International Journal of Food and Agricultural Economics
ISSN 2147-8988, E-ISSN: 2149-3766
Vol. 13, No. 4, 2025, pp. 305-317

PERCEIVED CONTRIBUTION OF VAT TO RURAL HOUSEHOLD INCOME AND FOOD SECURITY IN RAYMOND MHLABA MUNICIPALITY, EASTERN CAPE PROVINCE, SOUTH AFRICA

Yanga Nontu
Department of Agriculture, University of Zululand, Private Bag X1001, KwaDlangezwa 3886, South Africa. Email: NontuY@unizulu.ac.za, ORCID: 0000-0003-4843-9437

Bonguyise Mzwandile Dumisa
Department of Agriculture, University of Zululand, Private Bag X1001, KwaDlangezwa 3886, South Africa. ORCID: 0000-0001-8993-5846

Nkosingimele Ndwandwe
Department of Agriculture, University of Zululand, Private Bag X1001, KwaDlangezwa 3886, South Africa, ORCID: 0009-0006-4672-3556

Majezwa Xaba
Department of Agriculture, University of Zululand, Private Bag X1001, KwaDlangezwa 3886, South Africa., ORCID: 0000-0002-5600-5850

Anele Rofuzana
Department of Agricultural Economics and Extension, University of Fort Hare, Private Bag X1314, Alice 5700, South Africa, ORCID: 0000-0002-3709-8828

Lelethu Mdoda
Discipline of Agricultural Economics, University of KwaZulu-Natal, Pietermaritzburg 3209, South Africa, ORCID: 0000-0002-5402-1304

Minentle Lwando Mnukwa
Discipline of Agricultural Economics, School of Agriculture, University of KwaZulu-Natal, Pietermaritzburg, South Africa., ORCID: 0000-0001-9828-1426

Abstract

Food security and income pose major challenges to the livelihood of households. These challenges are exacerbated by the increase in VAT, which disrupts their monthly budgets. This study assessed the perceived contribution of VAT on the income and food security of households residing in Raymond Mhlaba Municipality. To gather information, a quantitative approach with a cross-sectional design was employed to purposefully collect primary data from 110 rural households through a semi-structured questionnaire. The study discovered that most households in the study area were older women with secondary education who relied on social grants or low-wage work, earning between R500 and R3,000 monthly. Many households feel that VAT makes it harder to afford food, seeing it as adding to debt and financial struggles.

Moreover, VAT increase significantly impacted food security, reducing meal variety, quality, and quantity, while complete food deprivation remained low.
Keywords: *Value-Added Tax (VAT), Food security, Income, Raymond Mhlaba Municipality, Perceptions*
Jel Codes: *Taxation, Subsidies, Revenue; Well-Being, Government Policy, Economic Development, Consumer Economics*

1. Introduction

Food security and income generation remain major global challenges, particularly as the population is expected to reach 10 billion by 2050 (Nontu et al., 2024). The population of undernourished people has risen from 690 million in 2019 to over 820 million by 2022 (Shang et al., 2024). Africa is especially affected, with 23% of its population experiencing extreme food insecurity, accounting for more than double the global average of 11% (FAO, 2022). In Sub-Saharan Africa, 1.4 billion people survive on less than $1.25 per day, with many in rural areas dependent on agriculture (Nontu et al., 2024). South Africa is the most food-secure country in Africa, but 23.6% of its population faces moderate to severe food insecurity, with 14.9% severely affected (Rugnanan, 2024). The Eastern Cape, a poor province, struggles with high levels of malnutrition and food shortages, exacerbating these challenges (Mdoda et al., 2024).

