

BRIDGING THE DIVIDE: UNDERSTANDING FOOD PURCHASE BEHAVIOUR AND HOUSEHOLD FOOD STORAGE PRACTICES

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Date of Receipt: 31-01-2026

Date of Acceptance: 02-03-2026

ABSTRACT

Food waste has emerged as a major challenge affecting food security, environmental sustainability, and efficient resource utilization. Household food purchase behaviour and food storage practices are key determinants influencing the generation of food waste. The present study was conducted among 45 rural households in Karimnagar district of Telangana State to assess their food purchase behaviour, food storage practices, and the influence of selected socio-economic characteristics on these behaviours. An exploratory research design was adopted, and data were collected using a structured questionnaire. The data were analysed using frequency, percentage, and step-down regression analysis. The findings revealed that majority of respondents were middle-aged, belonged to nuclear families, had small family size, and were from medium-income households. Rural households exhibited favourable food purchase behaviour, with most respondents agreeing with majority of food purchase behaviour statements, although moderate levels of uncertainty were observed for certain practices. Similarly, respondents demonstrated positive food storage practices, with high agreement for most recommended storage behaviours, indicating awareness of proper food preservation methods. Step-down regression analysis revealed that age, occupation, religion, and family income significantly influenced food purchase behaviour, collectively explaining 33.3 per cent of its variation. Family income was identified as the only significant predictor of food storage practices, accounting for 20.0 per cent of the variation. The study highlights that socio-economic characteristics play an important role in shaping household food management practices. Strengthening consumer awareness and promoting appropriate food purchasing and storage practices through targeted educational interventions can contribute to reducing household food wastage, improving food security, and supporting sustainable consumption in rural communities.

Key Words: Consumer Behaviour, Food Waste, Food Purchase Behaviour, Food Storage Practices, Food Security, Household Management, Sustainable Consumption and rural Households

Food waste is a globally significant issue that poses a threat to achieving sustainable development, maintaining food market stability, supporting human population growth, and ensuring the well-being of people. Globally, approximately 1.3 billion tons of food produced for human consumption are wasted each year

(Olanbiwoninu *et al.*, 2023). Except for economic and social issues, these high amounts of unconsumed food also greatly contribute to global environmental problems, e.g., climate change, water scarcity as well as increasing deforestation and species extinction. In developed nations, consumers are responsible for generating the largest share of food waste, often discarding food that was once perfectly edible (Stancu *et al.*, 2016). Several studies addressing

this topic have led to the Sustainable Development Goals (SDGs), to which the EU has committed. One of the main goals is to halve food waste per capita at the retail and consumer levels by 2030 and to reduce overall food losses in the food supply chain.

Food security and sustainable consumption have become critical global concerns in recent decades, particularly in the context of rising population, urbanization, and changing lifestyles. Efficient management of food at the household level plays a vital role in minimizing food wastage and ensuring optimal utilization of available resources. Among the various factors influencing household food management, food purchase behaviour and food storage practices are considered key determinants that directly impact the quantity of food wasted.

Food purchase behaviour refers to the decisions and actions undertaken by consumers while buying food, including planning, quantity selection, impulse buying, and preference for perishables or processed foods. These behaviours are influenced by socio-economic, demographic, and psychological factors such as income, education, household size, and attitudes toward food management. Studies have indicated that unplanned purchasing and bulk buying often lead to overstocking, which increases the likelihood of food spoilage and wastage (Stefan et al., 2013).

On the other hand, household food storage practices involve the methods and conditions under which food is preserved after purchase to maintain its quality, safety, and shelf life. Proper storage practices, such as refrigeration, segregation of food items, and adherence to expiry dates, are essential in reducing food losses at the consumption stage. Inadequate storage knowledge and improper handling have been identified as major contributors to household food waste, particularly in urban settings where consumption patterns are rapidly changing (Parizeau et al., 2015).

The relationship between food purchasing behaviour and storage practices is complex and interdependent. For instance, excessive purchasing without corresponding storage capacity or knowledge can result in food spoilage. Conversely, effective storage practices can mitigate the negative effects of over-purchasing to some extent. Therefore, understanding the interaction between these two aspects is essential for designing interventions aimed at reducing food waste.

In the Indian context, rapid urbanization and changing dietary habits have widened the gap between traditional and modern food management practices. Urban households often exhibit higher purchasing power and exposure to diverse food options, leading to changes in buying patterns and storage behaviours. Meanwhile, rural households tend to rely on traditional methods and may have different levels of awareness and access to storage facilities. This divide necessitates a comprehensive analysis to identify behavioural gaps and opportunities for improvement.

