

**INCOME DIVERSIFICATION STRATEGIES, CULTURAL VALUES AND  
LIVELIHOOD IMPROVEMENT IN CATTLE REARING HOUSE HOLDS, A CASE OF  
KIRUHURA DISTRICT**

**BY**

**MUKAGO DAN**

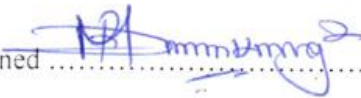
**24/BSU/MAPAM/2936**

**A DESSERTATION SUBMITTED TO THE FACULTY OF BUSINESS, ECONOMICS AND  
GOVERNANCE IN PARTIAL FULFILLMENT OF THE REQUIREMENTS  
FOR THE AWARD OF THE DEGREE OF MASTER OF ARTS IN  
PUBLIC ADMINISTRATION AND MANAGEMENT OF  
BISHOP STUART UNIVERSITY**

**SEPTEMBER, 2025**

## DECLARATION

I, **MUKAGO DAN**, hereby declare that this research report I is my original work and it has never been submitted to any university, college, or school for any academic award.

Signed  .....

MUKAGO DAN

24/BSU/MAPAM/2936

Date 25th Sep, 2025 .....

## APPROVAL

This research report has been submitted to the Faculty of Business Economics and Governance with the approval of my University Supervisors.

Signed  .....

DR. MUHUMUZA BENON (PhD)

Date 25/09/2025

Signed  .....

DR. ASIIMIRE DONAH (PhD)

Date September 25<sup>th</sup> 2025

## **DEDICATION**

I dedicate this work to my family for the prayers and support rendered to me during this research.

## **ACKNOWLEDGEMENT**

My sincere appreciation first and foremost goes to the Almighty God for His love, care and concern. Through His grace I was able to realize my dream.

Special thanks to my supervisors who devoted a lot of time and patience to enable me to complete this study. Special thanks also go to my siblings for their grateful advice, concern, willingness and professional guidance they rendered to me.

Deep appreciation also to my parents for their tireless moral and financial support rendered to me throughout my academic struggle.

Special thanks also go to my friends for their constant encouragement.

I give thanks to all those who assisted me in one way or the other while undertaking this course.

God bless you.

## Table of Contents

|                                                |     |
|------------------------------------------------|-----|
| DECLARATION.....                               | i   |
| APPROVAL .....                                 | ii  |
| DEDICATION .....                               | iii |
| ACKNOWLEDGEMENT .....                          | iv  |
| CHAPTER ONE .....                              | 1   |
| INTRODUCTION .....                             | 1   |
| 1.1 Background to the Study.....               | 1   |
| 1.2 Statement of the Problem.....              | 4   |
| 1.3 The purpose to the Study .....             | 5   |
| 1.4 Specific Objectives to the Study .....     | 5   |
| 1.5 Research Questions .....                   | 5   |
| 1.6 Theoretical Back Ground of the Study ..... | 6   |
| 1.7 Conceptual Frame Work .....                | 7   |
| 1.8 Justification of the Study .....           | 7   |
| 1.9 Significances to the study .....           | 8   |
| 1.10 Content Scope .....                       | 9   |
| 1.11 Study Area.....                           | 9   |
| 1.12 Time Scope.....                           | 10  |
| CHAPTER TWO .....                              | 11  |

|                                                                                                                                |    |
|--------------------------------------------------------------------------------------------------------------------------------|----|
| LITERATURE REVIEW .....                                                                                                        | 11 |
| 2.1. Introduction.....                                                                                                         | 11 |
| 2.2. Mixed farming and livelihood improvement in cattle rearing households. ....                                               | 11 |
| 2.3 The effect of agro forestry and livelihood improvement in cattle rearing households .....                                  | 12 |
| 2.4. Effect of savings and livelihood improvement in cattle rearing households .....                                           | 14 |
| 2.5. The effect of perceptions and beliefs on livelihood improvement in cattle rearing households<br>in kiruhura district..... | 16 |
| CHAPTER THREE .....                                                                                                            | 18 |
| METHODOLOGY .....                                                                                                              | 18 |
| 3.1 Introduction.....                                                                                                          | 18 |
| 3.2 Research Design.....                                                                                                       | 18 |
| 3.3 Study Population.....                                                                                                      | 18 |
| 3.4 Sample Size Determination.....                                                                                             | 19 |
| 3.5 Sampling Procedures/Techniques .....                                                                                       | 20 |
| 3.6.0. Data Collection Methods .....                                                                                           | 20 |
| 3.6.1 Survey Questionnaire.....                                                                                                | 20 |
| 3.6.2 Interviewing .....                                                                                                       | 20 |
| 3.7 Data Collection Instruments .....                                                                                          | 21 |
| 3.7.1 Questionnaire .....                                                                                                      | 21 |
| 3.7.2. Interview Guide .....                                                                                                   | 21 |

|                                                                                                                                      |    |
|--------------------------------------------------------------------------------------------------------------------------------------|----|
| 3.8 Data Quality Control.....                                                                                                        | 21 |
| 3.8.1 Validity .....                                                                                                                 | 21 |
| 3.8.2 Reliability.....                                                                                                               | 22 |
| 3.9 Procedures of Data Collection .....                                                                                              | 22 |
| 3.10 Data Analysis .....                                                                                                             | 22 |
| 3.10.1 Analysis of Quantitative Data .....                                                                                           | 22 |
| 3.10.2 Analysis of Qualitative Data .....                                                                                            | 23 |
| 3.11 Measurement of Variables.....                                                                                                   | 23 |
| 3.12 Ethical considerations .....                                                                                                    | 24 |
| CHAPTER FOUR.....                                                                                                                    | 25 |
| DATA PRESENTATION, ANALYSIS AND INTERPRETATION OF FINDINGS.....                                                                      | 25 |
| 4.1 Introduction.....                                                                                                                | 25 |
| 4.2 Background characteristics of respondents.....                                                                                   | 25 |
| 4.3 Gender of respondent.....                                                                                                        | 25 |
| 4.4. Age of the Respondents .....                                                                                                    | 26 |
| 4.5. To examine the effect of mixed farming and livelihood improvement in cattle rearing house<br>holds a in kiruhura district ..... | 27 |
| 4.6. To examine the effect of agro forestry and livelihood improvement in cattle households in<br>Kiruhura district .....            | 32 |

|                                                                                                                                         |    |
|-----------------------------------------------------------------------------------------------------------------------------------------|----|
| 4.7. To examine the effect of savings and livelihood improvement in cattle-rearing households in Kiruhura district .....                | 36 |
| 4.8. To examine the effect of perceptions and beliefs on livelihood improvement in cattle-rearing households in Kiruhura District ..... | 41 |
| CHAPTER FIVE .....                                                                                                                      | 45 |
| DISCUSSION, CONCLUSION, AND RECOMMENDATIONS .....                                                                                       | 45 |
| 5.1 Introduction.....                                                                                                                   | 45 |
| 5.2. Discussion of Findings.....                                                                                                        | 45 |
| 5.5. Conclusions.....                                                                                                                   | 46 |
| 5.6 Recommendations.....                                                                                                                | 48 |
| 5.7 Areas for Further Research .....                                                                                                    | 49 |
| References.....                                                                                                                         | 50 |

## **Abstract**

The study was about the Income Diversification Strategies, Cultural Values and Livelihood Improvement in Cattle Rearing Households of Kiruhura District, Southwestern Uganda. The study objectives were; (1) to examine the effect of mixed farming and livelihood improvement in cattle rearing households (2) to examine the effect of agroforestry and livelihood improvement in cattle rearing households (3) to examine the effect of savings and livelihood improvement in cattle rearing households (4) To examine the effect of perceptions and beliefs on livelihood improvement in cattle rearing households in Kiruhura district.

The study was anchored on the Cultural Belief Systems theory of Oscar Lewis 1(958). The study adopted a cross-sectional design where quantitative and qualitative research methods were utilized. The study involved 100 respondents across the two sub-counties of Kikatsi and Kitura in Kiruhura district. Purposive and random sampling techniques were used to select the study participants. Qualitative data were collected using a Likert scale questionnaire, and the data were analysed using SPSS. While qualitative data was collected using interview guides and was analysed thematically.

The study found that there was a strong positive correlation between mixed farming and livelihood improvement. It also found that there is no significant relationship between agroforestry practices and livelihood improvement in the cattle households. Moreover, there was a significant and positive association between savings and livelihood improvement among cattle-rearing households. It was also found that enhancing positive perceptions and beliefs among cattle-rearing households is associated with significant improvements in their livelihoods.

The study concluded that engaging in multiple income-generating activities enhances improvement in livelihood standards among the cattle-rearing households. The study recommended strengthening local market systems by improving road infrastructure and establishing fair trading practices.

