



Food Subsidy in India:
Trends, Causes and Policy Reform Options

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Food Subsidy in India: Trends, Causes and Policy Reform Options

Vijay Paul Sharma¹

Abstract

India has one of the largest food subsidy programmes in the world that has created a relatively effective social safety net but is also under increasing criticism because of its large contributions to government budget deficits, economic inefficiency and poor targeting. The Food Corporation of India is always under attack from all quarters for perceived operational inefficiencies leading to increase in the food subsidy burden. This paper analyses the trends in volume of food subsidy in the post-reforms period (1991-92 to 2012-13) and then examines various components of food subsidy, which are under the control of FCI and those beyond the control of FCI, and relative contribution of these components to total subsidy during the last decade. Broad policy options for containing food subsidy are also suggested in the paper. The data on food subsidy clearly shows that subsidy has increased significantly in the post-reforms period in general and during last 6-7 years in particular reaching a record level of Rs. 72283 crore in 2011-12. The total cost of food subsidies that amounted to about 2.2 per cent of agricultural GDP during the 1990s increased significantly to about 5 per cent during the last decade. Increase in procurement price was main contributor to increase in economic cost of foodgrains which is responsible for rising food subsidy. Other components, which contributed to food subsidy, included open-ended procurement policy, increase in procurement costs mainly statutory charges by state government on procurement of foodgrains, constant central issue prices and distribution costs. However, most of these variables are decided by the government and are beyond the control of FCI. Despite increase in absolute value of subsidy components that are under the control of FCI, there has been an improvement in the efficiency of Corporation's operations, e.g. share of administrative charges of procurement costs, and storage losses have declined during the last decade. Improvement in operations of FCI, though desirable, may not lead to significant reduction in the subsidy. Therefore, steps need to be taken to reduce other costs through appropriate procurement price policy, public-public participation through involvement of more states in procurement and distribution of various foodgrains including coarse cereals, reduction in statutory and non-statutory charges charged by state governments, encourage private and/or public-private partnership in creating scientific storage facilities to reduce losses, need-based procurement of foodgrains, and periodic and affordable increase in central issue price.

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Food prices play an important role in the well-being of the poor and poverty reduction in developing countries. Therefore, government interventions in foodgrains markets have existed in one form or another for several decades, starting during the Second World War. Although there has been a decline in the share of expenditure on food items in last few decades in both urban and rural areas but poor consumers still spend a large share of budget on food in developing countries (Pinstrup-Andersen, 1985). For example, in India the proportion of expenditure on food items has declined by about 10 percentage points in the rural areas and by about 16 percentage points in the urban areas between 1987-88 and 2009-10 (NSSO, 2012) but bottom decile class of consumers (based on per monthly per capita consumer expenditure) spends about 65 per cent of total expenditure on food items in rural areas and about 62 per cent in urban areas. The relative importance of individual food commodities in the food budgets also varies among consumers. In case of poorest among poor (bottom decile), cereals account for more than 30 per cent of the food expenditures (36.3% in rural and 30% in urban areas), while in case of rich people (top decile expenditure group), cereals account for less than 20 per cent of food expenditure (16.2% in rural and 11.50% in urban areas), while share of high value products, namely, livestock and fruits and vegetables is high, 46.6 per cent in rural areas and 44.6 per cent in urban areas. Therefore, the level of food prices is important determinant of their purchasing power. Even small food price increases may adversely affect the ability of poor consumers to meet their basic needs, including nutritional requirements. Wage goods prices also influence wages and employment in other sectors of the economy, and thus have impact on urban poor (Pinstrup-Andersen, 1985). Because of the high budget share spent on food among both rural and urban poor, negative impact of high food prices is much more severe among the poor than the rich people. Therefore, the role of the state in providing food subsidies to poor consumers is socially justifiable as food subsidies are needed to protect the welfare and nutritional status of the economically disadvantaged people. However, food subsidies are under increasing criticism because of their large impact on government budget deficits and inefficiency because it is generally argued that the benefits often do not reach the poor

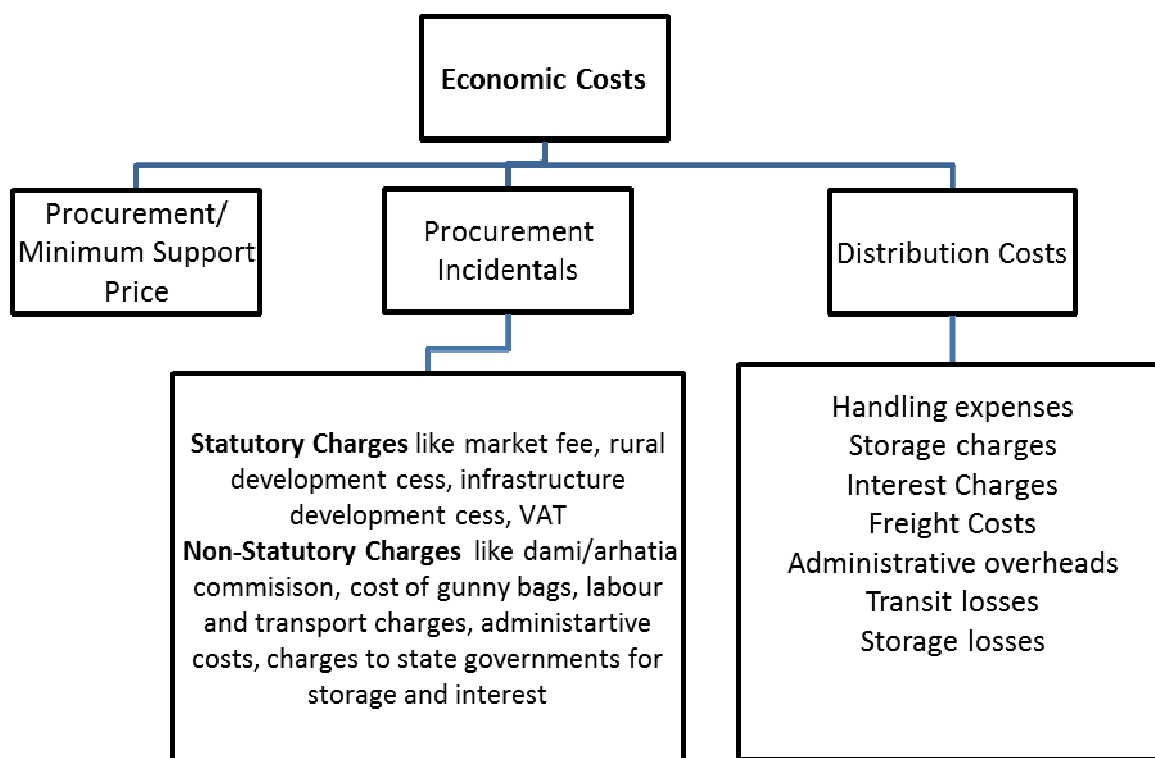
(Ali and Adams, 1996). This paper reviews the trends in food subsidies, identifies major determinants of subsidy and suggests a policy reform options for containing food subsidy and making it more effective and efficient.

1. TRENDS IN FOOD SUBSIDY

Subsidies in Indian agriculture have increased significantly in the post-reforms period. Food subsidies increased from Rs. 2,850 crore in 1991-92 to about Rs. 72,823 crore in 2011-12 (Revised Estimates), an increase of over 25 times in 21 years (Table 1). As a result, its share in total central government subsidies under non-plan expenditure increased from 23.3 per cent to 33.7 per cent between 1991-92 and 2011-12. As a percentage of agricultural GDP, the food subsidy increased from 1.8 per cent to 5.8 per cent during 1991-92 and 2010-11. Food subsidy, which increased at an annual compound growth rate of about 17.8 per cent during the 1990s, remained stable between 2002-03 and 2006-07 mainly due to low offtake of foodgrains and marginal increases in procurement prices. However, there has been a significant increase in food subsidy during the last few 5-6 years. For example, food subsidy more than tripled from Rs. 24,014 crore in 2006-07 to Rs. 72,823 crore in 2011-12 and is estimated to cross Rs. 75,000 crore in 2012-12, at an annual compound growth rate of 21.6 per cent.

The Government of India fixes the Minimum Support Price (MSP) of foodgrains at which procurement is made from the farmers. The Central Issue Price (CIP) of foodgrains at which foodgrains are sold under different government schemes and allocations of quantity of foodgrains under Targeted Public Distribution Scheme (TPDS) and other welfare schemes are also fixed by the Government of India. The difference between the Economic Cost and the Central Issue Price is reimbursed by the Government of India as consumer subsidy to the Food Corporation of India (FCI). The economic cost includes MSP, procurement costs/incidentals and distribution costs. Various components of economic cost, procurement costs/incidentals and distribution costs are shown in Figure 1. The Government of India also reimburses the cost of carrying of buffer stock of foodgrains maintained by FCI as a part of subsidy. The trends in average consumer subsidy on rice and wheat and share of buffer subsidy during the period 2002-03 and 2011-12 are given in Table 2.

Figure 1: Components of Economic Cost



The average consumer subsidy on wheat for Antyodaya Anna Yojna (AAY) households has increased from Rs. 684 per quintal in 2002-03 to about Rs. 1452 per quintal during 2011-12 and in case of Below Poverty Line (BPL) households from Rs. 469 to about Rs. 1237 during the corresponding period (more than 2.6 times increase). In case of Above Poverty Line (APL) households, average subsidy has more than tripled from Rs. 301 to about Rs. 1042 between 2002-03 and 2011-12. Almost a similar trend was observed in case of rice, where average subsidy for APL households increased by more than 3.5 times from Rs. 370 in 2002-03 to Rs. 1354 in 2011-12, for BPL consumers from Rs. 600 to Rs. 1619 and in case of AAY consumer subsidy more than doubled. The share of cost of carry subsidy varied from about 2 per cent during 2005-06 and 2006-07, mainly due to low stocks of foodgrains, to 26.3 per cent in 2002-03 when the stocks were very high. The share of buffer stock subsidy recorded an increasing trend since 2007-08 due to build-up of foodgrains stocks with the FCI.

Table 1: Major Subsidies (in crores of Rupees) in India: 1990-91 to 2012-13

Year	Food	Percentage Change over Previous Year	Percentage of GDP from Agriculture	Percentage of Total Subsidies
1991-92	2850	-	1.8	23.3
1992-93	2800	-1.8	1.5	23.3
1993-94	5537	97.8	2.6	47.7
1994-95	5100	-7.9	2.1	43.0
1995-96	5377	5.4	2.0	42.5
1996-97	6066	12.8	1.9	39.1
1997-98	7900	30.2	2.4	42.6
1998-99	9100	15.2	2.4	38.6
1999-00	9434	3.7	2.3	38.5
2000-01	12060	27.8	2.9	44.9
2001-02	17499	45.1	4.0	56.1
2002-03	24176	38.2	5.7	55.5
2003-04	25181	4.2	5.2	56.8
2004-05	25798	2.5	5.3	56.1
2005-06	23077	-10.5	4.3	48.6
2006-07	24014	4.1	4.0	42.0
2007-08	31328	30.5	4.4	44.2
2008-09	43751	39.7	5.4	33.7
2009-10	58443	33.6	6.3	41.3
2010-11	63844	9.2	5.8	36.8
2011-12 (RE)	72823	14.1	-	33.7
2012-13 (BE)	75000	3.0	-	39.5

Sources: Government of India (2012)

Table 2: Trends in Consumer Subsidy on Rice and Wheat (Rs./quintal) and Share of Consumer and Buffer Subsidy in Total Subsidy in India: 2002-03 to 2011-12

Year	Wheat (Rs./quintal)			Rice (Rs./quintal)			Share (%) in Total FCI Subsidy	
	AAY	BPL	APL	AAY	BPL	APL	Consumer	Buffer
2002-03	684.1	469.0	301.0	866.1	600.4	370.5	73.7	26.3
2003-04	718.7	503.7	308.7	936.1	671.1	408.7	85.3	14.7
2004-05	818.9	604.0	409.0	1003.6	738.6	475.1	93.2	6.8
2005-06	831.5	616.5	421.3	1050.7	785.7	520.7	98.2	1.8
2006-07	1014.4	799.4	604.4	1111.6	846.6	581.6	98.0	2.0
2007-08	1148.7	933.7	738.7	1271.4	1006.4	741.4	87.0	13.0
2008-09	1180.6	965.6	770.6	1440.7	1175.7	909.9	88.1	11.9
2009-10	1224.6	1009.6	811.5	1519.5	1254.1	939.0	86.0	14.0
2010-11	1326.4	1111.4	916.4	1702.4	1437.4	1172.4	85.7	14.3
2011-12 (RE)	1451.9	1236.9	1041.9	1884.2	1619.2	1354.2	90.3	9.7

Sources: Gol (2012a)

The main reasons for increase in food subsidy include steep rise in minimum support/procurement prices, accumulation of large stocks of grains, rising economic costs of foodgrains, high offtake of foodgrains under targeted public distribution system and other welfare schemes and constant central issue prices (CIP) of foodgrains (Gol, 2012e). It is generally believed that high food subsidies are mainly because of inefficient functioning of Food Corporation of India. Therefore in order to identify major causes of rising food subsidy, we have analysed various components of food subsidy and are discussed in the next section.

