WOLKITE UNIVERSITY

COLLEGE OF SOCIAL SCIENCE AND HUMANITIES
DEPARTMENT OF GEOGRAPHY AND ENVIRONMENTAL STUDIES

LIVESTOCK CONTRIBUTION ON FARMER'S INCOME IMPROVEMENT IN ABICHU GNEA WOREDA, THE CASE OF NESIRI TRIGN KEBELE.

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Declaration

Kebede, Atetegeb and Tamirat do here by declare to Wolkite University Department of Geography and Environmental Studies that this thesis is a product of our original research work, and it has not been submitted to any other university for any academic degree. Any materials and information in a report other than our own are duly acknowledged.

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ABSTRACT

This study describes an assessment on livestock contribution for farmers in come improvement in Abichu Gnea woreda the case of Nesiri Trign kebele. The study specified the objectives of to identify livestock contribution farmer income in the study area to assess the factors livestock production, to compute the contribution of livestock in the form income and to total income of the farmers to examine the role of livestock to food security and increase economy as a whole. The research design was used in this study descriptive survey research in order to describe the livestock contribution of farmer's income in Nesiri Trign kebele in Abichu Gnea woreda, North Showa Zone.

In this research simple random sampling was used and also which is embraced information from the respondents that is through questioner, observation and key in formal with interview of the office of the kebele. The finding information of the study area was listed as the medium livestock. The effects of study area was many additional problems for the farmer of Nesiri Trign kebele for example lack of enough food, lack of rainfall, high temperature, the absence of infrastructure, absence of pure water ,lack of electricity and absence of road availability.

Abbreviation

CSA- Central Statically Agency

GDP- Growth Domestic Product

BGI – Basic Geographic Information

KADO- Kebele Agricultural Development office

FAO – Food and Agricultural organization

EEA- Ethiopian Economic Association

RSA – Regional Statically Abstracts

FGD- Focused group discussion

WB _ world bank

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CHAPTER ONE

1. Introduction

1.1. Back ground of the study area

Livestock are domesticated animals raised in an agricultural setting to produce commodities such as food, fiber , labor and also livestock refers to any breed or population of animal kept human for use full commercial purpose the chief kind of livestock raised throughout the world are cattle, huge, poultry, sheep, horse and other kinds of livestock including donkeys and goats and mule(WorldBank,2004).

Some of these animals provide food and clothing for example cattle supply meat, milk and leather chickens lay eggs, sheep provide wool and meat some Animals help people for draft power for example ox, horse and certain insects like been useful for people to give honey (World Bank, 2004). In terms of livestock possession, Ethiopia stands I first in Africa tenth in world (Ayele, 2006).The estimation of central statistical Agency (CSA) in 1990 provides summery of animal population in Ethiopia (Benin et al, 2015). The Ethiopia livestock production systems are broadly classified into two areas –that is:-

1. Nomadic (Low land pastoralist) Singh (2008)

2. Sedentary (high land pastoralist) or mixed forming complementary production of cultivation and livestock occurs in the high lend of Ethiopia located at 1500 meter above sea level and higher. This high lends area cover about 44% of total land area and constituted approximately 80% total cattle 75% sheep and 25% of goats (EEA, 2005). About 81% of the peasant' particular in Ethiopia highlands practiced mixed forming contributes 15% of Agricultures grow the domestic product (GDP).

1.2. Statement of the problem

Due to under development in Economy the study area society suffering and facing different problems increasing number of uneducated, poor health assistance, inadequate clean water supplying and other similar challenges are forced the society to face tough life (Gihortti, 2008). The Nesiri Trign kebele is far from the Abichu Gnea woreda Town. According to Ministry of Agriculture (2014), the country has 81% cattle 41% sheep and 8.11% goats per year died due to prevalence of livestock disease.

The first attempt to use hides and skins have been quite crude may have involved on more than collection the hair, fury or wool and using it to form mattresses and pillows. Large member of better quality hides and skins probably started to become available with the domestication of livestock (FAO, 2004).

Nesiri Trign kebele has medium potential for increased livestock production, both local use and for export. However, expansion is constrained by in adequate nutrition, disease, lack of support service, in sufficient data with to plan improved service and in adequate information on how to improve animal breeding marketing and processing/http://find rr similar challenges are forced the society to face tough life (Gihortti, 2008). There are so many additional problems for the farmer of Nesiri Trign kebele for example lack of enough food, lack of rainfall, high temperature, the absence of infrastructure, absence of pure water electricity and road. However, we are interesting to know the contribution of livestock farmer's income in Bach Gnea woreda in case of Nesiri Trign kebele and to assess the factors that hinder the productivity of livestock in these kebele. The researchers used to minimize livestock diseases in Nesiri Trign kebele. When we see the gap there many researchers have great conducted regarding to the Contribution of Livestock on farmers' income improvement But there is no research conducted by other researcher in Nesiri Trign kebele up to now about Livestock contribution on farmers' income improvement. So, these research papers would be conduct specifically in Nesiri Trign kebele to fulfill the gap.

1.3. Objective of the study

1.3.1. General Objective

The General Objective of the study is to find out the major contribution of livestock sector for small holder farmers' income in Nesiri Trign kebele Abichu Gnea woreda North Showa Zone of Oromia Region.

