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The Preferences of Youth Agripreneurs for Agricultural Market Outlets in the Lake Zone, Tanzania

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Abstract

The agricultural sector is vital to Tanzania's economy, contributing ~30% to GDP and employing over 65% of the workforce. With a growing youth population, youth groups hold significant potential to drive sustainable economic development through innovative agricultural practices. However, challenges like limited market access persist despite government efforts to promote youth engagement in economic development initiatives. This study examines the factors influencing the selection of agricultural market outlets by youth groups, including wholesalers, assemblers, and direct consumers, in Mwanza City and Ukerewe District. Data from 93 youth groups were collected using a cross-sectional design with stratified random sampling. Multinomial logistic regression, guided by Random Utility Theory, was used to analyse outlet selection. Findings show that higher education levels among group leaders reduce the likelihood of selling to assemblers, as do specific product categories. Improved infrastructure and better market access increase the probability of engaging with assemblers, while unfavourable market arrangements deter it. Inadequate infrastructure also lowers the likelihood of selling directly to consumers. The study recommends enhancing education and training, emphasizing gender inclusivity in leadership, improving market infrastructure, formalizing market arrangements, and promoting product diversification and value-added activities. These measures can empower youth groups to overcome barriers and contribute to sustainable economic growth in Tanzania's agricultural sector.

Keywords: Youth Groups, Agricultural Market Outlets Selection, Decision-Making, Optimal

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Introduction

The Tanzanian economy relies heavily on the agricultural sector, which contributes significantly to the gross domestic product (GDP), boosts employment rates, and enhances food security (Ministry of Livestock and Fisheries Development, 2017). As a vehicle sector, it provides livelihoods for millions and has become a vital source of income. Furthermore, it provides sustenance for the majority. The significance of this sector is notable. It accounts for approximately 30% of the GDP and over 60% of employment opportunities (Mtui, 2023). In light of the growing challenges of urbanisation, population growth, and climate change, the need for sustainable agricultural practices has been evident in recent years.

However, the sector faces several challenges, including inefficient markets and inadequate infrastructure. The country is also experiencing rapid growth in its youth population (Ministry of Finance and Planning et al., 2022). This growth may exacerbate these challenges. It is crucial to capitalise on the demographic shift to promote sustainable development, particularly in the agricultural sector. This demographic feature presents a significant opportunity for agricultural transformation. As they gradually engage in agricultural production, youths bring innovations. Despite barriers such as limited access to land and capital, many young entrepreneurs can easily adopt modern agricultural practices. These efforts are crucial for sustaining the sector's prosperity.

The Tanzanian government has fostered youth engagement in the agricultural sector by implementing several initiatives. Such initiatives include the Agricultural Sector Development Programme (ASDP) and the National Strategy for Youth Involvement in Agriculture (NSYIA). These initiatives aimed to equip young people with the necessary resources, technical training, and entrepreneurial skills. In addition, the initiatives are targeted at reducing land, financial, and technological inaccessibility. Further, ASDP II programs promoted agricultural modernisation through innovation, mechanisation, sustainable farming practices, and access to capital. Moreover, the Youth Development Fund and the Tanzania Agricultural Development Bank were established to provide financial solutions to facilitate the establishment of agribusinesses. There has been a rise in the number of youths participating in the agricultural sector, approaching farming as a business opportunity (Kashi et al., 2019). As a result, the younger demographic can potentially revolutionise the sector's value chain.

Despite commendable efforts, limited access to optimal markets hinders the full potential of the agricultural sector. The youths often need effective strategies to find the best market for their produce. Meeting this demand is essential for the growth and sustainability of their agricultural businesses. Selecting the most suitable market outlet is crucial in determining income levels, economic viability, and business success. The term "market outlets" encompasses a range of options, including local markets, farmer cooperatives, agro-processing companies, and export opportunities. Each market outlet presents benefits and challenges that ultimately impact the economic outcomes of the enterprises. Additionally, youths face challenges in identifying suitable market outlets, such as limited access to market information, logistical difficulties, and market volatility.