2. The Sources of Rising Food Subsidy

Food subsidies are one of the most prominent features of the Indian economy. Because of its socio-political importance to the economy, the food subsidies have been the subject of discussions. Recent spike in subsidies in general and food subsidy in particular is a growing policy challenge for the government. Between 2006-07 and 2011-12 the food subsidy in India more than tripled and several factors have contributed to this increase. In this section we examine various factors affecting food subsidy in the country.

2.1 Rising Economic Costs

The economic cost of foodgrains to Food Corporation of India (FCI) is of strategic importance as it has direct impact on food subsidy. Minimum support price is one of the major components of economic costs and accounts for about 70 per cent of FCI's economic cost of foodgrains and share of procurement incidentals and distribution costs is about 30 per cent (Table 3). However, FCI has no control on MSP as well as large number of cost items of procurement incidentals and distribution costs.

2.1.1 Rising Minimum Support Prices

One of the important factors behind rising subsidy is high food prices in domestic and world markets. Although some of the factors are structural and cyclical but in the short term, a continuing trend of high and volatile food prices is likely in developing Asia (ADB, 2011). The minimum support price of paddy (common) increased marginally from Rs. 530 per quintal in 2001-02 to Rs. 570 per quintal in 2005-06, an increase of about 7.54 per cent. In contrast, the MSP of paddy more than doubled from Rs. 620 in 2006-07 to Rs. 1250 in 2012-13 (Table 3). Almost a similar trend was observed in case of wheat, where MSP increased by less than 5 per cent during the first half of 2000s but more than doubled (from Rs. 640 to Rs. 1285) between 2005-06 and 2011-12. The average annual growth rate (y-o-y) in MSP increased from 1.2 per cent in the first half of last decade to 10.6 per cent during 2006-07 to 2012-12 in case of wheat and 1.8 per cent and 12.1 per cent in case of paddy (common) during the corresponding period. This massive increase in MSP has led to a rapid rise in food subsidy in the country.

2.1.2 Procurement Incidentals

The procurement incidentals include statutory charges such as market fee, rural development/infrastructure development cess and VAT and non-statutory charges like dami/arhatia commission, mandi labour charges, cost of gunny bags, handling charges, internal transport and interest charges. Some of these charges are under the control of FCI and in some cases FCI has no role. Therefore, it is important to examine trends in procurement costs, its components and their effects on food subsidy. The trends in composition of procurement costs between TE2004-05 and 2010-11 are given in Figure 2.

Table 3: Trends in Minimum Support Price, Procurement Incidentals, Distribution Costs and Economic Cost of Rice and Wheat: 2001-02 to 2012-132*(Rs./quintal)*

Year	MSP		Procurement Incidentals		Distribution Costs		Economic Cost	
	Wheat	Paddy ²	Wheat	Rice	Wheat	Rice	Wheat	Rice
2001-02	610	530	134.7	66.8	126.7	119.6	852.9	1098.0
2002-03	620	550	137.6	61.7	145.5	157.7	884.0	1165.0
2003-04	630	550	138.2	30.7	169.7	214.5	918.7	1236.1
2004-05	630	560	182.7	58.5	222.8	256.5	1019.0	1303.6
2005-06	640	570	171.2	39.1	234.5	272.4	1041.8	1339.7
2006-07	700	620	180.2	193.7 ³	269.4	289.6	1177.8	1391.2
2007-08	850	745	164.0	214.9	244.4	297.8	1311.7	1549.9
2008-09	1000	900	179.6	226.9	245.4	280.8	1380.6	1740.7
2009-10	1080	1000	206.9	288.6	200.4	184.9	1424.6	1820.1
2010-11	1100	1000	212.4	313.1	217.7	223.5	1494.3	1983.1
2011-12 (RE)	1170	1080	271.8	366.9	252.5	291.3	1651.9	2184.2
2012-13 (BE)	1285	1250	305.2	383.3	296.3	397.1	1822.2	2418.7

Source: FCI (2012)

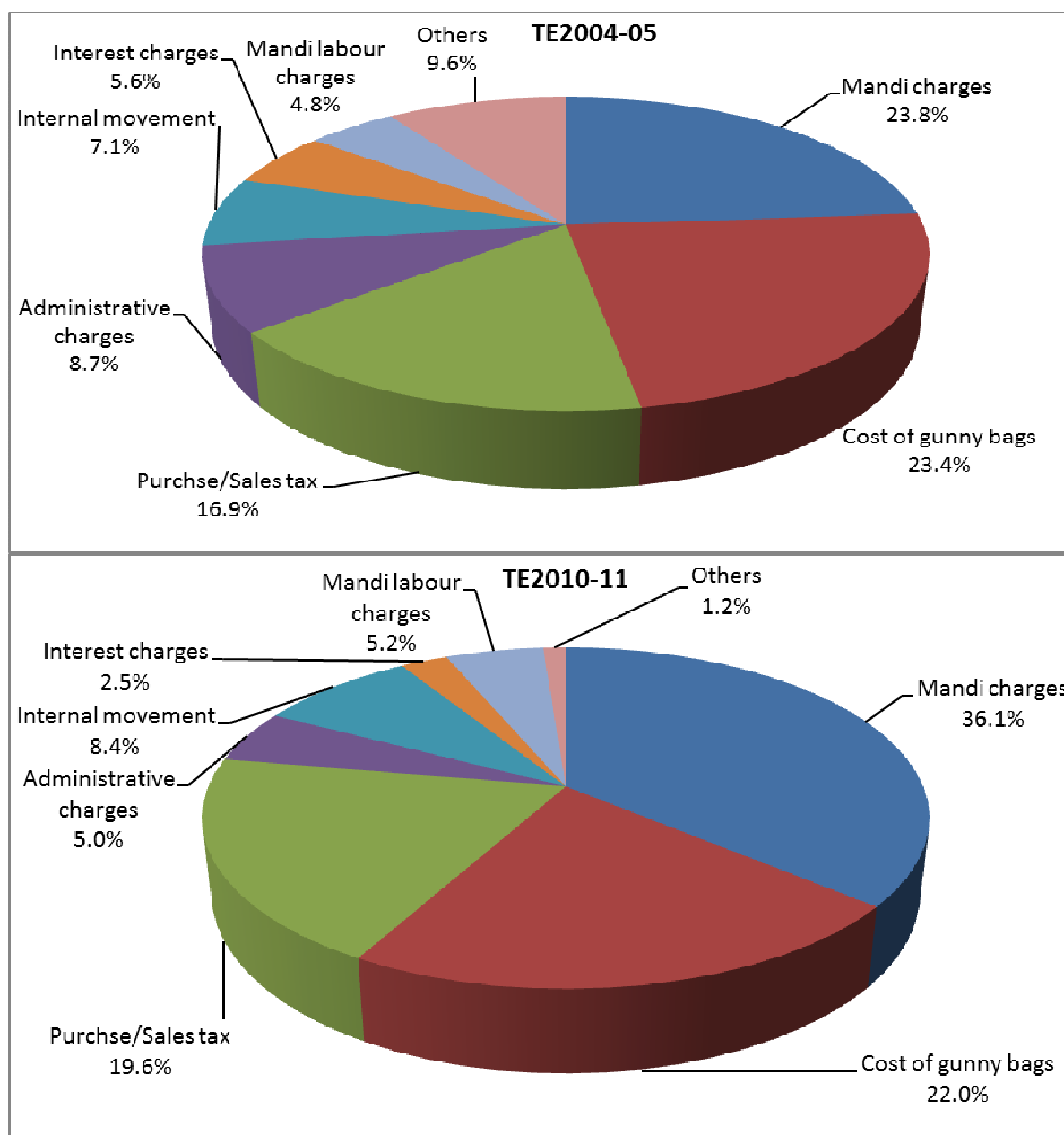
The procurement incidentals in case of wheat increased from Rs. 134.7 per quintal in 2001-02 to Rs. 171.2 in 2005-05, at an average annual growth rate of about 7 per cent while it increased at a marginally higher growth rate (9.1%) during 2006-07 and 2012-13. In case of rice, procurement incidentals increased at an annual growth rate of 12.3 per cent between 2006-07 and 2012-13. It is evident from Figure 2 that state level statutory charges (mandi charges and purchase/sales tax/VAT) accounted for more than 55 per cent of the procurement incidentals during the TE2010-11 in case of wheat. The share of these expenses has increased significantly from about 40 per cent in TE2004-05 to 55.7 per cent in TE2010-11 but FCI has no control on these costs.

² Minimum support price for paddy is for common variety

³ For rice, from 2006-07 in procurement incidentals, weightage of levy rice incidentals is also taken

There are large variations in statutory levies imposed by various State governments, e.g. in case of wheat the extent of such levies varied from 1.45 per cent in Maharashtra to 14.5 per cent in Punjab and 11.5 per cent in Haryana. In case of rice it varied from 1.5 per cent in Karnataka to 14.5 per cent in Punjab, 12.5 per cent in Andhra Pradesh and 11.5 per cent in Haryana (Gol, 2012c).

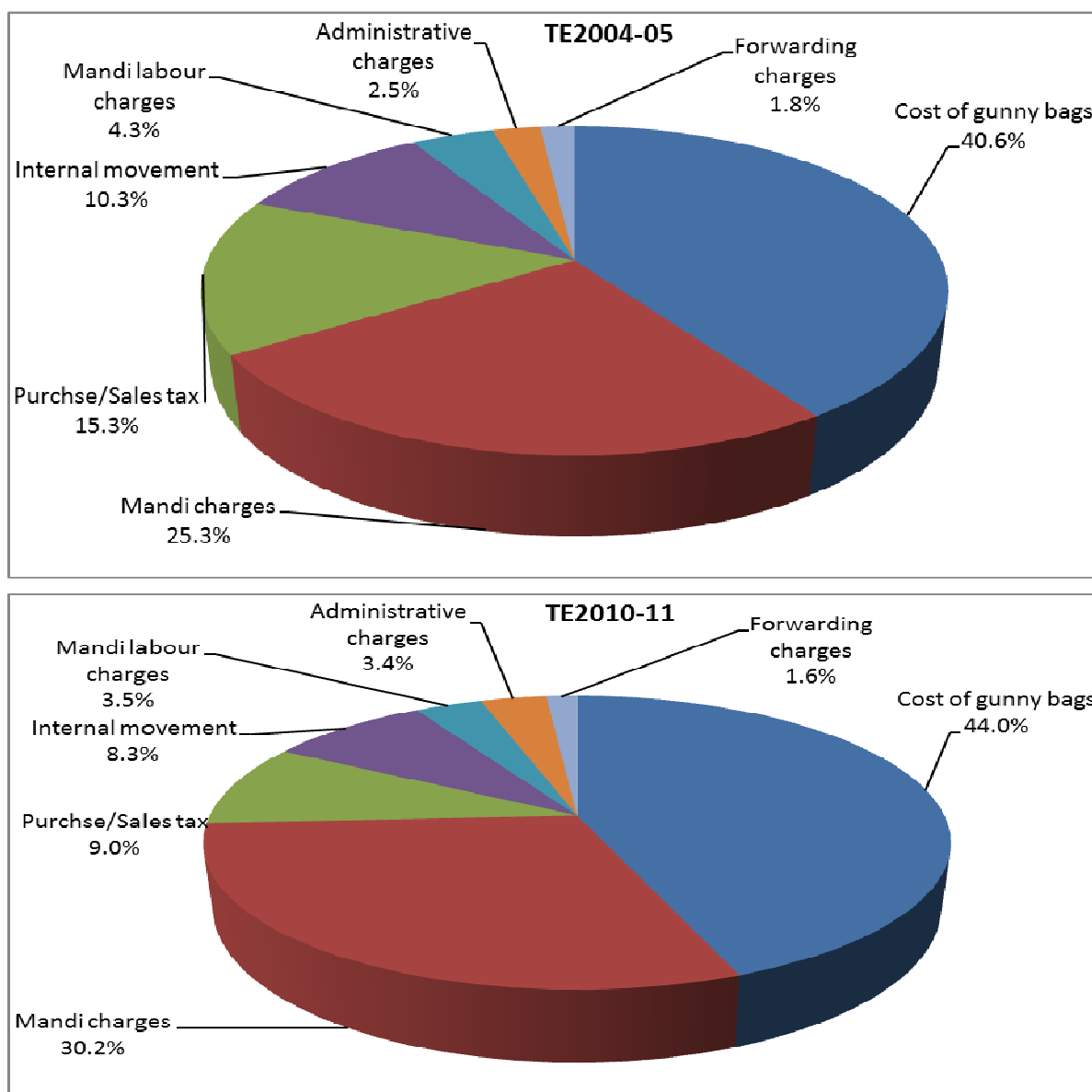
Figure 2: Changes in Components of Procurement Costs of Wheat during TE2004-05 and TE2010-11



Source: FCI (2012)

The second important component of procurement costs is cost of gunny bags which account for 22-23 per cent of total procurement cost and it is mandatory for procurement agencies to use 50 kg new gunny bags only. The share of administrative charges has declined from 8.7 per cent in TE2004-05 to 5 per cent in TE2010-11. Other components of procurement incidentals include internal movement, interest charges, mandi labour charges, custody and maintenance charges, etc., and account for about 15-20 per cent. Almost a similar trend was observed in case of rice (Figure 3).