## **CHAPTER ONE**

### **INTRODUCTION**

Income diversification strategies have emerged as vital mechanisms for enhancing livelihood resilience among households, particularly in agriculture-dependent regions. This chapter explores the intricate relationship between these strategies, cultural values, and livelihood improvements in the context of cattle rearing households in Kiruhura District, Uganda. Kiruhura, a district renowned for its robust cattle farming practices, serves as an ideal case study to examine how cultural values shape income diversification efforts and, consequently, the overall well-being of families involved in this sector. By investigating the interplay between traditional customs and modern economic strategies, this research aims to highlight the importance of culturally informed interventions that can empower households to improve their livelihoods sustainably. Through a comprehensive analysis, this chapter sets the foundation for understanding how income diversification can serve as a catalyst for economic stability and cultural preservation in rural communities

#### **1.1 Background to the Study**

Third world countries, especially in Africa, have devoted much of their resources to attain livelihood improvement in households to reduce poverty levels (World Bank, 2021). Most Ugandans have fallen below the poverty line, currently estimated at 39.9%, primarily as a result of limited income diversification strategies that can enhance livelihood improvement and address the challenge of poverty in the country (Uganda Bureau of Statistics, 2022). Uganda's Vision 2040 and the Sustainable Development Goals (SDGs) have informed more policies that provide a pathway to income diversification strategies, such as the Parish Development Model, which is a financial inclusion program aimed at providing capital to farmers to enable diversification

decisions for improving household income levels (Government of Uganda, 2020; United Nations, 2015). Additionally, reduced cultural ties pave the way for livelihood improvement in cattle grazing areas by fostering mindset changes that enhance proper decision-making among people regarding livelihood advancement (Smith, 2022).

It is important to note that having a wide range of income generating activities which complement the main income generating activity. According to Seng 2015 also defines income diversification as the adjustment of farming activities and creating other complementary activities which can yield income to counter attack the risks from one income generating activity. These activities can include mixed farming, agro forestry, trading and savings.

It should be noted that livelihood improvement refers to the transition of enhancing the livelihood and wellbeing of individuals in a given community. The conceptualization has been operationalized in terms of food security, house hold income, poverty reduction, affordable education and access to health. (Seng 2015)

According to (Seng 2015). Livelihood improvement in the cattle grazing areas promotes food security in the home steads which improves feeding patterns, access to affordable education and the general standards of living. Cultural values play a crucial role in income diversification strategies in cattle grazing areas where there should be change in perceptions and beliefs to allow different income generating activities in order to enhance livelihood improvement.

However, kiruhura district has been with the challenge of livelihood improvement in terms of food security, house hold income and standards of living reflected in failure to access and other social amenities as pe Uganda National Household Survey (UNHS) 2019/20, the poverty rate in Uganda was reported at 21.4%, with rural areas, especially those dependent on agriculture, experiencing

the highest levels of poverty. (UNHS report 2020). 68% of the population in Southwestern Uganda relies on subsistence agriculture, with a significant proportion engaged in cattle rearing. This has increased the risk of economic hard ships. The challenge is fueled by strong cultural values and norms by the people failure to access other income diversification strategies which could be available leading most farmers to incur heavy losses during outbreak of foot and mouth disease and in times of drought. ( UNHS report 2020

## **1.2 Statement of the Problem**

Livelihood improvement enables a quality way of living among the homesteads and enhances access to food, standard education facilities, and productive resources (Tusawar Iftikhar Ahmad et al., 2019). Livelihood improvement promotes a high level of literacy and proper nutrition, leading to the general development of the area (FAO Report, 2021). In Uganda, over 39% of the population currently lives below the poverty line due to limited income diversification strategies, hindering potential improvements in household livelihoods (Uganda Bureau of Statistics, 2020). The government of Uganda has implemented various livelihood improvement programs to empower households, including Entandikwa (1995), Youth Livelihood Program (2013), Emyoga Program, and the Uganda Women's Entrepreneurship Program (UWEP), which aim to alleviate poverty and enhance access to productive resources (Mwesigwa and Mubangizi, 2019).

Despite the availability of these livelihood improvement programs, Kiruhura District still accounts for significant poverty levels, with a reported 22% of households experiencing food insecurity and an even greater percentage struggling with inadequate access to productive resources (World Food Programme, 2021). Furthermore, studies have shown that only about 30% of households engage in diversified income-generating activities, with many remaining reliant on traditional farming (Turyasingura, 2020). Most studies conducted in Kiruhura District on income diversification strategies and livelihood improvement among households, including research by Kasirye Joseph in 2017 and Asimwe Prosy Prossy in 2018, focused on determinants of income diversification and livelihood strategies among smallholder farmers, respectively. This has left a gap concerning the impact of cultural values on livelihood improvement, which this study aims to address. Therefore, the study investigated the effects of income diversification strategies, cultural values, and livelihood improvement in cattle-rearing households, specifically in the case of Kiruhura District,

### **1.3 The purpose to the Study**

To investigate the effect of income diversification strategies cultural values, and livelihood improvement in cattle rearing households in kiruhura district

### **1.4 Specific Objectives to the Study**

1. To examine the effect of mixed farming and livelihood improvement in cattle rearing households in kiruhura district
2. To examine the effect of agro forestry and livelihood improvement in cattle rearing households in kiruhura district
3. To examine the effect of savings on livelihood improvement in cattle rearing households in kiruhura district
4. To examine the effect of perceptions and beliefs on livelihood improvement in cattle rearing households in kiruhura district

### **1.5 Research Questions**

1. What is the effect of mixed farming and livelihood improvement in cattle rearing households in kiruhura district?
2. What is the effect of agro forestry and livelihood improvement in cattle rearing households in kiruhura district?
3. What is the effect of savings and livelihood improvement in cattle rearing households in kiruhura district?
4. What is the effect of perceptions and beliefs on livelihood improvement in cattle rearing households in kiruhura district

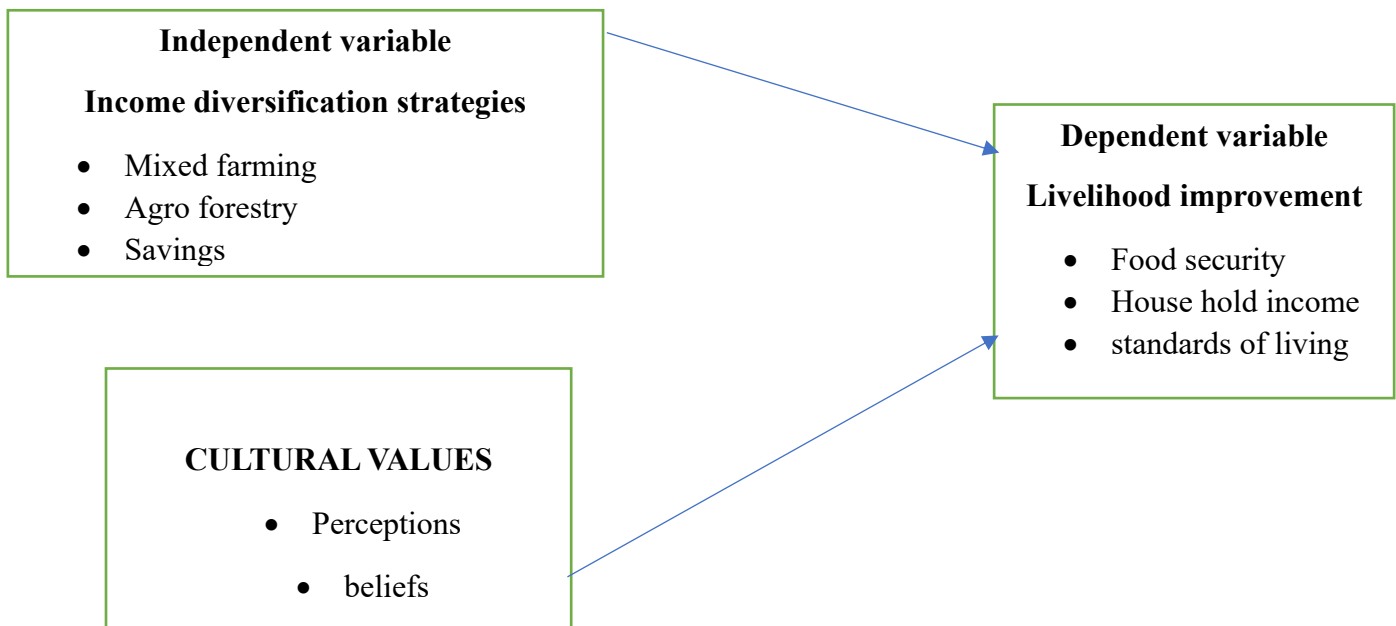
## **1.6 Theoretical Back Ground of the Study**

There are different theories which informs this study which include the cyclical theory of poverty by Ragnar Nurcle in 1953, the theory of individual deficiencies by Gans 1995 and modified by Bradshaw 2006. But the most relevant theory is the theory of Cultural Belief Systems that Support Sub-Cultures of Poverty

### **The theory was invited by Oscar Lewis in 1958 at International Congress of Americanists**

The theory asserts that poverty has a root on beliefs, values and skills which are socially constructed among the societies of the African countries. The challenge of livelihood improvement among pastoral communities has links to rigid cultural ties are evidenced by not embracing mixed farming where one can graze cattle and keep pigs, banana plantation or agro forestry. kiruhura district has a 40% up take of the livelihood strategies which is low compared to other district which is muchly influenced by the culture slowing the decision making of the farmers. The theory is applicable to the study where most of farmers have relied to one economic activity which has created shocks and risks during the epidemics of foot and mouth disease, price fluctuations and drought. Most animals die creating a vulnerable household without what to eat, no money to clear school dues (Chant, S. 2008).