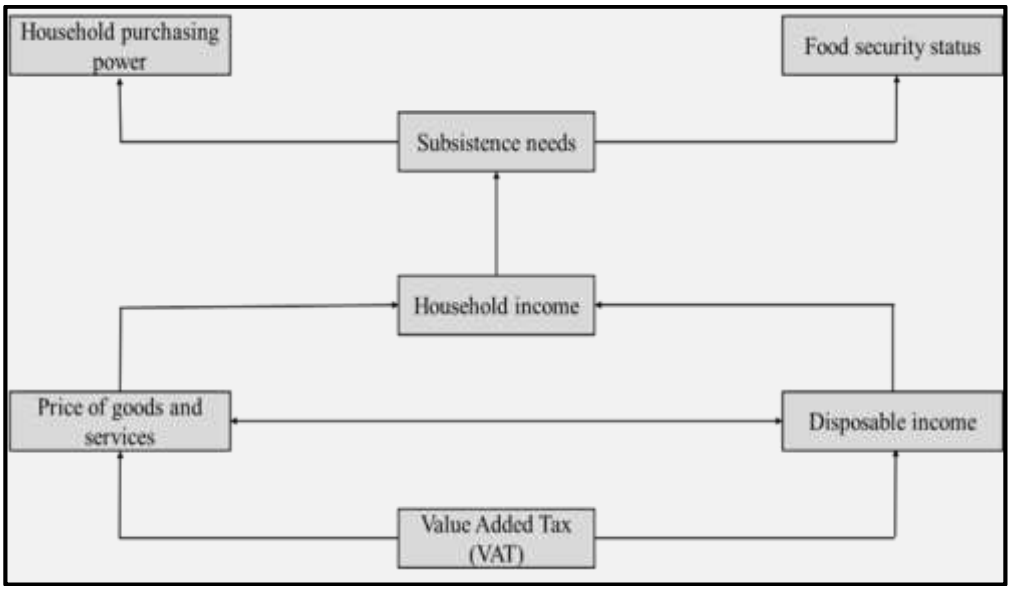
The challenges of food security and income generation are further intensified by the taxation system, which affects household budgets, particularly for vulnerable groups. Value-added tax (VAT) is a tax levied on goods and services at each stage of production and distribution, with the final cost borne by the consumer (Izang, 2025). In South Africa, the standard VAT rate is 15%, though some basic food items are zero-rated to protect the poor (Kwebulane & Oyekale, 2024). However, many essential goods, including hygiene products, baby food, and certain processed foods, remain subject to VAT (Santos et al., 2024). This creates a significant barrier to food security for low-income families, who spend a large portion of their income on necessities. The added cost of VAT reduces their purchasing power, making it more difficult to afford nutritious food and exacerbating food insecurity.

Enhancing access to affordable food and boosting household income through policy changes or economic support can lead to improved health, increased productivity, and reduced poverty and crime rates. By removing or lowering VAT on essential items, financial pressure on struggling families could be eased, allowing them to better meet their basic nutritional needs. This study aims to explore how VAT is perceived to affect household income and food security. The findings could help policymakers and stakeholders better understand the impact of VAT on rural households, particularly in the Eastern Cape Province.

2. Theoretical Framework

2.1 Subsistence Consumption Theory

In examining social welfare in developing countries, the subsistence consumption theory offers a useful lens. This theory suggests that households have a basic level of consumption they must meet to survive (Antony & Klarl, 2023). When income falls below this level, families tend to focus on meeting immediate consumption needs, often at the expense of saving, investing, or engaging with markets. This behavior is particularly evident among poor rural households, whose economic choices are shaped by the constant need to secure necessities. Understanding this dynamic is key to interpreting their welfare outcomes. Previous research has made use of this theory to support similar findings (Bayat et al., 2023; Jin et al., 2024; Tambe et al., 2023). Figure 1 illustrates how this theory is applied in the current study.



Source: Authors' compilation (2025)

Figure 1. Conceptual Framework for The Perceived Contribution of VAT Towards the Income and Food Security of Rural Households.

This study's conceptual framework shows VAT's perceived contribution towards rural households' income and food security. This framework indicates that value-added tax (VAT) increases the prices of goods and services, effectively reducing the income available to households because they must pay more for consumption (Izang, 2025). On the other hand, VAT payments directly reduce the disposable income available to households after tax (Puspitasari, 2024). The disposable income is the total income left after the deduction of VAT paid on consumption. Households allocate part of their income to meet minimum subsistence consumption needs before other expenditures. Because subsistence needs are non-negotiable (Nicolaides & Dludla, 2023), VAT-induced price increases reduce the purchasing power for other goods and may force households to cut back on essentials (Hayat, 2022), threatening food security. If disposable income after VAT is insufficient to cover subsistence consumption, food security lessens. The reduction in disposable income means reduced purchasing power. Therefore, households perceive the reduction in disposable income as a loss in their ability to afford food and other essentials, affecting their sense of food security (Addo-Tuffuor, 2024). Reduced purchasing power limits access to sufficient and nutritious food, directly impacting food security. Changes in purchasing power influence how households perceive VAT's impact on their livelihood and food security.

3. Methodology

3.1 Description of the Study Area

The study is situated in Eastern Cape province of South Africa. Eastern Cape is a rural province classified as second largest province estimated to cover 168 966 km2 (Mdoda et al., 2022). It has a population of about 6,562,053 people accounting for 12.7% of South Africa's population (Nontu et al., 2024) following Gauteng (12,272,263) and KwaZulu-Natal

(10,267,300) (Mdoda et al., 2022). According to Mnukwa et al. (2023), Eastern Cape is made up of six district municipalities which are Amathole, OR Tambo, Chris Hani, Alfered Nzo, Nelson Mandela Bay and Buffalo city, Cacadu and uKhahlamba as well as Bisho considered as capital of the province. The focus of the study is based in Amathole district municipality which covers an area of 21,595 km^2 with a population of about 892,637 people (Afuye et al., 2024). Under Amathole district municipality the study specifically selected Raymond Mhlaba Local Municipality to conduct research. This municipality is said to have about 41 022 households of which 47.9% is owned by females (Kapayi, 2023) and a population of about 159 515 (Mkosana, 2022). Its economy is primary driven by agricultural activities since it is located in rural areas (Mtyelwa et al., 2022).

