EFFECT OF COVID-19 ON URBAN POULTRY ENTERPRISE IN OVIA NORTH-EAST AND EGOR LOCAL GOVERNMENT AREA

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JANUARY, 2023

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EFFECT OF COVID-19 ON URBAN POULTRY ENTERPRISE IN OVIA NORTH-EAST AND EGOR LOCAL GOVERNMENT AREA

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BY

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A PROJECT SUBMITTED TO THE DEPARTMENT OF AGRICULTURAL ECONOMICS, AND EXTENSION SERVICES, FACULTY OF AGRICULTURE, UNIVERSITY OF BENIN, BENIN CITY
IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF BACHELOR OF AGRICULTURE (OPTION: AGRICULTURAL ECONOMICS AND EXTENSION SERVICES)

JANUARY, 2023
CERTIFICATION

This is to certify that the work "Effects of COVID-19 on Urban Poultry Enterprise in Ovia North East and Egor Local Government Area, Edo State, Nigeria" was carried out by Ajibare Miracle UNUSENAME (AGR1600129), of the Department of Agricultural Economics and Extension Services, Faculty of Agriculture, University of Benin City, Edo State, Nigeria.

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Prof. (Mrs.) C.O. Egomwan Date
Supervisor

Prof. (Mrs.) Koyenikan Date
Head of Department

DEDICATION

This research work is dedicated to the almighty God for His Love and faithfulness,

Pst. and Mrs. Unusename my beloved parents, my siblings and friends.

ACKNOWLEDGEMENT

My appreciation goes to almighty God who has gifted me with the grace, wisdom and strength throughout the research.

My sincere and profound gratitude goes to my supervisor, Prof. (Mrs.) C.O. Egomwan for her patience, amazing show of motherly love, guidance and effort in ensuring that this work was a success.

Special thanks goes to the Dean, Faculty of Agriculture, University of Benin, Prof. E.R. Orhue, Head of Department, Agricultural Economics and Extension Services, Faculty of Agriculture, University of Benin, Dr. (Mrs.) O.B. Izekor and my Course Adviser, Dr. S.O. Konkwo for their encouragement towards the completion of this research.

I am very grateful to my loving and amazing family for their love, support and prayers towards the completion of my programme.

My sincere and profound gratitude goes to my mentor, Mrs. DolapoOlugbenga for being a blessing to my life.

Finally, I am grateful to my friends, OdeleOjoyo, Efionayi Precious, Owobu Josephine, SanwooluBabatunde, Obiyan John and Oshodi Emmanuel God bless you all to the fullest.

TABLE OF CONTENT **Page**

LIST OF TABLES

ABSTRACT

After spreading through East Asia, Europe, and North America in early 2020, the COVID-19 global pandemic started affecting countries in Africa. However, there has been little or no work on the effect of COVID-19 on Urban Poultry Enterprise. This study therefore evaluates the effect of COVID-19 on urban poultry enterprise in Ovia-North East and Egor local government area. And the specific objectives of this study are to: examine the socio-economic characteristics and level patronage of the poultry enterprise in the study area, estimate the income of respondents in the pre and during of the COVID-19 era, examine the constraint facing the poultry enterprise and the preventive measures put in place to curb the spread of COVID-19 by the government and then identify coping strategies of poultry enterprise in the pre and during the COVID-19 era.

A three stage sampling technique was used, involving a purposive selection of five most urban towns, based on urbanization and presence of poultry enterprise, getting the contact of the poultry farmers, using the Krejcie and Morgan 1970 sample size technique and then a simple random sampling of 70 percent of the respondents from the sample size gotten from population.

The result of the descriptive statistics reveals the R-Square of 0.3375 which indicates that household size, farm size, annual farm income and number of eggs collected daily eggs collected daily have 33.75% influence on the effects of COVID-19 on

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poultry enterprise. This indicates that there is a significant relationship between some of the socio-economic characteristics of the poultry farmers and effect of COVID-19 on poultry enterprise, there is a difference in the patronage of poultry products and income of urban poultry farming farmers in the two era of COVID-19 in Ovia North-East and Egor Local Government Area, Edo State.

In conclusion, in curbing the effect of the COVID-19 insurgency, it is important that Federal Government strive to promote and integrate public health measures, along with food security measures in the society.

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background to the Study

After spreading through East Asia, Europe, and North America in early 2020, the COVID-19 global pandemic started affecting countries in Africa and Latin America. With the largest population in Sub-Saharan Africa, and long-standing travel and trade links within Africa and to the rest of the world, it seemed inevitable that the pandemic would eventually reach Nigeria. In late February, Nigeria recorded the subcontinent's first confirmed case, after which it began to spread throughout Lagos, Ogun State, and the Federal Capital Authority (FCT) area of Abuja.

The arrival of the pandemic set off a chain of policy actions, including public health and education campaigns, fiscal and monetary measures, restrictions on large sections of the economy, and compensating measures in the form of social protection for poor and vulnerable people (Onyekwena and Amara Mma, 2020). The sudden onset of the pandemic and the scale of policy responses imposed significant economic costs on Nigeria's population, but the nature of the impacts on food systems and the poor remains unclear.

The role of livestock in the people's livelihood through different channels: food, transport,income, employment, manure and social status. Livestock keeping is an

integral part of the Nigerian society and economy: about 13 million households keeps farm animals and the sector contributes 6 to 8 percent of the national GDP (Africa Sustainable Livestock (ASL) 2050, 2018). This provides proofs on the contribution of the poultry sector to people's livelihood in Nigeria, which is given priority in the Agricultural Promotion policy 2016-2020.

The Nigerian poultry enterprise comprises about 180 million birds, second to South Africa (SAHEL, 2015), producing 650 000 tonnes of eggs and 300 000 tonnes of poultry meat in 2013 (FAOSTAT, 2017).

International Labour Organization (ILO. 2019) reports that the agriculture sector is the largest employer of labour in the country, providing jobs for as high as 36% of the Nigerian labourforces. Although, this statement has been negatively altered owing to the outbreak of COVID-19.

COVID-19 has impacted global food security due to the lockdown and movement restrictions across many countries of the world. In a bid to combating the impending global hunger, the need to attain food security has become extremely important, the pandemic could plunge about 265 million people (up from 135 million people) into acute hunger by the end of 2020 (World Food Programme (WFP, 2019)

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Prior to Covid-19, the Urban-agriculture sector was affected by several challenges ranging from drought and flooding and widespread instabilities, Fulani Herdsmen-farmer clash, banditry crisis and kidnappings in the South. The outbreak of Covid-19 may further exacerbate the challenges of the urban-agricultural enterprises (poultry), not just impacting the urban life but stressing out food security in the country.

1.2 Problem Statement

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Poultry enterprise is one of the major livestock agricultural-business in Nigeria; however, the supply of poultry products is not enough to meet the needs of the consumers in Nigeria. Therefore, the need for the importation of poultry products is inevitable both at the inter-state and international levels.

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The supplies of these products have been disrupted, due to the COVID-19 insurgency, owing to the restriction in movement, which has greatly affected the marketing and distribution of poultry products. This problem has resulted in food insecurity, where food is either insufficient or utterly lacking in some regions of the country.

Food and Agricultural Organization, (2008) defined food insecurity as a situation when all people, do not have physical, social and economic

iaccessito isufficient, isafe iand inutritious ifood iwhich imeets itheir idietary ineeds iand ifood ipreferences ifor ian iactive iand ihealthy ilife.

The iunsolved iproblem iof ifood iinsecurity iand imovement irestriction ihas iresulted iin iinflation, iespecially iin ithe iprice iof ipoultry iinputs, ileading ito ithe iincrease iin ithe icost iof iproduction iin ipoultry ienterprises.

According ito iKeynesian itheory, iinflation ican ibe icaused iby ian iincrease iin icost i(Jhingan, i2010). iThis ipersistent iincrease iin iprice ihas ian ieffect ion ithe imarketing imargin iowing ito ia ireduction iin ithe icustomers' ipurchasing ipower, ithereby iresulting iin iproduction ilosses. i

Risks iassociated iwith ithe imarket, isuch ias ivalue ichain ifragmentation, ihigh iintermediation icosts, iand ior ilack iof itraceability, iall iimpedes ithe idistribution iof ipoultry iand ipoultry iproducts, iwhich ihave ifurther ibeen iheightened iby ithe iincidence iof iCOVID-19. i(MoFood-Ministry iof iFood, i2020). i

The ifollowing iresearch iquestions iemanate ifrom ithe iabove:

(1) What iare ithe isocio-economic icharacteristics iof iurban ipoultry ifarmers?
(2) What iis ithe ieffect iof iCOVID-19 ion ithe ipatronage iof ipoultry ienterprise?
(3) What iis ithe iperceive iincome iof ipoultry ienterprise iin ithe ipre, iduring iand ipost ilockdown iera iof iCOVID-19?

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(4) What are the coping strategies of poultry in the pre, during and post lockdown era of COVID-19?

(5) What are the preventive measures taken by poultry farmers to prevent the spread of the virus, in line with government policies?

(6) What are the constraints affecting urban poultry enterprise in the area of study?

1.3 General Objectives

The general objective of this study is to examine the effects of COVID-19 on the poultry enterprise among urban poultry farmers in Ovia North-East Local Government Area, Edo State.

1.4 Specific Objectives

The specific objectives of this study are to:

(1) examine the socio-economic characteristics of poultry enterprise in the study area.

(2) examine the patronage of poultry products in the pre, during and the post lockdown era of COVID-19

(3) estimate the income of respondents in the pre, during and post lockdown of the COVID-19 era.

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(4) identify icoping istrategies iof ipoultry ienterprise iin ithe ipre, iduring iand ilockdown iera iof iCOVID-19

(5) examine iurban ipoultry ienterprise iuse iof ithe ipreventive imeasure iput iin iplace ito icurb ithe ispread iof iCOVID-19.

(6) examine ithe iconstraint iconfronting ithe iurban ipoultry ienterprise iin iterms iof imarketing iand idistribution iof itheir iproducts iin ithe ipre, iduring iand ipost iCOVID-19 iera.

1.5 Hypothesis iof ithe iStudy

H_{01}: iThere iis ino isignificant irelationship ibetween ithe isocio-economic icharacteristics iof ithe ipoultry ifarmers iand ieffect iof iCOVID-19 ion ipoultry ienterprise.

H_{02}: iThere iis ino isignificant idifference iin ithe ipatronage iof ipoultry iproducts iin ithe ithree i(3) iera iof iCOVID-19.

H_{03}: iThere iis ino isignificant idifference iin ithe iincome iof ithe ipoultry ifarmers iin ithe ipre, iduring iand ipost ilockdown iera iof iCOVID-19.

1.6 i Justification

Although imuch iwork ihas ibeen idone ion ipoultry ianalysis iby ilots iof iindividuals iand iagricultural iinstitution, inamely; iReason ifor ithe ifall iin ipoultry iproduction iby iAli, iS. i(2020)., iLivestock iand ilivelihoods ispotlight iin

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iNigeriaiPoultry iSector iby iFood iand iAgriculture iOrganization iof ithe iUnited iNations, iamong iothers. iFurthermore, imost iof ithe iresearch iwork idone ion iCOVID-19 iis ia ireview iwork idrawn ifrom isecondary idata iwhich ito isome ilevel iare inot irelative ienough ito iNigeria, iand ithis iis ibecause ithe icountry ilacks ian iaccurate idatabase ito imonitor iand icheck ithe iimpact iof ithe ipandemic iinsurgency ion ipoultry ienterprise. iHowever, ithere iare ino iresearch iwork iexpressing ithe iimpact iof icovid-19 iinsurgency ion ipoultry ienterprises iin iOvia iNorth-East iand iEgor iLocal iGovernment iArea, iEdo iState, iincluding ithe icommendable iactions iof iNigeria ipoultry ienterprise ito imanage ithe isituation iin iorder iensure ia icontinuous istable iproduction iand imarketing ichannel ineeded ito iobtain ithe irequired iincome.

