

Analyzing Inflation and its Effects on Household Economic Situation: A Case Study of Mitengo Ndola

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Abstract: The purpose of this study was to investigate inflation and its effects on household situation in Mitengo, Ndola. The study made use of a cross section survey allowing for qualitative statistical analysis. A structured questionnaire consisting of closed-ended questions was used to collect primary data. Regression analysis was used to establish associations between variables. The average monthly income was K10,500 (SD = K4,572.73), with household expenditure averaging K5,611.29 (SD = K4,753.43). Food expenditure consumed 32.36% of income, while transportation, education, and healthcare costs accounted for 13.39%, 13.61%, and 6.85% respectively. Housing and utility expenses averaged 9.74% and 11.89%. Inflation significantly impacted consumption, with 41.9% of participants reporting considerable effects and 58.1% experiencing extreme effects. Participants frequently adjusted their budgets, and a statistically significant relationship was found between inflation perception and budgeting adjustments (Chi-Square = 14.090, $p = 0.000$). Determinants such as income strata, labor market participation, and household demographics also influenced consumption, with disposable income and net worth varying significantly among participants. These findings underscored the profound impact of inflation on household financial behaviors. To mitigate the impact of inflation on household consumption, it is crucial to enhance financial literacy programs, promote income diversification, and stabilize inflation through effective policies. Targeted support for lower-income households, such as social safety nets and subsidies for essential goods, can alleviate the financial strain. Encouraging savings, prioritizing essential expenditures, and offering inflation-indexed financial products will help households manage their finances better.

Keywords: Inflation, Household Economics, Economic Impact, Cost of Living, Mitengo Ndola, Household Financial Situation, Price Fluctuations, Income Inequality, Consumer Spending, Poverty Levels.

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I. INTRODUCTION

A. Background

Inflation, a critical economic concept, refers to the sustained increase in the general price level of goods and services in an economy over a period of time (Anidiobu, 2018). When inflation occurs, each unit of currency buys fewer goods and services, eroding purchasing power. Household economic situation denotes the financial health and stability of a household, encompassing income, expenditures, savings, and debt levels (Hasler, 2018). Analyzing the interplay between inflation and household economic conditions involves understanding how rising prices influence household budgets, spending behaviors, and overall economic wellbeing. Inflation has been a pervasive global economic phenomenon, affecting both developed and developing countries.

Household surveys and expenditure data provide valuable insights into how inflation affects different demographic groups and income brackets (Rumler, 2020). The effects of inflation on household consumption can be far-reaching and multifaceted. In addition to changes in spending patterns, inflation can also influence savings behavior, borrowing decisions, and asset prices. Higher inflation expectations may lead to wage-price spirals as workers demand higher compensation to keep pace with rising living costs (Lorenzoni, 2023).

The consequences of unchecked inflation can be severe, leading to reduced economic growth, increased poverty, and social unrest. Persistent inflation can undermine public confidence in economic management, leading to political instability. On a broader scale, high inflation can deter investment, disrupt trade, and complicate international economic relations.

B. Statement of the problem

Inflation, a complex economic phenomenon marked by a sustained rise in the general price level of goods and services over time, exerts multifaceted impacts on household situations (Anidiobu, 2018). It poses a significant threat to economic stability by eroding purchasing power, diminishing savings, and elevating the cost of living, thereby reducing affordability for essential goods and services, dampening consumer confidence, and undermining overall quality of life (Murali, 2023). Specific effects include the diminished value of money, making it challenging for households to maintain their standard of living; the strain of rising prices on basic necessities like food, housing, healthcare, and education; the erosion of savings over time, hindering the achievement of long-term financial goals; heightened economic uncertainty, leading to reduced consumer confidence and spending; and a disproportionate impact on vulnerable populations such as low-income households, fixed-income earners, and retirees (Sitimela, 2019). Understanding these implications through research can empower policymakers, economists, and individuals to devise effective strategies to mitigate inflation's adverse effects on households

➤ General objectives

To analyze inflation and its effects on household economic situation in Mitengo, Ndola.

➤ Specific objectives

- Investigate the relationship between inflation metrics and household consumption dynamics in Mitengo Ndola.
- Identify the key determinants influencing household consumption patterns in Mitengo Ndola, encompassing variables such as income strata, labor market participation, and demographic characteristics.
- Analyze inflationary effects on staple commodities and services in the consumption basket of Mitengo Ndola's households, focusing on alterations in affordability indices and consumer purchasing power.

➤ Research Questions

- What is the relationship between inflation metrics and household consumption dynamics in Mitengo Ndola?
- What are the key determinants influencing household consumption patterns in Mitengo Ndola, particularly considering variables such as income strata, labor market participation, and demographic characteristics?
- How do inflationary effects impact staple commodities and services in the consumption basket of Mitengo Ndola's households, specifically in terms of alterations in affordability indices and consumer purchasing power?

C. Conceptual framework

The study investigated the impact of inflation on household economic well-being in Mitengo, Ndola, focusing on how rising prices affect income, purchasing power, cost of living, savings, and debt levels. Inflation, measured through indicators like the Consumer Price Index (CPI) and currency depreciation, reduces the real value of earnings, diminishes purchasing power, increases the cost of living, limits savings, and drives households to rely on debt. Moderating factors such as employment status, government policies (e.g., subsidies and welfare programs), and access to financial resources influence the severity of these effects. Stable employment and financial resources provide resilience, while government interventions help mitigate negative outcomes. Additionally, financial literacy and adaptive consumption patterns enable households to better manage inflationary pressures, highlighting the interplay between inflation and household economic outcomes in this context.

II. LITERATURE REVIEW

The relationship between inflation metrics and household consumption dynamics. In 2023, Mbao conducted a study to examine structural breaks across food, non-food, and overall inflation series. The findings indicated that, before early 2013 structural breaks, all inflation series exhibited an anti-persistent fractional Brownian motion (fBm) pattern, suggesting a mean-reverting trend. After the breaks, until November 2021, persistent patterns were observed, indicating a reinforcing trend. Recent data imply a likely gradual decrease in inflation once a downward trend is established, driven by an anti-persistent fBm process. Crucially, steady-state estimates for overall and food inflation, based on recent data, exceed the target range, at 9.3 and 11.8 percent, respectively. In contrast, non-food inflation remains within the target, albeit close to the upper limit at 7.8 percent. These findings support the need for a robust monetary policy response to bring overall inflation back within the target band of 6–8 percent (Mbao, 2023).

