

IMPACT OF COVID-19 LOCKDOWN ON INCOME OF PUBLIC TRANSPORT OPERATORS IN CALABAR METROPOLIS NIGERIA**Olufemi Adedayo Akinbile**

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Abstract

This article examines the impact of COVID-19 on public transport operators in Calabar metropolis, Nigeria. The objective was to examine income of transport operators before and during lockdown. Several literatures were reviewed to position the study. Random sampling technique was deployed for the respondents under study. Paired sample t-test statistical tool was used to test hypothesis. The result revealed that there is a significant difference between income generated before and during lockdown; $t(df=199) = 15.216$, $p (< 0.001)$. The mean value indicate significant less income was generated during lockdown ($M=1.40$) than before ($M=2.06$). The study concluded that income generated by public transport operators in Calabar has shrink during lockdown which culminated to unexpected decline in revenue of the people.

Keywords: Impact, Covid-19, Transportation, Income

INTRODUCTION

From the inception of COVID-19 pandemic, countries, cities globally have had to enforce restrictive measures applicable to transport users and operators. The 2019 coronavirus has adversely impacted the global economy. This plague said to be a pandemic by the World Health Organization (WHO) on 11th March, 2020, positing that strategic measures be put in place to curb its rapid spread. Since its inception, there have been several reported cases in at least 203 countries, territories or areas across the globe. This is in line with the World Health Organization (WHO, 2020). Since the emergence of the world's deadly virus, different countries have initiated and adopted various unprecedented measures aimed at curtailing its spread. Some of such options advocated include; travel restrictions or outright ban, depending on the country or area and its level of spread, limiting or outright ban on social gathering in public or private places (De Vas, 2020).

The number of confirmed cases of COVID-19 infections occasioned by the new coronavirus is on the increase in Nigeria and other parts of the world. Though with a progressive reduction in new reported infections and deaths. It is a disease where the incubation period, or the time from when one is exposed to the time you get sick ranges within one to three days. The disease is spread during the period that one is symptomatic. The time that one is exposed to when you get sick can be anywhere from two to fourteen days. Unfortunately, even while one is not sick, the disease can still be transmitted.

Because of the difficulties associated with establishing an infected person, most countries of the world or states advocate for self-quarantine, avoid public transportation, or ensure maximum spacing of passengers after compliance with the laid down protocol, adopt stayed at home policy and avoid public or crowded places, limit the number of rooms used around your house, avoid entertaining strangers or welcoming friends and family members into your residence, avoid unnecessary visitations. Ensure environmental hygiene by using or applying regular disinfectant.

However, the common signs and symptoms associated with the new coronavirus are fever, cough and shortness of breaths. But let me quickly add that it is not all who manifest the above stated signs and symptoms that should be seen as a person infected with COVID-19 virus. Except medically confirmed through the instrumentality of the Nigeria Centre for Disease Control (NCDC) and other authorized medical outfits.

Nigeria with a population of over 200,000 million is described as the most populous country in Africa with a crowded transport system that is characterized with high level non adherence to COVID-19 protocols, confirmed its first incident of the covid-19 in Lagos which is one of the business hub in Nigeria with high traffic density on 27th February.

However, inspite of the official report of the incident of COVID-19 in almost all the states in Nigeria including the FCT, Cross River and Kogi state were the only outstanding states claiming to be free of the pandemic. However, after days of agitations, proclamations and counter proclamations from the officials of NCDC, government officials, Nigeria Medical Association (NMA), the NCDC firmly declared the remaining two states as having the incident of COVID-19. According to Dr. Ayuk Agam NMA Cross River State chairman asserted that the authorities in Cross River have continued to claimed that the state is COVID-19 free despite being surrounded by states with confirmed cases, alleging that there is a plot to ensure the state record a case. This ensued as a result of government reluctant +or refusal to accept the five confirmed cases from a test done at the NCDC accredited molecular laboratory at Alex Ekwueme University Teaching Hospital, Abakaliki, Ebonyi state since July, 2020.

On the contrary, the Cross River State outline some of the strategic and proactive measures put in place to curtail the incident or spread of the disease such as wearing of face shield, nose mask, total band on interstate transport except for essential commodities. The Governor of Cross River State Senator Ben Ayade demonstrated his commitment towards ensuring commuters compliance to the government lockdown order by physically taking siege of Itu Bridge bordering Cross River and Akwa Ibom State to curtail illegal entrance and exit from the state. The road is the most prevalent and widely adopted means of transportation in Nigeria and Calabar Metropolis (Nwafor and Onya, 2019). On the contrary, the reduction in the fleet of public transportation and the death traps occasioned by the deplorable condition of the urban roads pose a serious concern for the state, aside from the

restrictions imposed on interstate travels. All the public transportation companies in the State were closed for business, as shown in plate 1 & 2.