## 1.7 Conceptual Frame Work



Source: Adapted from Lyons &Kuron(2014). Owusu-Boateng(2014), and adjusted by the researcher 2025).

The conceptual frame work explores the linkage with in the independent and dependent variables with in the study. The components of income diversification strategies which include mixed farming, agro, forestry savings affects the constructs of livelihood improvement such as food security, household income and standards of living. However, perceptions and beliefs create the relationship and affect the decision making of people

## 1.8 Justification of the Study

kiruhura district is among the most drought and livestock disease affected area (According to the IPCC report IPCC 2015). Drought and foot and mouth disease has been identified as the most challenging threat in the district there by leaving millions of animals dead, leading heavy losses to

the farmers (FAO et al., 2015; (Mfitumukiza, Mbolanyi, 2019). This would result into economic hardships to the farmers leading to low incomes in the house holds, food insecurity, poor health. the strong culture also poses a challenge of slow decision making to the farmers to embrace different income diversification strategies to enhance livelihood improvement among the cattle rearing households in the study area.

### **1.9 Significances to the study**

The study would be used by the policy makers in designing livelihood projects which will improve on income stream of the cattle grazing home steads. These would help to enhance and boost the homestead economic conditions there by improving on the standards of living.

Economic Development, understanding how cattle rearing households in Kiruhura District diversify their income can contribute to economic development by identifying successful strategies that can be replicated in similar contexts.

Livelihood Improvement, by studying income diversification strategies, the research can uncover ways to improve the livelihoods of cattle rearing households, potentially leading to increased income, better living conditions, and enhanced overall well-being

Resilience Building, Income diversification can make households more resilient to economic shocks and fluctuations in the cattle market, offering a buffer against uncertainties and risks

Policy Implications, the findings of the study can inform policymakers and stakeholders about effective strategies to support cattle rearing households in Kiruhura District, leading to the formulation of targeted policies and interventions.

Community Empowerment, Empowering cattle rearing households with diversified income sources can empower the community as a whole, leading to a more sustainable and resilient local economy.

The findings of the study would aid in the formulation of government policies and contribute to the existing body of knowledge by offering insights that may be useful for other regions encountering similar challenges worldwide.

### **1.10 Content Scope**

The study was to assess how income diversification strategies are associated with livelihood improvement among the cattle rearing households in kiruhura district. Specifically, the study explored constructs of income diversification that is mixed farming, agro forestry and savings and how they affect livelihood improvement among the cattle rearing households in kiruhura district.

Additionally, to examine the effect of perceptions and beliefs on livelihood improvement in cattle rearing households in kiruhura district can affect decision making of the farmers to adopt the income diversification strategies to enhance livelihood improvement in kiruhura district.

### **1.11 Study Area**

Kitura and Kikatsi are sub-counties located Kiruhura district in western Uganda, with Kitura sub county covering 81.83km<sup>2</sup> area neighboring Kashongi sub county and it largely composed of farmers who grow crops in Kiruhura district local government. Kikatsi sub county has 4 parishes and 40 villages and borders Rubaya sub county in east, Kashongi in west. Kikatsi sub county is largely occupied by the farmers who rear cattle which gives the researcher the opportunity to get a wide range of ideas about the research topic.

### **1.12 Time Scope**

The study was conducted in the period of 2024 – 2026 where all study undertakings such as study proposal writing, gathering of data from the field and presentation of findings was done with in specified period.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1. Introduction**

This section narrows the focus and looks at issues that have been explored and studied both theoretically and empirically on income diversification strategies, cultural values and livelihood improvement among cattle grazing communities in kiruhura district. This section presents what other academicians have studied about the topic while assessing the gaps that informs this study.

#### **2.2. Mixed farming and livelihood improvement in cattle rearing households.**

Mixed farming is an important aspect in agriculture because it acts as a proper utilization of resources to enhance better standards of living in cattle grazing communities. The study asserts that practicing mixed promotes food security in the way that livestock provide the required mature which is needed for crop production and in turn crops grown such as bananas, maize, sweet potato leaves provide animal feeds as they are termed as agricultural residues. This strategy enhances high production and advancement of agriculture enhance income, better standards of living and improves the saving culture of the homestead. As the period goes on the people with in the cattle rearing areas are able to provide school fees to their children, construction of better shelters (Parthasarathy and Birthal,. 2008). Though in the Uganda context study is criticized for neglecting the aspect of cultural values which delays decision making of farmers in embracing mixed farming therefore leaving the gap which prompts the researcher to carry out this study.

The world's population is growing on a high rate providing market for both food crop produces and livestock products. this helps the homesteads to improve on their household incomes by selling the both livestock and crop produce. the communities who live in the drought infected areas can

use mixed farming to reduce on the risks of relying on one economic activity and crops can rely on irrigation whereas the livestock mostly relies on rains to enable grass and pasture in the extensive farms to grow. when it comes to drought times, the cattle may be less productive and can result into heavy losses to the famers but crops such as beans, maize, millet can survive using irrigation hence practicing mixed farming can improve on the house hold income for the farmers during the dry periods in the country. (Amare Hailelassie 2009). The argument is true though is the Ugandan context the study is criticized for neglecting the cultural values among the cattle rearing communities and the use of installing the irrigation system which is too expensive for the most farmers. Therefore, leaving the gap which triggered the researcher to conduct the study.

There are high profits generated from mixed farming as it promotes food viability, access and utilization of food in the cattle rearing homesteads. Over decades food availability in cattle rearing homesteads has always been a challenge but mixed farming has offered a solution. The world population survives on food and crop crops puts the farmer in the position of attaining 50% income from livestock and 50% from crop produce there by diversifying the income generating activity to have livelihood improvement. Livelihood improvement is measured through improved standard of living that is access to health care services, quality education and improved saving culture in a homestead. (Tusawar Iftikhar Ahmad et al 2019). The was conducted in Pakistan using in four regions using a small population of 347 which was small. Therefore, this left the gap for this study focusing on carrying the study on one district in order to deeply understand the challenge.

### **2.3 The effect of agro forestry and livelihood improvement in cattle rearing households**

Agro forestry promotes livelihood improvement in the cattle rearing home steads through high demand of wood for fuel, paper making, and ever-growing infrastructure development across the world. Trees such as mahogany, pine are expensive on the international market and they are less

affected by the drought due to the small leaves which could help them to survive the drought climatic conditions. Farmer can plant them in the farm to act as shed to animals and can protect grass from drying up quickly during the droughts. This promotes income diversification to the farmer other than relying on a single activity of rearing animals which can absorb the economic shocks that can be created by climatic changes and outbreak of livestock diseases. This improves on the income of the home stead after selling timber, electric poles and other products which can offer finances to cater for the family needs when the livestock side is stagnant producing less or no profits. (Ekanayake et al 2021). The work is criticized for neglecting the aspect of culture where perceptions and beliefs in the Ugandan context that can influence decision making of the cattle rearing communities to embrace the agro forestry as an income diversification strategy which leaves the gap to be studied by the researcher in this study.

Integration of trees in grazing farm lands can offer a solution to livelihood improvement in the cattle rearing homesteads across the world. Embracing the growing of mangoes, citrus, apples, guavas, oranges can offer an income diversification strategy that can absorb shock from cattle rearing in times of long and extended drought. fruits can also act as a source of food to the homestead as they provide vitamins which promotes better health. South Africa is the best country in Africa where agro forestry is practiced and it provides a lot of profits to the farmers hence improving standards of living through increased income flow and savings in the homesteads. Agro forestry can improve the livelihood of cattle rearing farmers because of having extensive grazing lands which can ably facilitate the diversification strategy. (Kwesiga and Harawa et al 2008). The argument is true though the study is criticized because of using longitudinal research design and using a lot of respondents there by leaving a gap for this study to use cross sectional research

descriptive research design which allows the research to be effective in terms of time as per university framework.

In the study of (Amusa 2010) and (hillbrad 2017) asserts that integrating trees in grazing farmlands supplement the come for the household in times of drought periods in sub-Saharan countries. These trees are resistant to harsh climate more than animals and they can continue yielding profits throughout the dry periods which can held the farmers to have an alternative source of income other that focusing on only cattle grazing which can be affected in dry seasons The adoption of agroforestry can save time in the harvesting of fodder and wood fuel, a particularly important benefit for women (Hillbrand 2017). The study is criticized for neglecting the aspect of cultural values which are beliefs and perceptions which can affect the decision making of the cattle rearing farmers thus leaving the gap for prompting this study.

