



HOUSEHOLD RESPONSES TO FOOD INFLATION IN KODAGU: AN EMPIRICAL STUDY

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Abstract: This study investigates the impact of food inflation on household consumption patterns and socioeconomic well-being in Kodagu, Karnataka. Utilizing a cross-sectional descriptive research design, the study analyzes data collected from 393 households through a stratified random sampling technique. The structured questionnaire, designed to capture quantitative and qualitative data, reveals significant findings. It highlights that food inflation considerably affects household consumption, with larger households adopting strategies to maintain food consumption, while smaller households reduce consumption due to financial constraints. The necessity to reduce specific food items is prevalent across all household sizes, indicating a widespread impact on dietary habits and food security. The analysis also shows a varied impact of food inflation on households based on their primary income sources, with salaried employees and business owners being more susceptible to moderate impacts on their ability to afford essential goods and services. Conversely, agricultural households display a diverse impact spectrum, and daily wage labourers exhibit improved affordability and resistance to increased debt. Furthermore, the study finds that educational attainment influences the choice of coping strategies, with households having higher educational levels more likely to adopt financially strategic approaches. However, the perceived effectiveness of these strategies remains largely neutral or ineffective across all educational levels, underscoring the need for more effective and supportive measures. These insights are crucial for policymakers in designing targeted interventions to mitigate the adverse effects of food inflation and enhance food security and socioeconomic well-being in Kodagu.

Keywords: Food inflation, household consumption patterns, socioeconomic well-being, Kodagu, coping mechanisms, income sources, educational attainment, food security, stratified random sampling, cross-sectional descriptive research design.

Introduction

Food inflation, a persistent rise in food prices, has significant implications for households, particularly in regions where agriculture forms the backbone of the local economy. In Kodagu, a district known for its diverse agricultural produce, food inflation presents a multifaceted challenge. This study aims to explore how households in Kodagu respond to food inflation, examining the coping mechanisms they adopt, the impact on their consumption patterns, and the broader socioeconomic consequences. Understanding these responses is crucial for formulating policies that can mitigate the adverse effects of food inflation and enhance food security in the region.

Kodagu, located in the state of Karnataka, is predominantly an agrarian economy with coffee, rice, and spices being its major crops. The district's economy and the livelihood of its residents are intricately linked to agriculture and tourism. However, food inflation, driven by factors such as climatic changes, fluctuating input costs, and market dynamics, poses a significant threat to household food security (Thowseaf, S., & Millath, D. M. A., 2016). The impact of food inflation is not uniform; it disproportionately affects low-income households, exacerbating poverty and malnutrition. By studying household responses to food inflation in Kodagu, this research seeks to provide insights into the adaptive strategies employed by households and identify areas where policy interventions can be most effective (Rao, V. S., & Kumar, A. (2016).

The socioeconomic consequences of food inflation extend beyond changes in consumption patterns. Increased food expenditure often necessitates reallocating resources from other essential needs such as healthcare, education, and housing (Singh, R., & Singh, K. (2018). Food inflation presents a significant challenge for households in Kodagu, affecting their consumption patterns and overall socioeconomic well-being. The adaptive strategies employed by households highlight their resilience but also reveal the need for comprehensive policy interventions (Thomas, M., & Raj, S. (2019). By addressing the root causes of food inflation and supporting vulnerable households, policymakers can help mitigate the adverse effects and enhance food security in Kodagu. This study contributes to a deeper understanding of the localized impact of food inflation and provides a basis for developing targeted strategies to support affected households.

Review of Literature

The objective of Chandrasekhar and Ghosh's (2015) study was to examine the relationship between food inflation and household consumption patterns in India. Using a cross-sectional research design, the study sampled 500 households across urban and rural areas. Data was collected through structured questionnaires focusing on income, expenditure, and food consumption. The study analyzed variables such as income levels, inflation rates, and dietary changes using regression analysis. The findings revealed that food inflation significantly reduces the consumption of nutritious food among low-income households, suggesting the need for targeted subsidies and nutrition programs.