Plate 1 &2: showing empty parks: Peace Mass Transport Company and Transport Company of Anambra State (TRACAS), Etta Agbor Road, Calabar, during Covid-19 lockdown.

The Cross River State scenario bordering intrastate transportation or movement was however different as commuters were exempted from total lockdown as was experienced by most states in Nigeria, but with little restrictions such as reduction in the number of passengers to be on board, reduction in the daily hours of operation. This research is therefore conceived within the peak of COVID-19, to investigate the impact of COVID-19 measures put in place in the state on the transporters in the state.

STUDY AREA

Cross River share border with Cameroon to the East which has recorded more than 1,500 cases, Akwa Ibom to the south with 12 cases, Benue to the north with one case, Abia and Ebonyi to the west got two and one respectively as at 29th April, 2020. However, as days pass by, the number of cases either increases or decreases. As most of the states that recorded high cases has reduced drastically or have no existing case any longer. The research therefore seeks to ascertain the impact of the COVID-19 protocol in the state on the transport sector.

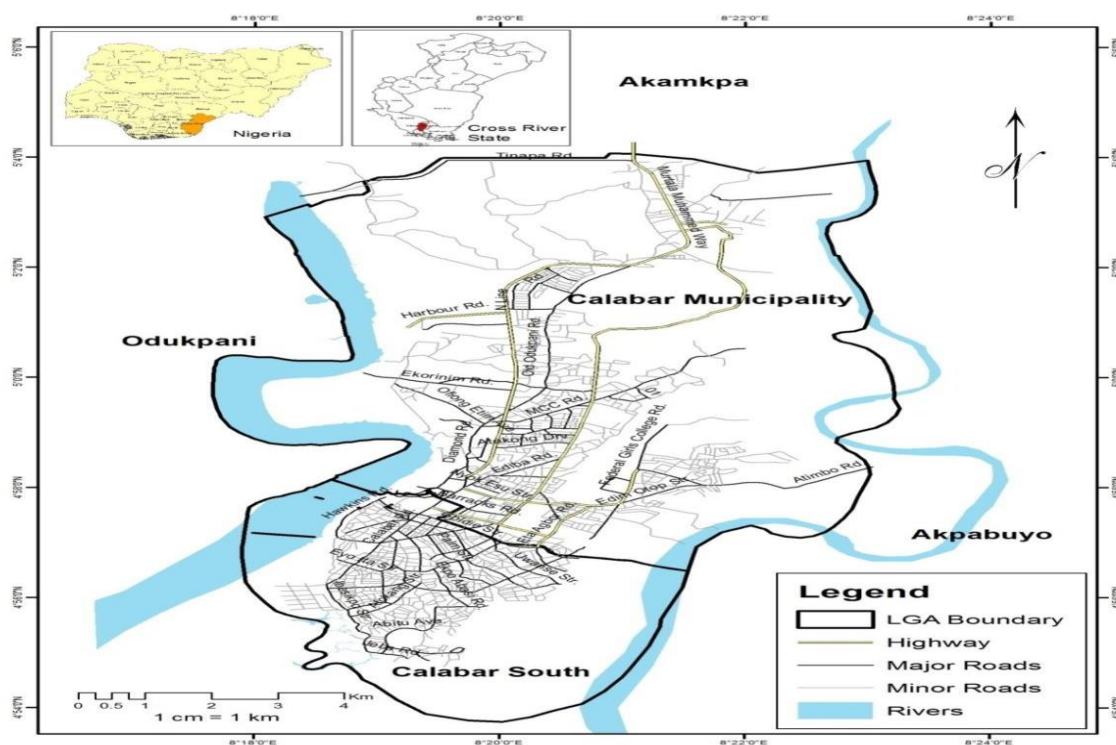


Fig.1 Map of the study area showing highway, major and minor roads in Calabar **Source:** office of the Surveyor General of Cross River State

LITERATURE REVIEW

Transportation has continued to enhance people's socio-political and economic existence, the increasing and rapid spread of diseases has also been associated with human mobility through the instrumentality of transport network. For instance, the black death of 14th century revealed accounts of transmission and resultant death that was consistent or linked to the arrival of travelers in Sicily in 1347. In line with the role of transport in disease spread, the Cross River State Governor, Prof. Sen. Ben Ayade, ordered that the air, land and sea borders of the state be closed for a certain time as a check measure on the spread of COVID-19. Consequently, the Nigeria Aviation Authority (NAA) in April, stopped the aircraft conveying 35 Americans from the US from landing at the Margaret Ekpo International Airport in Calabar, this was a quick response to the rapid spread of the deadly Coronavirus through air transport.