It is crucial to address these barriers to empower youths and enhance their involvement and potential in the agricultural sector. Similarly, the youths must be able to navigate these market options to prosper in the sector. Such an approach can improve revenue, bargaining power, and business sustainability. However, limited infrastructure, unreliable market information, and intense competition from established market players create a challenging environment for young people to choose the optimal market channels. Addressing these challenges will help achieve economic development for these individuals.

The literature highlights several factors influencing the decision-making process when selecting agricultural market outlets. These factors include group size, distance to the market, access to market information, and the quantity of the produce. Group sales have increased producers' bargaining power and provided them with better market access (Piabuo et al., 2020). By combining their output, producers can pool resources, which helps reduce the individual transaction costs associated with separate transactions. Distance to the market is a significant factor affecting outlet selection. Longer distances may hinder access to more profitable markets due to increased transportation costs and time (Mwembe et al., 2021). Additionally, having access to timely and relevant market information is crucial for informed decision-making. It enables the identification of optimal market outlets (Adams et al., 2022). The amount of goods produced can significantly determine the appropriate market outlet (Kangile et al., 2020). Larger quantities may require direct sales to wholesalers or processors, while smaller amounts could be sold at local markets.

Additionally, factors such as market experience, level of education, association age, market arrangements, facilities, infrastructure, gender, and the type of activities are also important considerations when choosing market outlets. Market experience enables groups to understand local demand dynamics and enhance their negotiation skills (Abebe et al., 2019). Education and training also impact farmers' decisions on choosing a specific market to sell their produce (Mhagama & Mmasa, 2022). Thus, a higher level of education among producers can help them analyse market conditions and make strategic decisions. The producer's age has been found to influence their choice of market outlet (Mwembe et al., 2021). Additionally, the type of market arrangement has been shown to have a similar influence (Mhagama & Mmasa, 2022). These factors can also affect the reputation and trustworthiness of the market, which in turn influences the choice of outlet. Furthermore, market facilities can attract producers to specific outlets by providing better access and assistance for their products (Adams et al., 2022).

Infrastructure also increases the likelihood of selecting better markets (Kangile et al., 2020). The type of activities or commodities produced significantly influences the choice of market outlets (Kangile et al., 2020). This can be attributed to the fact that producers involved in value-added or high-capital activities may prefer formal markets. At the same time, those engaged in primary production may opt for informal or local markets. This distinction enables producers to align their market choices with the specific demands and characteristics of their products. Lastly, the gender of the producer can influence decision-making processes and access to resources, potentially affecting the chosen market outlet (Mwembe et al., 2021; Adams et al., 2022).

Although a growing body of literature on individuals' engagement in agriculture has recently emerged, research focusing specifically on youth groups' engagement in market outlet selection remains limited. Most studies address broader agricultural issues, often overlooking the factors that influence youth groups' decision-making processes in selecting market outlets. Therefore, the current study fills this gap by examining the factors that influence market outlet selection among youth groups in Mwanza City and Ukerewe District, Tanzania. This study aligns with national development strategies, including poverty reduction and youth empowerment. It aims to enhance the capacity of young people to make informed decisions, thereby contributing to the achievement of this objective. Additionally, the study emphasises fostering youth engagement in agriculture to promote economic growth and resilience in the context of global challenges.

Moreover, the study provides meaningful contributions that inform stakeholders and facilitate the realisation of development goals. In essence, the findings enhance the understanding of the landscape of youth groups' involvement in agriculture, thereby paving the way for more effective interventions that support sustainable development in Tanzania.

Materials and Research Methods

This study used a cross-sectional research design to thoroughly investigate the factors influencing youth groups' decisions when choosing agricultural market outlets in the Lake Zone. The cross-sectional approach was chosen because it captures data at a single point in time, providing a clear snapshot of youth participation in agricultural output markets. This design ensures efficient data collection without the need for prolonged observation (Utonga & Kamwela, 2024). It facilitates the analysis of multiple variables, which is crucial for understanding the factors influencing market outlet selection. The cross-sectional method ensured that the study addressed its objectives while maintaining high external validity and timely completion.

