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# ASSESSING THE IMPACT OF LIVESTOCK MARKETING ON TARABA STATE ECONOMY: A LOOK AT JALINGO LOCAL GOVERNMENT AREA

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## ABSTRACT

*This paper assessed the impact of livestock marketing on Jalingo LGA of Taraba State economy. Where 3 specific objectives were formulated as to assess the socioeconomic characteristics of livestock farming; identify the challenges facing livestock production to assess the sources of capital for the Livestock Farming and examine the extent at which livestock activities have improved the livelihood of the farmers through poverty reduction in Jalingo LGA of Taraba state. The study adopts CRP's theory of change (ToC) describes how increases in livestock productivity underpinned by technological interventions in livestock genetics, health and feeds combined with integrated solutions and enabling conditions (markets, policies, incentives) lead to SLOs. This study adopts a quantitative research design in analyzing the data. The ordinary least square regression analysis shall form the main procedure to the followed in testing our hypotheses in this work, from the analysis, it was revealed that the total revenue generated during the marketing process was about N6, 389,900 with gross margin of N398, 000 while the total cost of buying the cattle that were marketed amounted to N5, 809,000. This therefore, constituted about 96.94 percent of total cost. Transport cost accounted for 1.19% of the total variable cost, based on the findings, the study recommends that; Government and other lending agencies should do more and assist the marketers with accessible and affordable soft loan in order to reduce the problem of inadequate capital among the cattle marketers in the state.*

**Keywords: Assessment, Impact, Livestock, Marketing, Economy, Jalingo LGA.**

## Introduction

Livestock systems occupy about 30 percent of the planet's ice-free terrestrial surface area and are a significant global asset with a value of at least $1.4 trillion. (Steinfeld *et al*. 2016) The livestock sector is increasingly organized in long market chains that employ at least 1.3 billion people globally and directly support the livelihoods of 600 million poor smallholder farmers in the developing world (Thornton *et al*. 2016).

Livestock are important in supporting the livelihoods of poor farmers, consumers, traders and labourers throughout the developing world. The greatest impact of livestock in sustainable development designed to help the poor is enhancement of livestock-production systems. Animal diseases are crucial constraints in this: the animals of poor people are particularly vulnerable to disease because of the expense, absence or unsuitability of animal-health and production inputs. (FAO 2010).

Livestock production is an important part of the national economy and an integral component of state and local economies. The production of livestock, as well as other commodities, causes ripple effects throughout the economy in the form of employment; production in allied industries; taxes paid to local, state and federal governments; indirect impacts from purchases of input supplies; and induced impacts from household spending throughout the state.

The Nigerian cattle sector is the highest component of the total livestock cash income. During the past decade, it contributed an average of 12% of total Nigerian livestock cash income. (NBS 2010) Livestock-keeping households tend to be larger than non-livestock-keeping households, particularly in terms of dependants and working-age males (Table 3.4). As livestock-related activities are generally less seasonally circumscribed than those related to crops – which often have high labour demands at critical times in the crop life cycle, such as field preparation, planting or harvesting – livestock serve as a means of spreading the requirements for household labour more evenly across genders, ages and times of year. In many societies, children do much of the herding (up to 90 percent in pastoral systems), while women are often responsible for milking dairy animals and milk processing (Tangka, Jabbar and Shapiro, 2000). Pica-Ciamarra*et al*. (2010) found that having a higher proportion of female members in a household is significantly correlated with having a higher proportion of small animals, such as poultry and small ruminants, in the household herd/flock. This is plausible because small stock can be kept close to the household to be looked after by family members at the homestead, and small stock do not require major physical efforts for their handling.

A disadvantage of livestock keeping or its intensification is that it can increase total household labour demand, which may have a particularly strong impact on women, thereby also reducing the time and quality of care they can dedicate to young children or to income-earning activities other than livestock. For example, women in a dairy project in Kenya reported that the project benefits came at the cost of a higher workload (Mullins *et al*., 1996). A similar outcome is reported by Thomas-Slayter and Bhatt (1994) from a dairy intensification project in Nepal.

Livestock farming provides raw materials for various industrial branches such as meat, milk, egg, textile, wool and leather, helps in establishment and development of sub-industrial branches such as feed, medicine and equipment, and contributes to exportation of the country. Furthermore, animal manure is used in vegetative production, improving physical structure of soil and increasing the efficiency. Livestock farming enables utilization of the idle workforce in business organizations especially in the winter seasons during which no vegetative production activities take place in agricultural organizations. Since vegetative production relies on climatic conditions, livestock farming is a source of an additional income for agricultural organizations. (Bayrac and Cemrek, 2011: 2) As economics develops and advances, some sub-branches have emerged and specialized.

Livestock farming creates more than half of the value of the agricultural output in the world and one third of it in developing countries. Rapid growth in demand for livestock products (LPs) for the developing countries is viewed as a 'food revolution'. LPs are costly with regard to the staple food, therefore consumption levels in developing countries are still low, but they increase in line with rising incomes. Pork and particularly poultry meat consumption has the highest rate of growth. Growth in consumption is at the expense of increasing net imports of

all LPs. Increased production and higher self-sufficiency would save foreign exchange. Livestock farming also contributes to rural livelihoods, employment and poverty relief. They integrate with and complement crop production, embody savings and provide a reserve against risks. Some livestock products have special roles in traditional culture. (Upton, 2014). Incentives and subvention have been the most used means in public policies that aim to govern and support the livestock farming sector, which is an important branch of agriculture in Turkey. Generally, the purpose of intervention is to meet raw material need of the food industry or to protect consumers. On the other hand, the main purpose of state intervention in countries with insufficient production should be maintain sustenance and sufficiency in production, protect the producers and decrease costs. Organizations established by producers have not reached an effective level yet with respect to creating policies about livestock farming and implementing the prescribed policies. Bargaining powers of small-sized enterprises, which are common in Nigeria, is very low with regard to both sales of products and provision of inputs. This primarily leaves the producers no choice but sell their products with low prices and buy inputs at high prices. (Bayrac and Cemrek, 2011).

The livestock sector is one of the fastest growing segments of the agricultural economy, particularly in the developing world. As demand for meat and dairy products in the developing world continues to increase, questions arise as to how this demand will be met and by whom. Parts of the sector, particularly poultry and pig production, have followed a trend similar to that in developed countries, where largescale production units dominate output. The expansion of such trends across the whole livestock sector will have major implications for poverty reduction and food security.

Nigeria is presently in recession and there has been incidence of extreme poverty and malnutrition in the country, livestock contribute directly to the economy through employment generation, increase in savings and investment, foreign exchange earnings, contribution to human food and nutrition. Livestock also contribute indirectly to food security by increasing crop output through providing manure, and serve as a buffer to mitigate the impact of fluctuations in crop production on the availability of food for human consumption, thereby stabilizing food supply. Despite its smaller output compared with that of staple crops, productivity and income growth in the livestock sector have strong income multiplier and poverty reduction impacts.

In spite of all this livestock production has not been taken seriously as part of the contributor to Jalingo LGA of Taraba State economy as it is supposed to be and this has led to the study. To date, the transformation of the livestock sector has occurred largely in the absence of sector-specific policies; hencethereis need to considered "The impact of livestock marketing on Jalingo LGA of Taraba State economy: a look at Jalingo Local Government Area.

The main objective of the study will be assessing the impact of livestock marketing on Jalingo LGA of Taraba State economy. Whereas the specific objectives shall be as follow:

i. to access the socioeconomic characteristics of livestock farming in Jalingo LGA of Taraba State area;
ii. to identify the challenges facing livestock production in Jalingo LGA of Taraba State; and

iii. to access the sources of capital for the Livestock Farming in Jalingo LGA of Taraba State
iv. to examine the extent at which livestock activitieshave improved the livelihood of the farmers through poverty reduction in Jalingo LGA of Taraba State.

**Literature Review**

**Theoretical Frame Work**

**Impact pathway and theory of change**

The CRP's theory of change (ToC) describes how increases in livestock productivity underpinned by technological interventions in livestock genetics, health and feeds combined with integrated solutions and enabling conditions (markets, policies, incentives) lead to SLOs. Anchored in the research areas described above, it focuses on opportunities presented by small-scale production systems for a well-nourished, equitable, resilient, and environmentally healthy world over the coming decades.

