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**LINKING MEDIUM SCALE EGG PRODUCERS IN OLUYOLE LGA, OYO STATE NIGERIA TO A BETTER PRICE  
MARKETS THROUGH A VALUE CHAIN APPROACH**

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**A research work submitted to Van Hall Larenstein University of Applied Sciences in partial fulfilment  
of the requirements for the degree of Master of Science in Agricultural Production Chain  
Management specialization in Livestock chain management.**



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## List of Abbreviations

NBS	National Bureau of standards
LGA	Local government area
VCD	Value chain development
4PS	Price, product, promotion, place
SWOT	Strength, weakness, opportunity, threat
PESTEC	Political, economic, social, technological, environmental, cultural
PAN	Poultry association of Nigeria
NPC	Nigerian population census
UN	United Nations
ROI	Rate of return on investment
CSA	Central statistical authority

## Abstract

Agriculture is the largest employer of labour force in Nigeria employing about 70 percent of the country's workforce and contributed 21.42% to the gross domestic product (GDP) in 2018. Poultry is one important component of livestock serving as a source of dietary protein. In addition, the poultry industry is of considerable economic relevance because it is a source of income, employment, and poverty alleviation. Egg production is an important source of livelihood for households as it provides an opportunity of increase income and a very good alternative of protein supplement. However, medium scale egg farmers remain overlooked and rooted in the low-level symmetry. They lack the capacity to control and improve the market they survive on to get better prices for their eggs. Poor infrastructure and high cost of inputs separate them from the expanding market opportunities for example.

The objective of the study was to identify the challenges faced by medium scale egg farmers and strategies that can be harnessed to get a better price in the egg value chain in Oluyole local government area. This involves 22 medium scale egg farmers in ward 1,2,3,4 and 5 of Oluyole local government area through value chain analysis and to come up with a feasible strategies that will put the medium scale egg farmers in the better position to get a better price without affecting the other actors in the egg value chain, key informants like wholesalers, retailers and PAN chairman were reached through phone call interviews. Several approaches and participatory tools were used to identify the constraints and opportunities in the egg value chain; these include focus group discussions and interview of key informants while information obtained were evaluated using approaches like value chain mapping, PESTEC analysis, SWOT and business canvas model.

The general findings show that they have weak relationship in the chain, No market for egg or collection centre for eggs, poor alliance with stakeholders in the egg chain. The medium scale egg farmers in Oluyole local government also face high production cost arising from inputs. There is information asymmetry arising from lack of coordination in the chain resulting in poor communication of price, qualities and quantities which is important for farmers and all actors. Few of the factors identified to be bedevilling medium scale egg production in the local government includes lack of independent feed mills and hatcheries, government ban on importation of maize and soya beans, egg glut, poor power supply, poor road network, high bank lending rate and inflation rate corruption in public offices among others.

To get better price, medium scale egg farmers in Oluyole are advised to come together to jointly establish an egg collection, quality control and information centre that will be accessible by customers (wholesalers), they should incorporate yellow maize and vegetables in the layer's feed composition to be able to provide eggs with yellow yoke to be able to penetrate big retail outlets like Foodco, Shoprite and Tantalizer and renown hotels in the area. The farmers were equally advised to adopt social media marketing strategy to increase awareness about their respective farms and make the best use of huge customer online presence. The farmers are encouraged under one umbrella like egg farmers' cooperative to venture into self-production of maize, wheat and soya beans to mitigate the import-induced cost and be able to compete favourably with large scale egg producer with lower price. To also eliminate cost induced by high bank lending rate, the farmers are advised to form cooperative society to be able to mobilize funds at almost zero interest rate.



## Chapter one

### 1.0 BACKGROUND INFORMATION

Agriculture is the largest employer of labour force in Nigeria employing about 70 percent of the country's workforce (NBS, 2017) and contributed 21.42% to the gross domestic product (GDP) in 2018 (NBS, 2019) (Nigerian agriculture has four main components which are crop production, livestock, forestry, and fishery. The livestock sub-sector ranks second contributing about 9 percent to the GDP in 2015 after the crop production sub-sector which contributed about 88 percent (NBS, 2016). Poultry is one important component of livestock serving as a source of dietary protein. In addition, the poultry industry is of considerable economic relevance because it is a source of income, employment, and poverty alleviation (NBS, 2017).

### 1.1 The Nigeria poultry sector

The Nigerian poultry industry has expanded and developed in recent years, welcoming the participation of more stakeholders involved in different aspects of poultry and making it the most commercialized component of the livestock subsector (Obayelu & Obayelu, 2014). The types of poultry commonly raised in the country are chicken, duck, guinea fowl and turkey. However, chicken are the most common type reared by producers in the industry (Pagani *et al.*, 2008). Nigeria's poultry sector is made up of approximately 180 million birds making the industry the second largest chicken population in Africa after South Africa with a production capacity of 650 000 tonnes of eggs annually (E. Odunze *et al.*, 2019).

### 1.2 Egg production in Nigeria

Adene and Oguntade (2008) broadly categorized egg production systems into industrial integrated production system, commercial production, small-scale production system and village or backyard system. However, industry experts within Nigeria categorized the egg sector as commercial, medium-scale, small-scale and the rural poultry sector based on the scale of production.

In Oyo state of Nigeria, there is a high concentration of egg production activities with medium scale farmers. Actors operating on medium scale positions are within an industry with challenges of low productivity and are often referred to as "price takers" as they are forced to adopt prices determined by traders in the market. The challenges facing the egg industry in Oyo state are multifaceted; high rate of disease and pest infestation, inability to access loans, inadequate technical knowledge, poor quality chicks, high cost of poultry feeds, fluctuating prices, inadequate market access and information (Aromolaran *et al.*, 2013; Heise, Crisan and Theuvsen, 2015).

### 1.3 Medium scale egg production in Oluyole local government

The medium scale egg farms in Oluyole local government have 10,000 birds on average and the majority of them are located in the rural area of the local government (Yusuf *et al.*, 2017). These poultry farms still purchase their feeds from the feed-millers close and far away from the location of the farm (Yusuf *et al.*, 2017). The mode of rearing birds is battery cage system and the farms only require between 3 to 8 workers. Most of these farms suffer infrastructural challenges such as poor road network which makes accessibility difficult for both customers and the farmers when trying to move the eggs out to the city (Tunde and Adeniyi, 2012).

#### **1.4 Challenges of medium scale egg producers in Oluyole local government**

(Essien & Umoh, 2016), the egg industry in the local government is also affected by chain governance. Also, the downstream side of the value chain has few multinational companies specialized in producing Day-old chicks, feed, drugs and other inputs relevant to the poultry. These actors dictate or fix prices for inputs while the upstream end of the egg value chain is dominated by traders who cooperate to ensure that the price of eggs remains static irrespective of the fluctuating prices of inputs such as day-old chicks. Input suppliers and egg traders individually and collectively control the total quantity and/or the prevailing price of eggs in the markets thus, making producers “price takers” of eggs.

In combination with the challenges mentioned earlier, the egg glut season in Nigeria occurs between March – June when there is an excess production of table eggs in a geographical area without relative demand (Bolu & Aremu, 2007). In addition, inadequate marketing information also affects medium scale farmers in Oluyole local government and this leads to distorted marketing mechanism, thus creating an economic imbalance in demand and supply (Adenegan & Olayide, 2005). Thus, medium scale egg producers are unable to fully undertake market planning; that is identifying where eggs will be sold to receive the best possible prices.

Fluctuating market prices for poultry products do not differ with the constantly increasing prices of feed and other costs associated with production. Egg producers are burdened with marketing problems as they are unable to have access to market (Heise *et al.*, 2015).

Egg producers are left at the mercy of wholesalers and retailers who command the price of eggs irrespective of the high production and transaction costs incurred by the farmers during the transportation of eggs to open or spot markets (Mohammed *et al.*, 2013), while few traders that come to the farm gate to purchase the egg also take advantage of the farmers by paying unfair prices. The implication of these unaccounted high transaction costs makes it relatively difficult for farmers to return their products to the farms or store for long but rather sell at unprofitable prices and receive low gross margins (Yusuf *et al.*, 2007).

In addition to governance issues affecting the chain, egg production farms are located in rural areas of the LGA with poor road network. Most of these poultry farms still purchase their feeds from the feed-millers who are located close to urban and peri-urban areas, far away from the location of egg production farms. inadequate infrastructure have left Producers no choice but with weak feed industry that is available to them and also result in poor market access (Adene and Oguntade, 2008). Most of these farms suffer from poor road network which makes accessibility difficult for both customers and the farmers when trying to move the eggs out to the city (Ugwu, 2009).

Medway farm is not spared from the numerous problems associated with medium-scaled egg producers in Oluyole L.G.A. The organization has been able to improve its technical efficiencies in reducing the cost of production with the use of experienced staff specialized in poultry production and strict compliance to biosecurity rules. However, despite these internal initiatives, the organization and other medium scale egg producers in Oluyole Local government area of Oyo state are burdened with marketing challenges which further inhibits the productivity of the egg subsector and reduces economic opportunities to upscale egg production for improved gross income.

#### **1.5 Problem statement**

There are several challenges faced by medium egg producers such as Medway farms in Oluyole Local Government area as suggested by different literature sources. These challenges continue affecting

medium scale egg producers in terms of productivity and marketing. These producers hardly make a return on investment in their businesses due to the problem of price fluctuations and exploitation by traders who continue to take advantage of the producers by paying unfair prices regardless of their transaction costs. As a result, Medway farms needs to know the possible prospects for getting better egg prices by medium scale producers in the value chain for a higher rate of return on investment.

**Problem owner:** The primary problem owner is Medway farms while the secondary problem owners are the medium scale farmers in Oluyole local government area.

### **1.6 MEDWAY FARMS (THE COMMISSIONER)**

Medway farms Limited is a medium scale egg production company and was established in the year 2014 by Mr. Abimbola Adewakun. It is located at Onipe village, Idi-ayunre in Oluyole Local Government area. The farm operates as a sub-division of Agricolor Consult which deals with poultry inputs (battery cages, drugs and vaccines) importation into the country and sits on ten hectares of land. Over the years the farm has been faced with various challenges which have affected the flow of revenue. The commissioner has thus authorized the researcher to investigate the challenges affecting the flow of revenue for the farm and suggest solutions that will improve the income and profit of the farm.

### **1.7 RESEARCH OBJECTIVE**

The objective of the study is to assess the potential towards better prices for medium scale egg producers in the egg value chain in Oluyole local government in order to recommend strategies required by Medway farms towards better egg prices for a higher rate of return on investment.

### **1.8 Research Questions**

#### **Main Question:**

1. What is the potential of better prices for medium scale egg producers in the egg value chain in Oluyole local government for a higher rate of return on investment?

#### **Sub-questions:**

- i. Who are the Stakeholders and their roles in the egg value chain?
- ii. What are the vertical and horizontal linkages between actors in the egg value chain?
- iii. What is the value share distribution in the egg value chain?
- iv. What are the factors limiting medium scale egg producers to get a better price in the egg value chain for a higher rate of return on investment?
- v. What are the strategies that will enhance profit margin for medium scale egg producers to boost higher rate of return on investment?

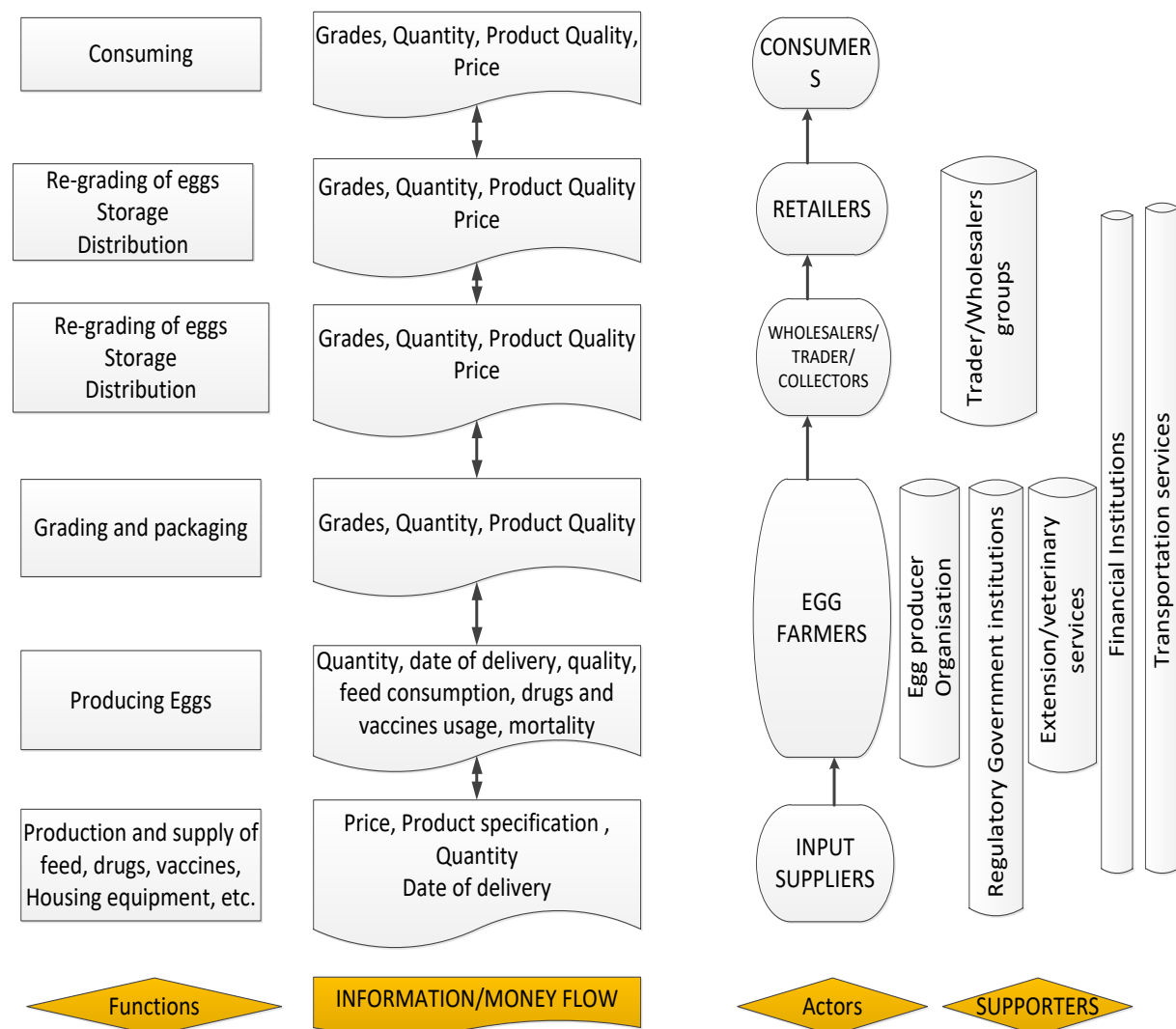
## Chapter Two

### 2.0 Literature review

This chapter provides an overview of previous study which was related to my research study, in order to find out the information which can support my research and findings. Included in this chapter are the definition of concept in the conceptual framework. Furthermore, the analysis of the value chain which is used in my research to show how the chain can be more coordinated to improve the gross margin of the Medway farms and the medium scale farmers in Oluyole LGA.

#### EGG VALUE CHAIN MODEL AND STAKEHOLDERS

The egg industry can also be represented in a value chain. The basic model of the egg value chain in Nigeria is shown in figure 5. The model provides a basic framework for egg value in Nigeria.



**Figure 1:** Value chain map and stakeholders

## 2.4 EGG PRODUCTION SYSTEM IN NIGERIA

Table 1 show the classification of the egg production system in Nigeria. Adene and Oguntad (2008) proposed the grouping for egg production system into the following sectors (1) Commercial, (2) medium scale, (3) small scale farms and (4) village or backyard. This classification is based on characteristics of the various production systems.