The research took place in the Lake Zone of Tanzania, specifically in Mwanza City and Ukerewe District. These areas are known for their rich agricultural potential, fertile soils, and favourable climatic conditions. Various agricultural activities, such as crop cultivation, fishing, and livestock rearing, are prevalent in this region, making it an ideal location for studying young people's involvement in agriculture. In 2014, Mwanza was home to approximately 242 youth groups engaged in agricultural activities; however, these groups faced challenges in accessing agricultural markets (URT, 2016). The high number of youth-led agricultural initiatives in these areas led to their selection for the study, ensuring that the findings are relevant to similar socio-economic contexts nationwide.

The study focused on youth groups engaged in agriculture in Mwanza City and Ukerewe District. Specifically, it targeted agricultural groups, with a focus on individuals aged 15 to 35, which aligns with the youth category in Tanzanian policy frameworks. This age range is significant as it encompasses individuals transitioning into adulthood and making crucial decisions about their livelihoods and career paths.

The study involved 93 youth groups from Mwanza City and Ukerewe participating in agricultural output markets. The distribution of youth groups by district is presented in Table 1. Inclusion criteria included: (1) being a group of youth with members aged 15 to 35 years, (2) having participated in the agricultural output market within the last year, and (3) living in either Mwanza City or Ukerewe District.

Table 1: Youth Groups Distribution by Location

SN	Number	Percent
Mwanza	51	55
Ukerewe	42	45
Total	93	100

Source: Study Construction, 2021

The study used a stratified random sampling method to ensure a fair representation of youth groups from both Mwanza City and the Ukerewe district. The population was split into two groups based on location, and then youth groups were randomly selected from each group. This method ensured that each group had an equal chance of being chosen and reduced any bias in the selection process. The number of youth groups chosen from each location was based on the population size in the particular district, ensuring that both areas were equally represented in the final sample.

The data for this study were mainly gathered through a structured survey. The survey collected information about the agricultural market participation practices of youth groups. It included both closed-ended and open-ended questions, allowing for quantitative analysis and allowing participants to expand on their experiences.

The survey instrument was developed through several steps. First, a literature review was conducted to identify relevant themes and variables associated with youth engagement in the agricultural output market. Based on the review, a draft questionnaire was created and then validated by experts. Following the receipt of feedback, a pilot study was conducted with a small

group of five youth participants to assess the clarity and reliability of the survey instrument. Feedback from the pilot study was used to make necessary revisions to the questionnaire, ensuring it effectively captured the correct information. The final survey instrument was then administered to a sample of 93 youth leaders through face-to-face interviews conducted by research assistants. This approach aimed to enhance the quality of data collected between participants and interviewers, encouraging openness and honesty in responses.

In this study, we used the multinomial logistic regression (MLR) model to analyse the factors that influence the decisions of youth groups when choosing market outlets. We chose this model because the dependent variable involves multiple non-ordinal choices of market outlets, such as selling directly to consumers, wholesalers, and assemblers. Since each outlet represents a distinct option with no inherent ranking, the MLR model is suitable for this analysis.

This study utilised the MLR framework. The framework was chosen because it is relevant in cases where the outcome variable has more than two categories that do not follow a natural order (El-Habil, 2012). Additionally, the model explains how different independent variables simultaneously affect the likelihood of choosing each outlet compared to a base or reference category.

The decision-making process of youth groups when choosing a market outlet can be modelled using the Random Utility Theory (RUT). According to this theory, each group derives a certain level of utility from selecting a specific market outlet. The utility derived from outlet j by group i is represented as:

$U_{ij} = V_{ij} + \epsilon_{ij}$.....(1)

Where:

U_{ij} is the total utility that group i derives from choosing outlet j,

V_{ij} is the deterministic (observable) part of the utility, which is influenced by measurable explanatory variables such as group characteristics, market accessibility, and available information,

ϵ_{ij} is stochastic (unobservable) component representing random influences not captured in the observable data.

