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## **Cereal Consumption Over Time in the Country and Across the States**

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Surplus stock of foodgrains and foodgrains export are two macro indicators to claim attainment of self-sufficiency/food security. Rising food production and decline in consumption are two most probable reasons behind such claim. Again, the Committee on Long Term Grain Policy has attributed the excess stock of foodgrains to the decline in per capita cereal consumption than to increase in production. With this background in view the study attempts to assess the validity of such assertion taking into account the data on consumption pattern and availability of foodgrains as available in various rounds of NSS Reports and publications of the Government of India for the country as a whole and across the States, and also to examine the variation in consumption pattern across states over time.

### CONSUMPTION PATTERN IN THE COUNTRY

Consumption pattern of cereals as revealed by various rounds of NSS is presented in Table 1. Starting from NSS 43rd Round, per capita consumption of cereals per 30 days in rural areas declined from 14.40 kg to 12.10 kg in NSS 58th Round. It again increased to 12.30 kg and 12.4 kg respectively during NSS 59th and NSS 60th Rounds. A similar trend was observed for urban areas also. The cereal consumption of 11.2 kg during 43rd Round (1987-88) declined to 9.8 kg during 58th Round (2002), and then again increased to 9.9 kg and 10.0 kg respectively during 59th Round (2003) and 60th Round (2004). The decline in consumption between 43rd Round (1987-88) and 60th Round (2004) was glaring more in rural areas than in urban areas. This decline occurred with almost constant household size of 5 in rural areas and 4.5 in urban areas over the years.

The component-wise cereal consumption presented in Table 2 also revealed almost the same trend. Between NSS 50th Round (1993-94) and 60th Round (2004) the decline in consumption of coarse cereals (jowar, bajra, etc.) was more pronounced than that of rice and wheat.

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TABLE 1. TREND IN AVERAGE MONTHLY PER CAPITA CONSUMPTION OF CEREAL, AVERAGE MONTHLY PER CAPITA CONSUMPTION EXPENDITURE (MPCE), HOUSEHOLD SIZE OVER DIFFERENT ROUNDS OF NSS

| Rounds of NSS<br>(1) | Reference Period<br>(2)       | Rural                         |  |   | Urban                         |  |   |
|----------------------|-------------------------------|-------------------------------|--|---|-------------------------------|--|---|
|                      |                               | Average household size<br>(3) | Average MPCE at current price (Rs.)<br>(4) | Monthly per capita consumption of cereals (kg)<br>(5) | Average household size<br>(6) | Average MPCE at current price (Rs.)<br>(7) | Monthly per capita consumption of cereals (kg)<br>(8) |
| 43rd                 | July 1987 to June 1988        | 5.1                           | 158  | 14.40   | 4.5                           | 246  | 11.20   |
| 50th                 | July 1993 to June 1994        | 4.9                           | 281  | 13.40   | 4.5                           | 458  | 10.60   |
| 55th                 | July 1999 to June 2000        | 5.0                           | 486  | 12.70   | 4.5                           | 855  | 10.04   |
| 56th                 | July 2000 to June 2001        | 5.1                           | 495  | 12.40   | 4.5                           | 915  | 10.00   |
| 57th                 | July 2001 to June 2002        | 5.0                           | 498  | 12.20   | 4.5                           | 933  | 9.80  |
| 58th                 | July 2002 to December 2002    | 5.0                           | 531  | 12.10   | 4.4                           | 1,012                                      | 9.80  |
| 59th                 | January 2003 to December 2003 | 5.0                           | 556  | 12.30   | 4.5                           | 1,023                                      | 9.90  |
| 60th                 | January 2004 to June 2004     | 5.1                           | 565  | 12.40   | 4.4                           | 1,060                                      | 10.00   |

Source: NSS 60th Round, p. 81.

