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Income Diversification Strategies, Cultural Values and Livelihood Improvement in Cattle Rearing House Holds of Kiruhura District, Southwestern Uganda

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Abstract

The study was about the Income Diversification Strategies, Cultural Values and Livelihood Improvement in Cattle Rearing House Holds 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, beliefs and livelihood improvement in cattle rearing households in Kiruhura district. The study was anchored on the Cultural Belief Systems theory of Oscar Lewis 1(958).

Methods: 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 KKikatsi and Kitura in Kiruhura district. Purposive and random sampling techniques were used to select the study participants. Qualitative data was collected using a Likert scale questionnaire and the data there of was analysed using SPSS. While qualitative data was collected using interview guides and was analysed thematically.

Findings: The study found that there was weak 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, that 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.

Conclusion: 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.

Background: Third world countries especially in Africa have devoted much resources to attain livelihood improvement in home steads to reduce poverty levels. Most of the Ugandans have trolled in the poverty line 39.9% as a result of limited income diversification strategies which can enhance livelihood improvement to cub down the challenge of poverty in the country. Uganda's 20240 vision and sustainable development goals have informed more policies that give a path to income diversification strategies such

as the parish development model which is a financial inclusion program to provide capital to the farmers to enable diversification decisions in order to improve house hold levels .Reduced cultural ties also paves a way to the livelihood improvement in cattle grazing areas through mind set change to enhance proper decision making of the people in regard to livelihood improvement .(Uganda 2040 vision, SDGS).

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, agroforestry, 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).

Livelihood improvement enables quality way of living among the homesteads and enhances access of food, standard education facilities and productive resources (Tusawar Iftikhar Ahmad et al 2019). Livelihood improvement promotes high-level of literacy, proper feeding which results into general development of the area (FAO report 2021. The government of Uganda has implemented many livelihood improvement programs to empower households Entandikwa in 1995, Youth Livelihood Program in 2013, Emyoga program, UWEP to alleviate poverty among the households and achieve productive resources (Mwesigwa and Mubangizi 2019).

Despite of the livelihood improvement programs in place, Kiruhura district still has cases of poor livelihoods where by some homesteads fail to access food, low-income standards which results to failure to access productive resources (Turyasingura 2020). Most of the studies which have been carried in Kiruhura district on income diversification strategies and livelihood improvement among households in 2017 by Kasirye joseph and Asimwe Prosy in 2018 though the study of Kasirye focused on determinants of income diversification strategies and the study of Prosy in 2018 focused on livelihood strategies among smallholder farmers in Kiruhura which have left the gap of cultural values that will be addressed in this study. Therefore, the study set out investigate the effect income diversification strategies, cultural values and livelihood improvement in cattle rearing house holds a case of Kiruhura district

Methods and Measures

Research Design and Study Settings

This study adopted a cross-sectional design which helps 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. The study was conducted in Kitura and Kikatsi sub counties located Kiruhura district in the western Uganda, with Kitura sub county covering 81.83km2 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 boarders 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.

Study Population and sample size

The 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. Therefore, the study constituted 104 respondents from two sub counties. 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.

Data Collection Instruments

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).

Interview Guide, the researcher will design open ended questions which will gather information from the community people using the focus group discussions and the 02 community development officers and the 02 agricultural department staff since they have little time to fill the questionnaires. The interview guide provides guidance to the researcher to remain on truck and focused on the research questions (Cresswell and Cresswell 2018). Interviews also expose out the hidden information and build relationship between the researcher and the respondent which provides a detailed information about the research phenomenon.

Data Analysis

For quantitative data, descriptive statistical measures will measure the association of variables, income diversification strategies, cultural values and livelihood improvement among the homesteads at the time of study. Inferential statistics will take 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 version.23. In the case of qualitative data, the researcher adopted construct validity where it allows 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.

Findings

Demographic Characteristics of Respondents

This section presents the background characteristics of respondents namely: gender and age. As shown in Table 1 below, of the 100 respondents who took part in the study 62 were male indicated by (62%) while 38 (38%) were female. The results showed that both genders were adequately represented to contribute their views towards study variables. The table also shows that majority of respondents 33(33%) were aged 51years and above followed by the respondents who were aged 41 to 50 years indicated by 30 (30%), followed by the respondents who were31 to 40 years aged years indicated by 25 (25%) and then the least number of respondents were aged 18 to 30 years indicated by 12 (12%).