Youth groups are assumed to select the outlet that maximises their utility. Hence, group i chooses market outlet j over any alternative outlet k if and only if:

$U_{ij} > U_{ik}$ for all $k \neq j$

Because of the random component ϵ_{ij} , the choice is modelled probabilistically. The probability that group i chooses outlet j depends on the observable characteristics and the utilities of all available outlets.

The MLR model is used to estimate the probability that a youth group i will choose a market outlet j relative to a reference category, based on a set of explanatory variables. The deterministic utility component V_{ij} is modelled as a linear function of the explanatory variables:

$$V_{ij} = \beta_{0j} + \beta_{1j}X_1 + \beta_{2j}X_2 + \cdots + \beta_{nj}X_n$$

Where:

V_{ij} is the utility of outlet j for group i,

$\beta_{0j}, \beta_{1j}, \ldots, \beta_{nj}$ are the parameter estimates,

$X_1, X_2, \ldots, X_n$ are the explanatory variables that affect the utility of choosing a particular market outlet.

The probability of youth group i choosing market outlet j compared to a reference outlet r is given by the following log-odds expression:

$$log\left(\frac{P(Y=j)}{P(Y=r)}\right) = \beta_{0j} + \beta_{1j}X_1 + \beta_{2j}X_2 + \cdots + \beta_{nj}X_n$$

In this specification:

$P(Y = j)$ is the probability that group i selects market outlet j

$P(Y = r)$ is the probability of selecting the reference outlet r

The model estimates the relative likelihood of selecting each market outlet instead of the reference category. The coefficients $\beta_{0j}, \beta_{1j}, \ldots, \beta_{nj}$ represent the effect of each explanatory variable on the log odds of choosing market outlet j compared to the reference outlet. Positive coefficients indicate an increase in the likelihood of choosing that particular outlet relative to the reference, while negative coefficients suggest a decrease in probability.

This study analyses how demographic, resource-based, and market-related factors influence the selection of market outlets by youth groups. The variables in the study are specified in Table 2:

Table 2: Summary of Variables and Their Descriptions for Market Outlet Selection

SN	Variable Name	Description	Type	Expected Influence
1	Market Outlet Choice	Dependent variable indicating the selected market outlet (direct to consumer, wholesaler, intermediary)	Categorical	N/A
2	Group Size	Number of members in the youth group	Continuous	Larger groups may have more bargaining power and better access to markets
3	Distance to Market	Distance in kilometres from the group's location to the nearest market outlet	Continuous	Longer distances may reduce the likelihood of selecting certain outlets
4	Access to Market Info	Dummy variable indicating whether the group has access to market information (1 = Yes, 0 = No)	Binary (0/1)	Groups with access to information are more likely to make informed and optimal choices regarding market outlets.
5	Produced Quantity	Total quantity of agricultural produce available for sale (in kilograms)	Continuous	Larger production volumes may lead to a preference for larger, formal market outlets, such as wholesalers.
6	Market Experience	Years of experience in marketing agricultural produce	Continuous	Having market experience may lead to more informed choices about market outlets.

SN	Variable Name	Description	Type	Expected Influence
7	Level of Education	The highest level of formal education attained by the group's leader	Categorical	A more educated leader may have better access to information and decision-making capabilities, which can influence the choice of market outlets.
8	Group Age	The number of years since the group was established	Continuous	Older groups may have established market connections, which can influence their choice of outlet.
9	Market Arrangement	Formal or informal market arrangements that dictate how sales are conducted	Binary (0/1)	Formal arrangements may offer better security and predictability, which can influence the choice of outlet.
10	Market Facilities	Availability of market facilities, such as storage or weighing stations	Binary (0/1)	The presence of market facilities can encourage groups to choose specific market outlets.
11	Gender of the group leader	Gender of the group leader (male/female)	Binary (0/1)	Gender may influence group dynamics and access to resources, with varying impacts depending on the context.
12	Category of activities	Activities that the youth group has specialised in the agricultural production	Categorical	The influence ranges depending on the characteristics of the product