Figure 3: Changes in Components of Procurement Costs of Paddy during TE2004-05 and TE2010-11



Source: FCI (2012)

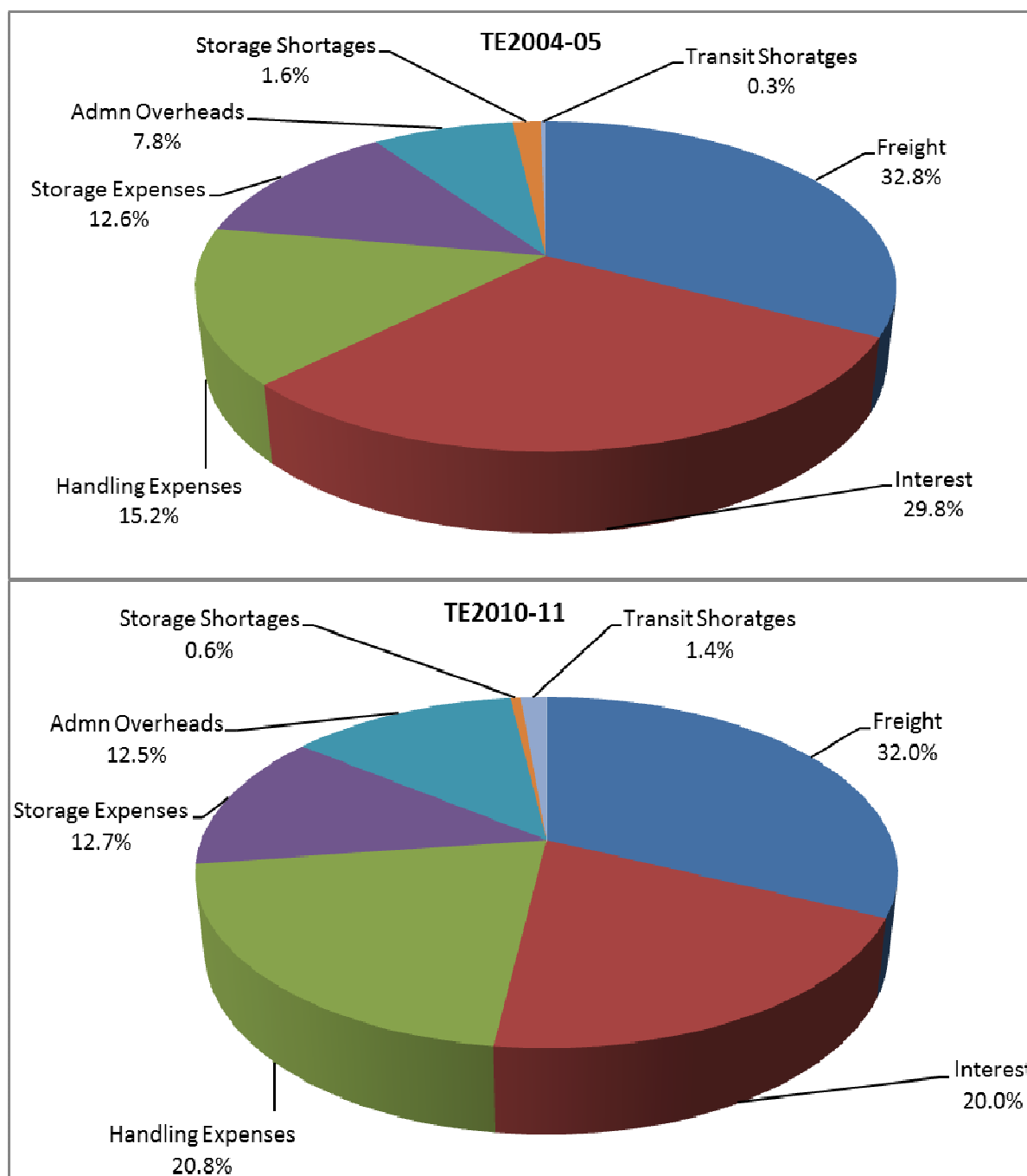
The above analysis clearly shows that large share (80-90%) of procurement costs is not within the control of the FCI and can do little to reduce these costs. Therefore, it is unfair to blame the FCI for high procurement costs and thereby high food subsidy. There is a need to address the issue of high statutory levies on foodgrains by different state governments to contain food subsidy. The high cost of gunny bags and shortage of quality bags during peak procurement season also requires urgent attention to reduce foodgrains losses and improve its quality, thereby, containing food subsidy.

2.1.3 Distribution Costs

The third component of economic cost is distribution costs consisting of freight, interest, handling and storage charges, transit and storage losses and administrative overheads, and typically constitutes about 16-17 per cent of the pooled economic cost of foodgrains. Freight charges alone account for about one-third of distribution costs. Interest cost is the second largest component of distribution costs with an estimated share of about 20 per cent in TE2010-11 (Figure 4). The share of handling expenses has increased from 15.2 per cent in TE2004-05 to 20.8 per cent in TE2010-11 while share of storage expenses has remained almost unchanged at about 12.5 per cent during the period. Administrative expenses have increased from 7.8 per cent to 12.5 per cent during the last decade. It is interesting to note that storage losses, for which the FCI is generally blamed, have declined from 1.6 per cent in TE2004-05 to 0.6 per cent in TE2010-11. In contrast transit losses have increased during the same period. Large part of distribution costs like freight and interest charges are fixed by other agencies/departments/ministries and FCI has little control on these costs. However, FCI can make efforts to reduce handling and administrative expenses, which are within its control. The decentralised procurement policy can help in reducing some of costs like handling expenses and transit losses.

The above results clearly show that steep increase in Minimum Support Prices of foodgrains, procurement incidentals and distribution costs (mostly outside the control of FCI) were responsible for rising economic costs and consequently food subsidy. Our findings in this respect are consistent with Swaminathan (1999) who reported that increase in procurement price was a critical factor in the increase in economic costs of rice and wheat during the 1990s.

Figure 4: Changes in Components of Distribution Costs of foodgrains during TE2004-05 and TE2010-11



Source: FCI (2012)

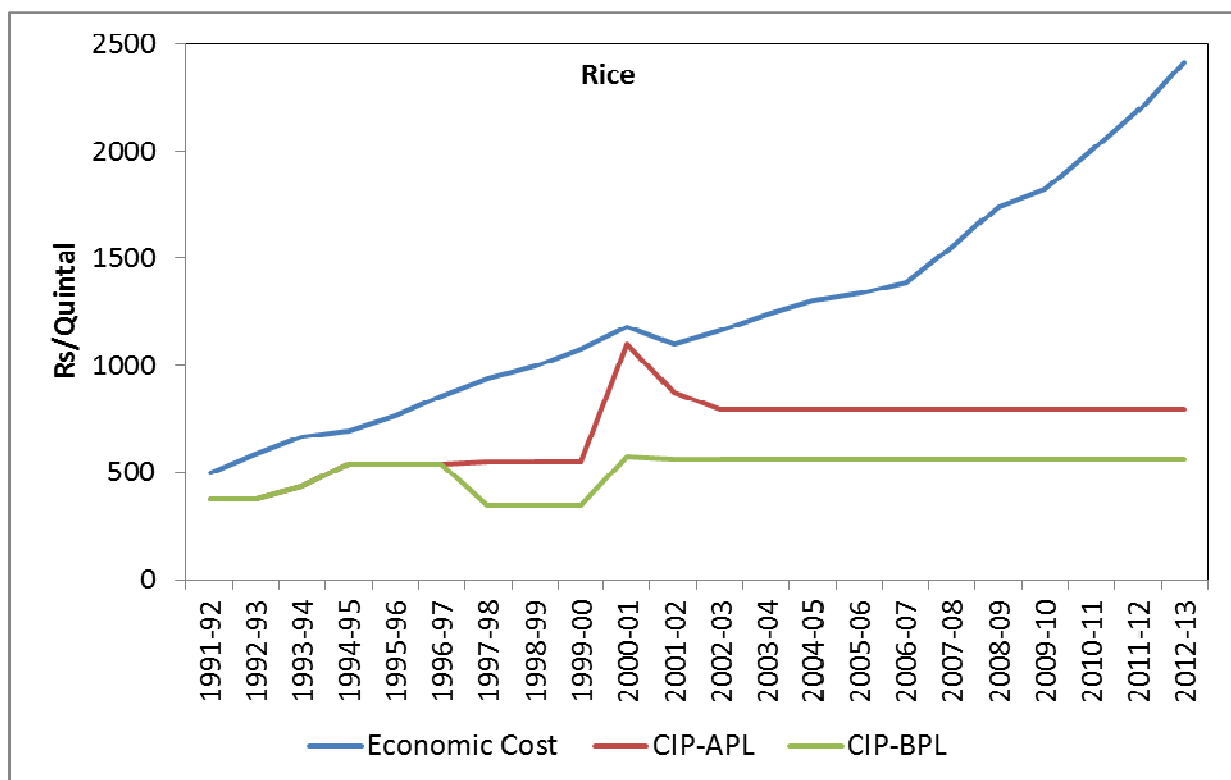
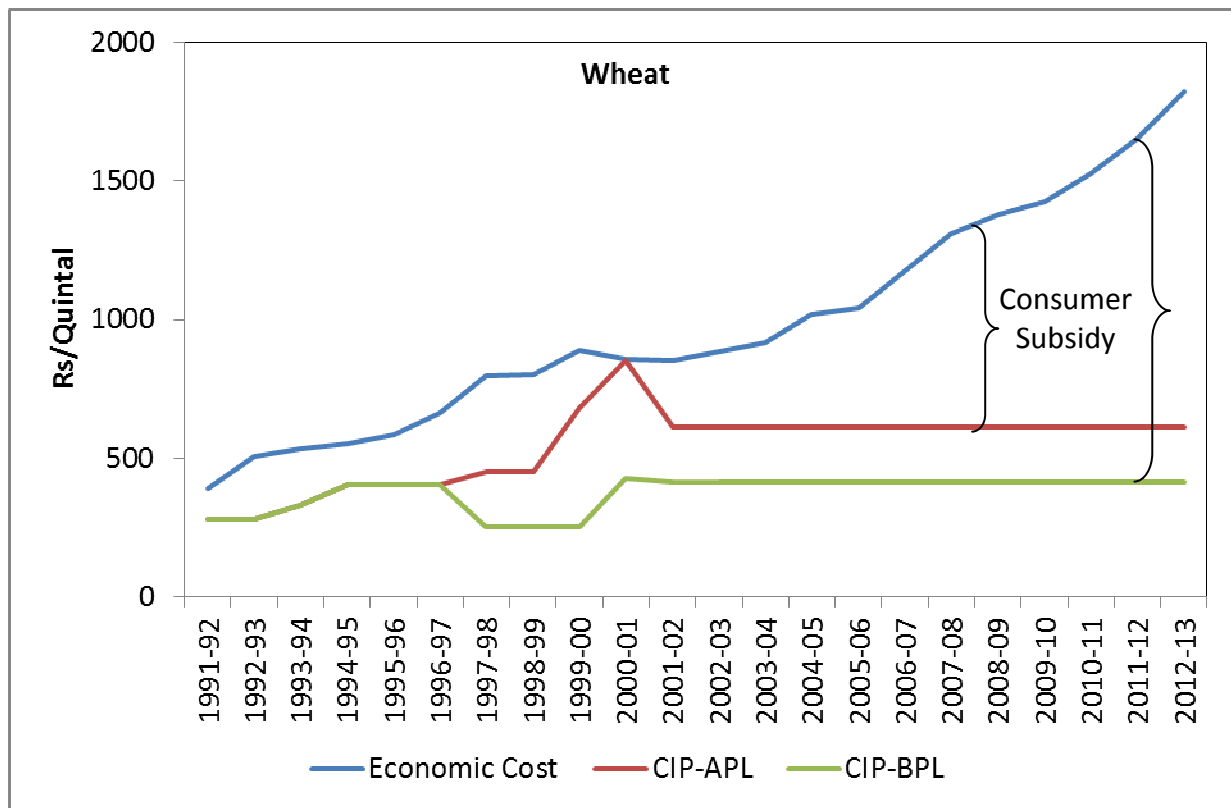
2.2 Central Issue Price of Foodgrains

Another problem of rising food subsidies is constant central issue price of foodgrains during the last decade. The Targeted Public Distribution System (TPDS) was introduced in the country from June 1, 1997 in order to target poor households and also contain and limit

food subsidy. The TPDS envisaged that every Below Poverty Line (BPL) family would be entitled to a certain quantity of foodgrains at specially subsidized prices, Central Issue Prices. While BPL population was offered foodgrains at half the economic cost; the APL, who were not to have a fixed entitlement to food grains, were supplied grains at their economic cost (Gol, 2005). The High Level Committee on Long Term Grain Policy (HLC) constituted by the Department of Food and Public Distribution in its report had recommended that APL price should be reduced to 80 per cent of economic cost and BPL price to 50 per cent of the economic cost excluding statutory levies (Gol, 2003).

