

Rise in food prices and changing consumption pattern in rural Punjab

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The present study examines changes in the consumption pattern across different categories of rural households in Punjab in light of the rising food prices using primary data from 120 rural households. The per capita consumption of wheat declined by 2–4% for the landless and marginal farming households and maize consumption declined by 12.5% for landless households during 2004–05 and 2009–10. The decline in sugar consumption was 12.2% for the landless and 5.9% for the marginal farming households. Milk consumption also decreased for the landless by more than 7%. The landless and marginal farming households were the most severely affected by rising prices. Despite a significant decline in food consumption, the food expenditure increased by 27–129%. The rising prices further squeezed the meagre non-food expenditure of these households. There were high incidences of depleting asset base, reduction in savings and expenditure on education as well increasing indebtedness, especially for the landless and marginal farming households. There is need to enhance subsidized food support and increase employment opportunities for the rural poor. Emphasis on increasing food supply in future will help in easing the prices in the long term.

Keywords: Consumption pattern, rising food prices, rural households, non-food expenditure.

THOUGH food prices started increasing all over the world since the early 2000s, the increase was sharp between 2006 and 2008. While the wholesale food price index increased from 92 to 126 during 2000–2006, it jumped to 219 in 2008 (ref. 1). The rise in the world wheat and corn prices was more than 35% and nearly 29% during this period². Severe demand–supply imbalances, rising crude oil prices, increased diversion of food grains for biofuel production and rising incomes in the developing countries like China and India, were the most important reasons behind such rise in the prices³.

The rising prices have adversely affected food consumption of the poor, endangering their food security⁴. There are incidences of exacerbating poverty, hunger and malnutrition. The rising prices are expected to reduce the short-term income and consumption levels by 25% and 20% respectively⁵. The energy consumption declined during 2006–2010 in nearly all developing countries, resulting potentially in an additional 457 million people at risk of being hungry and many more unable to afford the dietary quality required for better physical growth and development. The rise in food prices not only has an adverse impact on the quantity and quality of food consumption, but it also forces the poor to reduce their expenditure on basic needs and investments in human

assets, such as education and health and to sell productive assets with negative effects on their current and future livelihoods⁶.

Although there are ample evidences on the adverse impacts of the rising food prices at the aggregate level, there is still no sufficient information on the changes in consumption pattern and the impact of rising food prices on various categories of rural households. As better income and asset position helps in effectively coping up with such price rise, the poor may not have been able to counter the negative impact of rise in prices. The present study examines changes in the consumption pattern across different categories of rural households in Punjab and investigates the contribution of rising food prices to such changes in the recent times.

Database and methodology

The present study is based on the primary data collected from 120 rural households selected by multi-stage random sampling procedure. First, all the districts in Punjab were classified into low, moderate and highly productive districts based on the value productivity of agriculture and one district, namely Roopnagar, Mansa and Ludhiana respectively, were selected from each of these three categories. Later, two villages were selected randomly from each district, making a total of six villages. For each village, households were classified into landless, marginal

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(up to 2.5 acre), small (2.5–5 acre), semi-medium (5–10 acre), medium (10–25 acre) and large farming (above 25 acre) households. A total of 20 households were selected randomly from each selected village on the basis of probability proportional to size for each category with a total sample of 120 rural households. Later, three categories of semi-medium, medium and large farm households were merged and named 'other' households for easy and meaningful interpretation and comparison of the results. Details of the study sample and its distribution across different household categories are given in Table 1.

The primary data were collected on consumption pattern, consumption expenditure, its impact on non-food expenditure and other important parameters with the reference period of 2009–10. Information for the 2004–05 was also collected by recall method for comparing the changes in consumption during 2004–05 to 2009–10. The study also documented the mitigation strategies of the poor households in response to the recent food price rise.

Pattern of food consumption and recent changes

Per capita consumption of wheat was 6.95, 7.91, 8.08 and 9.10 kg during 2009–10, whereas it was 7.24, 7.91, 8.08 and 9.10 kg during 2004–05 for landless, marginal, small and other farm households respectively (Table 2). The average per capita consumption of wheat declined in the recent period compared to 2004–05, whereas the consumption of rice remained almost the same. The decline in the consumption of wheat was almost 4% and 2.1% for landless and marginal farming households respectively. However, there was an increase in the wheat consumption by 0.9% for small and by 0.7% for other farming households. There was no change in rice consumption for landless households, but its consumption declined by 4.8%, 13.9% and 1.4% for marginal, small and other farming households respectively. Maize consumption declined by 12.5% for landless household, but increased for the other farming households. Though the changes in food consumption may not be ascribed completely to the rise in food prices, examining pattern of change across different household categories, a large proportion of such changes might be attributed to the food price rise during 2004–05 and 2009–10. Obviously, the landless and marginal farming

households were the worst affected by such price rise. Relatively large farming households were able to counter the effect of rising prices as evident from no significant change in the food consumption pattern during 2004–05 to 2009–10.