Source: Study Construction, 2021

Data Analysis and Findings

Demographic Profile of Youth Groups

Descriptive statistics were calculated to provide a clear demographic overview, including percentage and frequency distributions. These statistics lay the groundwork for understanding the characteristics of the youth groups in the study and explain how these demographic factors may influence their choices of agricultural market outlets. The results are presented in Table 3: -

Table 3: Summary statistics of youth groups involved in the study

SN	Statistic	Description	Frequency	Percent
1	Locality	Mwanza	51	54.8
		Ukerewe	42	45.2
2	Gender of the Group Leader	Female	23	24.7
		Male	70	75.3
3	The education level of a group leader	Primary School	45	48.4
		Ordinary secondary School	34	36.6
		Certificate	03	3.2
		Diploma	10	10.6
		Bachelor Degree	01	1.0
4	Number of Group Members	1 - 5	22	23.7
		6 - 10	68	73.1
		11 - 15	02	5.1
		16 - 20	01	1.0
5	Youth Groups Age in Years	1 – 5	92	98.9
		6 - 10	01	1.1
6	Market Outlet choices	Wholesalers	48	51.6
		Assemblers	28	30.1
		Consumers	17	18.3

Source: Survey findings, 2021

Table 3 indicates a somewhat balanced geographical distribution, with 54.8% of the groups in Mwanza city and 45.2% in Ukerewe district. This distribution suggests that both areas play a significant role in the study. It allows for a comparative analysis of market dynamics between the two locations. The data reveals that most group leaders (75.3%) were male, while only 24.7% were female, highlighting a gender imbalance in leadership. This male dominance is also observed in various agricultural studies, such as Utonga (2022), Sewando *et al.* (2022), and Sewando *et al.* (2023). Such an imbalance could impact decision-making, market participation, and access to resources, potentially indicating cultural or structural barriers that hinder female leadership in these contexts.

Regarding education levels, almost half (48.4%) of the group leaders have only completed primary education, while 36.6% have completed an ordinary secondary education. A small percentage have higher qualifications, including certificates (3.2%), diplomas (10.6%), and bachelor's degrees (1.0%). This distribution suggests that most group leaders have a basic

education, which may influence their ability to navigate changing market conditions and interact with value chain participants. Limited higher education may also affect their capability to innovate and adopt more market strategies. In line with previous research, limited higher education among farmers significantly impacts their ability to innovate and adopt effective marketing strategies, particularly in selecting market outlets. Research indicates that socio-economic factors, including education level, determine market choices. For instance, smallholder farmers with higher educational attainment are more likely to engage in diverse market outlets, enhancing their profitability and market participation (Ngeno *et al.,* 2024). Additionally, the lack of scientific knowledge and innovative training hampers farmers' capacity to adapt to market demands and improve production practices (Madhushree & James, 2022).

Group membership size data shows that most groups (73.1%) consist of 6 to 10 members, with smaller proportions having fewer members (1–5 members, 23.7%) or more members (11–15 members, 5.1%). This distribution suggests that most groups are manageable, striking a balance between manageability and resource pooling. However, smaller groups may face capacity limitations, while larger ones might struggle with coordination. This observation aligns with Yobe *et al.* (2024), who argued that cooperative size is critical in determining agricultural cooperatives' market access decisions. Smaller and younger groups often lack the collective strength to capitalise on market opportunities, which could limit their competitiveness and growth potential.