The ToC is structured around the 'three spheres' concept, an outcome mapping tool developed by the International Development Research Centre (IDRC) (Ofir and Schwandt, 2012) that describes how the program is likely to affect change processes. The first sphere, of control, includes everything for which the CRP takes full responsibility and includes all outputs and engagement with partners and stakeholders. The sphere of influence, refers to the reaction the program expects to see as a result of its activities: how its 'close' stakeholders and others—next users—apply and/or respond to the program's outputs to achieve near-term or local development outcomes. The sphere of interest, includes the long-lasting changes to which the program contributes with a wide range of other actors. Here the program achieves widespread impact on the lives and livelihoods of its ultimate beneficiaries, thereby contributing to the IDOs and, through them, to the SLOs.

The program develops and deploys research-based solutions that will drive the transition of smallholder producers, value chain actors, consumers, pastoralists and agro pastoralists from near subsistence to productive small-scale enterprises and/or resilient livelihoods. It will enable livestock keepers to choose their destination—to contribute to the growth of the sector by becoming a profitable and professional small to medium-sized livestock business, to exit from agriculture with greater security than they would have had without the program's impact on their productivity and income, or to stay in the sector and enjoy livestock-based livelihoods that are more secure and sustainable but are unlikely to become more profitable (Dorward*et al.,* 2009).

Research outputs will derive from the five areas of research described above and in the flagship narratives. All five rely on enabling actions embodied in the cross-cutting themes of gender, youth and capacity development, in order to achieve impact at scale. The gender ToC is described below.

The research solutions developed will reflect, and in some cases cut across, sets of challenges associated with the rapid inclusive growth and the fragile growth trajectories. The first set, associated with inclusive growth, will support sustainable intensification and address nutrition and poverty through increased input supplies, productivity and income, together with the generation of ancillary business opportunities. The second set, associated with fragile

growth, will focus on enhancing the role of livestock in strengthening household and ecosystem resilience, protecting livelihoods and improving nutrition in poor households.
Being intentional about engagement with partners in all three spheres will result in international public goods (IPGs) in two respects. The first is through engagement and co-creation of technological and methodological breakthroughs through biophysical and social science research which are adopted and adapted globally. These range from new methodologies in vaccinology, to gender-based approaches to define entry points in pastoral systems. A second type of IPG will arise from the program's integrated work in focus systems and value chains, resulting in approaches widely applicable to livestock systems transformation beyond the program's work on the ground.

**Conceptual Clarification**

**Concept of Livestock**

According to Larson and Bradley (2014),Livestock is commonly defined as domesticated animals raised in an agricultural setting to produce labor and commodities such as meat, eggs, milk, fur, leather, and wool. The term is sometimes used to refer solely to those that are bred for consumption, while other times it refers only to farmed ruminants, such as cattle and goats. The USDA uses livestock similarly to some uses of the term "red meat", in which it specifically refers to all the mammal animals kept in this setting to be used as commodities. The USDA mentions pork, veal, beef, and lamb are all classified as livestock and all livestock is considered to be red meats. Poultry and fish are not included in the category. USDA. (2017).

The breeding, maintenance, and slaughter of livestock, known as animal husbandry, is a component of modern agriculture that has been practiced in many cultures since humanity's transition to farming from hunter-gatherer lifestyles. Animal husbandry practices have varied widely across cultures and time periods. Originally, livestock were not confined by fences or enclosures, but these practices have largely shifted to intensive animal farming, sometimes referred to as "factory farming". Now, over 99% of livestock are raised on factory farms. These practices increase yield of the various commercial outputs, but have also led to negative impacts on animal welfare and the environment. Livestock production continues to play a major economic and cultural role in numerous rural communities.

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**Animal husbandry**

Traditionally, animal husbandry was part of the subsistence farmer's way of life, producing not only the food needed by the family but also the fuel, fertilizer, clothing, transport and draught power. Killing the animal for food was a secondary consideration, and wherever possible its products, such as wool, eggs, milk and blood (by the Maasai) were harvested while the animal was still alive. Webster, John (2013). In the traditional system of transhumance, people and livestock moved seasonally between fixed summer and winter pastures; in montane regions the summer pasture was up in the mountains, the winter pasture in the valleys.

Animals can be kept extensively or intensively. Extensive systems involve animals roaming at will, or under the supervision of a herdsman, often for their protection from predators. Ranching in the Western United States involves large herds of cattle grazing widely over public and private lands. Similar cattle stations are found in South America, Australia and other places with large areas of land and low rainfall. Ranching systems have been used for sheep, deer, ostrich, emu, llama and alpaca, Levinson, David; Christensen, Karen (2003). In the uplands of the United Kingdom, sheep are turned out on the fells in spring and graze the abundant mountain grasses untended, being brought to lower altitudes late in the year, with supplementary feeding being provided in winter, Rebanks, James (2015).

In rural locations, pigs and poultry can obtain much of their nutrition from scavenging, and in African communities, hens may live for months without being fed, and still produce one or two eggs a week. At the other extreme, in the more developed parts of the world, animals are often intensively managed; dairy cows may be kept in zero-grazing conditions with all their forage brought to them; beef cattle may be kept in high density feedlots; pigs may be housed in climate-controlled buildings and never go outdoors; poultry may be reared in barns and kept in cages as laying birds under lighting-controlled conditions. In between these two extremes are semi-intensive, often family run farms where livestock graze outside for much of the year, silage or hay is made to cover the times of year when the grass stops growing, and fertilizer, feed and other inputs are bought onto the farm from outside. Fraser, Douglas (2017).

**Overview of Nigerian Economy and Its Livestock Sector**

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production relies on climatic conditions, livestock farming is a source of an additional income for agricultural organizations. (Bayrac and Cemrek, 2011: 2) As economics develops and advances, some sub-branches have emerged and specialized.

One of them is livestock farming, which has specialized forms in rural areas and agriculture. Livestock farming creates more than half of the value of the agricultural output in the world and one third of it in developing countries. Rapid growth in demand for livestock products (LPs) for the developing countries is viewed as a 'food revolution'. LPs are costly with regard to the staple food, therefore consumption levels in developing countries are still low, but they increase in line with rising incomes. Pork and particularly poultry meat consumption has the highest rate of growth. Growth in consumption is at the expense of increasing net imports of all LPs. Increased production and higher self-sufficiency would save foreign exchange. Livestock farming also contributes to rural livelihoods, employment and poverty relief. They integrate with and complement crop production, embody savings and provide a reserve against risks. Some livestock products have special roles in traditional culture. (Upton, 2014). Incentives and subvention have been the most used means in public policies that aim to govern and support the livestock farming sector, which is an important branch of agriculture in Turkey. Generally, the purpose of intervention is to meet raw material need of the food industry or to protect consumers. On the other hand, the main purpose of state intervention in countries with insufficient production should be maintain sustenance and sufficiency in production protect the producers and decrease costs. Organizations established by producers have not reached an effective level yet with respect to creating policies about livestock farming and implementing the prescribed policies. Bargaining powers of small-sized enterprises, which are common in Turkey, is very low with regard to both sale of products and provision of inputs. This primarily leaves the producers no choice but sell their products with low prices and buy inputs at high prices. (Bayrac and Cemrek, 2011: 2).

**Concept of Marketing**

According to Giles (1982), define marketing as the planning, coordination, implementation and controlling of all market transactions in such a way that a sustained satisfaction of the needs of current and potential customers toward the achievement of corporate objectives is granted, while at the same time contributing toward reducing ecological and social impacts and restoring social and ecological health.

