



ECONOMIC IMPACT OF COVID-19: OPPORTUNITIES IN BROILER PRODUCTION FOR NIGERIANS

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Abstract

This paper focuses on opportunities in broiler production for Nigerians to alleviate the economic impact of covid-19 pandemic. In January, 2020, the World Health Organization (WHO) pronounce human coronavirus disease (COVID-19) outbreak a public health emergency of international concern because of its devastating effect globally. The disease has affected all the continent of the world with exemption of few countries. Coronaviruses (CoVs) are single-stranded RNA viruses that belong to the order Nidovirales, family Coronaviridae, subfamily Orthocoronavirinae. They have four genera: alpha, beta, delta, and gamma coronaviruses. Alpha CoVs and beta CoVs are domicile in bats and rodents while delta CoVs and gamma CoVs originated from avian species. It is highly contagious, transmitted from human to human by respiratory droplets from sneezing, coughing, and aerosols. Symptomatic and asymptomatic patients are the major source of infection. Government at all levels have rolled out measure to contain the spread of the disease which includes restriction on movement, closure of high traffic business hubs, ban on inter-state travels, international and local flights among others. These measures have affected the livelihood of Nigerian through total closure of small scale business, mass retrenchment, and death of business owners. Broilers are poultry birds raised primarily for meat; they efficiently convert feed to meat faster than commercial layers. The paper therefore concluded that taking up a broiler production enterprise poses alternative sources of income to Nigerians because it reaches table size in short period of time and market demand for poultry meat is high.

Keywords: Broiler, Economy, Nigerians, COVID-19

Introduction

The coronavirus disease of 2019 popularly known as COVID-19 outbreak which began in Wuhan, China gripped the world with a shock, thereby overwhelming most of the nation's health care system (Jimoh et al, 2020). Since the first diagnosis of this outbreak, it has travelled to over 200 countries and has negatively affected global economic beyond anything experienced in the last century (Harris et al., 2020)

The World Health Organization (WHO) on January 30, 2020 (WHO, 2020) declared the novel human coronavirus disease (COVID-19) outbreak a Public Health Emergency of International Concern (PHEIC). With over seven million cases recorded globally as of June 7 (2020): in Africa, Egypt (over 38,000 cases) and South Africa (over 54,000 cases) has the greater number of cases (Jimoh et al, 2020).

Poultry production a branch of agriculture plays a vital role in the sustainability, social and economic activities of developed and developing countries, it contributes to employment, food security and raw materials for agro-based industries (Mongues, et al, 2012). Poultry birds include the domestic fowl, duck, turkey, ostrich, goose among others, their products (meat, eggs tc.) significantly contribute to human food (Okusanya and Akinlade, 2019). Grabowski and Kijowski (2004) reported that since 2010, Africa has recorded great increases in broiler chicken production, which is approximately 4.5 per cent a year, this was attributed to the fact that broiler is cheap, easily processed, highly nutritious and has a quick rate of return.

The economic outcome from this pandemic will make nations susceptible to economic recession with increase in unemployment, loss of human capital due to lives permanently lost to the pandemic, careers derailment, poverty, and increased social unrest.

Looking at the enormous benefits of broiler chicken production, this paper therefore looks at the importance of broiler chicken production as a cheap source of income to Nigerians after covid-19 to contribute to the nation's Gross domestic product.

The Coronavirus Disease

The first coronavirus called infectious bronchitis virus that affect avians, was discovered by Fred Beaudette in 1937 this was followed by the discovery of severe acute respiratory syndrome coronavirus (SARSCoV) in 2002 and Middle East respiratory syndrome coronavirus (MERS-CoV) in 2012 which affect humans (AbdulAzeez, 2020), Coronaviruses (CoVs) are single-stranded RNA viruses that belong to the order Nidovirales, family Coronaviridae, subfamily Orthocoronavirinae. They have four genera: alpha, beta, delta, and gamma coronaviruses (WHO, 2020). Alpha CoVs and beta CoVs are domicile in bats and rodents while delta CoVs and gamma CoVs originated from avian species (Casella et al., 2020). The beta CoVs which SARSCoV- 1 belongs to was isolated from bats in 1992 with civet cats as intermediary host, and the current SARS-CoV-2 formally referred to as 2019 novel coronavirus (2019-nCoV) causing COVID-19 (AbdulAzeez, 2020).