Since August 2015, Zambia has faced persistent high inflation, making it challenging to maintain rates within the target band of 6–8 percent. Mbao (2023), analyzed data from January 2010 to September 2023, the study took a fresh approach by examining the consumer price index (CPI) inflation series based on the geometric mean, which was introduced in January 2010. It applied advanced techniques such as power spectral density for fractal signal classification, complementing Hurst parameter estimation to assess long memory in inflation trends. The study uniquely examined structural breaks across food, non-food, and overall inflation series, while also estimating steady-state inflation levels and adjustment speed using the Beta convergence method from the Solow growth model. The findings indicated that, before early 2013 structural breaks, all inflation series exhibited an anti-persistent fractional Brownian motion (fBm) pattern, suggesting a mean-reverting trend. After the breaks, until November 2021, persistent patterns were observed, indicating a reinforcing trend. Recent data imply a likely gradual decrease in inflation once a downward trend is established, driven by an anti-persistent fBm process. Crucially, steady-state estimates for overall and food inflation, based on recent data, exceed the target range, at 9.3 and 11.8 percent, respectively. In contrast, non-food inflation remains within the target, albeit close to the upper limit at 7.8 percent. These findings support the need for a robust monetary policy response to bring overall inflation back within the target band of 6–8 percent (Mbao, 2023).

Chen's 2020 Empirical analysis, covered a sample of 178 economies from 2000 to 2013, reveals a significant positive correlation between CPI and PPP, suggesting a long-term equilibrium relationship. In the short term, CPI may deviate from the PPP equilibrium, but an error correction mechanism gradually brings it back. Moreover, PPP exerts a price pass-through effect on CPI. This intrinsic relationship supports the integration of the CPI statistical system with the global ICP project (Chen, 2020).

Moreover, inflation expectations can vary significantly among different demographic groups. Higher-income households, with more disposable income and better access to investment opportunities, might engage more actively in these anticipatory behaviors (Søraa, 2015). Lower-income households, however, might focus more on immediate consumption needs and less on long-term investments, due to limited financial resources. These shifts in spending and investment due to inflation expectations can have broader economic impacts. Accelerated consumption can boost short-term economic growth, but if it leads to sustained inflation, it may prompt more aggressive monetary policy responses, potentially resulting in higher interest rates and tightened credit conditions. This interplay between expectations and economic policy highlights the importance of effective communication and credible policy actions by central banks to manage inflation expectations and their effects on household behavior (Coibion, 2020).

Kaplan (2017), used scanner data to estimate inflation rates at the household level. The results revealed that households' inflation rates have an annual interquartile range of 6.2–9.0 percentage points. This heterogeneity mainly arises not from differences in broadly defined consumption bundles, but from variations in prices paid for the same types of goods. Lower-income households tend to experience higher inflation, though most cross-sectional variation is not correlated with observable factors. Household deviations from aggregate inflation show only a slightly negative serial correlation. Almost all the variability in a household's inflation rate is due to differences in household-level prices relative to average prices, rather than from changes in aggregate inflation (Kaplan, 2017).

Mwansa, D.C. (2020) conducted a study to examine how various macroeconomic factors impact foreign exchange rate fluctuations and the value of the Zambian Kwacha. The study found a negative relationship between interest rates, GDP growth, and the Kwacha's performance, while inflation and balance of payments had a positive relationship with the Kwacha's value at a 0.05% significance level. Nonetheless, all variables showed inelastic responses to the Kwacha's performance. Additionally, an ANOVA F-test indicated no significant relationship between the dependent and independent variables. Consequently, the study recommends using both contractionary monetary and expansionary fiscal policies to strengthen the Kwacha against the U.S. dollar during economic downturns (Mwansa, 2020).

➤ *Determinants Influencing Household Consumption During Inflation.*

Economic variables play a crucial role in determining how households manage their consumption during periods of inflation. A key factor is the income strata to which a household belongs (Hone, 2019). Higher-income households generally possess more disposable income, which allows them to better absorb price increases without significantly altering their consumption patterns. This financial cushion provides them with the flexibility to maintain their standard of living even as the cost of goods and services rises. Another significant aspect of income strata is the wealth effect. Households that own substantial assets, such as real estate, stocks, or other investments, are less constrained by inflation (Balestra, 2023). As inflation progresses, the value of these assets often increases, thereby providing a financial buffer. This appreciation in asset value can compensate for the increased cost of living, allowing these households to draw on their wealth to support their consumption. For example, rising property values or stock portfolios can enhance a household's net worth, thereby easing the financial strain caused by inflation.

Savings and debt levels also profoundly impact household consumption during inflation. Households with higher savings are better positioned to maintain their consumption levels despite rising prices (Jaravel, 2019). These savings act as a financial reserve, enabling households to smooth their consumption over time. This ability to tap into savings provides a critical buffer against

the financial shocks associated with inflation. On the flip side, households burdened with high levels of debt may find inflation particularly challenging. Inflation often leads to higher interest rates as central banks attempt to control price increases by tightening monetary policy. For indebted households, this translates into higher debt servicing costs, which can strain their finances. The interplay between inflation, interest rates, and debt servicing costs creates a precarious situation for highly leveraged households, making them more vulnerable to economic shocks (Leombroni, 2022).

Labor force participation is another crucial variable. Dual-earner households tend to exhibit greater financial resilience against inflation. The presence of multiple income streams can help offset the impact of rising prices. The type of employment also matters. Self-employed individuals often experience greater income volatility compared to wage earners with stable incomes. In contrast, wage earners typically have more predictable income flows, allowing for more stable consumption patterns (Hasler, 2021). Wage growth is a critical factor in determining how well households can cope with inflation. Nominal wage increases that match or exceed the rate of inflation enable households to maintain or even increase their consumption. When wages rise in line with prices, the real purchasing power of income remains stable or improves, allowing households to keep up with the cost of living (Mohsin, 2019).

