International Journal of Multidisciplinary Research and Growth Evaluation.

Study on the impact of price hikes on the standard of living among different socioeconomic groups in the Khulna Division of Bangladesh using cross-sectional and multinomial logistic regression analysis

Esita Ghosh
Lecturer, Jhenidah Govt. Veterinary College, Jhenidah, Bangladesh

* Corresponding Author: **Esita Ghosh**

Article Info

ISSN (online): 2582-7138
Volume: 04
Issue: 05
September-October 2023
Received: 25-08-2023;
Accepted: 30-09-2023
Page No: 988-1016

Abstract
This study investigates the impact of price hikes on the standard of living among different socioeconomic groups in the Khulna Division of Bangladesh. Employing various statistical techniques, including frequency distribution, cross-sectional analysis, bi-variate analysis, and multinomial logistic regression. Using a sample of 109 respondents, we scrutinize the intricate relationship between price fluctuations and living standards among diverse income strata. Our objective is to measure how price hikes affect the standard of living of middle, poor, and extremely poor income individuals in the region. The results reveal significant disparities in the way price hikes affect these socioeconomic groups. Lower-income households are disproportionately impacted, experiencing a more substantial decline in their standard of living. In contrast, middle-income individuals tend to maintain their living standards. Factors such as income, access to social services, and education play crucial roles in these disparities. Based on our findings, we recommend targeted policies aimed at improving access to essential services, providing income support, and offering financial literacy programs for the most vulnerable groups. My research underscores the need for tailored interventions to protect the standard of living in the Khulna Division as prices continue to rise. This study contributes valuable insights to policy discussions and efforts to address economic disparities in the region.

DOI: https://doi.org/10.54660/.IJMRGE.2023.4.5.988-1016

Keywords: price, Khulna division, standard of living

Introduction

Price hike means the exorbitant increase of the price of almost all the essential daily commodities. The recent increase in the price of essential commodities like rice,oil,potato,pulse,salt,onion,garlic,vegetables,gas,electricity bill, transportation, medicine, education, accommodation etc. have been a cause of concern all over the world and has been critically important issue in Bangladesh; When prices rise, consumers feel the impact immediately. They are forced to pay more for the same products or services they used to purchase at lower prices. This, in turn, affects their purchasing power and may result in a reduction in their standard of living. In Short supply of daily commodities and inflation are mainly responsible for price hike. Sufficient production, improper distribution, impact of global price hike, illegal and immoral act of dishonest business man, untimely flood and natural disasters is also responsible for this. The price hike is a significant challenge faced by individuals, businesses, and governments. For instance, if the cost of oil increases, the price of transportation also increases. This increase in transportation costs leads to an increase in the price of goods and services. In some cases, businesses may be forced to pass the cost increase onto their customers, which can lead to a decrease in sales. Governments are also affected by price hikes, as they are responsible for maintaining a stable economy. When prices rise, the government may be forced to increase taxes or print more money, which can result in inflation. Inflation can lead to a decrease in the value of money and may ultimately result in a decrease in economic

growth. Price hike decreases our living standard and increases corruption in our society. For The poor and the middle class people of our society are affected by it. Nevertheless, the worst sufferers of it are those who live from hand to month.

For low income earner people, high price of essential commodities have led to significant reduction in their parching power. People are struggling to manage daily necessaries for their families. Middle income people are forced to cut down on many expenses and make significant life style adjustments as they feel the pinch of the increased cost of living where the low income people who are maintaining vary low standard of living. Standard of living is unfortunately maintained by certain level of wealth, comfort, material goods and necessities available to a certain Scio-economic classes in a certain geographic area.

Bangladesh's annual inflation rate slightly eased to 9.63% in September 2023, from 9.5% in the previous year (Aug, 2022) as prices slowed down for food & non-alcoholic beverages (12.4% vs. 12.5% in August), clothing & footwear (7.4% vs. 7.8%), furnishings, household equipment & routine maintenance of the house (13.5% vs. 14.2%) and transportation (7.7% vs. 8.7%). Moreover, consumer prices steeply declined for health (-3.9% vs. 0.1%). Conversely, prices accelerated for housing utilities (7.7% vs. 7%), recreation & culture (14.6% vs. 12.7%) and miscellaneous goods & services (7.9% vs. 6.7%). (Source: Bangladesh Bureau of Statistics).

Average inflation rate does not reflect the actual market stimulation as prices of some commodities have gone up much more than the national inflation rate. The most vulnerable groups such as daily wage laborers, low-income people, small business owner and informal sector workers with limited save and morgue incomes are forced to resort to various coping mechanisms. They are compromising on the quantity and quality of food, taking in additional work and relying on informal credit. In case of monetary policies the central bank has increased the interest rate of consumer loan to 12% up from 9% in the monetary policy statement for January-June, 2023.

Objective of the Study

In this paper an initiative has been taken to evaluate the current price movements of essential commodities and to provide possible remedies against price hike. Broad objective to measure the impact of price hike on the standard of living of middle, poor and extremely poor income people in the Khulna Division. This paper covers the present market situation of price movements that is about more or less within the year 2020 to 2023. This research only covers the essential commodities. Overall price movements of economy are not the concern of this paper.

Specific Objectives

a. To investigate response of middle, poor and extremely poor income people to price hike in Khulna Division in respect of taking alternatives to raise income to compensate the price hike.
b. To identify the response of households in their purchase habit of food items in the time of price hike. c. To identify the alternatives taken by the middle, poor and extremely poor income people in respect of accommodation in the time of price hike.
c. To identify the alternatives taken by the middle, poor and extremely poor income people in respect of education in the time of price hike.
d. Evaluate the socioeconomic impact of the price hike on different income groups within Khulna Division, including middle-income, poor, and extremely poor households. Determine the affordability of essential commodities for middle, poor, and extremely poor households by analyzing their income levels in relation to the increased prices.
e. To investigate changes in consumption patterns among different income groups in response to the price hike, considering potential substitutions and alterations in spending habits.
f. To identify the key factors contributing to the price hike, including both internal factors (e.g., production costs, distribution, and taxation) and external factors (e.g., global market trends, geopolitical influences)
g. Evaluate the effectiveness of existing government policies, subsidies, and interventions aimed at mitigating the impact of price hikes on essential commodities. Study the market dynamics of essential commodities in Khulna Division, focusing on supply chains, distribution channels, and factors influencing pricing strategies.
h. Investigate the coping mechanisms employed by middle, poor, and extremely poor households to navigate the challenges posed by the price hike, including potential trade-offs and sacrifices.

Methodology

Research Design

At first this research is conducted on the basis of secondary information and some general information was gathered from secondary literature such as published and unpublished documents of the government and NGOs. Consultations with the relevant informed persons, agencies, and organizations were also taken place to get maximum insight about the scope of the work and then the research is conducted on the basis of primary information. This study is a descriptive analytical research done on the basis of thinking of the respondents regarding the steps to be taken in the face of price hike of essentials. The research is designed to carry out by questionnaire method to give the respondents sufficient time of thinking before answer the questions. The questionnaire contained dichotomous, close-ended and open-ended questions.

For the study researcher developed a research design in the following way:

Sample Criteria

- Age 18 years & above.
- Regardless of Sex.
- Lower middle socio- economic class

Sample Size Respondent: 109 (Male and Female) randomly selected.

Area Coverage

The middle, lower and extremely lower class families' of Khulna division area of Bangladesh have been considering as the population of the research. Because of many families of this area fight against recent price hikes. The study area is the second largest of the eight divisions of Bangladesh. It has an area of 22,285 km^2 (8,604 sq mi) and a population of 17,416,645 at the 2022 Bangladesh census (preliminary returns),geographically located in between 21°60' and 24°13'

north latitudes and in between 88°34' and 89°58' east longitudes. It is bounded by Rajshahi, Natore and districts on the north of bay of Bengal on the south, rajbari, faridpur, Gopalganj, pirojpur and barguna districts on the east, west Bengal state of India on the west. The Sundarbans is located in this division covering southern parts of Satkhira, Khulna and Bagerhat districts. The study area was conducted at different 10 districts at Khulna division.

Fig 1: Geographical location of study area at Khulna division

Sampling Design

Use stratified random sampling to ensure representation from different income groups. Stratify the Division into urban and rural areas and then randomly sample households from each stratum.

Data collection

I have taken a purposive sample of 109 income earning people of Khulna division areas for collecting information. Only one earning people in each family were interviewed although there were sometimes two earning people in some joint family household. Collect data on essential commodities, their prices, and household consumption patterns, demographic information, income levels, and other relevant socioeconomic data.

We adopted a system of house to house, factory to factory and different places, based on 50 questions for respondents. Method for data collection was to read out the question and where not understandable explain by citing examples of realistic situation in the domestic village setting. Replies were recorded by me at the time of interview. We stayed in the selected area for 5 days.

Data Analysis

The information was processed through Microsoft Excel 07 and SPSS 21 to get the outputs in the form of Frequency distribution, Multinomial logistic Regression Analysis, Trend analysis, cross-tabulation and Chi-Square tests.

Analysis procedure

Socio-economic analysis

For the reason of price hike of essential commodities there has been change in the basic demographic status of the sampled households (Table 1). However, the extent of female headship is much lower than national estimates; this is largely due to households having at least one under five year old child in 2020 to be considered in the sampling frame and significantly change was observed in the occupational patterns of the main earners. Although they have managed to improve their sanitation and housing system and there was a significantly decline in ownership of cultivable land, ownership of homestead, monthly income level between sep,2020 to Aug,2023.

Bi-variate analysis of socio-economic profile by individual-level factor due to price hike situation

To accomplish the research objectives, I have considered demographic diversity within middle/lower-middle-income and fixed-income households. These individuals are faced with the challenging task of managing their families during periods of price hikes. Among the total observed individuals (OP) surveyed, 92% are household heads, and 70% are married. During times of price hikes, these individuals are tasked with making crucial decisions to support their families.

Table 1 reveals that 6.4% of respondents are business owners, 2.8% are skilled professionals, 31.2% are employed, 8.3% are involved in agriculture, 10.1% are retired, 16.5% are day laborers, 21.1% work as helpers in the transportation sector (tempo/rickshaw/van/bus), and 3.7% are engaged in hawking or running grocery shops.

Table 1: Socio-economic profile of the sample households

Variable	2020	2023	% Change	χ 2	d.f	P value
Family size(mean)	5.32	4.2	-1.12	66.986	4	.000
Female headship %	40	34.9	-5.1	.053	1	.819
Occupation of the main earners						
Local businessman %	8.5	6.4	-2.1			
Job holder %	20.5	31.2	10.7			
Skilled labor %	4.5	2.8	-1.7			
Day laborer %	10.5	16.5	6.0	76.128	7	.000
Tempo/Rickshaw/Van/Bus helper %	15.5	21.1	5.6			
Hawker/Grocery shop %	10.0	3.6	-6.4			
Agriculture %	25.5	8.3	-17.2			
Retired person	5.0	10.1	5.1			
Main material of the walls of the						
House						
Cement/brick %	45	40	-5	24.39	2	.000
Tin %	30	40	10			
Bamboo %	25	20	-5			
Have internet connection %	40	60	20			Ns
Type of latrine used						
Sanitary %	45.5	56.3	10.8	23.391	2	.000
Kacha %	39.1	30.2	-8.9			
Open space %	15.4	13.5	-1.9			
Household owns homestead land %	67	46.8	-20.2	105.52	1	.000
Own cultivable land %	20	15.6	-4.4	23.767	1	.000
Own livestock %	62	45.0	-17	105.040	1	.000
Monthly income						
Up to 6000 %	2.5	5.7	3.2	16.80	2	.000
6000-15000 %	27.5	51.1	23.6			
15000-25000 %	70.0	43.2	-26.8			

Table 2

Age		Frequency	Percent	Valid Percent	Cumulative Percent	χ 2	d. f	P value
Valid	Below 30 years	39	35.8	35.8	35.8	2.053	2	.000
	30-40 years	32	29.4	29.4	65.1			
	Above	38	34.9	34.9	100.0			
	Total	109	100.0	100.0				

Regarding age distribution, 35.8% are below 30 years old, 29.4% fall within the 30-40 age range, while the remaining 34.9% are above 40 years old. Based on my study, I have observed a significant decline in family size, the number of local businesses, skilled laborers, those engaged in agriculture, and homeowners with houses made of cement/brick. Additionally, there has been a reduction in those owning cultivable land, homestead land, and livestock due to the current situation of price hikes, even though the monthly income of respondents has increased (table-1).

Table 3: Percentage Change in Retail Prices of Essential Commodities (Yearly)

Commodity	Unit	2020	2021	2022	2023 1st,October	% change of price(Base year 2020)
Rice(coarse)	1 kg	45	51	52	56	.24
Rice(medium)		59	64	60	62	.05
Rice(fine)		60	65	69	76	.27
White flour	1kg	28	30	40	55	.96
Soybean oil	1l	100	130	180	170	.54
Palm oil		80	100	175	145	.81
Lentils	1 kg	110	125	120	140	.7
Potato	1kg	20	24	20	40	1
Onion	1kg	90	48	48	80	-.11
Garlic	1kg	169	110	120	200	.18
Milk(Liquid)	1l	50	60	60	70	.4
Sugar	1kg	62	70	80	135	1.18
Egg(farm, red)	1 hali	28	28	32	48	.71
Salt	1kg	30	35	32	40	.33
Meat	1kg					
Cow		500	550	650	750	.5
Mutton		700	750	900	1200	.43
poultry		130	140	160	220	.69
Fish (tilapia)	1kg	110	120	130	200	.82

Price technique changes and trends

Table 2 shows that the prices of course, medium, and fine rice increased by 24.44%, 5.08%, and 27% respectively in 2020 compared to 2023. The price of wheat powder increased by 96%, while soyabean and palm oil prices rose by 70% and 81% respectively. Garlic, which was initially priced at Tk. 120/Kg, saw a 67% increase. Additionally, the prices of pulse, milk, sugar, salt, meat, fish, egg, onion, and potato increased by 27%, 40%, 118%, 33%, 71% (mutton), 81%, 71%, 67%, and 100% respectively from October 2023 to September 2020.

For the poor and extremely poor, managing three meals a day becomes increasingly difficult as the prices of essential commodities continue to rise rapidly and unpredictably. The data was collected from various retail shops and markets from January 2020 to October 1, 2023.

Consumer Price Index and Trend of Food and Non-food Inflation

The consumer price index (CPI) reflects the average change over time in the prices of a specified set of final commodities and services representing the market basket of a given group of consumers. Here, I consider consumer goods i.e. essential food item. Laspeyer's formula is used for computation of CPI in the following way:

$$\text{For weighted index: } I = \frac{\sum (Pn/Po) \times Wi}{\sum Wi} \times 100$$

Where, I = Consumer Price Index (CPI) ; Pn = Price in the current year/month ; Po = Price in the base year/month ; Wi = Weight at the ith item; ∑Wi = Weight of the group

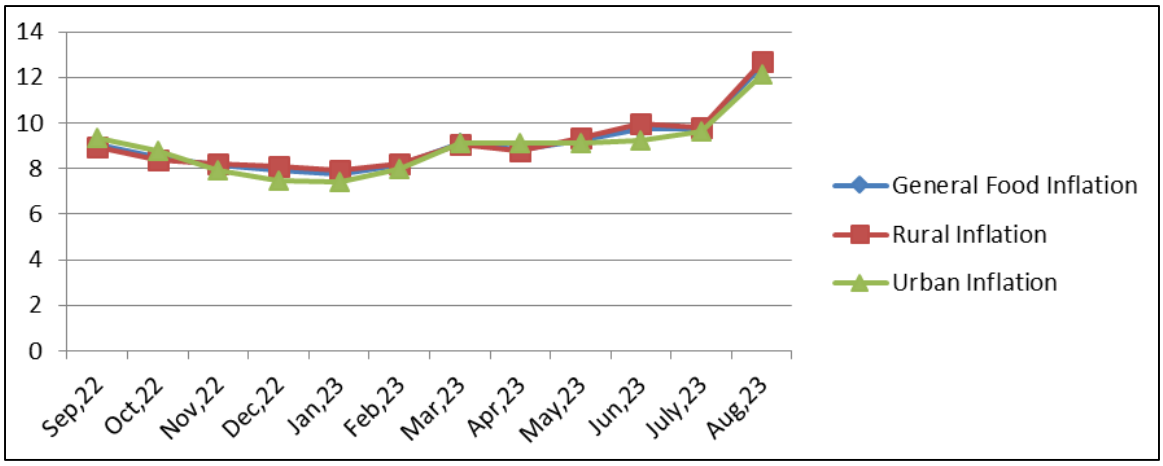

Fig 2: Food Inflation (Rural Vs Urban)

From the table-3 ,it shows that the recent data indicates the upward trend of consumer price index (CPI) in general and prices of essential commodities exceeds beyond the limit of poor income group or fixed earners. National (CPI) average is 9.24 percent and 9.92 percent for the month of Aug' 2023. While the food prices of rural areas continued to boost at increasing rate compare to the food prices of urban areas. It is really a threat for the developing country like Bangladesh. This is clearly shown in the figure-1. From the month of September 2020 to Aug, 2023 the trend of rural food inflation is over the urban food inflation. As a result of this the overall inflation is increasing at national level (Fig 3) The average inflation of food and non-food items is 9.92 percent and 9.49 percent respectively. From which inflation for essential food items is relatively higher than the average inflation of non-food items. From figure-2 it is found that now the inflation for food items is 12.54 percent which was 7.76 percent at the very beginning of January 2023. Higher food inflation means that consumers are likely to spend more on essential food items, which can strain household budgets and reduce the purchasing power of individuals, leading to a higher cost of living. Also, rising food prices can lead to a reduced standard of living as people allocate more of their income to food expenses.