3.2 Sampling Procedure, Sampling Frame and Sample Size

This study employed cross-sectional design where data was collected at one point in time. The study made use of quantitative approach to gather primary information. Participants of the study in Raymond Mhlaba Municipality were sampled using purposive sampling procedure. The main reason for this procedure was due to its ability to gain a deep and detailed understanding of a particular issue or phenomenon, especially in the need information that is specific to a certain context (Nontu et al., 2024). The sample size of the study was calculated through employing Taro Yamane scale adopted from (Nontu et al., 2024). The Taro Yamane formula is expressed as follows (equation 1):

$$n = \frac{z^2.p.q.N}{e^2.(N-1)+ z^2.p.q} \quad (1)$$

Where: n = sample size (unknown); z = the z-value of a given confidence level (95% for this study which is a z-value of 1.96); N = size of the total population of Raymond Mhlaba municipality (41 022); p = sample proportion (0.5) (which is the based on personal judgement in this study); q = 1 – p which would be the remaining sample proportion (0.5 for this study); e = margin of error for the precision of data (this study will use a precision of 9.35% which is (0.0935). Substituting the values in equation 1 will then yield a sample size of 110 as expressed in equation 2:

$$n = \frac{(1.96)^2.(0.5).(0.5).(41\ 022)}{(0.093^2.(41\ 022-1)+ (1.96)^2.(0.5)(0.5)} \quad (2)$$

$$n = \underline{110}$$

3.3 Data Collection

The study made use of Primary data collected form households of Raymond Mhlaba Municipality. The data was collected using semi-structured questionnaire which was administered by researchers and well-trained enumerators for the study. The questionnaire was administered using the local language which is IsiXhosa for better understanding by the household and later. The pilot testing of questionnaire was done among 11 participants (10%) of the population did not form part of the study sample. The questionnaire included sections on socio demographic data, the effects of rising food prices on household buying and food security, coping strategies, and people's perceptions of VAT.

3.4 Data Analysis

3.4.1 Descriptive Statistics

This study employed descriptive statistics to analyse data obtained from Raymond Mhlaba municipality. Descriptive statistics is essential to pinpoint unusual views of the data which can be useful for the study insights (Alabi & Bukola, 2023). Furthermore, it makes easier to understand through summarizing it, often using visuals like histograms, box plots, or line graphs, or by calculating key numbers that describe the data (Cooksey & Cooksey, 2020). This gives insight into how the data is spread out and helps shape the direction of the analysis moving forward. Therefore, in this study the tool adopted in order to understand the impact of the VAT increase on the household's income and food security statuses.

3.4.2 Ordinal Logistic Regression Model

This study used ordinal logistic regression to explore how changes in VAT impact rural households' purchasing power and food security. This method is particularly useful when the outcome of interest is measured on an ordered scale, where the distances between categories are not assumed to be equal (Tutz, 2022). For this analysis, the Likert scale was employed to capture perceptions of VAT among rural households. These perceptions were assessed to understand whether households view VAT as a government revenue source, believe it should be abolished, or perceive it as contributing to more debt, less savings, lower household spending, or hindering progress. Ordinal regression has been successfully adopted in previous studies, demonstrating its reliability and practicality (Alene & Aga, 2025; Exavery et al., 2024; Shakiba et al., 2021). The method is further represented by the following equation (equation 3):

$$\text{logit}\,(\mathrm{P}(\mathrm{Y} \leq \mathrm{j})) = \log\left(\frac{\mathrm{P}(\mathrm{Y} \leq \mathrm{j})}{\mathrm{P}(\mathrm{Y} > \mathrm{j})}\right) = \alpha\mathrm{j} - \beta\mathrm{X}, \mathrm{j} \epsilon [1, \mathrm{J} - 1] \text{ where}, \mathrm{j} \in [1, \mathrm{j} - 1] \qquad (3)$$

To summarize, the variable $\mathrm{j} \epsilon [1, \mathrm{J} - 1]$ shows the levels of the ordinal outcome variable Y, which in this study, refers to the household buying power and food security. The proportional odds model assumes there is a common set of slope parameters (β) for the predictors. The ordinal outcomes are observed by the j-1 intercepts, αj. Therefore, the ordinal logistic regression can be rewritten as follows:

$$logit(P(Y \leq j)) = \beta 0 + \beta 1x1 + \cdots + \beta pxp \qquad (4)$$

where ρ is the number of predictors. Tests are required to ensure the model's robustness and validity and to measure the correct significance values. The estimate denotes the strength of the relationship between a predictor and the outcome. The standard error reflects how precise the estimate is, while the Wald statistic tests the significance of the predictor. Exp (β) indicates how the odds of being in a higher outcome category change, and the 95% Confidence Interval shows the range where the true value is likely to lie. The value of significance helps to determine whether the result is statistically significant.

