

Impact of Food Inflation on BPL and APL Household Consumption - A Study in Kannur District, Kerala

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Abstract

Background/Objectives: Growth with stability is essential condition for attaining sustainable economic development. Fluctuations in prices create an atmosphere of uncertainty which is not conducive to developmental activity. The present study investigates the impact of food inflation on household consumption of APL and BPL categories in Kannur district of Kerala.

Methods/Statistical analysis: The present study is based on primary and secondary data. The secondary data comprises various references which already existed in the published form such as research papers, articles, books and websites relating to food inflations. The primary data were collected from urban households of Kannur district in Kerala, India. A sample size of 50 households has been drawn randomly from the population of Kannur districts i.e. 25 each from APL and BPL category. Henry Garrett ranking techniques was used to evaluate the problem faced by households in food consumption.

Findings: The poor, who spend large shares of their income on food, are most adversely affected. Since rising food prices command a larger share of a limited budget, the poor are forced to shift their expenditures to cheaper diets with less proteins and micronutrients. About 72 percent of households have spend more than 50 percent of income on food consumption. 60.4 percentage of households has reduced the consumption of food items from their past consumption level. 58.4 percent of BPL households has reduced the consumption of food items including pulses, egg, meat& fish, cereals, fruits and vegetables. It was only 48.67 percent of APL households has reduced the consumption of pulses, egg, meat& fish, cereals, fruits and vegetables.

Improvements/Applications: The government must enact a law where by the government get the power to control the price of essential commodities and make it mandatory to publish those prices in the main news papers and other mass medias. To implement policies for promoting agriculture at household level and supply seeds and fertilizers to households at a subsidized rate.

Keywords: food security, inflation, APL- BPL, consumption expenditure, deprivation

1. Introduction

Inflation is a global phenomenon in the present day times. Inflation occurs due to an imbalance between demand and supply of money, higher income, changes in production and distribution cost or increase in taxes on products. During period of inflation the price level of goods and services rises, the value of currency reduces. This means each unit of currency buys fewer goods and services [1]. It has its worst impact on consumers, especially fixed income groups. High prices of day-to-day goods and services make it difficult for consumers to afford even the basic commodities in life [2]. This leaves them with no choice but to ask for higher incomes. In the last few years, there has been a significant increase in global food prices due to several structural and cyclical factors [3]. Even before the food crisis, the poor and vulnerable were significantly left behind. Rising food prices would further undermine the food security and livelihoods of the most vulnerable by eroding their already limited purchasing power. Rising food prices have great impacts on poverty levels and food security since access to food is largely dependent on the price of the various food commodities [4, 5].

Change in food prices generally affects the entire household. People are different in terms of their needs, consumption pattern, food position and taste. Depending on households' position as net seller or net buyer of staple food, increase in prices of staple food would raise the income of households that are net sellers and add to the hardship of the households that are net buyers [6]. Hardship of the poor people increases because they have to

spend a larger share of their income on essential foods and less is left to spend on other purposes [7]. Since the population below poverty line spends more than 50 percent of their total expenditure on food in Kerala, the impact of food price rise is severe on the poor section of the population because poor households receive daily wage which have not been increase by same proportion of food price rise.

Kerala is one of the few regions in the developing world that has exhibited remarkable progress, where Infant, child and maternal mortality rates have been much lower and life expectancy at birth, literacy has been much higher than the national average [8]. Besides these attractive achievements, inequality in income and wealth is still remaining in kerala. This inequality makes food inflation as a life threatening issue to poor households. There are number of factors contributed for recent hike of food price in kerala. Demand-side factors include a growing population, higher income, migration, higher standard of living and changing diets away from staple foods toward increased consumption of meats and processed foods that require much larger proportions of food as feedstock and inputs. Supply-side factors include competing use of food grains, especially corn and rapeseed oil, to produce biofuel; urbanization and diversion of agricultural land for commercial purposes; increasing scarcity of fresh water for irrigation; low crop yields; rising input costs; and neglect of investment in agricultural technology, infrastructure, processing facilities, and agriculture research and development [9,10]. This paper describes the food inflation experiences of different population groups to demonstrate how different groups have been differentially affected by the recent hike in food prices