Table 1 Showing the Demographic Characteristics of Respondents

Response	Frequency	Percentage
Gender		
Male	62	62
Female	38	38
Age Bracket		
18 to 30 years	12	12
31 to 40 years	25	37
41 to 50 years	30	67
51 years and above	33	100

Source: Primary data 2025

Correlation between mixed farming and livelihood improvement

From table 2 below, 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 had 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 Pearson Correlation coefficient (r) quantifies the strength and direction of the linear relationship between two variables. It ranges from -1 to +1: +1 indicates a perfect positive correlation, -1 indicates a perfect negative correlation, indicates no correlation. Pearson Correlation of Mixed Farming with Livelihood Improvement is 0.130 which suggests a weak positive correlation between mixed farming and livelihood improvement. The data suggests that while there is a slight positive correlation between mixed farming and livelihood improvement in cattle-rearing households in Kiruhura district. This implies

that mixed farming practices do not necessarily lead to significant improvements in the livelihoods of these households based on the current data.

Indeed, one of the key informants of the study argued that "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". Another key informant contended that, "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". While another argued that, 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.

Table 2 Showing correlation between mixed farming and livelihood improvement

		Mixed farming	Livelihood Improvement
Mixed farming	Pearson Correlation	1	.130
	Sig. (2-tailed)		.196
	N	100	100
Livelihood Improvement	Pearson Correlation	.130	1
	Sig. (2-tailed)	.196	
	N	100	100

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

Correlation between agroforestry and livelihood improvement in cattle households

From table 3 below, respondents were asked about the effect of agroforestry 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 value between agroforestry and livelihood improvement is 0.058. This indicates a very weak positive correlation between these two variables. A correlation value close to 0 suggests that there is little to no linear relationship between the practice of agroforestry and improvements in livelihood. The p-value associated with the correlation is 0.566. This value is significantly above the conventional threshold of 0.05, indicating that the correlation is weak due to the collection of data from two sub counties in Kiruhura district the Ntura sub county occupied by the farmers and Kikatsi part occupied by the cattle rearing homesteads. Therefore, correlation analysis suggests that there is no significant relationship between agroforestry practices and livelihood improvement in the cattle households studied in Kiruhura district.

In agreement with the quantitative findings, one of the key informants of the study opined that, "Agroforestry 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". Similarly, another

said that, Agroforestry 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". While another one argued that, "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 agroforestry not becoming a perfect alternat native income generating mechanism".

Table 3: Correlation between Agroforestry and livelihood improvement

		Agroforestry	Livelihood Improvement
Agroforestry	Pearson Correlation	1	.058
	Sig. (2-tailed)		.566
	N	100	100
Livelihood Improvement	Pearson Correlation	.058	1
	Sig. (2-tailed)	.566	
	N	100	100

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

Correlation between savings and livelihood improvement in cattle rearing households

From the Pearson correlation coefficient for the relationship between savings and livelihood improvement is 0.406. This value indicates a moderate positive correlation. This means that as the savings of the households increase, their livelihood improvement also tends to increase. The significance value (p-value) associated with this correlation is 0.000. This value is less than 0.01, indicating that the correlation is statistically significant at the 0.01 level. This suggests that a true relationship exists between savings and livelihood improvement. Therefore, the data suggests that there is a significant and positive association between savings and livelihood improvement among cattle rearing households in Kiruhura district. Households that manage to save more are likely to see better outcomes in terms of their livelihoods, which could have important implications for policy-making and programs aimed at enhancing economic stability and growth within these communities. In practical terms, initiatives aimed at increasing savings (such as financial literacy programs, access to savings accounts, or community savings groups) might help improve the livelihoods of cattle rearing households in the area.

Data from the key informants shows that 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. *Another study key informant also argiued that,* 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. *While another one reported that* 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.

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 4: Correlation between savings and livelihood improvement

		Saving	Livelihood Improvement
Saving	Pearson Correlation	1	.406**
	Sig. (2-tailed)		.000
	N	100	100
Livelihood Improvement	Pearson Correlation	.406**	1
	Sig. (2-tailed)	.000	
	N	100	100

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

Correlation between perceptions, beliefs, and livelihood improvement

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. This suggests that the correlation is statistically significant, meaning the probability that this correlation occurred by chance is extremely low. The data indicates that enhancing positive perceptions and beliefs among cattle rearing households is associated with significant improvements in their livelihoods. This insight may be useful for policymakers and development practitioners aiming to bolster economic conditions in the region, emphasizing.