3.4.3. Likert Scale (five point)

The study employed Likert scale to capture and analyse the data from households of Raymond Mhlaba municipality. Likert scales are commonly used in fields like social sciences, psychology, and education because they offer a straightforward way for people to share their opinions (Rokeman, 2024). This tool was created by Rensis Likert in 1932 and is widely used around the world to collect and evaluate people's opinions in research studies. Basically, this

tool can be extremely used to measure attitudes of individuals towards a specific concept (León-Mantero et al., 2020). Likert scale allows participants choose from a range of responses that best reflect how they feel about a particular idea, with options including strongly agree, agree, neutral, disagree, and strongly disagree (Koo & Yang, 2025). This approach allows respondents to quickly and easily share their true feelings, including how strongly they feel. It also helps turn complex qualitative insights into simple, understandable numbers that make sense to both the participants and the researchers. Households' perceptions on the impact of VAT increase were examined using descriptive analysis adopted from (Asante et al., 2024). The equation of calculating mean score is expressed in equation 5.

$$M.S = \frac{(fsdx1)+(fdx2)+(fnx3)+(fax4)+(fsax5)}{X} \quad (5)$$

In the equation, fsd represents the number of respondents who strongly disagreed, fd is for those who disagreed, fn stands for neutral responses, fa indicates those who agreed, fsa refers to those who strongly agreed, and X is the total number of respondents. The Overall Perception Index (O.P.I.) is then used to summarize the general level of agreement across all perception statements where n= number of perception statement.

$$O.P.I = \frac{\sum M.S}{n} \quad (6)$$

By using the Likert scale, the study was able to capture how households perceive and react to the impact of the VAT increase on their purchasing power and food security. This made it possible to compare responses and draw meaningful conclusions about how the VAT hike affected them.

4. Findings and Discussion

4.1 Demographics

A clear understanding of the respondents' demographic background is important in setting the context for this study, which explores how rural households in the Raymond Mhlaba Municipality perceive the contribution of Value Added Tax (VAT) to their income and food security. Factors such as age, gender, level of education, household dependence, and household income offer valuable insight into the socio-economic conditions of participating households. These characteristics often shape how individuals experience and respond to government fiscal measures, influencing their spending patterns, income management, and food access. The demographic profile presented in Table 1 therefore provides a foundation for interpreting the study's subsequent findings and understanding the diversity of household circumstances within the study area.

According to findings 34% of participants ranked between the age of 50-60 years, followed by 30% between 60-70years, followed by 14% between 30-40 years and 14% between 40-50 years and the remaining 8% of respondents who were 70 years and above. These results illustrate that majority of households are owned by older people. This was supported by (Skhephu et al., 2025) who found the average age of 49 years among the respondents in Eastern Cape province.

In terms of gender females dominated with 85% while 15% were males. These results suggest that in Raymond Mhlaba municipality households are dominated by females. A study by Mdoda et al. (2022) supported these results by finding females dominance over males. However, results from the study done by Ntlanga et al. (2023) found more males compare to females in the participants.

Educational level of respondents was categorised into four groups, 58% indicated to have secondary education, followed by 20% who attended primary, followed by 14% who never attended and 8% who attended tertiary educational level. These results illustrates that most participants in Raymond Mhlaba Municipality have low level education. This is supported by Mudzielwana et al. (2022) who notice that most participants have attended secondary education.

Table1. Shows the Demographics of the Participants and Household

Demographic information		**Frequency**	**Percentage**
Age	30-40 years	15	14%
	40-50 years	15	14%
	50-60 years	37	34%
	60-70 years	33	30%
	Greater than 70	9	8%
Gender	Males	16	15%
	Females	94	85%
Level of education	Never attended	15	14%
	Primary	22	20%
	Secondary	64	58%
	Tertiary	9	8%
Household dependence	Social grants	51	46%
	Salaries or wages	55	50%
	Social grant and farming	4	4%
Household income	R500 - R3 000	62	56%
	R3 000 - R7 000	35	32%
	R7 000 – R10 000	11	10%
	Greater than R10 000	2	2%

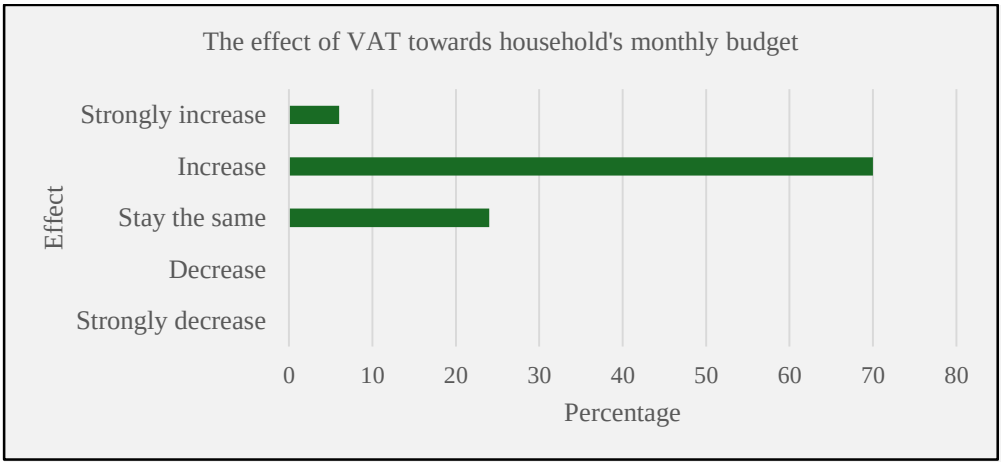
Source: Authors compilation (2025)