Gaiha and Kulkarni (2019) aimed to understand the impact of food price volatility on rural livelihoods in Maharashtra. The study adopted a longitudinal design, surveying 300 rural households over three years. A mixed-methods approach was employed, using both surveys and focus group discussions. Key variables included food prices, income sources, and expenditure patterns. The analysis indicated that price volatility disproportionately affected smallholder farmers, leading to reduced dietary diversity and increased food insecurity. The study suggested the implementation of price stabilization mechanisms and farmer support programs.

Gupta and Mishra (2020) explored the determinants of food inflation in urban India, focusing on supply chain inefficiencies. The study used a descriptive research design with a sample of 250 urban households. Data was collected through semi-structured interviews and analyzed using factor analysis. The study identified key factors such as transportation costs, storage losses, and market intermediaries contributing to food inflation. The findings emphasized the need for improving supply chain logistics and reducing wastage to control food prices.

Joshi and Sharma (2017) investigated the role of agricultural policies in mitigating food inflation in India. The study utilized a policy analysis approach, examining secondary data from government reports and agricultural surveys. Key variables included policy interventions, inflation rates, and agricultural output. The analysis revealed that policies promoting crop diversification and investment in agricultural infrastructure significantly reduced food inflation. The study recommended enhancing policy support for sustainable agricultural practices.

Rao and Kumar (2016) aimed to assess the impact of global food price shocks on domestic food inflation in India. Using a time-series research design, the study analyzed data from 1990 to 2015. Key variables included global food prices, exchange rates, and domestic inflation rates. The study employed vector auto regression (VAR) analysis to understand the dynamics. The findings indicated a significant pass-through effect of global prices on domestic inflation, suggesting the need for strategic reserves and diversified import sources.

Singh and Singh (2018) examined the socio-economic impacts of food inflation on different demographic groups in Delhi. The study used a stratified sampling technique to survey 400 households across various income brackets. Data was collected through structured questionnaires and analyzed using multivariate analysis. The study found that food inflation had a more pronounced impact on lower-income groups, leading to reduced consumption of protein-rich foods. The study recommended targeted food assistance programs for vulnerable populations.

Thomas and Raj (2019) explored consumer perceptions of food inflation and its impact on purchasing behavior in Kerala. The study employed a cross-sectional design with a sample of 350 consumers. Data was collected through a combination of surveys and in-depth interviews. Key variables included consumer perceptions, inflation rates, and purchasing patterns. The analysis revealed that perceived inflation led to significant changes in shopping habits, including increased price sensitivity and a shift towards discount stores. The study suggested enhancing consumer awareness about inflation trends.

Verma and Chopra (2018) focused on the role of middlemen in contributing to food inflation in Punjab. The study used an exploratory research design, conducting interviews with 200 farmers and 50 middlemen. The study analyzed factors such as supply chain length, pricing practices, and market dynamics. The findings indicated that middlemen played a significant role in inflating prices due to their control over market access and price setting. The study recommended policies to streamline the supply chain and reduce middlemen's influence.

Mehta and Patel (2017) assessed the effectiveness of government interventions in controlling food inflation in Gujarat. The study used a quasi-experimental design, comparing food price trends before and after policy implementation. Data was collected from government databases and market surveys. Key variables included inflation rates, policy measures, and market prices. The analysis showed that direct interventions, such as price controls and subsidies, were effective in the short term but required complementary long-term strategies for sustainability.

Bhattacharya and Roy (2021) investigated the relationship between food inflation and malnutrition in rural West Bengal. The study used a cross-sectional design with a sample of 300 rural households. Data was collected through household surveys and nutritional assessments. The study found that high food inflation rates were associated with increased levels of malnutrition among children and pregnant women. The authors suggested enhancing social safety nets and nutritional support programs to combat the adverse effects of food inflation.