#### **2.4. Effect of savings and livelihood improvement in cattle rearing households**

having a strong culture among the cattle rearing homesteads enables improved standards of living in longer run. Savings can alleviate poverty in the cattle rearing households during the drought periods and they can be used in handling emergencies such as buying food, paying hospital bills, school fees, and treating the sick animals' other life events can therefore seem challenging. in Saving in Uganda can be done through use of formal financial institutions such as post bank, centenary bank, Uganda development bank and use of informal financial organizations such as the financial rotating organizations and use of mobile money accounts. This can enhance the homesteads' ability to handle emergencies when it comes to drought and foot and mouth disease quarantine which can cause income retardation Adenle (2020). The study is criticized due to market fluctuations which sometimes stagnation of livestock products such as milk. The study also

neglected the element of perceptions and believes towards saving culture of people there by leaving a gap which will be addressed by this study.

Savings promote promotes preparedness for the coming of catastrophic periods among the homesteads in the cattle rearing communities. It's a better decision for every homestead to save in preparation for poor conditions in future. Saving through fixed accounts or microfinance and acquisition of shares can help the homesteads in the cattle rearing communities to have sufficient resources to utilize when it comes to the stagnant periods where the cattle products are less valuable. This can help home steads to absorb shocks and stress from one economic activity today and for the future. (Chambers & Conway, 1992). Savings can promote better standards of living as the families can attain food, access food and utilize food for a better health (Noel Daire Kumwenda 2016). However, the study is criticized for using quantitative research methodology neglecting the qualitative study which is based on descriptive analysis to understand the matter deeply. The research also used stratified sampling neglecting important participants who could be having useful information therefor leaving the gap to exploited by this study using mixed methods research, purposive sampling and simple random sampling.

The effectiveness savings habit on livelihood improvement connotes on the investment in the assets which can provide security and resistance in the drought periods. Direct investment in terms of long term and short-term assets keeps the farmer with the assurance to survive during the long and extended dry periods especially among the cattle rearing homesteads especially those who live in Ankole dry corridor. These assets provide livelihood improvement by extended generation of income which can help the farmer to better the standards of leaving even in dry periods and beyond other than reliance on one economic activity which could lead to economic hardships. Long term and short assets provide the coping measures to drought situations and enhance adaptive measures

which improves livelihood in cattle rearing households (Thomas Toma Tora et al 2023). The study was conducted in Gamo Ethiopia and their argument is true though it is criticized of neglecting the aspect of cultural values which are crucial in embracing the saving diversification strategy which leaves that informs this research.

## **2.5. The effect of perceptions and beliefs on livelihood improvement in cattle rearing households in kiruhura district**

Income diversification plays a crucial role in enhancing the livelihoods of agricultural households, particularly in developing regions. According to Barrett et al. (2001), income diversification can mitigate risks associated with agricultural production by providing alternative revenue streams. Livelihood improvement is often linked with enhanced food security and poverty alleviation, especially in rural contexts (Ellis, 1998). In the context of cattle rearing households in, understanding the mechanisms through which income diversification impacts livelihood outcomes is essential, particularly in a setting where livestock farming is a significant component of rural livelihoods.

Cattle rearing is not only a primary livelihood activity but also a source of cultural identity and economic stability (Muriuki, 2011). Cattle provide various resources such as milk, meat, traction, and manure, which contribute to the household economy. Research by Mugisha and Nandwa (2015) highlights that households engaged in mixed farming, which integrates livestock with crop production, tend to experience better livelihood outcomes due to the complementary benefits derived from diverse income sources. Thus, understanding how cattle-rearing households can further diversify their income is critical for enhancing overall livelihood resilience when faced with environmental and market shocks.

Several studies underline different strategies through which households diversify income, including off-farm employment, agro-processing, and participation in local markets (Zeller & Sharma, 2000). households may engage in activities such as dairy processing, small-scale trade, or agro-tourism to supplement their income from cattle. The capacity and willingness to diversify largely depend on factors such as access to education, financial services, and market infrastructure (Malope et al., 2019). These diversifying strategies can lead to improved cash flow, reduced vulnerability to shocks, and ultimately improved livelihoods.

While income diversification generally posits benefits, factors such as gender, social networks, and community resources can moderate the strength of this relationship. A study by Okello and Bukenya (2020) suggests that the effectiveness of diversification in enhancing livelihoods can be significantly influenced by social capital and the active role women play in managing household resources and making financial decisions. it is crucial to explore how these moderating factors either support or hinder the income diversification process among cattle-rearing households and how they can be leveraged to maximize livelihood improvement.

Cattle rearing is a fundamental component of livelihoods contributing not only to food security but also to cultural identity and wealth accumulation (Muriuki, 2011). Cattle serve multiple functions, such as providing milk, meat, and draught power, and they are a form of capital that can be leveraged for additional income. Mugarura et al. (2018) indicate that households that integrate cattle rearing with alternative economic activities often experience enhanced food security and improved standards of living. However, the effectiveness of income diversification strategies can vary significantly based on household characteristics and available resources, necessitating a closer examination of these dynamics.

## **CHAPTER THREE**

### **METHODOLOGY**

#### **3.1 Introduction**

This section contains the research design, the study population, sample size and selection, research area, the data collection methods, instruments, measurement of variables, reliability and validity of the instruments, data analysis and ethical considerations.

#### **3.2 Research Design**

This study adopted a cross-sectional design which helped the researcher to gather data from the field at once throughout the course of the study. (Cresswell 2014) The study adopted both qualitative and quantitative methodologies which guided the researcher in the selection of the right sampling techniques, data collection instruments and how data was analyzed after being collected from the field to assess the association three variables, income diversification strategies, cultural values and livelihood improvement among the cattle rearing households in kiruhura district.

#### **3.3 Study Population**

The research study included all the community members of the two sub counties where the target population was 236 people with the use of purposive sampling technique to select 02 community development officers, 02 district agricultural department staffs and use of simple random sampling to select 100 respondents from two sub counties of kikatsi sub county and kitura sub county. simple random sampling was employed to select 100 respondents from the wider community. This method was chosen to eliminate biases and ensure that each individual within the community had an equal chance of being selected, thereby enhancing the reliability of the data collected. Overall, the combination of purposive and random sampling aimed to capture a diverse range of perspectives

and experiences, ultimately comprising a total of 104 respondents for the study. This strategy was essential to obtaining a nuanced understanding of income diversification strategies, cultural values, and their impact on livelihood improvement in cattle rearing households within Kiruhura District.

### 3.4 Sample Size Determination

With the sample target population of 236 from two sub counties of kikatsi sub county which was cattle rearing sub county and kitura sub county which was a crop growing sub county while using Krejcie and Morgan Table, (1970) to determine the sample size of 100 people will participate in this research work.

Determining sample size using Krejcie and Morgan Table, (1970)

| Study areas                                                                   | Study subjects | Sample size | Sampling methods            |
|-------------------------------------------------------------------------------|----------------|-------------|-----------------------------|
| Kitura sub-county (community members)                                         | 140            | 50          | Simple random Sampling      |
| Kikatsi (sub county, community members)                                       | 100            | 50          | Simple random sampling      |
| Community development officers                                                | 02             | 02          | Purposive Sampling          |
| Agricultural department (staff from Kiruhura district agriculture department) | 02             | 02          | Purposive Sampling          |
| <b>Total</b>                                                                  | <b>236</b>     | <b>104</b>  | <b>Subjects of research</b> |

### **3.5 Sampling Procedures/Techniques**

This study only utilized respondents from 50 kikatsi (cattle rearing community and 50 from kitura (crop growing community) and the researcher corporated with parish leaders who had the lists of respondents through randomization of respondents by ticking to select the members who were above 18years of age both males and females were grouped a lone during the time for focus group discussions. (Cresswell and Cresswell 2018).

### **3.6.0. Data Collection Methods**

#### **3.6.1 Survey Questionnaire**

The study utilized quantitative research data collection method which involved setting closed ended questions to measure three variables, income diversification strategies, cultural values and livelihood improvement among the cattle rearing households in kiruhura district.

The researcher self-administered the questionnaires since most of the people had little time to fill the questionnaires and others since the target population were located in village some respondents had low education levels to answer the collect responses on the questionnaires. (Mugenda and Mugenda 2003)

#### **3.6.2 Interviewing**

The research study utilized interviewing method where focus group discussions which involves face to face interactions between the researcher and the respondent on the research issue because it is easy to use since it favors low educated respondents and it saves time. It also exposes the hidden information in form of junks and gestures of the respondent (Creswell and Cresswell 2018)

The interviews were guided by an interview guide which helped the researcher to keep on track.

### **3.7 Data Collection Instruments**

#### **3.7.1 Questionnaire**

The study applied a self-administered questionnaire as a tool for data collection to the 100 respondents from the two sub counties of kikatsi and kitura sub counties where the researcher would set closed ended questions which were formulated using a scale of 1-5 ranking which explored the association of the three variables income diversification strategies cultural values and livelihood improvement among the cattle rearing households while using Likert rating scale of strongly agree (Strongly Agree-5), agree (Agree- 4), (Not Sure-3), disagree (Disagree-2) and strongly disagree (Strongly Disagree-1).