Per capita sugar consumption was 0.65, 0.95, 1.10 and 1.11 kg during 2009–10 and 0.74, 1.01, 1.05 and 1.13 kg during 2004–05 for landless, marginal, small and other farming households categories respectively. Likewise, the consumption of milk and milk products was 9.08, 12.79, 13.0 and 15.21 litres during 2009–10 and was 9.80, 11.95, 13.01 and 15.78 kg during 2004–05 for the respective household categories. Sugar consumption declined by as high as 12.2% for landless households and by 5.9% for marginal farming households. However, it increased by 4.8% for small farm households and declined by about 2% for other farm households. Milk consumption for the landless also declined by more than 7%.

Interestingly, per capita consumption of pickles increased by 22.2% for landless households and the consumption of vegetables declined by 6.2%, 7.8%, 9.7% and 3.6% for landless, marginal, small and large farm households respectively. It reveals that the landless and marginal households, constituting the poorest strata of the rural population, resorted to more pickle consumption with a correspondent decline in vegetables consumption. This may be largely ascribed to significant increase in the prices of vegetables over time, indicating distress consumption amongst these households. While there was little increase in pulses as well as pickle consumption for small and other farming household categories, rising prices of vegetables forced a decline in their consumption even for these two categories of households. Likewise, the per capita consumption of eggs and meat has either declined or witnessed no change during 2004–05 to 2009–10 for relatively poor households (landless, marginal and small), further confirming the distress among them.

Changes in food and non-food expenditure

The rise in food prices not only has adverse implications for food consumption but may also hit the non-food expenditure, adversely affecting the long-term productivity of the poor households. The pattern of nominal expenditure in 2004–05 and 2009–10 is presented in Table 3. Per capita total monthly expenditure (food and non-food) was Rs 667.72 for landless households, Rs 1129.13 for marginal farm households, Rs 1352.00 for small and Rs 1552.11 for other farm households respectively, during 2009–10. The respective expenditure during 2004–05 was Rs 464.88, Rs 674.04, Rs 810.55 and Rs 1013.69. The consumption expenditure for small and other farm households was more than double the consumption expenditure of landless households. Even the

Table 1. Distribution of the study sample across districts and categories

Household category	Roopnagar	Mansa	Ludhiana	Overall
Landless	4	7	8	19
Marginal	20	5	12	37
Small	5	6	6	17
Others	11	22	14	47
Total	40	40	40	120

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Table 2. Consumption of food items by various categories of rural households (kg/capita/month)

Food item	Landless		Marginal		Small		Others	
	2004–05	2009–10	2004–05	2009–10	2004–05	2009–10	2004–05	2009–10
Wheat	7.24	6.95 (-4.0)	8.08	7.91 (-2.1)	8.01	8.08 (0.9)	9.04	9.10 (0.7)
Rice	0.19	0.19 (0.0)	0.21	0.20 (-4.8)	0.36	0.31 (-13.9)	0.71	0.70 (-1.4)
Maize	0.16	0.14 (-12.5)	0.25	0.26 (4.0)	0.35	0.35 (0.0)	0.35	0.36 (2.9)
Pulses	0.40	0.42 (5.0)	0.43	0.41 (-4.7)	0.46	0.47 (2.2)	0.45	0.46 (2.2)
Gram	0.07	0.06 (-14.3)	0.09	0.08 (-11.1)	0.09	0.09 (0.0)	0.11	0.10 (-9.1)
Sugar	0.74	0.65 (-12.2)	1.01	0.95 (-5.9)	1.05	1.1 (4.8)	1.13	1.11 (-1.8)
Gur	0.11	0.09 (-18.2)	0.17	0.16 (-5.9)	0.18	0.16 (-11.1)	0.18	0.18 (0.0)
Tea	0.24	0.23 (-4.2)	0.25	0.24 (-4.0)	0.38	0.33 (-13.2)	0.30	0.42 (40.0)
Milk and milk products	9.80	9.08 (-7.3)	11.95	12.79 (7.0)	13.01	13.0 (-0.1)	15.78	15.21 (-3.6)
Vanaspati	0.39	0.41 (5.1)	0.44	0.42 (-4.5)	0.47	0.48 (2.1)	0.49	0.48 (-2.0)
Pickles	0.09	0.11 (22.2)	0.10	0.10 (0.0)	0.11	0.10 (-9.1)	0.015	0.01 (-33.3)
Eggs (no.)	0.47	0.38 (-19.1)	1.00	0.98 (-2.0)	1.10	1.00 (-9.1)	1.39	1.39 (0.0)
Meat	0.02	0.02 (0.0)	0.10	0.09 (-10.0)	0.13	0.14 (7.7)	0.14	0.15 (7.1)
Vegetables	3.06	2.87 (-6.2)	4.11	3.79 (-7.8)	4.21	3.80 (-9.7)	4.68	4.51 (-3.6)