Desai and Menon (2020) analyzed the impact of food inflation on urban poverty in Mumbai. The study adopted a mixed-methods approach, combining quantitative surveys with qualitative interviews. A sample of 250 households from slum areas was surveyed. Key variables included household income, food expenditure, and coping strategies. The analysis revealed that food inflation exacerbated urban poverty, leading to increased reliance on informal credit and reduced spending on non-food essentials. The study recommended integrated poverty alleviation and food security programs.

Objectives of the Study

1. To analyze the impact of food inflation on household consumption patterns and socioeconomic well-being in Kodagu.
2. To identify the coping mechanisms employed by households in Kodagu to manage the effects of rising food prices.

Methodology

- **Research Design:** This study employs a cross-sectional descriptive research design to analyze the impact of food inflation on household consumption patterns and socioeconomic well-being in Kodagu. The cross-sectional design allows for the collection and analysis of data from a diverse population at a single point in time, providing a comprehensive snapshot of the current situation regarding food inflation in the region.
- **Sample:** The sample for this study comprises the general public residing in Kodagu. The focus on the general public ensures a broad understanding of how food inflation affects different households, including various income levels, occupations, and demographic groups.
- **Sampling Technique:** A stratified random sampling technique is used to ensure representation from different strata within the population of Kodagu. This method allows for the division of the population into homogeneous subgroups based on key characteristics such as income level, age, and geographic location. From each stratum, a random sample is drawn, ensuring that the sample accurately reflects the diverse demographic profile of the district.
- **Sample Size:** The sample size for this study is determined to be 393 households. This size is calculated based on the need to achieve a representative sample that allows for generalization of the findings to the entire population of Kodagu. The sample size is also sufficient to perform robust statistical analyses, ensuring the reliability and validity of the results.
- **Area of the Study:** The area of the study is Kodagu, a district in Karnataka, India. Kodagu is selected for its unique economic structure, which is heavily reliant on agriculture. The district is known for its coffee plantations, rice fields, and spice production, making it an ideal location to study the effects of food inflation. Additionally, the district's diverse topography and varying access to markets and infrastructure provide a rich context for analyzing the multifaceted impact of food inflation on households.
- **Data Collection Instrument:** Data collection is carried out using a structured questionnaire. The questionnaire is designed to capture comprehensive information on household demographics, income, expenditure patterns, food consumption habits, and coping mechanisms in response to food inflation. The instrument includes both closed-ended and open-ended questions to gather quantitative and qualitative data. The questionnaire is pre-tested on a small sample to ensure clarity and relevance, and adjustments are made based on feedback to improve its effectiveness. The data collection process involves circulating structured questionnaire through google forms mostly and some data are collected via structured and unstructured interviews.

Analysis and Interpretation

The table provides a detailed demographic profile of the surveyed households in Kodagu.

Table No. 1: Percentage Analysis – Demographic Profile

		Frequency	Percent
What is the household size?	1-2 members	71	18.1
	3-4 members	196	49.9
	5-6 members	78	19.8
	More than 6 members	48	12.2
	Total	393	100.0
What is the primary source of income for your household?	Agriculture	80	20.4
	Business	85	21.6
	Salaried Employment	200	50.9
	Daily Wage Labour	28	7.1
	Total	393	100.0
What is the monthly household income?	Below 10,000	34	8.7
	10,001 - 20,000	32	8.1
	20,001 - 30,000 3	265	67.4
	0,001 - 40,000	36	9.2
	Above 40,000	26	6.6
	Total	393	100.0
What is the highest level of education attained by the head of the household?	No formal education	17	4.3
	Primary education	12	3.1
	Secondary education	23	5.9
	Higher secondary education	159	40.5
	Graduate and above	182	46.3
	Total	393	100.0

Source: (Primary data)

It indicates that the majority of households consist of 3-4 members, accounting for 49.9% (196 respondents), followed by households with 5-6 members at 19.8% (78 respondents), and smaller households with 1-2 members at 18.1% (71 respondents). Households with more than 6 members represent 12.2% (48 respondents). This distribution highlights a prevalent family size of 3-4 members in the region.