Data from the key informants showed that, 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. Another key informant argued that, 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. Similarly qualitative data showed that, *c*attle 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

Table 5: Correlations between perceptions, beliefs and livelihood improvement

		Perception and beliefs	Livelihood Improvement
Perception and beliefs	Pearson Correlation	1	.677**
	Sig. (2-tailed)		.000
	N	100	100

	Pearson Correlation	.677**	1
Livelihood Improvement	Sig. (2-tailed)	.000	
	N	100	100

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

Discussion

The study's findings indicate that income diversification strategies have had mixed impacts on improving livelihood among the cattle rearing households. A substantial majority of key respondents mixed farming has led to enhanced increased household income among households. This observation aligns Liang et al. (2020), who suggests income diversification not only raises overall earnings but also improves expenditure patterns, leading to better investments in education and health. Households in Kiruhura that adopt diverse income strategies have livelihood improvements though beyond cattle rearing however Some households face challenges such as limited access to financial resources, which restricts their ability to diversify. Research by Nassazi et al. (2019) highlighted that inadequate credit facilities hindered the adoption of income-generating activities beyond cattle.

Additionally, respondents reported increased savings have fostered financial resilience by allowing households to navigate emergencies, such as diseases affecting livestock or unexpected market fluctuations. This finding aligns with the study Research of Zeller and Sharma (2000) who argue that savings are critical in maintaining household stability, especially in agricultural communities where income can be sporadic and unpredictable. With savings, households in Kiruhura district have been to explore new income-generating activities as mobile money business, money rendering businesses, hotels and other value addition points and this aligns with study conducted by Ellis (2000) who argue that income diversification away from traditional agriculture through savings allows farmers to invest in non-farm activities, which can yield alternative sources of income and reduce dependency on livestock.

Respondents consistently reported that Education breaks the cultural values and perceptions which enables individuals to acquire essential knowledge regarding alternative livelihood strategies. This includes information on best practices in agriculture, livestock management, and entrepreneurial ventures. These findings a align with the study of Khandker, Pitt, and Fuwa (2003), who urges that education significantly influence the types of diversification strategies that households pursue. Households with higher educational levels have adopted new income-generating activities beyond traditional cattle rearing.

Despite the identified improvements, the study highlights significant challenges in the implementation of income diversification strategies. Key respondents including local government leaders, consistently cited insufficient funding and lack of adequate training as major barriers affecting adoption of income diversification strategies echoing findings of Tchamo et al. (2021) who urges that access to financial services is vital for enabling poor households to invest in diversified income-generating activities. In Kiruhura, many farmers rely on subsistence farming and have little access to credit, which impedes their ability to invest in diversification efforts. A significant barrier to effective diversification is the lack of entrepreneurial skills and knowledge among the local population in Kiruhura district who lack value addition techniques like chips cooking which can serve alternative source of income consistent with the findings of Kaggwa and Nannyonjo (2020) who posits that training and education are critical in equipping individuals with the necessary skills for diversifying income-generating activities successfully. Kiruhura's reliance on agriculture makes it is vulnerable to climate change impacts, which can limit diversification opportunities such as mixed farming, agro forestry are limited because they require huge costs to put up

irrigation asset which aligns with the findings of Jagger and Pender (2003) who urges that that environmental degradation and climate variability can erode livelihoods and reduce the available options for diversification.

To address these challenges and enhance the benefits income diversification strategies the study offers several policy recommendations. Key respondents emphasized the need for increased budget allocations and regular training programs, Financial constraints are a significant barrier to income diversification supported by Kabeer (2015) who urges that improving access to microfinance can empower the poor by enabling them to invest in diverse income-generating activities. respondents reported that establishing cooperative societies can provide a platform for individuals to pool resources, share knowledge, and enhance bargaining power in the market aligning with the work of Bammeke et al. (2021) who posits that cooperative structures in rural settings help to improve access to resources and markets, thus diversifying income for members. Local government can facilitate the formation and registration of these cooperatives. Additionally, increasing citizen participation, implementing performance-based incentives, and improving transparency are seen as important measures, aligning with the findings by Quisumbing et al. (2019) highlighted that targeting women can enhance household income and well-being. Local government should ensure that diversification strategies are inclusive and empower women in particular which is essential to consider gender dynamics in income diversification strategies, as women often face additional barriers to accessing resources and opportunities

Concussion and Recommendation

The study aimed at investigating the effect of income diversification strategies cultural values, and livelihood improvement in cattle rearing households in Kiruhura district. 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. Effective communication channels and coordination mechanisms should be established among local government agencies, service providers, and stakeholders to streamline decision-making processes and improve service. Strengthen accountability mechanisms to ensure responsible governance and effective utilization of public resources

Ethical approval and consent to participate

Approval to conduct the study was obtained from Bishop Stuart University Research Ethics Committee (BSU-REC-2025-514). Moreover, Informed consent was also obtained from all study participants before commencement of data collection.

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