TABLE 2. COMPOSITION OF CEREALS AND CHANGE IN THEIR CONSUMED QUANTITY BETWEEN 50TH AND 60TH ROUND OF NSS

| Item<br>(1) | Per capita consumption per 30 days<br>(kg) |                          |                             |                          |
|-------------|--|--------------------------|-----------------------------|--------------------------|
|             | Rural                                      |                          | Urban                       |                          |
|             | 50th Round (1993-94)<br>(2)                | 60th Round (2004)<br>(3) | 50th Round (1993-94)<br>(4) | 60th Round (2004)<br>(5) |
| Rice        | 7.00                                       | 6.80                     | 5.30                        | 4.88                     |
| Wheat       | 4.40                                       | 4.25                     | 4.70                        | 4.67                     |
| Jowar       | 0.80                                       | 0.47                     | 0.40                        | 0.27                     |
| All cereals | 13.40                                      | 12.42                    | 10.60                       | 10.03                    |

Source: NSS 50th and 60th Rounds.

#### CHANGES IN CONSUMPTION PATTERN ACROSS THE STATES OF INDIA

State-wise consumption pattern of total cereals and of individual items of cereals for two periods, viz., 1993-94 (50th Round) and 2004 (60th Round) pertaining to both rural and urban areas are presented in Table 3. The changes in consumption pattern between two periods are further summarised in Table 4. The following aspects emerge from this table.

Cereal consumption in rural areas of all the States declined keeping parity with the national scenario. But in case of urban areas, five states (viz., Assam, Bihar, Jammu and Kashmir, Kerala, Orissa) exhibited increase in the consumption pattern over time leaving the remaining states to follow suit.

TABLE 3. CONSUMPTION OF AVERAGE QUANTITY PER PERSON PER 30 DAYS BY STATE AND BY TYPE OF CEREALS DURING 1993-94 (50TH ROUND) AND 2004 (60TH ROUND)