Regarding the primary source of income, salaried employment is predominant, encompassing 50.9% (200 respondents) of the households. Agriculture serves as the primary income source for 20.4% (80 respondents), while business and daily wage labour contribute to the income of 21.6% (85 respondents) and 7.1% (28 respondents) of households, respectively. This illustrates a diverse economic base with a significant reliance on salaried jobs and agriculture.

In terms of monthly household income, a substantial portion of households, 67.4% (265 respondents), earn between ₹20,001 and ₹30,000. Households earning below ₹10,000 constitute 8.7% (34 respondents), those earning between ₹10,001 and ₹20,000 make up 8.1% (32 respondents), and households earning between ₹30,001 and ₹40,000 represent 9.2% (36 respondents). A smaller segment, 6.6% (26 respondents), reports an income above ₹40,000. This income distribution indicates that the majority of households fall within a mid-range income bracket, with fewer households at the extreme lower and higher ends of the income spectrum.

The educational attainment of the household heads reveals that 46.3% (182 respondents) have completed graduate-level education or higher, and 40.5% (159 respondents) have attained higher secondary education. Secondary education is reported by 5.9% (23 respondents), primary education by 3.1% (12 respondents), and no formal education by 4.3% (17 respondents). This educational profile suggests a relatively high level of education among household heads, with a significant proportion having pursued advanced studies.

The tables illustrate the impact of food inflation on household consumption patterns and the necessity to reduce specific food items among households of varying sizes in Kodagu.

Table No. 2: Impact of Food Inflation on Household Consumption

		What is the household size?				Total
		1-2 members	3-4 members	5-6 members	More than 6 members	
Impact of Food Inflation on Household Consumption Patterns	Greatly decreased	9	7	17	4	37
	Somewhat decreased	21	78	16	2	117
	No change	19	84	12	7	122
	Somewhat increased	11	14	13	21	59
	Greatly increased	11	13	20	14	58
Total		71	196	78	48	393
		What is the household size?				Total
		1-2 members	3-4 members	5-6 members	More than 6 members	
Has your household had to reduce the consumption of any specific food items due to rising prices?	Yes	60	188	59	29	336
	No	11	8	19	19	57
Total		71	196	78	48	393

Source: (Primary data)

In the table, the response to the impact of food inflation on household consumption patterns is analyzed based on household size. Among households with 1-2 members, 12.7% (9 respondents) reported a "greatly decreased" food consumption, while 29.6% (21 respondents) reported a "somewhat decreased" consumption. For households with 3-4 members, 35.2% (78 respondents) experienced a "somewhat decreased" consumption, and 42.9% (84 respondents) reported no change. In the 5-6 member households, the largest proportion, 25.6% (20 respondents), experienced a "greatly increased" consumption. In households with more than 6 members, 43.8% (21 respondents) reported a "somewhat increased" consumption. This distribution suggests a mixed impact of food inflation on consumption patterns, with larger households more likely to report increased consumption, potentially due to higher food needs and adaptive strategies.

The second table focuses on whether households had to reduce the consumption of specific food items due to rising prices, categorized by household size. A significant majority of households with 1-2 members, 84.5% (60 respondents), and 95.9% (188 respondents) of households with 3-4 members reported reducing the consumption of specific food items. Similarly, 75.6% (59 respondents) of 5-6 member households and 60.4% (29 respondents) of households with more than 6 members also reported reductions. Conversely, a small fraction of households across all sizes reported no reduction in food consumption, with the highest being 39.6% (19 respondents) in households with more than 6 members. These findings indicate that food inflation has compelled the majority of households to cut down on certain food items, with smaller households slightly more affected.

The tables present insights into how food inflation affects households in Kodagu, segmented by their primary source of income. This analysis helps in understanding the differential impact of food inflation on households with varied income sources.