The virus that has its root from Wuhan, China, has not only a fatal impact on human beings, but has also threatened the global transport sector as bans and border closures are being implemented. One of the remarkable, is that of Italy, where from March 10th, mobility is restricted throughout the country.

However, in other areas such as Addis Ababa, Lagos and Johannesburg, just to mention but a few of the major cities where public transportation was operated at less than 60% of the normal capacity during lockdown. In the same vein, restrictions imposed in Brazil, the cost of bus operators are estimated at USD188 million in the daily fare losses.

Transportation sector has been one of the primary victims of the pandemic, from rickshaw pullers to airliner all of which have been affected economically. Due to the resultant lockdown in many countries, the demand for passenger transport has been adversely hit. Such that most drivers employed in app-based taxi services are economically suffering in the sector in the short term due to the COVID-19 lockdown. Similarly, Google mobility report on the number of visitors to all public transit locations, which revealed that they have been a reduction by as much as 80% across most (1GC) countries since the inception of COVID-19 in March, 2020. Consequently, many of the operators in this sector have had no option but to scale back completely or short down operation in less viable routes, and in most cases, others are seen shifting their operational cost onto consumers.

The virus has had a fatal impact on people's lives and it is also threatening the entire transport sector, as government at various levels as a mitigation measure, ban and closed borders, have been instituted, thus affecting all forms of transport. For instance, The Association of European Freight Forwarders and the Polish Chamber of Forwarding and Logistics have raised their warnings about their limited export loads and the extra delays of port operators due to the lack of trans-shipment operators and warehousemen.

According to Aravind Harikumar (2020) transportation sector has been one of the primary victims of COVID-19. From rickshaw pullers to airlines, all have been affected economically by the pandemic. For instance, India overall energy demand fell by 11% in March, 2020 due to the reduction in the demand and consumption of energy by the

operators of the system occasioned by the lockdown measures put in place. Similarly, the lockdown in many countries has adversely affected the demand for passenger transport. The freight has had a mixed short-term effect in terms of transport demand. However, there was a rise in demand for heavy duty drivers for the transportation of essential goods. Mogaji (2020) revealed that transport operators in Lagos were affected by Covid -19 pandemic resulting in job loss. Tirachini and Cats (2020) noted that the enforcement of social distance rules has made movement of people almost impossible.

In addition, it was discovered that drivers employed in app- based taxi services are equally suffering economically in the short term due to the COVID-19 lockdown. In spite of all the necessary COVID-19 protocol put in place by the various levels of government, the developing cities are still confronted with the biggest challenges of compliance since most public transport is informal and privately driven. In Nairobi, for instance, 70% of commuters depend on privately operated transport service to access their workplace. And so, with the huge number of persons involved in private or personal transportation, it became a burden or difficult task for the government or public officers vested with the responsibilities to enforce the level of compliance to the protocol put in place. Cross River State scenario can equally be likened to that experienced by the government of Nairobi and other developing cities, as most transporters adopt survival strategies by flaunting government directives of total lockdown on interstate borders except for essential goods and ensuring social distancing by limiting the number of passengers on board, for intrastate commuters. And as a quick intervention, to the flouting COVID-19 protocol, the Governor of Cross River State Prof. Sen. Ben Ayade disbanded the initial COVID-19 monitoring team and mandated the chiefs and youths of the border areas to take full responsibilities of monitoring and enforce compliance to the lockdown order. Not still satisfied with the level of enforcement and compliance, the Governor personally took over the night security at Itu bridge border closure between Cross River and Akwa Ibom states to forestall night movement by most of the transporters and commuters.

Similarly, government at different levels on their part are setting restrictions, and providing different strategies to ensure that the confirmed cases does not spread beyond the established victims. Some of the restrictions measures include;

1. Closure of schools
2. Limiting and at some point, closure of religious, political and other social gathering that require crowd.
3. Stipulated guidelines for operating malls, offices and other public premises.
4. Ban on arrival or self-isolation from nations with at least a thousand victims.
5. Self-quarantine for immigrant and Nigerian citizens who arrived from high risk nations.
6. Border closure, ban on international travel by government officials, etc.

The real intention for the imposition of the restrictions is to limit the number of close contact with infected or potentially infected individuals and objects.