| States<br>(1)     | (kg)           |             |                |             |                |             |                |             |
|-------------------|----------------|-------------|----------------|-------------|----------------|-------------|----------------|-------------|
|                   | Rice           |             | Wheat          |             | Jowar          |             | All cereals    |             |
|                   | 1993-94<br>(2) | 2004<br>(3) | 1993-94<br>(4) | 2004<br>(5) | 1993-94<br>(6) | 2004<br>(7) | 1993-94<br>(8) | 2004<br>(9) |
| (A) RURAL         |                |             |                |             |                |             |                |             |
| Andhra Pradesh    | 11.57          | 11.87       | 0.19           | 0.24        | 0.98           | 0.44        | 13.27          | 12.89       |
| Assam             | 12.53          | 12.12       | 0.64           | 0.56        | 0.00           | 0.00        | 13.17          | 12.68       |
| Bihar             | 7.95           | 7.61        | 5.58           | 6.00        | 0.01           | 0.00        | 14.31          | 13.96       |
| Gujarat           | 2.01           | 2.12        | 3.98           | 3.43        | 0.84           | 0.53        | 10.66          | 9.97        |
| Haryana           | 0.73           | 0.93        | 11.88          | 10.17       | 0.00           | 0.00        | 12.92          | 11.55       |
| Himachal Pradesh  | 3.64           | 4.28        | 6.27           | 6.32        | 0.00           | 0.00        | 13.37          | 12.21       |
| Jammu and Kashmir | 4.71           | 7.46        | 7.69           | 4.03        | 0.01           | 0.00        | 14.84          | 12.24       |
| Karnataka         | 5.44           | 5.48        | 0.95           | 0.80        | 4.01           | 2.50        | 13.15          | 10.87       |
| Kerala            | 9.29           | 8.61        | 0.82           | 0.86        | 0.00           | 0.00        | 10.11          | 9.47        |
| Madhya Pradesh    | 6.03           | 2.69        | 5.81           | 7.44        | 1.35           | 0.84        | 14.20          | 12.13       |
| Maharashtra       | 2.97           | 3.23        | 2.21           | 3.51        | 4.76           | 3.01        | 11.39          | 10.86       |
| Orissa            | 15.24          | 13.78       | 0.38           | 0.61        | 0.00           | 0.00        | 15.93          | 14.57       |
| Punjab            | 0.74           | 0.73        | 9.87           | 9.51        | 0.00           | 0.00        | 10.78          | 10.42       |
| Rajasthan         | 0.22           | 0.19        | 9.44           | 7.48        | 0.18           | 0.00        | 14.85          | 12.62       |
| Tamil Nadu        | 10.32          | 9.63        | 0.34           | 0.32        | 0.15           | 0.02        | 11.72          | 10.42       |
| Tripura           | 11.76          | 11.68       | 0.18           | 0.31        | 0.00           | 0.00        | 11.94          | 11.99       |
| Uttar Pradesh     | 4.00           | 4.34        | 9.16           | 8.61        | 0.11           | 0.01        | 13.91          | 13.25       |
| West Bengal       | 13.73          | 13.05       | 1.18           | 1.00        | 0.00           | 0.00        | 14.96          | 14.05       |
| All India         | 7.00           | 6.80        | 4.40           | 4.25        | 0.80           | 0.47        | 13.40          | 12.42       |
| (B) URBAN         |                |             |                |             |                |             |                |             |
| Andhra Pradesh    | 10.13          | 9.15        | 0.76           | 0.87        | 0.32           | 0.28        | 11.30          | 10.32       |
| Assam             | 10.76          | 11.50       | 1.29           | 1.07        | 0.00           | 0.00        | 12.05          | 12.57       |
| Bihar             | 6.81           | 6.43        | 5.93           | 6.29        | 0.00           | 0.00        | 12.82          | 12.92       |
| Gujarat           | 2.07           | 2.00        | 5.61           | 5.26        | 0.27           | 0.13        | 8.96           | 8.31        |
| Haryana           | 1.52           | 0.80        | 8.90           | 7.99        | 0.00           | 0.00        | 10.46          | 8.89        |
| Jammu and Kashmir | 4.68           | 7.96        | 6.71           | 6.61        | 0.00           | 0.00        | 11.48          | 14.57       |
| Karnataka         | 6.38           | 5.70        | 1.56           | 1.53        | 1.72           | 1.46        | 10.87          | 9.47        |
| Kerala            | 8.45           | 8.64        | 1.00           | 1.18        | 0.00           | 0.00        | 9.46           | 9.83        |
| Madhya Pradesh    | 3.62           | 2.05        | 7.31           | 7.64        | 0.33           | 0.27        | 11.32          | 10.02       |
| Maharashtra       | 3.16           | 3.01        | 4.43           | 4.88        | 1.50           | 0.91        | 9.37           | 9.04        |
| Orissa            | 11.26          | 11.59       | 2.04           | 1.93        | 0.00           | 0.00        | 13.36          | 13.60       |
| Punjab            | 0.92           | 0.86        | 7.99           | 7.39        | 0.01           | 0.00        | 9.01           | 8.31        |
| Rajasthan         | 0.58           | 0.88        | 10.36          | 9.22        | 0.00           | 0.00        | 11.52          | 10.84       |
| Tamil Nadu        | 9.13           | 8.27        | 0.84           | 0.72        | 0.01           | 0.00        | 10.05          | 9.05        |
| Uttar Pradesh     | 2.61           | 2.61        | 8.39           | 8.02        | 0.01           | 0.00        | 11.08          | 10.77       |
| West Bengal       | 8.69           | 8.36        | 2.95           | 2.53        | 0.00           | 0.00        | 11.64          | 10.89       |
| All India         | 5.00           | 4.88        | 4.70           | 4.67        | 0.40           | 0.27        | 10.60          | 10.03       |

Source: Page 33 of NSS 50th Round and page 69 of NSS 60th Round for rural areas. Page 33 of NSS 50th Round and page 71 of NSS 60th Round for urban areas.

Note: Tripura and Himachal Pradesh urban data not available.