1.3.2. Specific Objectives

- To assess the main factors affecting livestock production in the study area.
- To investigate the contribution of livestock sector for small holder formers' income.
- To evaluate the role of livestock production in livelihood, food security and economy in the study area.

1.4. Research questions

Based on the objectives of the study the following researcher questions have been formulated to be answered at the end of the study

- What are the major factors affecting livestock farming and its productivity?
- What is the contribution of livestock sector for small holder formers income?
- What is the role of livestock production in livelihood, food security and economy in the study area?

1.5. Significance Of The study

The study may initiate the interest of other researcher carry out a butter study. The study may give closes to any interested parties to play their own role to help the farmers by identifying the problems of livestock sub sector. The study may add to the already existing related literatures in the field.

1.6. Scope of the Study

Regarding to resource and time limitation the focuses on Nesiri Trign kebele Abichu Gnea woreda North Shewa Zone Oromia region. It would be mainly be concern the livestock production role as food value in improving the livelihood food security of the farmers in the area and to accredit the total contribution of livestock in the farmer income and factors hindering livestock production.

1.7. Limitation of the study area

In the study area the researcher in this study, there would be some problems that the researchers have been confronted. The problems would be include absence of well documented material about the assessment of factor that affecting livestock production. During data collection respondent not willingness to give full information and also, they were not giving their attention and time to fill the questionnaire.

1.8. Organization of data

The research has been organized in to five chapters. Chapter one is the introduction part in which the statement of the problem, basic research question, and significance of the study and scope of the study can be included. The second chapter is concerned with the review of related relevant literature. The third chapter is description of the study area and the research methodology. The fourth chapter represents the major finding that obtained from sample survey. Chapter five includes conclusion and recommendation of the paper.

CHAPTER TWO

2. Review of Literature

2.1. Livestock Production in Ethiopia

There is different definition for livestock given by different scholars. Some of these are given as follows the term livestock refers to any breed or population of animals kept by humans to provide food, power and commercial purpose. This means domestic animals semi domestic animals or captive wild animals refer which are only lightly domesticated of disputed status. These populations may also be in the process of domestication (Sign, 2008).

Livestock are domesticated animals that used to produce food and many other valuable products.

The skin of some livestock provides such important materials as leather and wool in various regions. In addition to these formers in developing countries use livestock to fulfill form. Some lived tock in these countries also transport people and materials (World Book, 20016)

Livestock is the collective term for farm animals the term livestock is used to refer domesticated animals international rare in agriculture setting to make produced such as food or fiber, or for its labor.

Livestock rearming is rising of animals for use for role pleasure which comprises beef and dairy cattle, pigs, sheep's, goats, horse, mules, asses, buffaloed and camels and the raising of birds commercial for meat and eggs chickens, turkey, ducks and geese or guinea fowl and squabs/http/ www Britannica. Comm. 20013/ In Ethiopia there are two livestock production systems. Those are the following listed;-

2.1.1. Extensive livestock production system

Extensive livestock production systems are ranching of livestock or large area of land. Both products per land unit and population density are low farmers practices extensive livestock ranching where land, plentiful, rainfall is light and the soil is not especially fertile. If requires relatively little investment in equipment and supplies for unit of land each unit yields a relative low return- It is mostly seen in unit yields relatively low return. It is seen in desert and semi

desert areas. Sheep, goats and camels are most common, while cattle, horse, yaks are locally important (Gets and James) whatever the animals involved their common characteristics are hardness, mobility to subsist or sparse forage. Extensive grazing is generally practice in on environment which is subjective to an appropriate for agriculture. Because the condition are so harsh it essential that pastoralist and there.

Animals are able to move for at least a part of time to find sufficient food and water (gets and James, 2008).

2.1.2. Intensive (small scale) livestock forming

Small scale livestock farming is practiced in area where land is scarce and densely populated. Livestock is control to many small scale integrated agricultural production system providing important source of income for landless peoples and resources poor farmers' livestock contributes a higher share of income to rural households (gets and james, 2008). Despite the intense effort of many development of projects and programmers to enhance productivity in a given fragmented or small plots of land for each, there has little success due to cultural familiar briefs and practices that influence the decision making environment (FAO, 2007). The rest majority of the farmers in Africa does not use artificial fertilizer and relay on the soils natural fertility sup pigmented by the animal manure and legumes. Many farmers in the world are still ploughed by cattle, buffalo and yet crop scientists continue to overlook and under value the crucial role livestock can play in crop production.

2.2. The role of livestock sector in food security

The greatest consumers of meat and milk are the developed country the average amount of milk produced per year in developing countries is 37 liters compared The greatest consumers of meat and milk are the developed country the average amount of milk produced per year in developing countries is 37 liters compared with 300 liters in developed countries. In the developing world consumption varies widely between and within countries as result of variation in income, food custom, livestock ownership and nutritional knowledge. For example milk is often too expensive for poorer city people to buy, but the rural poor way use milk and milk products from their livestock has a major source of food. Forest liquid milk is not the major milk product in many tropical areas.

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In traditional milk drinking society's milk has always been converted to more stable products fermented and concentrated and greed that retain this feed value for longer period without cooling. The majority of milk stack is not specialized dairy animals, except in the case of larger dairy farms and approximately 92% milk is produced in mixed farming.