Households were found to depend on different aspects to sustain their livelihoods. Results indicated that 50% depend on their salaries or waged labour, followed by 46% who rely on social grants (pension and child grant). The remaining four percent were households that survive through farming and child support grant. This means that half of the population relies on social grants for sustaining lives of which may be related to their education status.

Households' income was divided into four, ranging from R500 to more than R10 000. According to findings the majority (56%) of respondents indicated to receive the income ranging from R500 - R3 000 per month and most of these households are social grant recipients. 32% the of respondents indicated to earn between R3 000 - R7 000 and these ones indicated that they are employed in trade, construction and transport services. 10% of them indicated to earn between R 7 000 – R 10 000, and the remaining minority of 2% respondents were earning R 10 000 and above. These results are associated with the high poverty that is found in Eastern cape province as indicated by (Mnukwa et al., 2022).

4.2. The effect of VAT on Households' Monthly Budget

Households create a monthly budget to help them make the most of their income, cover essential needs, and avoid falling into debt. This budget acts as a simple plan that maps out expected income and expenses for the month, making it easier to manage day-to-day spending (Winterstein & Harrelson, 2024). It also helps families see where their money goes, spot unhealthy spending habits, and understand whether they're staying within their means or stretching their finances too thin. Figure 2 reveals the effect that households perceive VAT has towards their monthly budgets.



Source: Survey data (2025)

Figure 2. Households' Perceived Effect of VAT Towards Monthly Budget.

Findings illustrate that most households, accounting for 70% of the study population, perceived an increase in their monthly budget due to VAT. Moreover, 6% stated a strong increase in the monthly budget. This might be due to the South Africa's 2025 Budget Review confirming that VAT increases (from 15% to 15.5% and planned to 16%) are expected to raise prices of everyday goods and services, disproportionately affecting low- and middle-income households and thereby increasing their monthly expenses (National-Treasury, 2025). However, the remaining portion of households (24%) stated that they did not observe any fluctuation in their budget due to VAT; rather, it stayed the same. This is possibly due to zero-rating of essential food items and targeted relief measures designed to shield poorer households from inflationary effects (NAMC, 2025).

4.3 Perceived Contribution of VAT towards Household Buying Power

The contribution of VAT increase towards household purchasing power and food security can be measured by perceptions. This is because perceptions are useful in measuring feelings and experiences towards a phenomenon (Sharma et al., 2024). Findings, as illustrated in Table 2, highlight those perceptions associated with VAT increase hold varying degrees of significance. Looking at the perception that VAT is a source of government income, the relationship was found to be not statistically significant. However, individuals who believe VAT should be abolished or that it leads to more debt show a stronger and more significant association with a reduction in household buying power. In particular, the perception of VAT increasing debt has a very strong positive effect, with an odds ratio of 151.673, and the belief

that VAT is an "enemy of progress" also has a significant positive impact. These perceptions suggest a significant shift in household behavior or attitudes when VAT is viewed negatively. Other perceptions, such as VAT leading to less savings or reduced household expenditure, show varying degrees of significance. For instance, the perception that VAT leads to reduced expenditure has a strong and significant effect on the buying power of households.

Table 2. Perceived Contribution of VAT Increase Towards Households' Purchasing Power (Ordinal Logistic Regression Results Analysed with STATA)

Parameter Estimates									
		Estimate interval	Std. Error	Wald	Df	Sig.	Exp (β)	95% Confidence	
								Lower bound	Upper bound
Threshold bound	[PERC = 1,00]	2.323	1.594	2.123	1	.145	10.206	-.802	5.448
	[PERC = 2,00]	3.272	1.621	4.073	1	.044	26.363	.094	6.450
	[PERC = 3,00]	5.022	1.713	8.598	1	.003	151.673	1.665	8.378
	[PERC = 4,00]	6.445	1.816	12.593	1	.000	629.659	2.885	10.005
Location	GA1	.186	.243	.586	1	.444	.613	-.291	.663
	HA	-.489	.332	2.167	1	.141	1.663	-1.141	.162
	HA11	.508	.268	3.605	1	.058	1.205	-.016	1.033
	HE	.769	.538	2.044	1	.153	1.611	-.285	1.822
	HE2	.477	.202	5.561	1	.018	1.168	.081	.873
	HE3	.599	.238	6.307	1	.012	2.157	.131	1.066

Notes: PERC = Perception on VAT increase; GA1 = VAT as a source of government income; HA = VAT must be abolished; HA11 = More debts; HE = Less Savings; HE2 = VAT increase is an enemy of progress; HE3 = Reduced household Expenditure.