According to Hunt and Vitell, (1986). Marketing is a field which is often viewed as inherently unethical, but it is in fact governed by law and standards of colleges and universities which teach marketing practices, and some institutions even have student associations dedicated to the development and promotion of ethics in business, including the marketing field. conduct just like any other field. People who are interested in selling agricultural product or work in the marketing field are expected to study and abide by the ethical standards of the industry, and academics interested in the study of marketing also look at how ethics are applied. According to Hombury, Krohmer and Workman (2014) awareness of ethical standards is heavily promoted at many. Literature search revealed that so many scholars in the field of marketing and service management have attempted to discover global or standard dimensions of service quality that are considered important by customers. However, the most significant contribution towards the development of a quantitative yardstick for assessing a

firm's service quality is conducted by Parasuraman et al (2015, 2018). Parasuraman et al (2018) identified five dimensions of service quality:

1. Tangible (the physical facilities, equipments, personnel and communication materials).
2. Reliability (the ability to perform a promise service dependably and accurately.
3. Responsiveness (the willingness to help customers and provide prompt service).
4. Assurance (the knowledge and courtesy of employees and their ability to convey trust and confidence).
5. Empathy (the caring attitude, which provides individualized attention to customers).

In this regard, there is the need to expand agricultural products frontiers via application of marketing principles in every society especially in developing country like Nigeria. This is important because it could increase earning from export, reduce imports, and contribute to G.D.P, employment generation and nutritional value to the populace. Based on the above identified five (5) dimensions of service quality. Livestock Marketing will be effective on the following ways:

**Customer Satisfaction: -** For most agricultural products, customer satisfaction has a strong positive effect on critical success factors such as customer loyalty (Serenko, 2006). Customer satisfaction is the extent to which a firm fulfills a customer's needs, desires and expectations better than competitors Perreault et al (2009). In the global market, every producer competes with each other for the same customer such that a single bad contact experience can have an exponential ripple effect (Jobber, 2004). A well organized complaints handling process can have an impact on customer satisfaction. Customers who complain and are well attended to can be more satisfied and less likely to switch than customers who had no cause for complaints at all (Nyer, 2000). Therefore, agricultural marketing cannot, however be planned and executed in isolation of the development, dynamism and improvement occurring in the business world. The growth of the agricultural sector is essential and indispensable in order to meet the challenges of the modern world. The concept of agricultural marketing will lead to effective and efficient distribution of product and livestock to the consumers at the right place, at the right price and time.

**Marketing Of Agricultural Products: -** In most developed countries, government acts through the various agencies and corporations for agricultural marketing which are supposed to buy directly from farmers, guaranteeing minimum prices for most commodities. It also finances the crops and supplies agricultural products to retailers. Furthermore, in time of scarcity it is the only one allowed (or using concession to private organization) to import foodstuffs and in time of glut it subsidizes farmers and arranges for the storage of the surpluses. The government also sets maximum retail prices for a variety of staples. Generally, the chain of distribution in agricultural marketing includes the producer, middlemen, wholesalers, government, retailers and cooperatives societies. While the producers (manufacturers and suppliers of agricultural goods) operate the dual system of distribution i.e. selling directly to wholesalers and retailers, the middlemen, who are also called the truckers provide essential roles in the channel of distribution as they finance the crops of farmers, supply them with seeds, fertilizers and other necessary inputs. This is mostly witnessed in cash crops like cocoa, palm oil and other locally consumed produce like corns, yams and livestock. Kotler, (2005) is of the view that a firm must set a price for the first time when it develops a new product, when it introduces its regular product into a new

distribution channel or geographical area and when it enters bids on new contract work. The firm must decide where to position its product on quality and price. Of paramount importance among the marketing mix variable is pricing.

Akankpo et al (2016) observed that grains could not be stored for a very long period because deterioration in quality occurs. In the area of transportation Damisa (2007) observed that transportation of rice product was well handled with little losses from torn bags, wastage in transit being recorded. This is in consonance with Johnson's (1999) submission that poor and expensive transport cost increases marketing cost and the substantial effect is usually felt by the consumers who bears the large percentage of the burden of the transport cost.

**Economic Growth and Development:-** The achievement of a high rate of economic growth is one of the four main objectives of macroeconomic policy, Spangenberg, (2004) the significance of economic growth lies in its contribution to the general prosperity of the community. Growth and development is desirable because it enables the community to consume more private goods and services, and it also contributes to the provision of a greater quantity of social goods and services (health, education etc), thereby improving real living standards. However, rapid economic growth can also contribute to the exhaustion of finite natural resources and exacerbate problems of environmental pollution (Goldstein, 2002). Lawrence et al (2005) observed that the ability of an economy to produce more goods and services is dependent on a number of factors:-

1. An increase in the stock and quality of its capital goods (capital accumulation)
2. An increase in the quantity and quality of its labour force. The standard of education as well as the ability to pay for it has decline sharply in Nigeria over the last decade.
3. An increase in the quantity and quality of its natural resources.
4. An efficient use of factor inputs so as to maximize their contribution to the expansion of output, through improved productivity.
5. The development and introduction of innovative techniques and new products
6. The level of aggregate demand, the level of demand needs to be high enough to ensure the full utilization of the economy. This is where the principles of marketing need to be applied.

Economic growth is usually measured in terms of an increase in real gross national product (GNP) or gross domestic product (GDP) over time or an increase in income per head overtime. The latter measure relates increases in total output to changes in the population. Therefore, if total output rises only a little faster than the increase in population, then there will be only a small improvement in average living standards. But in Nigeria, governments have given greater priority to the objectives of full employment and stable prices than the growth objective. Consequently, fiscal and monetary policies have been used mostly for the purposes of short-run demand – management and not for the longer-rung objective of economic growth (Iyoha, 2000).

**The Need for Marketing Ethics:-** Ethic marketing practices and principles are core building block in establishing trust, which help build long-term marketing relationships. In addition, the boundary-spanning nature of marketing (i.e., sales, advertising, and distribution) presents many of the ethical issues faced in business today. Therefore, ethical marketing from a normative perspective approach is defined as practices that emphasis transparent,

trustworthy, and responsible personal and organizational marketing policies and actions that exhibit, integrate as well as fairness to consumers and other stakeholders. Murphy, Laczniak, Bowie and Klein, (2015). Ethical issues in marketing have gone beyond just honesty in advertising. Issues like privacy and transparency have become relevant Fry and Polonsky, (2014) association like the AMA have published codes of practices for self-registration of marketing practices. Ethical issues are typically analyzed by stakeholders whom the marketing activities affect. With increasing competitive, markets were compelled to adopt practices that benefited customers. Otherwise, they could lose business to those competitors who adopted a more ethical approach towards consumers. Competition is thus one factor that compels businesses to pay attention to ethical issues in marketing.

**Concept of Agriculture**

Agriculture is the bedrock of economic growth, development and poverty eradication in the developing countries. Agriculture has also regarded as the engine and panacea to economic prosperity. In the words of Gunner Myrdal (2014), the battle for long-term economic growth will be won or lost in the agricultural sector. However, how this path leads to economic prosperity is still subject to debate among development specialists and economists.

Nigerian economy in past decades strives on the agricultural sector. The sector is reputed as the mainstay of the economy in the early 1960's. It is seen as the key driver for growth and development.

1960's. It is seen as the key driver for growth and development. In fact, to further buttress the pivotal role the sector plays in the Nigerian economy, the agricultural sector is part of the Millennium Development Goals program of poverty reduction in Nigeria. In most developing countries (low and middle-income countries), the agricultural sector remains, the largest contributor providing inputs, food, employment opportunities, raw materials for other industries, provision of foreign earnings from exportation of the surpluses, and more importantly the enormous advantage of the value added in the various production process (Izuchukwu, 2011).

**The Impact of Livestock farming on Economic Development**

An assessment of future livestock demand scenarios in Africa indicates that most of the supply is likely to come from smallholder and agro/pastoral production systems for the foreseeable future in Africa (Herrero *et al*., 2014) and Asia (Hemme*et al*., 2015). Even in economies that are changing rapidly, such as Vietnam, 95% of pork comes from small- to medium-sized producers and even with optimistic investment, industrial systems are unlikely to play a significant role in meeting demand for several decades (Lapar*et al*., 2012). A recent ISPC study (ISPC, 2014) anticipates the dominance of the smallholder sector for several decades to come.