TABLE 4. DISTRIBUTION OF STATES BY CHANGE IN CONSUMPTION OF QUANTITY OF CEREALS PER PERSON PER 30 DAYS DURING 1993-94 (50TH ROUND) AND 2004 (60TH ROUND)

| Item<br>(1)                  | Rural   |  | Urban   |   |
|------------------------------|---|--|---|---|
|                              | Increase in quantity<br>(2)   | Decrease in quantity<br>(3)  | Increase in quantity<br>(4)   | Decrease in quantity<br>(5)   |
| All cereals                  | Tripura (insignificant)   | All remaining 17 states  | Assam, Bihar, Jammu & Kashmir, Kerala, Orissa (Total 5 states)              | Andhra Pradesh, Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal (Total 11 states) |
| Rice                         | Andhra Pradesh, Gujarat, Haryana, Himachal Pradesh, Jammu & Kashmir, Karnataka, Maharashtra, Uttar Pradesh (Total 8 states) | Assam, Bihar, Kerala, Madhya Pradesh, Orissa, Punjab, Rajasthan, Tamil Nadu, Tripura, West Bengal (Total 10 states)        | Assam, Jammu & Kashmir, Kerala, Orissa, Rajasthan (Total 5 states)          | Andhra Pradesh, Bihar, Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Punjab, Tamil Nadu, Uttar Pradesh, West Bengal (Total 11 states)     |
| Wheat                        | Andhra Pradesh, Bihar, Himachal Pradesh, Kerala, Madhya Pradesh, Maharashtra, Orissa, Tripura (Total 8 states)              | Assam, Gujarat, Haryana, Jammu & Kashmir, Karnataka, Punjab, Rajasthan, Tamil Nadu, Tripura, West Bengal (Total 10 states) | Andhra Pradesh, Bihar, Kerala, Madhya Pradesh, Maharashtra (Total 5 states) | Assam, Gujarat, Haryana, Jammu & Kashmir, Karnataka, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, West Bengal (Total 11 states)              |
| Both rice and wheat together | Andhra Pradesh, Himachal Pradesh, Maharashtra   | Assam, Punjab, Rajasthan, Tamil Nadu, West Bengal  | Kerala  | Gujarat, Haryana, Karnataka, Punjab, Tamil Nadu, Uttar Pradesh, West Bengal   |
| Jowar                        | No State  | All States   | No State  | All States  |

Source: Prepared from Table 3(A) and (B).

The consumption pattern of rice among the States was, of course, also not uniformly declining. While ten states showed declining consumption pattern over time, the other eight states, on the other hand, had still to consume more rice. The States showing increased rice consumption were Andhra Pradesh, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Karnataka, Maharashtra and Uttar Pradesh. The above rice consumption pattern relates to rural areas. In urban areas also, a group of five States consisting of Assam, Jammu and Kashmir, Kerala, Orissa and Rajasthan still consumed rice more.

Similarly, deviating from the national trend, wheat consumption increased over time both in the rural and urban areas of Andhra Pradesh, Bihar, Kerala, Madhya Pradesh, Maharashtra and in the rural areas of Himachal Pradesh, Orissa and Tripura.

The consumption of both rice and wheat together was seen to increase in rural areas of Andhra Pradesh, Himachal Pradesh, and Maharashtra; and to decrease in rural areas of Assam, West Bengal, Tamil Nadu, Punjab and Rajasthan.

Jowar, being the coarse cereal, exhibited decline in its consumption both in rural and urban areas of all the States. Substitution between coarse cereals and superior cereals in almost all states and between rice and wheat in varying extent among States were observed.

#### VARIATIONS IN THE AMOUNT OF CONSUMPTION OF CEREALS AMONG STATES

The states consuming cereals during 2004 (NSS 60th Round) above and below the national average quantity for rural and urban areas are displayed in Table 5A and 5B respectively. Rural people in the States like Tamil Nadu, Assam, Andhra Pradesh, Uttar Pradesh, Bihar, West Bengal and Orissa were consuming cereals more than the national average of 12.42 kg. Their consumption level varied from 12.43 kg to 14.57 kg. The remaining eleven states had consumption level lower than the national average (Table 5A). Similarly, urban people in a couple of States like Uttar Pradesh, Rajasthan, West Bengal, Andhra Pradesh, Assam, Bihar, Orissa and Jammu & Kashmir also consumed cereals more than the national average of 10.03 kg. Their consumption amount varied from 10.32 kg to 14.57 kg. There were the other eight states whose urban population consumed less than the national average of 10.03 kg (Table 5B).