In the same vein, section 2 of the self-protection guidelines by the Nigeria Centre for Disease Control (NCDC) stipulates thus; “avoid close contact with individuals showing symptoms of respiratory illness. Maintain at least 2 meters (5 feet) distance between yourself and anyone who is coughing or sneezing repeatedly”.

The essence of the government-imposed restriction becomes very necessary judging from the fact that most of the transportation business is dominated by private individuals, except for cities as Lagos and Abuja in Nigeria where government has a share in the operation of public transportation. For instance, about 50% of all trips in Lagos are made by public transport (BRT, LAGBUS, semi-formal mini buses, federal mass transit Train) and shared taxi,

LAMATA (2016). In Abuja, about 57% of trips are by public transport and shared taxi (Emmanuel John, 2018). Similar situations are observed in many cities in Nigeria and those of other countries.

Evidence from countries other than China from which the virus originate reveals that a reasonable number of victims contracted the disease while on transit. As most of the transporters especially in the developing countries overloaded their vehicles with seating arrangement

In Cross River State, the situation is nothing different, aside from the ban on interstate transportation, movement within the state was not restricted, but to be operated in line with the government guidelines of restricting the number of passengers to one in front, two per roll as to ensure compliance to social distance, use of face shield or nose mask, use of hand sanitizer, constant disinfectant of the seats in spite of the stipulated protocols and enforcement team to check the transporters and commuters still violate by overloading the vehicles. That is, the situation in Cross River can best be described as business as usual. Even when the NCDC officials visited the state for a first-hand information on the level of compliance for which the state was relying on to assert that the state was free from COVID19. All that was observed by the officials on their visit can be said to be stage managed, which lasted just for a day.

In the study conducted by (Yazli and Xlan, 2020) the influence of COVID-19, economic, social and religious activities, they relied on convenience sampling techniques to choose the participatory respondents and data in the information to draw inferences. The scale of the global pandemic, as well as the limited social contact and government lockdown restrictions. The study also, relied on a one-way analysis of variance of COVID-19 on transportation in Lagos. The statistical package (SPSS) version 22 was used to conduct the analysis. They compared the p-value to the significance level to assess the null hypothesis that the impact of COVID-19 on transportation does not significantly differ from the impact of COVID-19 on economic, social, and religious activities.

As an expert, Jerome de Ricgles estimated that in a not so direct future, the inability to cover the demand will result in an increase of freight rate and the overall transport costs by the end of March, 2020. Regrettably, he opined that this will inevitably have a direct impact on the final prices of goods.

Coronavirus appear to be unstoppable. The virus has grievous impact on people's lives as well as threatening the future of the transport sector globally occasioned by the bans and border closure instituted by the various levels of government. This has generated a lot of agitations from the transport owners, seeking for government interventions as a palliative measure in the transport sector as to enable them remain in business.

In Nigeria for instance, transporter under the umbrella of public transport owners of Nigeria Association (PTONA), has cried out to the federal government to institute a 20 billion COVID-19 intervention fund on a single digit loan of 5% interest to aid them service or replenish their fleet after a long period of staying out of operation. PTONA who are mostly operators of long distance across the states in Nigeria account for over hundred branded public transport companies, employ over 500,000 workers directly and 1500 workers in indirectly. The association is lamenting the severe economic hardship on their members as a result of the COVID-19 protocol put in place such as complete or partial lockdown, social distancing, provision of safety gadgets among others, have asserted serious pressure on the income of members or transporters.

METHODOLOGY

Data for this study were obtained from primary and secondary sources. The primary source involves the use of questionnaires and participatory interviews. The questionnaires were administered in Calabar on (June, 2020). Secondary source involves the use of textbooks and journal articles. A total of 208 questionnaires were administered and 200 were completed and returned which shows 96 percent response. The respondents were transport operators in Calabar at the time of the pandemic and subsequent lockdown.

Although, there was interstate restrictions on movement and lockdown as a result of the pandemic between 6pm-6am in the study area, however, transport service providers continued their routine businesses within the limit of the time. The study examines type of transport service provided, daily income before lockdown and income generated during lockdown. The essence was to determine whether they had low or high patronage during lockdown and how the relative transport fare has impacted them.

The study adopted random sampling technique where the questionnaires were distributed randomly to transport operators (tricycle, taxi and buses) at different designated locations. Data was presented and analyzed using descriptive technique using tables while inferential technique deployed paired sample t-test statistical technique to compare the impact of covid19 on transport in Calabar before and during lockdown.

Hypothesis: There is no significant effect on the income generated by transport operators before and during the covid-19 lockdown in Calabar Metropolis.