Therefore, it can be concluded that negative perceptions of VAT related to household debt and economic progress have a stronger influence on reducing buying power than views of VAT as merely a government revenue source or concerns about lower savings and reduced expenditure. This is supported by Hiragaa and Niizekib (2023), who conducted a randomized control trial where it was discovered that a permanent VAT increase lowered non-durable spending, reflecting households' perception of a negative income shock. On the other hand, a temporary VAT cut significantly stimulated spending through intertemporal substitution effects. In contrast, official forecasts show that although VAT is a major government revenue source, households' spending behavior is less sensitive to this perception than to the immediate financial burden imposed by VAT changes (Adam, 2024).

4.4 Perceived Contribution of VAT Towards Household Food Consumption

Findings clearly indicates that there are statistically significant changes in household food consumption security after the VAT increase. A p-value of 7.3E-23 (7.3×10^{-23}), indicates a very strong statistical difference in people's ability to eat their preferred foods after the VAT increase. This suggests that financial constraints made it much harder for households to maintain their usual dietary choices. Similarly, the reduction in food variety was also highly significant, with a p-value of 4.7E-19 (4.7×10^{-19}). This points to a clear decline in dietary

diversity, likely due to budget limitations caused by the tax change. A p-value of 1.0E-14 (1.0×10^{-14}) was observed for the increase in households eating less than they needed, which shows that undernourishment became more common and suggests growing difficulty in meeting basic food needs. The drop in the number of meals consumed per day was also statistically meaningful, supported by a p-value of 7.6E-05 (7.6×10^{-5}), reflecting a broader rise in food insecurity. On the other hand, when it came to the complete lack of food, the change was not statistically significant ($p = 0.28$). Although the percentage reporting this issue was already low and dipped slightly further, the difference wasn't large enough to rule out chance.

Table 3. Perceived Contribution of VAT towards Household Food Consumption (Ordinal Logistic Regression Results)

Question	Before the VAT increase	After the VAT increase	P(T<=t) one-tail
Inability to eat preferred food?	0.96	0.10	7.3E-23
Consumed limited food varieties?	1.00	0.20	4.7 E-19
Consumed less food than expected?	0.94	0.24	1.0E-14
Consumed limited number of meals a day?	0.62	0.30	7.6E-05
Unavailability of any kind of food?	0.04	0.02	0.28

Source: Authors compilation (2025)

5. Conclusion and Recommendations

In the rural village of Raymond Mhlaba Municipality, income and food security remain deeply connected challenges, particularly among low-income households. These difficulties are often worsened by government policies like VAT, which residents perceive as adding pressure to their already strained finances. This study was carried out to understand how VAT is perceived concerning household buying power and food security, focusing on the experiences of residents in this municipality. The findings show that most respondents were older women with secondary education, and many relied on social grants or low-wage work, with 56% earning between R500 and R3,000 monthly. Only a small group earned more than R7,000, indicating limited access to higher-income opportunities. Many households reported that VAT causes an increase in monthly expenses, as prices remain unstable, leaving them with little to consistently spend on food. As a result, VAT is observed as reducing their buying power and mitigating food security. Perceptions linking VAT to increased debt and economic hardship, such as debts and lower savings, were found to have a greater negative impact than those seeing it purely as a tax for government revenue. Moreover, most factors of the perceived impact of VAT towards household consumptions were found to be statistically significant, illustrating the change in consumption experience by households. Perceptions of household food consumption used in this study includes household "inability to eat preferred food", if a household "consumed limited food varieties", "consumed less food than expected" and "consumed limited number of meals a day". The last one was "unavailability of any kind of food" and was found to be not statistically significant. Therefore, the study recommends that should intervene in implementing learning programmes to promote educational level of people in Raymond Mhlaba municipality. This will help to improve their literacy and awareness and understanding of about VAT as well as it impacts. Governments should ensure that however VAT revenues collected from the retails should be thoughtfully utilised so that the public commitment and loyalty to tax payment could be enhanced. Results found a very small dependency of households in farming; however, the impact of VAT is negatively affective their

purchasing power and consumption. This means that government and stakeholder must provide support in promoting farming so that people will consume and generate income through agricultural production. This can be achieved by supporting rural households through subsidies on agricultural commodities transfers between the public budget and poor households. This will be aided by supplying extension agents to train and provide residents with skills to increase their farming yields. Further studies must look at the role of VAT towards societal development.

References

Adam, S., Miller, H. and Upton, B. (2024). *The government's record on tax 2010-24 (No. R321)* (IFS Report, Issue.)