Figures in parentheses are percentage change over 2004–05.

Table 3. Pattern of food and non-food expenditure amongst rural households (Rs/capita/month)

Household category	Food expenditure	Non-food expenditure	Total expenditure
Landless			
2004–05	268.21 (61.68)	166.63 (38.32)	464.88
2009–10	415.07 (62.10)	252.65 (37.84)	667.72
% Change	54.76	51.62	43.63
Marginal			
2004–05	441.45 (65.49)	232.59 (34.51)	674.04
2009–10	681.62 (60.37)	447.51 (39.63)	1129.13
% Change	54.40	92.40	67.52
Small			
2004–05	522.90 (64.51)	287.65 (35.48)	810.55
2009–10	794.15 (58.74)	557.85 (41.26)	1352.00
% Change	51.87	93.93	66.80
Others			
2004–05	588.12 (58.01)	425.57 (41.99)	1013.69
2009–10	835.30 (53.81)	717.08 (41.19)	1552.11
% Change	42.03	68.50	53.11

Figures in parentheses are per cent to the respective total expenditure.

expenditure of marginal households was comparatively higher compared to that of landless households. It further confirms the distress among the landless households caused by the rising food prices. The proportion of food expenditure in the total, declined with an increase in the income levels from 62.10% for the landless households to 53.81% for other farm households. While such proportion declined for marginal, small and other farm household categories, it increased marginally for the landless households. The total expenditure increased from 44% to 68% during 2004–05 to 2009–10 across different household categories. The increase in food expenditure ranged between 42% and 55% and it declined with an increase in household income levels (from landless to other farm household categories). In the absence of any signifi-

cant increase in the quantity of food items, as has been discussed earlier, the increased expenditure for medium and large households was largely due to the increase in prices. The landless, marginal and small farming households, however, not only experienced a decline in consumption but also an increase in the expenditure; a two-way adverse impact of the price rise.

Further, despite significant decline in consumption of various food items across different household categories, the expenditure on these items witnessed an increase between 27% and 129% (Table 4). Again, the increase in expenditure despite a decline in quantity consumed, reflected the impact of rising prices of these items. The increase in expenditure on wheat, rice and pulses was comparatively higher for landless and marginal farming

Table 4. Consumption expenditure on food items amongst different rural households (Rs/capita/month)

Food items	Landless		Marginal		Small		Others	
	2004–05	2009–10	2004–05	2009–10	2004–05	2009–10	2004–05	2009–10
Milk and milk products	90.61	133.07	215.51	306.22	266.07	330.48	284.04	365.02
Wheat	52.18	68.9	57.29	75.03	88.11	112.14	99.79	127.4
Vegetables	30.06	56.25	40.06	74.28	41.79	74.56	46.8	88.39
Ghee	20.53	41.69	23.63	49.26	23.95	49.83	30.15	57.28
Tea	15.34	34.50	17.50	38.40	22.25	49.50	22.25	51.00
Pulses	19.98	28.39	21.79	38.39	28.17	40.64	30.38	45.44
Sugar	13.32	21.45	18.18	31.35	18.90	36.30	20.34	36.63
Rice	2.09	4.18	2.31	4.40	3.96	6.82	7.81	15.4
Meat	1.47	1.87	7.33	7.65	9.53	11.90	10.27	12.75
Gur	1.98	2.25	3.06	5.60	3.24	5.60	3.24	6.30
Maize	1.40	2.00	2.00	3.04	2.80	5.60	2.80	5.76
Gram	1.68	2.40	2.16	3.20	2.16	3.60	2.64	4.00
Pickles	4.18	7.15	4.65	6.50	1.40	2.30	0.93	1.30
Eggs	1.25	1.90	2.37	4.64	5.03	7.05	1.50	2.99
Total food expenditure	256.07	406.00	417.84	647.96	517.36	736.32	562.94	819.66
% Change in food expenditure (2004–05 to 2009–10)	–	58.6	–	55.1	–	42.3	–	45.6

households compared to the increase for small and other farming households. Hence, relatively poor rural households were more severely affected by the rising food prices in the form of declining consumption and comparatively higher increase in the consumption expenditure.