Household composition is another important demographic characteristic that affects consumption during inflation. Larger families have higher consumption needs, which can strain budgets more severely when prices rise. The cost of feeding, clothing, and providing for a large family increases proportionally with inflation, making it challenging for these households to maintain their consumption levels (Raihan, 2023). Households with dependents, such as children or elderly family members, also have less flexibility in reducing consumption because their needs are less discretionary. The expenses associated with dependents such as healthcare, education, and basic living costs are essential and cannot easily be cut back. This inflexibility means that any increase in the cost of living due to inflation hits these households harder, as they have limited options for reducing their spending without compromising essential needs.

Psychological and behavioral factors significantly impact household consumption during periods of inflation, influencing how individuals perceive and respond to economic changes (Białowolski, 2019). One of the primary psychological determinants is consumer confidence, which encompasses households' expectations of future inflation and their perception of economic stability. When households anticipate continued inflation, their consumption patterns can change markedly. Expectations of rising prices might lead individuals to stockpile goods, particularly non-perishable items, to avoid higher costs in the future. Conversely, if households expect inflation to persist or worsen, they may delay major purchases, such as cars or home renovations, waiting for a more stable economic

environment or hoping for a reduction in prices (Chen, 2018).

Inflation in Bangladesh has historically been driven by food prices. Given that food consumption constitutes a significant portion of the household consumption basket, inflation can adversely affect household welfare. In 2020, Hossain, M. and Mujeri, M.K. assessed the impact of inflation on various household groups, including day laborers, fixed-salaried households, and other income groups. They estimated group-specific consumer price indexes (CPIs) for different households using weights corresponding to their consumption baskets. The analysis revealed several key insights: poorer households face higher inflation rates than wealthier households, and day laborers and fixed-income households experience higher food inflation compared to non-food inflation (Hossain, 2020).

Chibwe (2015) presented evidence on the distributional effects of the recent surge in inflation on households, showing that inflation impacts households differently based on their spending patterns. Low-income households are particularly affected when the prices of essential goods rise. The study also highlights that households have varying exposures to inflationary shocks depending on the proportion of their income spent on consumption, their income risk, and their wealth composition. During the current inflationary period, the resilience of the labor market and the provision of fiscal support have helped mitigate some of the adverse distributional impacts of high inflation on social welfare (Chibwe, 2015).

➤ *Inflationary Effects on Staple Commodities and Services in the Consumption Basket of Households.*

Inflationary effects on staple commodities and services within the household consumption basket significantly impact affordability indices and consumer purchasing power (Mattila, 2022). These effects are profound and multifaceted, altering the cost dynamics of essential goods and services that households rely on daily. One of the most noticeable impacts of inflation is on food prices. Essential food items such as grains, vegetables, dairy, and meat often see significant price increases during periods of inflation. As these staples form a major part of the household consumption basket, even moderate inflation can lead to substantial reductions in affordability (Danladi, 2020).

Energy costs are another critical area where inflation exerts a strong influence. The prices of electricity and gas can significantly impact household budgets. As energy prices rise, the cost of heating, cooling, and cooking also increases, reducing the amount of disposable income available for other purchases (Puzzolo, 2019). Higher energy costs mean that households must allocate a larger portion of their income to utility bills, leaving less for savings or discretionary spending. Additionally, rising fuel prices affect transportation costs, not only for personal commuting but also for the delivery of goods and services. As transportation is a critical component of the supply chain, increased fuel prices can lead to higher costs for

goods across the board, further straining household budgets. This dual impact of higher direct energy costs and the indirect costs of goods transportation exacerbates the financial pressure on households (Salite, 2021).

Inflation also significantly affects the cost of essential services. Housing is a primary example, where both rent and mortgage rates tend to rise with inflation. For many households, housing constitutes the largest single expenditure, and increases in these costs can greatly reduce overall affordability. Higher rents and mortgage payments mean less money is available for other necessities, leading to financial strain. In addition to rent and mortgage costs, utility bills, which are part of housing expenses, also rise, compounding the financial burden on households (Bao, 2022). Healthcare is another service heavily impacted by inflation. The costs of medical services and pharmaceuticals typically increase, leading to higher out-of-pocket expenses for families (Nowak, 2019). This can make healthcare less affordable, potentially causing households to delay or forgo necessary medical treatments, which can have long-term negative health consequences. Inflation also drives up the cost of education, including tuition, books, and other educational expenses. As the price of higher education rises, it becomes increasingly difficult for families to afford quality education for their children.

Olubokun (2018), examined the effects of food price inflation on households in Ondo State, using data from 82 rural households selected through a random sampling technique. Primary data were collected for various food groups. The Quadratic Almost Ideal Demand System (QUAIDS) technique was used to estimate the demand for these food groups, while the welfare effect was assessed using both the QUAIDS and Compensated Variation models. The QUAIDS model results indicated that all estimated expenditure elasticities, except for plantain, were positive and statistically significant, demonstrating that these food items are normal goods. Specifically, rice (0.07), beans (0.10), and garri (0.03) were identified as necessities due to their coefficients being less than 1, whereas plantain (-0.21) was an exception. The Compensated Variation model revealed that households in Ondo State would need compensation equivalent to about 24.9% of their total household expenditure on food to mitigate the adverse effects of food price inflation. The study concluded that all households in Ondo State experienced welfare losses due to the increase in food prices between January and October 2016. Consequently, it recommended that the government subsidize food prices to make them more accessible, thereby improving household welfare in Ondo State (Olubokun, 2018).

Moshiri (2015) analyzed the effectiveness of energy price reform in Iran by estimating energy demand elasticities for households across different income groups. The study used a two-stage consumer optimization model and estimated the system of energy expenditure shares utilizing household budget survey data from 2001 to 2008. The findings revealed that overall price elasticities of demand are small, while income elasticities are close to one.

The results also showed heterogeneous responses to energy price and income changes among different income groups. Specifically, urban households exhibited a stronger response to price changes, whereas rural households, particularly those in the mid-income range, responded more to income changes. These findings imply that merely increasing prices would not be sufficient to reduce energy consumption. Therefore, policies should also focus on enhancing energy efficiency through a combination of price and non-price measures.