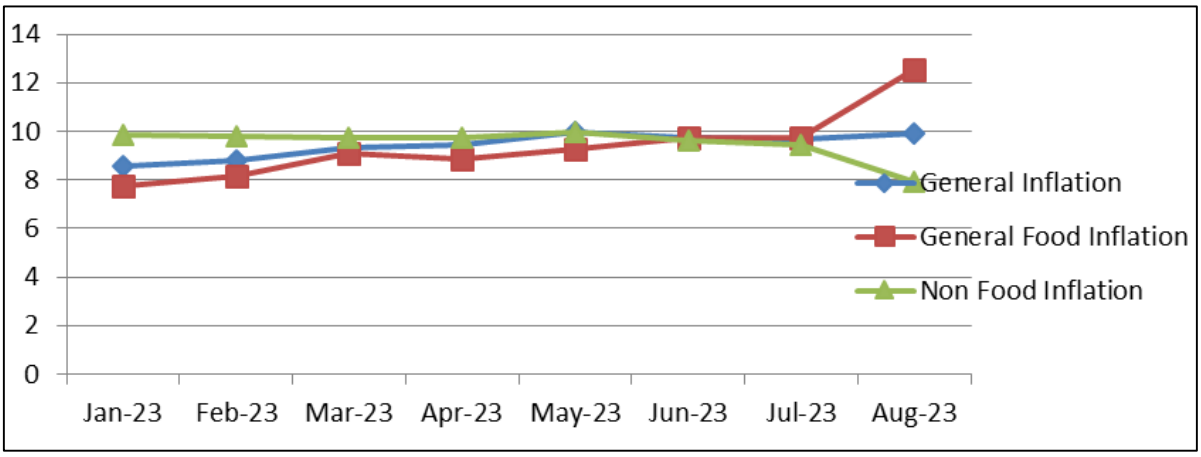

Fig 3: Food Vs Non-food Inflation

Table 4: Consumer Price Index (CPI) and Inflation Rate (Bangladesh Bureau of Statistics)

CPI Classification	Sep,22	Oct,22	Nov,22	Dec,22	Jan,23	Feb,23	Mar,23	Apr,23	May,23	Jun,23	July,23	Aug,23
National												
G.I	331.88	334.89	333.07	331.35	333.34	335.29	339.07	111.08	111.06	112.46	112.89	117.06
Inflation	9.10	8.91	8.85	8.71	8.57	8.78	9.33	9.42	9.94	9.74	9.69	9.92
F.I	362.77	366.39	360.75	356.86	359.40	362.17	368.09	111.26	109.26	112.25	112.74	120.08
Inflation	9.08	8.50	8.14	7.91	7.76	8.13	9.09	8.84	9.24	9.73	9.76	12.54
N.F.I	292.29	294.51	297.58	298.65	299.93	300.82	301.87	111.60	112.22	112.63	113.02	114.61
Inflation	9.13	9.58	9.98	9.96	9.84	9.82	9.72	9.72	9.96	9.60	9.47	7.95
Rural												
G.I	329.86	333.40	331.51	330.00	332.36	334.51	338.48	111.56	111.16	112.55	111.95	116.87
Inflation	9.13	8.92	8.94	8.86	8.67	8.80	9.32	8.92	9.85	9.82	9.75	9.98
F.I	354.23	358.50	353.44	350.28	353.23	356.27	362.10	111.71	110.10	112.47	112.80	119.76
Inflation	8.95	8.38	8.23	8.11	7.92	8.19	9.06	8.78	9.34	9.95	9.82	12.71
N.F.I	291.09	293.47	296.61	297.74	299.16	299.87	300.90	111.42	112.16	112.62	113.09	114.13
Inflation	9.48	9.98	10.31	10.29	10.12	9.98	9.82	9.33	9.83	9.52	9.58	7.38
Urban												
G.I	335.62	337.64	335.95	333.85	335.15	336.74	340.16	111.09	110.73	112.15	112.65	117.21
Inflation	9.03	8.90	8.70	8.43	8.39	8.75	9.36	9.68	9.97	9.45	9.43	9.63
F.I	383.59	385.64	378.58	372.94	374.44	376.57	382.70	110.35	108.63	117.76	112.62	120.76
Inflation	9.36	8.75	7.95	7.45	7.41	7.98	9.14	9.10	9.13	9.20	9.63	12.11
N.F.I	293.88	295.88	298.87	299.86	300.97	302.00	303.15	111.56	112.04	112.40	112.67	115.00
Inflation	8.66	9.07	9.54	9.51	9.48	9.61	9.59	9.96	9.88	9.47	9.20	8.48

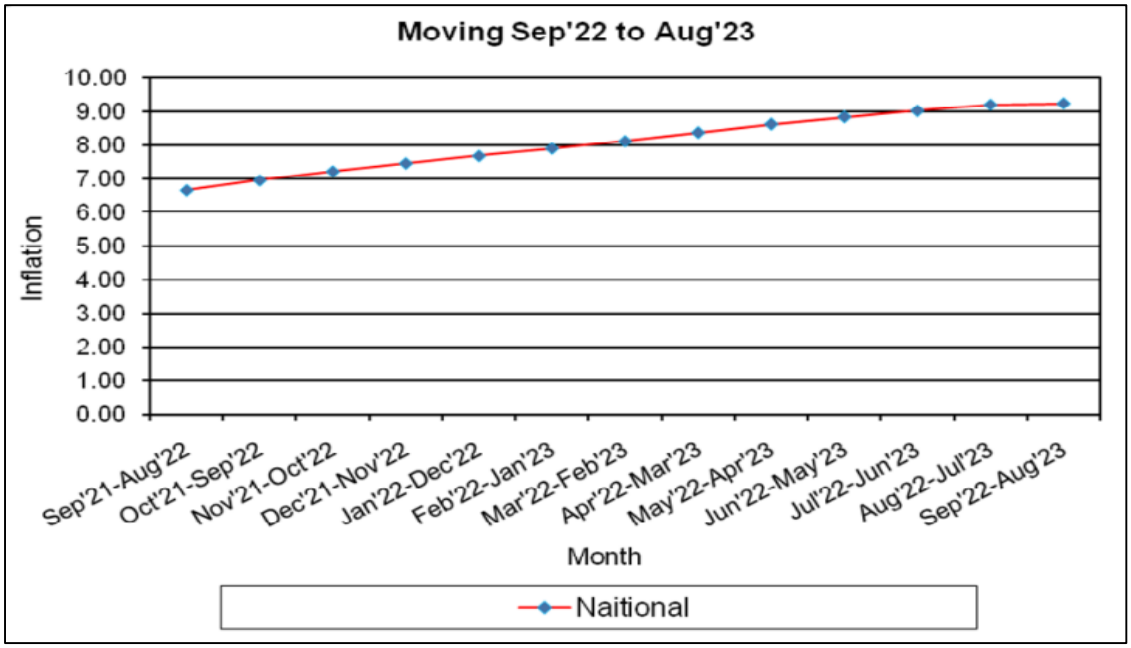

Fig 4: National Inflation

Income technique and Trend analysis:

In the study area, when the prices of essential commodities increased by up to 20%, most of the respondents resorted to working overtime to cope with the rising expenses. However, when prices surged significantly, such as by 20% to 40%, 40% to 60%, and 60% to 80%, only 50% of respondents increased their work hours. Approximately 29% shifted to other job opportunities, and 42% utilized idle resources to earn additional income in order to cover their expenditures. When prices increased above 80%, 40% of the population turned to temporary migration for work (see Table 4 and Fig-4).

Notably, it was observed that the majority of people who resorted to temporary migration for work during major price hikes were poor and extremely poor. In contrast, middle-class individuals could better accommodate smaller price increases. During significant price hikes, they either worked overtime or switched to better-paying jobs. Searching for additional income through overtime work was another commonly used strategy. Switching to a different job, although more challenging, was also employed to sustain family expenditures during times of significant price spiraling.

The Chi-square test verified that, with the variation in the price hike, the behavior of households significantly changed concerning their efforts to maintain their lifestyle and standard of living (p-value in $\chi 2 < .05$).

Table 5: Association between Income-Raising Alternatives and Different Price Hikes in Essential Commodities

Price hike of essential commodities	Alternatives in Price hike					Total
	Increased by overtime	Shift to other job	Utilize idle Resources	Mortgage assets	Temporary migration for work	
Up to 20%	1	0	0	0	0	1
	100%	0%	0%	0%	%	100%
20-40%	2	0	0	2	0	4
	50%	0%	0%	50%	0%	100%
40-60%	5	7	10	0	2	24
	21%	29%	42%	0%	8%	100%
60-80%	5	8	3	6	8	30
	16%	27%	10%	20%	27%	
Above 80%	3	9	10	8	20	50
	6%	18%	20%	16%	40%	100%
Total	16	24	23	16	30	109
	15%	22%	21%	15%	27%	100%

Table 6

Chi-Square Tests: Association between price hikes to Income-Raising Alternatives.			
	Value	**df**	**Asymp. Sig. (2-sided)**
Pearson Chi-Square	36.721	16	.002
Likelihood Ratio	39.236	16	.001
Linear-by-Linear Association	14.337	1	.000
N of Valid Cases	109		

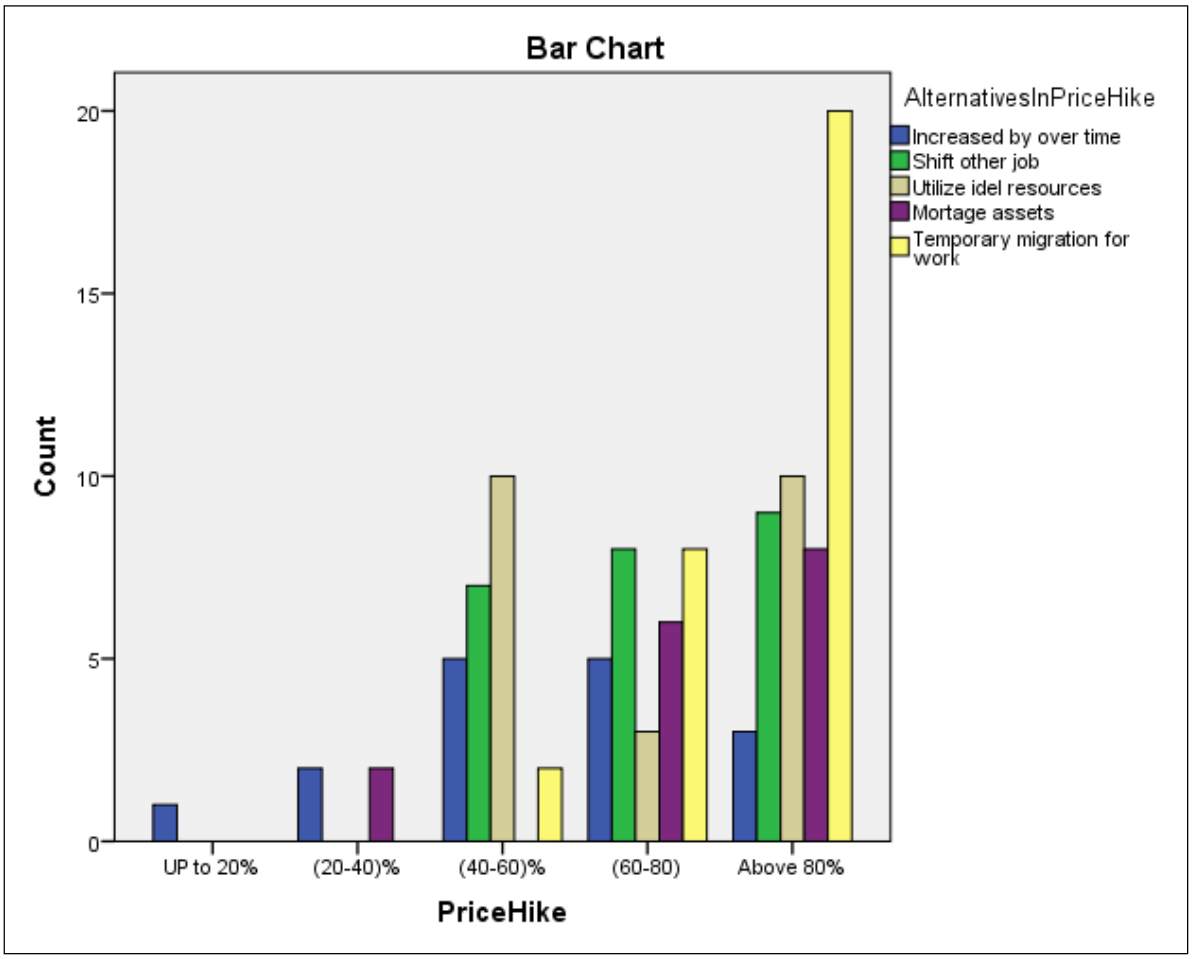

Fig 5: Association between Alternative of rising income to different price hikes of essential commodities

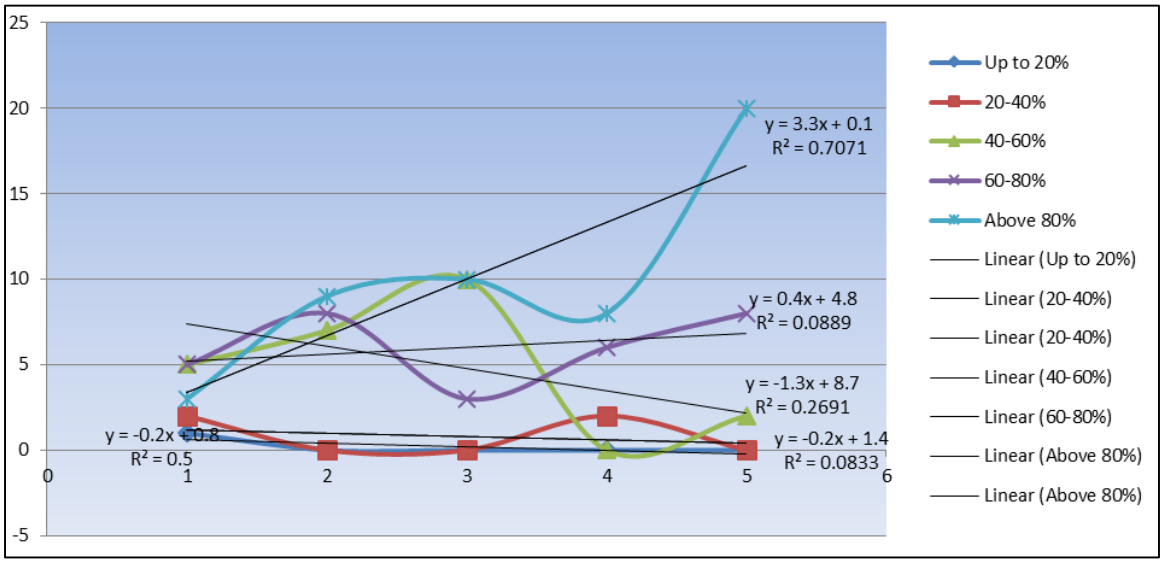

Fig 6: Relation between alternative of raising income in the face of price hikes of commodities

From the Fig 6, The R-squared value (R^2) is a measure of how well the regression line (in this case, y = 3.3x + 0.1) fits the data points. It ranges from 0 to 1, with higher values indicating a better fit. An R^2 value of 0.707 is relatively high, that is approximately 70.7% of the variability in the dependent variable y can be explained by the linear regression model there is a strong relationship between the dependent and independent variables. For R^2 =.088, This value is quite low compared to the first one, indicating that there may be less correlation or the predictive power is weak, For R^2 =.5,This indicates a strong relationship between x and y variables. Where Y=Alternatives of price hike, X=Price hike range.