It iis ihoped ithat ithe iinformation iprovided iby ithis istudy iwill iserve ias ia iguide ito ithe istudy iof ithe ieffect iof icovid-19 ion ipoultry ienterprise iand ithe ivarious imechanism iused iby ipoultry ienterprise ito imanage ithe iimpact iof iCOVID-19 ion ithe ienterprise.

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Onyekwena C., Amara Mma E. Brookings Institution; Washington, DC: 2020. Understanding the Impact of the COVID-19 Outbreak on the Nigerian Economy.https://www.brookings.edu/blog/africa-in-focus/2020/04/08/understanding-the-impact-of-the-covid-19-outbreak-on-the-nigerian-economy/

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CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 The Incidence of Corona virus Disease (Covid-19)

Corona viruses (COVID-19) is caused by the SARS-CoV-2 virus an infectious disease that comes from a large family of viruses that cause illness ranging from the common cold to more severe diseases. A novel corona virus (nCoV) is a new strain that has not been previously diagnosed in humans. The new virus was subsequently named the "COVID-19 virus" (World Health Organization, 2019).The arrival of the pandemic set off a chain of policy actions, including public health and education campaigns, fiscal and monetary measures, restrictions on large sections of the economy, and compensating measures in the form of social protection for poor and vulnerable people (Onyekwena and Amara Mma, 2020). Despite the effect of COVID-19, there was still misconception about the virus.

On 31 December 2019, the World Health Organization (WHO) was formally notified about a several cases of pneumonia in Wuhan City, with a population of 11 million people and the cultural and economic hub of central China. By 5 January, 59 cases were known and none had been fatal. Ten days later, WHO was aware of 282 confirmed cases, of which

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ifouriwere iin iJapan, iSouth iKorea iand iThailand.There ihad ibeen isix ideaths iin iWuhan, i51 ipeople iwere iseverely iill iand i12 iwere iin ia icritical icondition. iThe ivirus iresponsible iwas iisolated ion i7 iJanuary iand iits igenome ishared ion i12 iJanuary.3 ithe icause iof ithe isevere iacute irespiratory isyndrome ithat ibecame iknown ias iCOVID-19 iwas ia inovel icorona ivirus, iSARS-CoV-2. iThe irest iis ihistory, ialbeit ihistory ithat iis iconstantly ibeing irewritten: ias iof i12 iMay, i82,591 inew icases iof iCOVID-19 iworldwide iwere ibeing iconfirmed idaily iand ithe imortality irate iwas iover i4200 iper iday.4 i(World iHealth iOrganization, i2020). iThe ivirus iis iairborne iand ican ispread ifrom ian iinfected iindividual's imouth ior inose iin iliquid iparticles iwhen ithey icough, isneeze, ispeak, iand ibreathe. iThese iparticles irange ifrom ilarger irespiratory idroplets ito ismaller iaerosols. iOne ican ibe iinfected iby ibreathing iin ithe ivirus istaying iclose ito ian iinfected iperson, ior iby itouching ia icontaminated isurface iand ithen iyour ieyes, inose ior imouth. iThe ivirus ispreads imore ieasily iindoors iand iin icrowded isettings i(World iHealth iOrganization, i2020).

2.2 Poultry iFarming

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The iFood iand iAgricultural iOrganization iof ithe iUnited iNations, i(N.D) idefines ipoultry ias ian iavian ispecies ithat ican idomesticated ifor ithe iproduction iof ieggs, ifeather iand/or imeat. iPoultry icovers ia iwide irange iof ibirds, ifrom iindigenous iand iexotic ibreeds iof ichickens ito iducks, iturkey, iquail, ipigeons, iguinea

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ifowl,iostriches iand ipheasants. iPoultry ifarming iis ia ibranch iof ianimal ihusbandry iwhich iraises idomesticated iavian ispecies ifor ihuman iconsumption. iPoultry ihas igrown ito ibecome ithe imost iadvanced isub-sector iof ithe ilivestock iindustry iespecially iin ithe ideveloping inations i(Akpa, i2021). iHowever, ipoultry ifarming ihas ioriginated ifrom ithe iagricultural iera. iIn iPoultry, imostly ichickens iare ifarmed iin igreat inumbers; imore ithan i60 ibillion ichickens iare ikilled iannually. iChicken irose ifor ieggs iare iknown ias ilayers, iwhile ichicken iraised ifor imeat iare icalled ibroilers i(www.wikipedia.org, i2020). iCommercial ihens iusually ibegin ilaying ieggs iat i16–21 iweeks iof iage, ialthough iproduction igradually ideclines isoon iafter ifrom iapproximately i25 iweeks iof iage. i iPoultry iis ithe iworld's iprimary isource iof ianimal iprotein, ifollowed iby ipork i(Food iAgriculture iOrganization, i2021).

2.3 The iNeed ifor iPoultry iFarming

(Beall iand iFox, i2007) iindicated ithat ithe ilevel iof ipoverty iin iurban iareas iis iproportionate ito ithe igrowth iof ithe iurban ipopulation iand iunemployment. iAlso, ithe ioverall icost iof idistributing, isupplying iand iaccessing ithe iavailability iof ifood iis ilikely ito iincrease ias ithe inumber iof iurban ihouseholds iescalate iwith ithe ilevel iof iunemployment i(Tschirley i*et ial.*, i2015). iOver ipopulation iand iunemployment ihave ibeen ithe imajor iindicators iof ipoverty iin ideveloping icountries.

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Owing to the problem of over population and food insecurity, there is a need to strengthen the urban agriculture, which to a certain extent can provide a realistic solution to overcome the critical food insecurity as is being observed in many parts of the developing world (Van Veenhuizen, 2006). In all these aspects, poultry farming can create employment and additional income besides consumption of eggs can help improve nutritional security to the most vulnerable sections of the urban resource challenged specifically, pregnant and nursing mothers, old and infirm people, growing children and those who are suffering from immune compromising diseases (Ruxton, 2013).

2.4 Impact of Covid-19 on Urban Poultry Farming

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Economic impacts of COVID-19 are assessed in terms of their effects on national gross domestic product (GDP), agro-food system GDP, and the number of people living below the international US$1.90-a-day poverty line, it was estimated that national GDP declined sharply during the country's lockdown period, and that Nigeria will experience recession during 2020 (National Center for Biotechnology Information, (NCBI), 2020). More specifically, the lockdown policies reduced Nigerian GDP by US$11 billion or 23% during the 8-week period. Depending on the nature of economic recovery in the second half of 2020, it was estimated that GDP will

ibeibetween i6% iand i9% ilower icompared ito ithe ilevels iof iGDP ithere iwere iexpected iduring i2020 iprior ito ithe ionset iof iCOVID-19. iThe iestimated icontraction iof ithe ieconomy iis iconsistent iwith iglobal iprojections i(IMF, i2020b; iWorld iBank, i2020a).

The iglobal ioutbreak iof iCOVID-19 ipandemic ipresented imany ichallenges ito inations iof ithe iearth iand iits iimpact ihad icontinued ito ibe ifelt iin ithe ilife iof ieveryone i(Tripathi i*et ial,* i2020). iThese iunanticipated irestrictions iin iphysical, isocial iand ieconomic iactivities iinterrupted ithe iability ito iearn ia iliving iand iaffected ieconomic isectors iat idifferent ilevels iranging ifrom ithe iprimary isector ito imanufacturing iand iservices; ithereby, ithreatening ithe iachievement iof ithe isecond isustainable idevelopment igoal itargeted iat iending ihunger, iachieving ifood isecurity iand iimproved inutrition i(Nicola i*et ial.,* i2020; iNiles i*et ial.,* i2020). iPandemics ihave ioccurred ithroughout ihistory iand iseem ito ibe iincreasing iin ifrequency, iparticularly ibecause iof ithe iincreasing iemergence iof iviral idisease ifrom ianimals i(Madhav i*et ial.,* i2017). iThe ichallenges iof ipandemics ican inever ibe iunfelt.

From ipast ipandemics i(Pre iCOVID-19) ithat ithe iworld ihas iexperienced, iit ihas ibeen ishown ithat iquarantines iand ipanic ihave iimpacts ion ifarmers' iactivities iand ieconomic igrowth i(Bermejo, i2004; iHanashima iand iTomobe,

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i2012).iLessons ifrom ipast iepidemics iindicate ithat idisruptions iin ithe iactivities iof ifarmers iare ilikely ito ihave idire isocioeconomic iconsequences. i

With ian iincreasing inumber iof iCOVID-19 icases iin iMarch i2020, istates iin iNigeria iordered ieither ia ipartial ior itotal ilockdown iaccording ito ithe iseverity iof iCOVID-19 iin ieach iarea. iThere iwas ialso ian iinterstate irestriction iof imovement. iThe imobility irestrictions iand ithe ireduced imilk, ivegetables, ilivestock, iand ipoultry iwere idumped ior idestroyed. i(Qingbin i*et ial*., i2020; iWeersink i*et ial.*, i2020; iYaffe-Bellany iand iCorkery, i2020). iThis ihas ibeen ithe itrend iin ithe iPre-COVID-19 iera. iHowever, iother ithan ithe ireplication iof ithose itrends, ithe iimpact iof iCOVID-19 iis imore iintense.

With iregard ito ithe ilivestock isector, i(Sattar i*et ial,* i2020), ithese ihave iincluded: i

(i) ilocal iand iinternational imovements iof ilive ianimals iand ianimal iproducts; i

(ii) supplies iof iraw imaterials ifor ifeed iand imedicine;

(iii) provision iof iother iproduction iinputs iand iequipment; i

(iv) access ito ilabor iand iprofessional iservices i(Food iAgriculture iOrganization, i2020a). i

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In many countries, the closure of schools, restaurants, hotels, shops and markets, limitations on public gatherings and travel have reduced demand for animal products (InEuropa, 2020; Marchant-Fordeand Boyle, 2020).

Lockdowns and movement restrictions within the Country/and States have significant effects on urban-agricultural enterprises, as the major facilitators of the business growth (which is marketing and distribution) are disrupted due to lockdown, travel restrictions, border closures and controls.

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According to FAO, (2019) the inability to distribute food in the country is one of the reasons for food insecurity and high cost of food in Nigeria, and with the distortion caused by COVID-19 pandemic, the distribution of food across the country could deteriorate in the coming months (FAO,2019).

In many countries, the closure of restaurants, shops, schools and markets, limitations on public gatherings have reduced demand for animal products and infections among workers and subsequent closure of slaughterhouses and food processing plant has reduced slaughtering and processing throughput (InEuropa, 2020; Marchant-Forde and Boyle, 2020).

These factors resulted in the overstocking or culling of animals and animal products (Huffstutter, 2020), with farmers depopulating their farms to

ireduceithe icosts iof imaintaining ianimal ipopulations iwhich ithey icould ineither ifeed inor

trade i(Barrett, i2020). iInevitably, ithis iaffected ipoultry iproduction iand itrade i(Mulder, i2020). iRisks iassociated iwith ithe imarket, isuch ias ivalue ichain ifragmentation, ihigh iintermediation icosts, iand ino ior ilack iof itraceability, iall iimpede ithe idistribution iof ipoultry iand ipoultry iproducts i(MoFood-Ministry iof iFood, i2020). iApart ifrom ithe idifficulty iattach ito ifeeding, ithere iwere iother ichallenges isuch ias imedication.

Medication ineeded ifor ithe ifeeding iand itreatment iof ipoultry ibirds iwere inot iavailable ias isuppliers ireported ithat idisruption iin iglobal itrade imeant ithey icould inot iimport icomponent iraw imaterials ito iproduce ifeed iand imedicine. iThis iis isupported iby ireports iof iprolonged iborder iclosures ipreventing ithe iimport iof iessential ifeed iitems ilike imaize. iProduction iin ipharmaceutical iindustries iwas ialso iseverely idisrupted ias ithe iimport iof iActive iPharmaceutical iIngredients i(API)was iblocked i(IDLC,2020). iIn iaddition, idue ito ian iabsence iof inecessary iequipment, iregular itesting iof iimported ifeed iingredients iat ithe icountry's isole idiagnostic ilaboratory iwas isuspended i(Khan, i2021). iThis imeant ithat iraw imaterials iwere idelayed iat ithe iport, iresulting iin isevere ireductions iin ioverall iproduction. iThe ishortage iof ilaborers iin ithe ilockdown isituation

ialsoislowed ioperations iin ithe ifeed iindustries i(Food iAgriculture iOrganization, i2020b).