2. Statement of the Problem

During the last few months several important discussions are carried over regarding the booming food prices and its consequences world-wide. Inflation and price rise of food items have become a major concern for policy makers worldwide and particularly for India and other developing countries. In Kerala, the recent food inflation is largely due to an inadequate supply response to increasing demand, aggravated by various other logistic and market-related constraints. Inflation affects the poor disproportionately and adversely impacts the achievement of removal of poverty [11]. Higher food prices can hurt the well-being of many poor people, particularly in rural areas. As poor and vulnerable households spend major share of their total expenditures on basic foodstuffs, higher food prices erode their purchasing power. This will increase the hardship of those who are already below the poverty line and also push additional population below poverty line. Higher food prices can also increase level of inequality [12]. The increase in food price leads to shortage of nutritional food; as a result there exist an inefficient labor force with low labor productivity. Further, this paved the way for poverty and unemployment. Also savings of the peoples falls, tend to reduce the speed of capital formation and a consequent impact on GDP. Inflation touches all most all aspects of life and makes the human survival more difficult, especially poor.

3. Objective of Study

The present is study focuses its attention on impact of food price hike on households in an urban area, especially its impact on APL and BPL category. The following are the specific objectives of the present study:

1. To identify various issue related to food inflation on households.
2. To understand the degree of impact of food inflation on APL and BPL household consumption.
3. To understand effect of inflation on rice consumption of households

4. Methodology

The present study is based on data that has been collected from secondary as well as from primary source. The secondary data comprises various references which already existed in the published form such as research papers, articles relating to food inflations or books and websites. A sample size of 50 households has been drawn randomly from the population of Kannur district i.e. 25 each from APL and BPL category. The researcher has conducted survey among the APL and BPL population of Kannur and filled up the schedule from the head of the family or female member through structured schedule. During the survey; total food articles were categorized into five, namely, cereals, pulses, vegetables, fruits, and egg, meat and fish.

Henry Garrett ranking techniques was used in the study. This technique was used to evaluate the problem faced by households in food consumption. In this method, the policy holders were asked to rank the given problem

according to the magnitude of the problem. The orders of the merit given by the respondents were converted into ranks by using the following formula

$$\text{Percentage position} = \frac{100 (R_{ij} - 0.5)}{N_j}$$

Where

R_{ij} = rank given for i^{th} item j^{th} individual.

N_j = Number of items ranked by J^{th} individual.

The percentage position of each rank thus obtained was converted into scores by referring to the table given by Henry Garrett. Then for each factor the scores of individual respondents were added together and divided by the total number of respondents for whom the scores were added. These mean scores for all the factors were arranged in the order of their ranks and inferences were drawn.

5. Results and Discussions

Concerns over high prices are mounting because inflation erodes the purchasing power of households, especially those with fixed incomes, and could undermine poverty reduction and human development gains achieved over the last decade. Many who were poor before the price increases may now be on the verge of hunger and malnutrition, and those who were barely above the poverty line may have slipped back into poverty. In this context, it is important to examine the impact of rising food prices on consumption. The rising trend of food prices has reduced the purchasing power of money and hardly effect the consumption pattern of households. The consumption pattern of household is different that depends upon number of family members, monthly income, taste and preferences, availability of goods and so on. Therefore their monthly spending is not identical. The income of the households is constant in the short run to meet the growing food expenditure. As a result households have tended to reduce the consumption food articles; sometimes they stop the consumption of substantial goods. The average household in India spends roughly half of its total budget on food. The study found that among households living below the poverty line, food expenditure will be an even greater portion of expenditures. Indeed, poor households allocate more than 60 percent of total household consumption to food. Developing countries like India there are no exception: households with daily per capita consumption of less than \$1.25 at 2005 purchasing power parity spend 50 percent–60 percent of their total budget on food. Therefore, an increase in food prices will significantly lower consumer purchasing power, especially the poor households. Higher food prices lower the living standards of those already living below the poverty line. The price increases will not only increase the number of the poor, but also reduce the standard of living of households living in poverty even before the price increases. Table 1 shows impact of food price hike on the consumption of particular commodity groups.

Table 1. Impact of Food Price Hike on Consumption of Commodity Groups.

