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Examining Effects of Household Demographics on Income Inequalities in High Density Areas in Lundazi Central Constituency

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Abstract

This study examined how household size, educational attainment and gender-based household composition were associated with income inequality in high-density areas of Lundazi Central Constituency, Zambia. A mixed-method case-study design was reported, with a stratified sample of 100 households and an interviewer-administered questionnaire. Descriptive frequencies, percentages and thematic summaries were used because the source thesis did not provide respondent-level data, regression output or a calculated Gini coefficient. The findings showed that 42% of households contained four to six members and 40% contained seven or more. Thirty-eight per cent depended on one income earner, 54% had at least three dependants, 68% received less than K3,000 per month and 72% saved nothing or less than K200. Educational attainment was concentrated at secondary level (36%), while 14% of household heads had no formal education. Self-employment accounted for 30%, casual work 28%, formal employment 22% and unemployment 20%; 68% of household heads earned below K3,000. Gendered household roles were also visible: 52% reported that women performed most unpaid care work, 32% said men had greater access to productive resources and 36% reported joint financial decision-making. The study concludes that household demographics influence income security through dependency burdens, employment quality, skills, unpaid care and access to assets. It recommends targeted skills development, decent employment, enterprise finance, shared care responsibilities and equal access to productive resources. Because several source passages label the percentages illustrative and no respondent-level dataset was supplied, the estimates should be verified before external publication.

Keywords: Educational Attainment, Gender Composition, Household Demographics, Household Size, Income Inequality, Lundazi

1. Introduction

1.1 Background to the Study

Income inequality reflects differences in the command that individuals and households have over earnings, assets and consumption. It is shaped by labour-market structures, returns to education, ownership of productive resources and the distribution of care responsibilities. Global research shows that growth can coexist with wide income gaps when opportunities, skills and capital remain concentrated. The same household income can also produce different living standards when household size and dependency burdens differ, which makes demographic structure central to the analysis of welfare and inequality (Piketty, 2014; Milanovic, 2016; World Bank, 2022; Fields, 2011; Beegle *et al*., 2016; United Nations Development Programme, 2024) [13, 11, 19, 6, 3, 18].

These issues are pronounced in Sub-Saharan Africa, where informal employment, limited social protection and unequal access to education constrain stable earnings. A household may include several working-age adults but still depend on one irregular income source, while children, older people and unemployed members raise the number of dependants. Informal trading and casual work remain important entry points into the labour market, yet they often provide uncertain returns and little protection against shocks. Women's employment is additionally shaped by unpaid care, unequal asset ownership and limited decision-making power (Beegle *et al*., 2016; Filmer & Fox, 2014; Fox *et al*., 2016; International Labour Organization, 2024; Kabeer, 2016; Seguino, 2020) [3, 7, 8, 9, 10, 16].

Zambia continues to record high inequality alongside widespread dependence on informal and low-productivity work. The 2022 Living Conditions Monitoring Survey reported an average household size of 5.1 and a Gini coefficient of 0.69, while the top ten per cent of households received 56% of income and the bottom half received 7%. Labour-force evidence also shows that women remain less represented in formal employment. These national patterns are important, but they do not reveal how household size, education and gender roles combine within smaller high-density settlements such as those in Lundazi Central Constituency (Zambia Statistics Agency, 2024 [24]; Zambia Statistics Agency, 2023; Zambia Statistics Agency, 2022 [23]; World Bank, 2023a [20]; World Bank, 2023b [21]; World Bank, 2025 [22]).

Lundazi is a district center whose livelihoods combine formal employment, farming, casual work, small businesses and trading. High-density areas bring households close to markets and services, but proximity does not guarantee secure employment or adequate income. Population growth, rental costs and dependence on seasonal or informal work can intensify pressure on households with many dependents. The local setting therefore requires household-level evidence rather than assumptions drawn from Lusaka or the Copperbelt, where labour markets and living costs differ (Potts, 2016 [14]; World Bank, 2025 [22]; Zambia Statistics Agency, 2024 [24]; Zambia Statistics Agency, 2023; De La Fuente *et al*., 2017 [4]; Beegle *et al*., 2016 [3]).

Household income also requires careful interpretation. A household with a higher total income may not enjoy a better standard of living if it supports many members, pays rent and school costs, or faces irregular earnings. Conversely, a household with modest income may be more secure if several adults work, housing costs are low and savings are available. Total income, income per person, number of earners, dependency burden, expenditure priorities and savings therefore describe different aspects of inequality. Treating one measure as sufficient can conceal households that appear similar in monthly income but face very different obligations (Fields, 2011; Milanovic, 2016; Piketty, 2014; World Bank, 2022; Zambia Statistics Agency, 2024; Anyanwu, 2014) [6, 11, 13, 19, 24, 1].

A demographic analysis should not imply that household characteristics are faults that families can simply change. Household size, education and gender roles operate within the availability of jobs, credit, land, public services and social protection. The study therefore treats demographics as conditions that shape exposure and opportunity rather than as complete explanations for low income. This distinction is important for policy: Reducing inequality requires support that responds to household needs while also improving the economic environment in which households earn and allocate resources (Beegle *et al*., 2016; Kabeer, 2016; Seguino, 2020; United Nations Development Programme, 2024; World Bank, 2023a; World Bank, 2025) [3, 10, 16, 18, 20, 22].

1.2 Statement of the Problem

Income inequality remains severe in Zambia, but national indicators do not show which household characteristics deepen economic pressure within Lundazi Central's high-density communities. Larger households may divide limited earnings among more people; household heads with low education or little technical training may be confined to unstable work; and gendered care and unequal access to land, credit and equipment may restrict income opportunities. Without local evidence on these pathways, interventions such as skills programmes, enterprise support and Constituency Development Fund initiatives may fail to identify households facing the greatest constraints. The study therefore examined the effects of household size, educational attainment and gender-based household composition on income inequality in the selected area.

1.3 Objectives and Research Questions

The general objective was to examine the effects of household demographics on income inequality in high-density areas of Lundazi Central Constituency.

1. To examine the effect of household size on income inequality in high-density areas of Lundazi Central Constituency.
2. To analyse the effect of the educational attainment of the household head on income disparities in high-density areas of Lundazi Central Constituency.
3. To assess the effect of gender-based household composition on income distribution in high-density areas of Lundazi Central Constituency.

The study asked the following research questions:

1. How does household size affect income inequality in the selected high-density areas?
2. How does the educational attainment of the household head affect household income disparities?
3. How does gender-based household composition affect the distribution of household income?

1.4 Theoretical and Conceptual Framework

Human Capital Theory guided the analysis. It argues that education, training, experience and health increase productive capacity and can improve earnings. The theory is directly relevant to the second objective because the qualifications of the household head can influence access to formal work, self-employment and skilled occupations. However, education does not operate in isolation: Labour demand, business capital, household size and gendered access to resources determine whether skills translate into higher income (Schultz, 1961; Mincer, 1974; Becker, 1993; Fields, 2011; Filmer & Fox, 2014; Fox *et al*., 2016) [15, 12, 2, 6, 7, 8].