Severe Acute Respiratory Syndrome Virus 2019 (Sars-Cov-2; Covid-19)

SARS-CoV-2 possess a circular and pleomorphic structure, it is between 60-140 nm in diameter. It is highly contagious, transmitted from human to human by respiratory droplets from sneezing, coughing, and aerosols. Symptomatic and asymptomatic patients are the major source of infection. From the time of infection to the period of showing signs and symptoms takes about 2 to 14 days in humans (Li Q et al., 2020).

Covid-19 in Africa

There has been considerably low number of infections related to COVID-19 across the continent of Africa. Where 46 out of 47 WHO member countries have reported a total of about 2 475 confirmed cases and 64 deaths as at 25th March 2020, almost all cases were imported majorly from Europe (AbdulAzeez, 2020). Five months after, a total of 1,128,245 COVID-19 cases have been recorded in Africa, 25,884 deaths which cut across 55 countries of the continent. This figure amount to 5 % of all cases reported globally. Western region of Africa where Nigeria belongs contributed 13 % to this figure. (Africa-CDC, 2020)

Covid-19 in Nigeria

Nigeria recorded her first index case of covid-19 on the 27th of February, 2020 and the figures has risen to over 50, 000 cases as at 18 th of August (NCDC, 2020). This pandemic has affected thousands of peoples, who are either sick or are being killed. Government at all levels have rolled out measure to contain the spread of the disease which includes restriction on movement, closure of high traffic business hubs, ban on inter-state travels, international and local flights among others. These restrictions have affected the livelihood of Nigerian through total closure of small scale business, mass retrenchment, death of business owners etc (Haleem et al., 2020).

Effect of Covid-19 on the Economy

Economic crises or recession is not strange to Nigerians, it is often caused by market irregularities (Jones, 2016), market failure (Petrakos, 2014), price shocks and external trade (Peterson Ozili, 2020), political instability, pandemics and civil unrest through protests (Lagravinese, 2015).

The economic crisis currently being experienced differ from other economic crises or recessions in Nigeria because economic agents, who should be responsible for reviving the economy are unable to engage in targeted economic activities due to the lingering lockdown and fear of contacting Covid-19 disease.

The Covid-19 pandemic has effected Nigeria is many ways, out which are

- Effect on borrowers' capacity to repay their loans.
- Drop in crude oil price.
- Shortage of raw materials which have necessitated the shutdown of factories.
- Budget inconsistency.
- Drop in the stock market investment (Peterson Ozili, 2020).

These have resulted into loss of numerous jobs and economic crises degrading the livelihood of Nigerians.

Opportunities in Broiler Production

The advantages of animal protein consumption remain undisputed; it supplies man with nutrient which aid growth and development, tissue repair inclusive. To meet these unparalleled human needs, FAO, (2008) published that broiler meat (chicken) with protein content of 21-50 percent is better than that of rabbit and beef, which contain 20-22 percent and 18 percent protein respectively.

Broilers are poultry birds raised primarily for meat. They are efficient meat producers growing much faster than their commercial layers counterpart, they are known to have white feathers and possess a yellow skin. Both sexes are slaughtered for their quality meat (Fulas, Yohannis, Yobsan, and Abirham, 2018).

Ike and Ugwumba (2011) reported that broiler production enterprise is a profitable venture if well taken care off. This is because it has good profit margin and quick returns on investment. The average average gross income from rearing 500 unit of broilers was ₦ 667,000.00 and net returns on the average was calculated to be ₦ 195,930.00. It was concluded that the total cost of producing a mature broiler is ₦ 942.14, while the gross revenue per bird is ₦ 1334.00. The calculated net revenue per broiler for a typical farmer in the researched area is ₦ 391.86 this corroborate the findings of Omolayo, (2018) that broiler production is a profitable venture with an average gross margin of ₦ 355,034.55 kobo and an average net income of ₦ 250,842.33 kobo per farmer in a production cycle.