The possibilities for meat production are the species that are utilized, the disease to which they way be subjected and the culture of people. There one many reasons why it is often more difficult to establish efficient industries in the tropics than elsewhere in the world. High ambient temperature particularly when accompanied by high humidity, make of difficult and expensive to store and transport meat. In adequate service such as water electricity, and transport may wall add to the processing and marketing problem.

Whatever the difficulties the peoples of tropical countries migrate from rural to urban and an increase in average per capital income, there is likely be an increase in meat consumption and change in demand for specific type of meat, livestock production factors necessary to meat market requirements need to be understand and advance in meat handling technology monitored so that relevant techniques may be introduced for the improvement of local practices. In generally the livestock supply food in the form of meat and milk the production and consumption animal's food status often glide to the standard of living of the country (Ayele, 2007).

2.3. Livestock development and income for the poor

Livestock are the base root thing to livelihood of the pula poor in developing nation like Ethiopia. According to Ayele (2006) quoted (explain) there are at least six ways how much this is important.

A. they are important source of each income

B. they are one of assets available to poor house hold

C. livestock manure and drain power are preservative

D. livestock preside alleviate role and is the only source of income for the poorest, example pastoralist.

Share droppers and window livestock production offers of the rapidly markets of the poor rural people can gain even if they back sustainable land training expatiates (Ayele, 2005). The contribution of livestock to rural economy remains under appreciated by all players in developments, except farmers, it is time for that to change livestock made it on to the agenda to the world food price meeting in demines, low last week. Livestock and the people was keep them are usual neglected by aid exports all over the worlds, including the eminent agronomists who dominate this event.

Most crop scientist have a very narrow focus on few staple food crops and do not always look at all the activities an small farmers and they are links together (WWW.FAO, 2006). Livestock in Africa play many different role in supporting families who have livestock to sell can survive without aid, it the lack, livestock will quickly become depend on aid.

Smaller livestock such as sheep and goat are use full as source of cash in one where there is no banking are frequently said to play for school or hospital fees when needed. Opportunities for rapid livestock growth in poor rural area, due to the failures of livestock productive rural poverty alleviation programmers to address how policies have to skew livestock development in favor of large production units and failure to promote the vertical coordination of small operation process will lead to major missed opportunities.

2.4. Factor affecting livestock disease

Success in livestock depends on many factors (gillispis, 2005). Despite to its immense potentials and actual contribution of livestock subsector it is characterized by low productivity due to nutritional stress, prevalence if disease, poor gentle potentials, lack of marketing as infrastructures in adequate investments and lack of appropriate policies and strategies (grand,2004).

Animal husbandry in Ethiopia is facing a number of problems. As the grazing land is heavily populated and as there has been virtually no effort to limit the livestock population, the pastures

are over stocked, and over grazing, with continuous grazing parasites become a series problems, especially for the young stock (sigh, 2008). There are so many factors that affect livestock productivity.

2.5. Factors affecting livestock production in Ethiopia

2.5.1. Animal health and livestock diseases

Health can be defined as the condition of animals that enable it to attain acceptable level of production with the farming system, in which it is maintained. The term health certainly does not imply that the freedom of all diseases agents an animal may be infected by potentially pathogenic agents but unaffected by it and remain in good health for an indefinite period. It is therefore necessary to distinguish between clinical disease where there are readily observable signs of ill health, and sub financial disease, where there is production loss but no sign of disease are apparent to the observer, in majority production system.

It is lasses due to sub clinical disease which make the largest contribution to total wastage sub clinical disease is an important unrecognized source of losses in many production systems. Farmers naturally will only treat conditions which they can so their advisor have an important role in helping term reduce losses from such causes as internal parasites and mineral deficiencies. The heavy burden of different disease among livestock results in substantial losses (gets and james, 2008).

2.5.2. Market access

Because of the difficult relief and poor communication there is no organized trade in livestock and animal products only leather wax and honey are exported. The traditional marketing system is not very well developed livestock and their products are brought to the numerous high small market places and to larger consumption areas. Long trekking of animals with sparse feeding results in serve losses in weight. Shortage of infrastructure and suitable transportation are major problems (Gillespie, 2006).

Livestock prices are determined in various markets where the animals are sold. There are three kinds of livestock markets. Those are auction markets, direct markets and terminal markets. The livestock buyers bid openly at action markets. The auctioneer usually starts the binding at a

reasonable price. The animals are sold to the buyers who offer the highest price (world book 2013).

2.5.3. Climatic factor

Climate is combinations of elements that include temperature, humidity, rainfall, air movement, radioactive conditions, barometric pressure and ionization. Of temperature and rainfall are the most important livestock production in all tropical countries is affected by climate in two ways;-

1. By direct influence on animals, major climatic variables directly affected domestic livestock are temperature, humidity, air movement and radioactive condition.

2. By indirect influence on animal environment, the major indirect influence of climate on live stock in the tropics is on the quality and quantity of the feed available is a temperate rainfall, length of day light and intensity of solar radiation.

2.5.4. Food quality and quantity

The feed that livestock eats essential composed of the same elements that form its body and products (sigh 2008). Natural grazing is the most important source of feed in high land mixed farming and low land nomadic pastoral forming areas.