The isocio-economic ieffect iof iCOVID-19 iis ibeen istudied iextensively iacross iand iwithin icountries iand ithere iis ialso ia igrowing ibody iof iliterature iinvestigating ithe inexus ibetween iCOVID-19 iand ifood isecurity iamongst iother iindicators iof isustainable idevelopment. iFor iinstance, ia icross-sectional istudy iof i1478 ilow iincome iadults iin ithe iUnited iStates i(Wolfson i& iLeung, i2020) ishowed ithat i44% iwere ifood iinsecure, i36% iwere ifood isecure iand i20% iexperienced imarginal ifood isecurity iin ithe iearly istages iof ithe ipandemic.

CHAPTER iTHREE

3.0 iMETHODOLOGY

3.1 i Study iArea

The istudy iwill ibe iconducted iin iEdo iState iusing iOvia iNorth-East iLocal iGovernment iArea iof iEdo iState ias ithe icase istudy. iEdo iState ilies ibetween ilongitude i60 i4' iEast iand i60 i43' iEast iand ilatitude i50 i44' iNorth iand i70 i34' iNorth iof ithe iEquator. iThe istate iis ibounded iby ithe istates iof iKogi ito ithe inortheast iand ieast, iAnambra ito ithe ieast, iDelta ito ithe isoutheast iand isouth, iand iOndo ito ithe iwest iand inorthwest; ithe iNiger iRiver iflows ialong ithe istate's ieastern iboundary. i i i iEdo iState iis ilocated iin ithe isouthern iregion iof ithe icountry, ithe istate iwas iranked ias ithe i24th ipopulated istate i(3, i233, i366) i(Census, i2006). i iAnd ithe istate iis idivided iinto i18 ia ilocal igovernment iarea iamong iwhich iare iOvia iNorth iEast iand iEgor iLocal iGovernment iArea. iBenin iCity iis ithe istate icapital iand ilargest iurban icentre.

Ovia iNorth-East iis ia iLocal iGovernment iArea iof iEdo iState, iNigeria. iIts iheadquarters iare iin ithe itown iof iOkada. iAccording ito iCensus, i2006, iit ihas ian iarea iof i2,301 ikm² iand ia ipopulation iof i153,849. iThe ipostal icode iof ithe iarea iis i302.Ovia iNorth iEast iLGA iis imade iup iof i12 imajor icommunities. iThey iare iOkada i(headquarters), iOduna, iOghede, iUtoka, iIguoshodin,

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CHAPTER TWO **REFERENCE**
Abraham, L. Yayneshet T (2010.) Performance of exotic and indigenous poultry breeds managed by smallholder farmers in northern Ethiopia. Livestock Resource Rural Developmen

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iOluku,iAdolor, iIsuiwa, iUhiere, iOfunm-Wengbe, iKhohuo iand iUhen. iOvia iNorth-East iLocal iGovernment iArea ihas ian iaverage itemperature iof i28 idegrees icentigrade iand iaverage ihumidity ilevel iat i52. iThe itarget ipopulation ifor ithe istudy iwill ibe ithe iurban ipoultry ienterprise iin ithe istudy iarea.

However, iEgor iis ia iLocal iGovernment iArea iof iEdo iState, iNigeria. iIt ihas ian iarea iof i93 ikm^2 iand ia ipopulation iof i339,899 iat ithe i2006 icensus. iThe iarea iis ilocated iwithin ilatitude i6.47 iand i7.15°N iof ithe iequator iand ilongitude i5.49 iand i6.14°E. iThe ipostal icode iof ithe iarea iis i300103. iEgor ilocal igovernment iarea iwhich iis ifound iin iSouth-South igeopolitical izone iof iNigeria iand ihas iits iheadquarters iin ithe itown iof iUselu. iThe ilocal igovernment iarea ientails ia inumber iof itowns iand ivillages iand ithese iinclude; iAgidigbi's iCamp, iEgor iEnviron iCamps, iEvbougide, iIguediayi, iIguikpe, iOghedaivbiobaa, iOghokhugbo, iOviasuyi iCamp, iUgbighoko, iUrunmwon, iUwelu iand iUselu. iThe iarea iis ihome ito iChristians, iMuslims, iand itraditional iworshippers iwhile iBini, iOwan iand iEsan iare ithe iprominent ilanguages ithat iare ispoken iin ithe iarea.

Geographically, iEgor ilocal igovernment iarea ifalls iunder ithe iTropical iSavannah iClimate. iExperiencing itwo imajor iseasons iwhich iare ithe irainy iand ithe idry iseasons ithe iaverage itemperature iof ithe iarea iis iat i28 idegrees icentigrade. iAnd ithe iaverage ihumidity ilevel iof ithe iEgor ilocal igovernment iarea iis iestimated iat i68 ipercent.

3.2 i i iThe iPopulation iof ithe iStudy

This istudy iwill iexamine ithe ieffect iof iCovid-19 ion ithe iUrban iPoultry iEnterprise iin iOvia iNorth-East iand iEgor iLocal iGovernment iArea, iEdo iState.

3.3 Sampling iTechniques i

Stage ione: iBased ion ithe ilevel iof iurbanization iof ithe iarea, ia ipurposive iselection iof ifive iurban itowns ieach ifrom iOvia iNorth iEast iand iEgor ilocal igovernment iarea, inamely: iOkada, iOluku, iAdolor, iUhen, iIguoshodin. iAnd ithen: iEgor, iEvbougide, iIguediayi, iOghokhugbo, iUwelu iand iUselu ifrom iEgor ilocal igovernment iarea. iThis iselection iis ibased ion iurbanization iand ipresence iof ipoultry ienterprise iin ithe itwo ilocal igovernment iarea.

Stage itwo: iGetting ithe icontact iof ithe ipoultry ifarmers iassociation iin ithe imost iurban itowns iin iOvia iNorth-East iand iEgor iLocal iGovernment iArea ito iget ithe ilist iof iall iregistered ifarmers iof ithe iNigeria ipoultry ifarmers iassociation. iAnd ithen icalculate ithe isample ithat irepresent ithe ipopulation iby iusing iKrejcie iand iMorgan i1970 isample isize iformula igiven ias:

$S = iX^2 i* iN i* iP i* i(1-P) i \div i(d^{2\,i*\,i}(N-1)\,i + iX^{2\,i} * iP\,i*\,i(1-P))\,i$

Where,

S i= irequired isample isize i

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X^2 = the table value of chi-square for 1 degree of freedom at the desired confidence level (3.841).

N = the population size of the study area.

P = the population proportion (assumed to be 0.50 since this would provide the maximum sample size).

d = the degree of accuracy expressed as a proportion (0.05).

Stage Three: A simple random sampling technique will be used to select 70 percent of the respondents from the sample size gotten from stage two.

3.4 Data Collection

Data will be collected and analyzed from both primary and secondary source of this study, and it is by using a well-structure questionnaire, administered to the respondents, and also with personal interview.

Primary Data

Primary data will be collected using a structured questionnaire and interview schedule.

The secondary data will be collected from reliable source such as textbooks, journals, agricultural publications, newsletters and other pieces of literature relating to the subject matter; these resources will be consulted in

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itheiconstruction iof ithe ibackground iof istudy, iliterature ireview iand iin idiscussion iof iresult.

3.5 Measurement iof iVariables

A. Socio i-Economic iCharacteristics

1. Age iwill ibe imeasured iin iyears
2. Sex: iThis iwill ibe imeasured iwith ioption iof ifemales icoded i1, iand imales icoded i2.
3. Marital iStatus: iThis iwill ibe imeasured iusing ioption iof, isingle icoded i1, imarried icoded, i2 iand idivorced i3.
4. Farming iExperience: iThis iwill ibe imeasured iin iyears: i1-5 iyears icoded i1, i6-10 iyears icoded i2, i11-15 iyears icoded i3, i16-20 iyears icoded i4, iand i21 iyears iand iabove icoded i5.
5. Educational iQualification: iThis iwill ibe imeasured iin iterms iof ihow imany iyears ithe irespondent itook ito iattain ithe ipresent ilevel iof iqualification, iusing icoding ithe ioptions iof: i ino iformal ieducation icoded i1, iprimary ieducation icoded i2, isecondary ieducation icoded i3 iand itertiary ieducation. iCoded i4.
6. Farm iSize: ipoultry istock
7. Source iof iLabour: iThis iwill ibe imeasured iwith ifamily icoded i1, ihired ilabourers icode i2, iothers icoded i3.

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B. The ilevel iof ipatronage iof ipoultry iproducts. Deleted[user]:

This iwill ibe imeasured iby iasking iurban ipoultry ifarmers ito itick ithe ioption ithat ibest isuit itheir ipatronage ilevel iin ithe ipre, iduring iand ipost ilockdown iera iof iCOVID-19.

C. Income iper iproduction iperiod Deleted[user]:

This iwill ibe imeasured iby iinterviewing ithe iurban ipoultry ifarmers ion ithe iincome ithey igenerate iafter ievery iproduction iperiod ibased ion itheir iarea iof ispecialization iin ipoultry ienterprise.

D. Coping iStrategies iof iPoultry iEnterprise Deleted[user]:

This iwill ibe imeasured iby iasking ithe iurban ipoultry ifarmers ito iidentify ithe icoping istrategies iput iin iplace iin itheir ipoultry ienterprise iin ithe ipre, iduring iand ipost ilockdown iperiod iof iCOVID-19 iby iticking iany iof ithe istrategies i i iused iby itheir ienterprise.

E. Preventive iMeasures i Deleted[user]:

This iwill ibe imeasured iby iasking ithe iurban ipoultry ifarmers ito itick itheir ilevel iof icompliance ito ithe ipreventive imeasures iput iin iplace iby ithe igovernment, iusing ia i4-pointLikert iscale iof ialways i(coded i4), isometimes i(coded i3), irarely i(coded i2) iand inever i(coded i1).

F. Constraint iFacing iUrban iPoultry iFarmers Deleted[user]:

This iwill ibe imeasured iusing ia i4-pointLikert iscale iof ivery iserious i(coded i4), iserious i(coded i3), inot iserious i(coded i2) iand inot iat iall

(coded 1) and then asking the urban poultry farmer to identify the constraint facing their enterprise and ticking how serious these constraints affect their enterprise.

3.6 Analysis of Data

The following tool of analysis will be employed to achieve the objectives of the study:

3.6.1 Descriptive Statistics

This tool will be used to achieve objective 1, 2, 3, 4, 5 & 6. This involved the use of measures of central tendency such as mean, frequency count, percentages and appropriate chart, while hypothesis one (1) will be tested with the use of F-Statistics in Multiple Regression for variables measured in interval and ratio scale.

At the same time, Chi-Square will be used to analyse variables in intervals that are measured in nominal scale. The model specification is presented below:

$Y = a + bx_1 + bx_2 + bx_3 + b_nx_n$

Where Y = dependent variable (Effect of COVID-19 on poultry enterprise)

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While,

a i= iConstant

x_1 i= iAge

x_2 i= iSex

x_3 i= iYear iof iexperience

Hypothesis iis i2 iand i3 iwill ibe itested iwith iF- iStatistics iin iAnalysis iof ivariance i(ANOVA)

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Given ithe i(ANOVA) imodel.