Saha (2022) examined the inflation trend and consumption patterns of households in India, highlighting the impact of inflation on various households' consumption habits. The study found that prices of most essential items, particularly meat, fish, oils, and eggs, have surged significantly, while other items have seen comparatively smaller price increases. Inflation in India fluctuated notably over the past decade, peaking at 11.1% in 2013 and dropping to a low of 3.3% in 2017. With the onset of the pandemic, inflation rose again to 6.6%, causing widespread disruption. The impact of inflation varies across different social classes. Most households have been affected by rising prices, with a significant portion reducing their consumption by less than 30%. In contrast, a large segment of households remained unaffected and maintained their consumption levels, largely due to income disparities. Households earning less than Rs. 50,000 per month were more severely impacted by price increases compared to higher-income households.

III. RESEARCH METHODOLOGY

The study made use of a cross-section survey approach. The study population for this study consisted of residents of Mitengo Ndola. The study sample consisted of 62 households in Mitengo Ndola.

The study employed a convenience sampling technique. Convenience sampling was employed due to its practicality and feasibility in accessing participants for the study. Given limited resources and time constraints, convenience sampling allowed gathering of data from individuals who are readily available and accessible. The main research tool used in the study was a semi-structured questionnaire consisting of both closed-ended questionnaire. Primary data was collected through structured surveys and interviews. These methods involved the use of standardized questionnaires and face-to-face interview but mostly electronic questionnaire to gather data on the research variables.

The study upheld ethical aspects including obtaining informed consent, safeguarding participant confidentiality and privacy, and utilizing acquired information solely for academic reasons. Stringent confidentiality measures were maintained. Equal and unbiased treatment was given to all participants, who held the choice to participate or decline without any adverse effects. This research carried no risk of physical harm.

IV. RESULT PRESENTATION

Presentation of results on background characteristics of the respondents

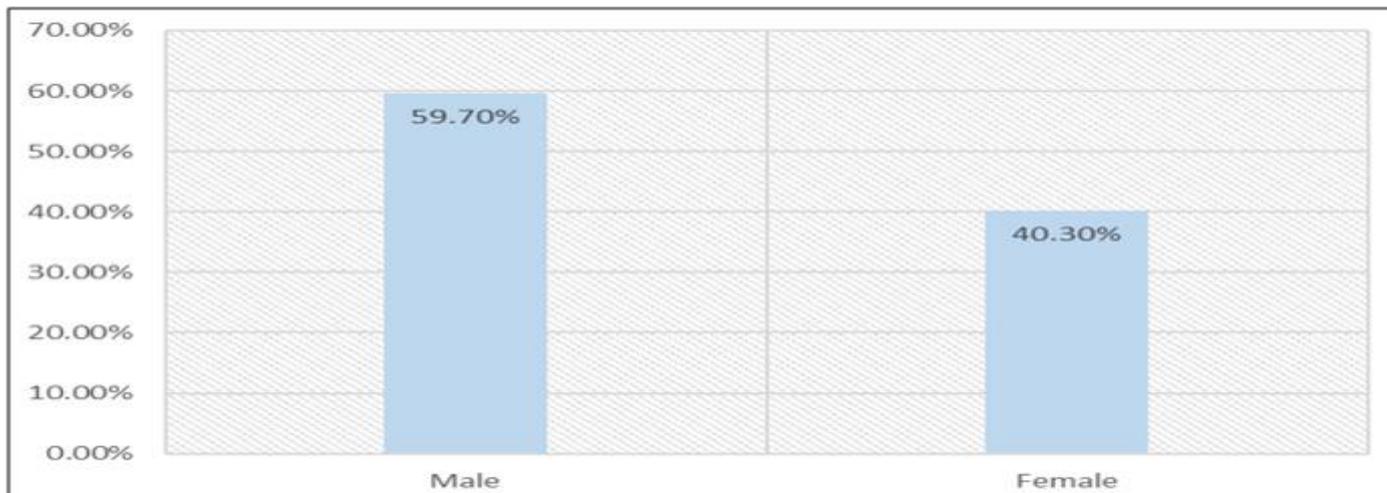


Fig 1 Gender of Head of Household

The results showed that the majority of households are male-headed, with 59.7% of the respondents identifying as male heads. Female-headed households, though fewer in number, account for 40.3%.

Table 1 Age of Head of Household

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Age	62	32	64	42.08	8.457
Valid N (listwise)	62				

The age range of household heads varied from 32 to 64 years, with a mean age of 42.08 years. The relatively wide age distribution reflects a diverse group of household heads, potentially with varying levels of life experience and household management.