The expenditure on sugar increased by 61% from Rs 13.32 to 21.45, by 72.4% from Rs 18.18 to 31.35, by 92.1% from Rs 18.90 to 36.30 and by 80.1% from Rs 20.34 to 36.63 during 2004–05 to 2009–10 for the landless, marginal, small and other households respectively. The respective change in expenditure on milk and milk products was from Rs 90.61 to 133.07 (46.9%), from Rs 215.51 to 306.22 (42.1%), Rs 266.07 to 330.48 (24.2%) and Rs 284.04 to 365.02 (28.5%). The percentage increase in expenditure on vanaspati was 103.1, 108.5, 108.1 and 90.0, and that on pickle was 71.1, 39.8, 64.3 and 39.8 respectively, for these households during 2004–05 to 2009–10. Like the change in consumption expenditure of major food items, the increase in expenditure on sugar, milk and milk products, vanaspati, pickles and vegetables was comparatively higher for landless as well as marginal farm households compared to the small farming and other households.

The non-food expenditure of different rural households also registered an increasing pattern from 2004–05 to 2009–10. As mentioned earlier, the increase in non-food expenditure of the landless households was comparatively smaller when compared to the remaining household categories. It may be argued here that the rising prices have further intensified the distress amongst these households, squeezing their already meagre non-food expenditure. The per capita monthly non-food expenditure was Rs 116.30, Rs 232.69, Rs 287.65 and Rs 425.57 respectively, for the landless, marginal, small and other households in 2004–05, which increased to Rs 252.65,

Rs 447.51, Rs 557.85 and Rs 717.08 respectively, in 2009–10 (Table 5). The expenditure on education increased only by 29% for landless households and 39% for the marginal households, though it increased by 49% and 82% for the small and other farming households respectively. Similarly, the expenditure on clothing and electricity increased much less for the landless compared to the other three categories, although the marginal households were also lagging far behind the small and other farming households. The rise in medical expenditure was highest for the poor households, which may be due to the adverse impact of declining consumption on their health. The increase in toiletries and telephones was also less for the landless and marginal farming households. On the contrary, the increase in expenditure on travelling and fuel was extremely high in case of the landless and marginal farmers compared to the small and other farming households.

Such a pattern reveals that the poor households have been suffering more from the rising prices not only due to decline in the quantity of food consumption but also due to increased expenditure on food items. Increased diversion of their disposable income to meet their minimum food requirements adversely affects their non-food expenditure. Due to distress, they are not able to keep pace with the expenditure on human resource development in the form of education, on comfort in the form of electricity, clothes, etc. The increase in medical expenses may be an indicator of their declining health, owing to their declining consumption. Declining health coupled with squeezed spending on education will have a cumulative negative impact on their future productivity and hence earnings. The increased expenditure on transport may also be due to their compulsions to move larger distances in search of employment in the absence of land

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Table 5. Non-food expenditure of different rural households (Rs/capita/month)

Non-food items	Landless		Marginal		Small		Others	
	2004–05	2009–10	2004–05	2009–10	2004–05	2009–10	2004–05	2009–10
Electricity	28.89	38.98 (34.9)	45.69	61.13 (33.8)	47.67	75.67 (58.7)	75.87	110.20 (45.2)
Education	32.96	42.76 (29.7)	37.90	52.77 (39.2)	42.87	63.87 (49.0)	77.10	140.09 (81.7)
Clothing	20.80	27.07 (30.1)	26.82	45.80 (70.8)	30.90	70.80 (129.1)	32.96	75.85 (130.1)
Medical	6.92	12.81 (85.1)	7.92	13.73 (73.4)	13.15	21.03 (59.9)	25.79	45.09 (74.8)
Toiletries	20.09	29.91 (48.9)	26.74	45.85 (71.5)	28.95	47.23 (63.1)	32.75	50.79 (55.1)
Telephone	10.84	20.22 (86.5)	18.22	45.40 (149.2)	20.85	75.77 (263.4)	34.43	87.00 (152.7)
Fuel	21.75	49.84 (129.1)	48.70	79.79 (63.8)	65.08	92.77 (42.5)	85.08	112.66 (32.4)
Travelling	12.67	18.79 (48.3)	13.16	36.07 (174.1)	29.87	51.92 (73.8)	49.38	75.48 (52.9)
Taxi/auto rickshaw	1.75	12.29 (602.3)	3.74	8.97 (139.8)	7.31	16.79 (129.7)	12.21	20.06 (64.3)
Total non-food expenditure	166.63	252.65 (51.6)	232.69	447.51 (92.3)	287.65	557.85 (93.9)	425.57	717.08 (68.5)