Data Presentation

The frequency distribution of income in transportation sector before and during the covid-19 lockdown are presented in Tables 1 and 2 respectively. From Table 1, only 20.5% of the respondents had income of less than

₦6000.00 naira per week before the lockdown, while Table 2 revealed that the number of respondents in this instance increased to 63%. Also, the modal income class before the lockdown was ₦6,000.00 – ₦10,000.00 per week (59.5%) before the lockdown but dropped to less than ₦6000 per week (63.0%) during the lockdown.

Table 1: Frequency distribution of income in transportation before lockdown

Variable	Frequency	Percent	Valid Percent	Cumulative Percent
<6000	41	20.5	20.5	20.5
6000-10000	119	59.5	59.5	80.0
11000-15000	28	14.0	14.0	94.0
16000-20000	12	6.0	6.0	100.0
Total	200	100.0	100.0	

Table 2: Frequency distribution of income in transportation during lockdown

Variable	Frequency	Percent	Valid Percent	Cumulative Percent
<6000	126	63.0	63.0	63.0
6000-10000	69	34.5	34.5	97.5
11000-15000	5	2.5	2.5	100.0
Total	200	100.0	100.0	

		Paired Differences					T	Df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	income trans - income during	.660	.613	.043	.574	.746	15.216	199	.000

Table 3:

Paired Samples Test

Table 4: Paired Samples Statistics

	Mean	N	Std. Deviation	Std. Error Mean
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Pair 1	income before	2.06	200	.765	.054
	income during	1.40	200	.539	.038

RESULTS

The result of the statistical analysis revealed a significant difference between income generated before and during Covid-19 lockdown from public transport operators, $t(df=199) = 15.216, (<0.001)$. The mean value shows that a significant less income was generated during lockdown ($M=1.40$) than before lockdown as indicated in table 4.

The study revealed that restriction on international and national travels as well as interstate travels has negatively impacted the transport sector as some companies have laid off some staff, furlough some of them and have recorded a significant rise in their debts. The lockdown in some parts of Nigeria hindered the free movement of goods and services and hence restricted some transporters' ability to generate income.

This corroborated the contribution of Mogaji (2020) on the study of „financial vulnerability during a pandemic: insight for coronavirus disease (covid-19) “. The study revealed a sharp drop of income generation of transport operators which has negative impact on households' sustainability. Similarly, Tirachini and Cats (2020) also noted that the enforcement of social distance rules across the globe makes most transport agencies discourage the operation of public transport. This culminates to job loss, retrenchment and revenue reduction.

Furthermore, Karen (2020), the US leaders for the automotive industry noted that “the pressure during lockdown has shifted from moving citizens to keeping a core transportation system operational with a skeleton workforce to ensure freight and key essential workers can continue to move. A secondary effect of this shift is the sudden change in sources of revenue for transportation operators, with many experiencing an unexpected shortfall in their finances.

Based on the foregoing, this study posits that the coronavirus pandemic that led to global lockdown has negatively impacted on the revenue of public transits; tricycle, taxi, buses and other mobility devices. Hence, the null hypothesis was rejected and the alternate hypothesis was accepted.

CONCLUSION

Public transport is the backbone of a functional city providing vital service to keep urban centres operational. To this end, transport workers play key part in ensuring essential services is available during lockdown. Hence, from the result that emanated from the study, it revealed that there is significant difference in income of transport operators before and during lockdown in Calabar metropolis. The implication of this with regards to transport business in Calabar is that many people would experience job loss and poverty necessitated by a drop in revenue. In furtherance of this, economic evidence suggests that transport operators are managed by low income self-employed owners that must leave the house every day to earn income. The enforcement of covid-19 guidelines and protocol on restrictions and subsequent lockdown has brought economic hardship to public transport

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operators. It has also led to sudden change on revenue of operators by reason of the lockdown with many experiencing shortfalls in finances.

However, though the pandemic has its own negative impact on revenue of practitioners, it has resulted in a sharp drop in carbon emissions and level of air pollution, noise and road accidents. Arising from the above, this study posits that government at all levels should give incentives to transport operators that have suffered considerable losses occasioned by covid19 pandemic. This is one way of ameliorating the plight of the people.

Result

The result of statistical analysis revealed that there is a significant difference between income generated before the lockdown and the one during the lockdown period from transportation services, $t(df = 199) = 15.216, p < .001$ (see Table 11). The mean values indicate that significantly less income was generated during the lockdown period ($M = 1.40$) than before ($M = 2.06$) (Table 8). Hence, the null hypothesis was rejected.

The study revealed that restriction on international travel as well as interstate travels has negatively affected the transport sector as some companies have laid off some staff, furlough some of them and have recorded a significant rise in their debts. The lockdown in some parts of Nigeria hindered the free movement of goods and services and hence erected some transporters' ability to generate income.