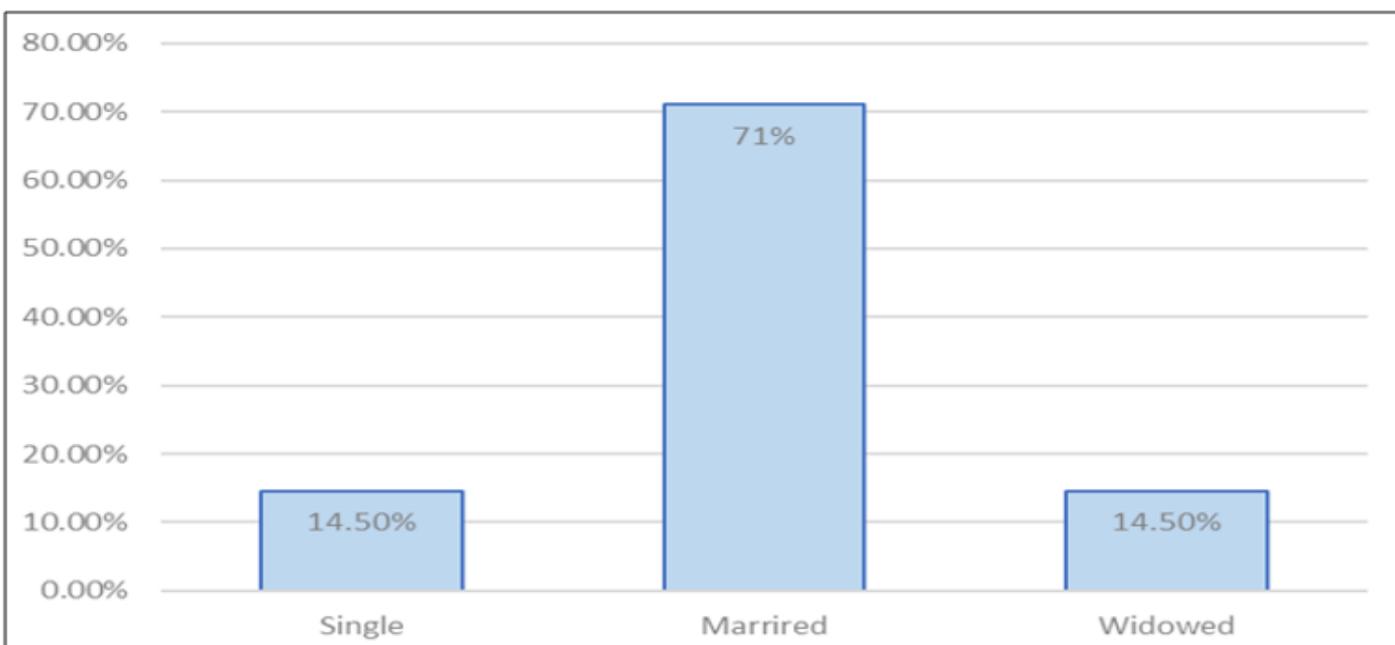


Fig 2 Marital Status

A large majority (71%) of the household heads reported as being married. Additionally, 14.5% of respondents are single, possibly younger or previously unmarried, while another 14.5% are widowed, highlighting that some household heads have lost their spouses and now manage their households independently.

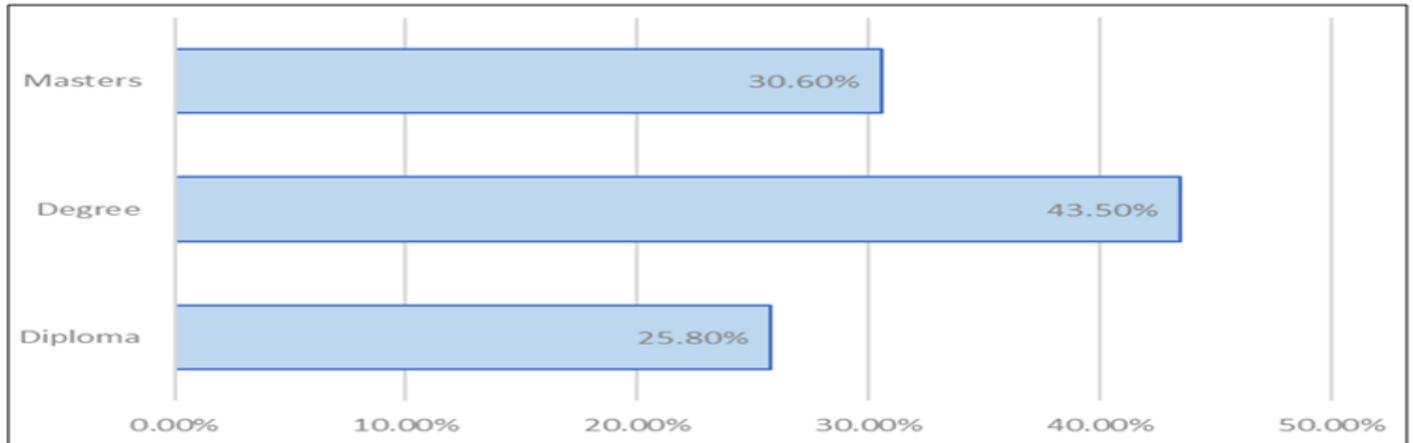


Fig 3 Education Background

The educational background of household heads varied, with 43.5% holding a university degree, followed by 30.6% with a master’s degree and 25.8% with a diploma. This indicates a highly educated population, with a strong leaning towards higher education.

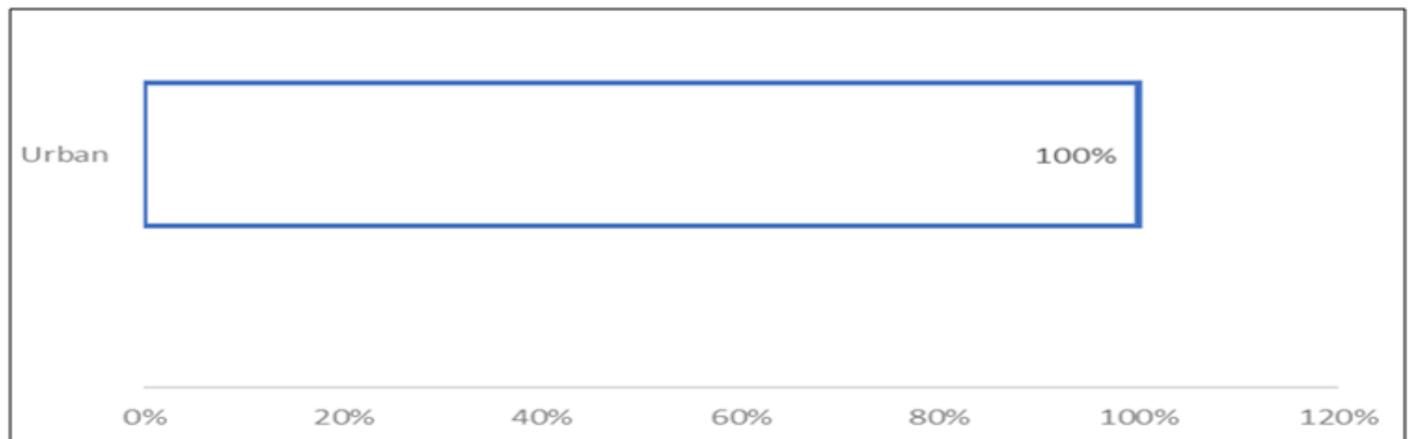


Fig 4 Residence

All respondents (100%) live in urban areas, suggesting that the study was conducted in a relatively developed or accessible part of Mitengo, where urban infrastructure and services are likely available. The urban setting may influence employment opportunities, lifestyle choices, and access to education and healthcare.