As discussed in the earlier section, the MSP of wheat and rice has increased significantly during the last 6-7 years but there has been no revision in Central Issue Prices of foodgrains since July 2002, which has led to steep increase in food subsidy. The central issue price of rice for APL is Rs. 795 per quintal, BPL Rs. 565 and Antyodaya Anna Yojna (AAY) is Rs. 300 since July 2002. In case of wheat the CIP is Rs. 610 per quintal for APL, Rs. 415 per quintal for BPL and Rs. 200 for AAY households and has remained unchanged since July 2002. In contrast, the wholesale price index has increased from 100 in 2004-05 to 172.3 in 2011-12 in case of rice and to 168.3 in case of wheat (Gol, 2012e). The difference between CIP and economic cost of foodgrains has increased significantly during the last decade (Figure 5). For example, CIP of rice for BPL, which was about 76 per cent of total economic cost in 2002, has declined to 23.4 per cent in 2012-13, while in case of wheat it has declined from 71.6 per cent to 33.5 per cent during the same period. In case of APL households, the ratio of CIP to economic costs has fallen from about 0.68 to 0.33 between 2002 and 2012, which is much lower than recommended (0.80) by the High Level Committee. The share of subsidy on per quintal basis (difference between economic cost and CIP) for BPL households has increased from 48.5 per cent in 2001-02 to about 74 per cent in 2011-12 for rice and from 51.3 per cent to about 75 per cent in case of wheat. In case of AAY, subsidy has increased from 72.7 per cent to 86.3 per cent for rice and from 76.6 per cent to about 88 per cent for wheat between 2001-02 and 2011-12. The share of subsidy has increased by more than two and half times in case of APL category. This increasing gap between economic cost and CIP has led to increase in food subsidy in the country.

Figure 5: Trends in Economic Cost and Central Issue Prices of Wheat and Rice: 1991-92 to 2012-12



Source: GoI (2012c)

2.3 Increasing Procurement of Foodgrains and Carrying Cost of Stocks

The foodgrains production which has been hovering around 200 million tonnes up to 2005-06 reached a record level of 244.78 million tonnes in 2010-11 and estimated to be over 257 million tonnes in 2011-12 (GoI, 2012d). Due to record production of foodgrains in the last five years, procurement of foodgrains has also increased significantly. As on June 1, 2012, FCI was holding 82.4 million tonnes of foodgrains which is the highest level, ever achieved. This is against the buffer and strategic norms of 31.9 million tonnes of foodgrains on first July. Since 2007-08, procurement of foodgrains (wheat and rice) by government has increased substantially but a serious problem of covered storage capacity has emerged. The trends in procurement of foodgrains in the country are given in Table 4. Total procurement of foodgrains has increased from 35.5 million tonnes in 2002-03 to about 62.3 million tonnes in 2011-12. The procurement of rice, which was about 16.4 million tonnes in 2002-03, reached a level of about 34.2 million tonnes in 2010-11. The procurement of wheat, which witnessed a declining trend in the first half of last decade, increased significantly during the last five years and reached a record level of 36.6 million tonnes in 2012-13, which is around 8.2 million tonnes higher than the earlier record procurement in 2011-12.

The procurement volume of rice accounted for about 14.5 per cent of total production during the 1980s, and it further increased to 16.5 per cent in the 1990s and about 30 per cent in 2000s. In case of wheat, procurement volume was about 19 per cent of total production during 1980s, marginally fell to 17.4 per cent during the 1990s but increased to 23.7 per cent in the next decade with highest procurement (33.7%) in 2011-12. In terms of the share of procurement in the production of each crop, a higher percentage of wheat production was procured by government agencies in comparison to the share of rice during the 1980s and 1990s but share of rice (29.4%) increased during the 2000s compared with wheat (23.7%). While rice accounted for most of the procurement up to mid-1960s, the share of wheat in the total procurement increased substantially from late-1960s and share of rice and wheat remained more or less the same during the 1970s and 1980s. However, there was improvement in the share of rice in total procurement of foodgrains during the 1990s and 2000s and accounted for 59.7 per cent of total procurement during the last decade.

Table 4: Trends in Aggregate Foodgrains Procurement (lakh tonnes)

Year	Procurement (lakh tonnes)				Procurement as % of Total Production	
	<i>Rice (Oct.-Sep.)</i>	<i>Wheat (Apr-Mar)</i>	<i>Coarse Cereals</i>	<i>Total</i>	<i>Rice</i>	<i>Wheat</i>
2001-02	221.28	206.3	3.15	430.73	23.7	28.3
2002-03	164.22	190.26	0.60	355.08	22.9	28.9
2003-04	228.28	158.01	6.51	392.80	25.8	21.9
2004-05	246.83	167.96	8.27	423.06	29.7	24.5
2005-06	276.56	147.85	11.50	435.91	30.1	21.3
2006-07	251.07	92.26	0.00	343.33	26.9	12.2
2007-08	287.36	111.28	2.04	400.68	29.7	14.2
2008-09	341.04	226.89	2.03	569.96	34.4	28.1
2009-10	314.57	253.82	13.76	582.15	35.3	31.4
2010-11	341.98	225.14	4.07	571.19	35.9	26.2
2011-12	344.64 ⁴	283.35	1.28	622.56	33.1	33.7
2012-13	-	380.23 ⁵	0.36	365.95	-	-

Source: *Gol (2012a) and FCI (2012a)*

The government's buffer stock policy plays an important role in feeding Targeted Public Distribution System (TPDS) and other welfare schemes, ensuring national food security during bad agricultural years and stabilizing prices during period of production shortfall through open market sales (Gol, 2012f). The trends in actual stocks vis-à-vis buffer stock norms are presented in Table 5 and Figure 6.

During 2001-02 and 2002-03, there were excessive public stocks of foodgrains, much above the minimum buffer stock norms, as we have today. The actual stocks of rice and wheat as on July 1, 2002 were 63 million tonnes against a minimum norm of 24.3 million tonnes (Figure 6). The proponents of free market economy argued for free trade and unrestricted participation of private sector in foodgrains procurement and trade. The exports of foodgrains were liberalised and private sector was also allowed to procure foodgrains from

⁴ Position as on July 12, 2012

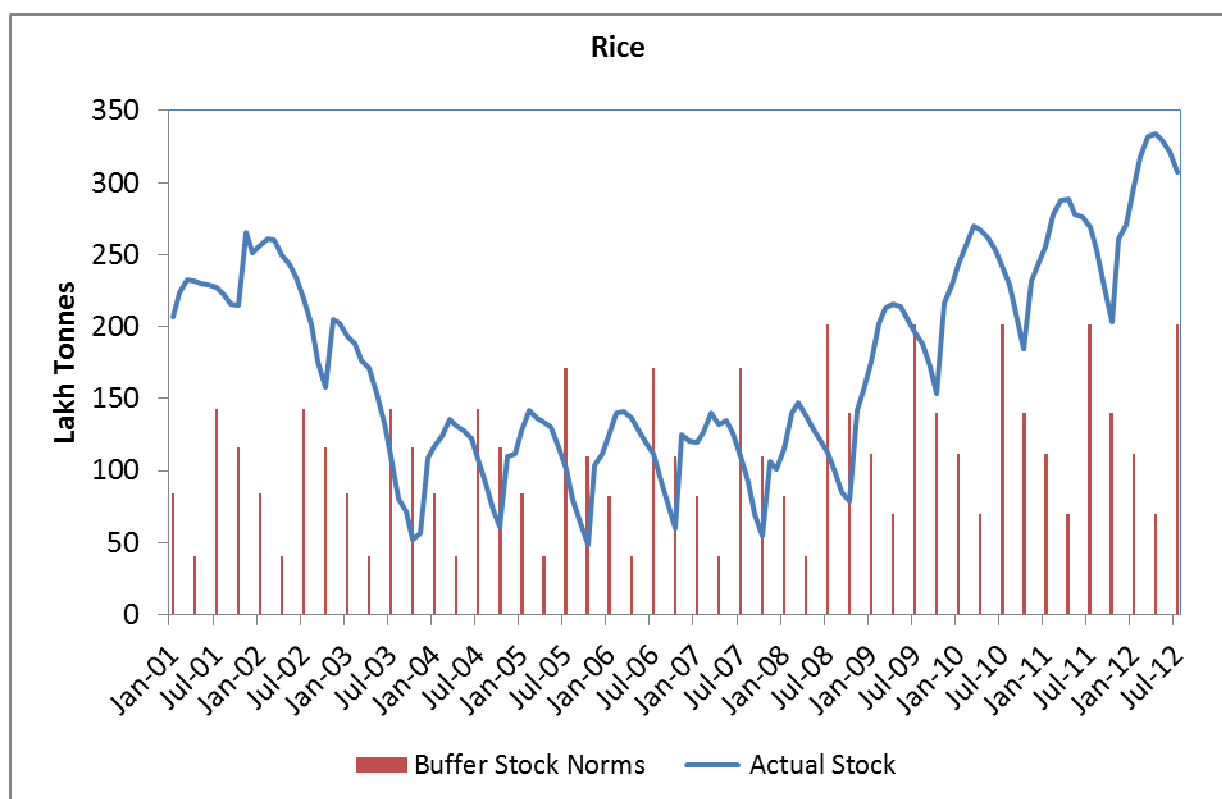
⁵ Position as on July 12, 2012

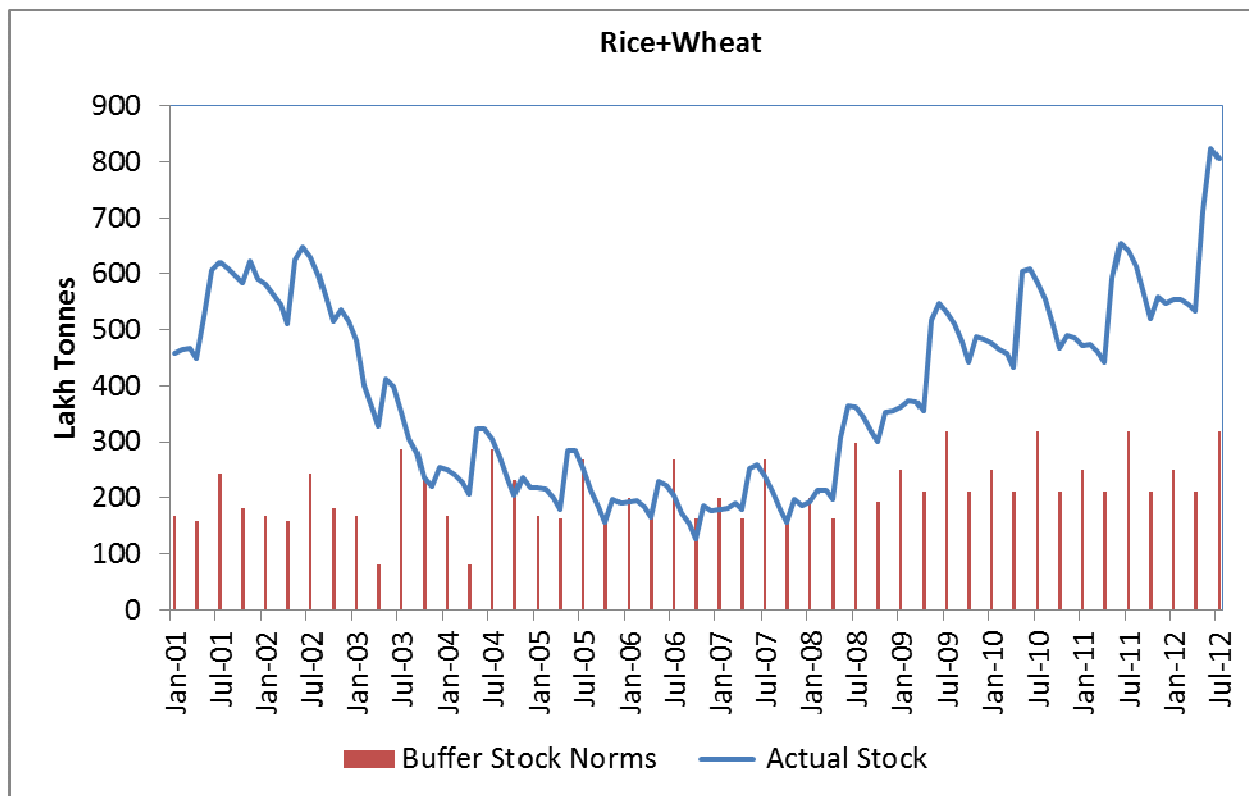
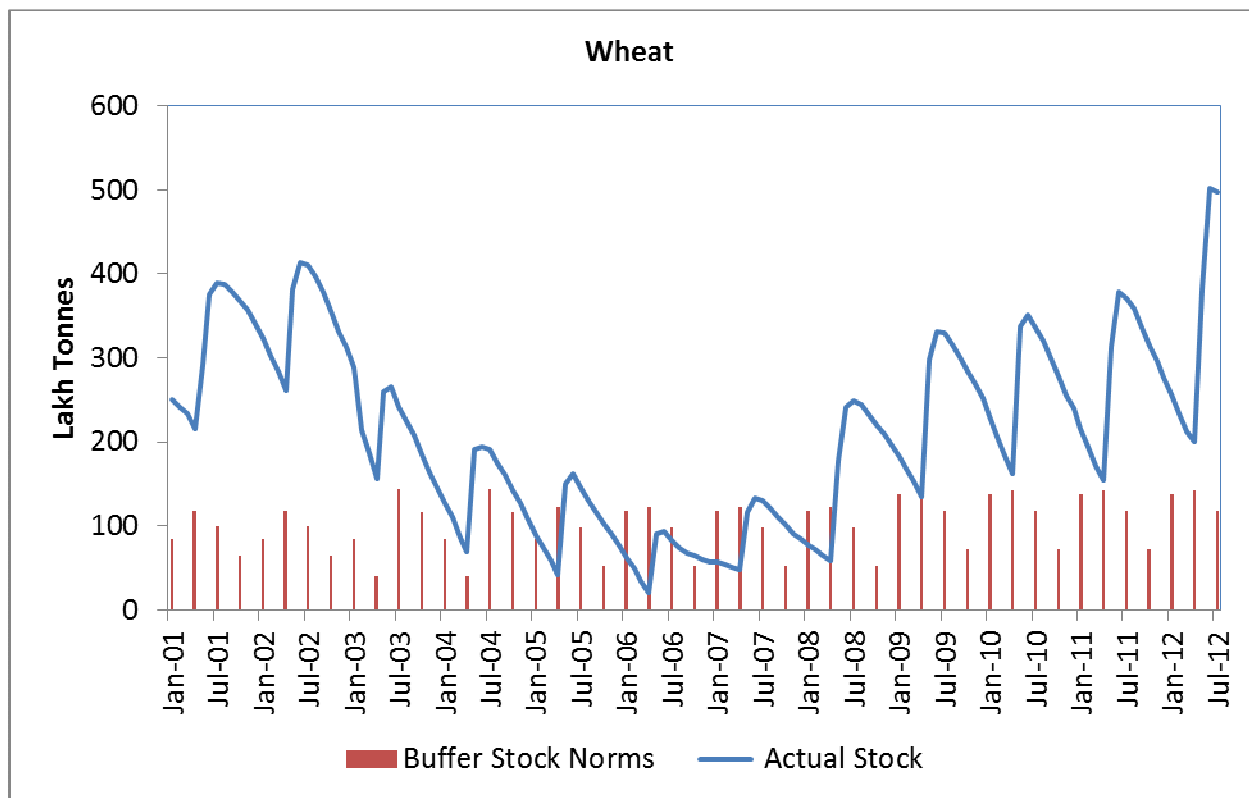
the market. India exported about 15.1 million tonnes of wheat and rice during 2002-03 and nearly 10 million tonnes in 2003-04 (Gol, 2012a). Consequently, the stocks started depleting and reached a level of 12.6 million tonnes against a minimum norm of 16.2 million tonnes on October 1, 2006, which forced India to import about 5.5 million tonnes of wheat during 2006-07 and 1.8 million tonnes during 2007-08, at a price much higher than domestic prices. These developments concerned the policy planners and concerted efforts were made to increase production as well as procurement of foodgrains. During the period between January 2001 and July 2012, 10 out of 47 quarters wheat stocks were less than buffer stock norms and in case of rice in four quarters only, otherwise stocks were higher than buffer norms (Table 5). These excessive foodgrains stocks have also contributed to high food subsidy as there is very high positive association ($r=0.96$) between food stocks and carrying costs of stocks. For example when foodgrains stocks were low during 2005-06 and 2006-07, carrying costs was also low but as stocks started building up since 2007-08, the carrying costs also increased and reached a level of about Rs. 6336 crore during 2010-11 (Figure 7). There were large fluctuations in wheat stocks and varied from about 48 per cent of buffer stock norms on July 1, 2006 to as high as 651 per cent in August 2002, while rice stocks are less volatile. The foodgrains stocks reached a record level of 82.4 million tonnes (32.2 million tonnes of rice and 50.2 million tonnes of wheat) in June 2012 and there is again a pressure from protagonists of free markets to open up foodgrains exports. However, it is a well-known fact that world agricultural markets are thin and hence highly volatile. According to a study by International Monetary Fund in 2008, *“exports of food are much more concentrated across countries than imports and for the four main traded cereals (corn, wheat, rice, and soy) and total food, the number of net exporters is small compared to the number of net importers. Exports are also more heavily concentrated than imports and the largest five exporters account for 80-100 per cent of exports over four cereal groups compared to a range of 22-51 per cent for imports”* (IMF, 2008). Therefore, India needs to have a cautious and calibrated trade policy for agricultural commodities in general and foodgrains in particular. As the government is committed to implement National Food Security Bill (NFSB), it would need about 60-65 million tonnes of grains to meet the requirement.

