food security. The lack of food in most households has had a negative impact. Food insecurity is exacerbated by market fluctuations, rising food prices, panic buying, and a lack of food purchasing finances. Food security in homes is jeopardized by the pandemic's disruptions. The majority of respondents, as well as non-governmental organizations and religious organizations, were unable to take advantage of any federal, state, or local government action. As a result, it is critical to protect the people, as well as to provide the required aid to help the epidemic be resolved. The study intends to provide the following recommendations in this context:

- The government, relevant authorities, and NGOs should launch a comprehensive intervention to assist the masses, particularly vulnerable households, to alleviate the suffering brought on by COVID-19's impact on household food security.
- The competent authorities, development partners, and other relevant agencies should provide a non-collateralized, interest-free loan to assist business-oriented households to lessen the pandemic's impact on their food security.
- This is also the perfect time for businesses to waive taxes and other expenses associated with public services such as light, water, and social service subscriptions.

## REFERENCES

- [1.] Abdul, I. M. (2020). Food & Agribusiness Management (FABM) COVID-19, LOCKDOWN AND TRANSITORY FOOD INSECURITY IN NIGERIA. *Food & Agribusiness Management (FABM)*, 1(1), 31–35. <https://doi.org/10.26480/fabm.01.2020.31.35>
- [2.] AGRA. (2020). Policy Response for Tanzania Impact of COVID-19 in Tanzania. *JUNE*, 1–4.
- [3.] Agusi, E. R., Ijoma, S. I., Nnochin, C. S., Njoku-achu, N. O., Ignatius, C., & Meseko, C. A. (2020). Commentary The COVID-19 pandemic and social distancing in Nigeria : ignorance or defiance. *35(Supp 2)*, 1–3. <https://doi.org/10.11604/pamj.2020.35.2.23649>
- [4.] Anagah, F. I. (2020). Effect of Covid-19 Lockdown on Farmers in Rivers State, Nigeria: Positive Perspective. *Asian Journal of Agricultural Extension, Economics & Sociology*, 38(5), 56–59. <https://doi.org/10.9734/ajaees/2020/v38i530347>
- [5.] BahadurPoudel, P., Ram Poudel, M., Gautam, A., Phuyal, S., Krishna Tiwari, C., Bashyal, N., & Bashyal, S. (2020). COVID-19 and its Global Impact on Food and Agriculture. *J Biol Today's World*, 9(5), 221. <https://doi.org/10.35248/2322-3308.20.09.221>
- [6.] COVID-19 and the impact on food security in the Near East and North Africa: How to respond? (2020). In *COVID-19 and the impact on food security in the Near East and North Africa: How to respond?* <https://doi.org/10.4060/ca8778en>
- [7.] Daniel, E., Nnabuihe, E. C., & Millicent, C. (2020). Implications of corona virus pandemic on agricultural activities and food availability in Nigeria
- [8.] Dennison Himmelfarb, C. R., & Baptiste, D. (2020). Coronavirus Disease (COVID-19). *Journal of Cardiovascular Nursing*, Publish Ah. <https://doi.org/10.1097/jcn.0000000000000710>
- [9.] Fadele, O. K., Amusan, T. O., Ariyo, C. O., Afolabi, A. O., & Onwuegbunam, N. E. (2020). Sustainable Agricultural Mechanization in Nigeria in Context of COVID-19. *26(7)*, 53–59. <https://doi.org/10.9734/JSRR/2020/v26i730284>

- [10.] FAO. (2020). Q&A: COVID-19 pandemic – impact on food and agriculture | FAO | Food and Agriculture Organization of the United Nations. <http://www.fao.org/2019-ncov/q-and-a/impact-on-food-and-agriculture/en/%0Ahttp://www.fao.org/2019-ncov/q-and-a/en/>
- [11.] Fawole, W. O., & Özkan, B. (2017). Comprehensive Review of Growing Food Insecurity in Africa in Terms of Causes, Effects and Solutions: The Nigerian Example. *Turkish Journal of Agriculture - Food Science and Technology*, 5(6), 629. <https://doi.org/10.24925/turjaf.v5i6.629-636.1113>
- [12.] Global, T., & Alert, O. (2020). Coronavirus disease 2019 ( COVID-19 ). 2019(April).
- [13.] Group, P., & State, T. (2015). The Journal of Social Sciences Research An Assessment of the level of Farmers Awareness and Adaptation to Climate Change in Northern Ekiti State , Nigeria. 1(7), 79–85.
- [14.] Hossain, S. T. (2020). Impacts of COVID-19 on the agri-food sector: Food security policies of Asian productivity organization members. *Journal of Agricultural Sciences - Sri Lanka*, 15(2), 116–132. <https://doi.org/10.4038/jas.v15i2.8794>
- [15.] Ohia, C., Bakarey, A. S., & Ahmad, T. (2020). International Journal of Infectious Diseases COVID-19 and Nigeria: putting the realities in context. *International Journal of Infectious Diseases*, 95, 279–281. <https://doi.org/10.1016/j.ijid.2020.04.062>
- [16.] Olowookere C.A., Ala A.A. and Adedeji A.I (2022): Covid-19 Pandemic: Effects on the Livelihood and Food Security of Street Food Vendors and Consumers in Ado – Ekiti: 4th International Conference and Exhibitions, Yaba College of Technology. Lagos
- [17.] Pan American Health Organization, Center for Disease Control and Prevention (CDC), AICOMM, Stop Avian Influenza, Technical Assistance for NGO's (TANGO), & LinksMedia. (2009). Food Security in a Pandemic. Leadership in a Pandemic: What Your Municipality Can Do. [http://pdf.usaid.gov/pdf\\_docs/Pnadt651.pdf](http://pdf.usaid.gov/pdf_docs/Pnadt651.pdf)
- [18.] Ragasa, C., & Lambrecht, I. (2020). COVID-19 and the food system: setback or opportunity for gender equality? *Food Security*, 12(4), 877–880. <https://doi.org/10.1007/s12571-02001089-w>
- [19.] Siche, R. (2020). What is the impact of COVID-19 disease on agriculture? *Scientia Agropecuaria*, 11(1), 3–9. <https://doi.org/10.17268/sci.agropecu.2020.01.00>  
Ekiti State - Wikipedia. (n.d.).