The framework was extended with a household-resource perspective. Earnings must be shared among members, unpaid care affects the time available for paid work, and bargaining power influences how income is allocated. This extension prevents education from being treated as the only explanation for income differences and links the three objectives through the number of earners, dependency burden, employment quality, productive assets and financial decision-making (Doss, 2013; Kabeer, 2016; Seguino, 2020; UN Women & United Nations Department of Economic and Social Affairs, 2023; World Bank, 2023a; Anyanwu, 2014) [5, 10, 16, 17, 20, 1].

1.5 Significance of the Study

The study provides local evidence for Lundazi Municipal Council, constituency structures, social-protection agencies and development organisations. It distinguishes demographic exposure from the economic mechanisms that convert exposure into hardship. The results can assist in targeting livelihood support, vocational training, enterprise

finance, gender-responsive programming and household financial education. They also contribute evidence from a district center that receives less research attention than Zambia's largest cities.

2. Literature Review

2.1 Household Size and Income Inequality

Household size affects welfare because resources are shared among members whose needs and earning capacities differ. Additional working adults can expand income, but children, older people and unemployed adults raise consumption needs without necessarily adding earnings. Per-capita income therefore usually declines where household growth is not matched by the number or productivity of earners. Equivalence scales may capture differences in needs more precisely than a simple headcount, yet the dependency ratio remains a useful indicator of pressure on household income (Anyanwu, 2014; Beegle *et al*., 2016; World Bank, 2022; Fields, 2011; Milanovic, 2016; Piketty, 2014) [1, 3, 19, 6, 11, 13].

The association is not mechanical. Larger households can pool labour, share housing and care costs, diversify activities and support members during unemployment. They become more vulnerable when earnings are irregular, savings are small and one person carries most financial responsibility. In African urban and peri-urban settlements, casual work and microenterprise expose income to daily demand, seasonality and illness. Household size must therefore be interpreted together with the number of earners, income stability and the cost of basic services (Beegle *et al*., 2016; Filmer & Fox, 2014; Fox *et al*., 2016; Potts, 2016; International Labour Organization, 2024; World Bank, 2025) [3, 7, 8, 14, 9, 22].

Zambian evidence places the household-size relationship within a highly unequal income distribution. Average household size remains above five people nationally, while employment and earnings vary sharply by residence, sex and sector. A larger household supported through farming or informal trade may face both low average income and seasonal volatility. Food can absorb a high share of the budget, leaving little for education, health, housing, savings or productive investment. This pattern suggests that income inequality should be assessed through both total household income and the resources available per member (Zambia Statistics Agency, 2024 [24]; Zambia Statistics Agency, 2023; Zambia Statistics Agency, 2022 [23]; De La Fuente *et al*., 2017 [4]; World Bank, 2023b [21]; World Bank, 2025 [22]).

Savings are a useful connecting indicator between household composition and longer-term inequality. When most income is absorbed by food, rent, school costs and transport, a household may be unable to build the buffer needed for illness, crop failure, job loss or price increases. The immediate result is vulnerability; the longer-term result is reduced investment in education, tools, stock or farming inputs. Households with assets and savings can protect consumption and take advantage of new opportunities, whereas households without them may borrow, postpone essential expenditure or sell productive items. Inequality therefore accumulates through differences in the capacity to preserve and reinvest income (Fields, 2011; Piketty, 2014; Milanovic, 2016; World Bank, 2022; Beegle *et al*., 2016; Zambia Statistics Agency, 2024) [6, 13, 11, 19, 3, 24].

The number of earners is equally important. Two households of six members can face different outcomes when one depends on a single casual worker and the other combines farming, trading and salaried work. Multiple income sources can spread risk, but low-paid or seasonal activities may still fail to provide adequate income. Studies that report household size without employment composition may therefore overstate the effect of family size and understate labour-market constraints. The present study responds by examining household members, earners, dependents, income, expenditure and savings within the same objective (Anyanwu, 2014 [1]; Filmer & Fox, 2014 [7]; Fox *et al*., 2016 [8]; International Labour Organization, 2024 [9]; World Bank, 2025 [22]; Zambia Statistics Agency, 2023).

2.2 Educational Attainment and Income Disparities

Human-capital research links schooling and training to earnings through literacy, occupational skills, productivity and access to better-paid work. Education may also improve business management, information use and the ability to adapt to economic change. The return is nevertheless conditional on the availability of jobs, the quality of schooling and the relevance of acquired skills. Qualifications can coexist with unemployment when local labour demand is weak or when workers lack capital, networks and transport (Schultz, 1961; Mincer, 1974; Becker, 1993; Fields, 2011; Filmer & Fox, 2014; Fox *et al*., 2016) [15, 12, 2, 6, 7, 8].

Education can reduce income inequality when access is broad and labour markets reward skills, but it can widen inequality when higher-quality schooling is concentrated among already advantaged households. Families with stable income can finance further education, while low-income households may withdraw members from school or prioritise immediate earnings. This creates an intergenerational link between household income and educational attainment. Technical training and practical skills may offer shorter routes into employment or enterprise, but their benefit still depends on equipment, credit and customers (Becker, 1993; Mincer, 1974; Piketty, 2014; Milanovic, 2016; World Bank, 2022; United Nations Development Programme, 2024) [2, 12, 13, 11, 19, 18].

In Zambia, formal employment represents a minority of total employment and women are less represented in formal jobs than men. Many household heads rely on trading, farming, casual work or small businesses, where educational returns may appear through business decisions rather than wages. This makes it necessary to examine education alongside occupation, vocational training, personal income and reported barriers. A district-level study can identify whether education is associated with improved opportunity or whether limited jobs and business finance prevent households from realising its potential (Zambia Statistics Agency, 2023; Zambia Statistics Agency, 2024 [24]; World Bank, 2023a [20]; World Bank, 2023b [21]; De La Fuente *et al*., 2017 [4]; World Bank, 2025 [22]).

Educational level and vocational training are related but not interchangeable. General education may strengthen literacy, numeracy and access to further learning, while vocational and technical training can provide occupation-specific skills. In a local economy dominated by small enterprise, agriculture and casual services, practical competencies may be more immediately useful than credentials alone. Yet training programmes can disappoint when they are not connected to tools, finance, certification, market demand and follow-up support. Measuring additional training alongside schooling therefore provides a fuller picture of

how human capital is used (Becker, 1993; Mincer, 1974; Schultz, 1961; Fields, 2011; Filmer & Fox, 2014; Fox *et al*., 2016) [2, 12, 15, 6, 7, 8].

Occupation mediates the return to education because sectors differ in entry requirements, productivity and income stability. Formal salaried work may provide predictable earnings and social protection, while trading can produce higher returns but greater volatility. Farming depends on land, inputs, weather and markets, and casual work often changes from day to day. These differences mean that two household heads with the same education can earn very different incomes. The study therefore assesses the employment status, occupation and income of the household head before interpreting education as a source of inequality (International Labour Organization, 2024 [9]; Fields, 2011 [6]; Zambia Statistics Agency, 2023; Zambia Statistics Agency, 2024 [24]; World Bank, 2023b [21]; World Bank, 2025 [22]).