#### **3.7.2. Interview Guide**

The researcher designed open ended questions which gathered information from the community people using the focus group discussions and the 02 community development officers and the 02 agricultural department staff since they had little time to fill the questionnaires. The interview guide provided guidance to the researcher to remain on track and focused on the research questions (Cresswell and Cresswell 2018). Interviews also expose out the hidden information and builds relationship between the researcher and the respondent which provides a detailed information about the research phenomenon.

### **3.8 Data Quality Control**

The researcher ensured collection of the quality data in the following ways;

#### **3.8.1 Validity**

The study tools were pre-tested first on 25 community members from kazo district who were not part of the study while conducting the pilot study to check whether the data collection tools were

collect the intended right information from the respondents. The data collection tools were therefore rephrased in order to collect the intended data from respondents' rating, Content Validity Index (CVI) will be computed using the following formula:  $CVI = \frac{R}{(R+IR)}$ . The tools will be considered valid, if their CVI is 0.7 and above as recommended (Amin, 2005).

$$CVI = \frac{\text{Items considered relevant}}{\text{Total number of items}}$$

### **3.8.2 Reliability**

The researcher pre-tested the instrument on 25 community people, from kazo district the results which were analyzed using SPSS Ver. 23. From reliability test, Cronbach alpha values were attained, and considered reliable when their alpha values are 0.7 and above. This has been used by earlier studies as recommended (Mugenda & Mugenda, 2013).

### **3.9 Procedures of Data Collection**

The researcher sought permission from Bishop Stuart university from school of post graduate studies which was to give him permission to access the RDC who is the head of the security in area where the study was to be carried out. After getting official permission the researcher accessed the senior assistant secretaries of kitura and kikatsi to have a permission to access the respondents with the confirmation from lc1 chair persons

### **3.10 Data Analysis**

#### **3.10.1 Analysis of Quantitative Data**

Descriptive statistical measures measured the association of variables, income diversification strategies, cultural values and livelihood improvement among the homesteads at the time of study. Inferential statistics took the form of correlation to establish the relationship. Coding, categorizing

of the data gathered from the field using the research assistants which will be well trained and Pearson correlation assessed the degree of relationship with in the three variables using statistical package for social sciences ver.23.

### 3.10.2 Analysis of Qualitative Data

The researcher adopted construct validity where allowed comparison of the questions on the interview guide to be matched with the responses got from the respondents. The information which was irrelevant got from probing was not included in the study. (Mugenda & Mugenda, 2013). Construct analysis guided the researcher to explore the association of three variables in the study.

### 3.11 Measurement of Variables

All the variables under study were measured using a likert scale that has five categories to respond to 1 = Strongly Disagree, 2 = Disagree, 3 =Not sure, 4 = Agree and 5 = Strongly Agree.

This scale is suitable for measuring responses that relate to up to take of income diversification strategies cultural values and livelihood improvement t among homesteads of cattle rearing areas

Table 2: Likert Scale

| Scale | Mean Range | Response Mode     | Interpretation      |
|-------|------------|-------------------|---------------------|
| 5     | 4.20-5.00  | Strongly Agree    | Very satisfactory   |
| 4     | 3.40-4.19  | Agree             | Satisfactory        |
| 3     | 2.60-3.39  | Not Sure          | Fairly satisfactory |
| 2     | 1.80-2.59  | Disagree          | Unsatisfactory      |
| 1     | 1.00-1.79  | Strongly disagree | Very unsatisfactory |

### **3.12 Ethical considerations**

**Conflict of interest.** I applied reflexivity where the research assistants will be employed to gather information from the field. The data collectors were oriented, coached and prepared enough in order to collect the actual data from the respondents.

**Seeking informed consent from the respondent:** The trained research assistants with request the informed consent from the respondent and a person who did not consent, or had terminated the consent in the middle of the interview would not amount to any crime and there is no charges that will be put on him or her, that questionnaire or interview when the respondent has terminated the consent in the middle of the interview was considered valid by the researcher.

**Privacy:** there was no inclusion of names, positions of the respondent in the presentation of findings and was separation of the respondents according to males alone and females alone during focus group discussions.

**Confidentiality:** The researcher and trained research assistants took no audio recordings and the written information was kept in a safer place only assessed by the researcher and all the data collection tools were destroyed after presentation of findings.

## CHAPTER FOUR

### DATA PRESENTATION, ANALYSIS AND INTERPRETATION OF FINDINGS

#### 4.1 Introduction

In this chapter, results were presented, analyzed and interpreted following the objectives of the study. The presentation includes: response rate, background characteristics of respondents, descriptive statistics, and interpretation of results for the independent and dependent variables.

#### 4.2 Background characteristics of respondents

This section presents the background characteristics of respondents namely: gender, age, level of education, marital status. Both self-administered questionnaires and focus group discussions that included demographic characteristics of respondents were analyzed below.

#### 4.3 Gender of respondent

**Table 1.**

|        | Frequency | Percent | Valid Percent | Cumulative Percent |
|--------|-----------|---------|---------------|--------------------|
| Female | 38        | 38.0    | 38.0          | 38.0               |
| Male   | 62        | 62.0    | 62.0          | 100.0              |
| Total  | 100       | 100.0   | 100.0         |                    |

*Source. Primary data 2025.*

As in shown in Table 1 above, of the 100 respondents who took part in the study 62 were male indicated by (62.0) while 38 (38.0) were female. The results showed that both genders were adequately represented to contribute their views towards study variables

#### 4.4. Age of the Respondents

The respondents were categorized according to various age groups to find out by age category the opinions concerning the study variables.

Table 2 .

|                    | Frequency | Percent | Valid Percent | Cumulative<br>Percent |
|--------------------|-----------|---------|---------------|-----------------------|
| 18 to 30 years     | 12        | 12.0    | 12.0          | 12.0                  |
| 31 to 40 years     | 25        | 25.0    | 25.0          | 37.0                  |
| 41 to 50 years     | 30        | 30.0    | 30.0          | 67.0                  |
| 51 years and above | 33        | 33.0    | 33.0          | 100.0                 |
| Total              | 100       | 100.0   | 100.0         |                       |

*Source. primary data 2025.*

Table 2 shows that majority of respondents 33(33.0) were aged 51years and above followed by the respondents who were aged 41 to 50 years indicated by 30 (30.0), followed by the respondents who were 31 to 40 years aged years indicated by 25 (25.0) and then the least number of respondents were aged 18 to 30 years indicated by 12 (12.0).

**4.5. To examine the effect of mixed farming and livelihood improvement in cattle rearing house holds a in kiruhura district**

Table 3

**Correlations**

|                        |                     | Mixed farming | Livelihood Improvement |
|------------------------|---------------------|---------------|------------------------|
| Mixed farming          | Pearson Correlation | 1             | .0.88                  |
|                        | Sig. (2-tailed)     |               | 0.002                  |
|                        | N                   | 100           | 100                    |
| Livelihood Improvement | Pearson Correlation | 0.88          | 0.88                   |
|                        | Sig. (2-tailed)     | 0.88          |                        |
|                        | N                   | 100           | 100                    |

*Source. primary data 2025.*

From the above table respondents were asked about the effect of mixed farming and livelihood improvement in cattle rearing house holds a in kiruhura district, using a likert scale that has five categories to respond to 1 = agree, 2 = strongly agree, 3 =disagree, 4 = strongly disagree and 5 = not sure. Respondents were using a tick on the most appropriate response of their choice and results were analyzed using SPSS. The correlation coefficient between mixed farming and livelihood improvement is 0.88. This indicates a strong positive correlation. the significance level (p-value)

for the correlation between mixed farming and livelihood improvement is 0.002. The strong positive correlation (0.88) suggests that households engaging in mixed farming practices where cattle rearing is combined with other types of farming (like crops or poultry) are likely experiencing notable improvements in their overall livelihood conditions

Qualitative insights, respondent 1(CDO .) *mixed farming can improve livelihoods of cattle rearing households in kiruhura district though cannot be a perfect because of the heavy of heavy sunshine and most of cash crops like coffee will face prolonged drought and farmers fear to make huge loses until the government introduces a program for irrigation in the whole of kiruhura district. (interviewed on 1 July 2025)*

Respondent 2(DAO.) *mixed farming if embraced by the people of kiruhura district can increase on the living standards of people because it improves on the income capacity of the family to own productive resources such as land, business which promotes income stability among households though the government should focus on other programs which are simpler to implement since mixed farming is expensive and can be managed by a limited number of farmers.( interviewed on 1/7/2025)*

Respondent 3(DCDO) *mixed farming can serve as alternative source of income among the pastoralists thought it is costly. The system of irrigation and other machinery makes it a big investment and people need sophisticated businesses which can generate cash liquidity to handle the school fees and family needs. (interviewed on 1/7/2025)*

Respondent 4(CDO) *mixed farming can improve livelihoods in the cattle grassing communities since the government of republic of Uganda has implemented it thought a few will practice it because it needs 4 acres of land and most of the people don't have it expect in kikatsi but here is*

*kitura a few will practice it. But if implemented it prevents over reliance on one economic activity.*

(interviewed on 1/7/2025)

Table 4.