**Table 1: Different production system**

Sector	Commercial farms	Medium scale commercial	Small scale commercial	Village or Backyard
		Farms	Farms	
		High	Low	
	Sector 1	Sector 2	Sector 3	Sector 4
Biosecurity	High	Moderate-High	Low	Low
Market outputs	Export and urban	Urban/rural	Live urban/rural	Low
Dependence on markets for inputs	High	High	High	Low
Dependence on good roads	High	High	High	Low
Location	Near major cities	Smaller town/rural areas	Smaller town/rural areas	Mainly in the remote area
Birds kept	Indoors	Indoors	Indoors/part-time outdoors	Outside most of the day
Shed	Closed	Closed	Closes/Open	Open
Contact with other chickens	None	None	Yes	Yes
Veterinary service	Own veterinarian	Pays for veterinary service	Pays for veterinary service	Irregular. Depend on Govt. vet service
Source of medicine and vaccine	Market	Market	Market	Government and market
Source of technical information	Company and associates	Seller of inputs	Sellers of inputs	Government and extension service

Source: Adene and Oguntade (2006)

### 2.4.1 Commercial scale farms

Commercial farms have on average 50,000 birds with most of these farms located close to the urban centre while few that are not located close have all-season motorable roads to facilitate easy movement of staff and supply of eggs to the city to aid and ease their access to the urban market making up for the poor infrastructure where the commercial farm is located (Bello *et al.*, 2016).

The unique characteristic about these commercial poultry farms is that they produce their feed themselves to manage and reduce cost of production (Adene and Oguntade, 2006).

#### **2.4.2 Medium scale farms**

The medium scale farms in Oluyole local government have an average number of birds around 10,000, with majority of them located in the rural area of the local government and most of these poultry farms still purchase their feeds from the feed-millers close and far away from the location of the farm (Yusuf *et al*, 2017).

The mode of rearing bird is battery cage system and the farms only require little number of workers between 3 to 8 workers. Most of these farms suffer from poor road network which makes accessibility difficult for both customers and the farmers when trying to move the egg out to the city (Tunde and Adeniyi, 2012).

#### **2.4.3 Rural back yard farms**

Rural poultry (layers) farming is by convention a subsistence system comprising stocks of nonstandard breeds or mixed strains, types, and ages. Often, these rural farming systems are characterized by outdated barn equipment, production techniques and inadequate hygiene management. In addition, producers suffer from weak feed industry and poor market access as a result of inadequate infrastructure (Adene and Oguntade 2006).

### **2.5 PROFITABILITY OF EGG PRODUCTION IN NIGERIA**

According to Tijjani *et al.* (2012), egg production is profitable in the Northern parts of Nigeria with reference to the small scale farmers who make on average of 194,698 naira (512 USD) per egg production season if well managed. Also, Olagunju (2007) submitted that large scale egg producers in the Southwestern parts of Nigeria have the highest gross margin of 1183 Naira (3.05 USD) per hen per laying cycle due to lowest fixed cost, high net returns and minimum variable cost due to economies of scale. Medium scale farmers on the hand recorded a gross margin of 1175 Naira (3.03 USD) per laying hen per laying cycle. However, feed continues to be highest production cost incurred which is about 70-80% and also the fluctuating sales of egg which is not stable compared to the large scale also contributes to the low income (Okpeke and Ellah, 2017; Mudashiru, Daniel and Stella Laruba, 2019).

### **2.6 VALUE CHAIN COORDINATION**

Value chain coordination has two dimensions. Horizontal coordination which is characterized by agreement between producers that allows collective action to reduce costs, increase income and mitigate risks (Poulton *et al.*, 2010; Trienekens, 2011). Vertical coordination is characterized by stirring towards long-term business relations between different types of actors in the value chain (e.g. producer, traders and processor) through varied contractual arrangements (Poulton *et al.*, 2010; Trienekens, 2011).

According to Ingweye and Qadwe (2018), the vertical linkages in the egg value chain in Port Harcourt, Nigeria are dominated by spot markets while the Poultry association of Nigeria (PAN) with weak cooperative mandate is the only formal integration horizontal platform in Port Harcourt region of Nigeria. It was however reported that farmers informally cooperate with others and show willingness to become cooperative members if their interest are guaranteed.

Establishment of a standard level of alliance between egg traders and the egg producers would benefit both. Looking from the perspective of an egg trader, a system which recognize the availability and readily produced egg for sale will limit the time and effort the egg traders spend searching the whole state or country for an egg to buy. The egg producers on the other hand needs to be guaranteed a steady supply of valid information on market conditions and prices (KIT and IRR, 2008). Further possibility into chain

partnering can emerge when the egg producers and egg traders are ready to forge an alliance for a lasting relationship based on a collective vision and activities (KIT and IRR, 2008).

## **2.7 GOVERNANCE IN EGG VALUE CHAINS**

Governance refers to the structure of relationships existing between actors in a chain (internal governance) or where some actors in a chain abide by the criteria set by another actor, government or society (external governance) and the rules can be both formal and informal (Anh *et al.*, 2008).

Types of governance include market, modular, relational, captive and hierarchy. The mechanisms of governance include information exchange, price determination, standards, payment mechanisms, contracts, lead firms and market power. (Gereffi *et al.*, 2005)

Market power is defined as the level of concentration and access to key physical and intangible assets owned by a few actors (Essien & Umoh, 2016). Those with market power actively shape the distribution of profits and risks through their activities (Essien & Umoh, 2016). Most smallholder producers have limited or no influence in bargaining. This is worsened by their large numbers and lacking horizontal coordination, smaller turnovers and margins they get and bigger risks they face. In the Nigerian egg sector, traders provide credit facility to farmers, thereby lowering farmer's bargaining power by locking them into a relationship (Akinwumi *et al.*, 2010).

## **2.8 Challenges of Egg Value Chain in Nigeria**

The egg value chain in Nigeria plays host to a myriad set of challenges which further reduces the productivity of the industry. The upstream end of the chain is characterized with low quality inputs. Currently, the nation observes chronic shortages of day-old chicks which often leads to many farmers leaving poultry farming since their poultry houses will be empty for months on end whilst they are waiting for new supplies from the hatcheries. Although the available hatching capacity is satisfactory, the performances are rather poor and need improvement (CSA, 2014).

The rural backyard system is maintained for subsistence characteristics hereby having only a target customer of small shops and household around them. In contrast, commercial poultry farming is characterized by higher requirements on capital and labour, as well as on inputs and technology. Developments in breeding, husbandry, and management are required to increase the efficiency in chicken production, which will lead to lower production costs (Heise *et al.*, 2015).

The problems common to egg producers in Nigeria include low capital base, lack of equity capital, inefficient management, technical and economic inefficiencies, infection with diseases and parasites, high costs for feeds, vaccines, drugs, poor quality of day-old chicks, and inadequate extension and training facilities (Heise *et al.*, 2015). On the side of marketing, egg producers are faced with the risk of severe fluctuation of both birds and price of eggs and transportation problems further affect the marketing and distribution of poultry products in the country. These uncertainties result to egg gluts, poor pricing for eggs and reduced gross margins for farmers (Banjoko *et al.*, 2015).

## **2.9 ROLES OF FARMERS' ORGANIZATION**

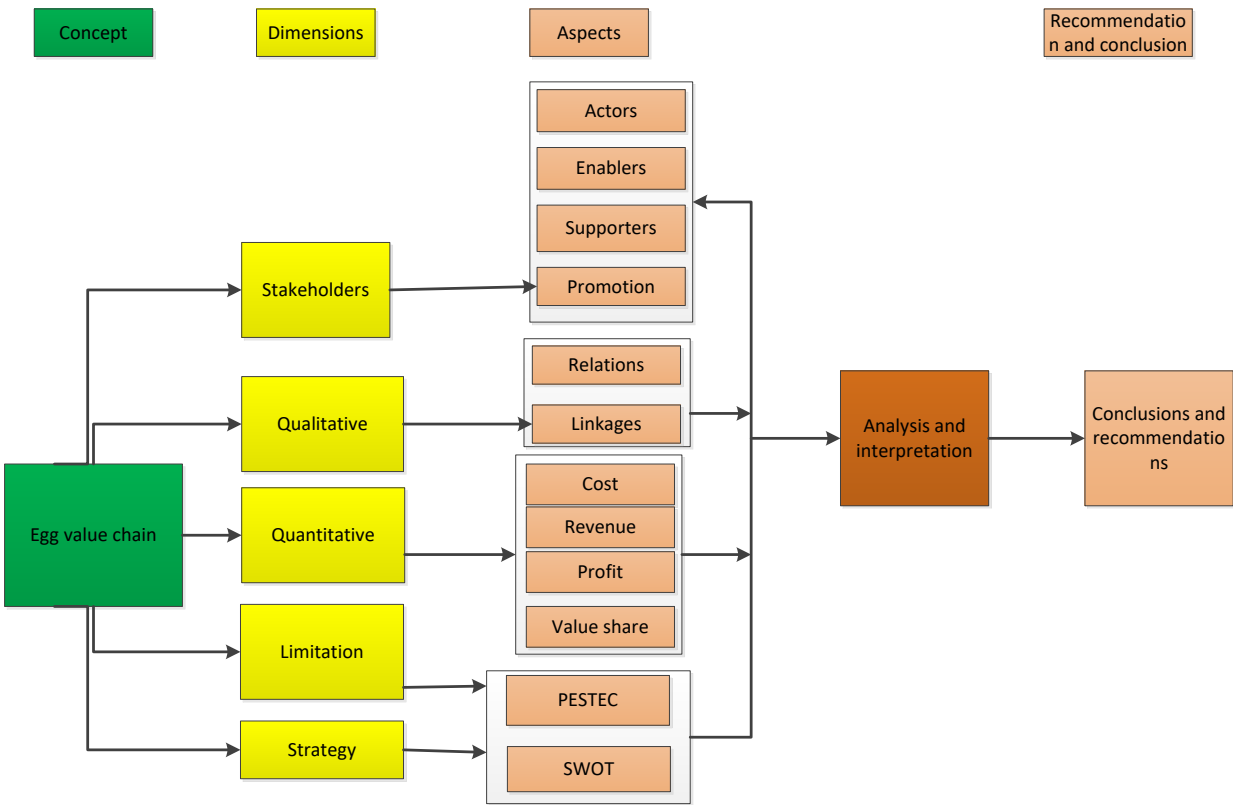
According to Stockbridge (2003), farmer organizations function in different situations and can be grouped as formal or informal, which can be classified as registered or not registered membership-based collective action groups serving its members, who solely depend on poultry farming as a source of income. The

purpose is to improve the livelihoods of its members by enabling access to information, markets, inputs, and advocacy.

Stockbridge *et al.* (2003) outlined some services provided by farmer organization. These include, marketing services (input supply, output marketing and processing, market information), facilitation of joint production activities, policy advocacy, rendering assistance on financial services (savings, loans and other forms of credit) amongst others. The poultry association of Nigeria (PAN) is the largest producer organization for poultry production Nigeria. However, it is largely dominated by large scale producers, whose interest doesn't align with the medium scale farmers in Nigeria's poultry industry listed above (Pagani *et al.*, 2008).

The conceptual framework below and definition of concept will guide the research on the information and activities of the different arms and partners in the egg value chain in Oluyole local government environment and help in analysing the price and marketing structure in the chain.

**Figure 2: Conceptual framework**



### 2.1 DEFINITIONS OF CONCEPTS IN THE CONCEPTUAL FRAMEWORK

Value Chain Development (VCD): Refers to intervention that can back up pro-poor development and creation of job and opportunities through empowerment of enterprises, business associations, refining market structures and the business environment (Trienekens, 2011). According to KIT *et al* (2006), chain development can be achieved using various chain upgrading strategies. According Trienekens (2011), who explains value chain development in egg production further as a means whereby new form of production, labour processes, techniques, logistics and organizational relations is introduced to promote and boost the socio-economic status of the actors and stakeholders involved.



**Chain Upgrading:** McDermott and Gerald (2007) defined chain upgrading as *“the shift from lower- to higher-value economic activities by using local innovative capacities to make continuous improvements in processes, products and functions”*. Upgrading or capturing more value can be defined as increasing the competitiveness of the value chain by taking it into a new direction towards a new market, market segment or customer. According to FAO (2006) that defines chain upgrading as the linkage of egg farmers to consumers’ needs by working in close relationship with suppliers and processors to produce a unique product that meets consumers demand and satisfaction.

**Value Chain:** Describes the activities or steps which are compulsory to bring a product or service from creation, through the different stages of production, (involving a combination of physical change and the input of various producer services) delivery to final consumers, and final disposal after use (Kaplinsky & Morris, 2001). Value chain can be viewed as the approach across businesses which involves a variety of activities by different actors to bring an unprocessed material to the final consumers (Nang’ole *et al.*, 2011).

Value chain in egg production puts its attention on improving the quality of egg, improve the egg production systems efficiencies or modifying existing product for achieving a strong position in the market through the collective efforts put in place by industry partners (Ugonna *et al* 2015). The chain actors that are pro-active in the marketing of eggs are very much in position of making more profit than other actors in the chain who are only concerned with the operational and management process of egg farming in the country (Islam *et al.*, 2016).

### **Chain relationship**

According to Trenekens 2011, vertical relationships may align with all the phases in the value chain or might skip the value chain connection, example is the relationship between wholesalers and retailers. Horizontal relationships occurring between actors can come in different shapes, such as egg farmers cooperatives or price agreement between wholesalers. Grunert *et al* (2005) highlights that the more diverse and active the supply of inputs to the value chain, the better organized and profitable market activities can be expected which helps in moving the chain to the next level. With more attention on communication, knowledge sharing, innovation, and value stream aspects.

**Horizontal Linkages:** This can be defined as the partnership of value chain actors within an efficient node to intensify their competitiveness (Odunze, 2019).

**Vertical linkages:** This can be defined as the partnership of actors at different functional nodes of the value chain to improve competitiveness and development (Odunze, 2019). There is attention on economic actors looking forward to jointly produce egg as a product for the market with emphasis on the vertical connections that made it possible. (Jacques 2011).

**PROMOTION:** Promotion refers to the activities that communicate the superior value and benefits of the product to target customers. Also, these activities aim to influence target customers to purchase the product.

**Value share:** This can be defined as the percentage of the final retail price that each actor earns on the transfer of product till it reach final consumer (KIT and IRR, 2006).

**Profit:** This can be defined as the gross profit per unit of produce and this could easily be achieved if there is a margin between the cost of production and income generated (KIT and IRR, 2006).

**Chain actors:** The chain actors can be defined as those involved in the activity of producing, processing, trading, distributing and consuming a particular product.

**STAKEHOLDER ANALYSIS:** Stakeholder analysis identifies actors in the value chain in terms of their roles, and constraints.

**SWOT:** SWOT a strategic tool for analysing the strength, weakness, opportunities and threats of business, firm or industry. Strength and weakness are attached with the internal organization factor, while opportunities and threats look at the larger situation or the location which the organization operates. The SWOT as an instrument serves as a tool used by businesses to improve their marketing efficiency (Oreski, 2012).

According to Al-Khamaiseh (2014) suggests that egg farms as corporative should capitalize and work on the strength and opportunities and try as much as possible to avoid or manage weaknesses and threats. Opportunities can be discovered at different stages. The customers want good quality eggs at reasonable price. However, the market price is determined and negotiated based on the market price of quality, inputs, and services in local and international markets.

**PESTEC:** It describes a basis of macro-environmental features used in the environmental scanning component of strategic management. It is part of a planned analysis or undertaking market research and provides an outline of the different macro-environmental elements to be taken into advisement. It is a strategic tool for understanding market growth or decline, business position, potential and direction for operations. It includes Political, Economic, Social, Technological, Environment and Competitive components.

### Business model:

The Canvass business model (figure 6) is a strategic management framework for developing new or documenting existing business models. It is a visual chart with elements describing a firm's or product's value proposition, infrastructure, customers, and finances. It assists firms in aligning their activities by illustrating potential trade-offs (Reuver *et al.*, 2013).