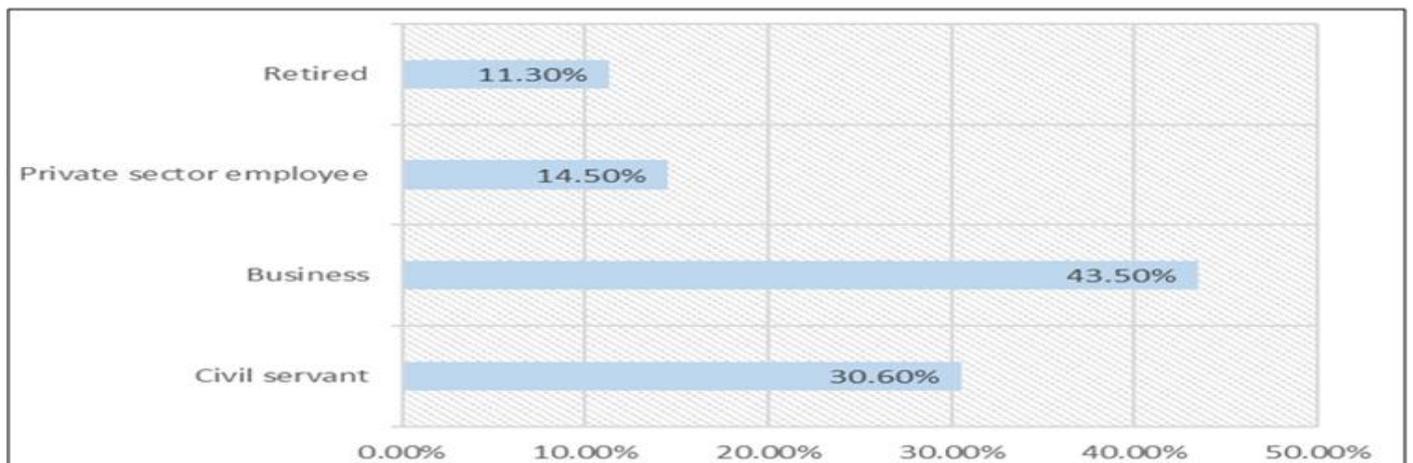


Fig 5 Main Profession of Head of Household

The distribution of occupations shows that 43.5% of household heads are involved in business, reflecting a strong entrepreneurial spirit in the area. Civil servants make up 30.6% of the household heads, highlighting the importance of government employment in providing stable jobs. Private

sector employees account for 14.5%, while 11.3% are retired, indicating that a portion of the population has transitioned out of the workforce and may be living on pensions or savings. Relationship between inflation metrics and household consumption dynamics

Table 2 Household consumption Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Monthly Income	62	10500	4572.727	5000	20000
Monthly Household Expenditure	62	5611.29	4753.432	700	18300
Household good	62	10.177	10.137	0	30
Household food	62	31.919	16.456	6	50
Recreation	62	1.871	2.294	0	5
Transport	62	13.387	6.577	5	20
Eduaction	62	13.613	8.472	5	30
Healthcare	62	6.85	5.371	.5	15
Housing	62	9.742	6.907	0	21
Utilities	62	11.887	6.006	2	20
Affordability index	62	7.274	3.22	2	10
Monthly saving	62	946.932	1097.059	0	3000
Average inflation	62	.943	.018	.9	.95

The study results, analyzing the relationship between inflation metrics and household consumption dynamics, reveal distinct spending patterns among participants. The average monthly income across households was K10,500, with a broad range from K5,000 to K20,000, reflecting a high level of income disparity. Household expenditures varied widely as well, with a mean of K5,611.29, suggesting diverse spending behaviors that may be influenced by income levels and inflation pressures.

Healthcare and housing expenditures also showed variability, with mean expenditures of 6.85% and 9.74%, respectively, suggesting differential impacts of inflation on these essential categories. The debt burden, with an average score of 3.92 on a 5-point scale, indicates moderate to high debt reliance, which can be a strain on monthly finances under inflationary conditions. Meanwhile, utilities expenditure averaged 11.89%, underscoring its necessity in household budgeting.

In specific expense categories, food accounted for a substantial average of 32.36% of household budgets, indicating its primary role in overall expenditures amidst inflationary effects on essential goods. Spending on recreation and leisure was notably low, averaging only 1.87% per household, possibly reflecting prioritization towards necessities. Transportation and education expenses, averaging 13.39% and 13.61%, respectively, highlight significant areas of consumption, with transportation costs showing substantial variability due to factors like location and fuel price fluctuations.

The affordability index, with an average of 7.27, highlights the strain inflation imposes on affordability for households, particularly in high-cost categories. Monthly savings were limited, averaging K946.93, with a wide standard deviation, indicating that many households struggle to save consistently under inflationary pressures.

The results from the study show that inflation has a significant impact on household consumption habits among participants in Mitengo. A large proportion of participants, 41.9%, indicated that inflation significantly affects their consumption behaviors, while 58.1% reported that it extremely influences their household consumption.

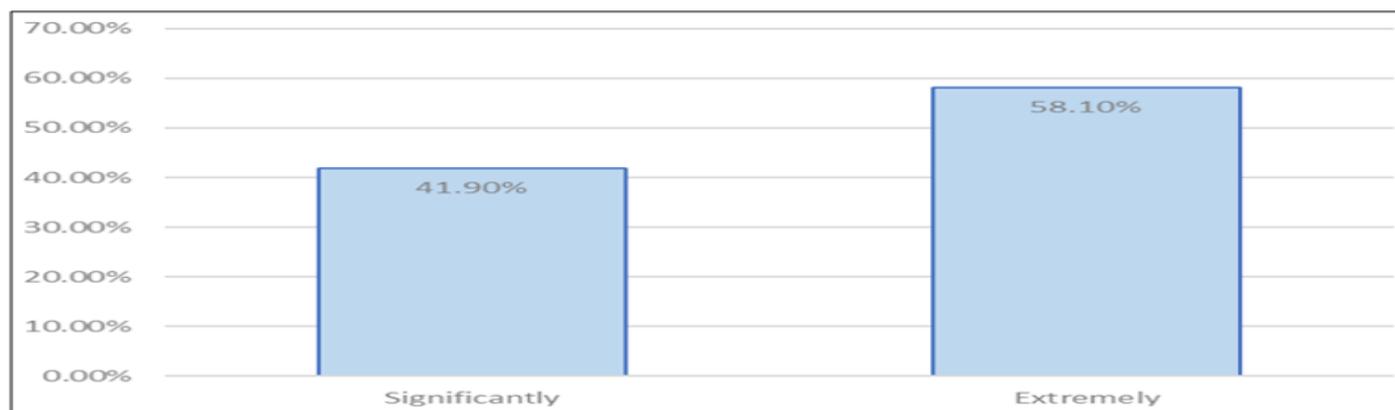


Fig 6 Significant Impact of Inflation on Household Consumption Habits

Additionally, participants reported frequently adjusting their household budgets in response to inflation. Approximately 45.2% of households adjust their budgets significantly due to changes in inflation rates, while 54.8% adjust them extremely often.