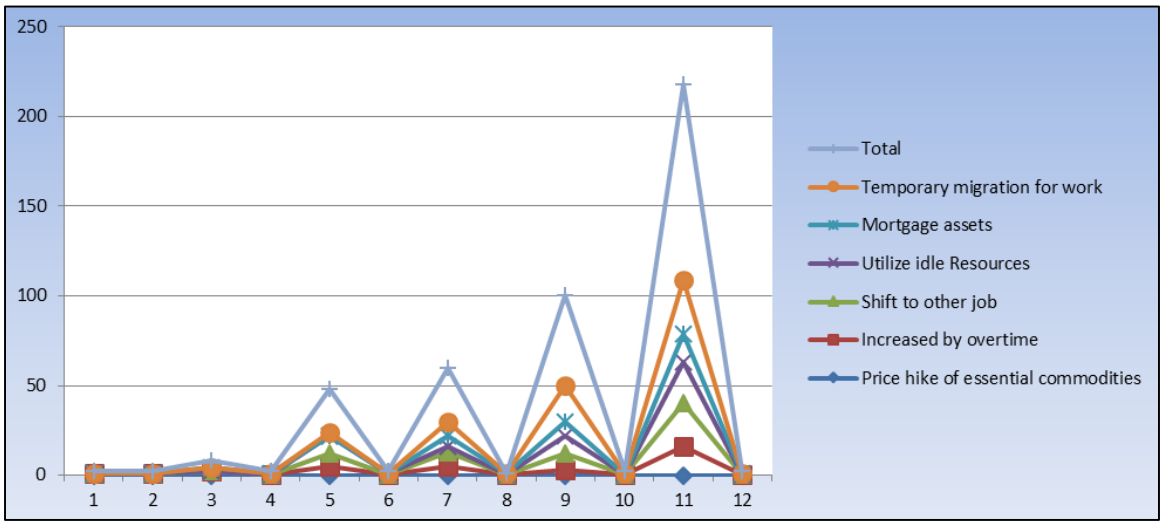

Fig 7: Relation between alternative of raising income in the face of price hikes of commodities (with total)

For Food quality and quantity

The response rate of households varies with the severity of price hikes in essential commodities. Out of a total of 109 households, responses were received from as few as one household up to 50 households, depending on the level of price hike (see Table 5). It is evident that household behavior varies significantly at different price hike levels, particularly concerning food quality and quantity. Households consider various options to address these challenges, including adjustments in quantity and quality and seeking additional income sources.

Regardless of the specific behavior, it is notable that all households prioritize food items during times of crisis. For instance, when the price hike level is between 20% to 40% , approximately 50% of people attempt to maintain the same quantity and quality of food by either seeking additional income or reducing spending in other sectors. However, during a major price hike, only 8 out of 50 respondents (16%) attempt to maintain the same quantity and quality of food through similar means (see Table 5).

At the price hike level of 40-60%, the majority (88%) of people aim to maintain the same quality of food but in smaller quantities. Conversely, when the price hike exceeds 80%, around 40% of households resort to reducing both the quantity and quality of food, as well as engaging new members in work to earn more money and sustain family expenditures during the challenging period (refer to Fig-8). It becomes increasingly challenging to maintain the same quantity and quality of food during such severe price hikes, even though food is an essential part of our daily lives

Table 7: Association between Alternatives in Food Consumption Habits in Response to Price Hikes in Food Items

Price hike of essential commodities	Alternatives in Price hike					Total
	Lower quantity in same quantity	Smaller quantity in same quality	Lower quality in smaller quantity	Maintain quantity, quality and search other income	Lower quantity, quality and engaging new member in the work	
Up to 20%	1	0	0	0	0	1
	100%	0%	0%	0%	%	100%
20-40%	2	0	0	2	0	4
	50%	0%	0%	50%	0%	100%
40-60%	1	21	0	1	1	24
	4%	88%	0%	4%	4%	100%
60-80%	2	8	3	7	10	30
	7%	27%	10%	23%	33%	100%
Above 80%	3	9	10	8	20	50
	6%	18%	20%	16%	40%	100%
Total	9	38	13	18	31	109
	8%	35%	12%	17%	28%	100%

Table 8

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	67.102	16	.000
Likelihood Ratio	59.563	16	.000
Linear-by-Linear Association	21.758	1	.000
N of Valid Cases	109		

From the Chi-Square test (χ 2), we can see that P<.05, so we can say that there is a statistically significant relationship between the two variables.

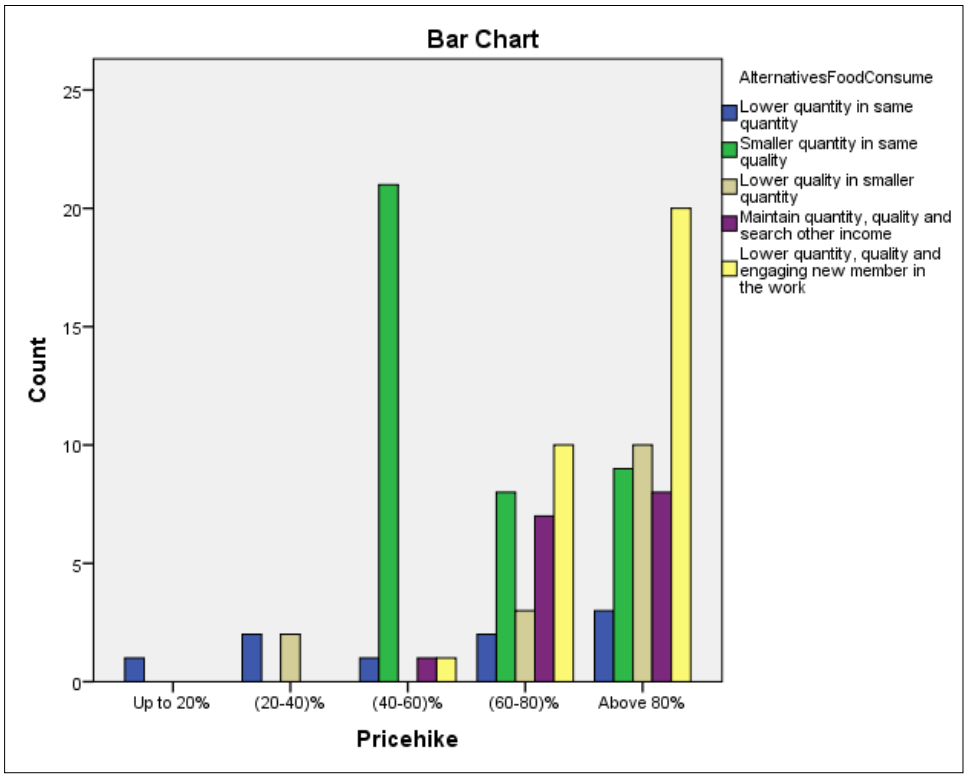

Fig 8: Association between Alternatives of food consume habits in response to price hikes in food item

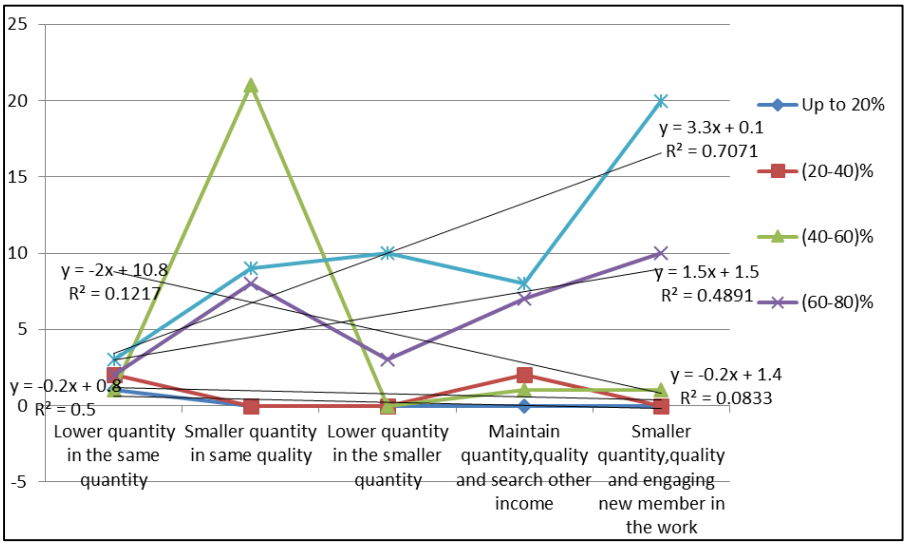

Fig 9: Relationship between Alternatives of food consumption habits in response to price hikes in food item From the Fig 8,

Y = 3.3x + 0.1, R^2 = 0.707; this equation represents a linear regression model with a positive slope (3.3) and a y-intercept of 0.1. Here, R^2 =0.707 indicates that approximately 70.7% of the variation in the dependent variable (Y) can be explained by the independent variable (x) in this model that is there is relatively strong linear relationship between x and y.

Y = 1.5x + 1.5, R^2 = 0.489; this equation represents another linear regression model with a positive slope (1.5) and a y-intercept of 1.5.R^2 = (0.489) indicates that approximately 48.9% of the variation in Y can be explained by x in this model.

Y = -0.2x + 1.4, R^2 = 0.083; this equation represents a linear regression model with a negative slope (-0.2) and a y-intercept of 1.4.Here, R^2 = (0.083) is relatively low, indicating that only about 8.3% of the variation in Y can be explained by x in this model.

Y = -0.2x + 0.8, R^2 = 0.5; this equation represents another linear regression model with a negative slope (-0.2) and a y-intercept of 0.8 and R^2 = 0.5 represent a moderate linear relationship between x and y.

Y = -2x + 10.8, R^2 = 0.121; R^2 = 0.121, finally, this equation represents a linear regression model with a negative slope (-2) and a y-intercept of 10.8. The R^2 value of 0.121 indicates a weak linear relationship between x and y.

Accommodation and education:

Moderate price hikes in accommodation may not immediately create problems, but they can ultimately lead to reduced housing affordability. A price hike of 20-40% in accommodation costs can trigger housing crises, with individuals struggling to find affordable places to live. When the price hike reaches 40-60%, housing affordability becomes a critical issue, potentially resulting in homelessness and social unrest. Extreme price hikes in accommodation can even lead to a housing emergency, with many individuals unable to secure shelter. Additionally, the tendency of apartment owners to increase rent with each change of tenant significantly impacts people's decisions to remain in the same place. During major price hikes, a majority of 34% of people is compelled to compromise and move into smaller living spaces (see Table 6). Typically, people have to opt for smaller homes with comparatively lower quality due to rent increases. The response to major price hikes varies among all respondents, with individuals adopting different strategies.

Table 9: Association between Alternatives in Accommodation in Response to Price Hikes in Housing Costs

Price hike of essential commodities	Alternatives in Price hike					Total
	Lower quantity in same quantity	Smaller quantity in same quality	Lower quality in smaller quantity	Maintain quantity, quality and search other income	Lower quantity, quality and engaging new member in the work	
Up to 20%	1	0	0	0	0	1
	100%	0%	0%	0%	%	100%
20-40%	2	0	0	2	0	4
	50%	0%	0%	50%	0%	100%
40-60%	2	20	0	1	1	24
	9%	83%	0%	4%	4%	100%
60-80%	2	8	2	8	10	30
	7%	27%	7%	27%	32%	100%
Above 80%	3	9	10	8	20	50
	6%	18%	20%	16%	40%	100%
Total	10	37	12	19	31	109
	9%	34%	11%	17%	27%	100%

From the table and Figure 10, it is evident that for moderate price hikes of up to 20%, many respondents aim to maintain the same quantity and quality of essential commodities. A price hikes of 20-40% in accommodation leads to housing

crises, with 50% of respondents choosing to maintain quantity and quality while seeking additional income, and the remaining 50% opting to reduce the quantity while maintaining the same quality. When price hikes reach 40-60%, housing affordability becomes a critical concern, with 83% of people opting for a smaller quantity while maintaining the same quality. For price hikes between 60-80% and above 80%, respondents exhibit a variety of behaviors, including reducing quantity and quality, involving new members in work, and exploring alternative solutions.

Table 10

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	63.120	16	.000
Likelihood Ratio	57.689	16	.000
Linear-by-Linear Association	19.117	1	.000
N of Valid Cases	109		

All three Chi-Square tests (Pearson, Likelihood Ratio, and Linear-by-Linear Association) indicate a highly significant association between the categorical variables. From the Chi-Square test (χ 2), we can see that P<.05, so we can say that there is a strong statistically significant relationship between the two variables.

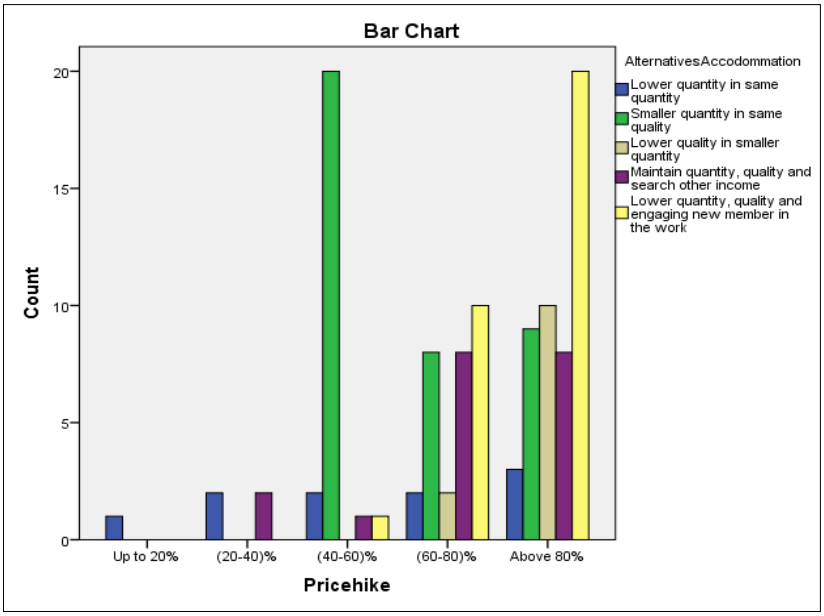

Fig 10: Association between Alternatives in Accommodation in Response to Price Hikes in Housing Costs

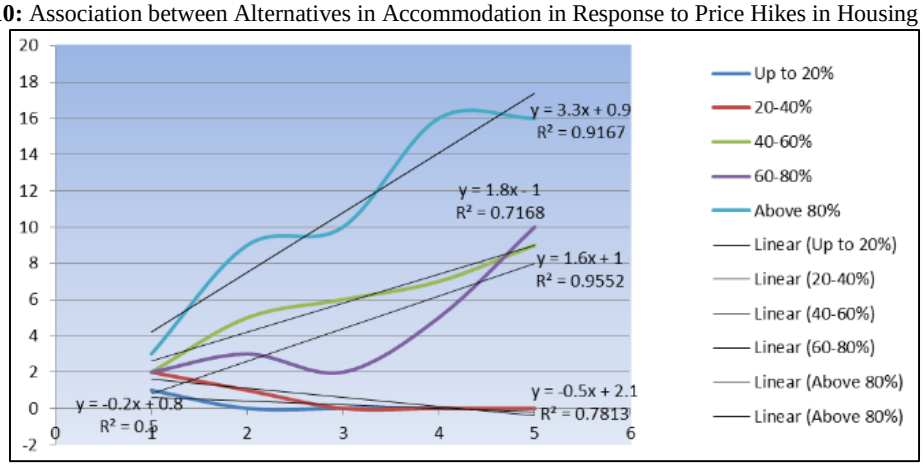

Fig 11: Relationship between Price Hike and Alternatives Accommodation Behavior

These are regression equations along with their respective coefficients of determination (R-squared values) which indicate how well the regression models fit the data: (Fig-10) The linear regression equation is: Y=3.3X+0.9, R^2 = 0.916; this means that approximately 91.6% of the variability in the dependent variable can be explained by the independent variable. There are a strong positive linear relationship between x and y.