2.6. Important of livestock to the Ethiopian economy and its productivity

Livestock is the integral part of nearly all farming systems in Ethiopia. If serve as a source of drought power and each income for the majority of the rural population which is engaged in farming livestock also provides milk and meet to bath rural and urban population.

Manure from livestock is an important fuel and fertilizer while hides and skins important for local leather based industries as well as exports. The livestock subsector contributes approximately 12-15% total GDP and 25-30% to value added of agriculture and allied activities (Ayele, 2008).

The country despite the countries possession of the highest live stock in Africa (its Ethiopia which more 30 million cattle, produces about 254- 434 metric to beef per annum Kenya with 14 million cattle produce 242 thousands metric ton per annum (ministry of agriculture, 2007).

2.6.1. Contribution of livestock sector to GDP

Livestock production plays an important role in Ethiopians economy. The structure of Ethiopian economy as already maintained by agricultural value added, on the average is as follows crop production 60% livestock account 27% from the other subsectors and for forestry and other subset aroid 13% (Ayele, 2013).

Ethiopia is believed to the top ranked in its livestock resource in Africa and among the first ten in the world.

The resources include 35 million heads of cattle, 25 million sheep, 18 million goats, over one million bee wax colonies. Despite the huge livestock resource however, its contribution estimated to 30-35% to agricultural gap between 13 to 16% to overall (GDP/EEA, 2004).

2.6.2. Contribution of livestock for export earnings

Livestock exports, though small compared to the penitential production constitute major source of foreign exchange next to coffee, in particular hides and skins are the single most important commodities in generating foreign exchange. Export meat and live animals seem to revived in the last few years after facing serious challenges from export banning particularly in middle eastern countries for fear of suspected animal disease in eastern African countries. The share of livestock and livestock products in total export earning has fluctuated from year to year in Ethiopia. For instance the was a drastic fall in the second half of the 1999's but between the year 2000 and2004 the down ward tends started to reverse and the demand for export of live animals meat lionesses a significant improvement.

In general, the fraction of livestock export of Ethiopia is expressed by the following table

Table2. 1. Livestock contribution to the economics**.**

Period	Hides skins	Meat and meat production	Live animals	Bees wax	Total	Share livestock %
1980-1984	91510	6335	13679	3081	11404	14
1985-1989	123666	3523	20254	4414	150974	18
1990-1994	172505	1639	5074	3060	182278	18
1995-1999	311833	26001	8479	8628	354947	10
2000-2004	71078	4714	2260	1327	788971	14

Source: Ethiopia economic association (2023

2.7. Role of livestock sector for income generation for smaller holder formers.

Livestock are source of cash income. For smaller holder mixed forming and pastoral households by who up to 24% and 31% of livestock out puts are sold for cash, respectively (FAO, 2013). It has been estimated that over 85% and 90% of farm cash and pastoral unit income are generated by cash income from livestock (Ayele, 2004). In the high system, up to 42% of livestock out is used as a inputs in the form draft power, manure and transport of farm produce and feed.

Livestock in Africa play many roles in supporting families and are particular important for poorest families. In Ethiopia it crops fail as they smaller livestock such as ones were is no banking and frequently sold play for school or hospital fees when needed (EEA, 2005).

2.8. Policy of the government towards livestock productivity in Ethiopia

Ethiopia is a country under taking a structural adjustment programmed. The program involves a host policy measures which includes macroeconomic stabilization and public enterprise reform, economic liberalization, private sector development and others. In short it is transition from state command economy is system to free market one. This transition is however, complex because of structure regalities and price distortion. The private sector in Ethiopia, in other developing countries week in term of capital, expertise, management and vision (FAO, 2004).

According to EEA in 2000/2001 the particular sector in Ethiopia has gotten from bad to worse as well mentioned but ideology icily driven policy with little practical relevance to our own conditions were forcibly impossible in power less peasant in the form of state policies. It is true that the problem is multidimensional. There are number of factor that are completely out of the control of policy market such as the variability of rain fall, but also occurrence can be mitigated with sound land management and prudent environmental policy of more from dozen factor presented above to explain the poor performance of agriculture. The great voluntary mobilization of the population. The priority provided to agriculture in EPRDF's agriculture development led industrialization strategy (ADLlS), is essentially correct simply because it is inconceivable to think of overall development (EEA, 2001

Chapter Three

3. Research methodology

3.1. Description of the Study Area

3.1.1. Location

The Nesiri Trign kebele is one of the kebeles that found in Abichu Gnea woreda. This kebele astronomically located approximately 9^0 29’ N, 59^0 8’E north latitude and 39^0 14’ N, 38^0 60’ E longitudes, in relative term it is situated at about 15KM from Abichu Gnea woreda. The Nesiri Trign kebele relative location is on the south bordered by Mute kebele on the east by Gaddula Kebele on the north by Amara region and on the west bordered by Gomorra kebele (CSA. 2007).