According to the study, 51.6% of the groups reported sales to wholesalers, making this the most common choice among them. This reliance may be due to advantages such as better pricing, reduced risks, and more reliable transaction processes. In contrast, 30.1% of the groups indicated they sell to rural assemblers, and only 18.3% sell directly to consumers. The low percentage of direct consumer sales may indicate barriers such as logistical challenges and limited market access. These results differ from Mauki *et al.* (2023), who found that only a small proportion of farmers engage with wholesale markets due to resource constraints and logistical challenges. Despite these barriers, youth groups may prefer wholesalers for perceived advantages, such as better pricing, reduced market risks, and more stable transaction processes. This contrast could suggest that youth groups have greater access to support systems or resources that help them

navigate these challenges effectively. This inclination towards wholesalers reflects a strategic choice in managing market access challenges.

Determinants of Market Outlet Selection Decision

In this study, we use the MLR model to analyse the factors influencing the decisions of youth groups in the study area when it comes to selecting agricultural market outlets. The outlets considered in the study are direct sales to consumers, sales to wholesalers, and sales to assemblers. The results of the analysis are shown in Table 4:

Table 4: Multinomial Logistic Regression Results for determinants of agricultural market outlets selection

Variable	Assemblers			Consumers		
	β	**SE**	**P-Value**	***β***	**SE**	**P-Value**
Group Age	.0837314	.3645882	0.818	.0819804	.4468631	0.854
Group Members	.0819804	.4468631	0.854	-.361464	.9995284	0.718
Education	-1.939552***	.5544906	0.000	.002151	.3466177	0.995
Gender	1.339436	.8147711	0.100	-.7522811	.8436923	0.373
Activity	-1.353459**	.4952006	0.006	-.3459866	.6322562	0.584
Infrastructure	14.58264***	1.537962	0.000	-16.32331	1.381904	.000***
Facilities	1.568491*	.739296	0.034	1.271092	.9855329	0.197
Distance	-.0236185	.0147414	0.109	-.0332349	.0209417	0.113
Market Arrangement	-25.71083***	2.254038	0.000	.5872335	1.377354	0.670
Quantity Produced	-.7536972	.4908673	0.125	-.2265373	.3833631	0.555
Market Experience	.2902048	.9918448	0.770	-1.538036	1.161905	0.186
Constant	11.74997**	4.416194	0.008	4.086444	4.415722	0.355

Source: Study findings, 2021

Note: Base outcome: Wholesalers; *p < 0.05, **p < 0.01, ***p < 0.001; and SE = Standard Error.

The education level of the group leaders

The study results show that youth groups with leaders with higher education levels are significantly less likely to sell their produce to assemblers than to wholesalers. This is supported

by the negative coefficient of -1.9396, corresponding to an odds ratio of 0.144. For every unit increase in the education level of youth group leaders, the odds of selling their produce to assemblers decrease by 86% compared to wholesalers. This relationship is statistically significant at a 1% level.

This finding suggests that leaders with higher levels of education may be more inclined to establish business relationships with wholesalers. This preference could be due to their improved negotiation skills, ability to determine prices, and access to market information. This aligns with previous research indicating that education empowers producers to analyse market conditions, make informed decisions, and strategically select the most beneficial market channels (Mhagama & Mmasa, 2022).

Categories of Group Produce

The results indicate a significant negative coefficient of -1.3535 for the types of agricultural produce, resulting in an odds ratio of 0.259. This means that the types of groups, such as crop and horticulture farming, poultry farming, fish enterprise, and livestock farming, significantly reduce the likelihood of youth groups selling their output to assemblers compared to wholesalers by 74%. This effect is statistically significant at a 5% level. It suggests that the nature of the products sold significantly influences the choice of market outlets. Groups involved in these activities may view wholesalers as more reliable or beneficial and, therefore, more advantageous. This could be due to better pricing structures, higher volume sales, or established relationships with wholesalers. This aligns with existing literature that emphasises how the type of agricultural output impacts the selection of market outlets. Producers engaged in capital-intensive or value-added production often prefer formal markets. In contrast, those involved in primary production opt for informal or local markets due to lower entry barriers (Kangile *et al.,* 2020).