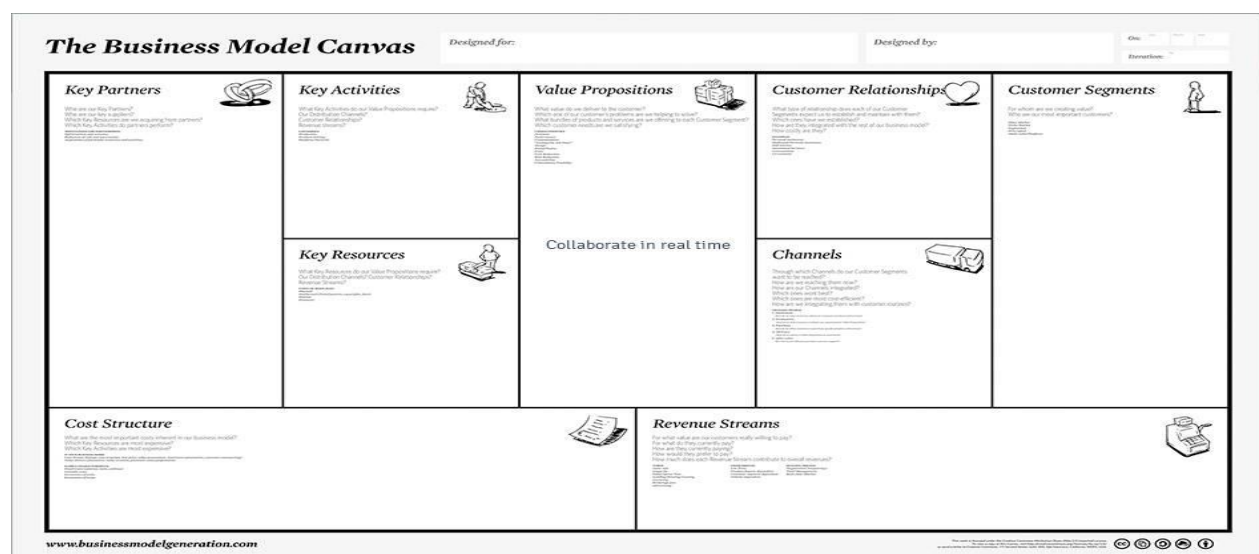


Figure 3: Business canvas model

Source: Osterwalder and Pigneur (2013).

According to CIAT (2014) the general purpose of the business model is to; determine and highlight how a key business in the value chain operates, design and provide a structure for growing and expansion of new innovations in the business model. It further elucidates on the role of a canvas model by reflecting bottlenecks and unlevelled events in the business environment, analyse how efficient relationship medium scale egg farmers and other actors are performing. The medium scale egg farmers with their position in the general egg value chain will find its planning much accurate with the business canvas model.

**Cost Structure:** This describes the financial consequences while working under a business structure. It recognizes whether a firm is concerned in lowering cost i.e. cost driven or is less concerned with cost and directing on value addition for its products such as eggs.

**Revenue Streams:** This describes the revenue generated from the various customer segment of the organization.

**Key activities:** It describes the core activities of the firm which lead to the value proposition of the business.

**Value proposition:** Describes the products or services which the business offers to meet the customer demand. The value proposition differentiates the business from other competitors in the industry.

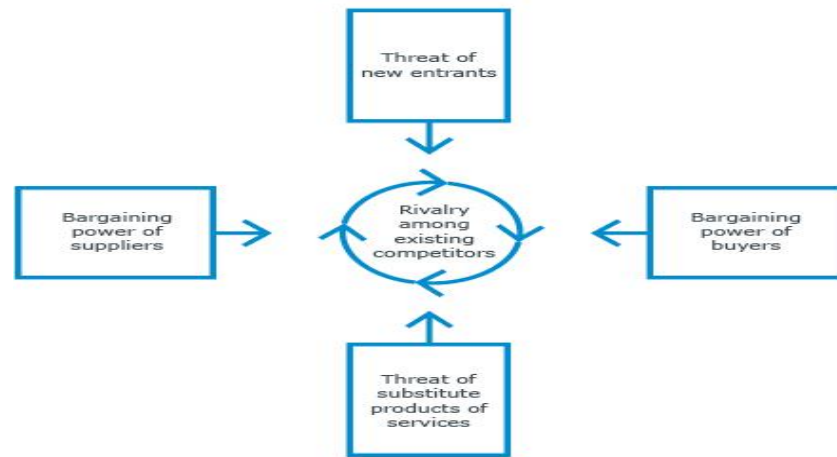
**Key partners:** Describes other institutions that play significant roles and make the business work. Strategic partners with suppliers which can be cultivated through joint ventures, strategic business alliances with also service providers to the business.

**Customer relationship:** Describes how the business unit delivers its value proposition to its customers.

**Channels:** Describes the means or delivery structure the business employs in taking the product or service to the customers.

**Customer segments:** Describes the various class or categories of the business' customers.

**Competitor analysis:** Porter's Five Forces (figure3) is a strategic tool used in marketing for identifying the strengths and weaknesses of an industry or group. It is for scanning the competitive terrain, shoring up their defences against likely competitive incursions, and planning competitive attack and response strategies(Bergen & Peteraf, 2002). This analysis provides both an offensive and defensive strategic context to identify opportunities and threats. Profiling combines all of the relevant sources of competitor analysis into one framework in the support of efficient and effective strategy formulation, implementation, monitoring and adjustment (Fleisher & Bensoussan, 2007). According to Cravens and Piercy 2003 states that the goal of competitors in egg farming is to meet customers need in a special way different from what other egg producers are doing and exact a control over the market and competitor.

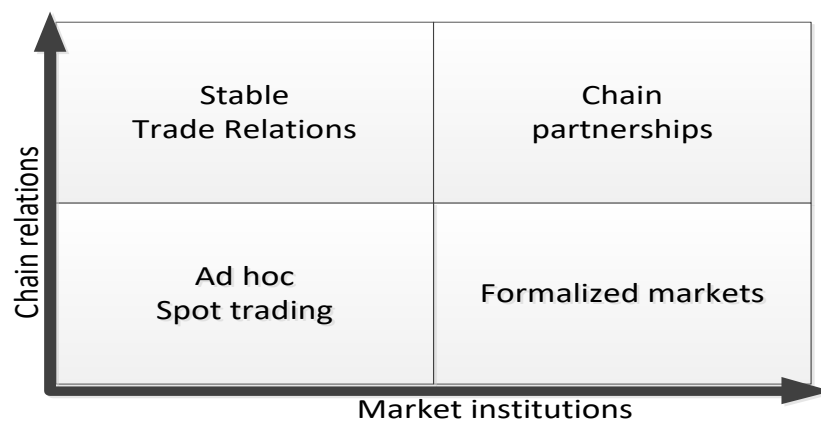


**Figure 4:**Competitor analysis

## 2.2 CHAIN DEVELOPMENT

The development of the value border on two components; chain relations and Market institutions governing the value chain.

According to KIT et (2006) states that factual improvements in transaction needs both strategies of horizontal and vertical relationship among actors. Furthermore, schemes to improve the transaction between farmers and their traders will have to put in some effort in the introduction of strong market institutions. Likewise, business practices and relations in the value chain would have to be put into consideration when embarking on the project to improve market institutions. In achieving a sustainable development in trading, it is necessary to pay attention to improving chain relations and strong market institutions.



**Figure 5:** Market interactions matrix

According to KIT *et al.* (2006), chain relations are stronger when actors trust, and are open to frequent communication and cooperation for mutual growth. Moreover, strong chain relations will enable actors reduce the costs and risks that they are confronted with in their business. It encourages merging forces in facing issues of common interest like market expansion, provision of service and improving the quality of the product. Market institutions are stronger when actors in value chain agree on quality standards, weights and measures, develop contract enforcement mechanisms, effective market information system and other business support services which affect the business of the chain.

Sami (2014) suggested that eggs production of layers farms is marketed directly to retailers. The eggs are sold by retailers to the local consumers showing the market interaction. Generally, it is usual for consumers to buy eggs from farms directly. Consequently, the marketing margin of the farmers ranged 60.0% and 40.0% for retailers. The hatched eggs are collected by hand in trays, and then packed in boxes for sale and are distributed to retailers in small trucks. Classification of eggs is done based on their weight which also signifies their value: grade A (>65 g), grade B (58-64g), grade C (51-57g) and grade D (< 51g); eggs with higher weight have higher market price.

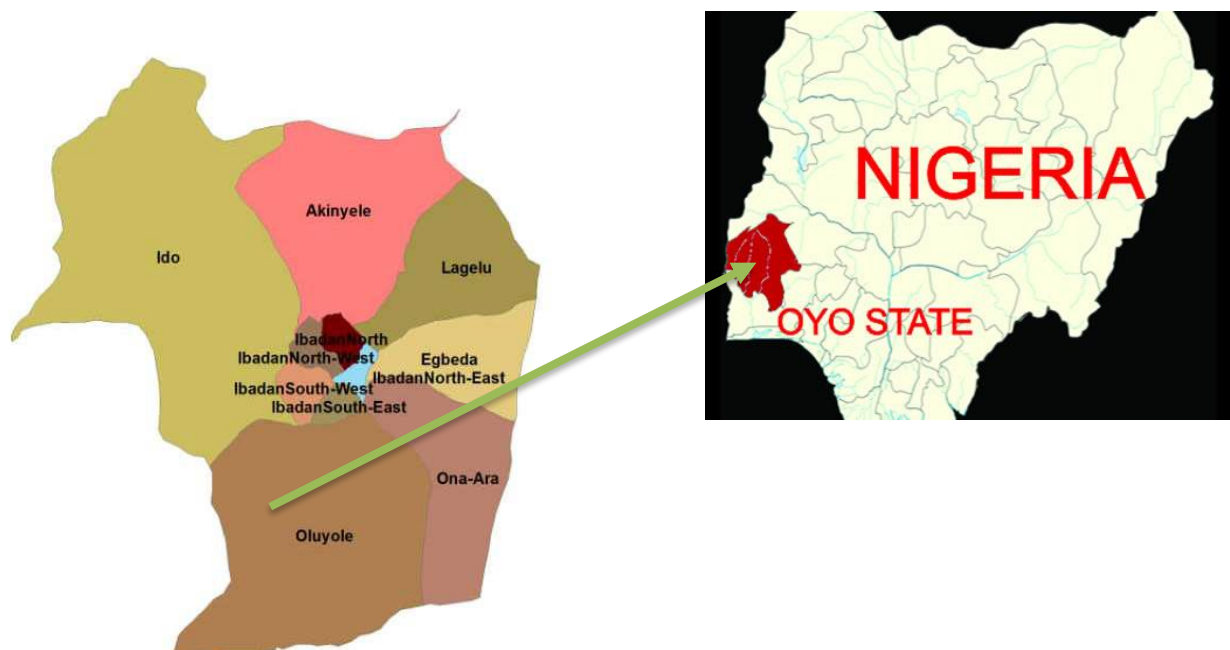
## CHAPTER THREE

### 3.0 RESEARCH METHODOLOGY

#### 3.1 DESCRIPTION OF THE STUDY AREA

Ibadan is the most populous city of Oyo State, Nigeria. The city contains 11 of the 33 local government areas in Oyo state. The local governments include; Egbeda, Ibadan North, Akinyele, Ibadan North West, Ibadan North East, Ibadan South West, Ibadan South East, Ido, Lagelu, Oluyole and Ona-Ara. The study will be limited to Oluyole local government. The reason for choosing Oluyole is because of the location of my organization that also shares the same problem with other egg producers.

Oluyole Local Government was established in 1976 and it is one of the oldest Local Government council in Oyo State. The Local Government has its headquarters at Idi-Ayunre Old Lagos/Ibadan road with 10 wards in total. It shares boundaries with four Local Government Area with Ibadan South-West, Ibadan South-East, Ona-Ara and Ido all within Ibadan Metropolis. It also shares borders with Ogun State through Egbeda-Obafemi, Odeda and Ijebu-North Local Government Areas. It has a total area of 4,000 square kilometres with a population of 202,725 as per the 2006 population Census (Oyo state government 2020)



**Figure 6: Study map**

Source (Oyo state government, 2020).

#### 3.2 THE SITUATION OF OLUYOLE LGA DURING THE COVID-19 PANDEMIC

The corona virus pandemic has brought a lot of businesses and production companies to a stand-still, because of the lock-down protocol passed down by the Federal government of Nigeria on 12<sup>th</sup> of March.

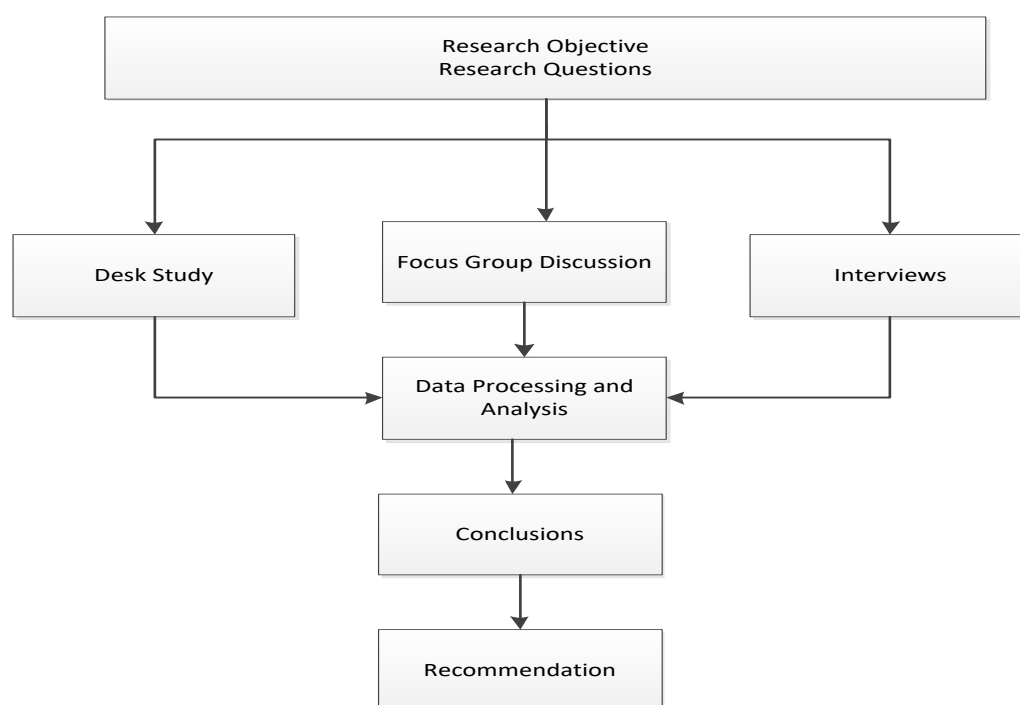
The measures taken to curb the spread include keeping 1.5 meters in public, use of hand sanitizers and washing of hands regularly, ban on importation and travels. The effect of this measure permits me to take a decision of using a research assistant that organized the focus group discussion and collect the information needed.

The measure also affects the total number of medium scale egg farmers for the research which was limited to 10 per focus group. These is done to maintain the regulated number of people that can be in a gathering. The telephone call interview with key respondent was carried out as I was not physically available to conduct a face to face interview.

### ROLES OF THE RESEARCH ASSISTANT

The role of the research assistant was to organize farmers, facilitate the session and ask the questions drafted out for the research, recording all the necessary information by using audio recorder and writing. The research assistant stood in gap to ensure that the guild line for safety precaution on the spread of corona virus was observed.

The research assistant is a Master student of Federal university of Agriculture Abeokuta, the reason for choosing the assistant is the experience he has in poultry farming been an Animal science student. The research assistant was trained on the research process, how to organize the focus group discussion, how to probe for further information, what information is necessary and how to ensure that the regulation is observed during the group discussion. The discussion was monitored and followed using WhatsApp call to direct and monitor the focus group discussion.



**Figure 7: Research framework**

### 3.5 Data collection

Data collection for the research was carried out through desk study, focus group discussion and phone interview with stakeholders in the medium scale egg value chain in Oluyole local government area.