Table 5: Actual stocks vis-à-vis buffer stock norms: January 2001 to July 2012

Crop	Stocks < Norms	Stocks 100-150% of Norms	Stocks 150-200% of Norms	Stocks 200-300% of Norms	Stocks >300% of norms	Highest	Lowest
Wheat	10	7	13	10	7	651% (Aug. 2002)	48% (July 2006)
Rice	4	18	8	15	2	330% (Oct. 2001)	80.6% (Oct 2003)
Total	10	12	7	15	3	345.4% (Jan 2002)	71.9% (July 2006)

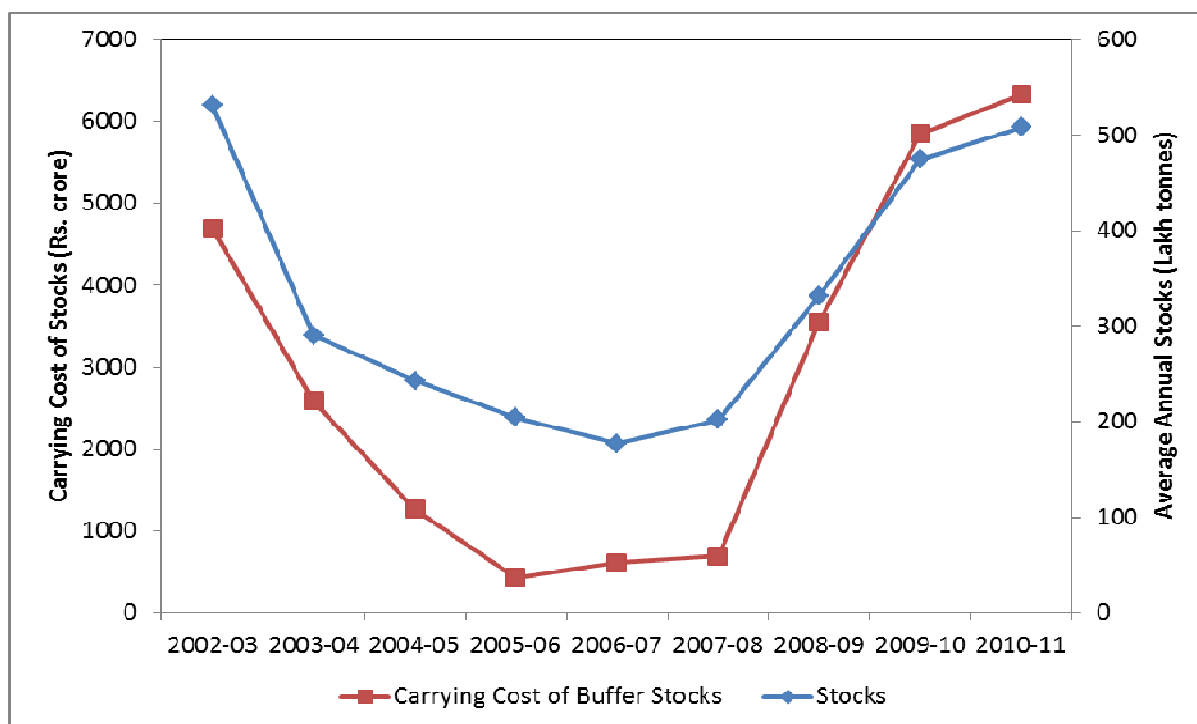
Source: FCI (2012a)

Figure 6: Trends in Actual stocks vis-à-vis minimum buffer stock norms of wheat, rice and total: January 2001 to July 2012



Source: FCI (2012a)

Figure 7: Trends in average annual stocks and carrying cost of stocks during 2002-03 and 2010-11.



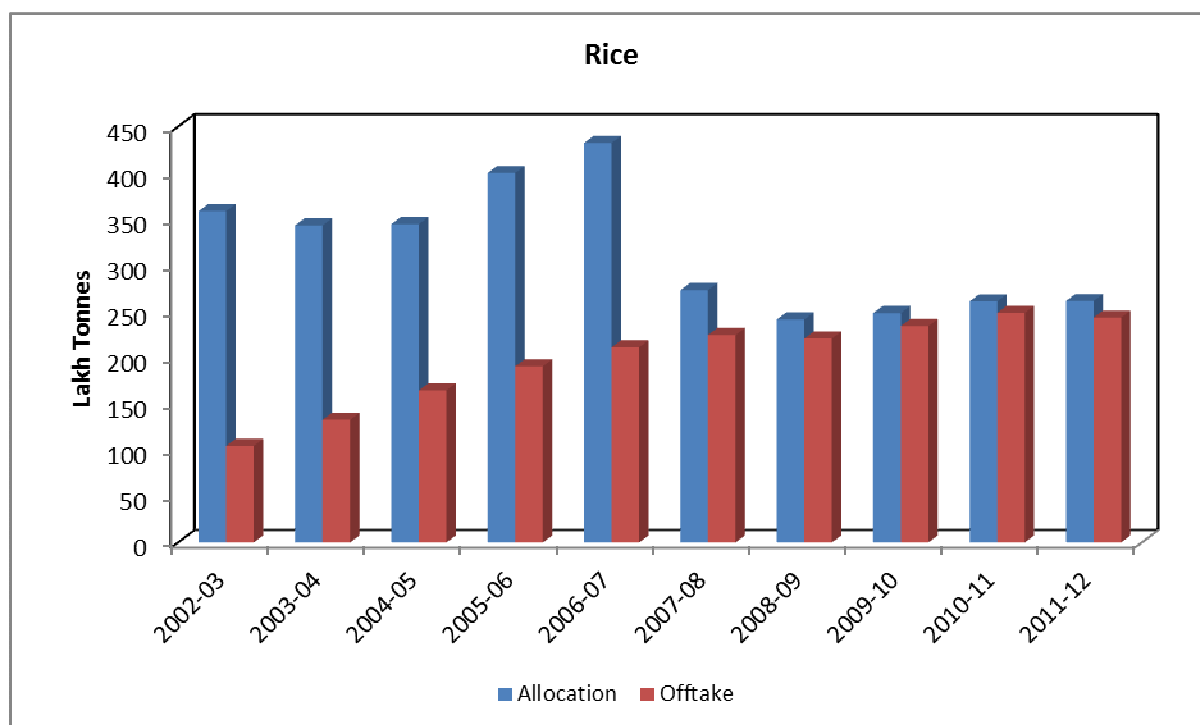
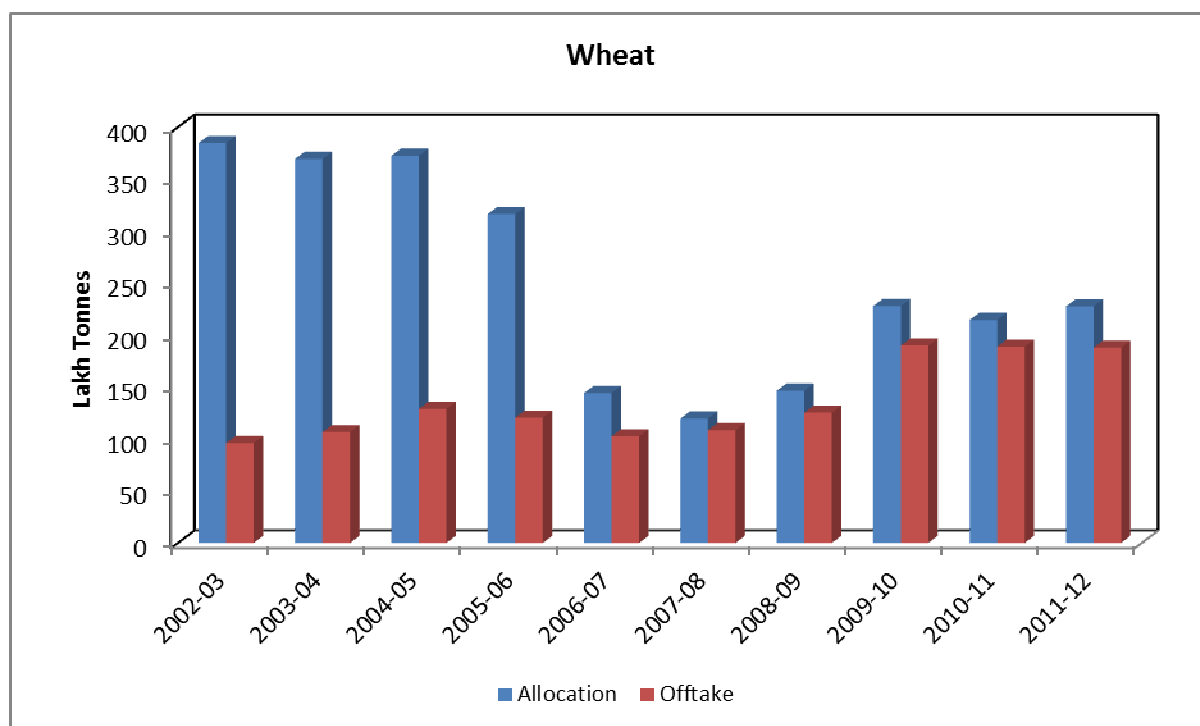
Source: FCI (2012a)