The present study aims to explore the patterns, determinants, and interrelationship between purchasing

and storage behaviours among urban households. By examining these dimensions, the study seeks to provide insights into effective strategies to reduce food waste and promote sustainable consumption practices.

MATERIAL AND METHODS

The present study was conducted in the Karimnagar district of Telangana State through simple random sampling, 45 respondents from rural households were selected. An exploratory research design was employed to investigate food purchase and storage behaviours related to food waste. A structured questionnaire was developed and used for the study. The data were analyzed using frequency, percentages and Step-down regression.

RESULTS AND DISCUSSION

The profile characteristics include Age, Education, Family type, Family size, Occupation, Religion, and Family Income.

From Table 1, it was revealed that More than half of the rural respondents (55.55%) belonged to the middle age group (38–55 years), followed by young respondents (28.90%), while only 15.55 per cent were in the old age group (56–70 years).

These findings are in line with the studies of Jobson et al. (2025) and Nayyar V.N. (2023).

With regard to education, more than one-third of the rural respondents (37.78%) were illiterate, followed by 17.77 per cent who had graduated or attained higher education. Equal proportions (15.55%) had completed middle school, while 11.11 per cent each had completed high school and intermediate education. Only 6.66 per cent had primary education.

The results further showed that A majority of the rural respondents (77.78%) belonged to nuclear families, while 22.22 per cent lived in joint families. None of the respondents belonged to extended families.

Similar findings were reported by Bhati and Sharma (2023).

In terms of family size, three-fourths of the respondents (75.56%) belonged to small families (up to four members), whereas 22.22 per cent had medium-sized families (5–7 members), and only 2.22 per cent

Table 1. Distribution of respondents based on Profile Characteristics (n=45)

S. No	Variables	Rural	
		Frequency	Percentage
Age			
1.	Young (20-37 Years)	13	28.90
2.	Middle (38-55 Years)	25	55.55
3.	Old (56-70 Years)	7	15.55
Educational Qualifications			
1.	Illiterate	17	37.78
2.	Primary Education	3	6.66
3.	Middle School	7	15.55
4.	High School	5	11.11
5.	Intermediate	5	11.11
6.	Graduation & above	8	17.77
Family Type			
1.	Nuclear	35	77.78
2.	Joint	10	22.22
3.	Extended	0	0.00
Family Size			
1.	Small (Up to 4 members)	34	75.56
2.	Medium (5-7 members)	10	22.22
3.	Large (Above 8 members)	1	2.22
Occupation			
1.	Housewife	17	37.78
2.	Labour	1	2.22
3.	Subsidiary	4	8.89
4.	Farming/Agriculture	10	22.22
5.	Labour + Subsidiary	2	4.44
6.	Labour + Agriculture	10	22.22
7.	Labour + Subsidiary + Agriculture	1	2.22
Religion			
1.	Hindu	42	93.34
2.	Christian	3	6.66
3.	Muslim	0	0.00
4.	Sikhs	0	0.00
Family Income			
1.	Low (Below Rs.50,000)	3	6.66
2.	Medium (Rs.51,000 -1,01,000)	25	55.56
3.	High (Rs.1,01,000)	17	37.78

belonged to large families with more than eight members. These results are consistent with the findings of Sunitha et al. (2019).

Regarding occupation, More than one-third of the rural respondents (37.78%) were housewives. Equal proportions (22.22%) were engaged in farming/ agriculture and labour combined with agriculture, while 8.89 per cent were involved in subsidiary occupations. Smaller proportions were engaged in labour with subsidiary activities (4.44%), labour alone (2.22%), and labour combined with subsidiary and agricultural activities (2.22%).

In relation to religion, An overwhelming majority of the respondents (93.34%) were Hindus, while 6.66 per cent were Christians. None of the respondents belonged to the Muslim or Sikh communities.

These findings are in accordance with Chandan (2018).

With regard to income, More than half of the rural respondents (55.56%) belonged to the medium-income group (₹ 51,000–₹ 1,01,000), followed by 37.78 per cent in the high-income group (above ₹ 1,01,000), while only 6.66 per cent belonged to the low-income category (below ₹ 50,000). These findings are supported by Jobson *et al.* (2025).