Figures in parentheses are percentage change over 2004–05.

Table 6. Coping mechanisms against rising prices across various rural households (% multiple response)

Coping mechanism/household category	Landless	Marginal	Small	Others
Less than desired expenditure on non-food items	73.68	58.27	35.29	16.89
Sale of durable assets (other than land)	70.58	51.97	11.69	–
Additional family member joining the work force	63.15	64.84	17.64	8.79
Reduction in savings	78.94	67.56	58.82	27.65
Reduction in expenditure on education	79.19	79.01	35.29	21.27
Increase in indebtedness	78.94	78.37	75.78	23.40

or due to the unviable size of their land holdings. These issues will have long-term implications for the welfare of the poor rural households.

Coping mechanism against rising prices

Despite a detailed discussion on the possible impact of rise in food prices on consumption, and food as well as non-food expenditure, some of the adverse effects become visible only during the long term. It is due to the fact that after eroding current incomes, the rising prices reduce the current savings and capital formation in the long run and thus affect long-term productivity of the poor households. Such impacts may be visualized by looking into the coping mechanisms adopted by various households (Table 6). A larger proportion of landless and marginal farming households (73.86% and 58.29% respectively), reported resorting to less than desired expenditure on non-food items as compared to 35.29% of small farm households and 16.89% of other farming households. The sale of durable assets (except land) was reported by 70.58% of the landless farming households 51.97% of marginal and 11.69% of small households and there was no sale of durable assets experienced by other farming households.

About 63% of landless, 65% of marginal, 17.64% of small and 8.79% of other farming households reported joining of work force by additional family members to supplement the dwindling income due to rising prices. Almost 79% of landless, 68% of marginal, 59% of small

and 28% of other farming household categories reported depletion in their savings. Likewise, 79.19% of landless, 79% of marginal, 35% of small and 21% of other farming households experienced reduction in expenditure on education. Increase in indebtedness due to rising prices was reported by 79% of landless farming household, 78% of marginal households, 76% of small and 23% of other farming households. In a nutshell, apart from resulting in the reduction in food consumption of the rural households, the rising prices are also depleting their asset base, reducing their savings, expenditure on education and increasing the indebtedness, which may have an even more adverse impact in the long run.

Conclusion and policy implications

During 2004–05 and 2009–10, per capita monthly consumption of wheat declined by 2–4% for landless and marginal farming households, due to the rise in food prices, while there was some increase for the small and other farming households. Maize consumption for the landless also declined by 12.5%. Even sugar consumption declined by as high as 12.2% for the landless households and 5.9% for the marginal farming households. Milk consumption declined for the landless households by more than 7%. While the rising prices adversely affected the food consumption of the landless and marginal farming households, relatively richer farming households were able to counter such effects. The landless and marginal

households, constituting the poorest strata of the rural population, resorted to more pickle consumption with a corresponding decline in vegetables consumption. While the proportion of household expenditure on food declined for marginal, small and others farm household categories, it increased marginally for the landless households. Despite significant decline in consumption of various food items across different household categories, the expenditure on food items increased between 27% and 129%. Relatively poor rural households were more severely affected by rising food prices in the form of declining consumption and comparatively higher increase in the consumption expenditure.

The expenditure on education, clothing and electricity increased much less for the landless and marginal farming households than for the small and other farming households. However, the rise in medical expenditure and expenditure on travelling was comparatively higher. It may have even more severe impact on the income and productivity of the poor households in the long run. Apart from resulting in the reduction in food consumption of the rural households, the rising prices were also depleting their asset base, reducing their savings, expenditure on education and increasing the indebtedness, which may

have even more adverse impact in the long run. In such a situation, it is necessary to enhance subsidized food support and generate employment opportunities for the rural poor. Emphasis on increasing food supply in future will also help in easing the prices in the long term.

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