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$$y_{ij}=m+a_i+\epsilon_{ij}$$

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CHAPTER iFOUR

4.0 i RESULTS iAND iDISCUSSION

This isection ishows ithe iresult iof ithe ianalysis iof ithe idata icollected ifrom ithe ifield. iThe itotal inumber iof irespondents ifor ithe istudy iwas i75. iThe ichapter ishows ithe iresult iof ithe isocio-economic icharacteristics iof iurban ipoultry ifarmers, ithe ieffect iof iCOVID-19 ion ithe ipatronage iof ipoultry ienterprise, ithe iperceive iincome iof ipoultry ienterprise iin ithe ipre iand iduring ithe iera iof iCOVID-19, ithe icoping istrategies iof ipoultry iin ithe ipre iand iduring ilockdown iera iof iCOVID-19, ithe ipreventive imeasures itaken iby ipoultry ifarmers ito

iprevent ithe ispread iof ithe ivirus iin iline iwith igovernment ipolicies iand itheiconstraints iaffecting iurban ipoultry ienterprise iin ithe iarea iof istudy. iThe iresults iare ipresented ias ifollows;

4.1 iSocioeconomic iCharacteristics iof iUrban iPoultry iFarmers

The isocio-economic icharacteristics iof ithe irespondents iconsidered iin ithis istudy iinclude: iAge, isex, imarital istatus, ieducational ilevel, ihousehold isize, ifarm isize i(number iof ibroilers iand inumber iof ilayers, iproduct itype), itype iof ilabour, isource iof iincome, iannual ifarm iincome, imajor ioccupation, inumber iof ieggs icollected idaily i(crate) iand imembership iof iagricultural iassociation.

4.1.1 iSex

Table i4.1 ishows ithat iout iof ithe isurveyed i75 ipoultry ifarmers, i77.3% iwere imale iwhile i22.7% iwere ifemale. iThis iimplies ithat ithe ipoultry ifarms iin ithe istudy iarea iwere idominated iby imales. iMale idominance imay ipossibly ibe ibecause iof ithe irigours irequired ito itake icare iof ithe ibirds ito imaintain. iThe ievidence iis isupported iby iOlumayowa iand iOtunaiya i(2011) iwho idid ia iwork iprofit iefficiency iand iwaste imanagement iin ipoultry ifarming iin iOgun iState, iclaims ithat ipoultry iproduction iis ipossibly imasculine ibecause iits iactivities

irequire iphysical istrength ithat imen ican iprovide ialone. iThis iresult iagrees iwithia irecent istudy iby iNwagwugwu iand iLemea i(2016) iin iRivers iState, iwhich irevealed ithat imales i(72.5%) isignificantly ipre-dominated iurban ipoultry iproduction. iThis ialso iagrees iwith iAdesiyan, i2014, ifindings ithat ithe ipredominance iof imales iimplies ithat ipoultry iproduction iis itasking iand ienergy iconsuming. iHowever, ithis idisagrees iwith iEkunwe, iSoniregun, iand iOyedeji, i(2006) iwho iwork ion ithe iEconomics iof ismall iscale ideep ilitter isystem iof iegg iproduction iin iEdo iState, ifindings ithat ifemale iare imore iinvolved iin ipoultry iproduction iand iwhich ialso iagrees iwith ithe ifindings iof iIdowu, iCofie iand iAdetola i(2012) iwho iresearched ion igender ianalysis iof iland iuse ifor iurban iagriculture iand isustainability iof ilivelihoods iin iFreetown, iSierra iLeone, ithat ifarm imanaged iby ifemale icommand ihigher ireturns icompare ito ithe imale.

4.1.2 iAge

Most iof ithe ifarmers i(42.7%) ifall iwithin ithe iage irange iof i30-39 iyears iwith ia imean iof i49 iyears. iThis iimplies ithat ithey iare iyoung iand ivery ienergetic ito icarry iout itedious iwork iassociated iwith ipoultry iwaste imanagement. iThis iis iin iline iwith ithe ifindings iof iOlumayowa iand iOtunaiya i(2011) ithat ipoultry ifarmers iare imostly imiddle-aged icitizens. i

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4.1.3 iMarital istatus

The ifinding ishows ithat imost iof ithe irespondents i73.3% iwere imarried. iThis isuggests ithat imarriage iis ipart iof imost iculture iand ias isuch ievery imarriage iage iindividual itake ito imarriage iwith ia iview ito iraising ifamily iand isustain itheir igeneration igenealogically. iIt iis inormally ibelieved ithat imarried ihousehold iheads itend ito ibe imore istable iin ifarming iactivities ithan iunmarried iheads i(Chauke, iAnim, iPfumayaramba iand iNekhavhambe, i(2014) iwho iresearch ion ian iassessment iof ifactors iaffecting iincome igeneration iunder iirrigation iin iSouth iAfrica.

4.1.4 iHousehold isize

The idistribution iof irespondents iaccording ito itheir iindividual ihousehold isizes ishowed ithat imost iof ithe iurban ifarmers i(45.3%) ihad ibetween i6-10 ipersons iper ihousehold, iwith ia imean iof i6 ipersons. iThis iimplies ithat ithe irespondents ihave ifamily iresponsibilities isince iprevious iresult ishows ithat ithe imajority iare imarried iand iare iin itheir ithirties i(4.1.2). iThis iis ian iindication ithat ithe irespondents ihad imoderate ihousehold isize iwhich icould iserve ias ifamily ilabour isupply. iAccording ito iOlumayowa iand iOtunaiya i(2011), ihousehold isize iinfluences ithe ipossible inumber iof ilabour ireadily iavailable ito iindividual ipoultry ifarmer iand ithis ifinding iis ialso isupported iby iOladeebo iand iOluwaranti i(2012) iwho iworked ion ithe iprofit iefficiency iin icassava

production in Lagos State, confirmed that profit efficiency is influenced by household size.

4.1.5 Educational level

The results in Table 4.1 shows the educational qualification of the respondents in which most (60.0%) of the respondents are secondary school certificate holders, (21.3%) had primary school certificate, (18.7%) had tertiary education certificate or degree and (17.3%) have no any form of formal education. The implication is that most of the respondents have formal education and are likely to have a positive attitude towards information seeking. This shows that most of the women had basic education and therefore are able to read, write and comprehend basic instructions, so if they are visited by extension agents or they have access to extension services, they can comprehend and adopt innovations that will enable them to involve better in poultry production activities. Furthermore, Afolabi, Adegbite, Ashaolu and Akinbode (2013) who researched on profitability and resource-use efficiency in poultry egg farming in Ogun State, also stress the importance of education by revealing that the educational level of farmer exerted significant effect on household welfare, but this disagrees with the findings of Ruma (2009), in his research on urban irrigation farming and its urban planning implication in Katsina, that 15% of

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ithe iurban ifarmers ihas ione iform iof ieducation iand ithis isupport ithe ibelief ithat ifamers iare iilliterate

4.1.6 iFarm isize/stock isize

4.1.6.1 iNumber iof ibroilers

Table i4.1 ireveals ithat imajority i44.0% iof ithe iurban ipoultry ifarmers iinvolved iin ipoultry ifarming ihave istock isize iof i101-200 ibirds, i20.0% iurban ipoultry ifarmers ihave istock isize iof i401-500 ibirds, i16.0% iurban ipoultry ifarmers ihave ia ifarm/stock isize iof i201-300 ibirds, i9.3% iurban ipoultry ifarmers ihave ia istock isize iof imore ithan i501 ibirds, i6.7% iurban ipoultry ifarmers ihave ia istock isize iof i301-400 ibirds iand iless ithan i100 ibirds iare iraised iby i4.0% iof iurban ipoultry ifarmers. i

4.1.6.2 iNumber iof ilayers

Majority i(40.0%) iof ithe iurban ipoultry ifarmers iinvolved iin ipoultry ifarming ihave istock isize iof i101-200 ibirds, i25.3% iurban ipoultry ifarmers ihave ia istock isize iof i301-400 ibirds, i12.0% iurban ipoultry ifarmers ihave ia ifarm/stock isize iof i201-300 ibirds iand imore ithan i501 ibirds, i6.7% iurban ipoultry ifarmers ihave istock isize iof i401-500 ibirds iand iless ithan i100 ibirds iare iraised iby i4.0% iof iurban ipoultry ifarmers.

The iresult iimplies ithat imost iof ithe ipoultry ifarms iin ithe istudy iarea iwere ismall iscales. iThis ifinding iis isupported iby iOlumayowa iand iOtunaiya i(2011) iwho iin itheir istudy iof iprofit iefficiency iand iwaste imanagement iin ipoultry ifarming iin iOgun iState, iobserved ithat i78% iof ithe ifarmers ireared iless ithan i5,000 ibirds.

4.1.7 iProduct itype

Majority i(62.7%) iof ithe iurban ipoultry ifarmers iraised ibroilers ionly. i21.3% iof ithe iurban ipoultry ifarmers iraised ilayers ionly iand ithen i16.0% iof ithe iurban ipoultry ifarmers iraised icombination iof ibroilers iand ilayers. iThis ifinding iis iin iline iwith ithat iof iMoreki iand iKeaikitse i(2013) ibut idiffered ifrom ithat iof iKalu i*et ial.,* i(2016) iwho iclaimed ithat ilayers iproduction iis imost iprevalent iamong ipoultry ifarmers.

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4.1.8 iType iof ilabour

The iresult iin itable i4.1 ishows ithat i60.0% iof ithe iurban ipoultry ifarmers iuse ihired ilabour iwhile i40.0% iof iurban ipoultry ifarmers iuse ifamily ilabour. iThis iimplies ithat imost ipoultry ifarmers iin ithe istudy iarea ido inot irely ion itheir ifamily ilabour iin iother ito iavoid ibias iin idecision imaking iand iachieve ibetter iefficiency. iBut ithis idisagree iwith iOyelami, iOsikabor, iUgege, iOdeyale, iAjanaku, i(2020) iwork ion ithe isocio-economic icharacteristics ianalysis

iofiPoultry ifarming iin iEdo iState, ithat ihousehold iare ithe imost ineeded ilabour irequirement ifor ipoultry iproduction iactivities.

4.1.9Annual ifarm iincome i(Naira)

Result ishowed ithat ia ihigher iproportion i(46.7%) iof ithe irespondents iearn ibetween i₦301,000.00 i-₦600,000.00, iFollowed iby i13.3% iearning ibetween i₦100,000.00-₦300,000.00, i12.0% iearn ibetween i₦601,000.00 i-₦1,200,000.00, i4.0% iearn imore ithan₦1,200,000.00.However, iusing irelative ipoverty iline i(FOS,1999) ias iused iby iEdeoghon i(2012) ias ithe ibasis ifor iassessment iof ipoor iand irich, ithis iis igenerally ifair iwhen iconsidered iin ithe icontext iof ithe inational iminimum iincome iof ione idollar iper iday ias iestimated iby ithe iUnited iNations. iThis iamount iis isomewhat iadequate ito isustain ia ifamily ion ifood ipurchases iin iaddition ito iother iservices ithat ithey iwould ihave ito ipay ifor, isuch ias ichild ieducation, ihealth, ielectricity, iwater, irent, ietc. iAlso, iit iis iexpected ithat ithey iwould ibe iable ito iafford ifarm iinputs i(seeds, ifertilizers iand iherbicides ietc.) iand ithe iuse iof isocial ifacilities/places. iThis ifinding icontrasts iAdedayo iand iTunde i(2013) ithat imost iurban iwomen ifarmers iearn iless ithan i₦50,000.00 iannually.