Food items	Impacts			total
	Reduce consumption	Stop consumption	No changes in consumption	
Pulses	36 (72)	0 (0)	14 (28)	50
Cereals	16 (32)	0 (0)	34 (68)	50
Vegetables	19 (38)	1(2)	30 (60)	50
Fruits	39 (78)	7 (14)	4 (8)	50
Egg, meat & fish	41 (82)	3 (6)	6 (12)	50

Source: survey data. (2015)

Most of the households have reduced the consumption of food items from their past consumption level due to higher price of food items i.e. 60.4 percentage. About 35.2 percent of households do not change their consumption. In the case of pulses, 36 households reduce their consumption and 14 households buy the same quantity of pulses after price hike. The households are not ready to stop the consumption of pulses. The consumption of cereals is unchanged. 68 percent of households do not change the consumption of cereals and no households tend to stop the consumption of it. Out of 50 households, 60 households have reduced the consumption of cereals. That is 32 percent. Majority of households did not change the consumption of vegetables. Only 19 households reduce the consumption of vegetables and one household stop the consumption of vegetables. 60 percent of households keep the same consumption pattern of vegetables. Fruit on the other hand subjected to severe impact of food price hike. 39 households reduce the consumption of fruit and 7 households stop the consumption. In other words 78 percent of households reduce the consumption of fruit and 14 percent of stop its consumption. Remaining 8 percent of households follow the same consumption pattern after price rise. The impact of food inflation on consumption of egg, meat & fish is very high. 41 households reduce the consumption of egg, meat & fish from their consumption basket. 3 households stop their consumption and 6 households do not change their consumption.

5.1. Impacts of Food Price Hike on Consumption of BPL Households

Rising food prices are expected to affect the welfare and standard of living of the poor people. The table 2 shows that 58.4 percent of BPL households have reduced the consumption of certain food items and 36 percent of BPL household has kept the same consumption level. 4.8 percent Of BPL households have sacrificed a lot due to food price hike. Therefore, they have stopped the consumption of certain group of food items, especially fruits. Table 2 exhibit the Impacts of food price hike on consumption of BPL households.

Table 2. Impacts of food price hike on consumption of BPL households

Food items	Impacts			Total
	Reduce consumption	Stop consumption	No changes in consumption	
Pulses	18 (72)	0 (0)	7 (28)	25
Cereals	8 (32)	0 (0)	17 (68)	25
Vegetables	5 (20)	1 (4)	18 (72)	25
Fruits	21 (84)	3 (12)	1 (4)	25
Egg, meat & fish	21 (84)	2 (8)	2 (8)	25

Source: survey data (2015) (Percentage in bracket)

The study found that most of the BPL households have reduced the consumption of fruits, Egg, meat & fish and pulses. Maximum number of households under BPL category would stop the consumption of fruits and egg, meat & fish. Food price hike do not affect the consumption of cereals and vegetables.

5.2. Impacts of Food Price Hike on Consumption of APL Households

On the consumer side, as food prices increase, the monetary cost of achieving a fixed consumption basket increases hence reducing consumer's welfare. For each household, the net welfare effect of an increase in food prices will depend on the combination of a loss in purchasing power (consumption effect) and a gain in monetary income (income effect). The table 3 reveals the impact of food inflation on APL household consumption. In the case of APL households, 72 percent of households reduce the consumption of fruits and pulses and 80 percent of households reduce the consumption of egg, meat & fish. Only 4 percent of households have stopped the consumption of fruits and one household stop the consumption of egg, meat & fish. The impact of food price hike is least on the consumption of cereals. Food price hike definitely hit the consumption of both APL and BPL households. Most of the households reduce the consumption of essential food articles including fruits and egg, meat & fish. Price hikes for fruits and egg, meat & fish and pulses and other staples can force them to cut back on the quantity or quality of their food. This will result in food insecurity and malnutrition. Undernourishment increases disease and mortality,

lowers productivity and can have severe lifelong effects, particularly for children. Price spikes can also limit the ability of poor households to meet important non-food expenses, such as education and health care.

Table 3. Impacts of food price hike on consumption of APL households

Food items	Impacts			Total
	Reduce consumption	Stop consumption	No changes in consumption	
Pulses	18 (72)	0 (0)	7 (28)	25
Cereals	8 (32)	0 (0)	17 (68)	25
Vegetables	13 (52)	0 (0)	12 (48)	25
Fruits	18 (72)	4 (16)	3 (12)	25
Egg, meat & fish	20 (80)	1 (4)	4 (16)	25

Source: survey data (2015) (Percentage in bracket)

Higher food prices have a particularly negative impact on food security when prices spike suddenly or reach extremely high levels. About 68 percent of households have kept the same consumption of rice after price hike but they tend to reduce the consumption of fruits, egg, meat & fish and pulses. These items are the provider of basic nutrition for healthy life. The absence of nutritional food cause severe health problem.