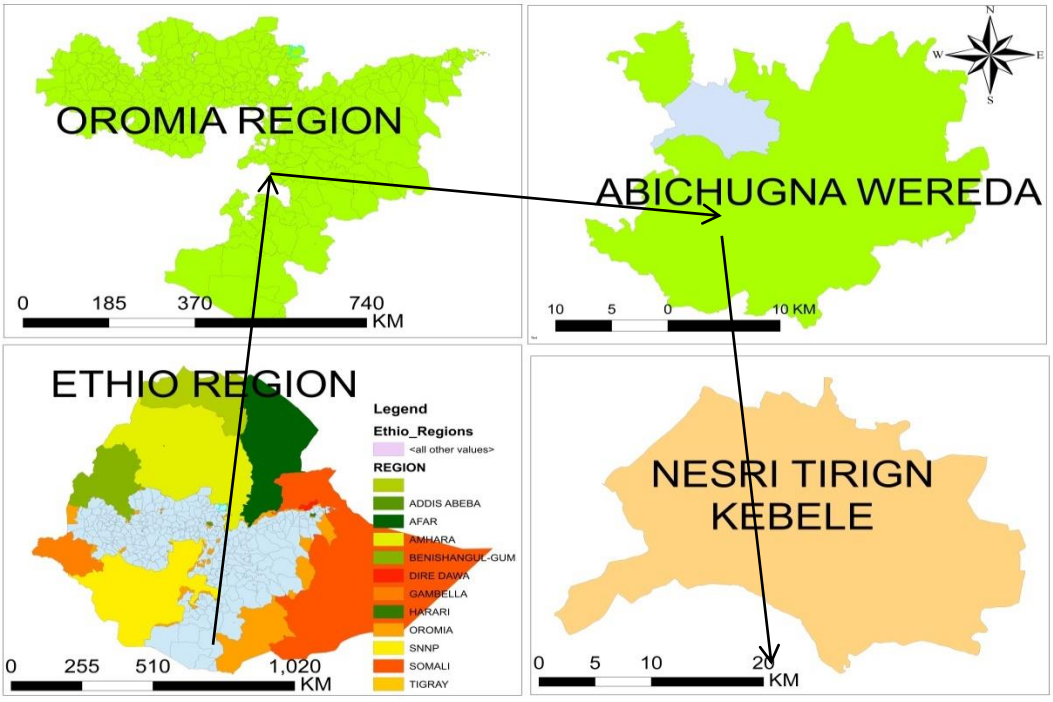


Figure 3. 1. Map of the study area (Source Ethio GIS,2023)

3.1.2. Topography of the study area

Nesiri Trign kebele is one of the rural kebeles of Abichu Gnea woreda which has total area of 1003.2 hectares. The Keble is characterized by not complex land scape which includes 10% plateaus, 55% plain 30% mountains and also 5% ridges (woreda Agricultural development office 2006) .

3.1.3. Vegetation cover

The vegetation pattern of Nesiri Trign kebele is characterized by natural and human made (anthropogenic) trees. Among them 60% of the area is covered by natural forest and also 30% could by human mode trees for example eucalyptus tree, tid and winze (used for lumbering purpose) and naturally grown trees in the study area is that acacia tree. Bush and other small tree are growing dominantly in the Nesiri Trign kebele and near the border kebeles.

3.1.4. Climate characteristics of the study area

According to RSA (regional statically abstract) and the Nesiri Trign kebele Abichu Gnea woreda agricultural and rural development office reported in (2006) that the Nesiri Trign kebele the mean annual temperature to varies from 5_C^0 to $28c^0$ the highest variability between march &April according to RSA (2006) altitude is by for a determinant factors from the spatial of weather and climate the 20mm amount and during summer season rainfall affect the moisture content and nutrient status of soil which in turn determines the growing periods and the type of crop to cultivated. It is relaying on the reliability of rain fall for crop production &duration of growing periods (Dpwao, 2015).

3.1.5. Soil characteristics of the study area

. In this area the soil type is mostly covered by Vertisol (black basaltic soil) as well as nitosol soil (red basaltic soil). That is more fertile and more productive for different crop production for exams this soil is important in that area for the growth of cereals, wheat, barley and other crop products. These types of black basaltic soil and red basaltic soil are covering about 10%, and 12% of the kebele and border areas (kebele) respectively.

3.1.6. Demographic characteristics of the study area

Based on the 2007 national census conducted by the central statistical agency (CSA) of Ethiopia. This woreda has a total population of 100415an increase of 20.02% over the 1994 census, of whom 50566 are men and 49,849 women 1250 or 1.2% are urban inhabitants. The 1994 national census reported total populations for this woreda of 87469 in18399 households, of whom 42,440 were men and 45029 were women, 8930 or 8.9% of its population were urban dwellers. Among the total population of Abichu Gnea woreda 100415 Nesiri Trign kebele accounts about 5020, out of which 2400 were women and also 2620 were males and by households in this kebele is about 940 and their live hold are mixing agriculture. In the study area the male population is greater than female population this indicates the area is covered by highly labor forces that sustain their life and contribute for woreda growth.

3.1.7. Religion characteristics of the study area

The majority of the inhabitants practice Ethiopian orthodox Christianity with 91.01% reporting that as their religion while 2.85% of the population said they were Muslim. Generally the area population dominantly follows Ethiopian orthodox Christianity religions.