Fig 7 Regular Adjustments of Household Budgets Due to Inflation

The Chi-Square test results reveal a statistically significant relationship between participants' ratings of the Significant Impact of Inflation on Household Consumption Habits and the frequency of adjusting household budgets due to changes in inflation rates.

Table 3 Impact of Inflation on Household Consumption Habits and Budget Adjustment Frequency

Chi-Square Tests					
	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	14.090 ^a	1	.000		
Continuity Correction ^b	12.215	1	.000		
Likelihood Ratio	14.591	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	13.863	1	.000		
N of Valid Cases	62				
a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 11.74.					
b. Computed only for a 2x2 table					

The significant relationship implies that participants who perceive inflation as having a major impact on their household consumption habits are more likely to frequently adjust their household budgets in response to inflation rate changes.

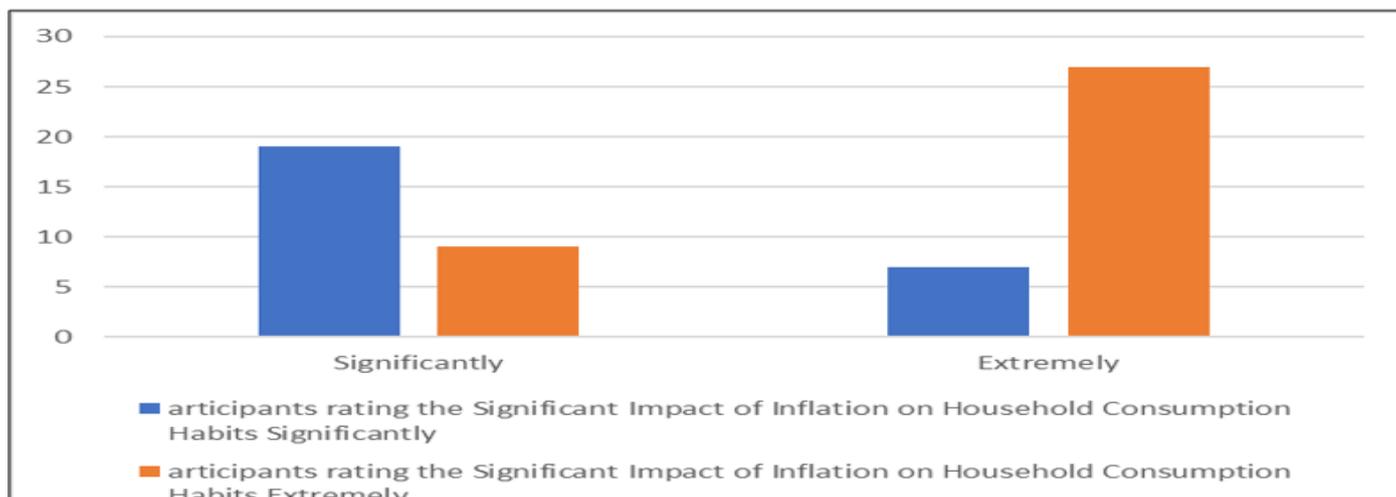


Fig 8 Impact of Inflation on Household Consumption Habits and Budget Adjustment Frequency

Regression analysis revealed that household disposable income and monthly savings significantly and positively impact household monthly income. A unit increase in disposable income is associated with a 0.268-unit rise in monthly income, while a unit increase in savings leads to a 2.808-unit increase, both statistically significant at

the 1% level. The model explains 66.3% of the variation in household income (R-squared = 0.663), with the F-test confirming its overall significance ($p < 0.001$). These results highlight the critical role of disposable income and savings in determining household income levels, emphasizing their importance in income-boosting strategies.

Table 4 Linear regression

Household monthly income	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]	Sig
Household disposable income	.268	.078	3.45	.001	.112	.423	***
Household monthly saving	2.808	.336	8.34	0	2.134	3.481	***
Constant	6339.407	557.464	11.37	0	5223.923	7454.891	***
Mean dependent var	10500.000		SD dependent var		4572.727		
R-squared	0.663		Number of obs		62		
F-test	58.146		Prob > F		0.000		
Akaike crit. (AIC)	1158.483		Bayesian crit. (BIC)		1164.864		

*** $p < .01$, ** $p < .05$, * $p < .1$

Determinants influencing household consumption patterns: income strata, labor market participation, and demographic characteristics. The study results provide insights into the determinants influencing household consumption patterns, particularly focusing on income strata, labor market participation, and demographic characteristics among participants. The disposable income of households in Mitengo varied widely, with an average of K5,572.58 and a substantial standard deviation, indicating significant income disparity within the sample. Household net worth similarly showed a wide range, averaging K156,612.90, further highlighting variations in wealth accumulation and financial stability across households.

50.89%, indicating that many households are experiencing underemployment or unemployment, which may constrain household spending and consumption choices. Overall, these determinants—including income levels, family size, educational dependency, and labor market participation—appear to shape household consumption patterns significantly, with disparities in income and employment contributing to varied spending capacities and financial strategies among participants.

Household size averaged 4.76 members, suggesting that family size may play a role in consumption dynamics, particularly with education-related expenses. Households had an average of 0.61 members in secondary school and 0.45 members in tertiary school, indicating moderate dependency on educational expenditures. The percent change in household financials over the past 10 years averaged 45.92%, with notable variability, suggesting that economic shifts and income growth or decline influenced household financial positioning and possibly altered spending behaviors over time.