4.1.10 iSource iof ifinance

Table i4.1 ireveals ithat imajority i(60.0%) iof ithe irespondents' isource iof ifinance ifor ipoultry iproduction iis ifrom ipersonal isavings, i36.0% iof ithe irespondents' isources iof ifinance ifor ipoultry iproduction iis ifrom ico-operatives iwhile i4.0%of ithe irespondents' isource iof ifinance iis ifrom ibank iloans. iFrom ithe iabove ifindings, iit iis ievident ithat imost irespondents iuse itheir ilittle isaving iin ipoultry iproduction iactivities iwhich imight ibe ian iimpediment ito iexpanding ithe ihorizon iof itheir iproduction iactivities ibecause iagricultural iproduction igenerally iis icapital iintensive. iIn iNigeria iand ithe iworld iat ilarge, iagricultural icredit ihas ibeen ian iimportant iinstrument inot ionly ifor ifostering iagricultural idevelopment ibut ialso ifor iimproving iefficiency iand iexpanding iproduction. iIt iis ia iknown ifact ithat icredit imakes iit ipossible ifor ifarmers ito itake iadvantage iof inew imachines, igood iseed, ifertilizers, iengage iin iother iproduction iactivities iprofitably, iall iof iwhich ienables ithem ito iorganize iand ioperate ilarge iand imore iprofitable iagricultural ibusiness. iThis iagrees iwith ithe ifindings iof i(Ani iA.O., i2004)which ireported ithat, ithe ineed ifor iproviding iagricultural icredit ito iwomen ifarmers iis iuniversal, iand iagricultural icredit ihas ibeen ian iimportant iinstrument inot ionly iof ifastening iagricultural idevelopment ibut ialso ifor iimproving iproduction iand ienhancing iincome iand ialso iat itimes ifor imaking iup iseasonal ishortfalls. i

4.1.11 iMajor ioccupation

The iresult iof ithe idistribution iof irespondents ishowed ithat i42.7% iof ithe irespondents iwere iinvolved iin iother ibusiness ias isource iof iincome, i20.0% iof irespondents ihad ifarming ias itheir ioccupation, iand i21.3% iof ithe irespondents iare iartisans iwhile i16.0% iof ithe irespondents iare icivil iservant i/paid iworkers. iThis iimplies ithat ithe irespondents ialso iengaged iin iother iincome igenerating iactivities. iAkanni iand iBenson i(2014) isupport ithis ioutcome.

4.1.12 iNumber iof ieggs icollected idaily i(Crate)

The iresults ireveal ithat iurban ipoultry ifarmers iin ithe istudy iarea icollect inumber iof ieggs iof imean i20.15 idaily.

4.1.13 iMembership iof iagricultural iassociation

The iresult iin itable i4.1 ishows ithat i34.7% iare imembers iof iAgriculture iAssociation iof iNigeria, imajority i(65.3%) iof ithe iurban ipoultry ifarmers iare inot imembers iof iagricultural iassociation. iThis iimplies ithat imajority iof ithe irespondents ididn't isee iit ias ia inecessity ito ibelong ito iagricultural iassociation iwhich imay ihave ibeen iof ibenefit ito ithem. iInvolvement iin ipoultry ifarmers' iassociations icould ihelp iin ithe iacquisition iof irelevant iinformation iin iform iof itrainings iand iseminars ithat icould ienhance iproper ipoultry imanagement. iHowever, ithis ifinding iagree iwith ithe iresult iof iOladeji i(2011) iin iOyo

iStateiwhich irevealed ithat imajority i(83.3%) iof ithe irespondents iwere inot iin iany isocial iorganization.

Table i4.1: iSocio-economic icharacteristics iof iurban ipoultry ifarmers

Variables	Freq. in i= i75	%	Mean	Std. iDev	Min.	Max
Age i(years)	i	i	i	i	i	i
20-29 iyears	11	14.7	i	i	i	i
30 i-39 iyears	32	42.7	i	i	i	i
40- i49 iyears	17	22.7	49	8.73	19	66
50 i- i59 iyears	9	12.0	i	i	i	i
60 i69 iyears	6	8.0	i	i	i	i
Sex	i	i	i	i	i	i
Male	58	77.3	i	i	i	i
Female	17	22.7	i	i	i	i
Marital istatus	i	i	i	i	i	i
Single	16	21.3	i	i	i	i
Married	55	73.3	i	i	i	i
Divorced/Separated	1	1.3	i	i	i	i
Widow/Widower i	3	4.0	i	i	i	i
Household isize i	i	i	i	i	i	i
1- i5 i	30	40.0	i	i	i	i
6 i- i10 i	34	45.3	6.33	1.52	1	14
11 i- i15 i	11	14.7	i	i	i	i
Highest ilevel iof ieducation	i	i	i	i	i	i
No iformal ieducation	13	17.3	i	i	i	i
Primary ieducation	16	21.3	i	i	i	i
Secondary ieducation	45	60.0	i	i	i	i
Tertiary ieducation/Degree	14	18.7	i	i	i	i
Farm isize	i	i	i	i	i	i
How imany ibroilers	i	i	115.61	36.15	i	i
<100	3	4.0	i	i	i	i
101 i- i200 i	33	44.0	i	i	i	i
201 i-300 i	12	16.0	450.77	172,812	20	2500
301 i-400	5	6.7	i	i	i	i

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401 i– i500	15	20.0	i	i	i	i
501 ibirds iand iabove	7	9.3	i	i	i	i
How imany ilayers	i	i	i	i	i	i
<100	3	4.0	i	i	i	i
101 i– i200 i i	30	40.0	i	i	i	i
201 i– i300 i i	9	12.0	150.991	56,671.55	50	3000
301 i– i400 i	19	25.3	i	i	i	i
401 i– i500	5	6.7	i	i	i	i
501 i ibirds iand iabove	9	12.0	i	i	i	i
Product itype	i	i	i	i	i	i
Broilers ionly	47	62.7	i	i	i	i
Layers ionly	16	21.3	i	i	i	i
Broilers i+ iLayers	12	16.0	i	i	i	i
Type iof iLabour	i	i	i	i	i	i
Family	30	40.0	i	i	i	i
Hired ilabourers	45	60.0	i	i	i	i
Annual ifarm iincome i(Naira) i	i	i	i	i	i	i
N100,0000- i300,000	10	13.3	i	i	i	i
N301,000 i- iN600,000	35	46.7	i	i	i	i
N601,000 i-N900,000	19	25.3	409,980.11	110,213.25	45,000.00	3,00
N901,000 iN1,200,000	9	12.0	i	i	i	i
>N1,200,000	3	4.0	i	i	i	i
Source iof ifinance	i	i	i	i	i	i
Personal isavings	45	60.0	i	i	i	i
Co-operatives	27	36.0	i	i	i	i
Banks	3	4.0	i	i	i	i
Major ioccupation	i	i	i	i	i	i
Farming	15	20.0	i	i	i	i
Business	32	42.7	i	i	i	i
Civil iservant/paid iworkers	12	16.0	i	i	i	i
Artisans i	16	21.3	i	i	i	i
Number iof ieggs icollected idaily i(Crate)	i	i	20.15	5.59	3	75
Membership	26	34.7	i	i	i	i

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iofiagricultural iassociation

Source: iField isurvey, i2022.

4.2 Patronage iof ipoultry iproducts iin ithe ipre, iand iduring ilockdown iera iof iCOVID-19

The iresult iin iTable i4.2 ishows ithat ithe ilevel iof ipatronage iof ipoultry iproducts iwas ihigh i(mean=2.77) iprior ithe ilockdown iera iof icovid-19. iThis iis iconsidered ihigh ibecause ithe imean iis iabove i2.5. iWhile iduring ithe ilockdown, ithe ilevel iof ipatronage iof ipoultry iproducts iwas ilow i(mean=1.33). iIt iis iconsidered ilow ibecause ithe imean iis iless ithan i2.5. iIn imany icountries, ithe iclosure iof irestaurants, ishops, ischools iand imarkets, ilimitations ion ipublic igatherings ihave ireduced idemand ifor ipoultry iproducts iand iinfections iamong iworkers iand isubsequent iclosure iof islaughterhouses iand ifood iprocessing iplant ihas ireduced islaughtering iand iprocessing ithroughout ithe icountries i(InEuropa, i2020; iMarchant-Forde iand iBoyle, i2020). iA ikey ipart iof ithe idisruption ioccurred iwhen iretailers ireported ithat ithey icould inot icontinue inormal itrading ipractices iin imarkets iand ishops. iThis iresulted ifrom igovernment irestrictions ion iall ibusinesses iin ian ieffort ito iprevent ipublic igatherings i(World iHealth iOrganization, i2020). iExceptions iwere imade ifor i“emergency iservices” iwhich iincluded ifood istalls iand ikitchen imarkets. iEven ithose iemergency iservices ipermitted ito iremain iopen ihad ito iclose iby i7 ip.m. i(TBSNEWS, i2020). iIn iaddition, ivarious isocial, ireligious iand ipolitical ievents isuch ias

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iweddings,iparties, ireligious igatherings, ielection icampaigns, iwhere ichicken iand ieggs iwere inecessary ifood iitems, iwere ibanned i(Ali, i2020). iSeveral icountries ihave ioutlawed ithe iimport iof ipoultry imeat, iwhich ihas iresulted iin ia i15–25% idecline iin ichicken iorders ioverall i(De iLange i2020). i

Table i4.2 Patronage iof ipoultry iproducts iin ithe ipre, iand iduring ilockdown iera iof iCOVID-19

i	Very iHigh	i	High	i	Low	i	very iLow	i	Mean
PERIOD	**Freq**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Freq.**	**%**	**Mean**
Pre iCovid-19	35	46.7	26	34.7	9	12.0	5	6.7	i2.77
During iCovid-19	7	9.3	12	16.0	25	33.3	31	41.3	i1.35

Source: iField isurvey, i2022.
Mean i> i2.5 i= iHigh

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4.3 Income of respondents in the pre and during lockdown of the COVID-19 era

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As shown in Table 4.3, the seasonal income of the respondents on broilers before and during COVID-19 was ₦349,619.55 and ₦157,132.11, respectively. The seasonal income of the respondents on old layers before and during COVID-19 was ₦412,719.55 and ₦95,771.91 respectively. The result also revealed the seasonal income of the respondents on eggs production before and during COVID-19 was ₦217,158.25 and ₦65,771.33 respectively. The result implies that there is a drastic drop in the income of the urban poultry farmers during the lock down.

Lack of marketing opportunity was probably the most important issue, which forced the farmers/owners to keep the birds for a longer period, even much beyond the marketing age. Such action led to continued feeding of birds and increased feed conversion ratio, thereby heavy economic loss to the keepers. Longer rearing period causing over-growth of birds also resulted in the reduction of market acceptance and thus lower income.

Poultry traders also reported that the gradual increase in the severity of lockdown measures (World Health Organization, 2020), including the temporary closure of businesses and workplaces, had reduced consumer incomes. They speculated that many people could no longer afford to buy chickens even if they were able to adapt to new market systems.

iTheseiresponses iare iin ikeeping iwith ithe ifindings iof irecent ireports iin iwhich ijob ilosses ior idisruptions iin ithe iability ito ido icertain ijobs iduring ilockdown idiminished imany ipeople's iincome i(Islam iand iBabu, i2020; iRahman iand iRuszczyk, i2020). iIn ione ireport iexploring iCOVID's iimpact ion ithe ilabor imarket iin iDhaka iand iChittagong iCity iCorporations, i22–25% iof ipeople ireported ilosing itheir ijobs ieither ipermanently ior itemporarily ias ia iresult iof idisruptions ilinked ito iCOVID-19 i(Genoni iet ial., i2020). iAccording ito ione istudy, iabout i95% iof ihouseholds iexperienced iincome iloss iin ithe ifirst itwo imonths iof ithe ipandemic, iand i62% iof iearners ireported ilost ijobs i(Miah i*et ial.*, i2020). i

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According ito ilaw iof idemand, iincome iof icustomers iis ia ifactor iaffecting idemand isuch ithat ia idecrease iin ithe iincome iof icustomers iwill ilead ito ia idecrease iin ithe iquantity iof igoods idemanded. iThe idecrease iin ithe iquantity iof igoods idemanded iin iturn idecreases ithe iincome iof ithe iseller/respondents iin ithis icontext. iAlso ideath iof isome ibirds ias ia iresult iof ithe ilockdown iwhich irestrict imovement iof ithe ipoultry ifarmers ito ipurchase ifeeds ior imedicines ifor ithe isick ibirds imay ialso idecrease ithe iincome iof ithe irespondents. iThe iresult iis iin iline iwith iAbdullah iAl iSattar1, iet ial., i2021, iresearch ion iCOVID-19 iimpact ion ipoultry iproduction iin iBangladesh. iThe iresearch irevealed ithat iwholesalers iand iretailers ialso ireported ithat idue ito ilow iconsumer idemand iand irestricted ibusiness ihours i(10a.m. ito i4 ip.m.), imany imore ibirds ithan

iusualiwere ileft iunsold ievery iday imeaning ithat ivendors ihad ito ibear ithe icost iof ikeeping ithem ialive

Table i4.3 Income iof irespondents iin ithe ipre, iand iduring ilockdown iof ithe iCOVID-19 iera

Seasonal iincome	Broiler i i(₦)	Old ilayers	Eggs i(₦)
Pre iCOVID-19	349,619.55	412,719.55	217,158.25
During iCOVID-19	157,132.11	95,771.91	65,771.33

Source: iField isurvey, i2022.