For Y=1.8X−1, R^2 = 0.716: This model also show a relatively high R^2value, which indicates about 71.6% of the variability in Y is explained by X. The relationship is positive.

For Y=1.6X+1, R^2 = 0.955: This model has a very high R^2 value, indicating that approximately 95.5% of the variability in Y can be explained by X. there are a strong positive linear

relationship.

For $Y=-0.5X+2.1$, $R^2 = 0.781$: This means that approximately 78.1% of the variability in the dependent variable (Y) can be explained by the linear relationship with the independent variable (X). In other words, the model does a reasonably good job of fitting the data, as a higher R-squared value indicates a stronger linear relationship and a better fit and For the linear regression equation is: $Y = -0.2X + 2.1$ and The R-squared value (R^2) is 0.5 .An R-squared value of 0.5 indicates that 50% of the variability in the dependent variable (y) can be explained by the linear relationship with the independent variable (X). This R-squared value suggests a moderate fit of the model to the data but also indicates that there is still a significant amount of unexplained variability in the data, which may be better captured by a different model or additional variables.

For Education

Price hikes in essential commodities, especially when they fall into different ranges (e.g., up to 20%, 20-40%, 40-60%, 60-80%, above 80%), can have several impacts on education activities say Essential commodities include items like textbooks, stationery, and school uniforms. Price hikes can make these supplies more expensive, potentially making it harder for families to afford the materials needed for their children's education. If education is not entirely subsidized, parents may need to pay tuition fees for their children's schooling. Price hikes in essential commodities can affect the disposable income available for tuition fees, possibly leading to an inability to pay or dropping out of school. Rising prices can also affect the cost of transportation to and from school. Families who rely on public transportation or need to purchase fuel for transportation may find it more expensive to send their children to school. Teachers may face increased living expenses due to higher food and fuel costs. If their salaries do not keep pace with these hikes, it can affect their motivation and ability to provide quality education. Price hikes in food commodities can impact the nutritional quality of students' diets. Insufficient access to nutritious food due to increased prices can affect students' health and concentration in the classroom. Governments often subsidize education expenses to make them affordable for all. However, when essential commodity prices rise, it can strain government budgets, potentially leading to reduced funding for education, affecting the quality and accessibility of education. Price hikes disproportionately affect low-income families, which can contribute to educational disparities. Students from wealthier backgrounds may have better access to educational resources, exacerbating educational inequalities. In extreme cases, severe price hikes can lead to children being pulled out of school to help support their families financially. This can result in a lower level of educational attainment for affected individuals. In conclusion, the impact of price hikes in essential commodities on education activities can be far-reaching and complex. It can affect students' access to education, the quality of education provided, and the overall educational outcomes, particularly for vulnerable and low-income populations. Governments, communities, and policymakers must consider these effects when addressing the challenges posed by rising commodity prices and their impact on education.

Table 11: Participants response (% of household) on the impact of price hikes of essential commodities on education activities

Price hike in education	Alternatives Education Behavior						Total
	No change	Less expensive school in same coaching	Same school and coaching and search alternative	No coaching but same school	Less coaching in same school	Getting children out of school	
Up to 20%	10	0	0	0	0	0	10
	100%	0%	0%	0%	0%	0%	
(20-40)%	5	5	5	1	0	0	16
	31%	31%	31%	7%%	0%	0%	
(40-60)%	2	3	7	1	1	0	14
	14%	22%	50%	7%	7%	0%	
(60-80)%	1	2	8	8	3	2	24
	4%	8%	33%	33%	14%	8%	
Above 80%	1	0	5	30	5	4	45
	2%	0%	11%	67%	11%	9%	
Total	19	10	25	40	9	6	109
	17%	9%	23%	37%	8%	6%	

Up to 20% Price Hike, Most respondents (100%) choose to maintain the status quo, while no one opts for less expensive schooling or alternative coaching. If 20-40% Price Hike, A significant portion (31%) still prefers to keep the same school and coaching, but a considerable number (31%) start looking for less expensive schools with similar coaching. As the price hike 40-60% increases, the number of respondents looking for alternatives grows. While 50% still choose to stay with their current school, 14% opt for less coaching in the same school. At 60-80% Price Hike level, the trend of seeking alternatives continues to rise. Only 4% stick with the same school and coaching, while the majority explores other options. At Above 80% Price Hike level, the 9%decided to withdraw their children from school entirely, while 13% search for less expensive schooling options. Overall, this data reflects a clear correlation between the level of price hike in education and the respondents' willingness to explore alternative educational options. As the price hike increases, more individuals are inclined to seek more affordable schooling alternatives.(The term "opt" means to choose or select a particular option or course of action).

Table 12

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	105.068	20	.000
Likelihood Ratio	100.826	20	.000
Linear-by-Linear Association	56.968	1	.000
N of Valid Cases	109		

The Pearson Chi-Square test statistic is 105.068 with 20 degrees of freedom. The associated p-value is 0.000, indicating a highly significant relationship between the variables being studied. The Likelihood Ratio test statistic is 100.826 with 20 degrees of freedom, and the p-value is also 0.000, showing a strong and significant relationship between the variables. This test assesses the linear association between two variables and yields a test statistic of 56.968 with 1 degree of freedom. The p-value is 0.000, indicating a highly significant linear association. In summary, all three tests (Pearson Chi-Square, Likelihood Ratio, and Linear-by-Linear Association) show very low p-values (0.000), suggesting a highly significant relationship between the variables under investigation. This indicates that there is strong evidence of an association or relationship between the variables being analyzed.

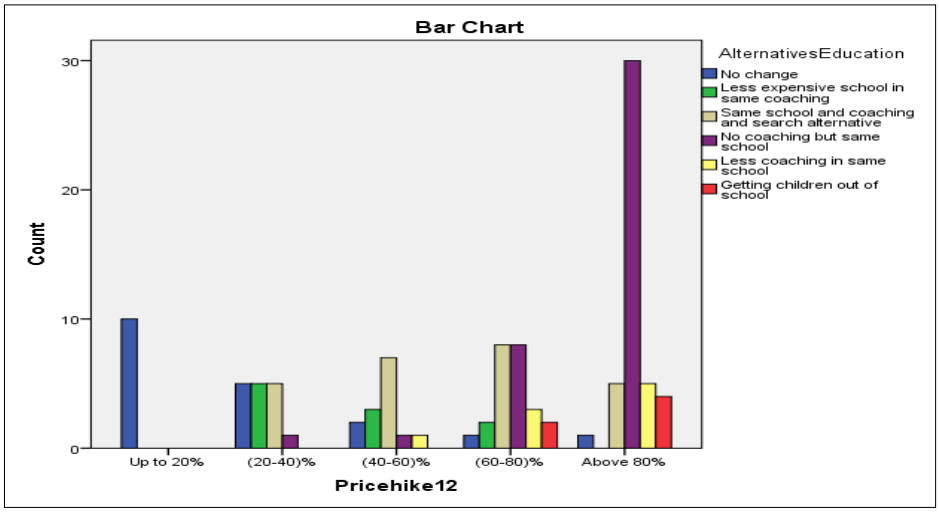

Fig 12: Association between Alternatives Education Behavior due to different price hike range

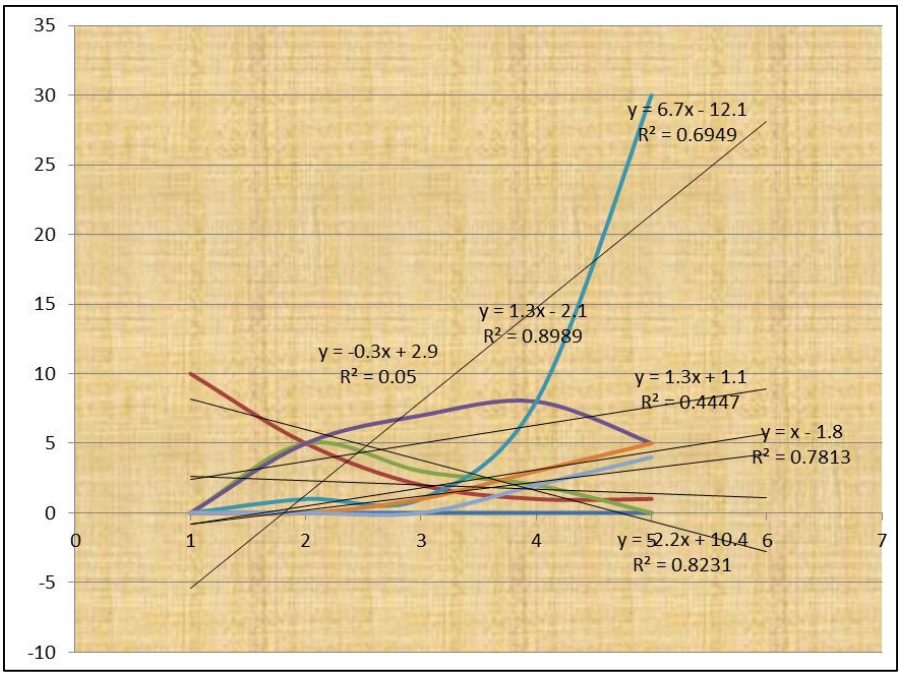

Fig 13: Relationship between Price Hike and Alternatives Education Behavior From the Fig-12

The linear regression equation is: Y = 6.7X - 12.1 and the R-squared value (R^2) associated with this regression model is 0.694.This means that approximately 69.4% of the variability in the dependent variable (Y) can be explained by the linear relationship with the independent variable (X). The R^2 value provides a measure of how well the linear model fits the data,

with higher values indicating a better fit. In this case, an R^2 of 0.694 suggests a reasonably good fit of the model to the data, indicating that the linear equation explains a substantial portion of the variation in Y.

The linear regression equation is

Y = 1.3X - 2.1 and The R-squared value (R^2) associated with this regression model is 0.898.An R-squared value of 0.898 indicates that approximately 89.8% of the variability in the dependent variable Y can be explained by the linear relationship with the independent variable X. In other words, the linear regression model does a very good job of fitting the data, as a high R-squared value suggests a strong linear relationship and a good fit.

The linear regression equation is

$Y=-0.03X+2.92$ and the coefficient of determination (R^2) is 0.05.This means that approximately 5% of the variability in the dependent variable (Y) can be explained by the linear relationship with the independent variable (X). An R^2 value of 0.05 indicates a weak linear relationship between the variables

The linear regression equation is

Y = 1.3X + 1.1 and the R-squared value (R^2) associated with this regression model is 0.444. In this case, $R^2 = 0.444$ indicates that approximately 44.4% of the variability in the dependent variable (Y) can be explained by the linear relationship with the independent variable (X). The remaining 55.6% of the variability is unexplained and may be attributed to other factors or random variation. so an R^2 of 0.444 suggests that the linear relationship between X and Y is moderate,

The last linear regression equation is

Y = 2.2X + 10.4 and the R-squared value (R^2) is 0.823.This means that approximately 82.3% of the variability in the dependent variable (Y) can be explained by the linear relationship with the independent variable (X). In other words, the model does a relatively good job of fitting the data, as a higher R-squared value indicates a stronger linear relationship and a better fit.

Effect of price hikes of food commodities on living expense

For Food, Moderate price hikes can impact food affordability, particularly for lower-income individuals or families. They may adjust their diets and seek cheaper alternatives. A 20-40% price hike in food can lead to food insecurity for vulnerable populations and put pressure on social safety nets. With 40-60% price hikes of this magnitude, even middle-income households may face difficulties in accessing a balanced and nutritious diet. If 60-80% and above 80% price hikes in food that can lead to hunger, malnutrition, and potential food riots. Keeping in mind that household income did not increase at the same rate as the increase in the prices for essential commodity, families are now forced to reduce their income spending

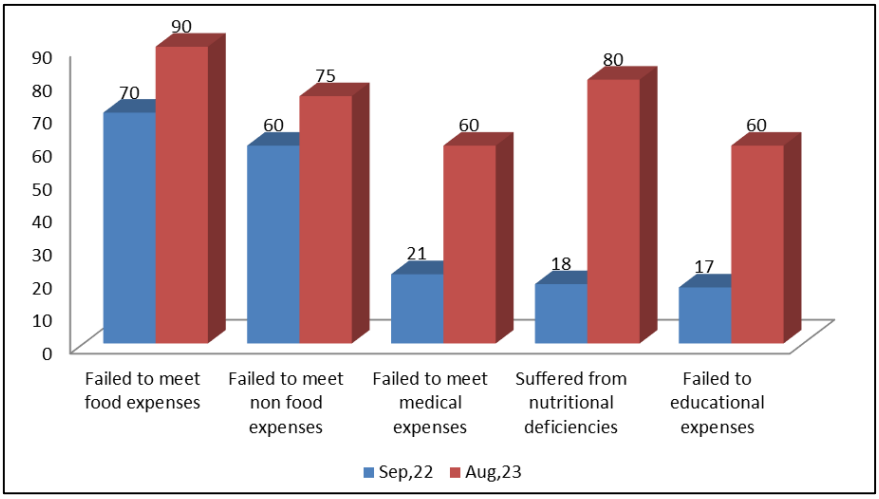

Fig 14: Participants response (% of household) on the effect of price hikes of food commodities on living expense

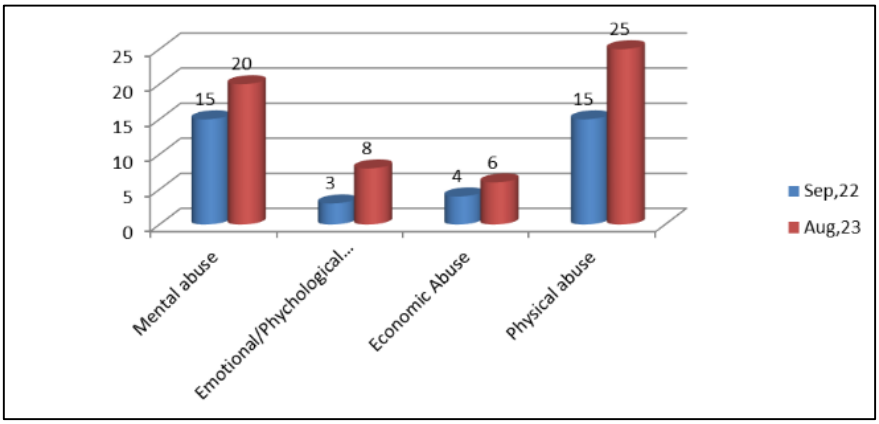

Fig 15: Household Faced Violence in the last 1 year due to price hike of essential commodities

The survey indicates (Fig 14) that 90% of the households failed to meet food expenses, 75% of the households failed to meet non-food items due to price hikes and 60% of the households failed to meet the educational expenses of their children,80% of the households suffered from nutritional deficiencies. Price hikes played a role in the increase of violence against women (Fig 15), as it was noted that 59% of the female respondents experienced violence at the household level due to a price hike.

Data from the survey shows (Fig-15) that most households are experiencing a significant increase in the price for oil and rice and almost half of participants indicated that vegetable prices were increasing significant. In addition, all respondents highlighted price increases in pulses, onion, garlic, milk, egg, sugar, salt, flour, meat, and fish. The food consumption of the poor and extremely poor households is mainly dominated by rice, oil and vegetables and therefore these price increases are having an adverse impact on the well-being of these households.