Addo-Tuffuor, K., Osei-Kufuor, P. and Wiafe, P.A. (2024). COVID-19 pandemic and human security in Ghana: the case of the Komenda-Edina-Eguafo-Abrem municipality, Ghana. *Cogent Social Sciences*, *10*(1), 2327814.

Afuye, G. A., Kalumba, A. M., Owolabi, S. T., Thamaga, K. H., Ndou, N., Sibandze, P., & Orimoloye, I. R. (2024). Analyzing spatiotemporal variations and dynamics of vegetation over Amathole district municipality in South Africa. *Environment, Development and Sustainability*, 1-26.

Alabi, O., & Bukola, T. (2023). Introduction to Descriptive statistics. In *Recent Advances in Biostatistics*. IntechOpen.

Alene, F. D., & Aga, M. A. (2025). The roles of urban agriculture to household food security: a case study in Kirkos sub-city, Addis Ababa city, Ethiopia. *Frontiers in Sustainable Food Systems*, *9*, 1444320.

Antony, J., & Klarl, T. (2023). Subsistence consumption and natural resource depletion: Can resource-rich low-income countries realize sustainable consumption paths? *Journal of Macroeconomics*, *77*, 103549.

Asante, I. S., Aidoo, M., Prah, S., Hagan, M. A. S., & Sackey, C. K. (2024). Achieving food security: Household perception and adoption of home gardening techniques in Ghana. *Journal of Agriculture and Food Research*, *18*, 101329.

Bayat, A., Quinn, C., May, J., & Govera, H. (2023). Food systems approach: Reversing the trajectory of food insecurity in Africa. *New Agenda: South African Journal of Social and Economic Policy*, *2023*(90), 24-29.

Cooksey, R. W., & Cooksey, R. W. (2020). Descriptive statistics for summarising data. *Illustrating statistical procedures: Finding meaning in quantitative data*, 61-139.

Exavery, A., Kirigiti, P. J., Balan, R. T., & Charles, J. (2024). Multivariate mixed-effects ordinal logistic regression models with difference-in-differences estimator of the impact of WORTH Yetu on household hunger and socioeconomic status among OVC caregivers in Tanzania. *Plos one*, *19*(4), e0301578.

FAO. (2022). The state of food security and nutrition in the world 2022. In *Repurposing food and agricultural policies to make healthy diets more affordable* Rome: Food and Agricultural Organisation.

Hayat, S. M. F. (2022). *Essays in Public Economics* [Doctoral dissertation, The University of Chicago].

Hiragaa, K., & Niizekib, T. (2023). The impact of a permanent VAT hike and a temporary VAT cut on household spending: Evidence from Hypothetical Scenarios.

Izang, R. L. I. R. L. (2025). Effect of Value-Added Tax on Consumer Purchase Decision of Household Products in Abuja. *Journal of Taxation and Revenue Management*, *3*(1).

Jin, H., Du, C., Wang, M., Wang, Y., & Chen, L. (2024). Reducing the Consumption Gap Between Urban and Rural Areas: The Role of Rural Industrial Integration in China. *Sustainability*, *16*(23), 10646.

Kapayi, N. I. (2023). The assessment of public participation as a model to enhance development in local government: The case of Raymond Mhlaba local municipality in the Eastern Cape. In: Nelson Mandela University; Faculty of Faculty of Business and Economic Sciences.

Koo, M., & Yang, S.-W. (2025). Likert-Type Scale. *Encyclopedia*, *5*(1), 18.

Kwebulane, B., & Oyekale, A. (2024). Effects of value added tax zero-rated food products on households' welfare in South Africa. *Research in Agriculture Livestock and Fisheries*, *11*(3), 401-415.

León-Mantero, C., Casas-Rosal, J. C., Pedrosa-Jesús, C., & Maz-Machado, A. (2020). Measuring attitude towards mathematics using Likert scale surveys: The weighted average. *Plos one*, *15*(10), e0239626.

Mdoda, L., Naidoo, D., Ncoyini-Manciya, Z., Nontu, Y., Govender, L., Tamako, N., & Mdiya, L. (2024). Adaptation Measures to Drought Risk Perceived by Smallholder Crop Farmers in the Eastern Cape Province, South Africa: Implications for Food and Nutrition Security. *Sustainability*, *16*(24), 11154.

Mdoda, L., Tshotsho, A., & Nontu, Y. (2022). Adoption of mass media for agricultural purposes by smallholder farmers in the Eastern Cape Province of South Africa. *South African Journal of Agricultural Extension*, *50*(2), 117-136.

Mkosana, L. (2022). A critical assessment of the inter-governmental relations clusters system in the south African local government context: the case of Raymond Mhlaba Municipality by infrastructure.

Mnukwa, M. L., Aliber, M., Mdoda, L., & Nontu, Y. (2022). The effects of socio-economic factors on the food security status of rural households in the eastern Cape province: Evidence from farming households. *Journal of Agribusiness and Rural Development*, *64*(2), 141-151.