### **3.5.1 Desk study**

Before starting fieldwork, desk research was done to get literature and secondary data on the medium scale egg value chain in Oluyole local government area. This was obtained from journal and reports of the poultry and egg production in Oyo state, latest research work relating to the topic on the internet using (research gate, academia.com, Greeni) and the state website.

### **3.5.2 Semi-structured interview**

Several phone call interviews were made to the key informant which includes the different actors in the medium scale egg value chain in Oluyole local government area. The checklist was used to direct the session of interviews. The interviews were combined with analysis reports of egg production and government policies on egg production to obtain detailed information on the whole egg value chain in Oluyole local government area. Specifics of the activities of various interviews are explained below;

#### **Interview with foodco and other retail chain outlets**

Egg retailers at Oluyole local government area were interviewed to acquire information about their activities. Questions from the checklist focus on who they get their egg from, their value share, the association they belong to, cost and selling price, numbers of crate purchased monthly, quality issues, problems of marketing they face and process of procurement from medium scale egg farmers, opportunities for medium scale egg producers and mode of transactions.

#### **Interview with the wholesalers**

Wholesalers and egg collectors at Oluyole local government area that deals directly with medium scale egg farmers were interviewed. Questions from the checklist focus on where they acquire their egg from (farms), their value share, the association they belong to, cost and selling price, the value share, problems they face in obtaining eggs and possible linkage and contract with medium scale egg producers in the local government area.

#### **Interview with chairman of poultry association in Oluyole local government area**

The poultry association chairman was interviewed in other to get information as regards the current status of medium scale egg producers. Using the checklist question which focus on the function and services of medium scale egg farmers in the chain, how information gets to members, challenges faced by the medium scale egg producers in accessing profit which helps increase rate of return on investment.

### **3.5.3 Focus group Discussion**

Four focus group discussions were conducted at Community primary school Onigambari ( for egg producers in ward 1 and 2), Idi-ayunre local government (for egg producers in 3 and 4), Ceremonial hall at Latunde ( for egg producers in ward 5 ) and at Odo ona kekere primary school ( for all stakeholders in the egg value chain in Oluyole local government area from all wards) using checklist to guide the discussion of the meeting see Annex 1. The attendance from community primary school, idi-ayunre and ceremonial hall was 8,9,5 producers respectively and odo ona kekere was 8 altogether involving all actors and stakeholders.

Using ideas from the market linkage tool which uses a value chain method, the organized focus group discussion was able to fit in. The focus group discussions were used because it encourages and gives room for participatory by analysing the value chain with representative such as poultry association chairman



validating and complimenting the information gathered from the discussion. They also shed more light in identifying linkages that is possible between the actors and stakeholders in the egg value chain.

Listed below are the participatory tools used with the aid of checklist see annex 1, as this is thought to give all farmers and actors present equal opportunity to contribute and take a lead in different sessions organized;

- Stakeholders matrix was used to identify the actors and stakeholders, the roles they play in the chain and the risk faced.
- The value chain map for mapping the medium scale egg value chain in Oluyole local government to highlight the product flow, information flow and overlays of the chain.
- Business model canvas was used to have a clearer picture of the egg farming business, looking to identify the weak links and proposing opportunities and possible linkages.
- Porters five analysis tool was used to analyse the competition, threat of new entrant, bargaining power of buyers, bargaining power of suppliers, threat of new substitutes.

One farm visit was carried out by the research assistant to see the situation of things and production and validate data and information collected. Data collected was used in carrying out a SWOT and PESTEC analysis for the egg value chain. In the four-focus group all tools were used. Farmers were made aware of the focus group meetings and gatherings through the help of the poultry association chairman of Oluyole local government and the research assistant who is well known in the environment.

**Table 2: Focus group location**

LOCATIONS FOCUS GROUP DISCUSSION	FARMERS PRESENT FOR THE DISCUSION	Wards
Community primary school Onigambari	8	1 and 2
Idi-ayunre local government	9	3 and 4
Ceremonial hall at Latunde	5	5
Odo ona kekere primary school	Egg farmer and stakeholders are 8 in number	Representation from all the 5 wards.

### **3.7 Data processing and Analysis**

Data collected from the focus discussions, interviews and observations was processed into transcripts. Qualitative data was carried out using thematic analysis because data collected was in descriptive, narrative and placing and drawing form such as the value chain map, business canvas model and Venn diagram. Important subjects of the discussion vital to the objectives were utilized for content analysis.

### **3.8 Limitations of the study**

The limitations faced during the study includes the language barrier as some of the farmers prefer to use Yoruba while other prefer English. The research assistant had to change the questions to Yoruba for better understanding although at times there was distortion of the meaning of some local words in English. And, it was very difficult to arrange the farmers in a 1.5-meter distance during the focus group discussion as most of them felt they are hail and healthy and do not believe in corona virus. Timing for the focus group discussion was not followed as well as most of the farmers couldn't keep to time and discussions dragging due to absence of some key member

## CHAPTER FOUR

### 4.0 RESULTS AND FINDINGS

This chapter presents findings from the focus group study and interview with key informants. Both the focus group study and personal interview were conducted following checklist of questions carefully selected in line with the study's research objectives.

#### 4.1 Summary Statistics of Participants

22 out of proposed 25 medium scale egg farmers were in attendant, with the attendants in Community Primary School Onigambari, Idi-Ayunre Secretariat and Ceremonial hall at Latunde being 8, 9 and 5 respectively. The 22 farmers have capacity of about 110,000 birds with number of birds per farmer ranging between 3,000 and 9000. 11 Keys informants were equally interviewed consisting of 6 wholesalers/collectors, 1 collector, 3 retailers and the Chairman of the Poultry Farmers Association of Nigeria (Oluoyole LG Chapter). The wholesalers and collectors were found to be performing somewhat similar roles in the value chain; hence, the term wholesaler will be used when describing their roles and function. Furthermore, out of the 22 farmers in attendant, there were 13 females and 9 males, however, findings from both genders were found to be the same, hence, they are grouped as one.



**Figure 8: Focus Group Discussion with Egg Poultry Farmers at Idi-Ayunre LG Secretariat**

#### 4.2 Stakeholders and supporters in the Egg Value Chain

From the focus group discussion with farmers and interviews with key informants, the main stakeholders identified in the egg value chain include the farmers, the input suppliers, wholesalers, retailers, the consumers, Ministry of agriculture, and financial institutions.

## **Input Suppliers**

With respect to the input suppliers in the egg value chain, there was unison in the response of participants in all the three-focus group discussion with farmers. Obasanjo Farms and Ajanla Farms were identified as the major source of DOC producers within the study area. More than half of the participants in each group indicated Topfeeds (premier feed mills) to be their main source of feeds and drugs. KunleAra Animal Care was identified by the participants as their most reliable source of drug and other medical consultation services as touching the healthcare of the birds and their management. The inputs majorly emphasized in all group discussions include feeds, drugs, day-old-chicks, Point of Lays, feed concentrates. These inputs were also affirmed in the interview with the key informants. Four out of the six wholesalers mentioned Obasanjo Farms and Ajanla Farms as the main hatcheries in the area when asked about the main stakeholders in the value chain and their roles, they also buttressed that both farms also operate as large-scale egg producers.

## **Farmers/Producers (Egg Production)**

They are set of people who owns their farm and directly in charge of production of eggs and other related activities. As iterated by all the farmers in the three focus groups, ten (10) of them clearly state that they buy DOC while twelve (12) farmers claims buy their point of lay from breeders such as Obasanjo Farms, Ajanla Farms and high flow. The farmers who buys DOC reported that they are reared for 18 to 20 weeks before they start laying, while the Point of lay chickens in their 14- or 16-week age for almost instant egg production. In each of the groups, the most commonly emphasized activities as daily routine operations include management of the day to day operation of the farm, supervision of the workers on farm, regular monitoring of cleanliness of the farms and the birds to ensure they are well fed and well vaccinated. Others activities reported by the farmers include regular check-ups on records kept by the farm manager to continually evaluate the financial performance of the farm, regular assessment of the behaviour of the birds, frequent evaluation of the quality of the eggs produced as well as follow up on customers whenever it is deemed necessary.

## **Wholesalers (wholesaling)**

As stated by participants of the focus groups discussion, they are chain actors who buy from them to resell to retailers or final consumer. Some are interstate travellers (traveling traders) who transport to various states in the country. The focus group members claimed some of their wholesalers have private collection centres from which retailers buy the eggs to sell to end consumers. One of the attendants of the group discussion held at Community Primary School Onigambari stated that although there's no government owned collection centre for wholesalers within the area, however, there is a form of public-private partnership arrangement with one of the farm's wholesaler, the private company is licensed by the government to supply students in boarding house in government-owned schools.

## **Retailers**

The retailers are equally important actors in the egg value chain as discovered in the focus group discussion and interview with the key informants. More than 17 of the participants in each focus group claimed they barely deal with the retailers directly stating that most are supplied eggs by the wholesalers who visit the farms. This was confirmed by all the retailers interviewed. For instance, one

of the big retail outlets visited, when asked if they get eggs directly from farm or through wholesalers, he indicated that they are usually supplied eggs by different wholesalers as they don't have a fixed agreement with anyone.

Actors operating the retailing function of the egg value chain are individuals who buy eggs in small quantities. According to the focus group members, egg producers rarely transact with retailers because they buy in smaller quantities compared to wholesalers. According to the respondents, an average retailer buys an average 10 crates of eggs per week. However, there are retailers within the study area who buy eggs in large quantities.

Retailers in the chain are small-scaled according to the key-informants. They are usually shop owners, who sell eggs alone, or own small food vending spot or kiosk selling eggs combined with other household items. These retail outlets sell the eggs in crates, or repackaged quantity such as in fours, sixes etc and in single units as preferred by the consumers. Popular examples of a large-scale retailers reported by the focus group members include Foodco supermarket amongst others.

According to key-informants, eggs are supplied to the retailers by wholesalers at their sales points. Some informants reported that they source for eggs from the wholesalers themselves and in this case, they bear the transaction costs.



**Figure 9: Retail Outlets at Oluyole Area, Ibadan, Oyo State**

### **Consumption**

These are final consumer who purchased eggs directly from retail outlets, wholesales outlet and farms (in rare occasion) for final consumption. They are of diverse income category. Some are low income earners who buy in unit from small shop owners in the community for immediate consumption either as fresh eggs or boiled. There are middle- and high-income earners who buy directly from big retail outlets like Foodco. There are also institutional consumers like Thikadol Hotel, Jaybritt Luxury and Fast foods such as Tantalizers and Mr Biggs.

### **Financial Institution**

As emphasized by all the farmers in the three focus groups, financial institutions such as Money Deposit Banks and microfinance banks play crucial role in the egg value chain. While they further stated that commercial banks have been very instrumental in the payment process serving as medium through which customers who cannot afford to bring cash to farms make payment either via bank tellers or mobile transfer. Some respondents stated that for security and safety reasons they don't accept cash on farms except if customers are buying very small quantity also accept payment through bank transfer and not cash. Some of the farmers also buttressed that they have been able to enhance or boost their production capacity through loan facilities provided by Microfinance banks such as Napo, Groomy, Grace and Mercy amongst others. But there are about 5 farmers who are beneficiaries of the Nigeria Bank Agriculture (BOA).

### **Animal health service providers**

When the farmers in the three focus groups were asked about the availability of veterinary service providers in the local government, they were quick to reply that no standard or government veterinary service provider exists within the local government even in the state at large. However, there are certain private-owned veterinary services providers mentioned in each of the group's discussion. The most mentioned in each of the groups are Kunle ARA Animal Care, Animal Care Consult and Rehoboth Agro-allied Company. The services the farmers enjoyed ranged from routine assessment of the farms as requested by the farmers, provision of regular consultation services as regards the general hygiene of the farm and recommendation of vaccines for chickens from time to time.

### **Producer groups**

Some of the farmers emphasized that they belong to some associations. The commonly mention are All Farmers Association of Nigeria (AFAN) and Poultry Farmers Association of Nigeria (PAN). They buttressed that PAN is sub unit of AFAN. AFAN combines all farmers including those into other types of farming like crops, piggery, fish farming etc. Both PAN and AFAN are important parts of the Egg Value Chain as iterated by the farmers in that, they provide valuable information about loan opportunities from time to time, they provide valuable inputs like Maize in drought season and assist farmers with Day-old Chicks occasionally.

### **Ministry of agriculture**

Although it was unanimously established that the government has not been giving any support towards the egg poultry business whatsoever in the Local Government and Oyo State at large, their policy however directly or indirectly affects the egg poultry business, hence they are an important stakeholder. One of the policies that significantly affect the conduct of egg poultry business as mentioned by the farmers is the closing of border which has affected the importation of valuable inputs like maize and Soya Beans, consequently driving the cost of the scarcely available ones.

Table 3: **Stakeholders' Matrix of egg value chain actors**

Stakeholder	Role in the Value Chain	Risks listed from focus group/key informants
Hatcheries	<ul style="list-style-type: none"> <li>Hatch fertile eggs into Day old chicks.</li> </ul>	Death of birds at incubation stage due to power outage, low humidity, bacteria or viral infection and poor maintained incubator. Diseases outbreak which can lead to loss of stock.
Feed producers	<ul style="list-style-type: none"> <li>Formulate feeds using different ingredient such as whole maize, soya, fish meal, lime, sunflower, maize bran etc and sell to poultry farmers</li> </ul>	Rodents attack on feed produced which can introduce dangerous bacteria and virus into feeds.
Drug Suppliers	<ul style="list-style-type: none"> <li>Supplies drugs and other medications necessary for layers healthiness and productivity</li> </ul>	Quality of drug/vaccines may be degraded when storage is affected with poor electricity.
Grain Producers for feed production	<ul style="list-style-type: none"> <li>Plants maize, soya bean and other materials for making feeds and stores for sale.</li> </ul>	Grains like maize and other raw materials can be affected with moulds and insects which can render the stock useless.
Egg Poultry Farmers/Producers	<ul style="list-style-type: none"> <li>Purchase day-old chick, rear for certain weeks till they start laying or purchase POL collect, grade and distribute egg to suppliers</li> </ul>	Farmers might lose the stocked birds due to diseases and infections. Theft and preys.
Wholesalers	<ul style="list-style-type: none"> <li>Collect eggs at farm gate and redistribute to retailers or sometimes consumers depending on size of the business</li> </ul>	Breakage and spoilage of eggs when not totally sold.
Retailers	<ul style="list-style-type: none"> <li>Collect eggs from wholesalers Repackage eggs.</li> <li>Redistribute eggs to final consumers in units or smaller quantity.</li> </ul>	Breakage and spoilage of eggs when not totally sold.
Consumers	<ul style="list-style-type: none"> <li>Purchase eggs in preferred quantity as fresh eggs or as boiled or processed egg from vendors</li> </ul>	

The result from the study identified the supporters in the egg value chain play various roles to support the egg value chain. Table 4 shows the supporters involve at the national and local level.