Table No. 3: Impact of Food Inflation on Socio-economic Profile

		What is the primary source of income for your household?				Total
		Agriculture	Business	Salaried Employment	Daily Wage Labour	
How has food inflation impacted your household's ability to afford other essential goods and services (e.g., healthcare, education)?	Severely impacted	13	12	10	0	35
	Moderately impacted	15	27	77	0	119
	Slightly impacted	28	20	74	0	122
	No impact	8	13	23	16	60
	Improved affordability	16	13	16	12	57
Total		80	85	200	28	393
		What is the primary source of income for your household?				Total
		Agriculture	Business	Salaried Employment	Daily Wage Labour	
Has food inflation led to increased debt or borrowing for your household?	Strongly agree	8	12	14	0	34
	Agree	25	24	78	0	127
	Neutral	23	23	69	0	115
	Disagree	17	12	21	18	68

	Strongly disagree	7	14	18	10	49
Total		80	85	200	28	393

Source: (Primary data)

In the first table, the impact of food inflation on the ability to afford other essential goods and services (such as healthcare and education) is evaluated. Among households primarily dependent on agriculture, 16.3% (13 respondents) reported being severely impacted, 18.8% (15 respondents) moderately impacted, and the largest group, 35.0% (28 respondents), slightly impacted. Interestingly, 20.0% (16 respondents) of these households reported improved affordability. For those engaged in business, 14.1% (12 respondents) reported severe impact, 31.8% (27 respondents) moderate impact, and 23.5% (20 respondents) slight impact, with 15.3% (13 respondents) noting improved affordability. Among salaried employees, 5.0% (10 respondents) reported severe impact, a significant 38.5% (77 respondents) moderate impact, and 37.0% (74 respondents) slight impact. Only 8.0% (16 respondents) noted improved affordability. In contrast, daily wage labourers had a notable 42.9% (12 respondents) reporting improved affordability and 57.1% (16 respondents) experiencing no impact, with none reporting severe or moderate impact. This distribution suggests that salaried employees and business owners are more likely to experience moderate to slight impacts from food inflation, while daily wage labourers exhibit a surprising trend of improved affordability, possibly due to adaptive coping mechanisms or additional income support.

The second table explores whether food inflation has led to increased debt or borrowing among households, categorized by their primary source of income. For agricultural households, 10.0% (8 respondents) strongly agree, and 31.3% (25 respondents) agree that food inflation has led to increased debt, while 21.3% (17 respondents) disagree. In business households, 14.1% (12 respondents) strongly agree, and 28.2% (24 respondents) agree, with 16.5% (14 respondents) strongly disagreeing. Among salaried employees, 7.0% (14 respondents) strongly agree, and 39.0% (78 respondents) agree, whereas 9.0% (18 respondents) strongly disagree. Daily wage labourers showed no agreement with increased debt due to food inflation, but 35.7% (10 respondents) strongly disagreed, indicating that other factors or support systems might be mitigating their financial stress.

The tables provide an analysis of coping strategies adopted by households to manage rising food prices and the perceived effectiveness of these strategies, categorized by the highest level of education attained by the head of the household. This analysis offers insights into how educational attainment influences household responses to food inflation in Kodagu.

Table No. 4: Strategies adopted to cope with rising food prices

		What is the highest level of education attained by the head of the household?					Total
		No formal education	Primary education	Secondary education	Higher secondary education	Graduate and above	
What strategies has your household adopted to cope with rising food prices?	Reducing food quantity	4	1	3	14	13	35
	Switching to cheaper food alternatives	2	2	1	80	73	158
	Growing own food	2	1	5	8	5	21
	Buying in bulk	3	3	4	9	15	34
	Seeking food aid or assistance	2	4	6	7	14	33
	Reducing spending on non-food items	4	1	4	41	62	112
Total		17	12	23	159	182	393
		What is the highest level of education attained by the head of the household?					Total
		No formal education	Primary education	Secondary education	Higher secondary education	Graduate and above	
How effective have these coping mechanisms been in managing the impact of food inflation?	Very effective	4	3	7	13	13	40
	Effective	4	3	4	13	12	36
	Neutral	3	2	4	55	49	113
	Ineffective	3	2	3	44	55	107
	Very ineffective	3	2	5	34	53	97
Total		17	12	23	159	182	393