2.3 Gender-Based Household Composition and Income Distribution

Gender affects household income through labour-force participation, occupational segregation, unpaid care and ownership of productive resources. Women may contribute cash and non-cash value while spending more time on childcare, cooking, cleaning and care of sick or older members. Because unpaid work is not captured as income, a household can depend on women's labour while limiting their time for paid employment, skills training and enterprise. Unequal access to land, finance and equipment further restricts the scale and profitability of women's economic activities (Kabeer, 2016; Seguino, 2020; Doss, 2013; UN Women & United Nations Department of Economic and Social Affairs, 2023; World Bank, 2023a; International Labour Organization, 2024) [10, 16, 5, 17, 20, 9].

Income contributions do not automatically determine control over spending. Household bargaining research shows that decision-making power depends on assets, social norms, income, outside options and relationships. Joint decisions can improve the recognition of competing needs, but they do not guarantee equal influence. Likewise, female headship should not be used as a simple proxy for poverty because household composition, remittances, employment and kin support differ. Analysis should therefore separate who earns, who performs unpaid care, who accesses productive resources and who decides how income is used (Doss, 2013; Kabeer, 2016; Seguino, 2020; UN Women & United Nations Department of Economic and Social Affairs, 2023; World Bank, 2023a; Beegle *et al*., 2016) [5, 10, 16, 17, 20, 3].

The Zambian labour market displays gender gaps in formal employment and asset control, while informal activities remain important for both women and men. In high-density communities, women may be concentrated in small-scale trade and services, whereas men may have greater access to transport, construction and capital-intensive activities. These differences affect earning stability as well as the time and resources available for enterprise. A gender-responsive household analysis must therefore connect employment, care, productive assets and financial decisions rather than reporting the sex of the household head alone (Zambia Statistics Agency, 2023; Zambia Statistics Agency, 2024 [24]; World Bank, 2023a [20]; World Bank, 2025 [22]; International Labour Organization, 2024 [9]; UN Women & United Nations Department of Economic and Social Affairs, 2023 [17]).

Unpaid care creates a time constraint that is often invisible in income data. A person may be economically active through household production and care while appearing outside paid employment. Where water, childcare, transport and health services are limited, the time required for domestic work increases and may prevent regular attendance at work or training. The effect is not confined to women's personal earnings; it can reduce total household income and reinforce dependence on one earner. Sharing care and improving services can therefore expand economic participation without treating care itself as unproductive (Kabeer, 2016; Seguino, 2020; Doss, 2013; UN Women & United Nations Department of Economic and Social Affairs, 2023; World Bank, 2023a; International Labour Organization, 2024) [10, 16, 5, 17, 20, 9].

Productive resources determine the scale at which skills and effort can generate income. Land and farming inputs support agricultural production; credit and stock support trading; equipment supports technical services; and market information reduces the uncertainty of enterprise decisions. Unequal access can keep qualified or experienced household members in low-return activities. Resource ownership can also strengthen bargaining power and influence the allocation of household income. The study therefore examines access and decision-making together, while recognizing that joint decisions may still occur within unequal economic relationships (Doss, 2013; Kabeer, 2016; Seguino, 2020; UN Women & United Nations Department of Economic and Social Affairs, 2023; World Bank, 2023a; World Bank, 2022) [5, 10, 16, 17, 20, 19].

2.4 Personal Critique and Research Gap

The literature explains household inequality well at national and regional levels, but several weaknesses remain. First, household size is often treated as a direct cause of poverty without separating dependents from earners. Second, studies of education frequently assume that qualifications generate income even where formal jobs and business capital are scarce. Third, gender research sometimes uses household headship as a complete measure and overlooks unpaid care, productive resources and spending decisions. These limitations are especially important in district centers whose labour markets differ from large cities (Anyanwu, 2014; Becker, 1993; Doss, 2013; Potts, 2016; World Bank, 2023a; World Bank, 2025) [1, 2, 5, 14, 20, 22].

The present study addresses a contextual and empirical gap by examining the three demographic pathways within selected high-density areas of Lundazi Central Constituency. It links household size to earners, dependents, expenditure and savings; education to employment, income, occupation, training and barriers; and gender composition to contributions, care work, resource access and financial decisions. The cross-sectional design cannot establish causality, but the aligned measures provide a more useful local description than a single indicator of household headship or total income.

A methodological gap is also evident. National surveys provide reliable estimates of poverty, labour-force participation and household conditions, but their district-level samples may not explain the mechanisms operating within a particular high-density community. Small local studies can explore those mechanisms, although they must be transparent about sampling, measurement and the limits of self-reported income. Combining closed questions with

short explanations can reveal why respondents connect household conditions to income, but numerical findings should still be verified against the original questionnaires before publication (Zambia Statistics Agency, 2022 [23]; Zambia Statistics Agency, 2023; Zambia Statistics Agency, 2024 [24]; World Bank, 2022 [19]; World Bank, 2023a [20]; World Bank, 2025 [22]).

3. Methodology

3.1 Design, Population and Sample

The study used a mixed-method case-study design with a cross-sectional household survey. The target population comprised households in selected high-density areas of Lundazi Central Constituency. The source thesis reports a sample of 100 respondents drawn from a district population of 154,908 using Yamane's formula and stratified random sampling across high-density neighbourhoods. Household heads or knowledgeable adult members provided information on demographic characteristics, earnings, expenditure, education, employment, care work and access to productive resources.

3.2 Data Collection, Analysis and Ethics

Data were collected through a structured questionnaire containing closed and open-ended items. Quantitative responses were summarised with frequencies and percentages. Open responses were grouped into recurring themes relating to basic needs, income stability, skills, employment barriers, unpaid care and productive resources. Although the methodology proposed a Gini coefficient, correlation and multiple regression, the source document supplied no respondent-level dataset or inferential output; the article therefore reports only the available descriptive results. Participation was voluntary, no names were recorded and respondents were informed about confidentiality and academic use of the information.

The questionnaire was organised into background characteristics and the three objective areas. Household-size items covered members, earners, dependents, total income, expenditure and savings. Education items covered schooling, employment, personal income, occupation, additional training, opportunity and barriers. Gender items covered income contributions, unpaid care, productive resources and financial decisions. This alignment made it possible to interpret each objective through several related indicators instead of relying on a single response.

The household was the principal unit of analysis. Percentages were calculated using the reported denominator of 100, which means each percentage point corresponds to one respondent. Themes from open questions were used to explain the closed-response distributions rather than to estimate population prevalence. The analysis remained descriptive because no raw observations were available for recoding, missing-value checks, cross-tabulation or significance testing.