**Livestock and equitable livelihoods.**

Livestock make multiple contributions to the economic and social wellbeing of people in the developing world, providing highly nutritious foods, an income stream, assets against which to borrow, the primary source of organic fertilizer, energy for cultivation or transport, and a host of social functions (Moll *et al*., 2007). Animals are a key asset in mitigating risk, especially in pastoral areas. In 2010 there were 752 million livestock keepers2 living on less than USD 2

per day (Otte*et al.,* 2012), so increasing livestock productivity and resilience provide a unique opportunity to lift people out of poverty. Investing in women's ability to raise animals has significant livelihood potential, not least because women are far more likely to own animals than land. Many more people derive indirect benefits from livestock through, for example, trading, input supply, marketing and processing—and their incomes could also rise if the sector were to become more productive, creating additional jobs and business opportunities throughout the sector.

**Classification of Livestock Systems**

**Solely Livestock Systems (L)**: Livestock systems in which more than 90 percent of dry matter fed to animals comes from rangelands, pastures, annual forages and purchased feeds andless than 10 percent of the total value of production comes from non-livestock farming activities.

**Landless Livestock Production Systems (LL)**: A subset of the solely livestock systems in which less than 10 percent of the dry matter fed to animals is farm produced and in which annual average stocking rates are above ten livestock units (LU) per hectare of agricultural land. The following additional differentiation is made: - *Landless monogastric systems (LLM):* A subset of LL in which the value of production of the pig/poultry enterprise is higher than that of the ruminant enterprises. - *Landless ruminant systems (LLR)*: A subset of LL in which the value of production of the ruminant enterprises is higher than that of the pig/poultry enterprise.

**Grassland Based Systems (LG)**: A subset of solely livestock systems in which more than 10 percent of the dry matter fed to animals is farm produced **and** in which annual average stocking rates are less than ten LU per hectare of agricultural land.

- *Temperate and tropical highland (LGT)*
- *Humid/sub-humid tropics and sub-tropics (LGH)*
- *Arid/semi-arid tropics and sub-tropics (LGA)*

**Mixed Farming Systems (M)**: Livestock systems in which more than 10 percent ofthe dry matter fed to animals comes from crop by-products, stubble or more than 10 percent of the total value of production comes from non-livestock farming activities.

**The Poultry Market in Nigeria: Market Structures and Potential for Investment in the Market**

Annual growth in gross domestic product (GDP) of 5% in recent years, this situation is likely to continue (International Monetary Fund 2014). In Africa, agriculture and agro-industries account for more than 30% of national incomes on average, as well as for the bulk of export revenues. Nearly three-quarters of the African population depend on agriculture to secure their livelihoods (Oram 2012; Connolly 2014).

Due to the high population growth in Africa (World Health Organization 2010) and growing income, the demand for eggs and poultry meat has significantly increased in recent years across large parts of the continent. According to estimates by the USAID (United States Agency for International Development), this trend is very likely to continue over the next few years. Therefore, the consumption of poultry and eggs will increase by 200% between 2010 and 2020 for at least some countries in sub-Saharan Africa (Obi 2003; USDA 2013).

One African country where this trend can clearly be seen is Nigeria. Nigeria is one of the largest countries in Africa, with a total geographical area of 923,768 square kilometers (Manyong et al. 2005). Its estimated population was 174.5 million people in 2013, and its population growth rate is 3% per annum (USDA 2013). Nigerian economic statistics reveal annual economic growth rates that averaged over 7% in recent decades, making Nigeria one of the fastest growing economies in the world (Byerlee et al. 2013). Nonetheless, this growth has not reduced poverty or created much-needed jobs. Unemployment is still very high, and more than 60% of the population lives below the poverty line (African Economic Outlook 2012).

In contrast to the rapid population growth in Nigeria, food production has not followed suit over the last 50 years (Wiggins and Keats 2013). Nevertheless, the sector is particularly important in that it has generated employment and contributed to GDP and export revenue earnings. Hence, agriculture constitutes one of the most important subsectors of the economy, employing nearly three quarters of Nigeria's work force (Phillip et al. 2009; Adene and Oguntade 2006).

Despite these positive aspects, poultry production has not been keeping pace with rapidly increasing domestic consumption. The domestic shortfall is estimated at 25,000 MT per annum (Rothschild 2002).

This lagging increase in domestic production can be explained by the fact that most producers in Nigeria still employ traditional rural poultry farming systems—although an increasing demand for poultry kept under modern and more hygienic conditions has been observed. Rural poultry farming is by convention a subsistence system comprising stocks of nonstandard breeds or mixed strains, types, and ages. A majority of the farmers operate in these traditional, small-scale structures. Often, these farming systems are characterized by outdated barn equipment and production techniques and inadequate hygiene management. In addition, producers suffer from a weak feed industry and poor market access as a result of inadequate infrastructure (Adene and Oguntade 2006; Alabi and Isah 2002).

However, in comparison to other parts of the world, productivity levels in sub-Saharan African agriculture and industry are still extremely low, and consequently agribusiness development cannot keep pace with the rapidly growing population and increasing incomes. As a result, food imports have grown since the 1970s, and sub-Saharan Africa has become a net food importer (World Bank 2007a). In Nigeria, wheat is the largest single import. To safeguard local production, some import prohibitions have recently been passed. For instance, to protect the Nigerian poultry sector there is a total ban on importing poultry, whether dead or alive (Nicely 2013).

To establish sustainable agriculture, higher agricultural productivity plays a key role for growth and development in most African countries (Larsen et al. 2009). Even though there is plenty of room to increase the productivity and the technical and economic efficiency of Nigerian poultry producers, poultry production is already highly profitable for Nigerian farmers (Aboki 2013; Ohajianya et al. 2013). This gives cause to hope that even more farmers can improve their financial situation through poultry farming.

Due to the liberalization of economies and the globalization of trade, the growth and development of agribusiness depend largely on international private sector initiatives or public policies (Larsenet al. 2009). The Nigerian government has therefore decided to liberalize competitive international trade (FAO 2014) in order to support the export of agricultural goods.

For Nigerian poultry producers, however, exports play only a minor role since poultry production is intended to meet the needs of the local population (Encyclopedia of the Nation's 2014).

**Livestock, food security and poverty reduction**

The livestock sector is one of the fastest growing segments of the agricultural economy, particularly in the developing world. As demand for meat and dairy products in the developing world continues to increase, questions arise as to how this demand will be met and by whom. Parts of the sector, particularly poultry and pig production, have followed a trend similar to that in developed countries, where largescale production units dominate output. The expansion of such trends across the whole livestock sector will have major implications for poverty reduction and food security. To date, the transformation of the livestock sector has occurred largely in the absence of sector-specific policies; this gap needs to be addressed to ensure that the livestock sector contributes to equitable and sustainable development.

Livestock can provide income, quality food, fuel, draught power, building material and fertilizer, thus contributing to household livelihood, food security and nutrition.

Strong demand for animal-based foods and increasingly complex processing and marketing systems offers significant opportunities for growth and poverty reduction at every stage in the value chain.

(iii) to protect the crucial safety-net function performed by livestock for the most vulnerable households.

Productivity growth in agriculture is central to economic growth, poverty reduction and food security. Decades of economic research have confirmed that agricultural productivity growth has positive effects for the poor in three areas: lower food prices for consumers; higher incomes for producers; and growth multiplier effects through the rest of the economy as demand for other goods and services increases (Alston *et al*., 2000). Agricultural growth reduces poverty more strongly than growth in other sectors (Thirtle *et al*., 2001; Datt and Ravallion, 1998; Gallup, Radelet Warner, 1997; Timmer, 1988). Recent research suggests that livestock sector growth can also promote broader economic growth (Pica, Pica-Ciamarra and Otte, 2008) and that smallholders can contribute to this (Delgado, Narrod and Tiongco, 2008). However, serious questions and policy challenges must be addressed if the potential of the livestock sector to promote growth and reduce poverty is to be met in a sustainable way.

**Livestock and livelihoods**

Livestock are central to the livelihoods of the poor. They form an integral part of mixed farming systems, where they help raise whole-farm productivity and provide a steady stream

of food and revenues for households. However, livestock's role and contribution to livelihoods in developing countries extends well beyond what is produced for the market or for direct consumption.