Source: (Primary data)

In the first table, households employ various strategies to cope with rising food prices. Among households where the head has no formal education, the most common strategy is reducing food quantity (23.5%, 4 respondents) and reducing spending on non-food items (23.5%, 4 respondents). For those with primary education, the leading strategies are seeking food aid or assistance (33.3%, 4 respondents) and buying in bulk (25.0%, 3 respondents). In households with secondary education, the strategies are more evenly distributed, with seeking food aid or assistance (26.1%, 6 respondents) and growing their own food (21.7%, 5 respondents) being notable. Households with higher secondary education predominantly switch to cheaper food alternatives (50.3%, 80 respondents) and reduce spending on non-food items (25.8%, 41 respondents). Similarly, among households with a graduate-level head, switching to cheaper food alternatives (40.1%, 73 respondents) and reducing spending on non-food items (34.1%, 62 respondents) are the primary strategies. This distribution suggests that higher educational attainment is associated with a preference for switching to cheaper food alternatives and strategic financial adjustments, whereas lower educational levels correlate with seeking direct food aid and assistance.

The second table examines the effectiveness of these coping mechanisms. Households with heads having no formal education reported a balanced view of the effectiveness, with 23.5% (4 respondents) finding the strategies very effective and 23.5% (4 respondents) finding them ineffective. For primary education households, the responses are similarly varied, with no dominant perception of effectiveness. In contrast, households with secondary education exhibit a mixed response, with the largest group being neutral (17.4%, 4 respondents) or very ineffective (21.7%, 5 respondents). Among households with higher secondary education, a significant portion is neutral (34.6%, 55 respondents) or finds the strategies ineffective (27.7%, 44 respondents). Households with graduate-level heads also display a mixed response, with the largest groups being neutral (26.9%, 49 respondents) and very ineffective (29.1%, 53 respondents). This indicates a general trend of perceived ineffectiveness or neutral feelings towards coping mechanisms, regardless of educational attainment.

Findings and Conclusion

The analysis highlights the significant impact of food inflation on household consumption patterns across different household sizes in Kodagu. The trend suggests that while larger households may adopt strategies to maintain their food consumption, smaller households are more prone to reduce consumption due to financial constraints. The necessity to reduce specific food items is prevalent across all household sizes, underlining the widespread influence of rising food prices on dietary habits and food security within the region. This information is crucial for policymakers and stakeholders in devising targeted interventions to mitigate the adverse effects of food inflation on vulnerable households.

The data reveal that food inflation has a varied impact on households in Kodagu based on their primary income sources. Salaried employees and business owners appear more susceptible to moderate impacts on their ability to afford essential goods and services and show higher agreement with increased debt or borrowing. Agricultural households exhibit a diverse impact spectrum, while daily wage labourers show a unique trend of improved affordability and resistance to increased debt, suggesting different coping mechanisms or financial resilience. These insights underscore the need for tailored policy interventions to address the specific challenges faced by households with different income sources in the context of food inflation.

The data suggest that educational attainment influences the choice of coping strategies for managing food inflation. Households with higher educational levels are more likely to adopt financially strategic approaches, such as switching to cheaper alternatives and reducing non-food expenditures. However, the perceived effectiveness of these strategies remains largely neutral or ineffective across all educational levels, indicating a need for more effective and supportive measures to address food inflation's impact comprehensively. These insights can guide policymakers in designing targeted interventions that consider the educational background of households to enhance the efficacy of coping strategies.

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