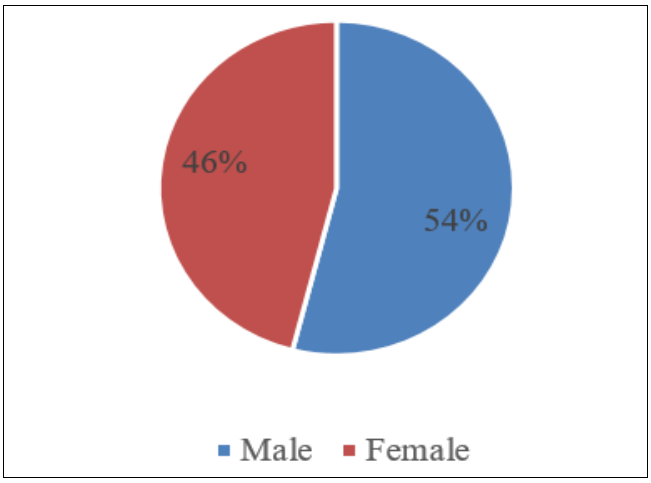
3.3 Source Limitation

The completed thesis reports a denominator of 100, so frequencies and percentages are numerically equivalent. Several passages describe the figures as illustrative or simulated and advise verification against actual field data. Because questionnaires and respondent-level records were not supplied, this article reproduces the reported distributions as provisional descriptive evidence and does not present them as independently validated estimates. Verification is required before submission to an external journal.

4. Results and Discussion

4.1 Respondent Profile

Gender of respondents

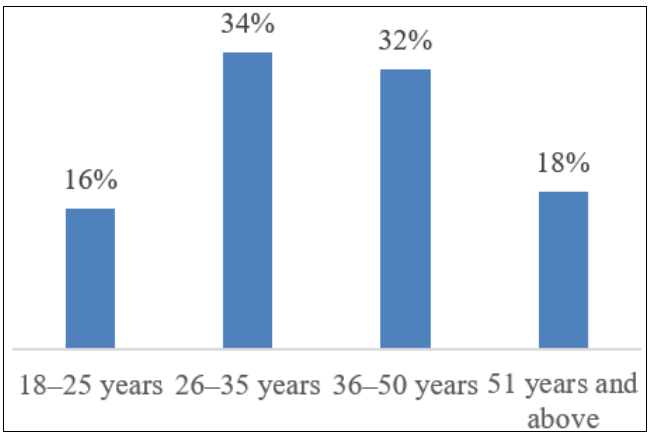


Source: Primary Data, 2026

Fig 1: Gender of respondents

Male respondents represented 54% and female respondents 46%. The near-balanced profile supports comparison of household experiences, although respondent sex is not the same as household headship or control over income.

Age of respondents

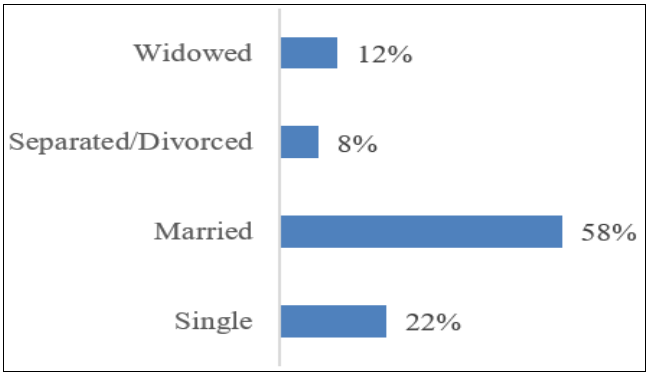


Source: Primary Data, 2026

Fig 2: Age of respondents

Respondents aged 26–35 formed the largest group (34%), followed by those aged 36–50 (32%). The sample therefore concentrated on economically active adults who were likely to know the household's income sources and expenditure demands.

Marital status of respondents



Source: Primary Data, 2026

Fig 3: Marital status of respondents

Married respondents accounted for 58%, single respondents 22%, widowed respondents 12% and separated or divorced respondents 8%. Marital status can shape the pooling of earnings, but its effect depends on employment, household size and the participation of other members.

Table 1: Length of residence in the high-density area

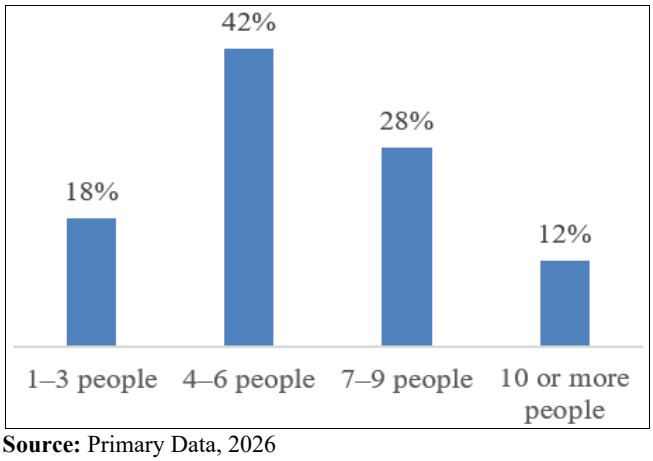
Residence period	n	%
Less than 2 years	10	10
2–5 years	22	22
6–10 years	28	28
More than 10 years	40	40
Total	100	100

Source: Primary Data, 2026

Forty per cent had lived in the area for more than ten years and a further 28% for six to ten years. Most respondents therefore had sufficient local experience to describe changes in employment, household costs and livelihood conditions.

4.2 Objective One: Household Size and Income Inequality

Number of people living in the household

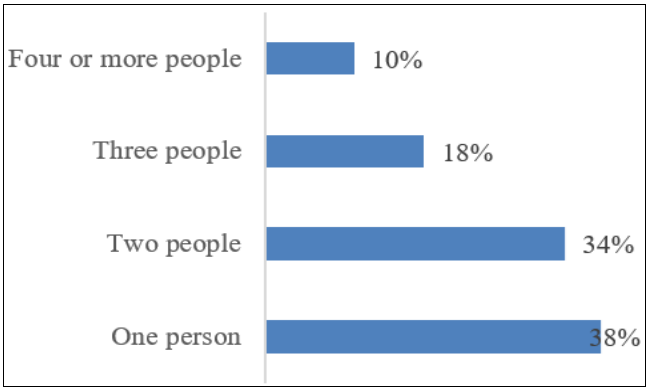


Source: Primary Data, 2026

Fig 4: Number of people living in the household

Households with four to six members formed 42%, while 28% contained seven to nine members and 12% had ten or more. Thus, 40% lived in households of at least seven people. Where earnings are limited, this size can reduce the amount available per member and increase pressure on food, education, health and housing.

Number of household income earners



Source: Primary Data, 2026

Fig 5: Number of household income earners

Thirty-eight per cent relied on one income earner, 34% had two, 18% had three and 10% had four or more. The concentration in one- and two-earner households indicates vulnerability to job loss, illness and fluctuations in casual work or business income.

Table 2: Number of household dependents

Dependents	n	%
None	12	12
1–2 dependents	34	34
3–4 dependents	32	32
5 or more dependents	22	22
Total	100	100

Source: Primary Data, 2026

Fifty-four per cent reported at least three dependents. When read with the number of earners, the result shows that household size was not only a headcount issue; many households carried a substantial dependency burden relative to their earning base.