**Table 4: Chain supporters in the egg value chain**

Supporters	Roles	Constraints listed in the focus group/key informant interview
PAN/AFAN	<ul style="list-style-type: none"> <li>• Provide information from time to time on loan opportunities for farmers.</li> <li>• Organize egg trade fairs and exhibition to boost sales and unite farmers</li> <li>• Protect interest of members against government policies and other competitors.</li> </ul>	<ul style="list-style-type: none"> <li>• Focus is on large scale farmers and dominated by them.</li> <li>• Politically oriented and not societal.</li> </ul>
Animal service Providers	<ul style="list-style-type: none"> <li>• Provide consultation services to egg poultry farmers on vaccines and drugs</li> <li>• Perform periodic surveillance of farms to control disease and epidemics</li> </ul>	<ul style="list-style-type: none"> <li>• Long distance of farms and bad roads put them at risk of accidents and poor discharge of duty.</li> </ul>
Ministry of agriculture	<ul style="list-style-type: none"> <li>• Formulate policies that directly or indirectly affect egg poultry business.</li> </ul>	<ul style="list-style-type: none"> <li>• Little attention is placed on egg farming.</li> <li>• Unfavourable policies.</li> </ul>
Egbe Eleyin	<ul style="list-style-type: none"> <li>• Provide micro credit to its members.</li> </ul>	<ul style="list-style-type: none"> <li>• Functions only as social gathering event.</li> <li>• Dominated and controlled by individual with personal interest.</li> </ul>

### **4.3 Vertical and Horizontal Linkages among Actors in the Egg Value Chain**

#### **Vertical linkages between actors**

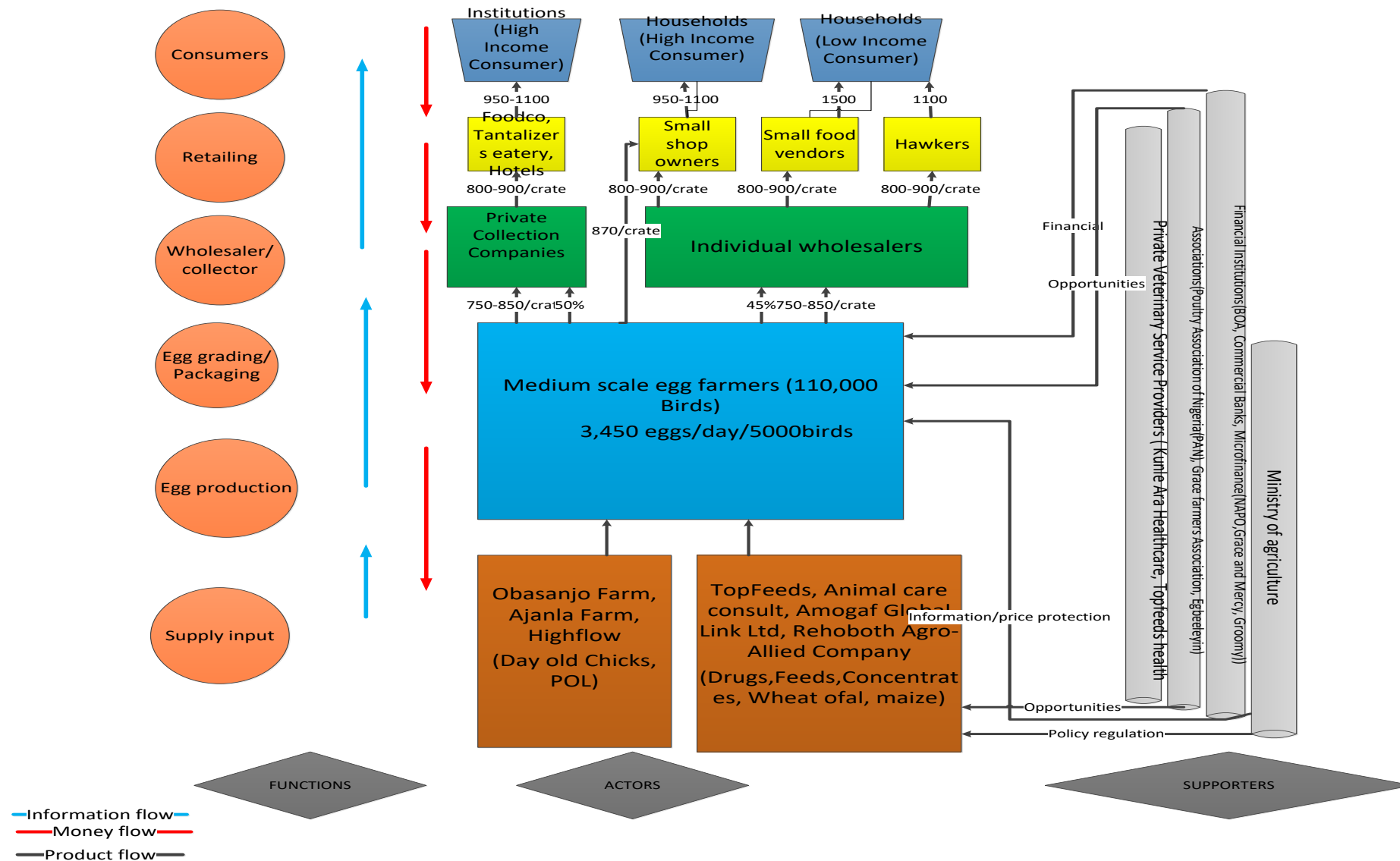
There was agreement in the response of farmers in each of the focus groups. It was unanimously indicated by the farmers that there is strong relationship between them (the farmers), emphasizing that there are formal and informal associations consisting of all poultry and non-poultry farmers in

the local government area and the state at large. They stated further that there have been attempts in the past to establish a formal association consisting of all actors; however, every of those attempts have failed due to selfish interest of individual actors. This was affirmed in the meeting consisting of all stakeholders, all wholesalers and retailers on seat in the meeting vehemently indicated that an association combining all actors cannot work stating that most farmers always want to increase their number of customers and maximize their profits; hence, they often deviate from whatever is agreed at the association level, this has weakened the vertical integration among the actors. They equally emphasized that having such arrangement limits their bargaining power.

#### **Horizontal linkages between actors**

In the meeting held at Idi-Ayunre local government area, one of the farmers stated that every actor especially the farmers and the egg suppliers have unique associations with sole objective of protecting their member's interest. For instance, the farmer stated that the egg traders have an association that prevents them from being cheated by the farmers. Likewise, all the farmers in all the three focus groups acknowledged that they belong to the Poultry Farmers Association of Nigeria and All Farmers Association of Nigeria. They buttressed that the associations protect their interest and keep them abreast of relevant information and opportunities. The relationship within each actor in the value chain is further depicted in Figure 10.





**Figure 10: Egg Value Chain in Oluyole local government area**

#### **4.4 Factors Limiting Medium Scale Egg Producers in Oluyole LGA from getting Optimum Price for their Eggs**

##### **Corruption in Public offices**

The members of the focus group revealed that extra transaction costs are incurred as result of the bribery and payment of unofficial levies to state agencies mandated to protect lives and property. The participants reported that they are forced to bribe agencies such as the local police, FRSC (Federal road safety commission), road transport workers (NURTW) before they allowed to check points on federal and states road. These extra costs further increase the cost of production as well as the selling prices.

##### **Lack of Independent feed mills and hatcheries**

The farmers in the three-focus group reiterated that in making their feeds they spend more than 70% of their resources on feed costs, lamenting that after they have gone through stress in purchase of expensive raw materials, they still end up spending a lot on the feed-mil or purchase of readymade feeds from the large-scale egg producers. This statement was collaborated by the wholesalers who knows what the farmers went through in making feeds for the birds. The hatcheries was also mentioned by the farmers in focus group has been a challenge for them stating they all go to the large egg producers like Ajanla farms, Obasanjo farms to supply them with DOC hereby dictating the price of DOC and POL making it difficult for them as medium scale egg farmers to compete with them in the market as regards price of egg making them their biggest competitor.

##### **Government ban on importation of maize and soya**

From the focus group discussion all the farmers present agree on common grounds that the ban on importation of maize and other raw materials really affected the price of egg and cost of production. This was backed up by the key informant stating that the government policy on food product also affected raw materials for producing feed stating the information passed down from the government saying “we eat what will produce” is not really going well with them. They reported that maize and these raw materials like soya bean, wheat offal are been imported from Chad republic but since the ban on importation it has been difficult to bring them in and the ones smuggled into the country are quite expensive. The ones produced locally is in competition with human consumption as a lot of people find maize as a staple food.

##### **Egg glut**

During the focus group meeting all the farmers present agreed to the problem of price fall experienced during egg glut seasons. They highlighted that the egg glut occurs when the season of yam is off and primary and secondary school students are on holidays, as they claim when children are going to school parents and guardians find it easier and cheap to pack boiled egg with food as lunch for their wards, also the yam as another food enjoyed by the majority with egg is off season it brings down the demand for eggs. This was backed up by the interview with key informant buttressing what the farmers have said and relating to the fact that they are also affected during this period of glut.

### **Poor power supply**

Nineteen (19) of the members in the focus group discussions stated that they spend around 20,000 to 25,000 Naira every week on fuelling their generators to power up the farm and generate water to the birds because there is no government electricity connection linking to their farms which was stated to be cheaper compared to using the generator. This cost was explained to be taking up a large portion on their profit, the three other members in the focus group who stated that they still have electricity connection to their farms still express their concern that the electricity is not stable so they still end up fuelling their generators to provide for the farm.

### **High bank lending rate**

The participants widely emphasized in all focus group discussions that there has not been much support from both government and non-government organizations in terms of policies and loans which has both direct and indirect impact on egg farming business in the local government area. They however, stated that the Bank of Agric (BOA) has relatively been supportive but unanimously stressed that the stringent conditions and politics attached to the loan facilities has been more deterrent than incentive. They iterated that the BOA loan rate is around 10% which is still far better than other financial institutions.

### **High inflation rate (High dependence on imported inputs)**

During the focus group discussion and interview with key informant there was a uniform agreement that the price of dollars which is high have affected the cost of inputs for egg farming which includes feeds, drugs and vaccines. They all claim that the price they get an input this month is always different from the subsequent month as the input suppliers would have increased the price of input putting blame on the rise of dollar. This has really affected the cost of production of eggs and put the farmers and other actors in the chain at a tight spot of making tangible profit from their investment.

### **Land tenancy/land dispute**

Land dispute and tenancy issues were identified by 13 farmers present in the focus group meeting to have a significant impact on their profit. The farmers claim most of the land they farm on are rented from individuals who charge exorbitantly for its usage and it limits their capacity for expanding as the owner can cancel the agreement between them and says he wants to use his or her land. This situation often happens when the owner of the land discovers that the egg farmer is progressing in the business leading the owner to want to take control and start the business. The rest of the farmers present state that they share their space they operate with other farmers and allocation of space is dependent on the amount owned in the purchase of the land which limits their growth and profit as they cannot afford to own their own piece of land.

### **Housing system**

During the focus group discussion farmers were asked how many birds are put in a cell 18 of the farmers using battery cage system explain that they put five birds in one cell so as to minimize the usage of space and take more birds as they couldn't afford to get more battery cages. 15 of these farmers in focus group agreed that it contributes to their low production and reduce their profit margin, but they can't help it as they have to be in business to survive. Six (6) farmers from the focus

group using deep liter explained that the condition of their housing is bad has the change in temperature affects the production of their birds and limit their profit.

#### **Poor road network**

Out of the 22 farmers in the focus discussion 19 farmers states that bad roads have really contributed to their low profit on egg as they state that the distance wholesalers cover to pick up eggs from them and the numbers of breakage they will suffer due to bad road contribute to the low price the wholesalers bargain stating they will have to buy for a low price to compensate for the loss they will encounter. And in some situation where the wholesaler that experienced this will not come back to buy eggs from the farmers, this results to farmers losing quite a number of eggs to spoilage or they give it out as gift. This was buttressed by the key informant who share the same plight with the farmers.

#### **Poor information distribution among actors**

The famers in the focus group discussion explains that they encounter price differences from input suppliers as the price they purchased feeds and other input won't be the same the following month, the input suppliers don't communicate this to them in time resulting in them selling the eggs out to wholesalers at the price they calculated for the feeds earlier resulting in them losing more profit. The key informant also validates these responses from farmers claiming that due to the change in price encountered by the farmer on the purchase of input they also experience the shock change in price when they visit farms to buy eggs as the cash with them will be lower to the price dictated by the farmer. But they support the farmers that the input suppliers play a bigger role in dictating the profit gotten by the farmer.

#### **Lack of Promotion/Marketing Strategy**

The farmers were asked about what marketing or promotion strategy they currently adopt. It was clearly emphasized by more than half of the participants that other than placing direct calls to wholesalers and in some cases retailers that eggs are available there is hardly any other. They stressed that their main approach is to ensure they produce clean big brown eggs that once there is at least one happy customer the rest is easy as the satisfied customer is believed will spread the good news to others. Other approaches emphasized by only few (3) of the participants is allowance of contract sales, by allowing registered wholesalers to collect eggs with an agreement to pay fully or partly later. They stressed that this approach has helped in securing loyalty of certain customers. This implies no strong or customer specific promotion or marketing strategy is currently being adopted by the farmers in the local government area.

### **4.5 Challenges and opportunities for medium scale egg farmers in the chain**

The following factors were identified by the focus group members and key informants common to the egg value chain in Oluyole local government area, Oyo state. They are analysed using PESTEC and SWOT shown in table 5 and 6.

**Table 5:** PESTEC Analysis for Egg Value Chain in Oluyole LGA

	Threats
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Political	<ul style="list-style-type: none"> <li>✓ No financial support from government</li> <li>✓ No enabling environment</li> <li>✓ Lack of Government-owned Egg Quality Control and Collection Centre</li> <li>✓ Government ban on importation of maize and soya beans</li> <li>✓ Corruption in public offices</li> <li>✓ Lack of government-owned feed mill and hatcheries</li> </ul>
Economic	<ul style="list-style-type: none"> <li>✓ High bank lending rate</li> <li>✓ Limited Access to Loan Facility</li> <li>✓ High inflation rate</li> <li>✓ Inadequate working capital</li> <li>✓ Poor power supply</li> <li>✓ Egg glut</li> </ul>
Social	<ul style="list-style-type: none"> <li>✓ Land Tenancy/Land Dispute</li> <li>✓ Weak or no vertical integration among egg value chain stakeholders</li> </ul>
Technological	<ul style="list-style-type: none"> <li>✓ Poor housing condition for birds.</li> <li>✓ Old farming equipment.</li> </ul>
Environmental	<ul style="list-style-type: none"> <li>✓ Poor Road Networks leading to Farm</li> <li>✓ Environmental Related Diseases</li> <li>✓ Extreme Weather conditions</li> </ul>
Cultural	<ul style="list-style-type: none"> <li>✓ Lack of formal education</li> </ul>

#### 4.6 SWOT Analysis for Medium Scale Poultry Egg Farmers in Oluyole Local Government Area

The strength and opportunities iterate internal and external factors that enhance the efficiency of the business in the area while the weakness and threats emphasized the internal and external factors that inhibit the optimum performance of the business in the local government area.

**Table 6:** SWOT Analysis for Medium Scale Egg Producers in Oluyole LGA

STRENGTH	WEAKNESS
<ul style="list-style-type: none"> <li>✓ Large Farmland</li> <li>✓ Egg doesn't have religious or ethnic barrier for consumption.</li> <li>✓ Experienced Farmers and staffs in terms of years working in egg production industry.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Weak Integration among farmers</li> <li>✓ Weak integration of farmers and sellers</li> <li>✓ Price fluctuation between input suppliers and medium scale farmers.</li> <li>✓ Poor quality control system.</li> <li>✓ Lack of government support through ministry of agriculture.</li> <li>✓ High interest rate</li> <li>✓ Limited Access to loan facility</li> <li>✓ Inadequate working capital</li> <li>✓ Persistent Disturbance from security agencies</li> <li>✓ Increased cost of feeds and medications</li> <li>✓ No branding of egg.</li> </ul>
OPPORTUNITIES	THREAT
<ul style="list-style-type: none"> <li>✓ Large Market Base</li> <li>✓ Increasing Demand</li> <li>✓ Large Population</li> <li>✓ Surplus Labour</li> </ul>	<ul style="list-style-type: none"> <li>✓ Bad Weather (Extreme cold or hotness)</li> <li>✓ Bad Roads</li> <li>✓ Poor Electricity Supply</li> <li>✓ High Competition from the large-scale egg producers.</li> <li>✓ Unfavourable government policy (ban of input materials such as maize etc.)</li> <li>✓ Global/National Economic Downturn</li> </ul>

Source: Author's Compilation

#### 4.7 The Business Canvas Model for Medium Scale Poultry farmers in Oluyole Local Government Area

##### Value Proposition

When the participants in each of the focus groups were asked about what value they propose to their customers in their production of eggs, they unanimously emphasized that their major focus is production of quality eggs through proper management of the farms and the layers. They stressed that they try to target production of big eggs nothing more. This implies no special product attribute is being targeted. Whereas, in the interview with the inventory manager of a retail outlets who states that fresh clean egg with yellow yolk was spelt out to be their most preferred attribute. This demonstrates the extent to which information asymmetry exists within the egg value chain in the area.