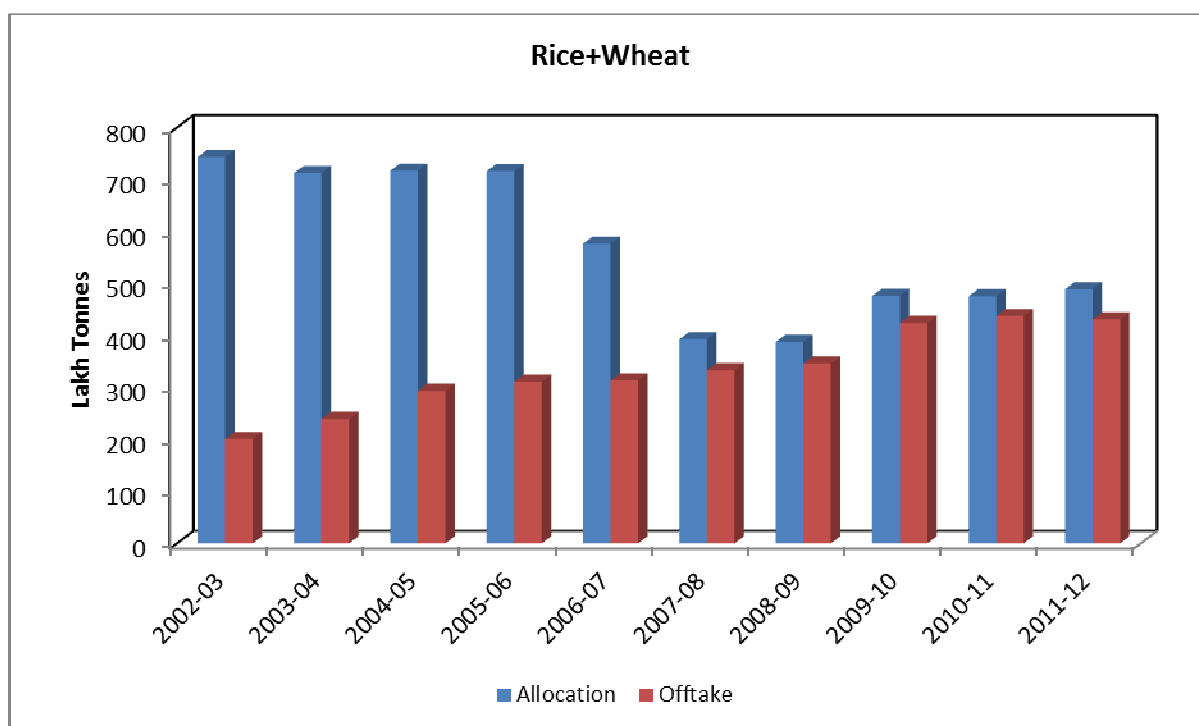
2.4 Allocation and Offtake of Foodgrains

The Public Distribution System (PDS) in the country has a very long history, dating back to pre-independence era (Tarozzi, 2005). Originally conceived as an instrument to achieve food price stabilization in few urban centres has gradually widened its reach and evolved into a major poverty alleviation programme with specific objective of providing food security to vulnerable sections of the society (Mooij, 1999). In June 1997, the Targeted Public Distribution System (TPDS) with focus on the poor was launched and allocation of foodgrains for AAY and BPL households are made at 35 kg per family per month to about 6.52 crore families in the country (Gol, 2012e). The allocation for APL category is made depending upon the availability of stocks of foodgrains in the Central Pool. In addition foodgrains are also distributed under various welfare schemes like Mid-Day Meal Scheme, Wheat based Nutrition Scheme, Supply of Foodgrains to Welfare Institutions and SC/ST/OBC Hostels, Annapurna Scheme, Sampoorn Gramin Rojgar Yojna (SGRY), Emergency Feeding Programme, Rajiv Gandhi Scheme for Empowerment of Adolescent Girls – SABLA and Open

Market Sale scheme etc. (Gol, 2012e). Trends in offtake of foodgrains and the allocation made under TPDS and various other welfare schemes are presented in Figures 8-11.

Figure 8: Trends in Allocation and Offtake of Foodgrains under Targeted Public Distribution System (TPDS) in India: 2002-03 to 2011-12



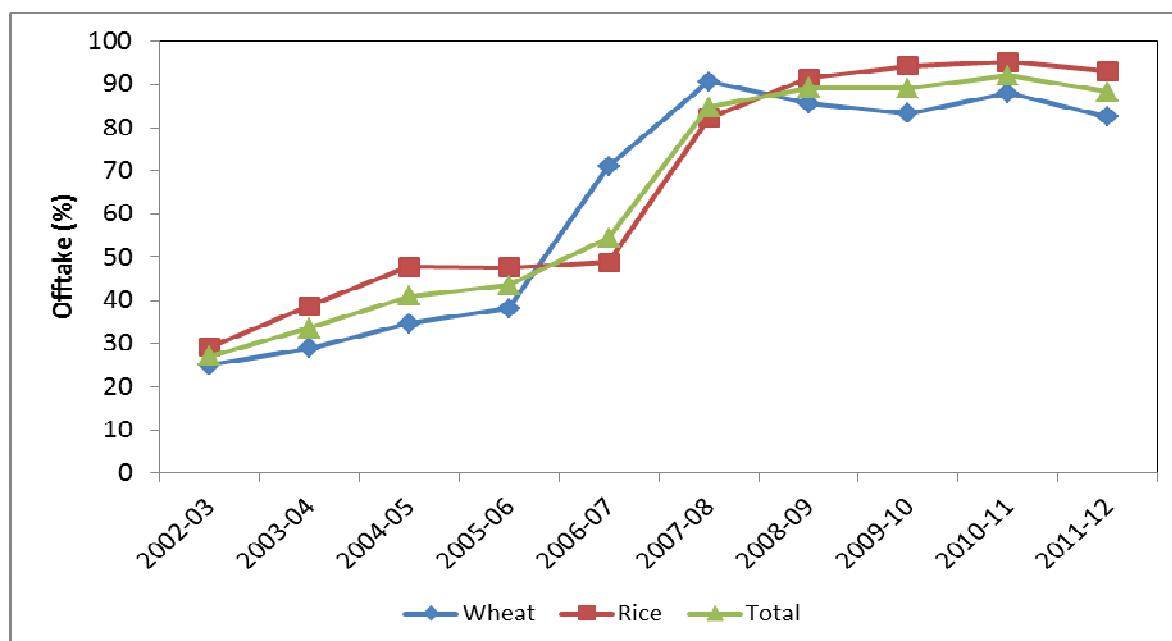


Source: Gol (2012a)

The offtake of foodgrains from Central Pool under TPDS was quite low (ranging from 27% in 2002-03 to 54.4% in 2006-07) the first half of last decade. In case of wheat, offtake was as low as 25 percent in 2002-03 and witnessed an increasing trend since 2006-07, while in case of rice average offtake was less than 50 per cent of allocation up to 2006-07 and started picking up thereafter. The average offtake in case of wheat reached a level of 88 per cent and in case of rice 95.2 per cent during 2010-11. However, there was some decline in offtake of both rice and wheat (82.5% in wheat and 93.1% in rice) during 2011-12.

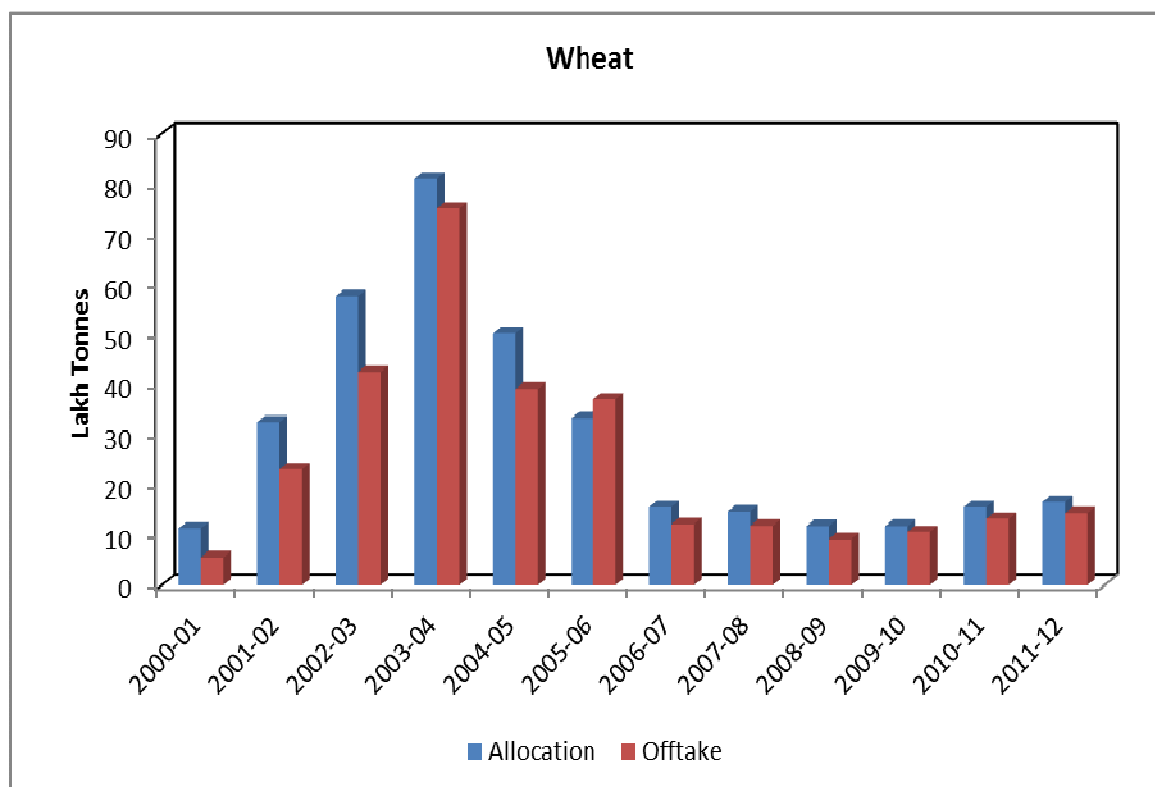
However, in case of welfare schemes, there has been a significant decline in both allocation and offtake of foodgrains since 2005-06 (Figure 10 and 11). The average offtake of foodgrains was about 37 million tonnes against an allocation of about 48 million tonnes during the last five years. However, total offtake of foodgrains (TPDS and welfare schemes) from the Central Pool has increased significantly during the last 4-5 years. Since the government incurs a huge subsidy (Rs. 1619.2 on rice, Rs. 1237 for wheat for BPL and Rs. 1884 for rice and Rs. 1452 on wheat for AAY) on foodgrains distributed under the TDPS, increase in offtake of foodgrains leads to higher food subsidy bill.