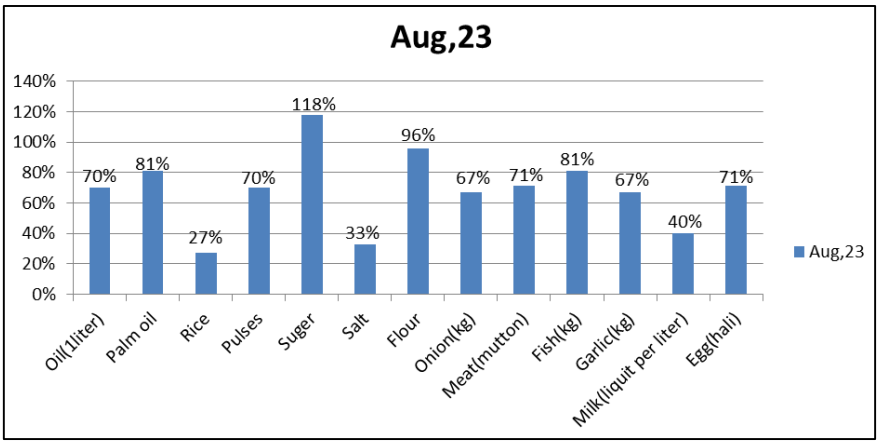

Fig 16: Food commodities whose price has increased over the last 4 years (from table -2)

Overall, these price increases across a range of food commodities suggest inflationary pressures on food prices, which can strain household budgets and impact food security. Such trends can have social, economic, and health implications, and they often require attention from policymakers and governments to address the needs of vulnerable populations and ensure food affordability and accessibility.

Bi-variate Analysis for the Changes in Accommodation, Income, Food, and Education Behavior among Middle-Class, Poor, and Extremely Poor Populations Due to the Current Situation:

In light of the current situation, there have been notable shifts in accommodation preferences, income strategies, dietary habits, and educational pursuits among individuals from various economic backgrounds, including the middle-class, poor, and extremely poor segments of the population. These alterations reflect the dynamic nature of socio-economic responses to external circumstances

Table 13: Alternative income Behavior in Response to Price Rise

			Alternative income Behavior in Response to Price Rise					Total
			Increased by overtime	Shift to other job	Utilize idle Resources	Mortgage assets	Temporary migration for work	
Income Group	Extremely poor	Count	1	1	0	4	10	16
		% within Income Group	6.3%	6.3%	0.0%	25.0%	62.5%	100.0%
	Poor	Count	10	10	0	12	11	43
		% within Income Group	23.3%	23.3%	0.0%	27.9%	25.6%	100.0%
	Middle	Count	17	21	8	2	2	50
		% within Income Group	34.0%	42.0%	16.0%	4.0%	4.0%	100.0%
Total		Count	28	32	8	18	23	109
		% within Income Group	25.7%	29.4%	7.3%	16.5%	21.1%	100.0%

This table presents data on income behavior in response to a price increase, categorized by income groups (Extremely poor, Poor, and Middle). The income behavior options include 'Increased by overtime,' 'Shift to other job,' 'Utilize idle Resources,' 'Mortgage assets,' and 'Temporary migration for work. Among the extremely poor, the most common response is 'Temporary migration for work' (62.5%).Among the Poor, 'Mortgage assets' (27.9%) and 'Temporary migration for work' (25.6%) are prominent responses. In the Middle-income group, 'Shift to other job' (42.0%) is the leading response. Overall, the table provides insights into how different income groups adapt their income behavior when faced with a price increase. (Bar chart-11).

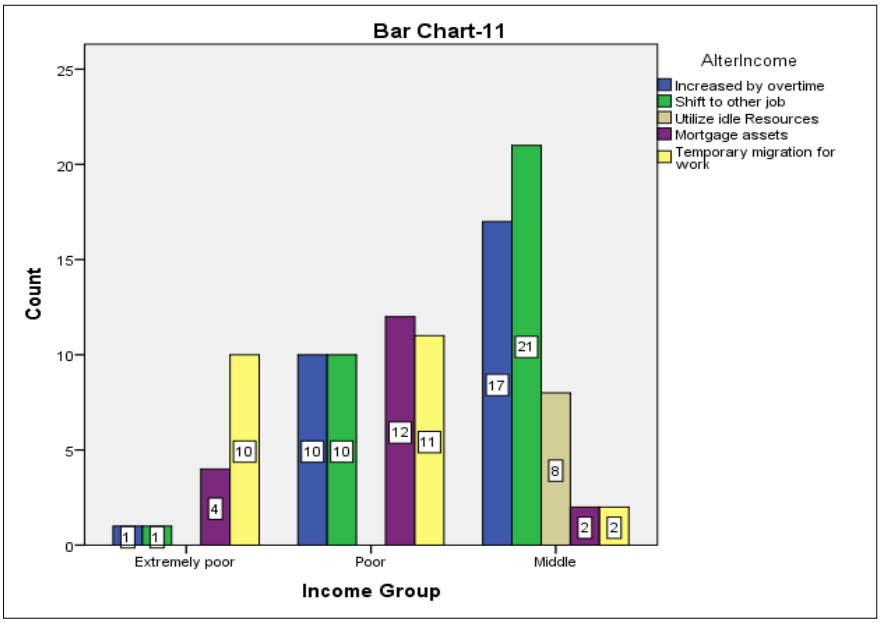

Fig 17: Alternative income Behavior in Response to Price Rise

Table 14: Association between Income Behavior and Price Rise among Different Income Groups

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	48.568	8	.000
Likelihood Ratio	54.010	8	.000
Linear-by-Linear Association	30.634	1	.000
N of Valid Cases	109		

Chi-Square test results indicate that there is a statistically significant association between income behavior and price rise among different income groups. The p-values for all three Chi-Square test statistics (Pearson Chi-Square, Likelihood Ratio, and Linear-by-Linear Association) are extremely low, indicating a strong relationship. The data is based on 109 valid cases, further supporting the significance of the findings. In summary, the tests suggest a clear connection between income behavior and responses to price increases across various income groups.

Table 15: Alternative Food Consumption Behavior in Response to Price Rise

			Alternative Food Consume Behavior in Response to Price Rise					Total
			Lower quantity in same quantity	Smaller quantity in same quality	Lower quality in smaller quantity	Maintain quantity, quality and search other income	Lower quantity, quality and engaging new member in the work	
Income Group	Extremely poor	Count	1	5	0	0	10	16
		% within Income Group	6.3%	31.3%	0.0%	0.0%	62.5%	100.0%
	Poor	Count	6	10	14	1	12	43
		% within Income Group	14.0%	23.3%	32.6%	2.3%	27.9%	100.0%
	Middle	Count	2	16	1	15	16	50
		% within Income Group	4.0%	32.0%	2.0%	30.0%	32.0%	100.0%
Total		Count	9	31	15	16	38	109
		% within Income Group	8.3%	28.4%	13.8%	14.7%	34.9%	100.0%

This table appears to represent alternative food consumption behaviors in response to a rise in prices, categorized by income groups. For **Extremely Poor** respondent, 6.3% opt to consume a lower quantity while maintaining the same quality, 31.3% choose to consume a smaller quantity while maintaining the same quality and 62.5% are inclined to lower both quantity and quality while engaging new members in work. For **Poor**, 14.0% prefer to consume a lower quantity but maintain the same quality, 23.3% opt for a smaller quantity but with the same quality, 32.6% are willing to

compromise on quality and consume a smaller quantity, 2.3% aim to maintain quantity and quality while searching for additional income and 27.9% plan to lower both quantity and quality while engaging new members in work. For **Middle** 4.0% choose to consume a lower quantity while maintaining the same quality, 32.0% opt for a smaller quantity but with the same quality, 2.0% are willing to compromise on quality and consume a smaller quantity, 30.0% aim to maintain both quantity and quality while searching for additional income and 32.0% plan to lower both quantity and quality while engaging new members in work. **Overall** Across all income groups, the most common strategy is to lower both quantity and quality while engaging new members in work, constituting 34.9% of the total responses. The second most common strategy is to consume a smaller quantity while maintaining the same quality, which accounts for 28.4% of the total responses. So from the survey I observed that when faced with rising food prices, people from different income groups adopt various strategies to cope with the situation. Lower income groups tend to make more compromises in terms of quantity and quality, while higher income groups are more inclined to seek additional income sources (From Fig-18)

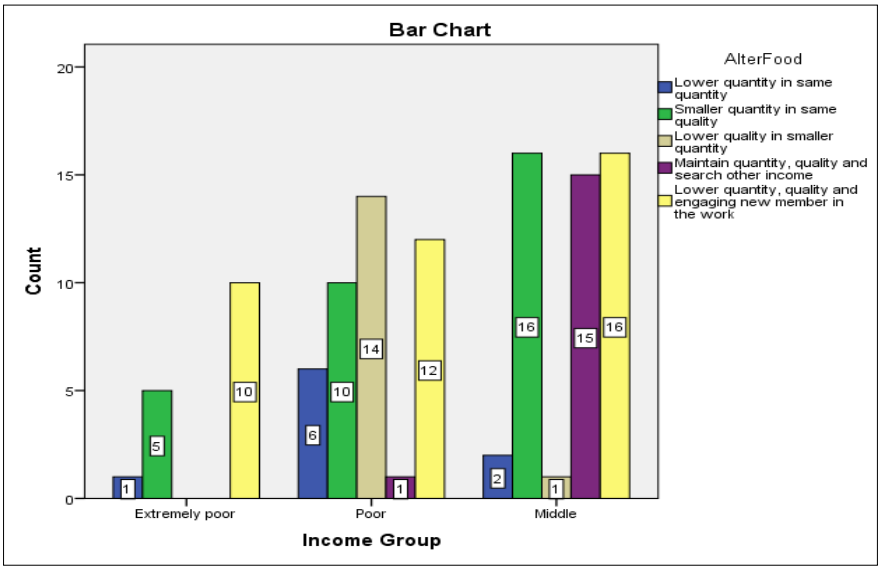

Fig 18: Bar diagram between Income group and Alternative food consume behavior

Table 16: Association between Food Consumption Behavior and Price Rise among Different Income Groups

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	40.841[a]	8	.000
Likelihood Ratio	45.137	8	.000
Linear-by-Linear Association	.003	1	.956
N of Valid Cases	109		

The result of chi-squared tests examining the association between food consumption behavior and the impact of price raises among different income groups. Here, Both the Pearson Chi-Square and Likelihood Ratio tests show highly significant p-values (0.000), indicating a strong association between food consumption behavior and price rises among different income groups. So that there is a Strong relationship worth exploring further.

Table 17: Alternative Accommodation Behavior in Response to Price Rise

Crosstab								
			Alternative Accommodation Behavior					Total
			Lower quantity in same quantity	Smaller quantity in same quality	Lower quality in smaller quantity	Maintain quantity, quality and search other income	Lower quantity, quality and engaging new member in the work	
Income Group	Extremely poor	Count	0	0	0	0	16	16
		% within Income Group	0.0%	0.0%	0.0%	0.0%	100.0%	100.0%
	Poor	Count	1	2	10	5	25	43
		% within Income Group	2.3%	4.7%	23.3%	11.6%	58.1%	100.0%
	Middle	Count	3	2	6	4	35	50
		% within Income Group	6.0%	4.0%	12.0%	8.0%	70.0%	100.0%
Total		Count	4	4	16	9	76	109
		% within Income Group	3.7%	3.7%	14.7%	8.3%	69.7%	100.0%

The table presents the distribution of alternative accommodation behaviors among three income groups: "Extremely poor," "Poor," and "Middle." It shows the number of individuals in each income group who chose different strategies in response to a price rise. Among the "Extremely poor" group, all 16(100%) individuals chose the option of "Lower quantity, quality, and engaging new members in the work."

Among the "Poor" group, the most common response was "Maintain quantity, quality and search other income" chosen by 58.1% of individuals.

In the "Middle" income group, "Maintain quantity, quality and search other income" was also the most common choice, selected by 70% of individual. The table shows a clear picture of how different income groups respond to a price rise with various accommodation behaviors. Notably, the "Extremely poor" group overwhelmingly chose the Lower quantity, quality and engaging new member in the work, which suggests they might be more inclined to adapt by involving others in their work. The "Poor" group exhibits a more diverse range of behaviors, while the "Middle" group leans toward maintaining quantity and quality while searching for additional income (Fig-19).

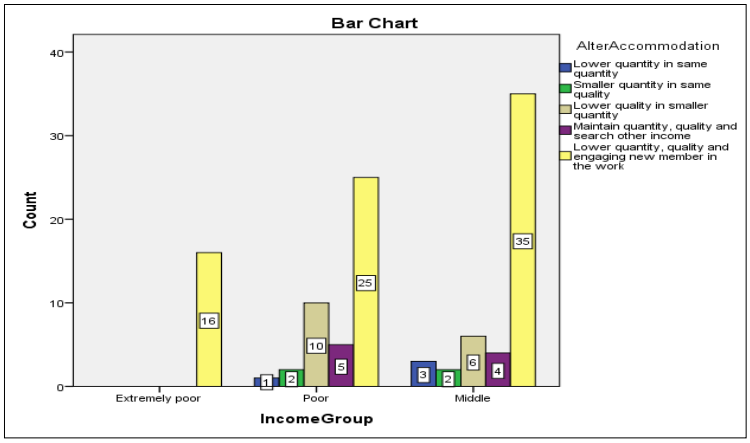

Fig 19: Bar diagram between Income group and Alternative accommodation behavior

Table 18: Association between Accommodation Behavior and Price Rise among Different Income Groups

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	11.850	8	.000
Likelihood Ratio	16.016	8	.042
Linear-by-Linear Association	2.347	1	.000
N of Valid Cases	109		

The analysis explores the association between accommodation behavior and the impact of price rises across different income groups. The Chi-Square tests indicate a significant association between accommodation behavior and the impact of price rises among different income groups. All three tests (Pearson Chi-Square, Likelihood Ratio, and Linear-by-Linear Association) show low p-values. Since P<.05, so there is a strong relationship between these variables.

Table 19: Alternative Educational Behavior in Response to Price Rise

Crosstab									
			Alternatives Education Behavior						Total
			No change	Less expensive school in same coaching	Same school and coaching and search alternative	No coaching but same school	Less coaching in same school	Getting children out of school	
Income Group	Extremely poor	Count	1	1	1	7	0	6	16
		% within Income Group	6.3%	6.3%	6.3%	43.8%	0.0%	37.5%	100.0%
	Poor	Count	10	1	10	13	9	0	43
		% within Income Group	23.3%	2.3%	23.3%	30.2%	20.9%	0.0%	100.0%
	Middle	Count	8	8	14	20	0	0	50
		% within Income Group	16.0%	16.0%	28.0%	40.0%	0.0%	0.0%	100.0%
Total		Count	19	10	25	40	9	6	109
		% within Income Group	17.4%	9.2%	22.9%	36.7%	8.3%	5.5%	100.0%

The table, "Alternative Educational Behavior in Response to Price Rise," presents a cross-tabulation of different educational behaviors in response to a price rise among various income groups. The table shows that, different

income groups have varying responses to the price rise in terms of educational behavior. For example, the extremely poor group appears to prioritize keeping their children in the same school without coaching, while the middle-income group is more likely to seek alternatives while maintaining the same school and coaching

Among the "Extremely poor" group, the most common response was "No coaching but same school," chosen by 43.8% of individuals. In the "Poor" group, the responses are more varied, with "Same school and coaching and search alternative" and "No coaching but same school" being the two most common choices. In the middle income group, the most common response is "Same school and coaching and search alternative," selected by 40% of individuals. It highlights the diversity of responses among income groups, with different strategies being more prevalent in different income categories.