The number of poor people who depend on livestock for their livelihoods is not known with certainty, but the most commonly cited estimate is 987 million (Livestock in Development, 1999) or about 70 percent of the world's 1.4 billion "extreme poor".2

Table 10 shows this estimate broken down by agro-ecological zone and type of farming system. Data in the FAO RIGA database (FAO, 2009), which compiles information from nationally representative household surveys from 14 countries, indicate that 60 percent of rural households keep livestock.

**Livestock sector transformation and the poor**

The transformation of the livestock sector described in Chapter 2 is occurring most rapidly in developed countries and in developing countries that are experiencing strong economic growth. Livestock production remains largely unchanged in the poorest countries, where consumption and production of meat and milk have increased little, if at all, over recent decades. Livestock systems by poor, small-scale farmers, for whom they are an important safety net, providing both high-quality food and cash in times of need. Non-tradable livestock products and functions remain important in these systems. Livestock products are processed and marketed largely through informal systems. Nevertheless, even in the poorest countries, an emerging urban middle class has stimulated a fledgling, albeit small, formal market that supplies certified, processed and packaged products.

Globally, it is estimated that 90 percent of milk and 70 percent of ruminant meat is produced in mixed systems, as are more than one-third of pig and poultry meat and eggs.

In these mixed systems, livestock typically generate up to one-third of farm income.
Mixed crop–livestock systems thus make important contributions to the livelihoods, incomes and food and nutritional security of the rural poor (Costales, Pica-Ciamarra and Otte, 2007).
In those developing countries where income growth and the rise of an urban middle class have stimulated demand for livestock products, smallholder livestock keepers continue to operate in rural areas, but larger-scale, more-intensive and technologically sophisticated commercial operators begin to appear in peri-urban areas, especially in the poultry sector. Integrated operations also become established, in which large companies or cooperatives supply inputs and provide markets for small and medium sized contract growers.

Small-scale livestock keepers start to leave the sector as their need to keep a few livestock diminishes and the attractiveness and viability of the enterprise decline. The average size of holding of poultry and pigs tends to increase, although dairy herds often remain small. Even in rapidly growing markets, production and marketing of milk may still be dominated by the informal sector. Vertically integrated operators become larger and increasingly dominant, and small-scale poultry farmers find it increasingly difficult to stay in business, although small-scale pig keepers tend to be more successful in this regard.

In the most rapidly growing economies, smaller-scale livestock producers, especially of poultry and pigs, either join the ranks of subsistence farmers or leave the sector. A few may graduate to larger-scale operations.

**Livestock and poverty alleviation**

Expanding markets for livestock products would appear to offer opportunities for improving the incomes of the many rural poor who depend on livestock for their livelihoods. However, while the growth and over recent decades, China has seen an enormous increase in production of poultry meat and eggs through a combination of a growing number of birds and increasing productivity per bird. Feed conversion ratios for broilers in large-scale enterprises improved markedly between 1985 and 2005 and are now comparable to those achieved in similar operations in Europe andNorth America. Dramatic improvements in transport infrastructure since the mid-1980s have been recorded.

**Commercial poultry sector**

In this report, the so-called backyards and all farms of Sectors 2 and 3 and some of Sector 1 (according to the FAO classification), are included in the commercial sector because their management and rearing practices are quite similar. They differ in only a few technical solutions, particularly among the smallest producers, and usually linked to available economic means and climatic conditions. The scale of production does not significantly affect management and biosecurity practices.

There is a Poultry Association of Nigeria (PAN), but only the bigger producers are active members because, according to those interviewed, the association offers no practical advantage to the smaller producers who, in any case, often have difficulty paying registration and annual fees. Nevertheless, a strong national poultry association could offer important practical support to all producers.

Although production is generally not specialized, bigger farms raise more layers, while the backyards and small producers prefer broilers, in addition to turkeys and other species of birds. Nevertheless, larger flocks of layers are very often associated with smaller flocks of broilers, and batches of birds of different ages are mixed in the same compound. This is typical with layers, where different batches of adult chickens (the mission reported up to four batches) are present in the same farm, although housed in different cages. This habit is practised less with broilers, but the mission reported cases where chicks with one week of age difference were kept together.

The main reason for these practices is economic. Part of the daily income from the sale of eggs is used to purchase daily input for broilers, without an effective expenditure plan. The smallest producers prefer to rear broilers because the turnover rate of the investment is quicker. Buying a small batch of birds requires less cash (DOCs are only purchased with cash). To keep layers of different ages allows constant production without months of interruption in income and constant expenditure. The final result is that the "all in - all out" policy is simply not possible, with the exception of small-scale and backyard producers who often rear only one batch of broilers at a time. Batches of new birds are generally housed in separate cages, but direct and indirect contact with the other birds is common.

Farms and backyards are dispersed throughout the territory with no criteria and different production units are most often relatively close to each other. Equally, there is no modularity or standard in the production process; the closest that exists is the transport crate for DOCs that contains 50 chicks.

**Empirical Review**

According to Girei, Dire and Bello; (2013); assessed the cost and returns in cattle marketing in central Adamawa State, Nigeria. Data for this study were collected from activities of cattle marketer for the year 2012. The data were collected using structured questionnaire. One hundred and twenty (120) Cattle marketers were administered with questionnaires. A total of Ninety questionnaires were used for analyzed. However, both descriptive (frequency, percentage and mean) and inferential statistics was used for analyzing the data generated from the study. Analysis of the structure and performance of cattle marketers was done using Gini coefficient and marketing margin analysis. The results obtained from the study revealed that, performance of cattle marketers which was analyzed using marketing margin techniques was found to be 9.09 percent. This indicates that, marketers obtained 9.09 percent of the final sales which is paid by the consumers. Also, the analysis of seller concentration of cattle marketing shows that, a Gini coefficient of 0.65 was obtained. The relatively high Gini coefficient which by the analysis tends to approach one (1) is a clear indication of inequality in earnings from the sales of the animals and high marketing concentration.

Mafimisebi, Bobola&Mafimisebi, (2013), investigate the Fundamentals of Cattle Marketing in Southwest, Nigeria: Analyzing Market Intermediaries, Price Formation and Yield Performance using primary data collected from 120 respondents selected through multi-stage sampling technique. Data analytical tools included descriptive statistics, budgeting and price formation strategy models. Empirical results showed the market is dominated by males (87.5%), market intermediaries less than 50 years (64.0%) who had formal education (68.0%). The three most important intermediaries were dealers, retailers and brokers. Transportation accounted for 74.3% and 46.2% of Total Variable Cost incurred by dealers and retailers. Cattle marketing was profitable with gross margin per head of cattle sold being N 6548, N 4,655 and N 2,342.50, respectively, for dealers, retailers and brokers while profitability ratio was 1.09, 1.07 and 1.03, respectively. The factors considered important in cattle price discovery included body condition, payment mode and type of buyers while breed, seller category and colour were the least important. Constraints to cattle marketers included insufficient capital, poor roads and insecurity identified by 85.0%, 83.3% and 79.7% of the respondents, respectively.

**Methodology**

Since the aim of this paper is to assessing the impact of livestock marketing on Jalingo LGA of Taraba State economy (2019 and 2021), it is an empirical study. This study adopted a quantitative research design in analyzing the data. The ordinary least square regression analysis formed the main procedure which followed in testing the hypotheses in this paper.

The study was carried out in Jalingo LGA of Taraba State, Nigeria. The state contains sixteen (16) Local Government Areas, the major ones being Jalingo, Ardo-kola, Wukari, Takum, and Bali. The majority of the state's citizens live in urban centers. Jalingo is located in the Northern senatorial district of Jalingo LGA of Taraba State, Bali is in the Central part of Jalingo LGA of Taraba state and the ethnic composition of fulanifufulde is Hausa who speak a variant of the Hausa language and also othertribal dialect.

Data were collected using a well-structured questionnaire using a two-stage sampling technique of first selecting five types of livestock farmers which include the herdsmen, shepherd, fishery and poultry farmers, second shall be a random selection of 35 livestock farmers for each of the four (4) types of livestock farming. This shall make it 175 questionnaires but may had a return of numbers that will be valid for the analysis of the study. Descriptive statistics shall be used to analyze the data.