##### Customer Segment

There was unison in the response of participants in each group about who they sell egg to. They collectively established in each group that their major customers are egg wholesalers who come from far and near to collect eggs and supply retail outlets, small shops owner, food vendors, and street hawkers who sell to final consumers. In order to keep good relationship with customers, some of the farmers claim that they request customers (wholesaler) to formally register with them buttressing that registered customers benefit credit sales, home delivery and regular notification as touching availability of eggs and other relevant information. No special marketing technique is being adopted by any of the farmers in attendants.

### **Key Activities**

The egg production activities emphasized by the farmers appear to be the same across the focus groups. The most common identified activities by the farmers include procurement of day old chicks and/or POLs, rearing of the birds for 18 to 20 weeks if day-old chick and 4 to 6 weeks if POL before start to lay eggs, hand picking of the eggs once the birds start to lay, cooking/breaking of eggs to affirm their quality, packaging of the eggs into crates, phoning of customers occasionally to inform about availability of eggs, transportation of the eggs to marked outlets or locations and record keeping. Other preliminary activities necessary for egg production iterated by the farmers involved procurement of land, construction of pen and battery cages and the farm water system. They further indicated that in the first month in which the day-old chicks are procured; they are put under intensive care with regular vaccination and feedings, emphasizing that their long-term efficiency and productivity is highly dependent on the type of care they receive in their first four weeks.

### **Key Resources**

About eight (8) of the farmers indicated they independently own a farmland varying between a plot and 3 acres. Four (4) of them claimed they collectively own a piece of land with each person's farm size apportioned based on the share in the cost of the land. Other common physical resources owned by the farmers include rearing pen, laying house, battery cages, vehicles and wells/boreholes. Each of the farmers equally owns several birds varying between 3000 and 9000. Other resources indicated by the farmers include financial resources, human resources such as the labour who constantly clean the farm, feed the bird, ensure the birds have constant access to water. The activities of the labour also include handpicking, packaging, grading and distribution of eggs.

## **4.8 Cost Price of egg production**

The cost structure for the medium scale poultry egg farmers in Oluyole area is a bit dynamic; the capacity of the farmers in terms of number of birds and size of farmland varies. Hence, the reason for the dynamic cost structure. The proximity of the farms to the city also significantly distinguished the cost structure of the farms in terms of amount expended in fuelling power plants and transporting the eggs. However, information provided about the unit cost of feeds, drugs, day-old chicks, and wages is uniform across the focus groups. It was emphasized that it requires about 6 full time workers consisting of a farm manager, assistant farm manager, supervisor and 3 laborers to manage five thousand birds with average weekly wage per worker being ₦3,750.

An average cost of a 25kg bag of feed was unanimously indicated to be between ₦3500 and ₦4500 depending on the source (local or imported). They claim drugs and vaccines are administered to the

birds once in every three months costing about ₦4,500. The price of a carton of day-old chick consisting of 100 birds cost about ₦25000. The fixed cost data collected from farmers cannot be relied on as they don't have a valid cost.

**Table 7:** Cost Structure for Medium Scale Egg Poultry Farmers in Oluyole Area of Ibadan

PRODUCTION COST DURING LAYING PERIOD				
Expenses	Unit	Cost/Unit (Naira) ₦	Quantity	Total (Naira) ₦
Pullets	Number of Chicks stocked	1,000	5,000	5,000,000
Feed	Kg	130	305,900	39,767,000
Transportation cost	25kg feed/week	50	12,236	611,800
Utilities (Electricity and Fuel for generator)	per month	20,000	19	380,000
Medication	per month	4,500	19	85,500
Labour	Attendant/month	15,000	19	285,000
	Supervisor/month	30,000	19	570,000
<b>Cost of production</b>				<b>46,699,300</b>
<b>Cost of production/egg/day</b>				<b>18</b>

Exchange rate: €1 = ₦475 Naira

Laying cycle = 76 weeks

**Source:** Author's Compilation

### Revenue Stream

Expectedly, the main source of income to the farmers is egg sales and it was widely indicated to be volatile depending on the season and corresponding intensity of demand. However, as at the time the study is being conducted, a crate of egg containing 30 eggs is being sold for between ₦700 and ₦900 at the farm gate depending on the size while a crate of egg with mixed sizes is sold for average price of ₦870. From a laying pen of about 2500 birds, about 8 bags of litters are generated weekly; each bag is sold for about ₦200 per bag. The farmers also claim that the layers in their 75 to 76 weeks stop laying eggs, hence, they are sold off between ₦1300 and ₦1500.

**Table 8:** Revenue stream for a medium scale farmer for production cycle



Revenue Streams	Total
Total number of birds (5000) using 5% mortality	4,750
Number of eggs produced per day (crates)	115
Price per crate of egg	870
Revenue from eggs (76weeks)	53,226,600
Liter sold @ 200 per bag 8 bags per week	121,600
Sales of spent layers @ 1500	7,125,000
<b>Total Revenue</b>	<b>60,478,935</b>
<b>Revenue on a production of egg per day</b>	<b>24</b>

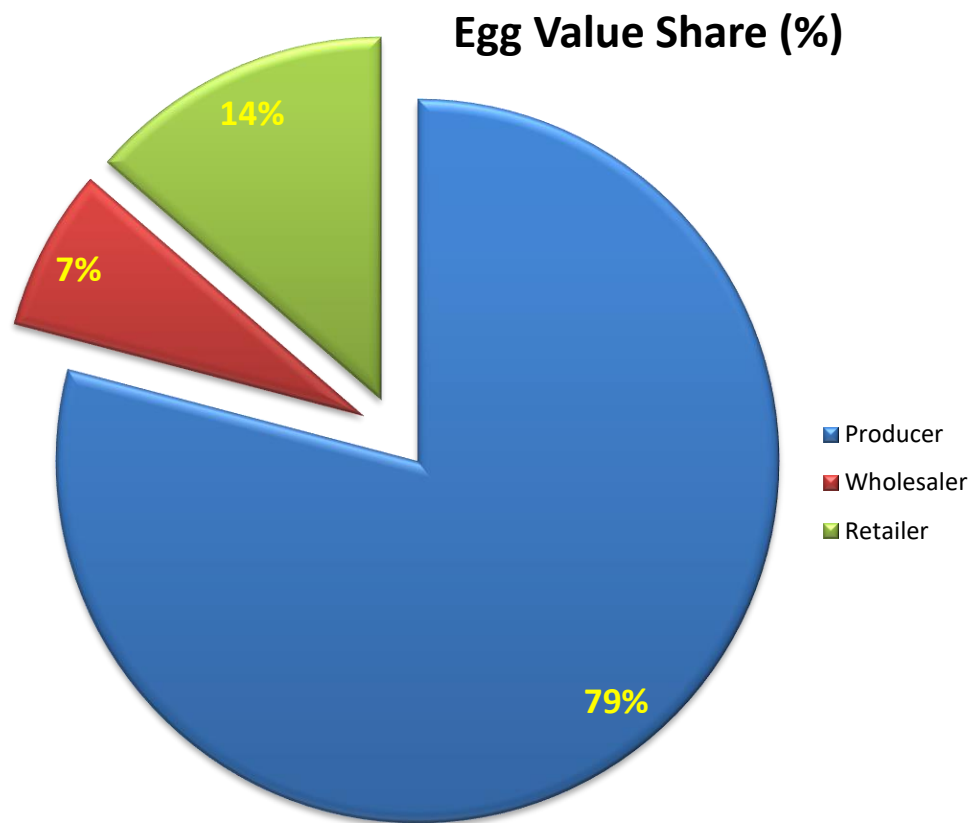
**Table 9: VALUE SHARE OF CHAIN ACTORS**

Actor	Variable cost/crate (Naira) ₦	Revenue (Selling price/crate) (Naira) ₦	Gross income (Revenue – Variable costs) (Naira) ₦	Gross Margin (Gross income x 100/Revenue)	Added Value (Revenue received – previous actor's revenue) (Naira) ₦	Value share (%) (Added value x 100/Retail price)
Farmers	679.86	870.00	190.14	22%	870.00	79%
Wholesalers	900.00	950.00	50.00	5%	80.00	7%
Retailer	970.00	1,100.00	130.00	12%	150.00	14%
						100%

Exchange rate: €1 = ₦475 Naira

Figure 12 shows the percentage distribution of the egg value share per actor. The actors considered in the distribution include the farmer, wholesaler and the retailers. The information used is based on findings gathered during discussion with the farmers and interview with the key informants. The wholesalers interviewed during the study reported that the cost of producing a crate of egg is ₦900; this includes cost of transportation, rent, levies, amongst others. Retailer reported that the cost of producing a crate of egg from their sales point is ₦970.

The price of egg varies with farm and the size, however, a crate of egg with mixed sizes was indicated to be sold for ₦870. All the interviewed wholesalers unanimously claimed that they sell a crate of egg with ₦50 to ₦80, implying that they sell a crate of egg purchased at farm gate at ₦870 for ₦950. The retailers on the other hands indicated that they sell a crate of egg 1100. Thus, based on these findings, the value share for the farmer, the wholesaler and the retailers are respectively 79%, 7% and 14% respectively.



**Figure 11:** *Percentage of Value Share per Actor*

KEY PARTNERS	KEY ACTIVITIES	VALUE PROPOSITION	CUSTOMER RELATIONSHIP	CUSTOMERS
<b>Partners</b> <ul style="list-style-type: none"><li>Obasanjo Farms</li><li>Ajanla Farm</li><li>High flow</li><li>Amogaf</li><li>Topfeeds</li><li>Kunle Ara Animal care</li><li>Rehoboth Agroallied Company</li></ul> <b>Activities</b> <ul style="list-style-type: none"><li>Supply Pullets</li><li>Supply feeds and medications</li></ul>	<ul style="list-style-type: none"><li>Procuring DOC</li><li>Regular feeding</li><li>Farm management</li><li>Hand picking of eggs</li><li>Packaging in crates</li><li>Record keeping</li></ul>	<ul style="list-style-type: none"><li>Quality Eggs through feeding and health management of layers</li></ul>	<ul style="list-style-type: none"><li>Long-term customer relationship</li><li>Existence of contract sales</li><li>Establishment of informal association with sellers</li></ul>	<ul style="list-style-type: none"><li>Wholesalers</li></ul>
	<b>KEY RESOURCES</b>			
	<ul style="list-style-type: none"><li>Farmland</li><li>Pen House</li><li>Battery cage</li><li>Vehicles</li><li>Water System</li><li>Labours</li><li>Animals (DOC)</li><li>Financial Resources</li></ul>	<b>UNIQUE PROPOSITION</b>	<ul style="list-style-type: none"><li>Farm gate</li><li>Foodco</li><li>Thikadol Hotel</li></ul>	
		<ul style="list-style-type: none"><li>No unique proposition</li></ul>		
COST STRUCTURE (Per farmer with average			REVENUE	

<ul style="list-style-type: none"> <li>• Rent 3 acres of land (<del>₦</del>2 Million)</li> <li>• Rearing Pen (<del>₦</del>7 Million)</li> <li>• Laying Pen (N10 million)</li> <li>• Worker (N7500 weekly per worker)</li> <li>• Feeds (imported N4,000 – 4500 and Local 3500 – 4000)</li> <li>• Drugs- Multivitamin (<del>₦</del>16,000 per three month)</li> <li>• Drugs-Antibiotics (<del>₦</del>24000 per three months)</li> <li>• Drugs-anti-worm (<del>₦</del>9000 per three month)</li> <li>• Cost of fuelling two vehicles (16000 per week)</li> <li>• Diesel for Farm Plant (<del>₦</del>25,000 per week)</li> </ul>	<ul style="list-style-type: none"> <li>• Egg Sales (<del>₦</del>700 to <del>₦</del> 870 per crate containing 30 eggs)</li> <li>• Litters (<del>₦</del>200 per bag)</li> <li>• Sales of dead chicken(<del>₦</del>1000)</li> <li>• Sales of 76-78 weeks layers (<del>₦</del>1500 per bird)</li> </ul>
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**Table 10: Business canvas model for Medway farms a medium scale egg farm in Oluyole local government area**

#### **4.8: Strategies to Improve Revenues for Medium Scale Egg Farmers**

Both the farmers and key informants were asked about necessary strategies to maximize revenue for medium scale farmers. The most emphasized feasible solution by the farmers is having access to loan facility at a very moderate interest rate. They agreed once they have access to adequate loan, they can purchase feeds and drugs in bulk quantity at a much-reduced cost, thus in return increasing their profit margin. Two of the farmers stated that they step down their production capacity despite high demands due to lack of capital. This was further affirmed in an interview with the PAN Chairman (Oluyole Chapter). He stated that lack of capital is major factor constraining farmers from operating at full capacity, stating that some of them have unused portion of land due to lack of financial resources. Hence, he of notion that once the financial hurdle can be addressed, the farmers can have capacity to meet high demand in peak period and provide better storage facility during glut.

The farmers in focus group study and information gathered from key informant highlighted that getting help from government in the means of extension service will save them some cost incurred visiting private diagnosis centre when faced with problems of virus and diseases in birds. They further stated that attention is not focused on egg farmers among farming in general in the state, which makes them survive and thrive under the unfavourable cost they incur visiting private veterinary institutes which are most managed by the large-scale egg producers who seems more of their competitor than co-producers.

It was also widely stated by the farmers that availability of state-owned or independent private egg collection and quality control centre will go a long way in solidifying egg farmers-buyers relationship and boost sales. Stating that at the moment due to lack of collection centre, farmers have to scout for buyers themselves and because there is no certified quality control centre, they have difficulty securing trust of certain traders who prefer buying from the big boys in the industry the likes of Obasanjo and Ajanla farms. One of the retailers when asked about one of major challenges he thinks poultry farmers especially the medium scale egg farmers, he emphasized that the fact that egg as a poultry product is not given proper attention by the government agency like National Agency for Food and Drug Administration and Control (NAFDAC) as they give to other food products and drugs is killing egg business in the state particularly the evolving ones. Thus, they (the farmers and key informants) are of the opinion that existence of collection and quality control centre particularly established in favour of small and medium scales egg farmers will provide a leverage to compete favourably with large scale egg poultry farmers.

Furthermore, all the farmers claimed that it is impossible to increase price beyond its present range due to high level of competition in the area and decline in egg demand due to general economic downturn, stating however, that if input cost can be minimized, profit margin can be widened. Some of practical approaches suggested in the focus group study and interview with key informants include creation of state-owned feed mills or collectively owned feed mills, stressing that such will save the farmers from extortion by the existing few feed suppliers in the state. One of the farmers pointed out that farmers should resort to self-production of feeds that doing so will help cut some cost. Another farmer validated this point that by self-mixing of feeds though raw input like maize, soya beans, concentrates etc are purchased separately from outside, he (the farmer) was able save about ₦200 on every bag of feeds given to the birds.

#### **4.9: Porter Five Analysis of Medium Scale Poultry Egg Farming in Oluyole LGA**

The Porter's Five Forces Model shows the weakness and competition faced by the medium scale egg farmers in Oluyole local government area, listed below are the highlighted weakness from focus group discussion and key informant interviews.

##### **Threat of New entrant**

- High cost incurred in feed and vaccines tend to discourage the influx of new members into the medium scale egg production business.
- Available places for production are in remote villages and settlements, this situation discourages new members as they are not sure of the prospect like good water, electricity availability, good roads in the new location. This tends to increase the start-up capital.
- Entry requires huge capital for fixed cost like lands, cages and few machineries to be profitable and sustainable.