TABLE 5A. DISTRIBUTION OF STATES BY VARIATION IN AVERAGE QUANTITY OF CEREALS CONSUMED PER CAPITA PER 30 DAYS DURING 2004 (NSS 60TH ROUND) (RURAL INDIA)

| <i>(kg)</i>  |   |                     |  |  |
|--|---|---------------------|--|--|
| Consumer category by level of consumption  |   |                     |  |  |
| 9 kg – 11 kg<br>(1)  | 11.1 kg – 12.41 kg<br>(2)   | 12.42 kg<br>(3)     | 12.43 kg – 14 kg<br>(4)  | 14.1 kg – 15 kg<br>(5)                                     |
| Kerala (9.47),<br>Gujarat (9.97),<br>Tamil Nadu (10.42),<br>Punjab (10.42),<br>Maharashtra (10.86),<br>Karnataka (10.87)<br>(Total 6 states) | Haryana (11.55),<br>Tripura (11.99),<br>Himachal Pradesh (12.21),<br>Jammu & Kashmir (12.24),<br>Madhya Pradesh (12.13)<br>(Total 5 states) | National<br>average | Rajasthan (12.62),<br>Assam (12.68),<br>Andhra Pradesh (12.89),<br>Uttar Pradesh (13.25),<br>Bihar (13.96)<br>(Total 5 States) | West Bengal (14.05),<br>Orissa (14.57)<br>(Total 2 States) |

Source: Prepared from Table 3(A).

Note: Figures in parentheses are quantity of cereals consumed in kg.

TABLE 5B. DISTRIBUTION OF STATES BY VARIATION IN AVERAGE QUANTITY OF CEREALS CONSUMED PER CAPITA PER 30 DAYS DURING 2004 (NSS 60TH ROUND) (URBAN INDIA)

| <i>(kg)</i>   |                  |  |  |
|---|------------------|--|--|
| Consumer category by level of consumption   |                  |  |  |
| 8 kg – 10.2 kg<br>(1)   | 10.03 kg<br>(2)  | 10.04 kg – 12.60 kg<br>(3)   | 12.61 kg – 15.0 kg<br>(4)  |
| Punjab (8.31), Gujarat (8.31), Haryana (8.89), Tamil Nadu (9.05), Maharashtra (9.04), Karnataka (9.47), Kerala (9.89), Madhya Pradesh (10.02)<br>(Total 8 states) | National average | Uttar Pradesh (10.77), Rajasthan (10.84), West Bengal (10.89), Andhra Pradesh (10.32), Assam (12.57)<br>(Total 5 states) | Bihar (12.92), Orissa (13.60), Jammu & Kashmir (14.57)<br>(Total 3 states) |

*Source:* Prepared from Table 3B.

#### CONSUMPTION PATTERN BY MONTHLY PER CAPITA CONSUMPTION EXPENDITURE (MPCE) CLASS DURING 2004

There was lot of variation in cereal consumption among MPCE classes in India during 2004, NSS 60th Round (Table 6A for rural areas and Table 6B for urban areas). The variation was more pronounced in rural areas than in urban areas. Again, the inter MPCE classes variation in rural areas was apparently less for consumption of rice than those for wheat and cereals as a whole. The consumption of rice varied from 6.04 kg to 7.39 kg with seven out of 12 MPCE classes having consumption less than the national average. There was variation in total cereal consumption ranging from 9.12 kg to 13.50 kg, and here the upper six MPCE classes consumed cereals more than the national average of 12.42 kg. For wheat, variation in consumption was from 1.88 kg to 5.93 kg with upper MPCE classes consuming more quantity than the national average of 4.25 kg.