Jalingo LGA of Taraba State is divided into three agricultural zones. Local Government Areas with medium concentration of livestock marketing in Jalingo LGA of Taraba State were purposively selected for the study. Based on this, one local government area with high concentration of livestock marketing in Jalingo LGA of Taraba State shall be purposively selected from each of the three senatorial zones in Jalingo LGA of Taraba State thereby bringing the total to three local government areas selected for the study. From each of the selected local government areas, 40 cattle reared shall be randomly selected giving a total of 120 respondents.

The study made use of data from primary and secondary sources, qualitative data from the respondents that were involved in grazing of livestock like cattle, sheep and goats and the rearing of other livestock like fowl (poultry) and pig farming in some selected areas in Jalingo LGA of Taraba State as a case study. Secondary data were obtained from the statistical bulletin of the Central Bank of Nigeria and used for the reference and review of the study.

The primary data was obtained through a structured questionnaire, copies which were administered to the 120 respondents selected for the study. The instrument used for data collection was a self-structured questionnaire tag: Assessing the Impact of Livestock Marketing on Jalingo LGA of Taraba State Economy. Each questionnaire comprised of two sections: A and B. Section A contained demographic information of respondents. Section B contained items that illicit the response of household on their livestock activities in respect to their income and livelihood.

In this study questionnaires' face and content validity was ascertained by experts from Department of Educational Psychology, Taraba State University. An instrument has face validity when the items on it seem to measure the intended concept (Rubin & Bellamy, 2012). Content validity refers to the degree to which a measure seems to cover the entire range of meanings within a concept (Rubin & Babbie, 2016). Face validity is usually established by a panel of experts (Kraska-Miller, 2014) and likewise to content validity (Jackson, 2016.

Test-retest method was used to determine reliability of the questionnaires based on a pilot study carried out among 245 pupils (10% of pupils' population). Test-retest reliability of a test is measured by correlating the scores from a set of subjects who take the test on two occasions (Kline, 2013). Reliability coefficients were found to be 0.83 and 0.97 for questionnaire on pupil discipline and academic performance respectively. Test and retest were conducted two weeks apart because approximately two weeks is a common interval between the tests (Rubin & Babbie, 2016).

Data were cleaned up and cross-checked for correctness before analysis. Data checked was coded and entered to Microsoft office excel 2007 and exported into SPSS version 20.0 for

statistical analysis. Both descriptive and analytical statistical procedures were utilized. Descriptive statistics like percentage mean and standard deviation were used for the presentation of demographic data. Significant differences between household income generations on livestock farming across the socio-economic status of the respondents were determined in ANOVAs and Chi-square at a confident level of 0.05. The null hypothesis was tested using t-test analysis.

Marketing margin analysis was used to determine the marketing margin of livestock marketing in the study area. The market margin or the farm-to-retail price spread is the difference between the farm value and the retail price. It represents payments for all assembling, processing, transporting, and retailing charges added to farm products (Elitzak, 1996).

Marketing margin can be computed using the formula:
Marketing margin (MM) = Selling price – supple price x 100
Selling price 1
Where,
Selling price is the retail price at the consumer end
Supply price is the farm price at the producer end
The profitability of cassava marketing in the study area was tested using the t-test statistic formula. The t statistic to test.

**Data Presentation, Analysis and Discussion of Findings**
**Respondent's characteristics and classifications Part A**

**Source:***Field Survey, 2023*

| S/No | Variables | Frequency (100) | Percentage (%) |
|---|---|---|---|
| **1** | **Gender** | | |
| | Male<br>Female | 55<br>45 | 55%<br>45% |
| **2.** | **Age (years)** | | |
| | Less than 30<br>31 – 30<br>31 – 40<br>41 – 50<br>51 and above | 5<br>53<br>37<br>5<br>Nil | 5%<br>53%<br>37%<br>5% |
| **3** | **Marital status** | | |
| | Never<br>married<br>Married<br>Widow/widower | 58<br>32<br>10 | 58<br>32<br>10 |
| **4** | **Educational level** | | |
| | No formal education<br>Primary school<br>Secondary<br>OND/NCE | 17<br>10<br>58<br>15 | 17<br>10<br>58<br>15 |

| | | | |
|---|---|---|---|
| | HND/University | Nil | |
| **5** | **Household size** | | |
| | 1- 5<br>6 -10<br>More than 10 | 72<br>28<br>Nil | 72<br>28<br>Nil |
| **6** | **Marketing Experience (years)** | | |
| | Less than 5<br>6 – 10<br>11 – 15<br>16 and above | 70<br>30<br>Nil<br>Nil | 70<br>30<br>-<br>- |
| **7** | **Type of Beef Marketer** | | |
| | Whole seller<br>Retailer<br>Both | 15<br>68<br>17 | 15<br>68<br>17 |

**Gender of Respondents**

The result of the study in Table1 showed that 55% of beef marketers were male while 45% were female. This showed that men dominated in beef marketing in the study area.

**Age Distribution of Respondents**

The result of age distribution of respondents showed that most of them 21 – 30 years representing 95%. This means that most of the respondents are still in their economically active age group.

**Marital status of Respondent**

The marital status of respondent showed that 58% were never married, 32% were married, while 10% were either widow or widower. The high percentage of those who were not married was due to the fact that they derived enough income from beef marketing to support themselves.

**Educational level of Respondent**

The result in Table1 showed that 17% of respondent had no primary education, 10% had primary school education while 58% acquired secondary education. It shows that most beef marketer in the study area had acquired secondary education. This is an indication of some level of literacy among the beef marketers.

**Household Size of Respondent**

The result in Table1 also showed that the household size of respondent belong to small household of 1-5 people representing 72% while 6-10 represent 38% of the respondents in the study area.

**Marketing Experience of Respondent**

The study revealed that 70% of the respondents have been in the business for less than five years, 30% of the respondents had 6-10 years of marketing experience.

**Level of Beef marketing of Respondents**

From Table1, it can be seen that 68% of the respondents were retailers, 17% were both retailer and wholesaler while 15% of them were wholesaler. The findings showed that retail marketing of beef is the commonest form of beef marketing in the study area.

**Profit level of the respondents**

From the result presented in Table 2, the beef marketers incurred a total variable cost which include cost of purchase, transportation cost, packaging, storage and middle men profit of N465.00 and generated a revenue of N626.00 per kilogram of beef. A profit margin of N161.00 per kilogram of beef was obtained showing that beef marketing is profitable in the study area. Since items of beef marketers are variable (i.e negligible fixed cost), gross margin was estimated to be the profit. The total cost as used here excludes fixed costs.

**Constraints Faced by Beef Marketers**

The study revealed several problems militating against the effective and efficient marketing of beef in the study area.

These constraints are presented in Table 3.

High transportation cost: This is the most serious constraint(X=4.52).If the cost of transportation is high, this will increase the marketing margin of a kilogram of beef on the sellers side while a kilogram of beef is increase, the consumers tends to purchase a lower quantity of beef

(a) Risk of spoilage- This is the second most serious problem of beef marketing(X=4.32). There is high risk of spoilage of beef due to the erratic power supply. This facilitates spoilage of what is not sold.

(b) Inadequate storage facilities- The beef marketers are unable to afford good storage facilities in storing beef. This can lead to quick deterioration of the beef.

However, high transportation cost was the major problem among beef marketers. The constraints are ranked using the rank of mean with; transportation (X=4.52), risk of spoilage (X=4.32) and inadequate storage facilities (X=4.21)

Table 5 shows the educational level of respondents with 110 respondents representing 27.5% of the sample population as having the Senior Secondary School Certificate (SSCE). Other levels of qualification of respondents range from OND/NCE 105 respondents representing 26.25% of the sample population while only 95 respondents representing 23.75 % have the Higher National Diploma or the Bachelor Degree. The last in that category are respondents who have undergone Postgraduate Studies. This category is 90 in number representing 22.5 % of the sample population.