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		Paired Differences			95% Confidence Interval of the Difference		t	Df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper			
Pair 1	incometrans - income during	.660	.613	.043	.574	.746	15.216	199	.000

Table 11 Paired Samples Test**Table 12 Paired Samples Statistics**

		Mean	N	Std. Deviation	Std. Mean Error
Pair 1	income trans	2.06	200	.765	.054
	income during	1.40	200	.539	.038

Introduction

Over the years, disease outbreak has often pose various degree of threats for the sustainability of human race. Historically, man has witnessed many kinds of pandemic throughout his existence his existence on the globe. Today, in our own generation, the world is battling with yet another form of pandemic commonly referred to as corona virus disease of 2019 (COVID-19). Resultantly, the world has introduced and adopted different measures aimed at mitigating the disease spread. Some of the check measures involve self-isolation and closure of borders. All these measures put in place, has vastly impacted on the agricultural sector.

Countries border closure and total or partial lockdown are highly impacting farmers' access to agricultural input like improve seeds, fertilizer and agro- chemicals. For instance, Uganda national Farmers federation (UNFFE) is experiencing constraints among their farmers' members in getting seed and seeds advisory services as a result of border closure. These same worries affect the processors, food distributors and wholesalers in the middle of the supply chain, meanwhile there exist some kind of logistical shift redirecting trucks loaded with food to shuttered businesses to places where people now crave it mainly grocery stores

The pandemic outbreak of coronavirus has an impact on the whole food supply chain, asserting the fact that in many zones, we all have a role to play in the food system that is interconnected and fragile and that solution must be must be developed collectively. It is cardinal to ensure that there are no disruptions in the value chain, so that food supply can get to consumers without hindrance, with a special attention to be given to the most vulnerable region and communities. Although in Cross River State, interruptions to food movement and other related agricultural commodities were minimal, this may be attributed to the strategy adopted by the government of not restricting movement within the state and with the easing of the movement of agricultural produce across interstate borders. So the food supply remains stable with a slight adjustment in prices.

Both supply and demand have been affected, however, much of the effect is on demand as a result of the possibility restrictions that affect accessibility. On the hand, availability and consumption remains almost stable if not relatively higher. Agriculture as a system comprises of producers, raw materials, and agricultural equipment,

inputs, processing plant, farm and industrial food. The impact is already being felt in the form of rising food prices. As at April, 2020, food inflation rose to 15% compared to 14.7% in December, 2019. Reduction in supply occasioned by COVID-19 restrictions may lead to soaring prices.

At the inception of the pandemic, we were of the opinion that it would have little impact on the food supply (Vos et al, 2020). The pandemic is assumed to be severe on densely built-up areas than in the sparsely occupied rural areas (Reardon, et al 2020). Since the inception of the pandemic, panic buying of food has been observed in many areas including the city of Calabar. What's more worrisome, some countries had to impose restrictions of export (IFPRI, 2020).

After March, COVID -19 has rapidly spread across the entire globe, though with little impact in most areas such as Cross River State. By July 9th, over 12 million confirmed cases and 500,000 deaths were reported in at least 200 countries, territories or areas, but at present the number of cases keep rising. (CSS-JHU, 2020) the food system are under risk like never before pushing increasing number of people under poverty, hunger and malnutrition (WFP,

2020). The demand for food has decreased due to uncertainty and the reduction of peoples' spending capacity, although this decrease is still slight, the situation could be more severe if the pandemic continue for a long time, due to a reduced income and job losses (FAO, 2020b). over the years it has been observed that from the previous pandemic that the world has experienced, it has been shown that quarantines and panic have an impact on human activities and economic growth (Hanashimo and Tomobe, 2012; Bermejo, 2004; Amdt and Lewis, 2001), but the effect is equally observed within the agricultural sector. When there is an outbreak of infectious disease, there is an always a corresponding increase in hunger and malnutrition (Burgui, 2020; Sar et al 2020).

Farming has been recognized almost globally as an important activity and human history and farmers were encouraged to keep on working even more serious to meet up with the present challenges. Countries lockdown and border closure are strategies impacting farmers' access to inputs (like improve seed, fertilizer and agrochemicals. For example, Uganda National farmers' Federation, UNFFE, is experiencing some constraints among their farmers' members in getting seeds and seeds advisory services due to the closure of border. In addition, closure of shops, restaurants, schools have notably reduced the market space for agricultural products with great impact on the sector. In Nigeria for instance, poultry farmers are experiencing a reduction in the demand for eggs due to the suspension of the school feeding programme, were hitherto the daily consumption of eggs across the state was high. Farmers globally through their representatives have lamented the negative consequences of the lockdown on the farming sector. Farmers are said to be struggling with less patronage for their products.