With good nutrition and management practices, broiler chickens get to optimal slaughter weight at about 42 days, which makes it one of the fastest poultry enterprise with quick rate of return on investment (Tandoğan M I and Çiçek H I, 2016).

Management Of Broiler Chicken

Broilers are majorly reared on deep litter system of management, and can either be all-in-all-out system or multiple-batch system (Mesa, Muniz, Souza and Geffroy, 2017).

Multiple-batch system: Day-old broiler chicks are stocked in batches weekly or at two weeks interval and reared together resulting to birds of different age groups. This helps to provide a continuous supply of mature broilers to the consumers weekly. Build-up of pathogens in the poultry pen may arise as a result of this practice (Mesa et al, 2017).

All-in-all-out system: Broiler chicks are received at once, reared to table size and sold out together. This enables the farmers to clean and disinfect the farm premises in preparation to receive new batch. Pest and diseases are easily controlled (Mesa et al, 2017).

Pen preparation: This includes all activities carried out on the pen house in preparation to receive day old chick, to make it habitable for the birds while reducing stress and pathogens.

Cleaning and disinfecting: The pen should be thoroughly dusted, disinfected, kept clean and left vacant for weeks after a batch is sold out, farm equipment and materials should be thoroughly washed. This ensures good broiler performance, educed accumulated load of infectious organisms in that area. Disinfectants like Lysol, 4 percent Aldepol, Formalin, and Potassium permanganate in combination with formalin have produced positive result on broiler farms.

Purchase of Day old Chick: Emerson, Hale, and Selvam, (2011), said hatchery and sales outlets where broilers chicks are sold are scattered around the country. Healthy broiler chick should be free of deformities like broken breaks, multiple limbs and unhealed navel (Loue and Emmert 2000).

Arrival of chicks at the farm: Bedding materials should be spread on the floor, up to about 4 cm thick, thin layer of paper may be spread on the bedding to aid easy pick-up of feed particles while the birds identify the feeders (Asaniyan et al., 2007; Okusanya and Akinlade, 2019), feeders and drinkers should be strategically positioned. Fresh feed should be served few hours to the arrival of the birds and small quantity at a time onward, anti-stress should be added in the fresh water and served to the chick on arrival (Okusanya and Akinlade, 2019). The brooding room/pen should be heated up using electric heater, gas powered heater or coal pot etc (Shaheen et al, 2019), this should be sustained and the temperature adjusted weekly according to Deaton, Branton, Simmons, and Lott (1996) (temperature of 29.4 C the 1st wk, 26.7 C the 2nd wk, and 23.9 C the 3rd wk).

Vaccination and medication: Vaccines provide broiler with full protection from disease caused by viruses (Igwe and Eze, 2016). In broiler production, of important are Newcastle and Gumboro diseases, the birds should be vaccinated minimum once on or before the first two weeks of life and a booster dose administered before the end of starter phase (Igwe and Eze, 2016). Vaccines has also proven to be protective against damage to the following organs; spleen, caecal tonsils and reproductive tract (Jeon et al. 2008). Antibiotics should be administered therapeutically under the supervision of a Veterinarian.

Biosecurity: Biosecurity practices provides for a safe broiler management processes, it covers restriction of visitors, stray birds, vehicles and general cleanliness of the farm to avoid outbreak of diseases. In addition there



should be foot/car dip at the poultry farm entrance for optimum safety of the birds (John, Yewande and Ayodeji, 2018).

Conclusion and Recommendation

In conclusion, the impact of covid-19 on the livelihood of Nigerians cannot be over emphasized, it has reduced family's income, increased unemployment and has led to scarcity of many product especially poultry products. Taking up a broiler production enterprise poses alternative sources of income to Nigerians because it reaches table size in short period of time and market demand for poultry meat is high.

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