Total monthly household income

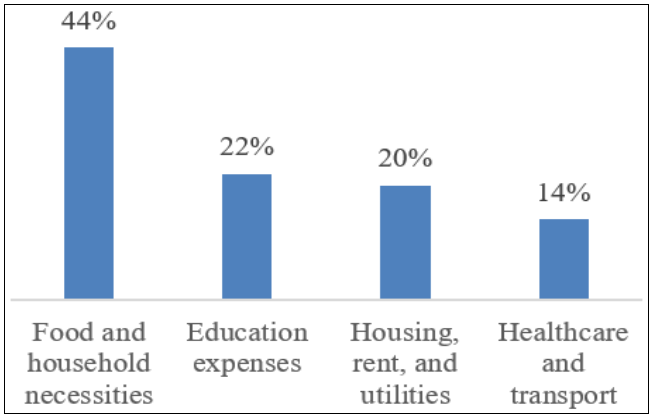


Source: Primary Data, 2026

Fig 6: Total monthly household income

Sixty-eight per cent received less than K3,000 per month, including 36% below K1,500. Only 12% reported at least K5,000. A low monthly total becomes more restrictive as household size and dependency rise, producing unequal access to basic needs even among households in the same settlement.

Largest category of household expenditure



Source: Primary Data, 2026

Fig 7: Largest category of household expenditure

Food and household necessities absorbed the largest share for 44% of households. Education represented 22%, housing and utilities 20%, and healthcare and transport 14%. The dominance of immediate consumption suggests limited room for savings, training and productive investment.

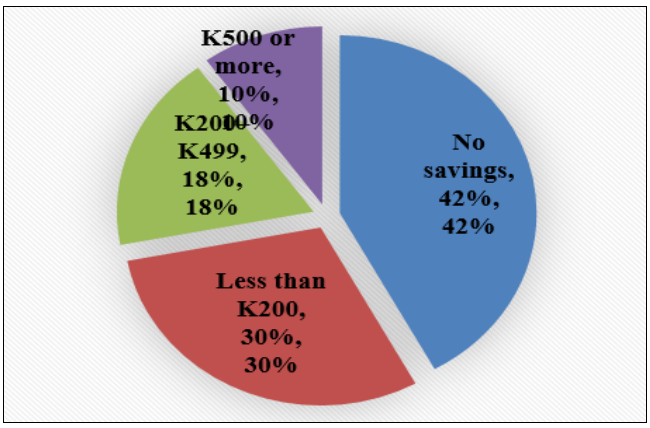
Table 3: Leading factors determining monthly household income

Factor	n	%
Availability of employment or casual work	28	28
Type of business or occupation	24	24
Seasonal farming activities	20	20
Education and work experience	16	16
Support from relatives and other sources	12	12
Total	100	100

Source: Primary Data, 2026

Employment availability and the type of business or occupation were the leading explanations of monthly income. The result clarifies why household income may change even when household composition is stable: Casual work, trading and farming expose earnings to demand and seasonality.

Monthly household savings



Source: Primary Data, 2026

Fig 8: Monthly household savings

Forty-two per cent saved nothing and 30% saved less than K200, meaning that 72% had little or no monthly saving. Only 10% saved at least K500. Limited savings reduce the ability to manage emergencies, invest in education or enterprise, and absorb an interruption in earnings.

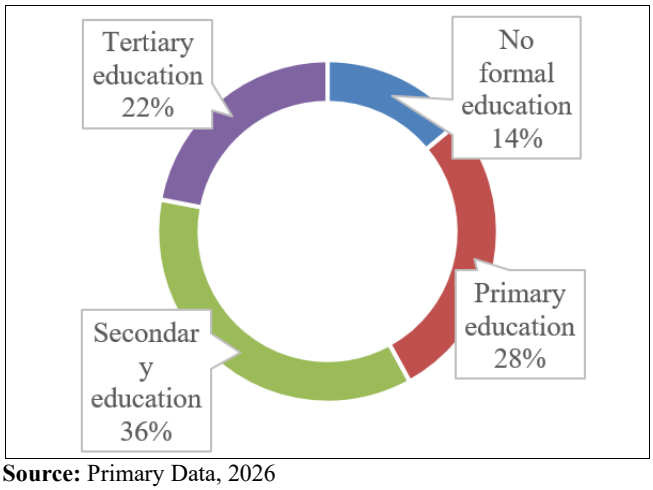
The first objective therefore shows a connected pattern rather than a simple claim that large families are poor. Forty per cent had at least seven members, 38% relied on one earner, 54% had at least three dependents, 68% earned below K3,000 and 72% saved little or nothing. The combination of size, dependency and unstable work reduced per-capita resources and exposed households to shocks. This supports evidence that household composition affects poverty through the balance between needs, earners and employment quality (Anyanwu, 2014; Beegle *et al*., 2016; Fields, 2011; Zambia Statistics Agency, 2024; World Bank, 2022; World Bank, 2025) [1, 3, 6, 24, 19, 22].

The open responses strengthen this interpretation. Respondents described postponing school, medical and other expenses when income was insufficient, while availability of casual work, business performance and seasonal farming determined whether money entered the household. These accounts show that low income per member was experienced as a sequence of trade-offs rather than as an abstract ratio. Food was protected first, while expenditure with longer-term benefits could be delayed. Repeated trade-offs can deepen inequality by reducing education, health and investment among households that already have the smallest financial margin.

The results also suggest that social protection and livelihood support should distinguish temporary income shocks from persistent low earning capacity. A household affected by seasonal work may need short-term income smoothing, whereas a household with one low-skilled earner and many dependents may need longer-term skills, childcare and employment support. Savings data can help identify resilience, but programmes should also consider debt, assets and informal assistance, which were not measured in detail.

4.3 Objective Two: Educational Attainment and Income Disparities

Highest educational level of the household head

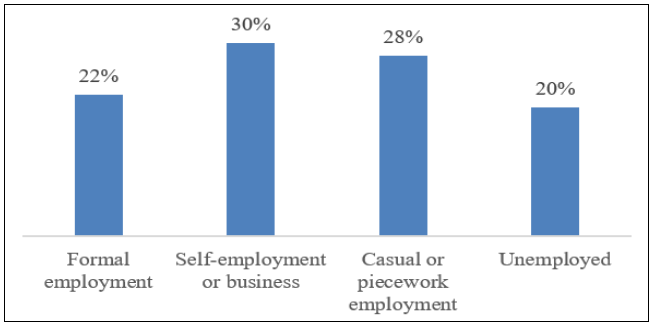


Source: Primary Data, 2026

Fig 9: Highest educational level of the household head

Secondary education was the most common level (36%), followed by primary education (28%), tertiary education (22%) and no formal education (14%). The distribution provides a broad human-capital base, but it does not show whether the local economy can absorb those qualifications.