Infrastructure

The analysis reveals a surprisingly significant positive coefficient of 14.5826, resulting in an odds ratio of 2.64×10^6 for infrastructure. This means that improved market infrastructure significantly increases the likelihood of youth groups selling their produce to assemblers rather

than wholesalers. This finding challenges the initial assumption that youth groups prefer wholesaler transactions due to their perceived reliability and better pricing. Instead, it highlights that enhanced infrastructure, such as better roads, makes it easier for assemblers to reach youth groups directly at the farm gate. This implies that it reduces logistical burdens and lowers the transaction costs typically associated with wholesalers, making assemblers a more attractive option despite their generally less favourable reputation.

Furthermore, this finding aligns with Kangile *et al.* (2020), who also emphasise the crucial role of infrastructure in improving market access. Their research suggests that better infrastructure enables youth groups to connect more efficiently with assemblers and allows them to access a wider array of market opportunities, resulting in improved pricing and terms. This access empowers youth groups to make informed decisions regarding where to sell their produce, ultimately strengthening their bargaining power and profitability.

Market facilities

The coefficient for access to market facilities is 1.5685, corresponding to an odds ratio of 4.80. This means better access to market facilities increases the odds of youth groups selling their agricultural output to assemblers compared to wholesalers. This finding is statistically significant at a 5% level. This unexpected result suggests that while improved facilities could lower some logistical barriers, they may not fully offset the transaction costs in dealing with wholesalers, such as bulk transportation, larger contract negotiations, or the need for more formal arrangements. Assemblers often offer smaller, flexible transactions that require less upfront cost and risk. This makes them more accessible for youth groups despite improved market infrastructure. Therefore, even though market facilities improve, youth groups may still prefer the less costly and less complex interactions with assemblers.

The literature suggests that youth groups may gravitate toward assemblers due to their flexibility and the reduced upfront costs required for smaller transactions (Piabuo *et al*., 2020). Assemblers typically offer more accessible and less complex sales interactions than wholesalers, who demand larger volumes and formal agreements. Despite improved market facilities, youth groups may still opt for assemblers due to these advantages, especially when their operations are smaller

in scale or lack the resources to engage with wholesalers more formally. Improved facilities alone may not change this preference, as the simplicity and immediacy of assembler transactions remain appealing to youth groups looking to minimise risk and costs (Adams *et al*., 2022).

Market Arrangements

The coefficient for market arrangements is -25.7108, resulting in an odds ratio of 0.000. This indicates that unfavourable market arrangements drastically decrease the likelihood of youth groups selling their produce to assemblers compared to wholesalers. This result is significant at a 1% level. This emphasises the fact that selling conditions play an important role in the decision-making process of youth groups when choosing their market outlets. Groups that face informal or less favourable arrangements may find it challenging to engage effectively with assemblers, who often operate with less formalised structures than wholesalers. This leads to uncertainty in pricing, delivery, and payment terms, which can hinder trust and reliability.

Moreover, the literature evidences that market arrangements influence the decision-making process in the market (Mhagama & Mmasa, 2022). Groups that engage in structured and favourable arrangements with wholesalers may benefit from enhanced market standing, allowing them to secure more predictable and reliable transactions. Although wholesalers may require more formal processes, youth groups may prefer them due to the trust and security that these relationships provide. Consequently, the predictable nature of wholesaler transactions often outweighs the immediate accessibility of assemblers, particularly in market outlets where trust and favourable conditions are essential for sustained operations.

Market Infrastructure

The coefficient for market infrastructure is -16.3233, leading to an odds ratio of 0.000. This finding is highly significant at a 1% level. It suggests that inadequate market infrastructure substantially reduces the likelihood of youth groups selling their agricultural output directly to consumers compared to wholesalers. In unfavourable market conditions, such as poor road access, inadequate storage facilities, or limited accessibility, youth groups tend to favour wholesalers as a more reliable and efficient sales outlet. Wholesalers often provide a

straightforward transaction avenue, especially in environments where logistical challenges may impede direct sales efforts.