Mnukwa, M. L., Nontu, Y., Mbambalala, L., Mdoda, L., & Mdiya, L. (2023). Profitability and market performance of smallholder potato enterprises in the Eastern Cape Province, South Africa. *African Journal of Food, Agriculture, Nutrition and Development*, *23*(6), 23677-23703.

Mtyelwa, C., Yusuf, S., & Popoola, O. (2022). Adoption of in-field rainwater harvesting: Insights from smallholder farmers in Raymond Mhlaba Local Municipality, Eastern Cape province, South Africa. *South African Journal of Agricultural Extension*, *50*(2), 81-100.

Mudzielwana, R. V. A., Mafongoya, P., & Mudhara, M. (2022). An analysis of livelihood-diversification strategies among farmworker households: a case study of the Tshiombo irrigation scheme, Vhembe district, South Africa. *Agriculture*, *12*(11), 1866.

NAMC. (2025). *Economic Impact of Increasing Taxes: CGE Analysis* https://www.namc.co.za/wp-content/uploads/2025/04/Advisory-Brief_Economic-Impact-of-Increasing-Taxes_CGE-Analysis_02-APRIL-2025-For-Publishing-1.pdf

National-Treasury. (2025). *2025 Budget Review. Pretoria* https://www.treasury.gov.za/documents/National%20Budget/2025/review/FullBR.pdf

Nicolaides, A., & Dludla, N. E. (2023). Sustainable rural development and socio-econt
omic upliftment of marginalised communities in South Africa. *OIDA International Journal of Sustainable Development*, *16*(12), 149-160.

Nontu, Y., Mdoda, L., Dumisa, B. M., Mujuru, N. M., Ndwandwe, N., Gidi, L. S., & Xaba, M. (2024). Empowering rural Food Security in the Eastern Cape Province: Exploring the role and determinants of Family Food gardens. *Sustainability*, *16*(16), 6780.

Ntlanga, S., Jiba, P., Christian, M., & Mdoda, L. (2023). Assessing awareness and perceptions towards the existence of indigenous foods in Port St Johns of the Eastern Cape South Africa. *South African Journal of Agricultural Extension*, *51*(3), 115-134.

Puspitasari, M. (2024). THE ASSESSING THE DISTRIBUTIONAL IMPLICATION OF VAT EXEMPTIONS OF EDUCATION AND HEALTH SECTORS. *DIA: Jurnal Administrasi Publik*, *22*(01), 71-92.

Rokeman, N. R. M. (2024). Likert measurement scale in education and social sciences: explored and explained. *EDUCATUM Journal of Social Sciences*, *10*(1), 77-88.

Rugnanan, A. M. (2024). *Lack of Adequate Water and Sanitation in Diepsloot Informal Settlement, Johannesburg-South Africa: Influence on the Spread of the COVID-19 Pandemic* University of Johannesburg (South Africa)].

Santos, R., Jerome, C. S., Azandjeme, C., Manga, J. S., Vandevijvere, S., Moubarac, J.-C., & Diouf, A. (2024). Benchmarking Policy Goals and Actions for Healthy Food Environments in Benin to Prevent Malnutrition. *African Journal of Nutrition and Dietetics*, *3*(1), 48-75.

Shakiba, M., Salari, A., & Mahdavi-Roshan, M. (2021). Food insecurity status and associated factors among rural households in the north of Iran. *Nutrition and Health*, *27*(3), 301-307.

Shang, Y., Lv, Y., Chen, Z., Bassey, R., Aderemi, T. A., & Enilolobo, O. (2024). Globalization and food security in Sub-Saharan Africa. *Frontiers in Sustainable Food Systems*, *8*, 1325172.

Sharma, P., Srivastava, A., Sharma, V., Singh, N., & Nijjer, S. (2024). Understanding consumer repurchase intentions towards luxury retail brands: Evidence from an emerging market. *Journal of Retailing and Consumer Services*, *76*, 103570.

Skhephu, A., Mayekiso, A., & Toko, A. (2025). Key Drivers of Household Food Security and Consumption Patterns in The Post-Covid-19 Pandemic: Lessons from Umzimvubu and Ntabankulu Local Municipalities, Eastern Cape Province, South Africa. *African Journal of Food, Agriculture, Nutrition & Development*, *25*(2).

Tambe, B. A., Mabapa, N. S., Mbhatsani, H. V., Mandiwana, T. C., Mushaphi, L. F., Mohlala, M., & Mbhenyane, X. G. (2023). Household socio-economic determinants of food security in Limpopo Province of South Africa: a cross sectional survey. *Agriculture & Food Security*, *12*(1), 19.

Tutz, G. (2022). Ordinal regression: A review and a taxonomy of models. *Wiley Interdisciplinary Reviews: Computational Statistics*, *14*(2), e1545.

Winterstein, A. P., & Harrelson, G. L. (2024). Budget and Finance. In *Administrative Topics in Athletic Training* (pp. 169-185). Routledge.