Regression analysis was used to examine the factors influencing household income, revealing significant findings for key variables. Household disposable income has a positive but marginally significant effect on income, with a coefficient of 0.167 ($p = 0.058$), indicating that a unit increase in disposable income raises household income by 0.167 units. Household size shows no significant effect ($p = 0.503$). Labor force participation has a significant negative impact, with a coefficient of -213.443 ($p = 0.01$), suggesting reduced income with reduced labor force participation, possibly reflecting low-wage employment. In contrast, the household employment rate significantly increases income, with a coefficient of 335.734 ($p = 0.001$), highlighting the importance of employment in income generation. Unemployment rate effects are insignificant ($p = 0.58$). The model explains 93.8% of the variation in household income (R-squared = 0.938), with a highly significant overall fit (F-test, $p < 0.001$). These results emphasize employment rate and labor force participation as critical drivers of household income dynamics.

In terms of labor market participation, the household labor force involvement averaged 35.5%, and the household employment rate was 36.63%, reflecting a relatively low rate of active labor market participation within the sampled households. Meanwhile, the unemployment rate averaged

Table 5 Linear regression

Household-income	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]
Household disposa~e	.167	.086	1.93	.058	-.006	.34
Household size	140.61	208.671	0.67	.503	-277.408	558.628
Labour forceparti~e	-213.443	80.134	-2.66	.01	-373.97	-52.915
Household employment rate	335.734	96.931	3.46	.001	141.557	529.911
Household unployment rate	-6.175	11.091	-0.56	.58	-28.392	16.042
Constant	3635.14	1597.446	2.28	.027	435.071	6835.21
Mean dependent var	9580.645		SD dependent var		4596.144	

R-squared	0.938	Number of obs	62
F-test	169.585	Prob > F	0.000
Akaike crit. (AIC)	1060.182	Bayesian crit. (BIC)	1072.945
*** $p < .01$, ** $p < .05$, * $p < .1$			

Inflation effects on basic commodities and services in the consumption basket of households. The study results highlight the impact of inflation on the cost of basic commodities and services within the household consumption basket. Significant increases were reported in household essentials, with household goods prices rising by an average of 18.73% and food costs showing an even larger increase at 37.3%. Recreation and leisure activities saw a more moderate price increase, averaging 5.81%, suggesting that non-essential items are less impacted by inflation but remain affected. Transportation costs rose by an average of 12.9%, reflecting inflation’s influence on commuting and travel expenses, while education expenses increased by 10.71%, indicating higher financial strain for households with school-going members.

Healthcare costs had the smallest average increase, at 2.71%, though healthcare spending remains a critical component for households. The household debt burden average of 17.66% reveals the added financial strain due to rising costs and limited income flexibility, potentially leading households to rely more heavily on credit.

The affordability index, showing an average of 1.82, underscores a growing difficulty in managing household finances amidst inflation, with many households experiencing challenges in affording basic goods and services. This data emphasizes the widespread impact of inflation on household spending capacity, particularly concerning essential commodities, and highlights the financial vulnerability of households in the face of rising costs.

The regression analysis reveals significant effects of price changes on monthly income. Increases in household goods, food, transport, and education prices negatively impact income, with coefficients of -1215.329, -640.417, -1380.806, and -1408.416, respectively ($p < 0.001$). In contrast, rising recreation and leisure prices positively influence income, with a coefficient of 2244.279 ($p < 0.001$). The model explains 92.8% of the variation in income (R-squared = 0.928) and demonstrates strong overall significance (F-test, $p < 0.001$). These findings underscore the diverse economic pressures faced by households and the varying sensitivity of income to changes in specific expenditure categories.

Table 6 Linear regression

Monthly income	Coef.	St.Err.	t-value	p-value	[95% Conf	Interval]
Average change in household goods prices	-1215.329	52.921	-22.96	0	-1321.343	-1109.315
Average change in household food prices	-640.417	26.083	-24.55	0	-692.668	-588.166
o	0	.	.	.	.	.
Average change in recreation and Leisure prices	2244.279	111.59	20.11	0	2020.738	2467.82
Average change in transport prices	-1380.806	66.339	-20.81	0	-1513.699	-1247.913
o	0	.	.	.	.	.
Average change in education prices	-1408.416	64.609	-21.80	0	-1537.842	-1278.989
Constant	67848.525	2328.883	29.13	0	63183.213	72513.838
Mean dependent var	10500.000		SD dependent var		4572.727	
R-squared	0.928		Number of obs		62	
F-test	143.478		Prob > F		0.000	
Akaike crit. (AIC)	1069.219		Bayesian crit. (BIC)		1081.982	
*** $p < .01$, ** $p < .05$, * $p < .1$						

V. DISCUSSION

This study investigates how inflation, particularly through the Consumer Price Index (CPI), interest rates, and food prices, impacts household consumption in Mitengo, Ndola, with a focus on how these factors vary across income groups.

It highlights that inflation significantly affects low- and middle-income households, particularly through rising

food and energy prices, which forces them to cut back on discretionary spending and prioritize essentials. Lower-income households are most vulnerable, adjusting consumption by opting for cheaper alternatives, while middle-income households exhibit some resilience but still face pressures, especially with non-essential items.

High-income households are largely insulated from these pressures, although some express concern over future inflation. The study also reveals that inflation expectations

influence consumer behavior, leading households to reduce spending and increase savings as a precaution. Key policy recommendations include stabilizing prices for essential goods, enhancing social safety nets, and improving economic transparency to manage inflation expectations.

The findings suggest that local economic instability and employment insecurity contribute to heightened vulnerability, especially among middle-income households in Mitengo, and call for further research into the psychological and socio-economic factors shaping consumption decisions.

VI. CONCLUSION

The study examined the impact of inflation on household consumption patterns, revealing significant shifts in spending behaviors. With a monthly income average of K10,500, households in Mitengo allocated a substantial portion of their budgets to food (32.36%) and essentials like transport, education, and utilities, while recreation expenditures remained minimal. Inflation significantly affected 58.1% of participants, with many adjusting their budgets frequently. Regression analysis highlighted that disposable income and savings positively influence monthly income, while labor market participation and employment rates are key drivers of income dynamics. Inflation, particularly in household goods and food, exacerbated financial strain, contributing to a high debt burden and a low affordability index, underscoring the vulnerability of households to rising costs.

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