The overall socio-economic profile of the rural respondents indicates that majority were middle-aged, belonged to nuclear and small families, had medium levels of income, and were predominantly engaged in

household management and agriculture. These characteristics reflect the changing socio-economic conditions in rural areas, where increasing awareness of family planning, improved access to education, and diversification of livelihood opportunities have influenced household composition and economic stability. Although a considerable proportion of respondents were illiterate, recent educational advancements have enabled younger generations to attain higher levels of education. The predominance of medium-income households suggests relatively stable livelihoods through agriculture and allied occupations, while the religious composition reflects the demographic characteristics of the selected study area. Collectively, these socio-economic characteristics influence household decision-making related to food purchasing, preparation, storage, consumption, and waste management, thereby playing an important role in determining food wastage behaviour among rural households.

A clear pattern emerges from Table 2, indicating that respondents exhibit both strong agreement and considerable uncertainty depending on the type of purchasing behaviour evaluated.

Overall, the results indicate that most rural respondents showed favourable food purchasing behaviour, as the majority agreed with almost all the Food Purchase Behaviour Questionnaire (FPBQ) statements. Very few respondents expressed disagreement, while a moderate proportion remained undecided for certain statements. This suggests that

Table 2. Distribution of respondents based on Food Purchase Behaviour (FPB) (n=45)

S.No.	Questions	Rural (45)		
		A	UD	DA
1.	FPBQ1	37 (82.22%)	1 (2.22%)	7 (15.56%)
2.	FPBQ2	23 (51.11%)	14 (31.11%)	8 (17.78%)
3.	FPBQ3	29 (64.44%)	16 (35.56%)	0 (0.00)
4.	FPBQ4	23 (51.11%)	15 (33.33%)	7 (15.56%)
5.	FPBQ5	30 (66.67%)	7 (15.56%)	8 (17.78%)
6.	FPBQ6	23 (51.11%)	14 (31.11%)	8 (17.78%)
7.	FPBQ7	37 (82.22%)	1 (2.22%)	7 (15.56%)
8.	FPBQ8	21 (46.67%)	22 (48.89%)	2 (4.44%)
9.	FPBQ9	31 (68.89%)	14 (31.11%)	0 (0.00)
10.	FPBQ10	30 (66.67%)	15 (33.33%)	0 (0.00)

rural households generally recognise the importance of careful food purchasing practices, although the level of implementation varies across different behaviours.

The favourable responses may be attributed to respondents' experience in managing household food resources, the need to utilise limited financial resources efficiently, and dependence on agriculture and locally available food. Rural households often plan their purchases according to family needs, seasonal availability, and income, which encourages responsible purchasing and helps minimise unnecessary expenditure and food wastage. The undecided responses observed for some statements may be due to differences in education, purchasing power, market accessibility, household size, and awareness regarding scientific food management practices. Overall, the findings indicate a generally positive food purchasing behaviour among rural households, which contributes to better food utilisation and reduced food wastage.

Overall, the findings reveal that rural respondents demonstrated favourable food storage

practices, as the majority agreed with 16 out of the 17 Food Storage Practice Questionnaire (FSPQ) statements. The highest agreement was observed for FSPQ1 (95.55%), followed by FSPQ10 and FSPQ12 (88.89%), indicating strong awareness and adoption of recommended food storage practices. However, comparatively higher levels of disagreement were observed for FSPQ4, FSPQ7, FSPQ8, and FSPQ14, suggesting that certain storage practices are less consistently followed due to practical constraints. Notably, all respondents disagreed with FSPQ17, indicating complete rejection of the practice represented by that statement.

The overall favourable responses may be attributed to the respondents' experience in household food management, awareness of preventing food spoilage, and the need to maximise the utilisation of available food resources. Rural households often rely on proper storage techniques to preserve food quality, reduce economic losses, and ensure food availability throughout the year. Variations in responses across a few statements may be due to differences in educational level, household income, access to modern

Table 3. Distribution of respondents based on Food Storage Practices(FSP) Food Storage Practices (n = 45)