##### **Bargaining power of suppliers**

- There is no contractual agreement between input supplier and farmers.
- The input price is not negotiable for farmers in most cases related to high dependency on the large-scale egg producers.
- Medium scale egg farmers depend majorly on imported vaccines and drugs.

##### **Rivalry competitors**

- Fish sellers, there are fish that are not so expensive and can be used in different meals compared to egg.
- Main competitors for Medway farms and other medium scale egg producers are the large-scale producers like Ajanla farms and Obasanjo farms.
- Low level of cooperation and agreement between the actors in various section of the chain.

##### **Bargaining power of buyers**

- The customers are majorly wholesalers leaving the medium scale egg farmers with only one distribution channel.
- There is no contractual relationship or obligation with wholesalers(customers).

##### **Threats of new substitutes**

- Eggs are easily replaced with fish (sardines and panla local fish).
- Fish and meat can be consumed in many quantities and size different from eggs that as a limit you can eat.

## **CHAPTER FIVE:**

### **5.0 DISCUSSION**

This chapter discusses the strategies necessary to harness opportunities and potential towards better price for major actors in the egg value chain using findings from the focus group study, interviews with key informant and existing literatures.

#### **5.1 Market Relations/ Value Chain Development**

In the course of this findings, it was discovered that a weak integration exists among the actors in the value chain. For instance, during the study, it was discovered that no strong relations or communications exist among virtually all actors in the egg value chain. Apart from the poultry egg farmers who shared strong bond through their various formal and informal associations such the Poultry Farmers Association of Nigeria (PAN), All Farmers Association of Nigeria (AFAN), Grace Farmers etc, no strong associations bind the major stakeholders in the value chain. Majority of the farmers indicated they purchase day-old chicks from Obasanjo Farms and Ajanla Farms which co-functions as hatcheries and Large-scale Egg Producers. No relevant bond is expected to hold between both since they are more like competitors in the Egg poultry industry

No state-owned or standard veterinary services exist within the area and the state at large. No specialized hatcheries or grain producers exist within the area or the state. As emphasized in the work of Bah and Gajigo (2019) the prominent actors in the egg value chain are hatcheries, grain producer, feed processors, poultry producers, distributors, veterinary services and financial services. Thus, for the opportunities in the egg business to be fully harnessed, all actors in the value chain need to have a strong and sustainable relationship among themselves. Rolfe (2011) iterate that value chain analysis is one way for a business to remain ahead of competitors, stating that the profitability of the business is dependent on the extent to which activities in every business value chain are performed efficiently.

#### **5.2 Information Flow**

Due to the lack of strong market relations among the stakeholders in the egg value chain in the study area, information flow within the chain has been distorted. In the focus group discussion with the farmers, they emphasized that most times they get information about prices of feeds at the point of purchase, stating that most time when they place call to the input suppliers to get price information of which it will be too late to turn back when price charged is above expectations. In the phone call interview with the key informants such as the wholesalers and retailers, it was discovered that mouth-to-mouth information sharing has been the method adopted in the egg value chain within the area, no established reliable source of information.

The wholesalers claimed most times they place calls to the farms to enquire about eggs and prices and subsequently pass-on the information to the retailers. Information about loans and financial opportunities are only sometimes made available in their various associations. This finding is corroborated by that of Oluwafemi (2016) in the analysis of the Nigerian poultry egg value chain analysis

which stated that “there were strong information flows and relationships between consumers and retailers; retailers and farmers, and farmers and their input suppliers. However, very little information flowed beyond these direct relationships”. Comarch (2018) established that effective information across all actors in a value chain optimizes operations and costs. Hence, for cost to be effectively minimized by egg producers and egg to sell at a considerably optimum price in the value chain, effective information flow is paramount.

### **5.3 Business Promotion/Marketing**

According to ThriveHive (2019), the importance of business promotions cannot be overemphasized. This is because they are among the most effective means of stimulating sales and increasing customer satisfaction. These techniques have been adopted as avenues for achieving the overall organizational success for decades. The existence of different channels for promoting business with or without money, makes revenue growth easier (ThriveHive, 2019). Through business promotion, egg producers can easily communicate the superior value and benefits of the product to target customers. Thus, the essence of business promotion is to carry out relevant activities aimed to influence target customers to purchase the product.

Essentially, promotion in the egg value chain is an effective approach to enhance constant interactions with consumers of the products and services that are produced (Rusirevi, 2013). It was however established that, no specific promotion or marketing strategy is adopted by the poultry egg farmers in the study area. When asked about what marketing or promotion strategy they adopt to get more customers or keep their customers, it was widely emphasized that egg market itself, mostly what they focus on is producing quality eggs through proper feeding of the layers and proper maintenance of the farms. Nevertheless, aside the period of scarcity or demand pressure, the idea of products marketing themselves is not always realistic. For instance, in the period of egg glut, it takes the use of effective business promotion/ marketing to boost sales and quality is not restricted to one producer alone. If there are many egg farmers with higher quality products during glut, they still need to employ appropriate promotion strategies that will enable them boost their sales.

Thus, it is expected that, when the medium scale egg farmers and Medway farms adopt suitable business promotion, they will record higher sales volume as a result of increasing demand for their products and a persistent rise in the demand for their products will enable them to achieve better egg pricing in the value chain. In the aspect of business promotion/marketing, egg producers can employ several options many of which are low-cost strategies. For instance, they can adopt promotion strategy such as, buy one get one free deal, discounted pricing, gift for every referral, reduced-rate bundle or package (McCormick, 2020).

### **5.4 Pricing**

Essentially, an efficient price represents the maximum price that the customers are willing and ready to pay for a good or service. There is a significant interaction between demand and price of egg. For instance, Seidler (2003) alludes that, the rate of demand for eggs is largely influenced by the price, the number of potential consumers, their ability to pay as well as the extent of their preference for eggs compared to other alternative products. Based on supply analysis, price of egg must be sufficiently high to cover the cost of production, storage and transportation. Thus, there is a high likelihood that farmers



and wholesalers will find it difficult to supply eggs to the consumers if the prevailing market price is lower than the amount it takes to produce it. It can therefore be established that, in the long run, the existing egg market prices must be both low enough for the consumers to pay and high enough to enhance the producer's welfare (McDaniel and Aske, 2000).

According to Sherman (1966), just like the prices of eggs influence its demand, market demand and supply also dictate egg prices. As soon as market prices are identified, eggs producers can analyse if the price will cover their production costs as well as the possibility of making profit if they sell at the prevailing prices. It should be recalled that as prices change over time, information relating to pricing should be up to date in the process of estimating probable profits by the producers. In the submission of Seidler (2003), seasonal variations in both production and demand can significantly impact on the level of prices at various times of the year. Thus, the producers should adequately account for those disparities in prices when planning their egg production and marketing.

From the finding's, it was gathered that, input suppliers and egg traders (wholesalers, retailers) individually and collectively control the total quantity and/or the prevailing price of eggs in the markets thus, making producers "price takers" of eggs. This is because, increase in the cost of inputs leads to fall in the volume of production which eventually results to fall in egg supply in the value chain. A persistent decline in supply will create product scarcity and this would trigger a rise in the price of eggs. The role of traders such as wholesalers and retailers also affect the price of egg since these traders tend to sell above the price at which they purchased from the producers. The price the final consumers pay thus covers cost of transportation by the traders in addition to the original selling price at which the producers issue out their products.

In combination, it is noteworthy that the egg glut season in Nigeria happens between March – June when there is surplus production and supply of eggs majorly in the south-west and eastern region of Nigeria without corresponding demand (Bolu & Aremu, 2007). Moreover, ineffective marketing information also inhibit the performance of egg farmers in Oluyole local government and this leads to a one-sided marketing mechanism which in turns creates an inequity in the demand and supply (Adenegan & Olayide, 2005). Consequently, egg producers often find it difficult to fully take on market forecasting that would enhance eggs sales at the best possible prices.

Imbalance market prices for eggs is not different across the various markets. Also, egg farmers are confronted with marketing glitches which prevents them from getting the clear picture to market (Heise *et al.*, 2015).

## **5.5 Business Threats/Challenges**

There are several business threats facing the egg value chain from the angle of the producers. For instance, Obike, Amusa and Olowolafe (2017) highlighted such factors as huge capital requirements, cost of feed, cost of medication as well as risk index measured by ratio of risk recorded by a farmer to total risks identified. Amy Fan (2017) also identified similar issues such as adulteration and high cost of poultry food, high start-up capital, lack of support from the government, non-availability and affordability of vaccines, and outbreak of diseases. The study further explained that high start-up capital inhibits the success of most poultry farming particularly in African countries. The huge start-up capital requirement in the egg farming cut across the financial needs for the acquisition of a land for the farm, labour cost, the rising cost of feeds as well as cost of providing health care for the birds.

In regards of high cost of poultry feed, Amy Fan (2017) further noted that the price of poultry feed is high, and laying birds eat a lot. Consequently, several egg farmers resort to minimizing the portion of the feed given to the laying birds and this in turns impacts on their overall productivities. Jaspafarm (2016) also noted that access to right birds, diseases and parasites, drugs related problem, feed related problem, financial problem and lack of market information are notable threats in the egg poultry farming system.

Specifically, during the finding process, the key business threats that were found include bad weather (extreme cold or hotness), diseases (bacterial infection, bird flu, bad roads, poor electricity supply, high competition, unfavourable government policy, global/national economic downturn. Similarly, the egg poultry value chain in the study area is faced with other business challenges such as limited access to market information, lack of government support, high interest rate, limited access to loan facility, inadequate working capital, and persistent disturbance from security agencies, increased cost of feeds and medications as well as inadequate infrastructure.

It was established that, the poor electricity supply in the study area increases the cost of fuelling, which adds to the general production cost. The roads are in a messy state, and this makes transportation extremely difficult for both farmers and wholesalers in the egg value chain. The unfavourable government policy coupled with lack of government support weaken the farmers ability to access credit facilities from financial institutions due to stringent terms and conditions of loans and high interest rate. This further translates into inadequate working capital on the part on the farmers.

## **5.6 Value Proposition**

Russell (2016) stressed the need for excellent labeling as an avenue to boost egg sales and better price for egg products. Thus, proper brand label will help to upscale marketing. Luisbrown (2018) also avowed that when farmers practice the act of feeding poultry birds with good quality fresh and healthy feed, they will maintain good health, proper development as well as increased yields. The study therefore recommended that poultry farmers should feed the poultry birds with appropriate feeds to keep them in good physical shape. Also, the farmers should learn to identify the different types of poultry diseases, symptoms and treatment and vaccinate the birds as at time due (Luisbrown, 2018).

Paabu and Kapela (2019) indicated that, production and timely delivery of less expensive but high-quality eggs to the consumers' doorstep is a good value proposition in the egg value chain. From the field survey, it was gathered that most buyers prefer eggs with yellow yoke, improved size, shell strength as well as packaging strategy that will enhance the market value of the product. The major emphasis is thus, essentially on production of improved quality eggs through proper management of the farms and the layers. Specifically, this can be achieved through consistent feeding and health management of layers.

## **5.7 Cost Minimization**

The concept of cost leadership remains a key business strategy well-articulated through the effort of Porter (1980). One of the ways to reduce the heavy cost of production originating from increasing cost of feeds, is to adopt a cost leadership strategy. This strategy would enable the farmers/producers to achieve increasing efficiency and maximize their earnings, while gaining competitive edge through.

It is expected as the participant iterated that, when they get a better and cost-effective way of sourcing their inputs most especially, the feeds, the issue of price would be well addressed. Thus, lower price *ceteris paribus*, implies higher demand and increasing sales volume. This will in turn stimulate higher

profit at the end. Essentially, some of the ways to minimize cost is through continuous improvement in operating efficiencies, unhindered access to raw material, or unique dealings with suppliers (Swamidass, 2000).

Also, unhindered access to raw material can be achieved through unique dealings with input suppliers or other producers of animal feeds. In this regard, the supply chain can be strengthened by involving other farmers/producers who specialize in the production/processing of maize, wheats and other poultry feeds within the country/state/local government area, so as to promote local content initiative, while mitigating the unfavourable effects of import costs. At the association level, the farmers may team up to form a joint venture for the purpose of engaging in large scale maize farming, while setting up macro feed mill big enough to meet the state needs. This is hoped to cut cost while creating avenue for additional source of income for the farmers. The government may as well take up this great initiative through the establishment of feed mills across the federation such as the one located in Edo state, Nigeria.

## **5.8 Reacting to External Factors**

During the focus group discussion, it was established that very little is done in terms of reacting to external forces. Majorly, the only efforts implemented by the farmers is the supply of light to the farm and the supply of sun dust in the case of those practicing deep litter system and regular vaccinations. There are various ways of responding to external factors in egg poultry farming and these include ban of outsiders from gaining unwarranted and unwanted access to the farm, maintaining house temperature above 20°C to mitigate the negative effects of extreme weather conditions, practicing ventilation with good air quality such as low levels of ammonia in addition to low carbon dioxide, reduction in light intensity as well as reduction in noise levels particularly those emanating from the external surrounding.

Egg poultry production is largely affected by several external (macro- and microenvironment) forces such as air, disease outbreak, humidity, light, sound/noise, temperature. Thus, poultry farmers need to constantly scan the environment while reacting to these external factors, to ensure that birds maintain their normal physiological functions and achieve maximum eggs yields. The overall effects of the external factors could be devastating if not properly kept in checks by farmers/producers on a regular basis (Koelkebeck, 2001).

Another notable discovery during the focus group discussion is the lack of farmers-consumers communication flow. Most of the participants asserted that, they deal directly with wholesalers, thus, making it difficult to interact with the customers. This partly explains the reason for information gap between the farmers and the consumers. Consequently, whenever there are production shocks originating from unexpected inputs price hike (external factors), the consumers can only receive their own share of the shock through sudden price increase without adequate updating. Communication flow can help close the information breach between the producers and the consumers particularly in the aspect of preservation, product grade, packing information, change in unit price and unexpected change in productivity.

## **5.9 Reflecting on my role as a researcher**

As an assistant farm manager at Medway farms and as a person conversant with the situation of medium scale egg farmers in Oluyole local government area. Though the selection of medium scale egg farmers

was done based on the medium scale egg farms around Oluyole local government environment with familiarity in their activities. Though 75% of respondents were known to me, it is not certain that the unknown farmers provided 100% valid information especially in the area of cost of production. it is paramount to repeat the response to the respondents to be sure that is what they wanted to say.

The other things that might affect the response from the farmers was the time of the research as the Covid-19 lockdown was freshly lifted and most farmers are trying to cover up for lost time to move their eggs and meet up with customers. This makes it hard to have the full attention of few medium scale egg farmers and other key informants. On few occasions I had to call back the key informant to ascertain and confirm the information giving again if it corresponds with the farmers.

Triangulation was vital to this research as it helps in getting the same information from different sources and confirm the responses from different respondents. The focus group discussion created an avenue for medium scale egg farmers to come together and collectively state common issues and problems with them. The advantage of this method was that it was easy to compare responses from other focus group discussions, key informant interviews to have a common ground on what the major problem of not getting a better price was. The meetings and discussion also shed light on what can be possible and what won't be possible in Oluyole egg chain.

Code and ethics were observed during the study stating the confidentiality of information. Also, there was a strict follow up with the checklist during focus group discussion and interview as some respondents try to divert the area of research and majorly focus on government. This really affects the time spent with the respondents trying to understand them and at the same time bring the focus back to them as medium scale egg farmers.

## **CHAPTER SIX**

### **6.0 CONCLUSION AND RECOMMENDATION**

The chapter presents the conclusion and recommendations of the study following the empirical findings reported in the preceding chapters. Specifically, the first segment of this chapter entails the conclusion based on the discussion on findings from focus group discussion, general desk research, as well as interviews with the egg value chain actors/stakeholders in Oluyole Local Government. The second part of the chapter will advance applicable value chain-adapted recommendations for enhancing the productivity and efficiency of the poultry egg production, while bolstering market linkages for efficient price allocation and increased market power for the actualization of income and general growth objectives of medium scale egg farmers in Oluyole Local Government. The last segment of the chapter however presents a market-based business model that will be found useful by the Medway farms and medium scale egg farmers.