Employment status of the household head

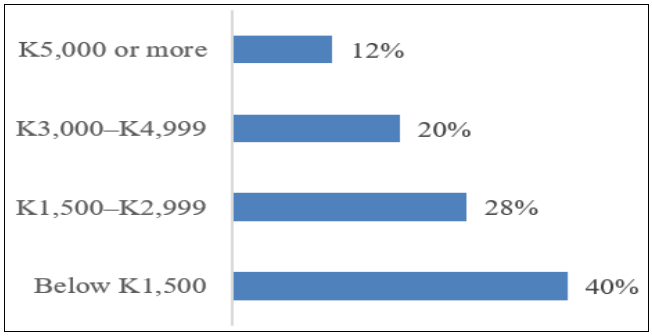


Source: Primary Data, 2026

Fig 10: Employment status of the household head

Self-employment or business was reported by 30%, casual or piecework employment by 28%, formal employment by 22% and unemployment by 20%. Informal and irregular work therefore accounted for the largest combined share, limiting the stability of educational returns.

Monthly personal income of the household head

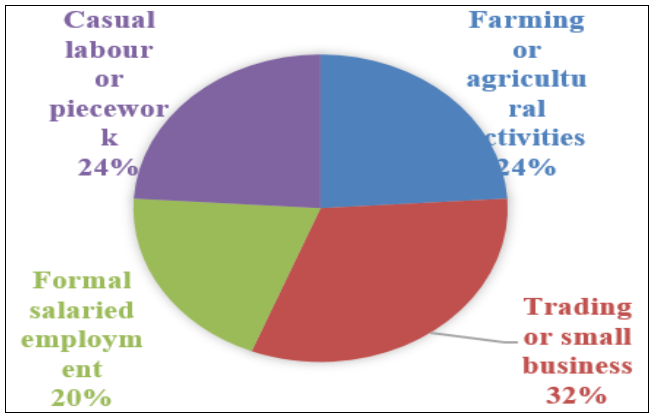


Source: Primary Data, 2026

Fig 11: Monthly personal income of the household head

Forty per cent of household heads earned below K1,500 and 28% earned K1,500–K2,999. Only 12% earned at least K5,000. The similarity to the household-income distribution suggests that many households depended heavily on the head's modest earnings.

Main occupation of the household head

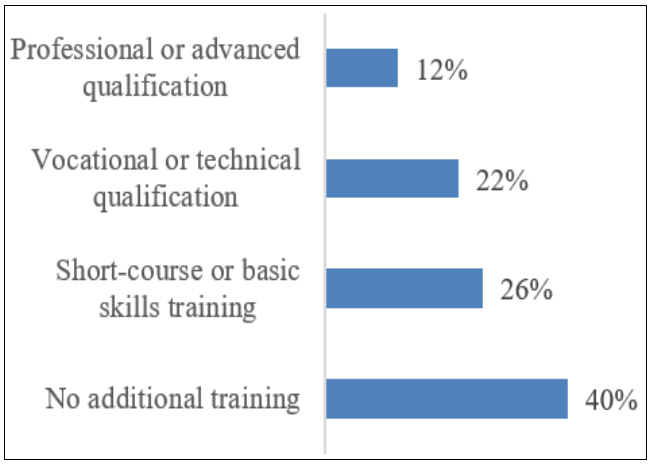


Source: Primary Data, 2026

Fig 12: Main occupation of the household head

Trading or small business formed the largest occupation group (32%), followed by farming (24%), casual labour (24%) and formal salaried work (20%). The distribution shows that education operated within a livelihood system dominated by enterprise, agriculture and temporary work rather than formal wages.

Additional vocational, technical or professional training

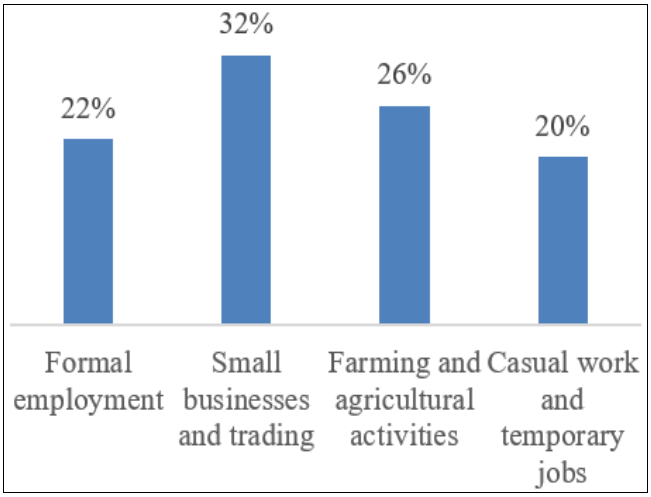


Source: Primary Data, 2026

Fig 13: Additional vocational, technical or professional training

Forty per cent had no additional training, 26% had short-course or basic skills training, 22% had a vocational or technical qualification and 12% had a professional or advanced qualification. The limited coverage of post-school training may narrow entry into skilled employment and higher-value enterprise.

Main source of income-generating opportunities



Source: Primary Data, 2026

Fig 14: Main source of income-generating opportunities

Small businesses and trading were the leading opportunity (32%), followed by farming (26%), formal employment (22%) and casual work (20%). Skills development therefore needs to support both employment and practical enterprise rather than treating formal jobs as the only pathway to income.

Table 4: Leading education, skills and opportunity themes

Issue	Leading reported theme	%
Education and living standards	Access to employment opportunities	32
Skills and qualifications	Improved access to formal work	30
Skills and qualifications	Practical skills support self-employment	26
Barriers to better opportunities	Limited employment opportunities	28
Barriers to better opportunities	Lack of business capital or credit	26

Source: Primary Data, 2026

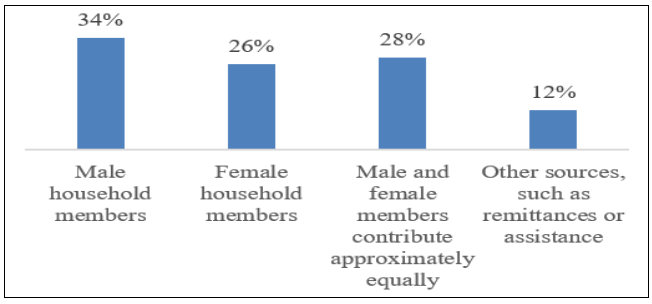
The second objective confirms that education mattered, but its benefit was constrained by the structure of opportunity. Although 58% of household heads had at least secondary education, only 22% held formal employment and 68% earned below K3,000. Trading, farming and casual work dominated occupations, while 40% lacked additional training. Respondents identified jobs and capital as leading barriers. Human Capital Theory therefore explains part of the inequality pattern, but the conversion of education into income depended on labour demand, enterprise finance and the relevance of skills (Schultz, 1961 [15]; Mincer, 1974 [12]; Becker, 1993 [2]; Fields, 2011 [6]; Zambia Statistics Agency, 2023; World Bank, 2023b [21]).

The reported distribution does not support the assumption that completion of school automatically produces formal work. Secondary education was common, yet self-employment and casual work together accounted for 58% of household heads. This may indicate limited formal vacancies, a mismatch between qualifications and available jobs, or deliberate movement into enterprise. The study could not distinguish these explanations statistically, but the qualitative responses repeatedly mentioned both employment scarcity and lack of capital. Education policy should therefore be linked to local economic development rather than assessed only through enrolment and completion.