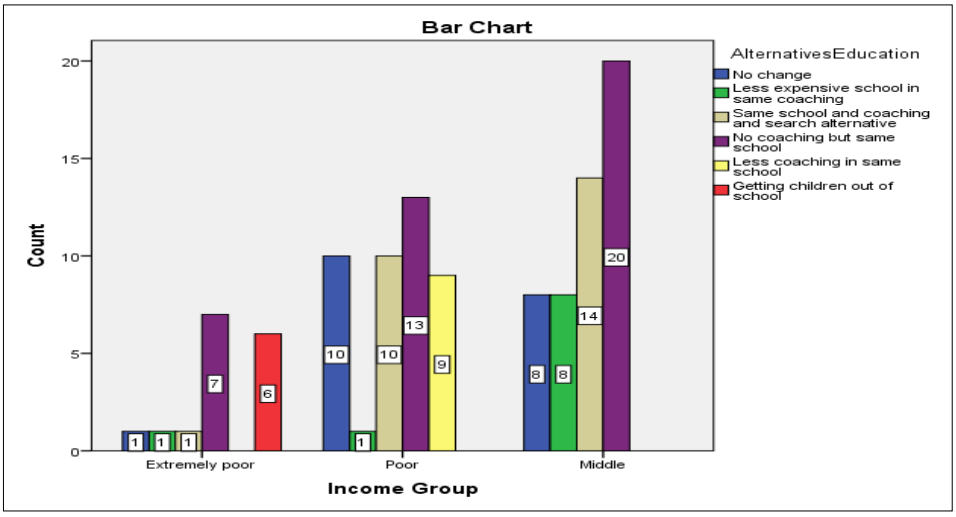

Fig 20: Bar diagram between Income group and Alternative Education behavior

Table 20: Association between Alternatives Education Behavior and Price Rise among Different Income Groups

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	58.977	10	.000
Likelihood Ratio	51.631	10	.000
Linear-by-Linear Association	11.265	1	.001
N of Valid Cases	109		

The Chi-Square tests indicate a significant association between alternative education behavior and the impact of price rises among different income groups. All three tests (Pearson Chi-Square, Likelihood Ratio, and Linear-by-Linear Association) show very low p-values, since P<.05, so that there is a strong and statistically significant relationship between these variables.

For essential commodities

The comparative study of the consumption of various food items by different income groups in Bangladesh before and after price hikes.

The rising prices of essential foods in Bangladesh, worsened by global supply chain disruptions due to the Russo-Ukrainian war, have burdened the population. Market manipulation by various interest groups along the food supply chain, including importers, producers, wholesalers, and retailers, has contributed to price hikes. Throughout 2022, prices of items like rice, wheat flour, lentils, eggs, chicken, beef, mutton, edible oil, milk, sugar, and fish, house rent, gas, electricity bill, continued to rise, straining the budgets of low-income individuals. Despite some recent price decreases, many food items remained costly for a significant part of the year. This situation led to compromised nutrition and potential long-term public health issues, primarily affecting those with limited purchasing power. Wage growth for workers consistently lagged behind inflation, causing a decline in real income. Factors like the rising US dollar cost exacerbated this inflation-driven poverty, negatively impacting the economy and increasing the number of people living in poverty

Bar Diagram: compare between the pre-price hike (Pre) and post-price hike (Post) scenarios in survey area
Title: Monthly Changes in Consumption of Essential Food Items due to Price Hike in Different Income Groups