In urban areas, on the other hand, inter-MPCE class variation in consumption of rice, wheat and total cereals were from 3.49 kg to 5.40 kg, from 3.15 kg to 5.21 kg and from 7.66 kg to 10.55 kg respectively. Here, six out of 12 MPCE classes consumed rice more than the national average of 4.88 kg. Similarly, 7 out of 12 MPCE classes and 6 out of 12 MPCE classes, respectively, under wheat and total cereals consumed more than the national average of 4.67 kg and 10.03 kg respectively. The consumption pattern thrown up by MPCE classes pinpoints to the fact that while upper MPCE classes consumed more, there were a large population under lower MPCE classes who consumed less than the national average quantity.

TABLE 6A: INTER MPCE CLASS VARIATION IN AVERAGE QUANTITY CONSUMED OF CEREALS PER CAPITA PER MONTH DURING 2004 (NSS 60TH ROUND) (ALL INDIA-RURAL)

| Item                          | MPCE Class (In Rs.) |         |         |         |         |         |         |         |         |         |         |               |         |            | All | Range |
|-------------------------------|---------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------------|---------|------------|-----|-------|
|                               | 0-225               | 225-255 | 255-300 | 300-340 | 340-380 | 380-420 | 420-470 | 470-525 | 525-615 | 615-775 | 775-950 | 950 and above | (14)    | (15)       |     |       |
| (1)                           | (2)                 | (3)     | (4)     | (5)     | (6)     | (7)     | (8)     | (9)     | (10)    | (11)    | (12)    | (13)          | (14)    | (15)       |     |       |
| Rice (kg)                     | 6.04                | 6.66    | 7.39    | 6.51    | 6.71    | 6.68    | 6.82    | 6.90    | 6.75    | 6.87    | 7.07    | 6.78          | 6.80    | 6.04-7.39  |     |       |
| Wheat (kg)                    | 1.88                | 2.57    | 2.83    | 3.75    | 3.86    | 3.77    | 4.14    | 4.58    | 4.67    | 4.66    | 4.89    | 5.93          | 4.25    | 1.88-5.93  |     |       |
| All cereals (kg)              | 9.12                | 10.42   | 11.38   | 11.92   | 12.27   | 12.08   | 12.44   | 12.86   | 12.74   | 12.82   | 13.21   | 13.50         | 12.42   | 9.12-13.50 |     |       |
| Estimated no. of person ('00) | 171841              | 193085  | 466200  | 603087  | 701349  | 696789  | 789313  | 726077  | 889133  | 916117  | 489536  | 643526        | 7286054 | -          |     |       |
| No. of sample households      | 124                 | 147     | 405     | 531     | 631     | 694     | 874     | 908     | 1292    | 1478    | 904     | 1507          | 9495    | -          |     |       |

Source: NSS 60th Round, Page A-4.

TABLE 6B. INTER MPCE CLASS VARIATIONS IN AVERAGE QUANTITY CONSUMED OF CEREALS PER CAPITA PER MONTH DURING 2004 (NSS 60TH ROUND) (ALL INDIA-URBAN)

| Item                          | MPCE Class (In Rs.) |         |         |         |         |         |         |         |          |           |           |                |         |            | All | Range |
|-------------------------------|---------------------|---------|---------|---------|---------|---------|---------|---------|----------|-----------|-----------|----------------|---------|------------|-----|-------|
|                               | 0-300               | 300-350 | 350-425 | 425-500 | 500-575 | 575-665 | 665-775 | 775-915 | 915-1120 | 1120-1500 | 1500-1925 | 1925 and above | (14)    | (15)       |     |       |
| (1)                           | (2)                 | (3)     | (4)     | (5)     | (6)     | (7)     | (8)     | (9)     | (10)     | (11)      | (12)      | (13)           | (14)    | (15)       |     |       |
| Rice (kg)                     | 3.49                | 4.57    | 5.40    | 4.25    | 4.59    | 5.35    | 4.91    | 4.64    | 4.85     | 5.10      | 4.90      | 5.14           | 4.88    | 3.49-5.40  |     |       |
| Wheat (kg)                    | 3.15                | 3.27    | 3.76    | 4.95    | 4.76    | 4.73    | 4.87    | 5.21    | 5.05     | 4.51      | 4.72      | 4.57           | 4.67    | 3.15-5.21  |     |       |
| All cereals (kg)              | 7.66                | 8.83    | 10.10   | 9.63    | 10.16   | 10.55   | 10.19   | 10.44   | 10.29    | 9.94      | 9.85      | 9.89           | 10.03   | 7.66-10.55 |     |       |
| Estimated no. of person ('00) | 50187               | 73480   | 156650  | 169542  | 223926  | 208731  | 287703  | 254661  | 302402   | 303083    | 173388    | 261822         | 2465935 | -          |     |       |
| No. of sample households      | 57                  | 77      | 182     | 202     | 275     | 319     | 436     | 516     | 742      | 975       | 658       | 898            | 5333    | -          |     |       |