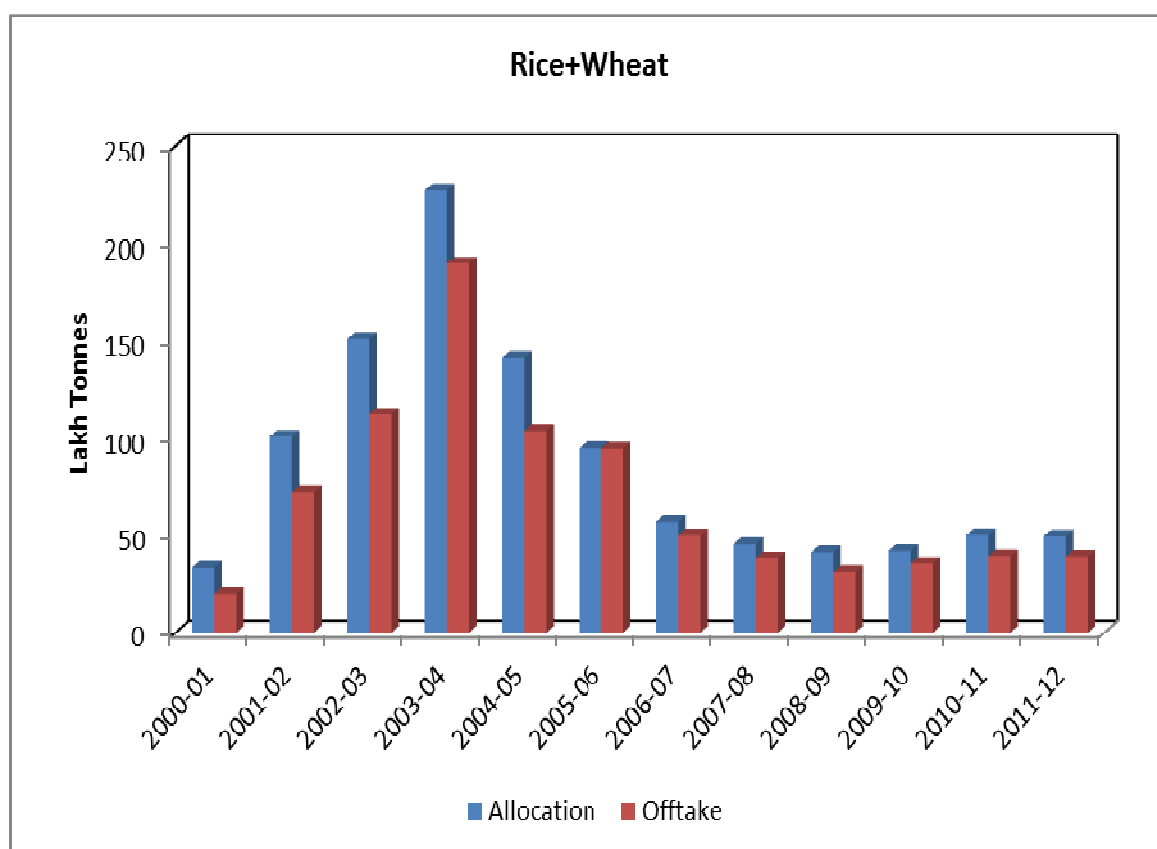
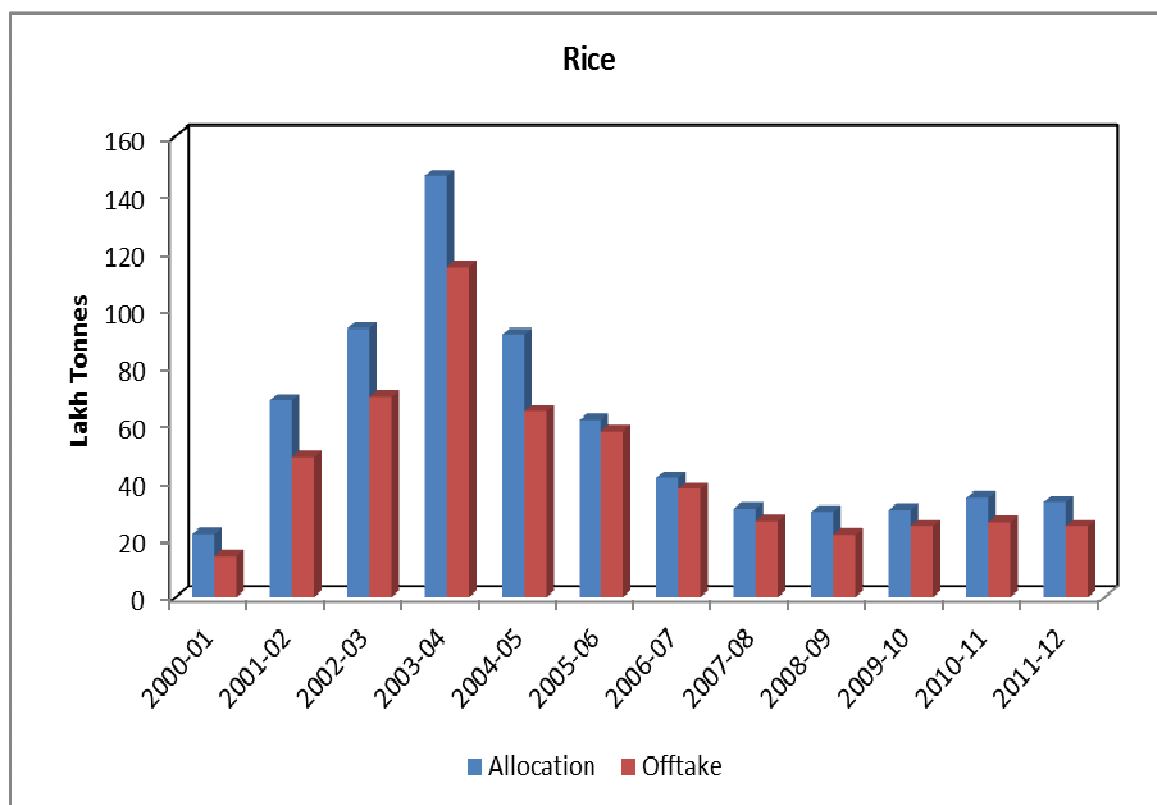
Figure 9: Trends in Offtake of Foodgrains under Targeted Public Distribution System (TPDS) in India: 2000-03 to 2011-12



Source: Gol (2012a)

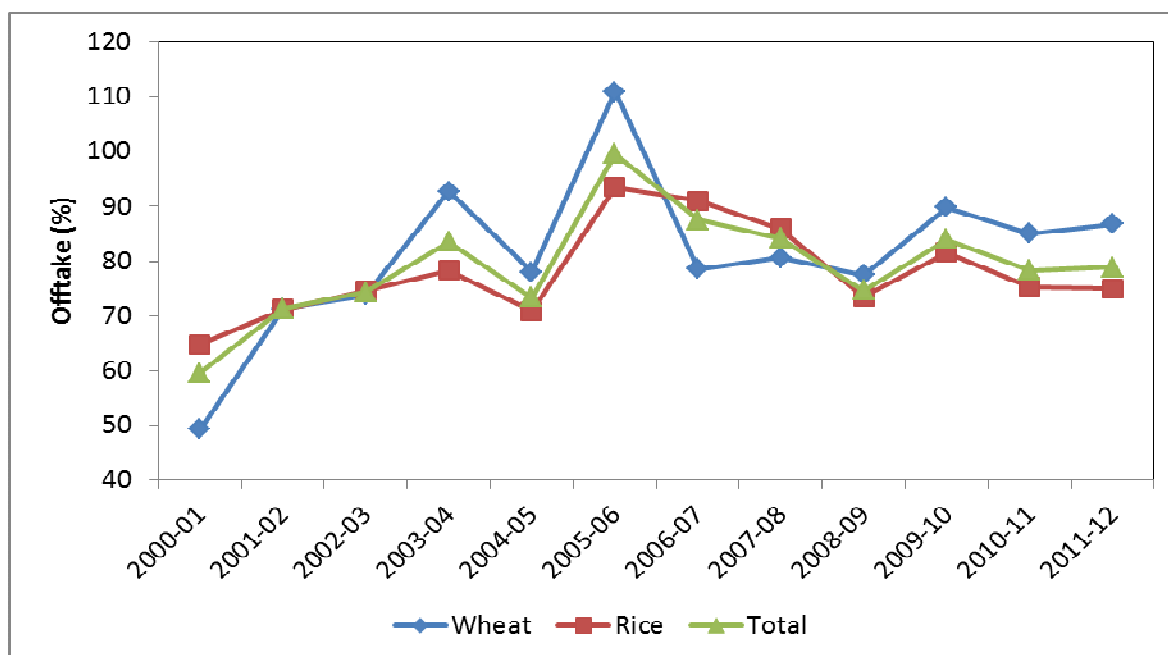
Figure 10: Trends in Allocation and Offtake of Foodgrains under Welfare Schemes in India: 2000-01 to 2011-12





Source: Gol (2012a)

Figure 11: Trends in Offtake of Foodgrains under Welfare Schemes of Government of India: 2000-01 to 2011-12



Source: Gol (2012a)

2.5 Determinants of Food Subsidy

In this section we investigate factors that influence food subsidy. There are several factors that affect food subsidy but we test the impact of main variables such as procurement price, procurement volume, procurement incidentals/costs, distribution costs, and central issue price of foodgrains. George (1996) provides a description of various factors which influence food subsidy. The general estimating model used to examine impact of major determinants on food subsidy is:

$$S_t = \alpha_0 + \alpha_1 PP_t + \alpha_2 PROC_t + \alpha_3 PC_t + \alpha_4 DC_t + \alpha_5 CIP_t + U_t$$

Where, S_t is total food subsidy (Rs. crore) in current prices; t denotes year

The following independent variables were hypothesized to influence the food subsidy either positively (+) or negatively (-):

Procurement Price (PP) = Weighted average of procurement price of rice and wheat (Rs./q) based on procurement quantity of rice and wheat (+)

Procurement Volume (PROC) = Total Procurement of rice and wheat in lakh tonnes (+)

Procurement Costs (PC) = Weighted average of procurement costs of rice and wheat (Rs./q) based on procurement volume and incidentals (+)

Distribution Costs (DC) = Distribution costs of foodgrains (Rs./quintal) (+)

Central Issue Price (CIP) = Weighted average of central issue price of rice and wheat (Rs./quintal) based on actual offtake and CIP of foodgrains for AAY, BPL and APL households (-)

We have tried two alternative functional forms, namely, linear and Cobb-Douglas. The results of linear regression equation were used for interpretation as it was found better when compared with Cobb-Douglas production function. We estimated the regression equation using annual time series data, from 1992-93 to 2011-12 using ordinary least squares (OLS) method and estimates are reported in Table 7.

The overall fit of the model is satisfactory as indicated by the value of R^2 (0.98) and the adjusted R^2 of 0.95. All explanatory variables used in the model had theoretically expected signs. The coefficient of procurement price (PP) is positive and significant at one per cent level, indicating that increase in procurement price increases food subsidy. The coefficient of procurement volume (PROC) was positive and also significant at 5 per cent level. Similarly, procurement costs (PC) and distribution costs (DC) had positive and non-significant coefficient. Subsidy declines with increase in central issue price (CIP) of foodgrains. The estimated coefficient of CIP was negative and significant at 5 per cent level.

Table 5: Estimation Results for Determinants of Food Subsidy in India

	Coefficient	Standard error	't' value	Rank ⁶
Intercept	19464.7	5263.804	-3.698	-
Procurement Price (PP)	38.776 ^{***}	11.606	3.341	1
Procurement Volume (PROC)	51.560 ^{**}	19.960	2.583	2
Procurement Costs (PC)	40.212	88.538	0.454	3
Distribution Costs (DC)	19.476	84.437	0.230	5
Central Issue Price (CIP)	-19.925 ^{**}	8.305	-2.399	4
R^2	0.966	-	-	-
Adjusted R^2	0.954	-	-	-
F	79.978 ^{***}	-	-	-

*** Significant at one per cent; ** Significant at 5 per cent

⁶ Based on standardized coefficients (ignoring signs) given coefficients x (s.d. of X_i /s.d of Y_i), where s.d. is standard deviation, X_i is i^{th} explanatory variable and Y is dependent variable

The results also show that procurement price is the most important determinant of food subsidy and leading to rise in food subsidy. The procurement volume of foodgrains is the second important factor influencing food subsidy, followed by procurement costs and central issue price. The distribution costs are less important compared with other factors.

2.6 Likely Impacts of Increase in Consumer Subsidy and Offtake of Foodgrains for APL Households on Subsidy

The Targeted Public Distribution System (TPDS) was introduced in 1997 with the objective of targeting the food subsidies to the poor and reducing fiscal deficit (Mane, 2006). There has been lot of criticism of TPDS such as exclusion of a large number of deserving households due to problems associated with identification, exclusion and leakages and diversion of grains, etc. (Swaminathan, 2000, Dutta and Ramaswami, 2001 and Jha and Ramaswami, 2010) Without getting into the debate of merits and de-merits of TPDS, we estimated likely subsidy implications of shifting from TPDS to universal public distribution system (no distinction between BPL and APL) under different scenarios and results are presented in Table 7. The results show that universalization of PDS would not result in a significant increase in subsidy bill. For example, if we assume actual offtake of foodgrains for APL category and the price that BPL families pay under TPDS, the subsidy would have increased by about 5.2 per cent during the period 2007-08 to 2011-12. Under scenario-II, the food subsidy bill would have increased by about Rs. 3543 crore and under scenario-III, subsidy would have been risen by nearly 8 per cent. These findings clearly show that the benefits of targeting are limited but have resulted in large scale leakages, inefficiency and high transaction costs. Therefore, it is advisable to have universal PDS rather than TPDS.

3. Policy Options for Containing Food Subsidies

The food subsidy programmes play an important role in India's social safety net but has been widely criticised on the several grounds such as that they benefit the non-targeted population, are highly inefficient, and lead to higher fiscal deficit. High inflation particularly food inflation has been a major challenge as food inflation has been in double digits in recent years. High food prices exert an upward pressure on inflation particularly in developing countries where such prices account for a major proportion of the inflation basket. For example, CPI weightage for food accounts for 56.5 per cent in rural areas and

35.8 per cent in urban areas at all-India level but is much higher for poor sections of the society, 69.15% for agricultural labourers (AL), 66.77% for rural labourers (RL) and 46.2% for industrial workers (Gol, 2011 and 2012f). These percentages are much higher in some less developed States like Bihar (76.1% for AL and 74.1% for RL), Odisha (78.2% for AL and 77.8% for RL) and West Bengal (77.7% for AL and 75.9% for RL). To make things worse, when agricultural input subsidies are reduced to contain budget deficits, for example on fertilizer and other inputs, also leads to higher inflation. As food inflation affects the poor disproportionately, it is a major cause of concern for policy planners. In this section we discuss some of the policy options to contain food subsidies.