5.3. Constraints in Consumption

Inflation is the most important concern of the low and middle class people because; it badly affects their standard of living and consumption. Inflation in food, by its very nature is the enemy of poor households. Poor people have to fight everyday for their survival in urban areas as the cost of living is very high. Food inflation indicates higher prices of agricultural products. The primary articles contribute to 3.27 percent and food articles contribute to 8.00 percent in Wholesale Price Index as per the WPI series 2014-15. Inflation is the most important constraint in consumption. In addition, there are several constraints faced by the households, which plays a significant role in consumption. Table 4 shows rank of constraints according to the household view point.

Table 4. Rank of preferred constraints.

Constraints	Preferences	Rank
High cost of food items	74.02	1
Lack of income to purchase essential commodities	53.96	2
Inadequate food availability	52.06	3
Inadequate marketing facilities	44.38	4
Lack of employment opportunities throughout the year.	39.12	5
Poor quality of available food items	36.58	6

Source: survey data (2015)

The important constraints are ranked by the households according to the magnitude of impact. The orders of the merit given by the respondents were converted into ranks by using the Henry Garrett ranking techniques (given in table 4). The households have given first rank to food inflation. That means inflation is the most severe problem for large number of households. The second rank was given to shortage of income to purchase food items. Inadequate food availability is the next severe issue among the households in Kannur district.

5.4. Expenditure pattern of households

The study investigates the expenditure patterns of different types of households (APL and BPL) to discover which households have been most affected by food price changes. How households are affected by increase in food prices depends on two factors. The first factor is the percentage of the household's expenditure dedicated to food. The second is the mix of foods the household consumes. i.e., those items the household purchases for its food basket.

Table 5. Expenditure pattern of households

Income spend on food (percent)	Number of respondents	Percentage of respondents
Below 50 percent	14	28
Between 50-60	22	44
Between 60-70	9	18
Between 70-80	5	10
Above 80 percent	0	0
Total	50	100

Source: survey data (2015)

Table 5 shows that most of the households spend 50-60 percent income on food, which is approximately 44 percent. Households that have dedicated a higher percentage of their total consumption to food have faced higher inflation recently because food prices have increased more rapidly than the prices of other goods. In addition, for a given percentage of total expenditure on food, some households purchase more foods whose prices are growing quickly. Here 72 percent of households have spent more than 50 percent of income on food. The growing price of food articles has decreased the purchasing power of households and forced them to spend more. Some of the households have produced (and consumed) their own food and were thus relatively shielded from increases in food prices. Higher food prices will lead to more unequal distribution of income or expenditure because food takes a greater share in total expenditure for poorer individuals, particularly for the poorest. Hence, safety measures are required for the poorest of the poor to be able to mitigate the negative impact of rising food prices on them. Table 6 shows the expenditure pattern of APL and BPL households in Kannur district.

Table 6. APL and BPL households Expenditure pattern

Income spend on food (percent)	BPL household response in percent	APL household response in percent
Below 50 percent	28	28
Between 50-60	40	48
Between 60-70	20	16
Between 70-80	12	8
Above 80 percent	0	0
Total	100	100

Source: survey data (2015)

Food price increase has a more dramatic effect on the purchasing power of BPL households than that of APL households. This is largely because BPL households have concentrated more of their total budgets on food. 12 percent of BPL households have spent in between 70-80 percent of income. But it was 8 percent among APL households. It is evident that households with little assets were adversely affected by the food price shock. Households with higher levels of assets were better able to sustain food consumption during the inflation period. Most of the APL households engaged in some agricultural production, experience low impact compared to others. It is clear that the increase in food prices has considerable impact on the hike in the price of rice and has a special significance for the poverty and distributional impacts of the recent increase in food prices in Kerala. This is because

of the large share of rice in expenditures—not just food expenditures but total expenditures—in Kerala economy, especially among their poor.

5.5. Changes in rice consumption

Inflation has made significant impact on various food items, especially on rice. India is the second largest producer of rice but due to some supply side problems, price of rice increases over time. The increasing price levels have limited the purchasing power of households and force the households to start cultivation. Rice is the most commonly used cereal in Kerala. Kerala is not self-sufficient in producing rice. Therefore, there exists the need for importing rice from other states. When the price rises, income also increases owing to great purchasing power, but the supply remains constant leads to inflation. Table 7 exhibit changes in rice consumption of households.