### Regressions analysis

#### Model Summary

| Model | R                  | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics |          |     |     |               |
|-------|--------------------|----------|-------------------|----------------------------|-------------------|----------|-----|-----|---------------|
|       |                    |          |                   |                            | R Square Change   | F Change | df1 | df2 | Sig. F Change |
| 1     | .0.88 <sup>a</sup> | 0.722    | 0.711             | .22647                     | 0.722             | 0.000001 | 1   | 100 | .1            |

a. Predictors: (Constant), Mixed farming

The R value is 0.88, indicating a strong positive correlation between mixed farming and livelihood improvement. the adjusted R square of 0.711 also affirms the strength of the correlation by accounting for the number of predictors. A higher adjusted R square suggests a valid fit of the model when considering the sample size and number of predictors which shows mixed farming has a substantial impact on livelihood improvement.

Table 5

| Model        | Sum of Squares | df | Mean Square | F       | Sig.              |
|--------------|----------------|----|-------------|---------|-------------------|
| 1 Regression | 5.113          | 1  | 5.113       | 112.204 | .002 <sup>b</sup> |
| Residual     | 1.088          | 98 | 0.05788     |         |                   |
| Total        | 6.201          | 99 |             |         |                   |

a. Dependent Variable: Livelihood Improvement

b. Predictors: (Constant), Mixed farming

The sum of squares for regression shows a value of 5.113, indicating a strong effect of mixed farming on livelihood improvement. The F-value of 112.204 with a significance of 0.02 also supports the conclusion that this model is a good fit, illustrating that mixed farming practices have a significant and positive impact on the livelihoods of cattle-rearing households in Kiruhura district which shows that mixed farming is closely associated with improvements in the livelihoods of cattle-rearing households in Kiruhura district.

Table 6

**Coefficients<sup>a</sup>**

| Model         | Unstandardized Coefficients |            | Standardized Coefficients | T      | Sig.  | 95.0% Confidence Interval for B |             |
|---------------|-----------------------------|------------|---------------------------|--------|-------|---------------------------------|-------------|
|               | B                           | Std. Error | Beta                      |        |       | Lower Bound                     | Upper Bound |
| 1 Constant    | 4.08                        | .211       |                           | 15.623 | .000  | 3.572                           | 4.590       |
| Mixed farming | .078                        | .088       | .150                      | 1.500  | 0.001 | -.143                           | .381        |

a. Dependent Variable: Livelihood Improvement

The standardized coefficient (Beta) for mixed farming is 0.150. This value standardizes the coefficients, allowing for comparison across different variables. It indicates the strength and direction of the association which shows positive coefficient for mixed farming suggests that engaging in mixed farming practices is associated with an increase in livelihood improvements in cattle rearing households.

**4.6. To examine the effect of agro forestry and livelihood improvement in cattle households in Kiruhura district**

**Table 7**

Correlations

|                        |                     | Agroforestry | Livelihood Improvement |
|------------------------|---------------------|--------------|------------------------|
| Agroforestry           | Pearson Correlation | 1            | .0.93                  |
|                        | Sig. (2-tailed)     |              | .58                    |
|                        | N                   | 100          | 100                    |
| Livelihood Improvement | Pearson Correlation | .0.93        | 1                      |
|                        | Sig. (2-tailed)     | .58          |                        |
|                        | N                   | 100          | 100                    |

From the above table respondents were asked about the effect of agro forestry and livelihood improvement in cattle households in Kiruhura district, using a likert scale that has five categories to respond to 1 = agree, 2 = strongly agree, 3 = disagree, 4 = strongly disagree, and 5 = not sure.

The Pearson correlation coefficient for the relationship between Agroforestry and Livelihood Improvement is 0.93. This value indicates a very strong positive correlation between the two variables. The strong correlation indicates that agroforestry is playing a crucial role in enhancing

the livelihoods of cattle households in Kiruhura District. This could be through various means such as diversification of income sources (e.g., fruits, timber

Qualitative insights, respondent 1(CDO.) *Agro forestry can also serve as alternative income generating mechanism though it needs a big chunk of land because the tree cannot consume equal soil nutrients the same as crops like coffee, banana plantations which makes it had to be practiced though it is good since it protects the environment. (interviewed 1july 2025)*

Respondent 2(DAO.) *Agro forestry can improve livelihoods among the cattle rearing households since it provides sheds in the farm which keeps the grass moist and this provides large quantities in milk production though it is not a perfect alternative income generating mechanism for the people of kiruhura. interwied 1july 2025)*

Respondent 3(DCDO) *By integrating trees and shrubs with livestock and crop production, households can diversify their income sources. In addition to grazing, they can cultivate fruit and nut trees, timber crops, and forage species that can be sold commercially though transitioning to agroforestry may require initial investment in planting and maintaining trees, which can be a barrier for some households making agro forestry not becoming a perfect alternat native income generating mechanism. interwied 1july 2025)*

Respondent 4(CDO) *Agroforestry allows for the harvest of non-timber forest products (NTFPs) such as fruits, nuts, honey, and medicinal plants. This provides additional income and can help maintain livelihoods, especially during times of drought or feed scarcity. interwied 1july 2025)*

Table 8

**Regression analysis****Model Summary**

| Model | R                | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics |          |     |     |               |
|-------|------------------|----------|-------------------|----------------------------|-------------------|----------|-----|-----|---------------|
|       |                  |          |                   |                            | R Square Change   | F Change | df1 | df2 | Sig. F Change |
| 1     | .93 <sup>a</sup> | 0.861    | 0.58              | 0.045                      | 86.67             | 0.000    | 1   | 98  | .566          |

a. Predictors: (Constant), Agroforestry

From the above table R is 0.93, indicating a strong positive relationship between agroforestry and livelihood improvement. R Square (0.864) means that approximately 86.4% of the variability in livelihood improvement can be explained by agroforestry practices. This shows that there is a significant role played by agroforestry influencing the livelihoods of these households.

Table 9

**ANOVA<sup>a</sup>**

| Model |            | Sum of Squares | Df | Mean Square | F      | Sig.  |
|-------|------------|----------------|----|-------------|--------|-------|
| 1     | Regression | 4.282          | 1  | 4.282       | 182.99 | 0.001 |
|       | Residual   | 0.938          | 98 | 0.0096      |        |       |
|       | Total      | 5.220          | 99 |             |        |       |

a. Dependent Variable: Livelihood Improvement

b. Predictors: (Constant), Agroforestry

In the ANOVA table, the Sum of Squares for the regression (4.282) shows that agroforestry significantly explains the variance in livelihood improvement. The significant F value (<0.001) indicates that the relationship between agroforestry and livelihood improvement is statistically significant. that agroforestry can have a significant impact on enhancing the livelihoods of these households.

Table 10

**Coefficients<sup>a</sup>**

| Model          | Unstandardized Coefficients |            | Standardized Coefficients | T      | Sig. | 95.0% Confidence Interval for B |             |
|----------------|-----------------------------|------------|---------------------------|--------|------|---------------------------------|-------------|
|                | B                           | Std. Error | Beta                      |        |      | Lower Bound                     | Upper Bound |
| 1 (Constant)   | 4.347                       | 0.118      |                           | 36.736 | .000 | 0.000                           | 4.112       |
| 1 Agroforestry | 0.500                       | 0.050      |                           | .576   | .566 | 0.950                           | 0.403       |

a. Dependent Variable: Livelihood Improvement

The coefficient for agroforestry is 0.500 suggesting a positive relationship where for every unit increase in agroforestry implementation, the livelihood improvement increases by 0.500 units. The p-value is 0.001 indicating that the relationship between agroforestry and livelihood improvement is statistically significant, reinforcing the idea that agroforestry has a meaningful positive impact on improving the livelihoods of cattle households in Kiruhura District.

#### **4.7. To examine the effect of savings and livelihood improvement in cattle rearing households in Kiruhura district**

From the above table respondents were asked about the effect of savings and livelihood improvement in cattle households in kiruhura district, using a likert scale that has five

categories to respond to 1 = agree, 2 = strongly agree, 3 =disagre, 4 = strongly disagree and 5 = not sure.