**Structure and performance of cattle marketers**

The performance of livestock marketers which was analyzed using marketing margin techniques was found to be 9.09 percent. This indicates that, marketers obtained 9.09 percent of the final sales which is paid by the consumers.

**Presentation and Analysis of data according to research statement**

**Table 2:** Cumulative Percentage of No. of Cattle Marketers

| Variable | F | % Total (X) | % Total Revenue | Cumulative % of total revenue (y) | X | Y | ∑XY |
|---|---|---|---|---|---|---|---|
| 44000 | 1 | 1.10 | 3.41 | 3.410 | 0.011 | 0.0341 | 0.0003751 |
| 49000 | 2 | 2.20 | 3.84 | 7.250 | 0.022 | 0.1135 | 0.0015950 |
| 52800 | 1 | 1.10 | 4.10 | 11.35 | 0.011 | 0.1135 | 0.0012485 |
| 55000 | 24 | 26.7 | 4.27 | 15.62 | 0.267 | 0.1562 | 0.0417054 |
| 57200 | 2 | 2.20 | 4.44 | 20.06 | 0.022 | 0.2006 | 0.0044132 |
| 60500 | 5 | 5.60 | 4.69 | 24.75 | 0.056 | 0.2475 | 0.0138600 |
| 66000 | 20 | 22.2 | 5.12 | 29.89 | 0.222 | 0.2989 | 0.0663558 |
| 71500 | 2 | 2.20 | 5.55 | 35.42 | 0.220 | 0.3542 | 0.0077924 |
| 77000 | 15 | 16.7 | 5.97 | 41.39 | 0.167 | 0.4139 | 0.0691213 |
| 79200 | 1 | 1.10 | 6.14 | 47.53 | 0.011 | 0.4753 | 0.0052283 |
| 82500 | 2 | 2.20 | 6.40 | 53.93 | 0.022 | 0.5393 | 0.0118646 |
| 88000 | 6 | 6.70 | 6.82 | 60.75 | 0.067 | 0.6075 | 0.0407025 |
| 99000 | 2 | 2.20 | 7.68 | 68.43 | 0.022 | 0.6843 | 0.0150546 |
| 110000 | 4 | 4.40 | 8.53 | 76.96 | 0.044 | 0.7696 | 0.0338624 |
| 132000 | 2 | 2.20 | 10.24 | 87.20 | 0.022 | 0.8720 | 0.0191840 |
| 165000 | 1 | 1.10 | 12.80 | 100 | 0.011 | 1.0000 | 0.0110000 |
| **1289200** | **90** | **100** | | | | | **0.3433631** |

**Source:** *Field Survey, 2023*

**Cost and Returns**

The cost associated with Cattle marketing includes the following headings. i. Cost of buying cattle. ii. Cost of Transportation. Government Taxation (commonly known as "Jangali" in the northern state of Nigeria). Cost of loading/ off-loading of cattle for transportation. v. Commissions.

**Table 3:** Total Cost and Returns of Cattle Marketers

| Item | Amount (N) | %TVC |
|---|---|---|
| Cost buying cattle | 5,809,000 | 96.94 |
| Cost of transportation | 71,850 | 1.19 |
| Government Taxation | 17,250 | 0.28 |
| Cost of loading and off-loading | 20,500 | 0.34 |
| Commission ("la'ada" in local language) | 73,300 | 1.22 |
| Total Variable Cost | 5,991,900 | 100 |
| Total Revenue | 6,389,900 | |
| Gross Margin | 398,000 | |
| Market Margin | 9.09% | |

**Source:***Field Survey, 2023*

From the analysis, it was revealed that the total revenue generated during the marketing process was about N6, 389,900 with gross margin of N398, 000 while the total cost of buying

the cattle that were marketed amounted to N5, 809,000. This therefore, constituted about 96.94 percent of total cost. Transport cost accounted for 1.19% of the total variable cost. Other cost, such as government taxation, loading and off-loading, commissions (la'ada) incurred by the respondents accounted for 0.28, 0.34 and 1.22 percent respectively. Similarly table 4 below, captured the cost of marketing per head of cattle.

**Table 4:** Cost of marketing Per Head

| **Item** | **Amount (N)** |
|---|---|
| Cost of buying cattle | 36,000 |
| Cost of Transportation | 600 – 1000/ 500 (by trek) |
| Government Tax | 250.00 |
| Cost of loading & Offloading | 300.00 |
| Commission | 200 - 1000 |

**Source:** *Field Survey, 2023*

This table further shows that, the least cost per head of cattle was thirty six thousand Nigerian naira (N36, 000.00). This cost may obviously vary depending on the time of marketing, type (either male or female), breed, location of market, body build-up of the animal, etc. The transportation cost per head also varies depending with the mode of transportation from the source of the suppliers. This could either be by trekking (by local means such as pushing them in group and by foot). According to the study, the cost of this mode of transportation attracted a cost of about N500.00 per head. Similarly, the study also revealed that, same transportation distance attracted between N600.00 to N1, 200.00 per head using conventional means such as the use of vehicles. The study further shows that, for each head of cattle brought to the market, a tax fee of N200.00 is paid to the Local Government Authority for coming in and out of the market. The cost is normally part of the internally generated revenue efforts of the Local Government to complement the receipt from the central government monthly allocation being received. Similarly, these monies are expected to accumulate and possibly used for providing basic social and infrastructural services in the local government area. In addition, the monies realized are also expected to service and maintain the market, provide security for the marketers and the animals themselves. Furthermore, about N300.00 is paid for loading and off-loading of animal from the point of supply to the point at which the animal are to be sold. Commission on any sale per animal attracts between N200.00 – N1000.00 and this amount is neither fixed nor remittable to the government account, but rather being possibly a settlement between operators to the settle witnesses and bargainers during the marketing process. The payment of the commission may also be based on understanding, relationship between the parties involved.

**Constraints associated with Cattle Marketing**

Constraints associated with cattle marketing in the study area during the period under review includes; capital, transportation, access road, inadequate information about the market, inadequate infrastructure facilities such as shades for both marketers and the animals, watering points for both human and animal consumption, environmental concerns security etc. Constraints generally refer to the bottlenecks, problems, impediments or eve the to smooth conduct of any given operation or activities. Like any given investment, cattle

marketing in the study area experienced a lot of hiccups as simply classified in table 5 below. Table shows the classification of constraint associated to cattle marketers in the study area.

**Table 5:** Distribution of respondents according to problems of cattle marketing

| **Problems** | **Frequency** | **Percentages** |
|---|---|---|
| Transportation | 14 | 15.6 |
| Capital | 22 | 24.4 |
| Lack of shade/Inadequate structure | 11 | 12.2 |
| Buying of stolen animals | 11 | 12.2 |
| Fluctuation in demand | 10 | 11.1 |
| Inadequate market information | 8 | 8.9 |
| Security | 7 | 7.9 |
| **Total** | **90** | **100** |

**Source:***Field Survey, 2023*

Analysis of the problems experienced by the marketers in the study area revealed that 24.4 percent of the respondents indicated inadequate capital as their major problem. According to Maianguwan, (2013), insufficient access to capital forces the poor to engage in less productive farm and non-farm enterprises, thus foregoing income. This suggests that, with availability of capital and its accessibility, a good number of people would enter into cattle marketing activities and thus perform effectively being a profitable venture. Similarly, about 15.6 percent of them reported high transportation cost. Similarly, others complained of fluctuations in demand which accounted for 11.1 percent, with inadequate market information constituting 8.9 percent while security constituted 7.9 percent.

**Testing of the Data Analysis**

Table1 below depicts the multiple regression result describing the impact of agriculture in the Nigerian economy, Gross Domestic Product (GDP) as dependent variable and Domestic savings, Government Expenditure on Agriculture and Foreign Direct Investment on Agriculture, as independent variable.