The UN identified Nigeria as one of the most acute hunger risk countries as one of the most acute hunger risk countries due to global disruptions and COVID-19 safety protocol instituted by various government. As a result, prices of staple foods including rice, beans and garri are reported to have increased in some states, including Imo

and Cross River States reportedly due to closure of roads and borders. Traders were said to be prevented from getting new merchandise or buying goods in large quantities, resulting in inflation of prices for their remaining stock.

In Cross River State markets, food or sea foods, rice, garri among others were reported to be sold at a price higher than their usual prices

In the light the above, this research seeks to appraise the impact of the spatial lockdown occasioned by the outbreak of COVID-19 pandemic on the agricultural products in Calabar, Cross River State.

LITERATURE REVIEW

In Wuhan, China, on December 31st 2019, the first cases of infection of a new corona virus (2019-n COV) was reported (WHO, 2020a), which originate the disease that is currently referred to as COVID-19 (Wang, 2020). The COVID -19 impact analysis tool gathered organizes and analysis daily information on the impact of the COVID-19 pandemic on food and agriculture, value chains, food prices, food security and undertaken measures. Preliminary reports reveals that the non-availability of migrants labour occasioned by the restriction of movement is interrupting some harvesting activities, particularly in North West India where and pulses are being harvested. There are disruptions in supply chains because of difficulties in transportation and other related issues. Prices have declined for Wheat, vegetables and other crops, yet consumers were paying often paying higher. Media reports reveals that the closure of hotels, restaurants, sweet shops and tea shops, during the lockdown is already impacting on milk sales. Meanwhile poultry farmers have been seriously hit due to misinformation, particularly on social media, that chickens are the carriers of COVID-19.

According to Mingzhe Pu and Yu Zhang (2020), on their study, rising concerns over agricultural production as COVID-19 spreads reveals that the consumer price index (CPI) for most commodities fell to 2.87% in many food prices dropped 9.95%. The prices of grain were stable, and the price of edible oil dropped to 0.05%. The marketing quantity of vegetable drooped 29.32%. The price of pork was reduced by 20.94%. The price of eggs, aquatic products, and fresh fruits dropped to 9.97%, 2.24% and 3.18% respectively.

The obstacles in outflows channels often push sales pressure back to the production sector, resulting in large amount of unmarketable agricultural products. Farmers were restrained from going out to gather under any circumstances except for shopping for necessities. This amounted or led to labour shortage and decreased production efficiency. Similarly, the restrictions imposed on travelling has adversely impacted on agricultural sector. The online survey data from 1501 rural households by the Chinese academy of agricultural sciences (CAAS) reveals that 51.19% of respondent had difficulty buying fertilizers, pesticides and other valuable inputs, and 20.39% had no access to purchasing those necessities (zhong et'al 2020). On the national level, data from the ministry of agriculture and Rural Affairs (MARA) shows that the seeds markets opening time was delayed by 10-15 days, and seeds sales decreased by 10-30% by March 10th 2020 compared with the previous years (NDSP,

2020). Only 36% of rural households had direct access to fertilizer by March 4th (NDSP, 2020). The breeding industry faced a serious feed shortage. Likewise feed mills were closed during the pandemic. Distribution of feeds and veterinary drugs were out of circulation to stop the virus from spreading. As a result, many breeding farmers were deprived of feed stocks or even ran out of feed. According to the research from (CAAS), over 60% of the baby chicks were humanely disposed during the epidemic (Xin et al, 2020).

COVID-19 is destroying the agricultural production sector, which is the root of food system. Although the direct impact will overwhelmingly be felt post-farm (Reardon et al 2020). For instance, in Northwest India, wheat and pulse harvesting was disrupted due to the non - availability of migrant labour (Dev 2020). In Ethiopia, vegetable farmers suffered not only from income loss occasioned to over stocked products but also from the shortage of important inputs. This serve to lower farmers' income and reduce productivity (Tamru et al 2020). Also, observing China's experience in this pandemic reveals that, there is a greater impact on the livestock sector due to difficulties in accessing animal feed and on the contrary, the reduction of labour (Zhang, 2020).