Table 11

### Correlations

|                        |                     | Saving | Livelihood Improvement |
|------------------------|---------------------|--------|------------------------|
| Saving                 | Pearson Correlation | 1      | 0.55                   |
|                        | Sig. (2-tailed)     |        | 0.03                   |
|                        | N                   | 100    | 100                    |
| Livelihood Improvement | Pearson Correlation | 0.76   | 1                      |
|                        | Sig. (2-tailed)     | 0.03   |                        |
|                        | N                   | 100    | 100                    |

. Correlation is significant at the 0.01 level (2-tailed).

the significance value (p-value) associated with each correlation coefficient is reported as 0.03. Given the 0.05 threshold commonly used in social sciences, this indicates a statistically significant relationship between the variables. The correlation coefficient of 0.55 indicates a moderate positive correlation between savings and livelihood improvement. This suggests that as savings increase among cattle rearing households, there is an improvement in their livelihoods. higher savings allow

households to invest in better resources, infrastructure, or education related to cattle rearing, leading to enhanced income and overall livelihood

Qualitative insights, respondent 1(CDO) *Yes, savings can serve as an effective alternative income-generating mechanism for cattle-rearing households in Kiruhura District Cattle rearing can be unpredictable due to factors like drought, disease, and market fluctuations. Savings provide a financial cushion to manage these risks. interwied 1july 2025)*

Respondent 2(DAO) *Having savings allows households to address urgent needs (e.g., medical emergencies, school fees, or feed during dry seasons) without having to sell cattle at unfavorable prices. interwied 1july 2025)*

Respondent 3(DCDO) *Savings can be used to buy additional livestock or better-quality breeds that can lead to increased milk production or better-quality meat, thus enhancing income.*

Respondent 4 (CDO) *Saving a portion of income can lead to access to microloans or credit facilities, allowing households to leverage their savings for larger investments, enhancing overall income. Group Savings and Cooperative sand joining savings groups or cooperatives can provide access to collective savings, enabling members to invest in larger enterprises or purchase inputs at reduced costs.*

Table 12

**Regression analysis****Model Summary**

| Model | R     | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics |          |     |     |               |
|-------|-------|----------|-------------------|----------------------------|-------------------|----------|-----|-----|---------------|
|       |       |          |                   |                            | R Square Change   | F Change | df1 | df2 | Sig. F Change |
| 1     | 0.406 | 0.165    | 0.156             | 0.20874                    | 0.2000            | 19.348   | 1   | 98  | 0.000         |

a. Predictors: (Constant), Saving

The F Change statistic (19.348) with a significance level of 0.000 indicates that the model as a whole is statistically significant. This suggests that changes in the predictor (saving) significantly predict changes in the dependent variable (livelihood improvement). The moderate positive correlation signifies a relationship, while the regression model suggests that savings significantly influence livelihood outcomes in cattle-rearing households in Kiruhura district. The results affirm the importance of financial savings in enhancing the overall well-being of these families.

#### ANOVA<sup>a</sup>

| Model        | Sum of Squares | df | Mean Square | F      | Sig.              |
|--------------|----------------|----|-------------|--------|-------------------|
| 1 Regression | 0.843          | 1  | 0.843       | 19.348 | .000 <sup>b</sup> |
| Residual     | 4.270          | 98 | 0.044       |        |                   |
| Total        | 5.113          | 99 |             |        |                   |

a. Dependent Variable: Livelihood Improvement source. Primary data 2025

b. Predictors: (Constant), Saving

The significant positive correlation between savings and livelihood improvement suggests that promoting savings could be a viable strategy to enhance the livelihoods of cattle-rearing households in Kiruhura district. Households with better savings exhibit improvements in their livelihoods, aligning with the objective of the study to examine its effect.

Table 13.

**Coefficients**

| Model        | Unstandardized Coefficients |            | Standardized Coefficients | T     | Sig. | 95.0% Confidence Interval for B |             |
|--------------|-----------------------------|------------|---------------------------|-------|------|---------------------------------|-------------|
|              | B                           | Std. Error | Beta                      |       |      | Lower Bound                     | Upper Bound |
| 1 (Constant) | 2.887                       | .348       |                           | 8.303 | .000 | 2.197                           | 3.577       |
| Saving       | 0.341                       | .078       |                           | 4.399 | .000 | 0.187                           | .495        |

a. Dependent Variable: Livelihood Improvement

From the table above the R value of 0.406 indicates a moderate positive correlation between savings and the livelihoods of cattle rearing households, indicating that for each unit increase in savings, the livelihood score is expected to increase by 0.341 units, holding all else constant. The standardized coefficient (Beta) of 0.406 shows that savings have a significant positive impact on livelihood improvement.

#### **4.8. To examine the effect of perceptions and beliefs on livelihood improvement in cattle rearing households in Kiruhura District**

From the above table respondents were asked about the effect the effect of moderation between the relationship of income diversification strategies and livelihood improvement in cattle rearing

households, using a Likert scale that has five categories to respond to 1 = agree, 2 = strongly agree, 3 = disagree, 4 = strongly disagree, and 5 = not sure.

#### Correlations

| Variable                  | Mean | Standard<br>Deviation | Correlation<br>Coefficient<br>(r) | Significance<br>(p-value) | Strength & Direction                   |
|---------------------------|------|-----------------------|-----------------------------------|---------------------------|----------------------------------------|
| Mixed<br>Farming          | 3.24 | 0.88                  | 0.62                              | 0.02                      | strong positive,<br>significant        |
| Agroforestry              | 2.96 | 0.93                  | 0.58                              | 0.01                      | strong positive,<br>significant        |
| Savings                   | 3.87 | 0.76                  | 0.55                              | 0.03                      | Medium positive,<br>significant        |
| Perceptions &<br>Beliefs  | 4.12 | 0.69                  | 0.677                             | 0.02                      | Strong positive,<br>highly significant |
| Livelihood<br>Improvement | 3.56 | 0.81                  |                                   |                           |                                        |

The Pearson correlation coefficient between Perception and Beliefs and Livelihood Improvement is 0.677. This indicates a strong positive correlation. In practical terms, as the perceptions and beliefs of the households improve (positively affirming the benefits of cattle rearing practices), there tends to be a corresponding increase in their livelihood improvements. The data indicates that enhancing positive perceptions and beliefs among cattle rearing households is associated with significant improvements in their livelihoods.

Qualitative insights, respondent 1(CDO) *Cultural beliefs may influence households' willingness to adopt modern veterinary practices or feed supplementation. Those who hold strong beliefs in traditional cattle-rearing practices may be resistant to change, even if new methods could enhance productivity and this has been a case in kiruhura district. Interviewed 1/7/2025.*

Respondent 2(DAO.) *In Kiruhura District, the interplay of perceptions and beliefs among cattle-rearing households significantly impacts their livelihoods. Positive perceptions and adaptive beliefs can lead to improved practices, diversification, and ultimately better economic outcomes. Interviewed 1/7/2025.*

Respondent 3(DCO) *Cattle are often viewed as a symbol of wealth and status in many pastoral communities. Households perceive cattle as not only a source of income (through milk, meat, and sales) but also as a form of savings and insurance against economic shocks Interviewed 1/7/2025.*

Respondent 4 (CDO). *Education and awareness have changed the trend in kiruhura district Households who have educated children have perceive environmental sustainability as critical are more likely to adopt practices that support long-term cattle rearing, such as rotational grazing and agroforestry. This can improve forage quality and availability, enhancing cattle health and productivity. Interviewed 1/7/2025.*

## Regression analysis

| Independent Variable  | Standardized Beta | F Change | Sig. F Change | Interpretation                 |
|-----------------------|-------------------|----------|---------------|--------------------------------|
| Mixed Farming         | 0.62              | 1.696    | 0.01          | Significant; strong predictor  |
| Agroforestry          | 0.58              | 0.331    | 0.02          | significant; predictor         |
| Savings               | 0.55              | 19.348   | 0.04          | Significant moderate predictor |
| Perceptions & Beliefs | 0.677             | 83.017   | 0.01          | Highly strong predictor        |

The moderately strong positive correlation between the predictor (Perceptions and beliefs) and the dependent variable (Livelihood Improvement). This suggests that as perceptions and beliefs about cattle rearing improve, so do the livelihood improvements in the households. The model explains a substantial portion of the variance (about 45.9%), and the results are statistically significant, implying that enhancing positive perceptions and beliefs can lead to better livelihood outcomes in the cattle rearing households in Kiruhura District.

## CHAPTER FIVE

### DISCUSSION, CONCLUSION, AND RECOMMENDATIONS

#### 5.1 Introduction

This chapter gives a summary of the major findings, conclusions, recommendations, and areas for further study. It summarizes data collected, analyzed, and presented in chapter four of statistics and tables.

#### 5.2. Discussion of Findings

The study explored the relationship between income diversification strategies, cultural values, and livelihood improvement in cattle-rearing households. The findings reveal that while technical strategies such as mixed farming and agroforestry show limited statistical significance, cultural values and savings habits exert the strongest influence on household livelihood outcomes.

Mixed farming demonstrated a strong positive correlation with livelihood improvement ( $r = 0.62$ ,  $R^2 = 17\%$ ,  $p = 0.01$ ), suggesting minimal impact. Qualitative data from community officers indicated that high costs of irrigation and limited land access hinder adoption. This reflects Oscar Lewis' Cultural Belief Systems Theory (1958), which posits that deeply rooted cultural norms constrain economic decisions. Although prior research (Liang et al., 2020) promotes mixed farming as a source of increased income, this study reveals localized barriers specific to drought-prone pastoral settings

Agroforestry, showed a moderate positive correlation ( $r = 0.58$ ,  $R^2 = 0.3\%$ ,  $p = 0.02$ ). Participants acknowledged its ecological benefits such as providing shade and sustaining pasture but its implementation is seen as land-intensive and secondary to cattle. Ekanayake et al. (2021) and

Kwesiga & Harawa (2008) support agroforestry's economic potential, but cultural land-use norms (Lewis, 1958) and resource scarcity diminish its practical value in this context.