The training results identify an additional intervention point. Sixty per cent had some post-school training, but most of this was at short-course or vocational level and only 12% held an advanced qualification. Short programmes can be valuable when they teach skills that households can use immediately, yet their income effect may remain small without tools, certification and market access. Follow-up research should compare income within education and training categories and should record the field, duration and use of each qualification.

4.4 Objective Three: Gender-Based Composition and Income Distribution

Main contributors to household income

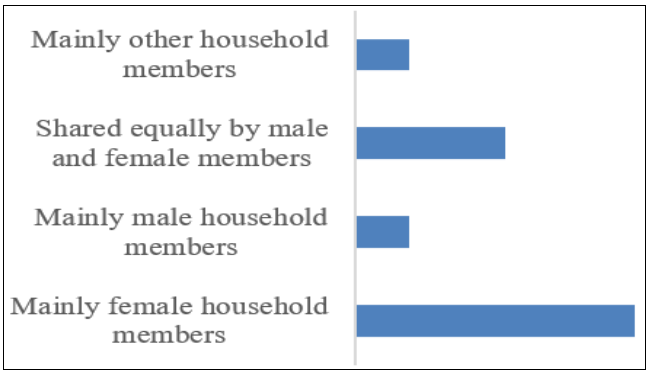


Source: Primary Data, 2026

Fig 15: Main contributors to household income

Male household members were the largest contributors in 34% of households, female members in 26%, and men and women contributed approximately equally in 28%. The remaining 12% relied mainly on remittances, assistance or other sources. The pattern shows gender differences without suggesting that one model applied to every household.

Responsibility for unpaid domestic and care work



Source: Primary Data, 2026

Fig 16: Responsibility for unpaid domestic and care work

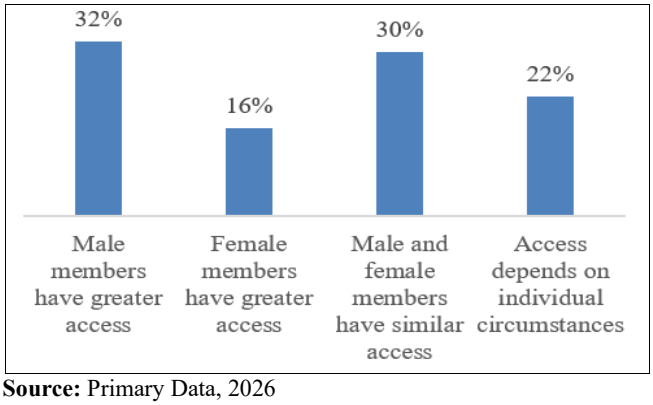
Female members performed most unpaid care and domestic work in 52% of households, compared with 10% for male members. Twenty-eight per cent shared the responsibilities equally and 10% relied mainly on other members. The uneven care burden can reduce women's time for paid work, business and training.

Table 5: Reported effects of unpaid care and access to productive resources

Area	Leading reported effect	%
Unpaid care	Reduced time available for paid work	32
Unpaid care	Difficulty starting or expanding a business	24
Productive resources	Access to capital expands opportunity	30
Productive resources	Land and farm inputs expand opportunity	24
Financial decisions	Joint prioritization of household needs	30

Source: Primary Data, 2026

Gender differences in access to productive resources

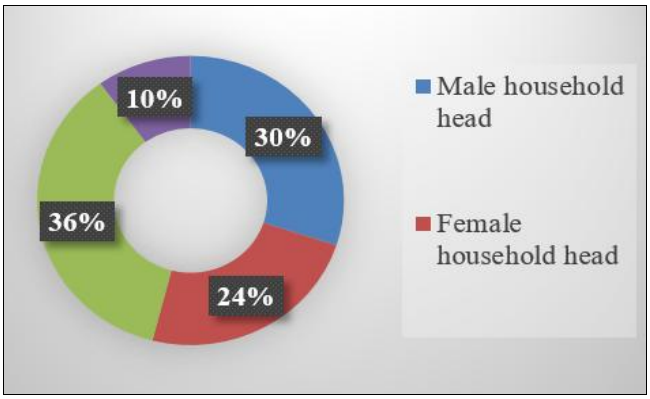


Source: Primary Data, 2026

Fig 17: Gender differences in access to productive resources

Thirty-two per cent reported that male members had greater access to land, capital, credit or equipment, compared with 16% who reported greater access for women. Thirty per cent reported similar access and 22% said access depended on individual circumstances. The gap can affect both the ability to enter enterprise and the scale of returns.

Main decision-maker on household income use



Source: Primary Data, 2026

Fig 18: Main decision-maker on household income use

Joint decision-making was the largest category at 36%, followed by male household heads at 30% and female household heads at 24%. Ten per cent reported another arrangement. Joint decision-making may broaden the recognition of food, education, health, housing and investment needs, although it cannot compensate for inadequate total income.

The third objective shows that gender influenced income distribution through several connected mechanisms. Men were more often identified as the largest contributors and as having greater access to productive resources, while women carried most unpaid care work. Joint financial decisions were common but not universal. The findings support a household-bargaining perspective: Economic participation depends on time, assets and voice, not only on the sex of the household head (Doss, 2013 [5]; Kabeer, 2016 [10]; Seguino, 2020 [16]; UN Women & United Nations Department of Economic and Social Affairs, 2023 [17]; World Bank, 2023a [20]; Zambia Statistics Agency, 2023).

The size of the reported gaps is important. Women were the main care providers in more than half of households, while only 28% reported equal sharing. At the same time, respondents were twice as likely to report greater male than greater female access to productive resources. These conditions can reinforce one another: Limited assets keep income-generating activity small, and care demands reduce the time available to expand it. The pattern helps explain why equal willingness to work may not produce equal income opportunities.

Joint financial decision-making was the largest single arrangement, which is a positive foundation for household planning. Nevertheless, participation in spending decisions should be distinguished from ownership and control of income. A person may contribute to discussions while lacking independent earnings, land or credit. Gender-responsive programmes should therefore assess who receives assets, who controls their use, who retains the resulting income and whether care demands permit sustained participation.

4.5 Integrated Discussion

Table 6: Summary of findings by objective

Objective	Key finding	Interpretation
Household size	40% had at least seven members; 54% had at least three dependents; 72% saved little or nothing	Dependency and weak savings increased vulnerability where few earners supported many members
Education	58% had at least secondary education, but only 22% held formal employment and 68% earned below K3,000	Qualifications improved potential, but jobs, training and capital shaped actual returns
Gender composition	52% assigned most unpaid care to women; 32% reported greater male access to resources; 36% decided jointly	Care, assets and decision-making influenced who could earn and how income was allocated

Source: Developed from Primary Data, 2026

Across the objectives, income inequality arose from the interaction of household needs and economic opportunity. A large household was most vulnerable when it had few earners, several dependents and little saving. Education improved capability, but weak formal-job creation and limited business capital restricted the income return. Gendered care and resource access then affected which members could use their skills and participate in earning activities. These pathways are consistent with evidence that inequality is produced by both individual characteristics and structural opportunity (Beegle *et al*., 2016; Fields, 2011; Kabeer, 2016; Zambia Statistics Agency, 2024; World Bank, 2022; World Bank, 2025) [3, 6, 10, 24, 19, 22].