3.1.8. Economic activities of the study area

Agriculture includes the cultivation of crops and realign of animals. On high land area of Nesiri Trign kebele the chief crops cultivated wheat, barley, potato and teff are mainly cultivated. on the other hand the Cattle, sheep, horses, donkeys & mule are the most domestic animal rearing by the farmers. The most cattle are indigenous breed under traditional management. They are poor in milk & meat production sheep and cattle make a medium contribution to the livelihood of the study area.

3.2. Research Design

This research would be survey design research which include both quantitative and Qualitative approach, Using a combination of quantitative and qualitative data can improve an evaluation by using that the limitation of one types of data are balanced by strength of Another. Those are ensuring that understanding would be improved by different ways of Knowing. Most evaluations

were collected by both quantitative data (numbers) and qualitative (text, image), the researchers believe that using both quantitative and qualitative data are help to produce a valid and comprehensive result.

3.3. Types of Data Sources

To attain the expected objectives of the research, the researchers were use both primary and secondary sources of data. The researchers were use Primary sources of data to get primary data for the study. The valuable data documents published and unpublished materials in different times in municipal office and other related organization found in the town. Secondary data were collected from different document materials like book, magazine, journals internet and newspaper about community participation on the livestock production in the study area.

3.3.1 Primary data source

The primary data sources in the study area have been collected through Questionnaires, observation, interview and direct contact with the respondent. From these types of data collection methods, the researchers used questionnaire methods are best. Because the researchers feel these research tool would be more effective in gathering data.

3.3.1.1. Interview

The researchers were used interview to get information from the respondents. The researchers conducting questions face to face with the respondent. In this part we are gather information by structural and semi structural interview and most of the time by using questionnaire. In structural interview the researcher is ask the organize questions one by one/by order, where as in semi structure interview. The researchers were conducted questions to modify the sequence question, change the wording and may sometimes give explanation.

3.3.1.2. Questionnaire

The researchers have been collected information from factor affecting of livestock production because questionnaire is the most widely used technique for obtaining information from sample subject. In this method of data collection questionnaire can be sent to the person concerned with request to answer the questions or could be administered face to face. Questionnaire is collected found as appropriate data collection instrument both open and close ended questions. The

researchers primarily preparing the questionnaire in English language and translate to the local language Amharic to make the questions clear for respondents and back to English analysis.

3.3.1.3. Observation

The researchers were used personal observation in this study. This personal observation is design in order to collect information about factor affecting of livestock production in the study area.

3.3.2. Secondary data source

The secondary data sources would be collected from different written document about livestock production. These are newspaper, document, journals, governmental publication, internet, annual report of kebeles agricultural office and related bodies.

3.4. Sample Size and Sampling Technique

According to (CSA,2007) the total population of Nesiri Trign kebele is 5020 and the households of the kebele 940.It is clear that all the household of the study area is difficult due to lack of time and finance. Therefore the researcher used Yamane Tao formula to determine sample size by the following formula

$n=N/1+N\ (e)^2$

$n=940/1+940(0.11)^2$

$n=940/1+940(0.0121)$ where, n=sample size

$n=940/1+11.374$ N=total house hold

$n=940/12.374$, $n=76$ e=error of limit (0.11)

Then by using the above Yamane Tao formula we can obtain sample size of 76 samples household and then by using simple random sampling method we take the individual respondents by the following formula to avoid bias.

K=N/n where K=constant n=sample size and N=total number of households

K=940/76=12.4~12=1/12

3.5. Data collection tools

To conduct data for this study the researchers were used both questionnaires and interview data collection instruments. Similar types of questionnaires were designed for the selected respondents by preparing open and close end questionnaires for primary data collection. The researchers were use open end questions for the purpose of in depth investigation of issues arising concern.

3.6. Data Analysis

The data is analyzed using descriptive statics due to simplify large amount of data in a sensible way and to collect detail information about a given area. The data obtain through questionnaire, interview, and secondary data by using qualitative and quantitative methods. The quantitative data is present using percent, tables and frequency whereas qualitative data where narrate and write through take to at the end

Chapter 4

4. Data Analysis and Interpretation

In this part the finding which has been collected through questionnaires, observation and key informal interview are presented. The results which have been called through these methods are presented in five major divisions. These are demographic characteristic, socio economic condition, cost and returns, contribution of livestock in form and total income and problems livestock production.

4.1. Demographic characteristics

4.1.1. Family size and sex compassion

Sex and family structure of the respondents in the study area where 63% males and the remaining 37% are females about 37% of the respondents have their family size from 3-5, 47% of the population have 1-3 family size and the rests 13% and 3% of the respondents have 6-7 and above 7 number of peoples per house hold respectively. In Nesiri Trign kebele the number of family size is increasing, the livestock rearing also increased, the largest number of family size in 1-3 at 47% of this indicates largest number of people in Nesiri Trign kebele available. This show that directly relationship between the family size and livestock rearing, because of in the one house hold at 1-3 number of family size available, from that family like male and female rearing the livestock for, individual that all are aggregate to give available number of livestock.