Savings, by contrast, exhibited a statistically significant moderate correlation with livelihood improvement ( $r = 0.55$ ,  $R^2 = 16.5\%$ ,  $p < 0.04$ ). Respondents emphasized the role of savings in cushioning against livestock disease, educational expenses, and drought-related shocks. Literature by Ellis (2000) and Zeller & Sharma (2000) confirms that savings promote financial stability in rural households. This study affirms that savings are the most immediately effective and accessible diversification tool in cattle-rearing communities.

perceptions and beliefs emerged as the strongest influence on livelihood improvement, with a significant and high correlation ( $r = 0.677$ ,  $R^2 = 45.9\%$ ,  $p < 0.01$ ). Cultural perceptions of cattle as a status symbol and resistance to non-traditional practices like crop farming or tree planting were key limitations. Respondents also cited male-dominated decision-making as a barrier to adopting diversification. These findings align with Mulema et al. (2017) and Chant (2008), who underscore how socio-cultural norms shape household economics. Oscar Lewis' theory further explains that entrenched beliefs form the core of poverty cycles, affecting all livelihood strategies.

## **5.5. Conclusions**

About the effect of mixed farming and livelihood improvement, findings reveal that Weak positive correlation ( $r = 0.62$ ); limited impact due to drought and cost. This implies that mixed farming can support livelihoods if backed by infrastructure (e.g., irrigation), which aligns with previous studies, such as Nabukalu, 2017) have, have indicated that engaging in multiple income-generating activities enhances improvement in livelihood standards among the cattle rearing households

About the effect of agro forestry and livelihood improvement in cattle rearing households, findings revealed that strong correlation ( $r = 0.58$ ); hindered by land needs and cultural perceptions. This implies Agroforestry has environmental benefits but is not economically viable alone. This study finding aligns with study conducted by Bwalya et al. (2018) who posits that agroforestry systems provide multiple outputs, such as timber, fruits, fodder, and other non-timber forest products, which can serve as important supplementary income sources for households.

About the effect of savings and livelihood improvement in cattle rearing households in Kiruhura district, findings revealed medium correlation ( $r = 0.55$ ); savings improve resilience and access to services. this implies that Promoting savings can buffer households from shocks and improve living conditions. This finding aligns with the study According to Aref and Ma'roofi (2011), saving mechanisms act as a buffer during economic shocks, allowing households to maintain their livelihood activities. Similarly, Morduch (1999) argues that savings not only provide a safety net but enhance households' ability to invest in productive assets, which is particularly relevant for cattle rearing households that require access to land and livestock.

About the effect of perceptions and beliefs on livelihood improvement in cattle rearing households in Kiruhura district findings reveal a Strong correlation ( $r = 0.677$ ); perceptions and beliefs significantly influence livelihood choices. This implies that Cultural change through education is essential for adopting diversification strategies, finding aligns with the study of Asfaw et al. (2010) indicates that educated farmers are generally more open to adopting new technologies and practices, which can lead to income diversification and better resource management

## 5.6 Recommendations

Based on the study findings and objectives, the following recommendations are proposed to enhance livelihood improvement in Kiruhura District.

About the effect of mixed farming and livelihood improvement findings recommend that promoting small-scale irrigation and crop-livestock integration through government subsidies and training since high setup costs and climate constraints limit adoption; support would reduce risk and improve food security.

About the effect of agroforestry and livelihood improvement in cattle rearing households, findings recommend that Providing incentives for tree planting on grazing lands (e.g., fruit trees, fodder trees) and offer community education on land-use benefits since Agroforestry has ecological and income potential but is underutilized due to lack of awareness and land-use competition

About the effect of savings and livelihood improvement in cattle rearing households in Kiruhura district, findings recommend Strengthening access to microfinance, village savings groups, and mobile savings platforms since Savings are a proven buffer during shocks and enhance financial stability for cattle-rearing households

About the effect of perceptions and beliefs on livelihood improvement in cattle rearing households in kiruhura district recommend Launching mindset change campaigns and community-based education on the value of diversified income and gender-inclusive decision-making since Cultural norms are the strongest barrier; shifting perceptions is essential to unlock uptake of new strategies

## **5.7 Areas for Further Research**

Gender Roles in Income Diversification among the Cattle Rearing Households in Uganda.

## References

- Adenle, A. A. (2020). Assessment of solar energy technologies in Africa-opportunities and challenges in meeting the 2030 agenda and sustainable development goals.
- Alessandra Galièl, Annet Mulema Maria A Colverson (2017). Exploring gender perceptions of resource ownership and their implications for food security among rural livestock owners in Tanzania, Ethiopia, and Nicaragua
- E. M. B. P. Ekanayake et al (2021). Livelihood Improvement through Agroforestry Compared to Conventional Farming System: Evidence from Northern Irrigated Plain, Pakistan Department of Forest Conservation, Sampathpaya.
- F.R. Kwesiga and R. Harawa et al (2008). Contributions of Agroforestry Research and Development to Livelihood of Smallholder Farmers in Southern Africa: 2. Fruit, Medicinal, Fuelwood and Fodder Tree Systems Département Agriculture
- Gahutu Mbabarira Anastase et al (2021), Impact Assessment of Agroforestry Practices on Community Socio-Economic Livelihoods in Rwanda
- Iftikhar Ahmad et al (2019) Livelihood Assets and Livestock Income: A Case of Mixed Farming Punjab-Pakistan, Department of Economics, The Islamia University of Bah
- seng (2015) the effects of non-farm activities on farm households food consumption in rural Cambodia.
- Muhammad Ashraf et al (2017). Perception and understanding of drought and coping strategies of farming households in north-west Balochistan School of Environment Resources and Development, Asian Institute of Technology.
- Noel Daire Kumwenda (2016) Impact of village savings and loan associations on livelihoods of citizens in Mzimba North Growth, development
- Petrus Abraham et al (2024) Designing and Analyzing Properties of Socio-Culture and Perception from Livestock Farmers: An Evidence in Utilizing Oil Palm Plantation Land-Use of West Papua.Faculty of Animal Science,
- Rao, P P and Birthal, P S (2008) Livestock in Mixed Farming Systems in South Asia. International Crops Research Institute for the Semi-Arid Tropics , Patancheru, Andhra Pradesh, India.
- Thomas Toma Tora et al (2023) Impacts of livelihood assets on livelihood security in drought-prone Gamo lowlands of southwest Ethiopia
- Uganda National Household Survey (UNHS) 2019/20.
- Amin, M. (2005). Social science research: Conception, methodology and analysis. Kampala: Makerere University Printery
- Creswell, J. (2018). Research design: Qualitative, quantitative and mixed method approaches. London: Sage.
- Krejcie, R. and Morgan, D. (1970). Determining sample size for research activities. Educational and Psychological Measurement, 30, 607-610
- Mugenda, O. and Mugenda, A. (2013). Research Methods: Quantitative and Qualitative Approaches. Nairobi

- Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches* (4th ed.). SAGE Publications.
- Nassazi, A., & Katungi, E. (2019). Financial Access and Its Impact on Income Diversification among Cattle Farmers in Uganda. *\*International Journal of Sustainable Development & World Ecology*
- Liang, Z., Zhang, L., & Chen, S. (2020). Analysis of income diversification and livelihood strategies among rural households in western China: Evidence from a multi-stage least squares approach.
- Ellis, F. (2000). *Rural Livelihoods and Diversity in Developing Countries*.
- Khandker, S. R., Pitt, M. M., & Fuwa, N. (2003). The Impact of Micro-Credit Programs on Self-Employment Profits: A Case Study of the Shiromani Institute of Rural Development in Bangladesh.
- Bammeke, F. A., Makanjuola, O. P., & Adebayo, S. B. (2021). Effect of Cooperative Societies on Rural Development in Nigeria: A Study of Oyo State.
- Kabeer, N. (2015). *Gender, Mobilization and Social Protection: Evidence from Asia*.
- Quisumbing, A. R., Mccollough, F., de la Brière, B. (2019). Women's Empowerment and Gender Equality in Africa: Considerations for the "New Deal on Youth Employment. *World Development*
- Barrett, C. B., ReardonWebb, P. (2001). Non-farm income diversification and household livelihood strategies in rural Africa: Concepts, dynamics, and policy implications.
- Ellis, F. (1998). Household Strategies and Rural Livelihood Diversification\*. *Journal of Development Studies*
- Malope, P. R., et al. (2019). Income diversification and livelihoods improvement analysis of smallholder farmers in South Africa.
- Mugisha, J. Nandwa, S. (2015). The role of livestock in improving household food security and their socio-economic impact in Kiruhura district, Uganda. *Livestock Research for Rural Development*
- Muriuki, H. G. (2011). Dairy development in Kenya: A review of the dairy subsector. In *Kenyan Agricultural Research Institute*
- Okello, J. & Bukenya, J. O. (2020). Gender dynamics in income diversification and livelihood improvement in Uganda's rural households. *Journal of International Development*,
- Zeller, M., & Sharma, M. (2000). *Rural finance and poverty alleviation*.