**Table 1:** Model Unstandardized coefficients

| | *B* | Std Error | t | significance |
|---|---|---|---|---|
| (Constant) | 297296.536 | 23523.151 | 12.638 | .000 |
| Domestic Savings | .113 | .021 | 5.464 | .000 |
| Govt. expenditure | .848 | 1.782 | .475 | .640 |
| FDI on Agric | 56.431 | 27.556 | 2.047 | 0.56 |

**Source:** *Field Survey, 2023*

R 0 .902, R-square 0 .813, Adjusted R-square 0 .782, std. error of the estimate 50000.9132

**Table 2 ANOVA[b] Data Analysis**
**ANOVA[b]**

| Model | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|
| 1 Regression | 1.954E11 | 3 | 6.513E10 | 26.052 | .000[a] |
| Residual | 4.500E10 | 18 | 2.500E9 | | |
| Total | 2.404E11 | 21 | | | |

**Source:** *Field Survey, 2023*

The result from the ANOVA table (Table 2) shows that all the three variables have a significant impact on GDP. From table 1, it could be observed that Foreign Direct Investment on Agriculture contributes the most (56.43) this means that for every unit change in FDI there is a corresponding change of 56.43 in GDP. Domestic savings also contributes to GDP, for every unit change in Domestic Savings there is a corresponding change of 0.113 in GDP. Looking at the P- value of the government expenditure on agriculture P- value is 0.640 > 0.005, though we could be tempted to say that government expenditure is insignificant, we use statistical reasoning to say that we do not have enough evidence to make that conclusion, if the value of the coefficient is anything to go by, then we conclude that for every unit change in government expenditure there is a corresponding change in GDP by 0.848. In furtherance to the above result a look at the P-value of table 2 on the Anova table reveals that all three predictor variables significantly contribute towards GDP.

**Discussion of the Results**
The value of R= 0.902 tells us that there is a high positive relationship between the predictor variables (Domestic Savings, Government Expenditure on Agriculture and Foreign Direct Investment on Agriculture) and GDP. The value of $R^2$ of 0.813 (known as the coefficient of determination) tells us that 81% of the variation in GDP could be explained by Domestic Savings, Government Expenditure and Foreign Direct Investment while the remaining 19% could not be accounted for. The Adjusted $R^2$ of 0.782 is close to the $R^2$ value of 0.813 meaning that the model is fit for making generalization. Furthermore, the value of F= 26.052 indicates the model's goodness of fit to the data.

High returns as well as high concentration in the market recorded in cattle business was a positive achievement hence, a clear indication of inequality in the marketer's earnings was also discovered. The formation of strong market/trade union to make uniform or standard scale and prices would to a great extent improve the structure and performance in the industry as well as capacity building to the marketers on the improved marketing techniques and methods increase performance in the industry.

Analysis of seller concentration of cattle marketing also shows that, a Gini coefficient of 0.65 was obtained. The relatively high Gini coefficient which by the analysis tends to approach one (1) is a clear indication of inequality in earnings from the sales of the animals and high marketing concentration. As state-controlled agricultural marketing boards were abolished or scaled down, it was reported that domestic trade in agricultural products was taken over by

a myriad of small operators operating in a rudimentary fashion. Fafchamps, (2003). The high concentration is therefore an indication that may lead to market imperfection and poor marketing performance. Since the number of firms are many and all of them selling homogenous products, it implies that there might not be restrictions of new firms in to and out of the markets thereby resulting in the existence of pure competition and this may have the tendency at bringing about inequality in earnings among the various markets with some few individuals controlling the operations of the markets. There is also more scope for middlemen to exploit either the consumers by charging them higher price or the cattle farmers by paying them low prices for their animals.

Table 4 showed the result of the regression analysis of factors affecting marketing margin of beef. The linear function was selected as the best fit. The adjusted $R^2$ was 0.765 indicting that the independent variables accounted for 76.5% variation in the marketing margin. The Fcal (47.062) was significant and indicated that the model is a good fit. Some of the explanatory variables were significant at 5%, that is, they have significant effect on the marketing margin. These were cost of purchase, cost of packaging and middlemen profit. The implication of this is that increase in middlemen profit, cost of purchase leads to increase in the marketing margin of marketers. Unfortunately, we do not have at present a viable alternative in place, as most government and private beef production projects, making use of modern methods, are yet to make an appreciable impact.

The national meat supply position is very critical. The situation appears to be deteriorating with time. But for the needed support given in the form of massive importation of meat and meat products in recent years, the national meat shortage situation would have attained acrisis dimension (Oyenuga, 1982). Beef accounts for more than 50 percent of Nigeria's total meat supply. Although it has always been difficult to specify by number or by its proportion of the national herd, it is, nevertheless, known that, a significant portion of the locally produced beef derived from trade cattle from Nigeria's neighbors like Chad, Niger and Cameroon. This has significantly reduced the acute beef shortage that would have been experienced if Nigeria had relied entirely on her own resources for meat supply.

Nigeria with a population of over 180 million people requires several heads of cattle to satisfy its demand for cattle and cattle products. With more than 80% of the cattle population in the hands of traditional pastoralists, the supply cannot match the demand. In an effort to bridge the gap, cattle importation is used. The imported figures as at January 1996 was 5,142 heads (Usman, & Nasiru,2005), cattle off-take rate was estimated at 12% per annum starting from the base year. This was found to be 1,673,640 heads of cattle as at 1990, 1,759,091 for 2004 and is projected to be 1,769,672 by 2010. Furthermore, the beef equivalent per annum was also estimated. This was found to be 209,205,000 kg as at 1990, 219,886,378 kg by 2004 and is expected to reach 221,208,999 kg by the year 2010. The low figures may be attributed to the slow growth rate, poor conception rate, delayed age at first calving, long calving interval and low carcass yield of our traditional breeds coupled with extensive traditional management.

According to Usman and Nasiru(2005), the average price trend of cattle in Northern Nigeria ranges from N20,272 to N22,342 for a steer, whereas that of a cow averages N16,206 and N19,773 by January to December, 1996, respectively. As at 2005 the average price of a steer

was N35,000 while that of a cow was N30,000. This shows an increase of 313% for steers and 152% for the cows which indicated that, the former fetches more money than the latter.

**Conclusion**

Despite the various constraints experienced in the study area, cattle marketing was identified as a profitable venture, the results revealed a gross margin of N398, 000. Hence, the profit margin can be improved if consideration is geared towards addressing all the identified constraints that tends to increase the marketing cost and thereby causing losses to the industry. The findings further showed a marketing margin of 9.09 percent with a Gini coefficient of 0.65. High transportation cost including, contingency, inadequate capital, inadequate structures, inadequate market information, buying of stolen animals and fluctuations in demand were identified as problems faced by the marketers.

**Recommendations**

Based on the findings, the study recommends that: Government and other lending agencies should do more and assist the marketers with accessible and affordable soft loan in order to reduce the problem of inadequate capital among the cattle marketers in the state. Marketers should form / strengthening their associations and cooperatives for extensive information sharing and in-leading between and among members. Government at all levels should also be willing to provide information to marketers and researchers so as to help in addressing the problems associated with cattle marketing for necessary support and legislations. This can be achieved through extensive and improved extension service delivery through change agents. Meanwhile, taxations and harassment by government agencies should be eliminated in order to improve and sustain the industry and make it more attractive, surest and suitable means of achieving food security, improving protein intake, generation of employment and eventually wealth creation that will guarantee improved economic and social wellbeing of the citizens.
However, in order to improve the agricultural sector in Nigeria, the following suggestions are been proposed for consideration.

a. The government should provide more funding for agricultural universities in the country to carry out more research on all aspect of agricultural output, such as livestock, crops, fishing and forestry, crop preservation.

b. The Central Bank of Nigeria should come out with stable policy guideline to enable the commercial banks disburse loans to farmers at a very lower interest rate, in order to help them expand their production capacity. Training more extension workers to educate farmers in the use of modern production techniques to help boost the country's production capacity.

c. Government should encourage the use of modern mechanized farm tools, and subsidize the prices of agro-chemical and fertilizer for farmers.

d. Establishment of more research institute to improve seedling production, encourage the use of irrigation farming system and provision of storage facilities for seasonal products as means of improving the country's agricultural output.

e. Government should encourage more exportation of agricultural output as this in turn will enhance external foreign exchange earnings and improve the competitiveness of Nigerian agricultural produce in the international markets.

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