The findings also caution against single-factor targeting. Family size alone cannot identify hardship because several earners can support a large household. Education alone cannot guarantee income where jobs and capital are scarce. Joint decisions may improve allocation, but they do not remove the effect of low earnings or unequal assets. A useful response should therefore combine income generation, skills, care support, finance and social protection, using household-level indicators to identify how the constraints overlap.

From a policy perspective, the most immediate group comprises households that combine several risks: Seven or more members, one earner, three or more dependents, monthly income below K3,000 and no savings. A second group includes household heads with education or skills but no stable employment or capital, while a third includes households where care and resource gaps limit women's participation. These groups require different support packages even though all may appear in the lower part of the income distribution.

Monitoring should move beyond the number of people trained or loans issued. Programmes should record whether household income becomes more stable, whether savings increase, whether dependents remain in school, whether

women gain control over productive assets and whether unpaid care becomes more evenly shared. These indicators would connect programme delivery to the mechanisms identified in the study and provide evidence on whether interventions reduce inequality rather than temporarily raising income.

4.6 Development and Policy Implications

The results have implications for the design of household support in Lundazi Central. Current programmes can miss vulnerable households when eligibility is based only on total income or the sex of the household head. A more accurate screening approach would combine income with household size, earners, dependents, savings, employment status and access to assets. This would distinguish a temporarily low-income household with several productive adults from one that has persistent low earnings, a large dependency burden and no financial buffer. The distinction matters because the first household may recover when work resumes, while the second requires longer and more coordinated support.

Local economic development should respond to the livelihood structure reported in the survey. Trading, small business, farming and casual work were more common than formal salaried employment. Enterprise support should therefore be designed around the practical constraints of these activities: Affordable stock and equipment, safe trading spaces, transport, storage, market information, agricultural inputs and predictable access to credit. Training should be linked to these opportunities and should include basic costing, record keeping, savings, customer management and risk planning. Support that provides training without capital or market access is unlikely to change household income substantially (Fields, 2011; Filmer & Fox, 2014; Fox *et al*., 2016; International Labour Organization, 2024; World Bank, 2023b; World Bank, 2025) [6, 7, 8, 9, 21, 22].

Skills policy should also recognize the difference between educational attainment and usable economic capability. The large share of household heads with secondary education provides a foundation for further learning, yet the income distribution indicates that schooling alone was insufficient. Short vocational programmes can improve employability when they are based on verified local demand and include practical assessment, placement or enterprise follow-up. CDF-funded skills initiatives could track whether participants obtain work, maintain a business, increase income and build savings after training. Such monitoring would reveal whether programmes are improving capability or only recording attendance.

Gender-responsive action must address time and assets together. Providing credit or equipment to women may have limited effect when unpaid care prevents regular business operation, while promoting shared care without improving access to resources may not expand earning opportunities. Community programmes, household dialogue, childcare arrangements and more accessible water and health services can reduce the time cost of care. At the same time, women require fair access to land, inputs, business premises, finance and control over the income produced by those assets. Progress should be measured through actual use and decision-making rather than the number of beneficiaries listed (Doss, 2013 [5]; Kabeer, 2016 [10]; Seguino, 2020 [16]; UN Women & United Nations Department of Economic and Social Affairs, 2023 [17]; World Bank, 2023a [20]; Zambia Statistics Agency, 2023).

Savings and shock protection deserve equal attention. The finding that 72% saved nothing or less than K200 indicates that even a short interruption in earnings could affect food, rent, school expenses or healthcare. Savings groups, suitable low-cost accounts and emergency support can help, but they should not substitute for adequate income. Social protection should be timely and should avoid forcing households to sell productive assets or withdraw children from school. Linking livelihood support to savings and insurance mechanisms may help households preserve gains when casual work, farming or business income falls (Beegle *et al*., 2016; Fields, 2011; World Bank, 2022; Zambia Statistics Agency, 2024; World Bank, 2023b; World Bank, 2025) [3, 6, 19, 24, 21, 22].

Finally, local data systems should preserve anonymized respondent-level records so that future analysis can move beyond separate percentages. Cross-tabulations could show whether larger households actually earned less per person, whether education was associated with higher income after occupation was considered, and whether gendered care or asset access differed across household types. A verified dataset would also allow calculation of the Gini coefficient and objective-level statistical tests. These additions would strengthen the evidence available to local authorities and would provide a sounder basis for journal publication.

5 Conclusion and Recommendations

5.1 Conclusion

The study concludes that household demographics were associated with income inequality in the selected high-density areas of Lundazi Central Constituency through three main pathways. First, household size affected economic pressure through the number of earners and dependents. Many households combined low income with high dependency and weak saving, reducing the resources available per member and limiting their capacity to absorb shocks.

Second, educational attainment influenced income opportunity but did not determine earnings on its own. Secondary education was common, yet employment remained concentrated in self-employment, casual work, trading and farming. Low personal income, limited technical training, scarce formal jobs and inadequate business capital reduced the ability of households to convert education into stable income.

Third, gender-based household composition shaped income through contributions, unpaid care, productive resources and spending decisions. Women performed most unpaid care in a majority of households, while respondents more often reported greater male access to productive resources. Joint financial decision-making was the largest arrangement, but unequal time and assets continued to influence economic participation. Household inequality should therefore be addressed through demographic and structural measures together.

5.2 Recommendations

1. Lundazi Municipal Council, constituency structures and community-development offices should use household size, number of earners, dependents, income and saving indicators together when identifying households for livelihood and social-protection support.
2. The Ministry of Labor and Social Security and local

employers should expand decent and predictable work opportunities, apprenticeships and public employment pathways for residents who currently depend on casual or irregular work.
3. The Ministry of Community Development and Social Services, skills institutions and cooperating partners should provide practical vocational and enterprise training linked to local demand in trading, agriculture, repair services, processing and other viable activities.
4. CDF programmes, financial institutions and business-support organizations should improve access to affordable start-up and working capital, financial literacy, market information and equipment for small enterprises.
5. Gender-responsive programmes should improve women's access to land, credit, productive inputs and business equipment while monitoring whether support translates into control over income and enterprise decisions.
6. Community awareness and service programmes should promote a fairer sharing of unpaid care, including childcare support where feasible, so that care responsibilities do not prevent household members from entering work or training.
7. Households should be encouraged to use joint budgeting, savings plans and transparent financial decisions that balance immediate needs with education, emergencies and productive investment.
8. A follow-up study should verify the reported distributions using the original questionnaires or a new respondent-level dataset and should calculate per-capita income, the Gini coefficient and objective-level associations with appropriate statistical tests.

5.3 Limitations and Further Research

The study was limited to selected high-density areas and used a cross-sectional design, so the findings cannot represent all households in Lundazi District or establish causal effects. Income was self-reported and may be sensitive to recall, privacy concerns and seasonal variation. The source document did not supply respondent-level records, regression results or a calculated Gini coefficient, and it labelled several distributions illustrative. Future research should retain household-level data, compare high- and low-density areas, collect income across seasons and test how household size, education, gender, occupation and assets jointly predict per-capita income.

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