This finding aligns with existing literature suggesting that infrastructure plays a crucial role in determining market choices. Better infrastructure increases the chances of accessing reliable markets (Kangile *et al*., 2020). When infrastructure is unreliable, youth groups are less likely to reach distant or more profitable market outlets, making wholesalers the preferred option due to their established systems for overcoming logistical barriers. Thus, even when youth groups seek to engage in direct consumer sales, the absence of supportive infrastructure drives them toward wholesalers, who offer straightforward, efficient transactions under unfavourable conditions.

Goodness of Fit and Model Evaluation

The model statistics indicate a log-likelihood of -66.8198, which measures the model fit and shows the likelihood of the observed data given the model's predictors. A Wald Chi-squared statistic of 746.00 ($p = 0.000$) confirms that the model is significant, suggesting that the independent variables collectively have a substantial influence on market outlet choice. The pseudo-R-squared value of 0.2910 indicates that the model explains approximately 29.1% of the variability in market outlet selection decisions, demonstrating a moderate explanatory power. Generally, these statistics confirm the model's strength in explaining the youth group market outlet selection decisions.

Conclusion and Recommendations

This research examined the factors influencing the selection of agricultural market outlets by youth groups in Mwanza City and Ukerewe District, Tanzania. As agriculture plays a crucial role in the economy and more young people are getting involved in this sector, it is essential to understand the factors that influence their decisions when choosing market outlets. The findings show that various factors, such as the education level of the group leaders, categories of group produce, infrastructure, market facilities, and market arrangements, significantly influence the decision-making process of youth when selecting market outlets for their produce. Despite the promising findings, significant challenges persist. Limited access to market information,

inadequate infrastructure, and high transaction costs make it challenging for youths to select the most suitable market outlets. These barriers limit their economic viability and reduce their potential contributions to the agricultural sector and the national economy. Addressing these challenges is crucial for promoting sustainable development and economic empowerment among youths in the agricultural sector. The findings of this study highlight the importance of incorporating approaches that integrate education, resource allocation, and institutional support to empower youths to make informed decisions about market outlet selection. Future research should explore how youths engage in agriculture, with a particular focus on the effectiveness of various support mechanisms and the long-term impacts of youth-led initiatives on agricultural sustainability.

Based on the study findings, the following recommendations are made to enhance market engagement, particularly in the selection of market outlets among young people.

- It is important to prioritise gender inclusivity in leadership roles within youth groups to ensure a variety of perspectives and better decision-making. This can be achieved by developing programs that empower women to compete for leadership positions through training and capacity-building initiatives.

- It is also essential to prioritise the enhancement of the educational qualifications of youth group leaders. This can help improve their negotiation skills and their ability to select the optimal market outlets. By providing training programs in market intelligence, negotiation skills, and financial management, leaders can be equipped with the necessary skills to address market dynamics.

- In addition, it is crucial to invest in market infrastructures to lower the barriers that youth encounter when accessing different market outlets. Enhancing the availability of all-weather roads, storage facilities, and market services can improve interactions with markets, ultimately leading to increased profitability. Additionally, there should be initiatives to formalise market arrangements and create better contractual agreements with assemblers to reduce the risks associated with informal transactions.

- Further, it is paramount to encourage youth groups to diversify their products and engage in value-added activities. This will enable them to compete more effectively and reduce reliance on wholesalers. Furthermore, it is substantial to advocate for policies that support infrastructure development, training programs, and cooperative structures for youth groups to create a more enabling market environment.

Conflict of Interest

The authors declare that they have no conflict of interest.

Authors Contribution

Jacob Kilamlya: Conceptualisation, methodology, literature review, data collection, data curation, formal analysis, interpretation of findings, writing – original draft, and reviewing and editing. **Dickson Utonga**: Methodology, data analysis, writing, reviewing, and editing. All authors read and approved the final manuscript.

Data Availability

The dataset can be obtained from the corresponding author upon a reasonable request.

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