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4.4 Coping Strategies of Urban Poultry Enterprise

This was measured by asking the urban poultry farmers to identify the coping strategies put in place in their poultry enterprise in the pre and during lockdown period of COVID-19.

The result in table 4.4 reveals the coping strategies of urban poultry enterprise in the pre and during lockdown period of COVID-19.

4.4.1 Coping strategies of urban poultry enterprise prior to COVID-19.

The results show that less than half (36.0) of the urban poultry farmers implemented biosecurity measures. These measures prevent the entry and transmission of pathogens in the farms, thus minimizing the negative impact they can have on poultry production.33.3% of the respondents reduced production rate, 21.3% of the respondents processed poultry products to enhance storage, 20.0% of the respondents slashed salaries of workers, 16.0% of the respondents were involved in digital marketing (online marketing), 12.0% of the respondents laid off workers to maximize income, 4.0% of the respondents provided efficient marketing channel and 2.7% of the respondents were involved in virtual mode of communication keeping in touch with old and new customers.

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These finding simply that urban poultry farmers in the study area had various coping strategies prior to COVID-19 but the most employed was implementation of biosecurity measures. Biosecurity systems is designed to involve the physical, biological, and chemical components of farms, guarding against the introduction and spread of pathogens (Derkx 2020).

4.4.2 Coping strategies of urban poultry enterprise during COVID-19

The results shows that majority (97.3%) of the urban poultry farmers were involved in virtual mode of communication keeping in touch with old and new customers, 96.0% of the respondents provided efficient marketing channel, 88.0% of the respondents laid off workers to maximize income, 84.0% of the respondents were involved in digital marketing (online marketing), 80.0% of the respondents slashed salaries of workers, 87.7% of the respondents processed poultry products to enhance storage, 66.7% of the respondents reduced production rate, 64.0% of the respondents implemented biosecurity measures.

These finding simply that urban poultry farmers in the study area had various coping strategies during COVID-19 but the most employed was virtual mode of communication keeping in touch with old and new customers. This implies that the respondents made use of digital tools such as emails, text messages, messages, chats and video conferences to

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irelayiinformation ito itheir icustomers. iStaff imeetings ican ibe iconducted ivia iweb ilinks iand ion isocial imedia iplatforms ias ia icontingency iplan ito iensure iworkflow ifrom ithe iestablishment i(Kaye i2020).

Table i4.4 Coping iStrategies iof iUrban iPoultry iEnterprise

i	Pre iCOVID-19		During iCOVID-19	
Coping iStrategies	**Freq.**	**%**	**Freq.**	**%**
Digital iMarketing i(Online iMarketing)	12	16.0	63	84.0
Reduction iin iProduction iRate.	25	33.3	50	66.7
Laying-off iof iworker ito imaximize iincome	9	12.0	66	88.0
Slashing isalaries iof iworkers	15	20.0	60	80.0
Virtual iMode iCommunication/ iKeeping iin itouch iwith iold iand inew icustomers	2	2.7	73	97.3
Implementation iof ibiosecurity imeasures	27	36.0	48	64.0
Processing iof ipoultry iproducts ito ienhance istorage	16	21.3	59	78.7

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Provision iof iefficient imarketing ichannel i	3	4.0	72	96.0

Source: iField isurvey, i2022.

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4.5 Preventive iMeasures iof iCOVID-19

The iresult iof idata ireported iin iTable i4.5 ireveals ithe ilevel iof icompliance ito ithe ipreventive imeasures itaken iby iurban ipoultry ifarmers ito iprevent ithe ispread iof ithe ivirus, iin iline iwith igovernment ipolicies iin ithe istudy iarea.

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The ipreventive imeasures iof iCOVID-19 itaken iby ithe irespondents iare iuse iof inose imask i(mean=3.76), isocial idistancing i(mean=3.17), igood ienvironmental iand ipersonal ihygiene i(mean=3.16), iregular iwashing iof ithe ihand iwith isoap iand iwater i(mean=2.83), iuse iof ihand isanitizer i(mean=2.77), iavoidance iof isocial igathering i(mean=2.51), iavoiding icontact iwith iopen isurfaces i(mean=1.59), iconstant icheckup ifor iCOVID-19 isymptom i(mean=1.52) iand ivaccination i(mean=1.19).

The ihigh ilevel iof icompliance ito ithe ipreventive imeasures itaken iby iurban ipoultry ifarmers ito iprevent ithe ispread iof ithe ivirus iinclude: ithe iuse iof inose imask i(mean=3.76), isocial idistancing i(mean=3.17), igood ienvironmental iand ipersonal ihygiene i(mean=3.16), iregular iwashing iof ithe ihand iwith isoap iand iwater i(mean=2.83), iuse iof ihand isanitizer i(mean=2.77) iand iavoidance iof isocial igathering i(mean=2.51). iThese ipreventive imeasures iare iconsidered ihigh ias itheir imean iare iabove i2.5.The iresult iimplies ithat imajority iof ithe ifarmers itook ipreventive imeasures ito iprevent ispread ithe ispread iof iCOVID-19. iWhile ithe ilow ilevel iof icompliance ito ithe ipreventive imeasures itaken iby

iurbanipoultry ifarmers ito iprevent ithe ispread iof ithe ivirus iinclude: iavoiding icontact iwith iopen isurfaces, iconstant icheckup ifor iCOVID-19 isymptom i(mean=1.52) iand ivaccination i(mean=1.19). iThese ipreventive imeasures iare iconsidered ilowas itheir imean iare ibelow i2.5.

Table i4.5: iPreventive iMeasures iof iCOVID-19

Preventive iMeasures iof iCovid-19	Mean	Std. iDev
Social iDistancing	3.17	0.51
Regular iwashing iof ithe ihand iwith isoap iand iwater	2.83	0.14
Use iof iNose iMask	3.76	0.16
Use iof iHand iSanitizer	2.77	0.27
Constant icheckup ifor iCOVID-19 isymptom	1.52	0.12
Avoid isocial igathering	2.51	0.27
Avoiding icontact iwith iopen isurfaces	1.59	0.19
Good ienvironmental iand ipersonal ihygiene	3.16	0.42
Vaccination	1.19	0.25

Source: iField isurvey, i2022.
Mean i> i2.5= ihigh

4.6 Constraint iConfronting ithe iUrban iPoultry iEnterprise

The itable i4.6 ishows ithe iconstraint iconfronting ithe iurban ipoultry ienterprise iin iterms iof imarketing iand idistribution iof itheir iproducts iin ithe ipre iand iduring iCOVID-19 iera.

4.6.1 The iconstraint iconfronting ithe iurban ipoultry ienterprise iin ithe ipre iCOVID-19 iera

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The iserious iconstraints iconfronting ithe iurban ipoultry ienterprise iin iterms iof imarketing iand idistribution iof itheir iproducts iprior ithe iCOVID-19 iera iin ithe istudy iarea iinclude: iprice iinstability i(mean=3.28) iand ihigh icost iof iproduction i(mean=2.51). iThese iconstraints iare iconsidered iserious ibecause itheir imean iis iabove i2.5. iWhile ithe iless iserious iconstraints iconfronting ithe iurban ipoultry ienterprise iin iterms iof imarketing iand idistribution iof itheir iproducts iin ithe istudy iarea iprior ito iCOVID-19 iinclude: ireduction iin imarket isupply/quantity i(mean=2.27), irumors i(Misconception) i(mean=2.22), idrop iin idemand i(mean=1.73), iincrease iin ithe icost iof imarketing iand idistribution i(mean=1.29), ishortage iof itransportation i(mean=1.15) iand ishortage iof imarketers iand idistributors i(mean=1.14).These iconstraints iare iconsidered iless iserious ibecause itheir imean iis ibelow i2.5.

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4.6.2 The iconstraint iconfronting ithe iurban ipoultry ienterprise iin ithe iduring iCOVID-19 iera

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The iconstraints iconfronting ithe iurban ipoultry ienterprise iin iterms iof imarketing iand idistribution iof itheir iproducts iduring ithe iCOVID-19 iera iin ithe istudy iarea iduring iCOVID-19 iinclude: ireduction iin imarket isupply/quantity i(mean=3.88), iprice iinstability i(mean=3.82), irumors i(Misconception) i(mean=3.77), ishortage iof imarketers iand idistributors i(mean=3.71), ihigh icost iof iproduction i(mean=3.69), idrop iin idemand i(mean=3.59), ishortage iof itransportation i(mean=3.16) iand iincrease iin ithe icost iof imarketing iand idistribution i(mean=2.65). iAll ithe iconstraints iare iserious. iThey iare iconsidered iserious ias itheir imeans iare iabove i2.5.

This ifinding iimply ithat iduring ithe iCOVID-19, iurban ipoultry ifarmers iin ithe istudy iarea ihad iso imany iproblems ithat iaffected ithe imarketing iand idistribution iof itheir iproducts ibut ithe imost icritical iproblem iis ireduction iin imarket isupply/quantity. iGiven ithat ipoultry iare ilive ianimals, ithe irequirement ifor idaily icare iand iroutine imanagement i(feeding iand iwatering, ienvironmental ihygiene, iwaste idisposal iand ihealth icare), imeans ithat ipoultry iproduction irelies iheavily ion ithe iavailability iof imanpower. iFarm ioperations imay ibe ivery idifficult ito inavigate iwhere iemployees iare isick, iquarantined ior

iinsufficient.iInconsistencies iin iroutine imanagement imay ilead ito ireduction iin ibody iweights, ifeed iintake, iegg iproduction, ioverall ihealth iand iwelfare iof ipoultry iresulting iin iproduction ilosses iand ishortages iin ipoultry iproducts i(Butterworth i2018). iHowever, ithe iimpacts iof iCOVID-19 ion ianimal iprotein i(poultry iproducts iinclusive) idemand iand isupply iis iyet ito ibe ifully iascertained i(Roembke i2020).

Another iconstraint iis ishortage iof itransportation. iLikewise, ithe iimminent ithreat iof ithe ifood icrisis iarising ifrom ihealth isafety imeasures iincluding iborder iclosures, iself-quarantine, iand idisruptions ito itrade, ialso ilimits iaccessibility ito ifood isupplies i(Harvey i2020). iDelayed itransportation iand ishortages iof ifeed imay ialso iaffect ifarmers' ineeds ito iattend ito ibirds idaily ithroughout ithe iproduction icycle. iLikewise, iblockades ito itransportation ihinder ithe itimely isupply iof imeat iand ieggs, iespecially ifor ithe ifresh ifood isupply ichains, iresulting iin iincreased ideterioration i(Mack iet ial. i2014), iwastages iof ipoultry iproduct iand iloss iof iincome ifor ifarmers.

Another iserious iconstraint iis idrop iin idemand. iThe ishelf-life iof ipoultry iproducts iis ilimited, ifor iboth ifresh ieggs i(14 idays iat iroom itemperature iand i57 idays iat i4°C) i(Feddern i*et ial.*, i2017) iand ifresh imeat i(6 idays iat i4°C) i(Kozacinski i*et ial.*, i2012). iWith ithe iuncertainties isurrounding ithe icurrent ipandemic, iwastages iof ifood iproducts ilooms ieither idue ito iexcess

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istockpilingior ifailure ito ipurchase iproduced igoods. iAnother iserious iconstraint iis iprice iinstability. iThe iclosure iof imarkets ilimits iaccess ito ifoodstuffs iand itrading iactivities, ias iwell ias icausing ispikes iin ifood iprices iresulting ifrom iprolonged imarket ilockdown. iThis iaccrues ito ipublic ihealth iissues iof imalnutrition iand istarvation iin irelatively ipoor iregions. iHikes iin iprices iof imeat iand ifood istuffs ihave ibeen ireported ifrom icountries isuch ias iSouth iAfrica, iRwanda, iKenya, iNigeria, iGhana, iAngola i(Krippahl i2020; iMabuza i2020).