1.	FSPQ1	43 (95.55%)	1(2.22%)	1(2.22%)
2.	FSPQ2	36 (80.00%)	7 (15.56%)	2(4.44%)
3.	FSPQ3	36 (80.00%)	6 (13.33%)	3 (6.67%)
4.	FSPQ4	31(68.89%)	3 (6.67%)	11 (24.44%)
5.	FSPQ5	32(71.11%)	5 (11.11%)	8(17.78%)
6.	FSPQ6	35 (77.78%)	0(0.00)	10 (22.22%)
7.	FSPQ7	31(68.89%)	4 (8.89%)	10 (22.22%)
8.	FSPQ8	32(71.11%)	1(2.22%)	12 (26.67%)
9.	FSPQ9	35 (77.78%)	6 (13.33%)	4 (8.89%)
10.	FSPQ10	40 (88.89%)	3 (6.67%)	2(4.44%)
11.	FSPQ11	36 (80.00%)	6 (13.33%)	3 (6.67%)
12.	FSPQ12	40 (88.89%)	3 (6.67%)	2(4.44%)
13.	FSPQ13	29 (64.44%)	14 (31.11%)	2(4.44%)
14.	FSPQ14	33(73.33%)	3 (6.67%)	9 (20.00%)
15.	FSPQ15	34 (75.56%)	8(17.78%)	3 (6.67%)
16.	FSPQ16	39 (86.67%)	4 (8.89%)	2(4.44%)
17.	FSPQ17	0(0.00)	0(0.00)	45(100%)

*Agree = A; UD = undecided; DA = Disagree

storage of facilities, traditional storage methods, climatic conditions, and awareness regarding scientific food preservation practices. Overall, the findings suggest that rural households possess a generally positive orientation towards proper food storage, which contributes to reducing household food wastage and improving food security.

Influence of profile characteristics on Food Purchase Behaviour (FPB)

Food Storage Practices. The independent variable like Income had contributed significantly at 0.01 per cent level of probability towards variation in the Food Storage Practices among households.

The coefficient of determination ($R^2=0.218$) indicates that the independent variables included in the regression model explained 21.8% of the variation in the dependent variable. The remaining 78.2% of the variation may be attributed to other unmeasured

Table 3.4. Model summary of step- down regression analysis of the profile characteristics with Food Storage Practices at 5th step

Mode	R	R Square	Adjusted R-Square	Std. Error of the Estimate
5	.467(e)	.218	.200	.218100

From the above table, it could be inferred that variables in the last model accounted for 20 percent of the variation in the household economy. Among 7

independent variables, the variables, i.e., Income, were contributing more and repeated in the retained models.

Table 3.5. ANOVA of step-down regression analysis of the profile characteristics with Food Storage Practices at 5th step

Model		Sum of Squares	Df	Mean Square	F	Sig.
5	Regression	.569	1	.569	11.968	.001(e)
	Residual	2.045	43	.048		
	Total	2.615	44			

Table. 3.6. Step- down regression analysis of profile characteristics with Food Storage Practices at 5th step

S. No	Independent variables	Food Storage Practices (Total, n=45)			
		Regression coefficient	Std. Error	t-value	p-value
1.	Income	-.262	.076	-3.459**	.001

$R^2 = .200$; F value = 11.968 ` ** Significant at the 1% level

Step-down regression analysis was carried out to determine the influence of profile characteristics on Food Purchase Behaviour. A step-down regression analysis was conducted for all respondents to identify the significant contributing factors.

The results from the table 3.6 indicated the influence of profile characteristics on food storage practices among urban households. Among them, only one variable, namely Income, significantly contributed to the variation in Food Storage Practices. The R^2 value of .200 indicated that the selected variables put together explained about 20 percent of the variation in

variables. Hence and R^2 of 0.218 should not be interpreted as a poor model. It indicates that the measured predictors explain a meaningful portion of the variation, while highlighting that additional behavioural and contextual factors also play an important role. This interpretation is consistent with the nature of social and behavioural research.

CONCLUSION

The present study demonstrated that rural households generally exhibit favourable food purchase behaviour and food storage practices, reflecting a

positive orientation towards efficient household food management. Most respondents followed planned purchasing and recommended storage practices, indicating awareness of measures that help prevent food spoilage and reduce food wastage. However, the presence of uncertainty and disagreement for certain behavioural statements suggests that there is still scope for improving consistency in food management practices. The socio-economic profile of respondents, particularly age, occupation, religion, and family income, significantly influenced food purchase behaviour, while family income emerged as the major determinant of food storage practices. These findings suggest that economic and demographic characteristics play a crucial role in shaping household decisions related to food purchasing and storage. Therefore, extension programmes, consumer education campaigns, and awareness initiatives focusing on scientific food purchasing, proper storage techniques, and efficient household food management should be strengthened among rural households. Such interventions can improve responsible food management practices, reduce avoidable household food wastage, enhance food security, and contribute towards achieving sustainable consumption and environmental sustainability.

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