Source: NSS 60th Round, Page A-5.



## CEREAL CONSUMPTION AND THEIR AVAILABILITY IN THE COUNTRY

Cereal consumption as revealed by NSSO data may be compared with the net availability of cereals in the country as a whole as published in various issues of *Economic Survey*, Government of India. These two sets of data are presented in Table 7. Consumption data of various rounds of NSS were converted from kg per capita per 30 days to gms per capita per day in order to make it comparable with the net availability data of the respective years, which are published in gms per capita per day. The consumption level during the period 1987-88 (NSS 43rd Round) to 2002 (NSS 58th Round) although registered a gradual decline, it, thereafter, increased both in the rural and urban areas during NSS 59th and NSS 60th Rounds. Among the various rounds of NSS, the consumption level of cereals was more than the net available amount of the corresponding years in three out of eight NSS rounds, viz., NSS 43rd, NSS 50th and also NSS 59th Round (by marginal amount). The consumption level in the remaining five NSS rounds were less than the net available amount. Therefore, the availability of surplus cereals may likely to develop in the country. This phenomenon leads us to conclude that the development of surplus food stock and foodgrains exports thereof cannot be established adequately by the fact of reduction in consumption level than by the increase in foodgrains production as asserted by the Committee on Long Term Grain Policy.

TABLE 7. COMPARISON OF NET AVAILABILITY AND ACTUAL CONSUMPTION OF CEREAL OVER THE ROUNDS AND YEARS

| NSS rounds with reference period<br>(1)    | Consumption of cereals per capita per 30 days (in kg) |              | Consumption of cereals per capita per day (in gms.) |              | Net availability of cereals per capita per day |                          |
|--|---|--------------|---|--------------|--|--------------------------|
|  | Rural<br>(2)  | Urban<br>(3) | Rural<br>(4)  | Urban<br>(5) | Year<br>(6)                                    | Quantity (in gms)<br>(7) |
| 43rd Round<br>(July 1987 – June 1988)      | 14.4  | 11.2         | 480   | 373          | 1987   | 435.4                    |
| 50th Round<br>(July 1993 – June 1994)      | 13.4  | 10.6         | 447   | 353          | 1988   | 411.8                    |
| 55th Round<br>(July 1999-June 2000)        | 12.7  | 10.4         | 423   | 347          | 1993   | 427.9                    |
| 56th Round<br>(July 2000-June 2001)        | 12.4  | 10.0         | 413   | 333          | 1994   | 434.0                    |
| 57th Round<br>(July 2001-June 2002)        | 12.2  | 9.8          | 407   | 327          | 1999   | 429.2                    |
| 58th Round (July 2002 -<br>December 2002)  | 12.1  | 9.8          | 403   | 327          | 2000   | 422.7                    |
| 59th Round (January<br>2003-December 2003) | 12.3  | 9.9          | 410   | 330          | 2001   | 386.2                    |
| 60th Round (January<br>2004-June 2004)     | 12.4  | 10.0         | 413   | 333          | 2001   | 382.2                    |
|  |   |              |   |              | 2002   | 458.1                    |
|  |   |              |   |              | 2002   | 458.1                    |
|  |   |              |   |              | 2003   | 408.5                    |
|  |   |              |   |              | 2004   | 427.4                    |

Source: Col 1 to 3 from Table 1, Col- 4 and 5 converted to gms, Col. 6 and 7 from *Economic Survey*, 2005-06, Government of India.