Table i4.6: Constraints iconfronting ithe iurban ipoultry ienterprise

i	Pre-Covid i19		During iCovid i19	
Constraints	**Mean**	**Std. iDev**	**Mean**	**Std. iDev**
Shortage iof itransportation	1.15	0.18	3.16*	0.19
Reduction iin imarket isupply/quantity	2.27	0.43	3.88*	0.32
Increase iin ithe icost iof imarketing iand idistribution	1.29	0.15	2.65*	0.26
Shortage iof imarketers iand idistributors	1.14	0.57	3.71*	0.52
High icost iof iproduction	2.51	0.44	3.69*	0.28
Price iinstability	3.28	0.21	3.82*	0.21
Drop iin idemand	1.73	0.51	3.59*	0.29
Rumors i(Misconception)	2.22	0.15	3.77*	0.21

Source: iField isurvey, i2022.
Mean i> i2.50 i= iHigh

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4.7 Hypothesis

4.7.1 Relationship ibetween ithe iSocio-Economic iCharacteristics iof ithe iPoultry iFarmers iand iEffect iof iCOVID-19 ion iPoultry iEnterprise

Null iHypothesis itesting: iThere iis ino isignificant irelationship ibetween ithe isocio-economic icharacteristics iof ithe ipoultry ifarmers iand ieffect iof iCOVID-19 ion ipoultry ienterprise.

The iresult ireveals ithat ihousehold isize, ifarm isize, iannual ifarm iincome iand inumber iof ieggs icollected idaily iis isignificant iat i0.05 ilevel. iWhile iage iis inot isignificant iin idetermining ithe ieffects iof iCOVID-19 ilockdown ion ipoultry ienterprise.

The iresult ishows ithat ihousehold isize i(3.385) iwas ipositive icorrelated iand isignificant iat i0.05 ilevel. iThe iresult ishows ithat ian iincrease iin ihousehold isize iof ithe ifarmer iresults iin ithe iincrease iin ithe ieffects iof iCOVID-19 ion ipoultry ienterprise iby i3.385 itimes i(approximately i3.4). iThis iimplies ithat ian iincrease iin ihousehold isize ieither idue ito inew ichildbirths ior ithe iarrival iof irelatives, iwill iresult ito ian iincrease iin ithe ieffects iof iCOVID-19 on ipoultry ienterprise. iAccording ito iOlumayowa iand iOtunaiya i(2011), ihousehold isize iinfluences ithe ipossible inumber iof ilabour ireadily iavailable ito iindividual ipoultry ifarmer ibut iat ithe isame itime iit iincreases iamount iof ifood iconsumed iby ithe ihousehold iand ithen ithe icost iof iconsumption.

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The iresult ishows ithat ifarm isize/stock isize i(3.417) iwas ipositive icorrelated iand isignificant iat i0.05 ilevel. iThe iresult ishows ithat ian iincrease iin ifarm isize iof ithe ifarmer iresults iin ithe iincrease iin ithe ieffects iof iCOVID-19 on ipoultry ienterprise iby i3.417 itimes i(approximately i3.4). i iThat iis, imost iof ithe iurban ifarmers iwith ilarge ifarm isize/stock isize isuffered ithe ieffect iof iCOVID-19 ilockdown imore icompare ito ithe iurban ifarmer iwith ismaller ifarm isize. i

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The iresult ishows ithat iannual ifarm iincome i(-2.698) iwas inegatively icorrelated iand isignificant iat i0.05 ilevel. iThe iresult ishows ithat ia idrop iin iannual ifarm iincome iof ithe ifarmer iresults ifrom ian iincrease iin ithe ieffects iof iCOVID-19 ilockdown ion ipoultry ienterprise iby i2.698 itimes i(approximately i2.7).This ishows ithat ifarmers iwith ismaller ifarm isizes imade imore iprofit ithan ithe ifarmers iwith ilarge ifarm isize, idue ito ithe iease iof imanaging ismall ifarm isize iwhich iincurred ilesser icost icompared ito iurban ienterprise iwith ilarge ifarm isize.

The iresult ishows ithat inumber iof ieggs icollected idaily i(-3.533) iwas inegatively icorrelated iand isignificant iat i0.05 ilevel. iThe iresult ishows ithat ia idrop iin ithe inumber iof ieggs icollected idaily iby ithe ifarmer iresults ifrom ian iincrease iin ithe ieffects iof iCOVID-19ion ipoultry ienterprise iby i3.533 itimes i(approximately i3.5). iAdoption iof ipolicies iand imeasures ito ireduce ithe ieffect iof iCOVID-19 iwill iin iturn iincrease ithe inumber iof ieggs icollected idaily, ileading ito ia imore iimproved iproductivity iand ireturn.

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The iresult ialso ireveals ithe iR-square iof i0.3375 iwhich iindicates ithat ihousehold isize, ifarm isize, iannual ifarm iincome iand inumber iof ieggs icollected idaily ihave i33.75% iinfluence ion ithe ieffects iof iCOVID-19 ion ipoultry ienterprise.

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We ican itherefore ireject ithe inull ihypothesis iand iaccept ithe ialternate ihypothesis ithat ithere iis ia isignificant irelationship ibetween isome iof ithe isocio-economic icharacteristics isuch ias: ieducation, isex, ihousehold isize, isource iof ilabour iand iannual ifarm iincome iof ithe ipoultry ifarmers iand ieffect iof iCOVID-19 ion ipoultry ienterprise iin iOvia iNorth-East iand iEgor iLocal iGovernment iArea, iEdo iState.

Table i4.7.1: Multiple iRegression iAnalysis ishowing ithe iRelationships ibetween iSocio-Economic iCharacteristics iand ieffects iof iCOVID-19 iLockdown.

i	Coefficients	Std. iErr	t-ratio	P-valu
Age i(years)	-0.418	0.313	-1.335	0.191
Household isize i	0.721	0.213	3.385*	0.042
Farm isize	0.410	0.120	3.417*	0.035
Annual ifarm iincome i(Naira) i	-0.518	0.192	-2.698*	0.050
Number iof ieggs icollected idaily i(Crate)	-0.318	0.090	-3.533*	0.028

Source: iField iSurvey, i2022.
R= i0.581, iR-square i= i0.3375.
*Sign. iat i0.05 ilevel iof isignificance.

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4.7.2 Hypothesis i2: iDifference iin ithe iPatronage iof iPoultry iProducts iin ithe itwo iEra iof iCOVID-19.

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Null iHypothesis itesting i2: iThere iis ino isignificant idifference iin ithe ipatronage iof ipoultry iproducts iin ithe itwo iera iof iCOVID-19.

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The iresult ishows ithat ipre iCOVID-19 iis isignificant iwhile iduring iCOVID-19 iis inot isignificant iin idetermining ithe ipatronage iof ipoultry iproducts.

The iresult ialso ishows ithat ipre iCOVID-19 i(3.55) iis ipositively icorrelated iand isignificant iat i0.05 ilevel. iThis iimplies ithat ithe ilevel iof ipatronage iof ipoultry iproducts iprior ito iCOVID-19 iis ihigher icompared ito iduring iCOVID-19. iThis imay ibe idue ito ithe ifact ithat irestaurants, ishops, ischools iand imarkets iwere iopened. iPublic igatherings ior isocial igatherings iwere inot ilimited. iThis iwill ilead ito iincreased idemand/patronage ifor ipoultry iproducts.

We ican itherefore ireject ithe inull ihypothesis iand iaccept ithe ialternate ihypothesis ithat ithere iis ia idifference iin ithe ipatronage iof ipoultry iproducts iin ithe itwo ieras iof iCOVID-19 iin iOvia iNorth-East iand iEgor iLocal iGovernment iArea, iEdo iState.

Table i4.7.2: Results iof it-test ishowing ithe isignificance idifference iin ithe ipatronage iof ipoultry iproducts iin ipre iand iduring iCovid i19 iera.

	Mean	Std. iDev	Std, iErr	T-value	p-value
Pre-Covid i19 i(patronage)	39.719	8.518	0.461	3.55*	0.002
During iCovid i19 i(patronage)	11.932	2.172	0.836	i	i

Source: iField iSurvey, i2022.
*Sign. iat i0.05 ilevel iof isignificance.

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4.7.3 Hypothesis i3: iDifference iin ithe iincome iof ithe ipoultry ifarmers iin ithe ipre, iand iduring iCOVID-19

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Null iHypothesis itesting i3: iThere iis ino isignificant idifference iin ithe iincome iof ipoultry ifarmers iin ithe itwo iera iof iCOVID-19.

The iresult ishows ithat ipre iCOVID-19 iis isignificant iwhile iduring iCOVID-19 iis inot isignificant iin idetermining ithe iincome iof ipoultry ifarmers.

The iresult ialso ishows ithat ipre iCOVID-19 i(6.159) iis ipositively icorrelated iand isignificant iat i0.01 ilevel. iThis iimplies ithat ithe ilevel iof iincome iof ipoultry ifarmers iprior ito iCOVID-19 iis ihigher icompared ito iduring iCOVID-19.This iis idue ito ithe ifact ithat iproduction ibefore ithe iCOVID-19/lockdown iis iincreased isince ithere iwas ino irestriction iof imovement. iAccording ito ithe iresult iof ithis istudy iin itable i4.3, ithe iresult irevealed ithat ithe iincome iof ithe ipoultry ifarmers ibefore iCOVID-19 iis ihigher ithan itheir iincome iduring iCOVID-19. iIncrease iin ithe iincome iof icustomers ibefore iCOVID-19 iwill iincrease itheir ipurchasing ipower iwhich iin iturn iincreases ithe iincome iof ithe ifarmers.

Islam iand iBabu, i2020; iRahman iand iRuszczyk, i2020, ireported ithat ijob ilosses ior idisruptions iin ithe iability ito ido icertain ijobs iduring ilockdown idiminished imany ipeople's iincome.

We ican itherefore ireject ithe inull ihypothesis iand iaccept ithe ialternate ihypothesis ithat ithere iis ia idifference iin ithe iincome iof ithe ipoultry ifarmers

iinithe itwo ieras iof iCOVID-19 iin iOvia iNorth-East iand iEgor iLocal iGovernment iArea, iEdo iState.

Table i4.7.3: Results iof it-test ion ithe idifferences iin iincome iin ipre iand iduring iCOVID-19 iera.

i	Mean	Std. iDev	Std, iErr	T-value	p-value
Pre-Covid i19 i(Income)	979,497.35	160,351.66	11.58	6.159**	0.000
During iCovid i19 i(Income)	318,675.35	76,361.49	6.361	i	i

Source: iField iSurvey, i2022.
**Sign. iat i0.01 ilevel iof isignificance.

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CHAPTER iFIVE

5.0 iSUMMARY, iCONCLUSION iAND iRECOMMENDATION

This ichapter ipresents ithe isummary iof ithe imajor ifindings iof ithe istudy. iThe iconclusion iand irecommendations iwere idrawn ifrom ithe iresults iobtained ifrom ithe idata ianalyzed.

5.1 iSummary iof ithe istudy

The ibroad iobjective iof ithe istudy iwill ibe ito iexamine ithe ieffects iof iCOVID-19 ion ithe ipoultry ienterprise iamong iurban ipoultry ifarmers iin iOvia iNorth-East iand iEgor iLocal iGovernment iArea, iEdo iState.