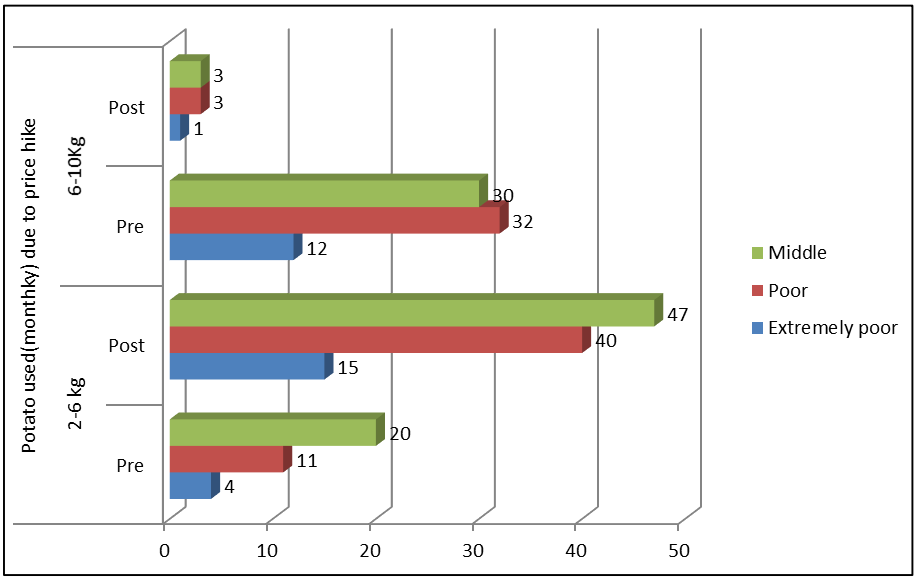

Fig 21

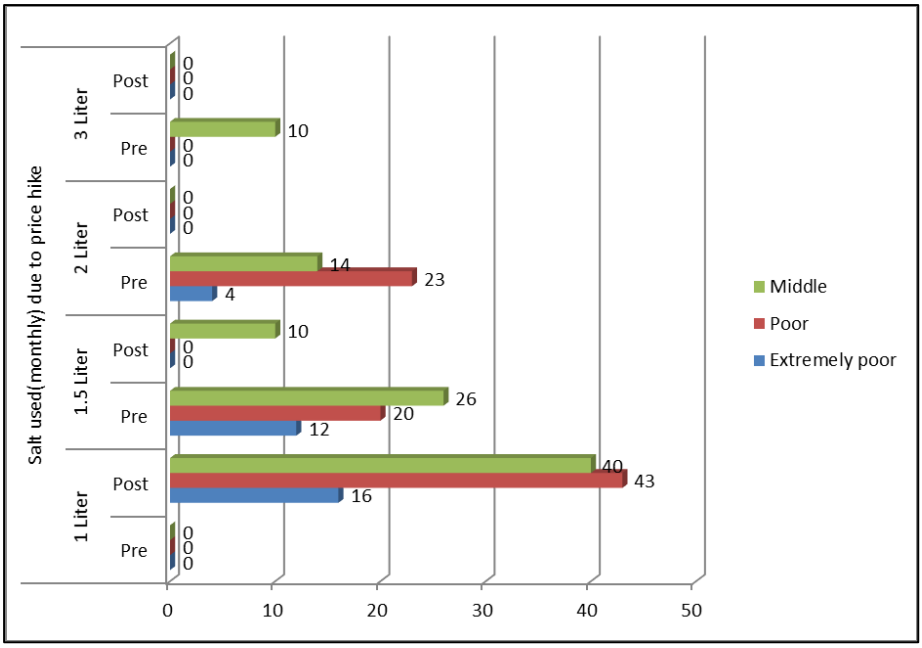

Fig 22

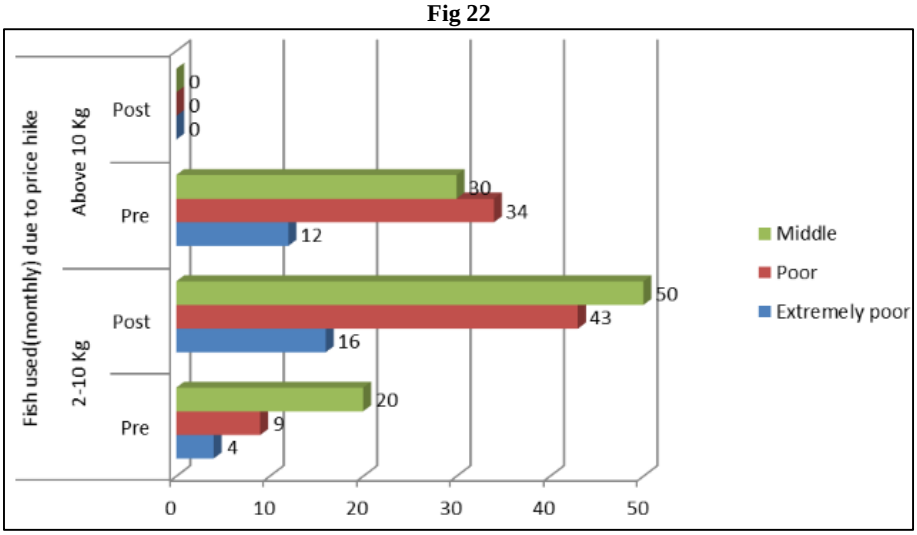

Fig 23

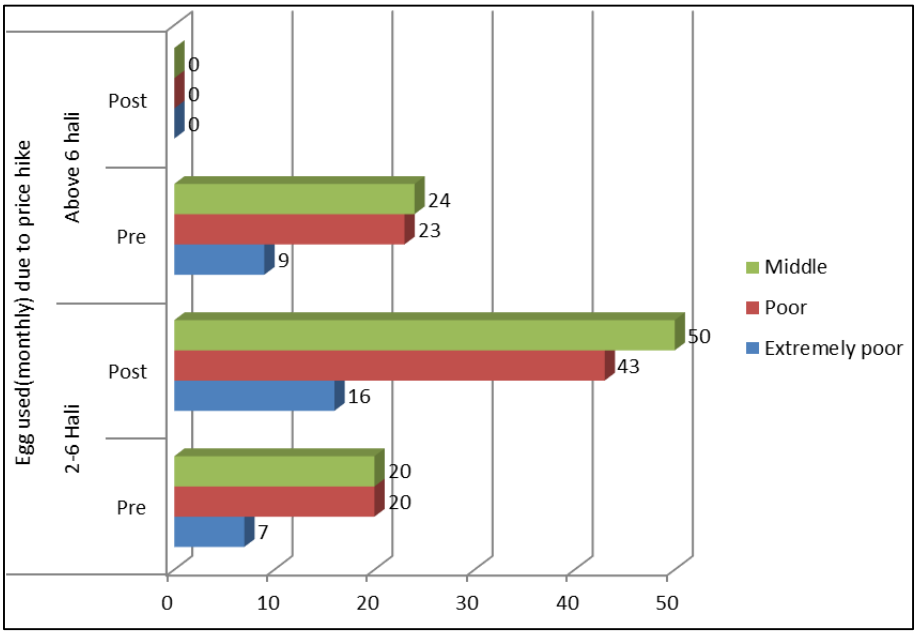

Fig 24

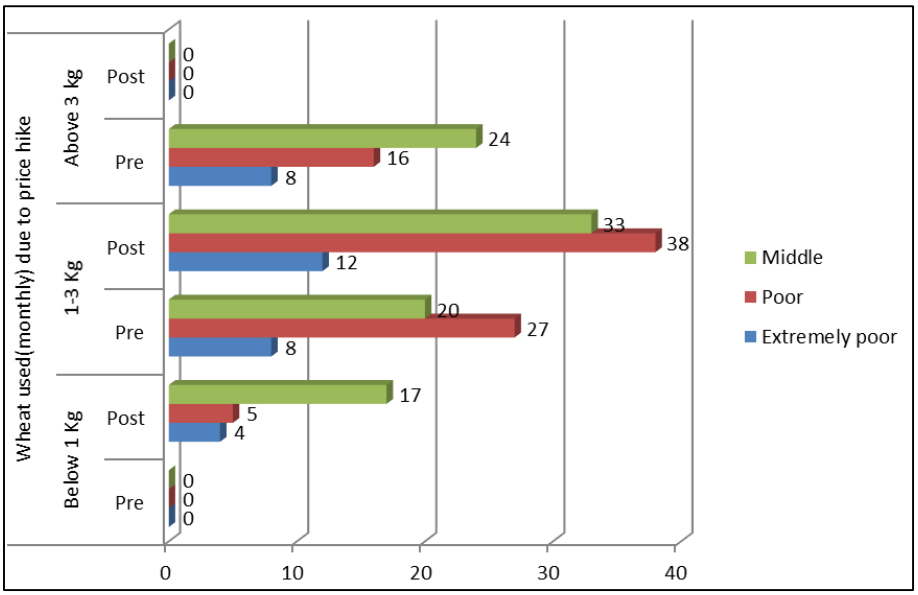

Fig 25

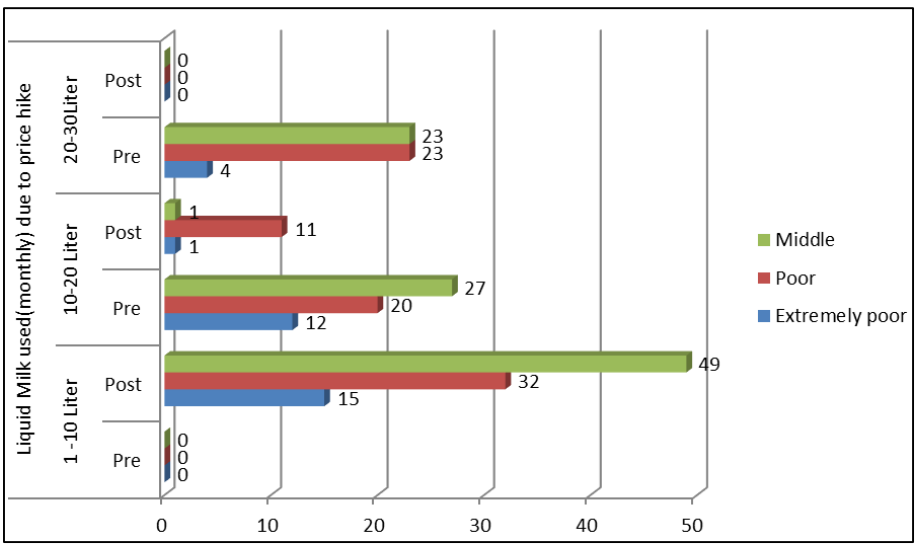

Fig 26

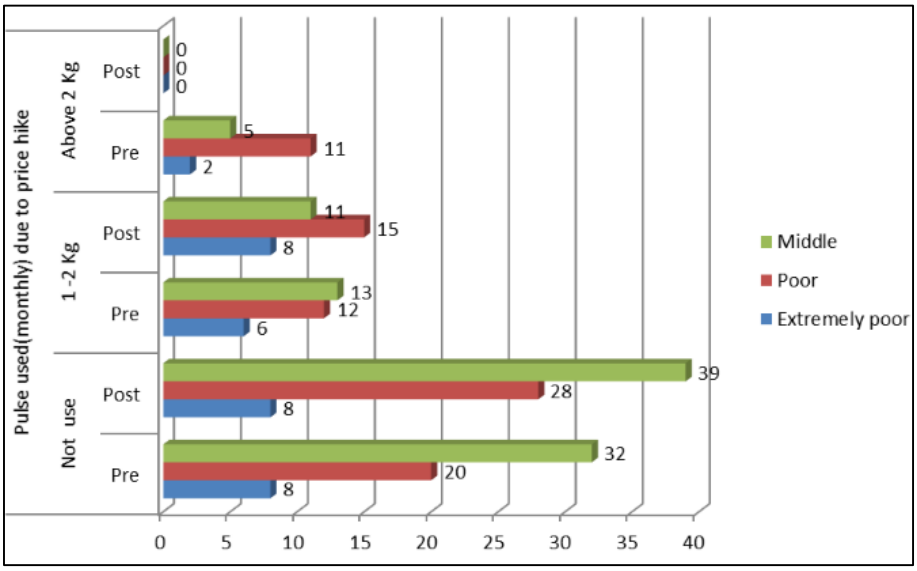

Fig 27

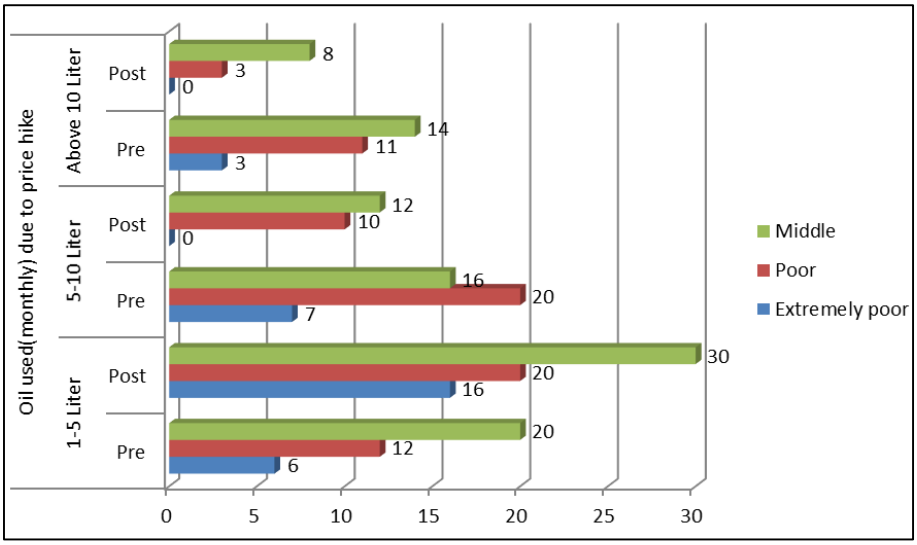

Fig 28

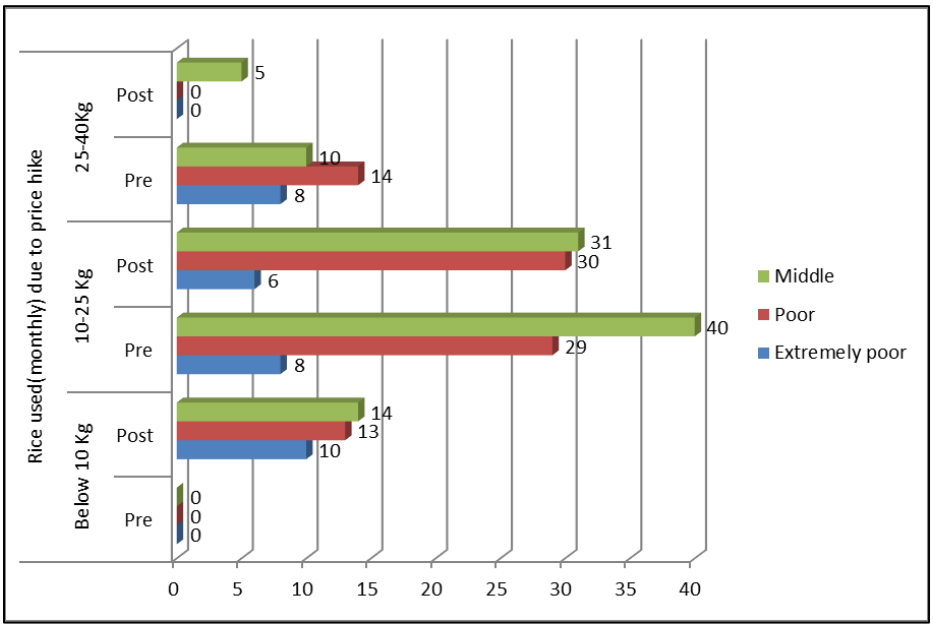

Fig 29

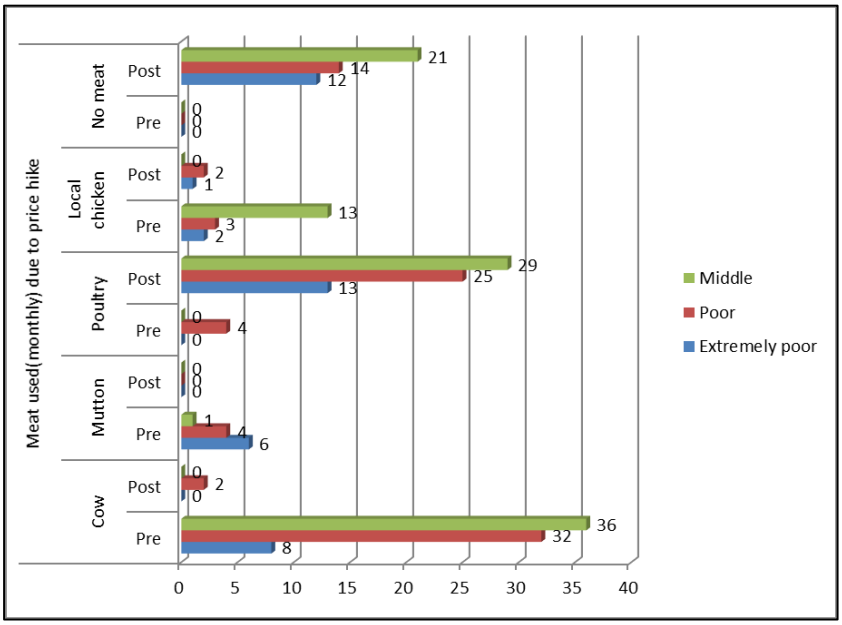

Fig 30

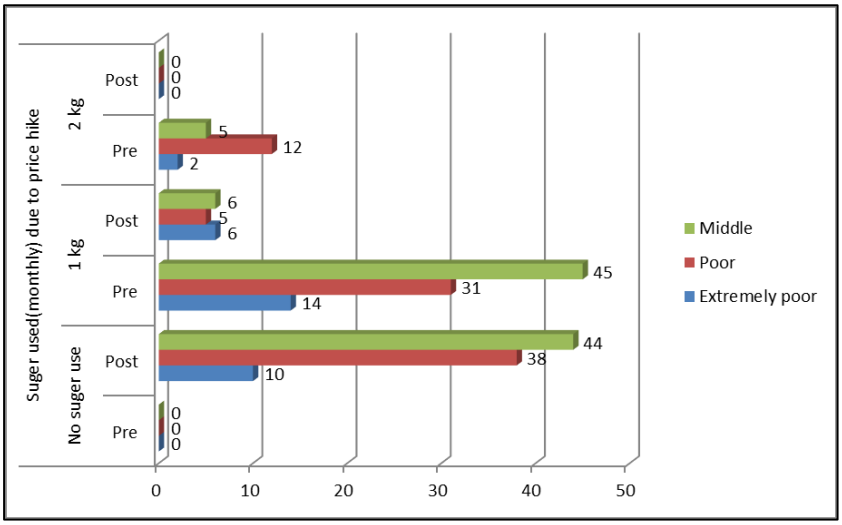

Fig 31

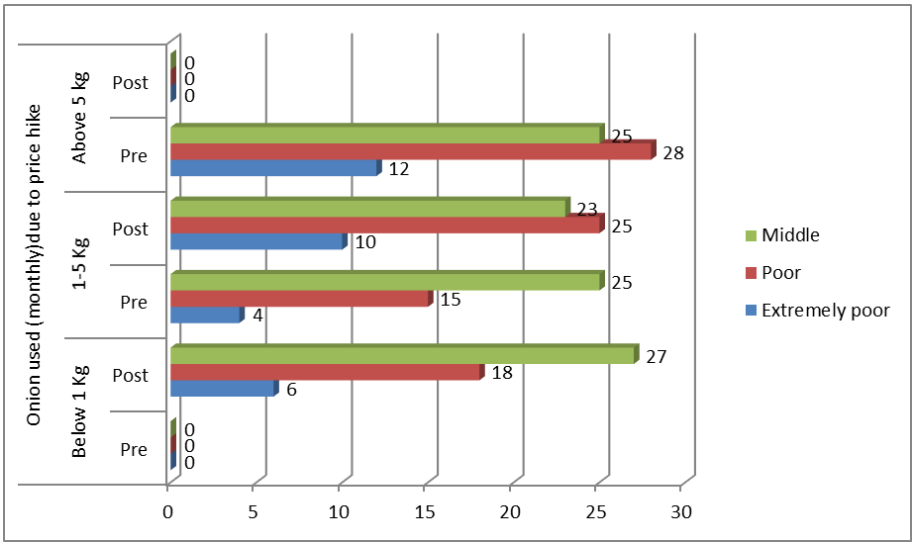

Fig 32

From the above table shows that, the impact of rising food prices on the consumption patterns of essential food items among various income groups in Bangladesh, comparing the pre-price hike (Pre) and post-price hike (Post) scenarios. It

shows that extremely poor and poor households have significantly reduced their consumption of various food items, especially those that have experienced substantial price increases, while middle-income households have also made adjustments, albeit to a lesser extent. This reflects the challenges faced by low-income individuals in accessing essential nutrition due to inflationary pressures.

Multinomial Logistics Regression analysis

Multinomial logistic regression, often referred to simply as multinomial regression, is a statistical method used for analyzing relationships between multiple categorical dependent variables and one or more independent variables. It is an extension of binary logistic regression, which is used when the dependent variable is binary (e.g., yes/no, 1/0), but multinomial regression is suitable when the dependent variable has more than two categories.

The mathematical expression for multinomial logistic regression involves calculating the log-odds or logs it of each category relative to a reference category. Here's the basic mathematical formula: Log (P (Y = reference category) P (Y = k)) = β0k+β1X1+β2X2+……..…… +βpXp

Where: P(Y=k) is the probability of the outcome being in category k.

P(Y=reference category) is the probability of the outcome being in the reference category. Top of Form

β0k is the intercept for category k.

β1,β2,…,βp are the coefficients associated with the independent variables X1,X2,…,Xp.

The model estimates these coefficients to describe how each independent variable influences the likelihood of the outcome being in a specific category. The probabilities are then transformed into odds ratios, which can be used to make predictions and interpret the relationships between the variables.

Table 21: Analysis for alternatives income situation due to different price hike range

Model Fitting Information				
Model	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	77.224			
Final	59.314	17.910	4	.001

Table 22

Pseudo R-Square	
Cox and Snell	.152
Nagelkerke	.158
McFadden	.052

From the Model fitting information, -2 Log Likelihood: 59.314; Chi-Square: 17.910 and Sig. (Significance): .001

This represents the -2 log-likelihood value for the final model, which includes predictor variables. It measures how well the model fits the observed data. And the significance level associated with the chi-square statistic indicates the probability that the improvement in model fit (the difference in -2 log-likelihood) is due to chance. A significance level of .001 (or 0.1%) suggests that the improvement in model fit is highly significant, indicating that the final model provides a significantly better fit than the intercept-only model. I.e. The provided model fitting information suggests that final model, which includes predictor variables, fits the observed data significantly better than the intercept-only (null) model. The chi-square statistic is highly significant ($p < .001$), indicating a strong case for rejecting the null hypothesis (i.e., the null model) in favor of the final model.

Table 23

Likelihood Ratio Tests				
Effect	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	73.453	14.139	4	.007
Price Hike	77.224	17.910	4	.001

Table 24

Parameter Estimates									
Alternatives In Price Hike		**B**	**Std. Error**	**Wald**	**d.f**	**Sig.**	**Exp(B)**	**95% Confidence Interval for Exp(B)**	
								Lower Bound	**Upper Bound**
Increased by over time	Intercept	5.473	1.684	10.563	1	.001			
	Price Hike	-1.488	.402	13.677	1	.000	.226	.103	.497
Shift other job	Intercept	3.353	1.624	4.264	1	.039			
	Price Hike	-.818	.363	5.068	1	.024	.441	.216	.900
Utilize idle resources	Intercept	3.702	1.620	5.222	1	.022			
	Price Hike	-.915	.365	6.287	1	.012	.400	.196	.819
Mortage assets	Intercept	2.062	1.823	1.280	1	.258			
	PriceHike	-.606	.406	2.223	1	.136	.546	.246	1.210
a. The reference category is: Temporary migration for work.									

This suggests that the predictors included in the final model are contributing meaningfully to the explanation of the outcome variable. The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.

From the Likelihood Ratio Test table, since P<.05; so that the variable has a significant overall effect on the outcomes.

From the Parameter Estimate table, we can say that For

Increased by over time the intercept value is 5.473 and the coefficient for "Price Hike" is -1.488.

Interpretation: For individuals in the category "Increased by over time," the probability of this outcome decreases as the "Price Hike" variable increases. Specifically, a one-unit increase in "Price Hike" results in an odds ratio (Exp (B)) of 0.226, indicating a lower probability of this outcome.

For the "Shift other job" the intercept value is 3.353 and the coefficient for "Price Hike" is -0.818. For individuals in the category "Shift other job," the probability of this outcome decreases as the "Price Hike" variable increases. A one-unit increase in "Price Hike" results in an odds ratio (Exp (B)) of 0.441, indicating a lower probability of this outcome

For the "Utilize idle resources": The intercept value is 3.702 and the coefficient for "Price Hike" is -0.915. For individuals in the category "Utilize idle resources," the probability of this outcome decreases as the "Price Hike" variable increases. A one-unit increase in "Price Hike" results in an odds ratio (Exp (B)) of 0.400, indicating a lower probability of this outcome.

For the "Mortgage assets": the intercept value is 2.062 and the coefficient for "Price Hike" is -0.606.

Interpretation: For individuals in the category "Mortgage assets," the probability of this outcome decreases as the "Price Hike" variable increases. A one-unit increase in "Price Hike" results in an odds ratio (Exp (B)) of 0.546, indicating a lower probability of this outcome. The 95% confidence intervals provide a range of values within which we can be reasonably confident that the true odds ratio lies. They help assess the precision of the estimated odds ratios.

In summary, the results suggest that "Price Hike" has a significant impact on the likelihood of being in different categories, with varying degrees of decrease in odds across the categories when there is a one-unit increase in "Price Hike."

Table 25: Analysis for alternatives Food Consume Habit due to different price hike range

Model Fitting Information				
Model	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	93.886			
Final	67.369	26.517	4	.000

From the Model Fitting Information table, under the Sig. column the P value is .000.Since P<.05, then the model fits the data significantly better than the null model.

Table 26

Likelihood Ratio Tests				
Effect	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	94.697	27.328	4	.000
Pricehike	93.886	26.517	4	.000

From the Likelihood Ratio Test table, since P<.05; so that the variable has a significant overall effect on the outcomes.

Table 27

Parameter Estimates									
Alternatives Food Consume		**B**	**Std. Error**	**Wald**	**df**	**Sig.**	**Exp(B)**	**95% Confidence Interval for Exp(B)**	
								asLower Bound	**Upper Bound**
Lower quantity in same quantity	Intercept	5.272	1.904	7.665	1	.006			
	Price hike	-1.583	.469	11.383	1	.001	.205	.082	.515
Smaller quantity in same quality	Intercept	5.830	1.559	13.990	1	.000			
	Price hike	-1.336	.353	14.304	1	.000	.263	.132	.525
Lower quality in smaller quantity	Intercept	1.205	1.997	.364	1	.546			
	Price hike	-.428	.439	.949	1	.330	.652	.276	1.542
Maintain quantity, quality and search other income	Intercept	.983	1.996	.243	1	.622			
	Price hike	-.363	.437	.690	1	.406	.696	+.295	1.639
a. The reference category is: Lower quantity, quality and engaging new member in the work.									

From the table, the results of a logistic regression analysis examining the associations between different food consumption behaviors and price hikes in food items. Each behavior alternative is compared to the reference category of "Lower quantity, quality, and engaging new members in the work."

Notably, price hikes are significantly associated with changes in food consumption behavior, as indicated by the Wald statistics and p-values. Specifically:

"Lower quantity in same quality" and "Smaller quantity in same quality" behaviors both show strong associations with price hikes, with low p-values.

These findings suggest that when food prices rise, people are more likely to reduce the quantity they consume while maintaining the same quality or opting for smaller quantities while maintaining quality.

Analysis for alternatives Accommodation Behavior due to different price hike range

Table 28

Model Fitting Information				
Model	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood	Chi-Square	d.f	Sig.
Intercept Only	92.329			
Final	58.637	33.692	4	.000

From the Model Fitting Information table, under the Sig. column the P value is .000.Since P<.05, then the model fits the data significantly better than the null model

Table 29

Likelihood Ratio Tests				
Effect	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	93.277	34.640	4	.000
Pricehike	92.329	33.692	4	.000

From the Likelihood Ratio Test table, since P<.05; so that the variable has a significant overall effect on the outcomes.

Table 30

Parameter Estimates									
Alternatives Accommodation		**B**	**Std. Error**	**Wald**	**df**	**Sig.**	**Exp(B)**	**95% Confidence Interval for Exp(B)**	
								Lower Bound	**Upper Bound**
Lower quantity in same quantity	Intercept	5.734	1.899	9.122	1	.003			
	Price hike	-1.678	.468	12.863	1	.000	.187	.075	.467
Smaller quantity in same quality	Intercept	5.899	1.589	13.774	1	.000			
	Price hike	-1.356	.360	14.163	1	.000	.258	.127	.522
Lower quality in smaller quantity	Intercept	-4.775	3.614	1.746	1	.186			
	Price hike	.808	.749	1.161	1	.281	2.242	.516	9.739
Maintain quantity, quality and search other income	Intercept	3.074	1.779	2.987	1	.084			
	Price hike	-.808	.398	4.119	1	.042	.446	.204	.973
The reference category is: Lower quantity, quality and engaging new member in the work.									