Table 4.1 number and percentage of respondents by sex and family size

Activity	Item	Frequency	Percentage
Sex	Male	48	63%
	Female	28	37%
	Total	76	100%
Family size	1-3	36	47%
	3-5	28	37%
	6-7	10	13%
	7 and above	2	3%
	total	76	100%

Source: field survey 2023

The table 4.1 shown on the sex side men population of respondents is greater than women. So men are generally associated with animals as herd managers and are generally considered owners of cattle, with women and children having usufruct privileges. The women, however, do own livestock. Based on gender division of responsibility, women keep small stock as a source of cash for general family expense (such as buying food), for paying of school fees, for health care and for investment (martin 1990).also men own most of the cattle, they do not make major decision, such as cell of cattle in isolation: other household members, particularly women are consulted. In the study area dominantly live is better for the livestock production because, males are more productive and more energetic than women. This indicates there is medium population number in the studying area. Due to this it may existed in the study area in currently situation and also the future.

4.1.2. Age composition of respondents

Table 4.2.Number of respondents by age

Age group	Frequency	Percentage
Less than 20	-	-
21-30	22	29%
31-40	30	39%
Above 40	24	32%
Total	76	100%

Source: field survey (2023)

In table 4.2 we understand age group 31-40 is dominantly available respondents. This age group is can work effectively to livestock production and have more energetic power for the production of livestock .But, in this area the livestock production practice is low ,because they practiced dominantly traditional production practice. However, if the society use modern practice method and also governments help them to use modern practice method, the society of the study area come to develop and can improve their way of life. Age group between 21-30 is minimum population number.

Table 4.3.Households head of respondents by males and females

Sex of respondents	Frequency	Percentage
Male	60	79%
Female	16	21%
Total	76	100%

Source: field survey (2023)

From table.4.3.We understand household head of respondents by sex, male respondents greater than female respondents. This indicated that the male populations largely practiced livestock production. That is essential to improve the way of living for their family and also generate income for them.

4.2. Socio economic condition:

Table 4.4. Livestock number by respondents

No of livestock	Frequency	Percentage
1-5	22	29%
6-10	28	37%
11-20	23	30%
Above 20	3	4%
Total	76	100%

Source field survey (2023)

Table 4.4 shown that the livestock numbers of respondents that are between 6-10 livestock numbers are accounted 28 in number and expressed in percentage it account 37% this indicated that there is medium livestock number for the respondents in the studying area that is important for source of income. Example, sheep, goat, cattle.

4.2.1. Livestock production practices

Table 4.5.Livestock production practices

Livestock method practice	Frequency	Percentage
Modern	16	21%
Traditional	60	79%
Total	76	100%

Source field survey (2023)

Table 4.5 shown that the respondents of the study area were applied both modern and traditional practices. However, the traditional livestock practice was dominantly done in the studying area. From this one is going to conclude that even now a day the traditional practice is the dominant one. This is the main problems that hinder the livestock production in our study area as well as our country.

4.2.2. Education Status of Respondents

Education is precondition in bringing behavioral and attitudinal change in human being to interact is with nature, social development and changes.

Table .4.6. Education status of the respondents in the studying area.

Educational level	Number of respondents	Percentage
Not read and write	15	20%
1-4	25	33%
5-8	18	24%
9-12	13	17%
Other 12+	5	6%
Total	76	100%

Source field survey (2023)

Table 4.6 results indicated that the educational status of studying area most of the respondents are less educated level 1-4 is 25 number of respondents and 33% .This is one factor hinder the development of Nesiri Trign kebele, because Education is the back bone for human achievement and also essential that bring sustainable economic development in the study area.

Table 4.7. Aggregate cost for various livestock in a year (in birr).

Livestock type	Gross return	Cost of food for Livestock	Cost of medical treatment for livestock	Net income
Cattle	50,000	15,000	1500	33500
Sheep	12,000	3000	500	8500
Goat	10,000	2800	800	6400
Total	72,000	20800	2800	48400

Source field survey (2023)

4.2.3. Contribution of livestock sector for small holder farmer's income

Since the respondents are engaged in mixed farming system, they share of livestock in farmer's income and total income of respondents. The sources of income of the farmers are crops, income by small amount, and the other contribution of livestock rearing is for prestige gaining, however, the percentage share of livestock farming is almost equal with the crop production. This indicates each other. For example, in order to plough the farmers uses the energy of oxen (ox) for transport donkey and mule.

4.2.4. Constraints of livestock farming

More specifically the major challenge of livestock production is classified as natural and man-made. The farmers consists of obstacles that are beyond the farmer reach on the other hand, it refers to problems associated with the general economic, political, socio cultural and technological set up of system.

The following are the most common ones which belong to the categories, discussed in the above paragraph. These are animal disease; poor infrastructure for example, lacks of clinic for the human being and animal the climate variability like drought occurrence and inadequate livestock field. These problems dominantly affect the farmers by hashing the livestock which leading to decrease in came from the sector focused group discussion. The respondent laid that no availability of accessible clinic for farmers.

Therefore, to gain the clinical service they are going to large distances, when animals are affected by disease they did not complete treatments. Climate also affects the productivity of livestock in the kebele, which the rain is not rearing on time that is on the spring season which leads to water shortage, fodder. In addition to the above problems, various types of disease are also affecting the productivity of livestock.

These disease are caused by virus, bacteria, and fungi, etc. and the livestock died because of the grasses one affected by the parasites, Among the various types of livestock disease for instance rabies, foot mouth, and skin disease are the common disease in the area. The data obtained the discussants on the survey time (Informant focused group discussion).