Impact of COVID-19, on agriculture according to the Food and Agricultural Organization (FAO, 2020a) states that COVID-19 is affecting agriculture in two ways, the two significant aspects include; the supply and demand for food. These two aspects are directly related to food security, by extension, food security is equally at risk. Thus, inspite of the restrictions imposed by government on the mobility of labour in agricultural sector, although with some hindrances, the supply of basic necessities is normally not compromised. Interruptions to food supply or transfer are minimal, so food supply remains stable. As this is also applicable in Cross River State where the supply of food products is never challenged. But the challenge confronting the traders is that of movement outside the state to the point of supply, as most of the products like beans, tomatoes, onions can only be purchased in large quantities from other states. Since Nigeria is not technologically advanced, online merchandising is not common, but consumers, and suppliers most times prefer physical presence.

The situation worsens as the disease progresses, making movement restrictions more and more stringent, and causing labour shortages for farmers requiring the services to either harvest their crops or bring the products to market. In Cambodia for instance, Farmers Federation Association of Agriculture Producers (CFAP) clearly outlined that farmers are facing several challenges in selling or marketing their products as they have no collectors who come to pick their products from farms. It is difficult in developing countries like Cambodia to move their products to market due to lack of transportation.

THE WAY FORWARD

Farmers in 13 states of Nigeria as an intervention strategy by government will receive improved seed of sorghum, pearl millet, cowpea, and rice as part of government initiative to cushion the pandemic impact on food systems. A host of agricultural research institutes and programme, led by (ICRISAT) and the Nigerian government recently launched the seed support initiative. Flagging off the initiative on 29th May, 2020 in Kano, Alhaji Sabo Nanono,

minister of Agriculture and Rural Development, stated that the pandemic may very likely precipitate a food crises by disrupting our food production systems thereby posing a great threat to farmers livelihood as well as national security.

The federal government as a mitigation strategy commenced the distribution of coronavirus disease (covid-19) incentives to farmers in calabar (cocoa and other farm inputs). Improved oil palm, sprouted nuts and cashew seeds.

Similarly, the Cross River State governor, Prof Sen Ben Ayade has set aside the sum of 500 million as loan to farmers in preparation for post covid-19 era. According to him, the state has a choice of agro-industrialization and the project pathway is originally connected with a kind of syntax that allow beneficiary to enjoy the pleasure of the income stream that the government have put in place, by making available a 5% interest loan for all farmers in the state.

Consequently, the oil palm farmers were supported with 5,050 improved oil palm sprouted nuts and 1300kg improved cashew seed. The cocoa farmers will be supported with 20,000 cocoa seedlings and agro-chemicals. In addition, rice farmers will be supported with 1,000kg of rice seeds as an encouragement to women, at least 35% of the inputs are targeted at women.

REFERENCES

- Mogaji, E. (2020). Impact of COVID-19 on transportation in Lagos. National Center for Biotechnology Information. Retrieved October 25, 2020, from <https://www.ncbi.nlm.nih.gov/pmc/a>
- World Health Organization. (2020). Coronavirus disease (COVID-19) pandemic. World Health Organization. Retrieved September 10, 2020, from <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>
- Musselwhite, C., Avineri, E., & Susilo, Y. (2020). Editorial: The coronavirus disease (COVID-19) and implications for transport and health. *Journal of Transport & Health*, 16, 100853. <https://doi.org/10.1016/j.jth.2020.100853>
- Africanews. (2020, July 4). Coronavirus: Nigeria's tally at 210, govt. says Chinese medical team expected. Africanews. Retrieved from <https://www.africanews.com/2020/07/04>
- Data were accessed from ADP Employment Report (2020, April). SBR-APRIL 2020. Retrieved from <https://adpemploymentreport.com/2020/April/SBR/SBR-APRIL-2020>

Research Article

- Garret, J. A. (2008). Pandemic economics: The 1918 influenza and its modern-day implications. Federal Reserve Bank of St. Louis Review, 90. Google Scholar.
- Barro, R. J., Ursua, J. E., & Weng, J. (2020). The coronavirus and the greater influenza pandemic: Lessons from the “Spanish flu” for the coronavirus’s potential effects on mortality and economic activity. National Bureau of Economic Research. <https://doi.org/10.3386/w26866>
- Wikipedia. (2020). Coronavirus pandemic. Wikipedia. Retrieved September 18, 2020, from <https://en.wikipedia.org/Coronavirus-Pandemic>
- Wang-Slick, K. (2017). Molecular virology of human pathogenic viruses. Elsevier Inc. Academic Press.traffic Conflict Situations and Observation Study in Nigeria. Traffic Trans. Eng. 2019, 6(5):482-492. (Google Scholar) 14). Nwafor M. Onya O. Road transportation Service in Nigeria. Problems and prospects. Adv. J. Econ, Mark Res.2019, 4(3)104-117 (Google Scholar)