## EXTENT OF CALORIE AVAILABILITY AND CEREAL CONSUMPTION

Calorie obtainable from the consumed cereal is given in Table 8. Calorie requirement and estimation of calories from cereals is given in the footnote to Table. On the basis of national average consumption of cereal, 1,428 calories for rural areas and 1152 calories for urban areas could be obtained. Considering the standard calorie requirement of 2400 and 2100 respectively for rural and urban people, the estimated available calorie are well within the prescribed limit of balanced diet, which emphasises 50 per cent of calories to be derived from carbohydrate and the remaining from the protein and fat with 25 per cent each. But all the MPCE classes may not be able to get 50 per cent of calories from the consumed cereals, particularly the lowest two MPCE classes. Fifty per cent of the required calorie means 1200 out of 2400 calories and 1050 out of 2100 calories. To get 1200 calories, 10.44 kg cereal per capita per 30 days or 348 gm per capita per day are required by the rural people; and 9.12 kg cereal per capita per 30 days or 304 gms per capita per day are required by urban people to get 1050 calories. The lowest two MPCE classes both for rural and urban sectors have lower cereal consumption than the required ones. The estimation procedure of calorie was reversed back to calculate the required cereal levels. Further, it is also estimated that 5 per cent of the people and 2.85 per cent households belonging to lowest MPCE class in rural areas may not be able to get the required calorie from their consumed cereal; the similar percentages for urban area were 5 and 2.5 respectively. Of course, how far the remaining calories to be obtained from food items containing protein and fat by different MPCE classes is yet to be estimated. But, the quantitative data for such items are not readily available from NSS reports. Pulses data, although available, the quantum of consumption was insignificant. Net production and availability of pulses were not increasing but decreasing over time.

TABLE 8. CALORIE SUPPLIED BY CEREAL CONSUMPTION DURING 2004 (NSS 60TH ROUND)

| Item<br>(1)   | Rural<br>(2)  | Urban<br>(3)  |
|---|---|---|
| Cereal consumption range among MPCE classes         | 9.12 kg to 13.50 kg per capita per 30 days or 304 gms to 450 gms per capita per day | 7.66 kg to 10.55 kg per capita per 30 days or 255 gms to 352 gms per capita per day |
| Calorie range                                       | 1049 to 1553  | 880 to 1214   |
| National average consumption                        | 12.42 kg per capita per 30 days or 414 gms per capita per day                       | 10.03 kg per capita per 30 days or 334 gms per capita per day                       |
| Calorie available from national average consumption | 1428  | 1152  |
| Calorie requirement per person per day              | 2400  | 2100  |

*Note:* Table is based on data of the Table 6A and 6B and quantity in kg per month was converted to gm per capita per day. Every 100 gms cereal on an average produce 345 calories. Based on this, available calorie from the consumed cereal was estimated. Calorie requirement per person per day has been shown after Planning Commission 1977.

## CONCLUSION

It is thus observed from the above discussion that the national average consumption of cereals, rice and wheat declined over time upto 2002 and again rose during 2003 and 2004. Again, the change in consumption pattern varied from State to State. Inter-MPCE classes variation in the consumption of cereals, rice and wheat, were noted for the data of NSS 60th Round pertaining to the year 2004. Surplus stock of foodgrains and export of foodgrains there-of could not be explained adequately by the reduction in consumption level of cereal over time than by the increase in foodgrains production in the country. Five per cent of the people each in rural and urban areas may not be able to get the required calories from the amount of cereals actually consumed by them during 2004. The so-called self-sufficiency in foodgrains requires to be thoroughly examined in view of the recent move by the Government of India to revive import of essential commodities including wheat in order to combat inflationary pressures emerging in the recent years.