Table 7. Changes in rice consumption

Household type	Changes in consumption			Total
	Increase in consumption	Decrease in consumption	No change in consumption	
APL	3(12)	7(28)	15(60)	25(100)
BPL	4(16)	10(44)	10(40)	25(100)

Source: survey data (2015) (percentage in bracket)

Inflation has significant influence on rice consumption. Due to some supply constraints, the price of rice has increased; as a result the consumption has been decreased. 28 percent of APL households have decreased the consumption. On the other hand 44 percent of BPL households have sacrificed the consumption of rice. About 60 percent of APL households keep the same consumption pattern. But it was 40 percent of BPL households which do not change their performing consumption. Inflation puts pressure on rice consumption; as a result consumption has been reduced. Here, we can see a paradoxical situation that is when the price rises, consumption also rises. 12 percent of APL households and 16 percent of BPL households has increased their consumption during inflation. This is because of increased family size, increase in income and short term growth in supply. It is clear that inflation has significant impact on BPL household consumption of rice compared to APL households. The growing price level of food articles, especially rice, paved the way for increasing dependence on Public Distribution System (PDS).

5.6. Consequences of Inflation on Rice Consumption.

A household has faced many consequences due to price rise, especially in rice consumption. For analyzing the consequences in order, Henry Garrett ranking techniques was used. In this method, the households were asked to rank the given problems according to the magnitude of the problem. The orders of merit given by the household were converted into ranks which are shown in table 8.

Table 8. Consequences of inflation on rice consumption.

Consequences	Preferences	Rank
Increase Dependence On PDS	62.64	1
Consume Low Price Rice	61.3	2
Reduce Quantity Purchased	61.04	3
Prefer Alternatives	44.86	4
Start Cultivating Rice.	43.18	5
Stop Consumption	27.42	6

Source: survey data (2015)

If the price of the rice increases, households will tend to change their consumption pattern. Table 8 reveals that, when price increases, households have to increase their dependence on PDS for food grains. On the other hand households buy low price rice or reduce the quantity of rice purchased. The households never stop the consumption of rice. Sometimes they can prefer the alternatives together with purchasing lower quantity of rice.

5.7. Consumption of food item contributing for higher household expenditure

The household's consumption basket consists of variety of goods. All of the goods have contributed different share in expenditure. Inflation forces the households to reduce the quantity of high costly items. For households with smaller incomes, the food budget itself is likely a larger portion of total household expenditures and such households are likely to be more responsive to price changes across all food categories than that of higher-income households. Changes in supply are the main reason for increasing household expenditure. Table 9 shows contribution of food categories for higher household expenditure.

Table 9. Consumption of Food Item Contributing For Higher Household Expenditure

Food Articles	Number Of Respondents	Percentage Of Respondents
Rice	19	38
Vegetables	22	44
Fruits	2	4
Egg, Meat& Fish	6	12
Oil	1	2
Total	50	100

Source: survey data (2015)

Nearly 44 percent of households argued that the consumption of vegetables is the main reason for increasing monthly expenditure in normal situations. Hike in the price of rice has increased the household expenditure. About 38 percent of households have suffered due to rice price hike. Only 4 percent of households state that fruit consumption is the reason for increasing expenditure. The consumption of vegetables causes higher spending to households. This is because most of the households are not self-sufficient in the production of vegetables. They always depend upon market for consumption.

6. Conclusion

Food inflation is the most severe social as well as economic problem that affects everyone. The impact of inflation on household consumption is very high. About 72 percent of rural households spend more than 50 percent of income on food. The increase in the average monthly household expenditure is less than proportionate to the increase in the average monthly food expenses. As a result the households have tried to cut costs of consumption. Price hike can also limit the ability of poor households to meet their non food expenses such as education and health care. The increased food price has compelled more than 50 percent of income for consumption and left a little for saving or erodes saving of the households. The main impact of food inflation is increasing the depth of poverty in those who are already poor rather than pushed numbers of people newly into poverty line. The rising price of food grains has put more pressure on BPL households compared to APL households. Price rise rendered many commodities unaffordable on a regular basis and intensify the hardship of households. Moreover, the study also found that in the last few years, changes in the inflation rate has caused a relatively higher impact on poor people in urban areas. The government must control the price of essential commodities; make it mandatory to publish those prices in the main newspapers and other mass media, improve the efficiency of public distribution system and supply enough food items through PDS to reduce the hardship of inflation.

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