The provided table appears to be the output of a logistic regression analysis, where the dependent variable is "Alternatives Accommodation" and the independent variable is "Price hike. People who choose the Lower quantity in same quality's accommodation behavior have significantly lower odds (Exp (B) = 0.187) of adopting it when faced with price hikes in food items compared to the reference category. This behavior is negatively associated with price hikes (p < 0.001). Similar to the previous behavior, those who opt for smaller quantity in the same quality have lower odds (Exp (B) = 0.258) of choosing this behavior when food prices increase. This behavior is also negatively associated with price hikes (p < 0.001). Those who maintain quantity and quality while searching for additional income have odds (Exp (B) = 0.446) of adopting this behavior when food prices rise. This behavior is statistically significant (p = 0.042), indicating that it is influenced by price hikes. In summary, the logistic regression analysis reveals that the accommodation behaviors of "Lower quantity in same quality" and "Smaller quantity in same quality" are less likely to be chosen when food prices increase. On the other hand, the behavior of "Maintain quantity, quality and search other income" is more likely to be adopted in response to rising food prices.

Analysis for alternatives Educational Behaviors due to different price hike range

Table 31

Model Fitting Information				
Model	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	142.467			
Final	56.373	86.094	5	.000

The final model, which includes predictors, has an -2 Log Likelihood of 56.373. To assess the model's goodness of fit, a Likelihood Ratio Test was conducted, resulting in a Chi-Square value of 86.094 with 5 degrees of freedom. Yielding a highly significant p-value (< 0.001). This suggests that the final model is a significantly better fit compared to an intercept-only model (with an -2 Log Likelihood of 142.467). In essence, the final model provides a statistically significant improvement in explaining the data compared to a model with no predictors.

Table 32

Likelihood Ratio Tests				
Effect	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood of Reduced Model	Chi-Square	d .f	Sig.
Intercept	128.234	71.861	5	.000
Price hike	142.467	86.094	5	.000

The likelihood ratio test compares the final model (with both Intercept and Price hike) against a reduced model (with only Intercept). The difference in -2 log-likelihoods is used to calculate a chi-square statistic. The highly significant p-value ($p < 0.001$) indicates that including the effect Price hike is significantly improves the model's explanatory power. In other words, the presence of Price hike has a meaningful impact on the model's performance, supporting its inclusion.

Table 33

Parameter Estimates									
Alternatives Educational behavior		B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
								Lower Bound	Upper Bound
No change	Intercept	11.253	3.557	10.007	1	.002			
	Pricehike12	-2.955	.838	12.444	1	.000	.052	.010	.269
Less expensive school in same coaching	Intercept	8.731	3.544	6.070	1	.014			
	Pricehike12	-2.113	.800	6.968	1	.008	.121	.025	.580
Same school and coaching and search alternative	Intercept	7.719	3.445	5.020	1	.025			
	Pricehike12	-1.493	.746	4.001	1	.045	.225	.052	.970
No coaching but same school	Intercept	1.782	3.518	.257	1	.612			
	Pricehike12	.025	.748	.001	1	.974	1.025	.237	4.438
Less coaching in same school	Intercept	2.657	3.837	.479	1	.489			
	Pricehike12	-.493	.826	.357	1	.550	.611	.121	3.080
a. The reference category is: Getting children out of school.									

From the Parameter Estimate results of a logistic regression analysis, specifically examining the effect of "Price hike" on various educational behaviors compared to the reference category of "Getting children out of school". When faced with a price hike (Price hike), the odds of maintaining the same schooling significantly decrease (Exp (B) = 0.052, $p < 0.001$). This suggests a strong impact of price hikes on this behavior. Price hikes lead to a significant decrease in the odds of opting for a less expensive school while maintaining the same coaching (Exp (B) = 0.121, p = 0.008). This indicates a notable influence of price hikes on this behavior. Price hikes result in reduced odds of choosing the same school and coaching while searching for alternatives (Exp (B) = 0.225, p = 0.045). This shows a significant effect of price hikes on this behavior.

The logistic regression analysis indicates that price hikes significantly influence behaviors related to schooling. Specifically, they have a notable impact on maintaining the same schooling, choosing a less expensive school with the same coaching, and exploring alternatives while sticking with the same school and coaching.

Results and Discussion

Above the tables provide detailed insights into how households respond to price changes in essential commodities, adapt their income strategies, and make decisions regarding food, accommodation, and education in response to these economic challenges. The data is valuable for understanding the resilience and coping strategies of different income groups in the face of economic fluctuations. The data collected from respondents aged 18 and above shed light on how households respond to price changes in essential commodities and adapt their income strategies and the data is about the policy making of the households where the matured persons are involved. From the survey the average family size decreased significantly from 5.32 in 2020 to 4.2 in 2023, this suggests that households have experienced a reduction in family size, which might be due to various factors, including changes in family structure or economic conditions. The percentage of female-headed households decreased from 40% in 2020 to 34.9% in 2023, there was a notable decline in "Local businessman" Skilled labor, Agriculture,, "Hawker/Grocery shop" categories and an increase in " Day laborer " and Tempo/Rickshaw/Van/Bus helper " Job holder " categories. The percentage of households owning homestead land , cultivable land , livestock decreased significantly from 67% to 46.8% , 20% to 15.6%., 62% to 45% in 2020 to 2023 changes in asset ownership patterns (table-1). As the research are about the activities of middle income people in the face of different levels of price hikes and the respondents have a small savings after their necessary expenditure, so it is found that all of the respondents reacts in above 40% of price hikes in different essentials items (table 2, table 3, table 4 and table 5). That is they try to maintain their standard in below 40% of price hikes while the poor and extremely poor, managing three meals a day becomes increasingly difficult as the prices of essential commodities continue to rise rapidly and unpredictably. In the study area, when the prices of essential commodities increased by up to 20%, most of the respondents resorted to working overtime to cope with the rising expenses and 42% utilized idle resources to earn additional income in order to cover their expenditures. When prices increased above 80%, 40% of the population turned to temporary migration for work (see Table 4 and Fig-4).

Notably, it was observed that the majority of people who resorted to temporary migration for work during major price hikes were poor and extremely poor. In contrast, middle-class individuals could better accommodate smaller price increases. . Out of a total of 109 households, responses were received from as few as one household up to 50 households, depending on the level of price hike (see Table 5). It is

evident that household behavior varies significantly at different price hike levels, particularly concerning food quality and quantity. Households consider various options to address these challenges, including adjustments in quantity and quality and seeking additional income sources.

However, during a major price hike, only 8 out of 50 respondents (16%) attempt to maintain the same quantity and quality of food through similar means (see Table 5).

At the price hike level of 40-60%, the majority (88%) of people aim to maintain the same quality of food but in smaller quantities. Conversely, when the price hike exceeds 80%, around 40% of households resort to reducing both the quantity and quality of food, as well as engaging new members in work to earn more money and sustain family expenditures during the challenging period (refer to Fig-5(a)). It becomes increasingly challenging to maintain the same quantity and quality of food during such severe price hikes, even though food is an essential part of our daily lives. Moderate price hikes in accommodation may not immediately create problems, but they can ultimately lead to reduced housing affordability. A price hike of 20-40% in accommodation costs can trigger housing crises, with individuals struggling to find affordable places to live. . During major price hikes, a majority of 34% of people is compelled to compromise and move into smaller living spaces (see Table 6). Typically, people have to opt for smaller homes with comparatively lower quality due to rent increases. The response to major price hikes varies among all respondents, with individuals adopting different strategies. From the table and Figure 6, it is evident that in accommodation, they are not ready to sacrifice the quality of living place but try to manage by smaller space. The highest emphasize is given to the educational activities by the target population (table-7). They are found to not sacrifice the quality of education by changing the school but they try to manage the expenditure by manipulating in the additional educational service through coaching (table 7). For Food, Moderate price hikes can impact food affordability, particularly for lower-income individuals or families. They may adjust their diets and seek cheaper alternatives, but extremely price hike condition in food that can lead to hunger, malnutrition, and potential food riots. Keeping in mind that household income did not increase at the same rate as the increase in the prices for essential commodity, families are now forced to reduce their income spending (table-8). The survey indicates (Fig -8) that 90% of the households failed to meet food expenses, 75% of the households failed to meet non-food items due to price hikes and 60% of the households failed to meet the educational expenses of their children,80% of the households suffered from nutritional deficiencies. Price hikes played a role in the increase of violence against women (Fig-9), as it was noted that 59% of the female respondents experienced violence at the household level due to a price hike. These price increases across a range of food commodities suggest inflationary pressures on food prices, which can strain household budgets and impact food security.. the table-8 provides insights into how different income groups adapt their income behavior when faced with a price increase.(Bar chart-11) where for Among the extremely poor, the most common response is 'Temporary migration for work' (62.5%), for the Poor, 'Mortgage assets' (27.9%) and 'Temporary migration for work' (25.6%) are prominent responses. In the Middle-income group, 'Shift to other job' (42.0%) is the leading response. Overall Across all income groups, the most common strategy for alternative food consumption behaviors in response to a rise in prices, categorized by income groups is to lower both quantity and quality while engaging new members in work, constituting 34.9% of the total responses. The second most common strategy is to consume a smaller quantity while maintaining the same quality, which accounts for 28.4% of the total responses (table-9). So from the survey I observed that when faced with rising food prices, people from different income groups adopt various strategies to cope with the situation. Lower income groups tend to make more compromises in terms of quantity and quality, while higher income groups are more inclined to seek additional income sources (From Fig-12). The table -10 shows a clear picture of how different income groups respond to a price rise with various accommodation behaviors. In the "Middle" income group, "Maintain quantity, quality and search other income" was also the most common choice, selected by 70% of individual. Notably, the "Extremely poor" group overwhelmingly chose the Lower quantity, quality and engaging new member in the work, which suggests they might be more inclined to adapt by involving others in their work. The "Poor" group exhibits a more diverse range of behaviors, while the "Middle" group leans toward maintaining quantity and quality while searching for additional income (Fig-13).For education, the extremely poor group appears to prioritize keeping their children in the same school without coaching, while the middle-income group is more likely to seek alternatives while maintaining the same school and coaching (table-11). The level of price hike is found to create significant difference in the activities of respondents in searching the income source that was tested by Chi-square tests. In food items price spiraling, the reaction of respondents in also found as significant. The similar finding was found in the case of price hikes in education but in accommodation, people tend to stay in the same place by sacrificing other things, so an insignificant difference was found in Chi-square test. In summary, the study shows significant changes in household demographics, economic activities, and responses to price hikes in essential commodities. These changes are often influenced by the severity of the price increase and the income group to which households belong. Such trends can have social, economic, and health implications, and they often require attention from policymakers and governments to address the needs of vulnerable populations and ensure food affordability and accessibility.

Limitation of the Study:

The sampling size and the area of research are not sufficient to portrait the overall activities of middle, poor and extremely poor class people in the face of inflation.

Recommendations

1. Implement targeted income support programs for extremely poor and poor households. These programs could include direct cash transfers or food subsidies to mitigate the adverse effects of rising prices on their standard of living.
2. Strengthen price monitoring mechanisms to detect and prevent price manipulation by various interest groups along the supply chain. Government agencies should regulate prices and take action against those engaging in unfair practices.
3. Launch nutrition education campaigns targeting low-

income households. These campaigns should emphasize affordable and nutritious food choices to ensure that even with limited resources, families can make healthier dietary decisions.

4. Focus on creating income generation opportunities, especially for low-skilled and unskilled workers. This could include skill development programs, vocational training, and support for micro-entrepreneurship initiatives.
5. Promote livelihood diversification strategies among low-income groups to reduce their vulnerability to price hikes. This could involve skills training, microfinance support, and access to alternative income sources
6. Establish subsidized essential food outlets in low-income areas where essential food items are sold at affordable prices. These outlets can be managed by the government or in collaboration with NGOs
7. Invest in agricultural infrastructure and provide small-scale farmers with access to technology, credit, and training to increase their productivity. This can help stabilize food prices and improve food security
8. Strengthen social safety net programs to provide a cushion for vulnerable households during times of economic hardship. This could include expanding programs like food-for-work initiatives and school meal programs.
9. Educate consumers, especially in low-income groups, about their rights and how to recognize and report price gouging and unfair trade practices. Encourage collective action to resist price hikes
10. Collaborate with neighboring regions and countries to stabilize food prices and enhance food security by sharing resources, information, and best practices.
11. Implement market stabilization measures to curb artificial price hikes. This may involve stricter regulations on pricing, monitoring of supply chains, and penalties for market manipulation.
12. Establish a robust monitoring and evaluation system to continuously assess the impact of interventions on different socioeconomic groups. This will help in making evidence-based adjustments to policies and programs

Meanwhile, a chunk of the lower-middle income group of the population has joined the ranks of the new poor. They constitute the most vulnerable group, since unlike the traditional vulnerable groups; they are not forthcoming about revealing their situation before the public. The government needs to pay special attention to these fresh entrants to the vulnerable section of the population and include them in its ongoing support programmes.

Conclusion

Rising prices have had a significant impact on the standard of living across various socioeconomic groups, particularly affecting low-income households. The impact of price hikes on the standard of living among different socioeconomic groups is a matter of profound significance. The analysis of this impact underscores the economic and social challenges faced by various segments of the population.

Low-income individuals and households, often the most vulnerable, bear the brunt of rising prices. They are forced to make difficult choices, cutting back on essential items and compromising their overall quality of life. As the prices of basic necessities surge, this vulnerable group faces a disproportionate burden in terms of diminished purchasing power. This has not only led to compromised nutrition but has also put a strain on overall living conditions.

Middle-income households also feel the pinch, albeit to a lesser extent. The struggle to maintain their standard of living is evident, and they may need to make adjustments in their consumption patterns and expenditure.

In light of these challenges, it is crucial for policymakers and relevant authorities to take proactive measures. These measures should include targeted subsidies, economic empowerment initiatives, and policies aimed at stabilizing prices. Additionally, ensuring access to essential commodities for all segments of society is paramount.

In conclusion, addressing the impact of price hikes on the standard of living among different socioeconomic groups is a complex and pressing issue. It demands a multifaceted approach, encompassing economic policies, social welfare programs, and continuous monitoring. The ultimate goal is to mitigate the adverse effects of rising prices and improve the standard of living for all members of society, regardless of their economic status.

References

1. Bangladesh Bank: Policy Analysis Unit. Trend and characteristics of recent inflation in Bangladesh, 2008.
2. Bangladesh Bureau of Statistics. Consumer Price Index and Inflation Rate (CPI); c2021.
3. Jacobs M, McDade TR, Chaparro MV, Corea M. Sick, hungry, and vulnerable: federal stimulus and food security on marginalized populations during the COVID-19 pandemic. Journal of Racial and Ethnic Health Disparities. 2023;10(6):2685-703.
4. Barua D. Price spiraling and economic stagnation- The direct role of government in market control. Bangladesh Journal of Political Economy. 2009;25(1/2):163-175.
5. Centre for Policy Dialogue. Price of daily essentials: A diagnostic study of recent trends. A research prepared for Ministry of Commerce, Government of Bangladesh; cs2007.
6. Basu I, Devine J, Wood G. Politics and Governance in Bangladesh. Oxon: Routledge; c2018.
7. Joint FA. Food and Agriculture Organization of the United Nations. Caramel Colours. Combined Compendium of Food Additive Specification, Monograph. 2011;11:1817-7077.
8. Bangladesh Bureau of Statistics: Agricultural Wing. Crop statistics; c2009.
9. World Bank. Bangladesh Economic Update: Anchoring Stability, Nurturing Growth; c2019.
10. Rahman MA, Khan MS. Price hikes and standard of living: A case study of Khulna Division in Bangladesh. International Journal of Economics, Commerce and Management. 2020;8(12):10-20.
11. Hossain MA, Islam MR. Economic well-being in the face of price hikes: A cross-sectional analysis in Khulna Division, Bangladesh. International Journal of Research in Business and Social Science. 2017;6(5):12-24.