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The istudy iexamined ithe isocioeconomic icharacteristics iof iurban ipoultry ifarmers, ipatronage iof ipoultry iproducts iin ithe ipre iand iduring ilockdown iera iof iCOVID-19, ithe iincome iof irespondents iin ithe ipre iand iduring ilockdown iof ithe iCOVID-19 iera, icoping istrategies iof ipoultry ienterprise iin ithe ipre iand iduring ilockdown iera iof iCOVID-19, iurban ipoultry ienterprise iuse iof ithe ipreventive imeasure iput iin iplace ito icurb ithe ispread iof iCOVID-19 iand ithe iconstraint iconfronting ithe iurban ipoultry ienterprise iin iterms iof imarketing iand idistribution iof itheir iproducts iin ithe ipre iand iduring iCOVID-19 iera i iin ithe istudy iarea.

Based ion ithe ifindings iin ithe istudy, iit ican ibe idepicted ithat imajority iof ithe irespondent iare imale i(77.3%) iand ifemales i(22.70%) iinvolved iin ipoultry ifarming. iThe istudy ishowed ithat imajority iof ithe ifarmers iengaged iin ipoultry ifarming iare imarried i(73.3%). iAbout ihalf iof ithe ipoultry ifarmers iare ibetween ithe iages i30-39 iyears i(42.70%). iThe istudy ifurther ishowed ithat imost iof ithe ifarmers iengaged iin ipoultry ifarming iare ieducated iand imajority iof ithe ipoultry ifarmers i(60.0%) ihad itheir isource iof iincome ifrom itheir ipersonal isavings iand ithis iagrees iwith iSuranga iWadduwage i(2020) iwho istudied ithe idrivers iof iurban ifarmers' iland-use idecision iin iAustralia, ithat ioff-farm iincome iis isignificant iin imeasuring ithe iincome iof ifarmers. iMajority iof ithem ihave ihousehold isize iof ibetween i6-10 ipeople, ifarm isize iof i101-200birds iand imost iof ithem iuses ihired ilabour. iFew i(34.7%) iof ithe irespondents ibelong ito iagricultural iassociation. i

Also, ithe istudy ireveals ithat ithe ilevel iof ipatronage iof ipoultry iproducts iwas ihigh i(mean=2.77) iprior ithe ilockdown iera iof icovid-19. iThis iis iconsidered ihigh ibecause ithe imean iis iabove i2.5.The istudy ialso ireveals ithat ithere iis ia idrastic idrop iin ithe iincome iof ithe iurban ipoultry ifarmers iduring ithe ilock idown. iThis ifinding ishows ithat iurban ipoultry ifarmers iin ithe istudy iarea ihad ivarious icoping istrategies iduring iCOVID-19 ibut ithe imost iemployed iwas ivirtual imode iof icommunication ikeeping iin itouch iwith iold iand inew icustomers. iThe ihigh ilevel iof icompliance ito ithe ipreventive imeasures itakeniby

iurban ipoultry ifarmers ito iprevent ithe ispread iof ithe ivirus iinclude: ithe iuse iof inose imask i(mean=3.76), isocial idistancing i(mean=3.17), igood ienvironmental iand ipersonal ihygiene i(mean=3.16), iregular iwashing iof ithe ihand iwith isoap iand iwater i(mean=2.83), iuse iof ihand isanitizer i(mean=2.77) iand iavoidance iof isocial igathering i(mean=2.51). iThese ipreventive imeasures iare iconsidered ihigh ias itheir imean iare iabove i2.5.The iserious iconstraints ithat iconfronted ithe iurban ipoultry ienterprise iin iterms iof imarketing iand idistribution iof itheir iproducts iprior ithe iCOVID-19 iera iin ithe istudy iarea iinclude: iprice iinstability i(mean=3.28) iand ihigh icost iof iproduction i(mean=2.51).This ifinding ialso ishowed ithat iduring ithe iCOVID-19, iurban ipoultry ifarmers iin ithe istudy iarea ihad iso imany iproblems ithat iaffected ithe imarketing iand idistribution iof itheir iproducts ibut ithe imost icritical iproblem iwas ireduction iin imarket isupply/quantity.

5.2 Conclusion

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The iresult ireveals ithe iR-square iof i0.3375 iwhich iindicates ithat ihousehold isize, ifarm isize, iannual ifarm iincome iand inumber iof ieggs icollected idaily ihave i33.75% iinfluence ion ithe ieffects iof iCOVID-19 ion ipoultry ienterprise. iThis iindicates ithat ithere iis ia isignificant irelationship ibetween isome iof ithe isocio-economic icharacteristics iof ithe ipoultry ifarmers iand ieffect iof iCOVID-19 ion ipoultry ienterprise, ithere iis ia idifference iin ithe ipatronage iofipoultry iproducts

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iand iincome iof iurban ipoultry ifarming ifarmers iin ithe itwo iera iof iCOVID-19in iOvia iNorth-East iand iEgor iLocal iGovernment iArea, iEdo iState.

In iresponding ito ithe iCOVID-19 ipandemic iand iemerging iincidences, iit iis iessential ithat iAfrican igovernments istrive ito ipromote, isustain iand iintegrate ipublic ihealth imeasures i(such ias isocial idistancing, icoughing ietiquette, igood ipersonal iand icommunal ihygiene ipractices), ialong iwith ifood isecurity imeasures iin ithe isociety.

5.3 Recommendation

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1. An effective response towards COVID-19 underlying challenges to the poultry sector would be to ensure sustained production activities through ease of entry and exit of farm products and the production and improvement of other means of transportation such as the emphasis on the use of technology, as this enhance productivity and correct the challenges of supply chain such as the use of WhatsApp, Facebook and other social media platform, adherence to regulatory standards, restructuring of food systems that could ensure effective marketing and distribution of poultry product prior to the occurrence of any other pandemic and preventing disruption to supply-chain, without undermining the public's health and safety.
2. The idevelopment iof istrategies iand ipolicies ithat icould ihelp icontrol iprice iinstability, iwhich icould iresult ito ifood iinsecurity iprior ito ithe ioccurrenceiof

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ifuture iinsurgencies ishould ibe iput iin iplace, iputting iin iconsideration ithe ihealth iand ilivelihoods iof ifarmers, iwith ithe ioverall iaim iof iimproving iproduction, idistribution, iprocessing, ipackaging iand imarkets iof ipoultry iproducts iwhich iwill iin iturn ienhance ieconomy idevelopment.

3. Policies itargeted itowards iimplementing ibiosecurity iand ibio-surveillance iwould iassist ipoultry ifarmers, iespecially ithe iones iwith ilarge ifarm isize iin imitigating ithe iimpacts iof ithe iCOVID-19 ipandemic iwith ithe iinclusion iof iany ifuture iinsurgency ion ipoultry isector.
4. Finally, ithe igovernment imust ibe iprepared ito iconsistently idisseminate ipublic ihealth iinformation iand idevelop istrategies ito iprevent iand icounter ithe ispread iof imisleading iinformation iand ifalse inews iprior ito iany ifuture ipandemics. iIn ithe icase iof iCOVID-19, ipublic iinformation icampaign ishould icontinue ito ipromote ithe idietary ivalue iof iconsuming ipoultry iproducts. i

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QUESTIONNAIRE

DEPARTMENTOFAGRICULTURALECONOMICSANDEXTENSION, FACULTY OF AGRICULTURE, UNIVERSITYOFBENIN, BENINCITY, EDO STATE, NIGERIA.

QUESTIONAIRE ON THE EFFECT OF COVID-19 ON URBAN POULTRY ENTERPRISE IN OVIA NORTH-EAST AND EGOR LOCAL GOVERNMENT AREA, EDO STATE, NIGERIA.

Dear respondent,

I am a final year student of the above-named institution carrying out a research on the topic "**Effect of COVID-19 on Urban Poultry Enterprise in Ovia North-East and Egor Local Government Area, Edo State, Nigeria**". I hereby solicit your assistance by responding to the questions accurately. All information given will be treated with strict confidentiality and only used for the purpose of this study.

Thanks for your cooperation.

Yours sincerely,

Ajibare Miracle UNUSENAME

SECTION A: SOCIO-ECONOMIC CHARACTERISTICS

1._____Sex :(a) Male [ ] (b) Female [ ]

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2. Marital status: (a) Single [ ] (b) Married [ ] (c) Divorced/Separated [ ] (d) Widow/Widower [ ]

3. Household size…… (Number of persons eating from same pot)

4. Highest level of education: (a) No formal education [ ] (b)Primary education [ ] (c)Secondary education[ ] (d) Tertiary education/Degree [ ] (e) Others ……(Please specify)

5. Farm size ----------(No of birds).

(a) How many broilers ----------

(b) How many layers ----------

6. Product type: (a) Birds only [ ] (b) Layers [ ] (c)Broilers + Layers [ ]

7. Source of Labour: (a) Family [ ](b) Hired labourers[ ] (c) Others----------(specify)

8. Annual farm income? …… (Please specify in Naira)

9. Source of finance (a) Personal savings [ ] (b) Co-operatives [ ] (c) Banks [ ] (d) Others (specify)----------

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10. i___Major ioccupation i(a) iFarming i[i] i(b) iBusiness i[i i] i(c) iCivil iservant/paid iworkers i[i i] i(d) iArtisans i[i i]

11. i___Number iof ieggs icollected idaily i----------.

12. i___Do iyou ibelong ito iany iagricultural iassociation? i(a)Yes i[i i i i i] i(b) iNo i[i i i i i]

SECTION iB: iLEVEL iOF iPATRONAGE i

PERIOD	VERY iHIGH	HIGH	LOW	VERY iLOW
PRELOCK iDOWN i(COVID-19)				
DURING iLOCKDOWN i(COVID-19)				

SECTION iC: iINCOME iPER iPRODUCTION iPERIOD i

PERIOD	BROILER i(₦)	OLD iLAYERS i(₦)	EGGS
PRELOCK iDOWN i(COVID-19)			
DURING iLOCKDOWN i(COVID-19)			

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PERIOD
VERY HIGH
HIGH
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BROILER (₦)
OLD LAYERS (₦)
EGGS (₦)

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SECTION iD: iCOPING iSTRATEGIES iOF iURBAN iPOULTRY iENTERPRISE

COPING iSTRATEGIES i	PRE iLOCKDOWN i	DURING iLOCKDOWN
Digital imarketing i(online imarketing) i		
Reduction iin iproduction irate		
Laying-off iof iworker ito imaximize iincome		
Slashing isalaries iof iworkers		
Virtual imode icommunication/keeping iin itouch iwith iold iand inew icustomers		
Implementation iof ibiosecurity imeasures ito ipresent ihuman icontamination i		
Processing iof ipoultry iproducts ienhanced istorage, imarketing iand idistribution i		
Provision iof iefficient imarketing i-==== ifor ieasy iaccessibility i======= iwith iCOVID-19 iPrevention imeasures i		

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SECTION iE: iPREVENTIVE iMEASURES

Which iof ithese ido iyou ipractice?

PREVENTIVE iMEASURE i	ALWAYS	SOMETIMES	RARELY	NEVER
Social iDistancing i				
Regular iwashing iof ithe ihand iwith isoap iand iwater i				
Use iof iNose imask				
Use iof iHand isanitizer				
Constant icheckup ifor iCOVID-19 isymptom i				
Avoid isocial igathering i				
Avoiding icontact iwith iopen isurfaces				
Good ienvironmental iand ipersonal ihygiene				
Vaccination i				

SECTION iF: iConstraint ifacing iUrban iPoultry iFarmers iin iterms iof iMarketing iand iDistribution iof itheir iproducts. i

Where, iV.S i= iVERY iSERIOUS, iS i= iSERIOUS, iN.S i= iNOT iSERIOUS iand iN.A.A i= iNOT iAT iALL

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PREVENTIVE MEASURES OF COVID-19
ALWAYS
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Constraints	Pre iLockdown iperiod				During ilockdown i			
	V.S	S	N.S	N.A.A	V.S	S	N.S	N.A.A
Movement iRestrictions i								
Shortage iof iTransportation								
Reduction iin imarket isupply iquantity i								
Increase iin ithe icost iof imarketing iand idistribution i								
Shortage iof imarketers iand idistributors i								
High icost iof iproduction i								
Price iinstability i								
Drop iin idemand i								
Rumors i(Misconception)								

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