#### **6.1 Market Integration**

During investigation, it was established that different interest groups exist with the sole aim of protecting the welfare of their members. For instance, the existence of the Poultry Farmers Association of Nigeria and All Farmers Association of Nigeria is to protect the interest of the poultry egg farmers/producers. This objective varies significantly with those of other interest groups like the Wholesalers/Retailers Association. The expedition of most farmers to always increase their market power and maximize their profits will create a severe rift between them and the suppliers, sequel to the fact that market integration will offer the consumers the opportunity to circumvent the distribution chain thereby dealing directly with the farmers/producers. Thus, the idea of market integration remains a mere illusion at the point of carrying out this research and this is established on the divergent interests, views, opinions and desires of the various stakeholders in the egg value chain indicative of the fact that there is a weak likelihood of integration of farmers and sellers. However, medium scale farmers' cooperative can create and enhance trust and contractual linkage to improve chain relations and market integration among the various actors in the egg value chain Oluyole local government area.

#### **6.2 Value Proposition**

Principally, it was gathered that most wholesalers and by extension, consumers prefer eggs with yellow yoke, improved size, shell strength as well as packaging strategy that will enhance the market value of the product. However, from the farmers' perspective providing quality eggs through proper management of the farms and the layers which they specifically believed is achievable through consistent feeding and health management of the layers. This implies that while egg buyers have clear description of value expected from eggs they are buying, the farmers have no clear targeted value in mind, hence the difficulty of maintaining long-term relationship with the buyers.

### **6.3 Information Flow**

A well-established flow of information would have enhanced the understanding among all stakeholders in the egg value chain. For instance, proper flow of information would have bridged the gap in terms of intimating farmers with the needs and desires of retailers and consumers in terms of product quality and demand. Similarly, stable information flow would have enhanced consumers understanding of the prevailing market/production dynamics in the area of unexpected price change and fall in general productivity. However, the findings of this study came with a deep revelation of the extent to which information asymmetry exists within the egg value chain in the area, occurring from poor coordination, little public awareness arrangements as well as poor market relations.

On this note, the research therefore concludes that there is no two-way flow of information within the chain and this leads to disproportionate dispersion of information in the overall market. This problem affects both farmers who in most cases need adequate information with respect to input prices, quantity and quality for enhanced market participation. Wholesalers and retailers also have their share of this problem as they from time to time require information on current prices, quality and available quantities. This therefore necessitates the establishment of medium scale egg farmer cooperative which can improve coordination of relevant communication on market through channels such as social media interaction. Specifically, the use of Facebook, WhatsApp group page, Twitter, Text Messages among other could be a relief.

### **6.4 Strategies for promoting eggs**

An effective marketing strategy is instrumental for the success of any business establishment. However, from the findings of this study, it was clearly established that, no specific promotion or marketing strategy was adopted by the poultry egg farmers in the study area as most of the medium scale egg farmers only pack eggs in paper crates and plastic crates. This further broadens the gap between the producers, consumers and other interested groups in the distribution chain. The impact of absence of promotion and marketing strategies in the egg value chain is a reduction of market share or weak customer base, thus leading to loss of revenues and profits among the poultry egg farmers. Another impact of poorly adopted or complete absence of marketing strategies is loss of consumers' welfare occurring from inadequate knowledge of the current market situation among existing and prospective buyers. Attention is needed in improving the promotion of eggs from the medium scale egg farmers through different branding and packaging to make the egg more enticing and accepted.

### **6.5 Recommendations**

#### **➤ Forming of Egg farmers' cooperative**

From the findings it was discovered that there are no egg farmers' cooperative in Oluyole local government area except from the Poultry farmers association peculiar to the state, it is advised that medium scale egg farmers in Oluyole local government to come together and form a cooperative society which will be spearheaded and facilitated by the commissioner Medway farms so as to achieve the goal of better price for medium scale egg farmers.

➤ **Microcredit facilities and services**

To address the challenges originating from limited access to loan facility, the medium scale egg Farmers' Cooperative Society, a platform that would enable the farmers to pull resources together in the form of savings for the purpose of assisting members in the area of credits with low interest rate. The availability of credit facility would enable the farmers to expand their scale of production, thus, leading to increased outputs and scale economies, which would enable them to determine fair prices for their products in the long run.

➤ **Collective bulk procurement of Inputs**

To minimize such imports-driven cost, medium scale egg farmers' cooperative is advised to devise means of producing these inputs derivatives either by individual or collective ownership of land for the mass production of maize and wheats used for the production of bird feeds in Oluyole local government area, as this will mitigate the import-induced cost pressure in egg production. Also, the farmers are advised to partner with Bendel Feed and Flourmill Ltd for direct processing of maize and wheats into animal feeds which will be facilitated by the chain facilitator, as this is expected to cut weekly cost of feeds by at least 15%. Thus, a discount in the cost of production will serve as a motivation for farmers to reduce the selling price of eggs to the point that is favourable to both sellers and buyers of egg products in the value chain system.

➤ **Establishment of egg collection centres**

Medium scale egg farmers' cooperative is advised to produce and deliver less expensive but high-quality eggs to the consumers', and this can be achieved by setting out a location for egg market in Oluyole local government area that is accessible to customers (wholesalers). This doesn't require extra financial capacity other than liaising with the local government secretariat using one of the free spaces and grounds in a public primary school in Oluyole local government area as this is hoped to increase the demand for egg. A persistent increase in demand would also enable the farmers to achieve better prices and more power over the price of egg in the long run.

➤ **Strategic Advertisement and branding of eggs**

To boost the sales of eggs, medium scale egg farmer's cooperative are advised to adopt social media marketing strategies and create a local brand to differentiate their eggs from large scale egg producers as this will help in promoting their businesses, as well serve as a great avenue to disseminate adequate product and market information in the poultry egg value chain, on a regular basis. The use of regular phone calls and bulk SMS is advised for appropriate interactions. The advantage of this strategy is that, the customers can always receive the message unlike other media that require internet coverage. These strategies are expected to boost weekly eggs sales by at least 9 percent, if well implemented. This is because, availability of relevant product/market information will stimulate the demand for eggs which will in turn influence better price for egg producers.

➤ **Contractual arrangements**

To strengthen the farmers-customers relationship, the use of contractual agreements is advised between Medium scale egg farmer's cooperative and other actors (wholesalers and chain retail outlets) in Oluyole local government area and environment. This will go a long way in securing customers loyalty, trust and strengthen the presently weak vertical integration among the actors.

➤ **Improved poultry nutrition and husbandry practices**

Arising from the foregoing, medium scale egg farmers' cooperative is advised to adopt the practices of proper feeding with good quality fresh and nutritious feed always in order to achieve good health, proper growth as well as increased yields, as this will help them achieve better prices for their eggs through increasing demand.

➤ **Use of yellow maize**

From the field survey, it was discovered that most buyers prefer eggs with yellow yoke, improved size, as well as shell strength that will enhance the market value of the product. Medium scale egg farmers' cooperative is advised to work on this quality to help achieve a better price for their eggs. This can be achieved through regular adoption of yellow maize and vegetables in the layers' feed composition which will be explained to farmers in the monthly meeting of the cooperative members.

➤ **Partnership with Research Institutions**

Finally, to close up the huge research gap, the medium scale egg farmers' cooperative in Oluyole local government area are advised to collaborate with independent agricultural researchers such as University Lecturers, research students/scholars, as well as other agricultural research bodies like the Ministry of Agriculture and Institutes of Agricultural Research through a chain facilitator for the supply of useful research information that will enable farmers to make proper inputs and process planning for enhanced egg production. Improvement in research and development will enable the farmers to acquire new skills that will help them adopt proper production process, while achieving improved efficiency. This would in turn help them to save cost and improve outputs through innovation and creativity, thus, leading to optimum pricing for the products in the long run.

## **6.6 My role as a facilitator**

My role as a facilitator is to enlighten and encourage the formation of medium scale egg farmers' cooperative through my commissioner Medway farms in Oluyole local government area and put into consideration the welfare of medium scale egg farmers, the inauguration of this cooperative group will ensure easy access to inputs, assistance in loan facility and training of farmers on proper management of birds. This cooperative will be linked with other actors in the chain to have a coordinated egg value chain and promote efficient distribution of eggs in desired quantity and quality. To achieve this objective through Medway farms the commissioner orientation and coordination of medium scale egg farmers will be done. Included in this process will also be the Oluyole local government chairman on the purpose and benefit of creating the first ever egg farmers' cooperative in the local government area.

The livestock chain officer (facilitator of change) from the commissioner Medway farms will play a lead role in heading the committee which includes the research assistant and few staffs from Medway, the major objective of this group will be to facilitate the above project leading to coordination and information flow on quality and better price for egg production in the chain. This committee will spearhead training and raising supporters/investors for medium scale egg farmers in Oluyole local government and this will be strictly followed only with members in the egg cooperative. The supporters/investors include; chairman Oluyole local government, Bendel feed, Animal care, Guarantee



trust bank (Gtbank), University of Agriculture Abeokuta, Ministry of Agriculture and few others. The chain facilitator will also educate the farmers in the cooperative on good and affordable housing for laying birds from the experience gained from master's education and field trip in the Netherlands.

#### **Action plan for the actualization of the recommendation**

Actors	Key partner	Recommended activities	Impact	Projected time
Livestock Chain manager (Keshinro Tunde Ayodeji)	Medway farms and medium scale egg farmers	Training on the importance of value chain, coordination and information flow in the egg farming.	Improve the egg value chain organization in Oluyole local government area and upscale medium scale egg farmers for a better 2021 production.	1 <sup>st</sup> week in November 2020.
Livestock Chain manager, Medway farms	Medium scale egg farmers, Oluyole local government secretariat, poultry farmers' association of Oyo state.	Forming egg farmer's cooperative.	Collective interest of farmers for a unique and better price for their eggs.	3 <sup>rd</sup> week in November 2020.
Livestock chain manager, input suppliers, Financial institution, chain supermarket.	Animal care and Bendel feed (DOC, pullet, feeds, vaccines and drugs), Oluyole local government secretariat (policies), Gtbank, Foodco and others, wholesalers.	Contractual agreement and trust building between actors in the chain.	Easy flow of input, money and product in the chain with added value.	4 <sup>th</sup> week of November 2020.

**Table 11:** Proposed business model canvas for Medway farms

KEY PARTNERS	KEY ACTIVITIES	VALUE PROPOSITION	CUSTOMER RELATIONSHIP	CUSTOMERS
<b>Partners</b> <ul style="list-style-type: none"><li>Obasanjo Farms</li><li>Ajanla Farm</li><li>High flow</li><li>Amogaf</li><li>Topfeeds</li><li>Kunle Ara Animal care</li><li>Rehoboth Agroallied Company</li><li>Egg Poultry Farmers’ Cooperative Society (New)</li><li>Ministry of Agriculture (New)</li><li>Institutes of Agricultural Research (New)</li><li>Bendel Feed and Flourmill Ltd (New)</li></ul> <b>Activities</b> <ul style="list-style-type: none"><li>Supply Pullets</li><li>Supply feeders and medications</li><li>Provision of market information</li><li>Provision of credit facility (New)</li><li>Supply research information (New)</li><li>Feeds processing (New)</li></ul>	<ul style="list-style-type: none"><li>Procuring DOC/POL</li><li>Regular feeding</li><li>Farm management</li><li>Hand picking of eggs</li><li>Packaging</li><li>Record keeping</li><li>practicing good waste management (New)</li><li>several persons inspecting the animals (New)</li></ul>	<ul style="list-style-type: none"><li>Quality Eggs through feeding and health management of layers</li><li>Big size (New)</li><li>Strong shell (New)</li><li>Yellow yoke (New)</li></ul>	<ul style="list-style-type: none"><li>Long-term customer relationship</li><li>Existence of contract sales</li><li>Establishment of informal association with sellers</li><li>Promotions through social media marketing (New)</li><li>Promotions through regular visit to school, bakery and restaurants (New)</li></ul>	<ul style="list-style-type: none"><li>Wholesalers</li><li>Collectors</li><li>chain supermarkets (New)</li></ul>
	<b>KEY RESOURCES</b>	<b>UNIQUE PROPOSITION</b>	<b>CHANNELS</b>	
	<ul style="list-style-type: none"><li>Farmland</li><li>Pen House</li><li>Battery cage</li><li>Vehicles</li><li>Water System</li><li>Labours</li><li>Animals (DOC, POLS)</li><li>Financial Resources</li><li>Good housing condition for the birds (New)</li><li>Egg handling equipment (New).</li></ul>	<ul style="list-style-type: none"><li>Eggs with yellow yoke (New)</li><li>Branding wit names and repackaging (New)</li></ul>	<ul style="list-style-type: none"><li>Farm gate.</li><li>Superstore (New).</li><li>Organizations (New).</li><li>Local shops (New).</li></ul>	
			<b>In What Way</b>	
			<ul style="list-style-type: none"><li>By means of regular collection and delivery.</li><li>Issuance of invoices (New).</li><li>Pay after 4-7 days (New).</li></ul>	
<b>COST STRUCTURE (Per farmer with average)</b>			<b>REVENUE</b>	
<ul style="list-style-type: none"><li>Rent 3 acres of land (N2 Million)</li><li>Rearing Pen (N7 Million)</li><li>Laying Pen (N10 million)</li><li>Worker (N7500 weekly per worker)</li></ul>			<ul style="list-style-type: none"><li>Egg Sales: 1,015 Crates of Egg/week at N870 per crate containing 30 eggs (projected).</li><li>Litters (N200 per bag)</li></ul>	

- Less 15% weekly cost of feeds (~~₦~~660,000 - ~~₦~~99,000 = ~~₦~~ 561,000) (**projected**).
- Drugs- Multivitamin (~~₦~~16,000 per three month) & Drugs-Antibiotics (~~₦~~24000 per three months)
- Drugs-anti-worm (~~₦~~9000 per three month)
- Cost of fuelling two vehicles (16000 per week dropped to 8000) (**projected**) with the introduction of egg market.
- Diesel for Farm Plant (~~₦~~25,000 per week)

- Sales of dead chicken(~~₦~~1000)
- Sales of 76-78 weeks layers (~~₦~~1500 per bird)
- Improved egg quality will drive market demand (**New**).

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## Annex

<b>Checklist for focus group discussion and key informant</b>	
Who are the Stakeholders and their roles in the egg value chain?	<ul style="list-style-type: none"> <li>• The Actors and roles.</li> <li>• The important key partners.</li> <li>• The flow of transactions.</li> <li>• Drawing of value chain map.</li> </ul>
What is the value share per actor in the egg value chain?	<ul style="list-style-type: none"> <li>• Fixed costs per actor.</li> <li>• Variable costs per actor.</li> <li>• Revenues per actor.</li> <li>• Prices per actor.</li> <li>• Yields.</li> <li>• Gross margins per actor.</li> </ul>
What are the vertical and horizontal linkages between actors in the egg value chain?	<ul style="list-style-type: none"> <li>• Chain relationship between actors.</li> <li>• Chain relationship within each actor.</li> <li>• Associations function.</li> <li>• Contract agreements.</li> <li>• Power relationship in the chain.</li> <li>• Market information.</li> <li>• Social relationship in the chain.</li> </ul>
What are the factors limiting medium scale egg producers to get a better price in the egg value chain for a higher rate of return on investment?	<ul style="list-style-type: none"> <li>• Internal and external challenges.</li> <li>• Quality attributes.</li> <li>• SWOT.</li> <li>• PESTEC.</li> <li>• Canvas business model.</li> <li>• Porters five analysis tools.</li> </ul>

<b>Focus group discussion involving all stakeholders and chairman poultry association of Oyo state</b>	
What are the pros and cons that will enhance profit margin for medium scale egg producers to boost higher rate of return on investment?	<ul style="list-style-type: none"> <li>• Ideas and development.</li> <li>• Chain upgrading.</li> <li>• Contract and trust.</li> </ul>