CHAPTER FIVE

5. SUMMARY AND RECOMMENDATIONS

5.1. Summary

Livestock production plays an important role in Nesiri Trign kebele economy. At the kebele level, the livestock sector contributes 30% of the country GDP and stands second next to coffee in terms of foreign exchanges. In addition to the above contribution the livestock resources in Nesiri Trign kebele serve as source of plaguing (oxen, horse), means of transport (donkey, horse mule), means of cash reserve of the peasantry, source of fuel for household use.

Nesiri Trign kebele has great potential for increased livestock production, both local use and for export. However, explanation was constrained by inadequate nutrition, disease, lack of support service insufficient data with to plan improved services and in adequate information on how to improve animal breeding marketing and processing.

There are many problems for the farmers of Nesiri Trign kebele for example lack of enough food, the absence of infrastructure (Pure water, electricity and road, etc.) Generally,all of the above are factors affecting livestock productivity in Nesiri Trign kebele.

The main activities of farmers are farming in which mixed farming are the command feature. The major cost components for the monetary of livestock are cost of food and medical treatments of the percentage share of livestock is almost equal to crop production. According to the results of finding disease, climate variability, lack of fields for livestock and lack of infrastructure are the common problems.

5.2. Recommendation

The following recommendations are given to shows directions that are helpful to overcome problems:

- Successfully overcome animal diseases, climate variability, lack fodder for livestock and lack of infrastructure problems the following recommendations are made

for the sub kebele administration; the NGOs and other concerned bodies who are working together in the sub kebele and for the household in the sub kebele.

- The sub kebele administration to providing technical training maximizes their gross returns, and their net income to the livestock product. And making the farmers aware of modern livestock rearing system and its advantage in improving livestock productivity through the guided use of improved livestock feed quality, quantity and also giving attention to medical services for the livestock and even check of the health of sometime interval it possible.
- The NGOs should assist the sub kebele administration in different income generating ways.

- Most of the farmers in the study area have limited source of alternative income and this income options have left the farmers susceptible to ill developed mechanisms, as a result, there have to be among alternative income that supports the farmers.
- Farmers have to take the livestock as on enterprises that are not must a complementary to the crop farming but as an enterprise that can be big and can share hop in terms of total income. Farmers have to practice not only the sale of live animals but also livestock products like milk, butter and non-food items like hides and skins that will also increase their income.

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7. Appendix

WOLKITE UNIVERSITY

COLLEGE OF SOCIAL SCIENCE AND HUMANITIES

DEPARTMENT OF GEOGRAPHY AND ENVIRONMENTAL STUDIES

1. Questionnaire for selected samples

This questionnaire is prepared to assess the contribution of livestock in farmers' income Abichu Gnea Woreda in case of Nesiri Trign kebele the types of the questionnaire is most of the close ended and to know the perception of the farmers some open- ended items. Please put the mark on your answer and for the open questions write the answer the space provided.

Part.1 Questionnaires background of the respondent.

1. Name of the Kebele _____

2. Age of the house hold head in year's _____

3. Sex of the respondents 1. Male 2. Female

4. Who is the house hold head? 1. Male 2. Female

5. Educational level of the house holds

1. Not read and writes 2. 1 -4 3. 5-8 4. 9- 10

5. 11 -12 6. 12+

6. Family size A, 1-3 B, 4 -6 C, 7-9 D, 10 and above

Part II. Contribution of livestock in farmer's income

1. Amounts and types of livestock's: cattle _____sheep ‹_____Goat› _____Poultry ‹_____sequence_____

2. How many types do you have in number?

A, 1 B, 2 -3 C, 4 – 5 D. above 5

3. What kind of methods of livestock's your practice?

A, Modern B, traditional C, Both D, others specify _____

4‹ if your answer in the above question is modern who shows the way to use?

A, Government B, Personal Knowledge C, both D, Other specify _____

5‹ if you use modern way what is its beneficiary?

A, Very high B, high C, Medium D, Low

6 .if you use traditional way how its benefit?

A, Very high B, high C, medium D, low

7. Amount of consumption for livestock and medical treatment

7.1. How much cost consumed by food your livestock per month_____

A. 1000birr/month B. 1500 -2000 birr/month C. 2000 -2500 birr/month D. above 3000 birr/month

7.2 Have you ever use medical treatment for your livestock?

A. Yes B. No

7.3. If your answer is yes how much costs to maintain for livestock medical treatment?

A. 500 -800 birr B. 800_1500 birr C. 1500_2000 birr/year

8. How many your revenue from livestock per year?

A.20, 000 -40,000 birr/year B, 40,000-60,000 birr /year C. 60,000 -100,000 birr/year

9. Do you have got higher revenue from livestock per year?

A. yes B. No

10‹ Means of income for the household

10.1.What is you major means of income?

A, crop production B, livestock C, Agriculture D, Others specify_____

11. What is the contribution of livestock your life?

A, or prestige B, for means of income C, others specify_____

12. What are the major factors affecting the livestock production?

A, Shortage of water B, Lack of range land C, Disease D, Harsh water condition

Part II1. Interview questions for focus group discussion

1 .Would you tell me about method of livestock practice?

_____

_____

_____

_____

2. .How you practice about method of livestock?

_____

_____

_____