Table 6: Likely Impact of Abolition of BPL and APL household classification (assuming same subsidy for both categories) and increase in uptake of foodgrains for APL households

<i>Year</i>	<i>Existing</i>	<i>Scenario I⁷</i>	<i>Scenario II⁸</i>	<i>Scenario III⁹</i>
2007-08	31328	1759 (5.6)	2199 (7.0)	2639 (8.4)
2008-09	43751	1911 (4.4)	2389 (5.5)	2867 (6.6)
2009-10	58443	3347 (5.7)	4184 (7.2)	5021 (8.6)
2010-11	63844	3435 (5.4)	4294 (6.7)	5153 (8.1)
2011-12	72823	3721 (5.1)	4651 (6.7)	5582 (7.7)
<i>Average</i>	54038	2835 (5.2)	3543 (6.6)	4252 (7.9)

Source: Computed from Gol (2012a)

⁷ Scenario I: Actual offtake of rice and wheat for APL households under TPDS and assuming actual consumer subsidy same for APL and BPL households

⁸ Scenario I: 25 per cent increase in offtake of rice and wheat for APL households under TPDS and assuming consumer subsidy same for APL and BPL households

⁹ Scenario I: 50 per cent increase in offtake of rice and wheat for APL households under TPDS and assuming consumer subsidy same for APL and BPL households

3.1 Decentralised Procurement: Promote Public-Public and Public-Private Partnership (PPP)

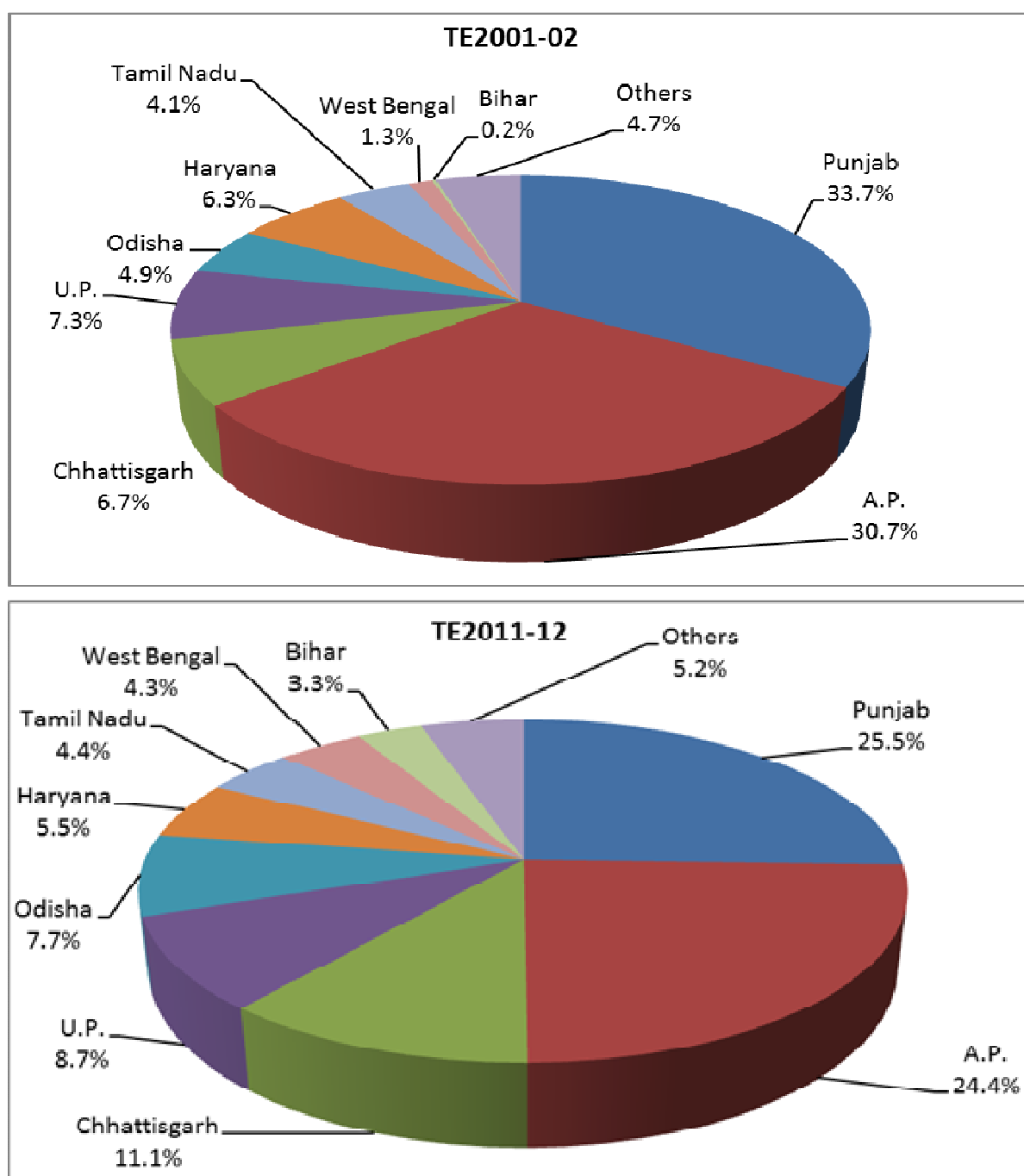
There has been lot of discussion in policy circles about public-private partnership for promoting efficiency in agricultural sector. However, in food procurement and distribution system we believe that bringing more State governments on board would improve efficiency in the system and therefore reduction in food subsidy. The decentralised procurement policy was introduced in 1997-98 to encourage procurement in non-traditional States and coarse cereals, thereby extending the benefits of MSP to local farmers. This system was expected to improve efficiency of the Public Distribution System (PDS) and enable supply of various foodgrains more suited to local tastes for PDS as well as saving in transportation cost. Under this scheme, the State Governments undertake procurement of foodgrains on behalf of Government of India, and also store and distribute these foodgrains under PDS and other welfare schemes. The Central Government reimburses the entire expenditure incurred by the State Governments on the procurement operations (Gol, 2012e). The trends in procurement of rice and wheat by various states during the last decade are presented in Figures 12 and 13.

Before introduction of decentralised procurement policy, procurement was highly concentrated in few States. For example in 1997-98, Punjab (64.1%), Haryana (24.6%) and Uttar Pradesh (6.6%) accounted for over 95 per cent of total wheat procurement and Punjab (38.7%), Andhra Pradesh (24.7%) and Haryana (8.1%) contributed over 70 per cent of rice to the central pool. However, after introduction of decentralised procurement rice procurement has become more diversified, e.g. share of traditional states like Punjab, Andhra Pradesh and Haryana has declined between TE2001-02 and TE2011-12 while share of non-traditional states like Chhattisgarh, Odisha, West Bengal and Bihar has increased significantly during the period (Figure 11). The share of Chhattisgarh has increased from 6.7 per cent in TE2001-02 to 11.1 per cent in TE2011-12, Odisha from 4.9 per cent to 7.7 per cent, West Bengal from 1.3 per cent to 4.3 per cent and Bihar from 0.2 per cent to 3.3 per cent.

In case of wheat the share of Punjab has declined significantly from 52.5 per cent in TE2001-02 to 38 per cent in TE2012-13 while share of Haryana has remained constant at about 25-

26 per cent. Madhya Pradesh has increased its share from 3.2 per cent in TE2001-02 to 18.2 per cent during TE2012-13 and this steep increase in its share is mainly attributed to bonus (Rs. 100/quintal) offered by the state government during 2012-13. The share of Uttar Pradesh, the largest wheat producing state in the country, has not increased during the last decade and the State has opted out of the decentralised foodgrains procurement system.

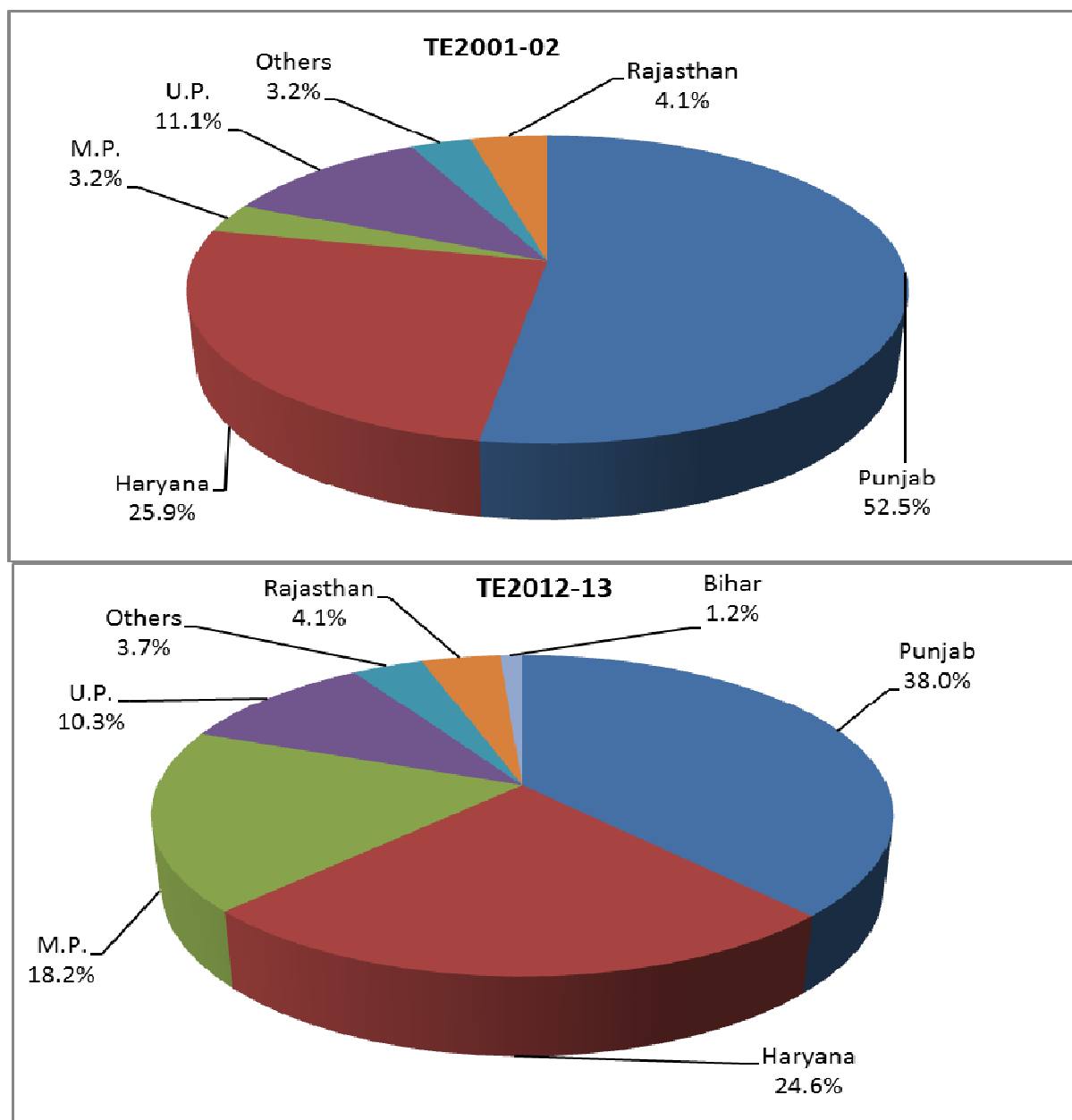
Figure 12: Changing Shares of States in Rice Procurement during the 2000s



Source: Gol (2012g) and FCI (2012c)

It is evident that rice procurement has become more diversified but wheat procurement is still concentrated in few states. Total procurement of rice from decentralised states has increased from about 2.7 million tonnes in TE2001-02 to 9.7 million tonnes in TE2011-12, at an annual compound growth rate of over 16 per cent. In case of wheat, procurement has increased only in Madhya Pradesh, from about 4 lakh tonnes in TE2001-02 to about 5.5 million tonnes in TE2012-13. In other states such as Chhattisgarh, Uttarakhand and Gujarat wheat procurement has not increased.

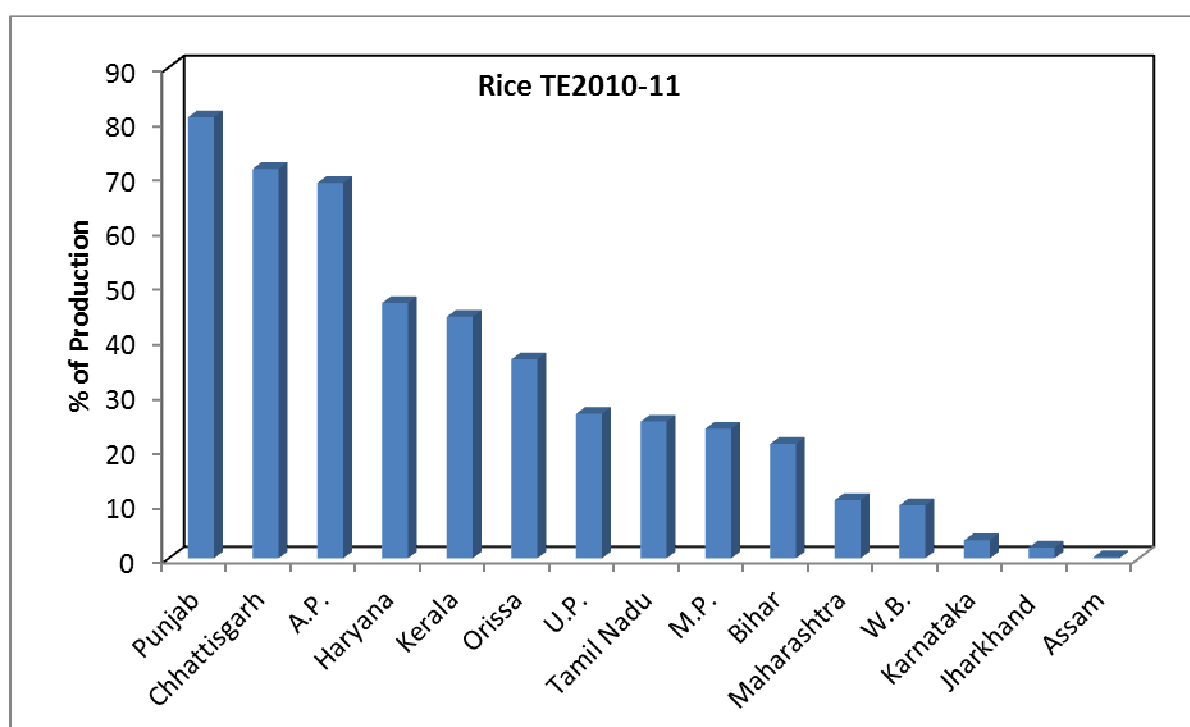
Figure 13: Changing Shares of States in Wheat Procurement during the 2000s

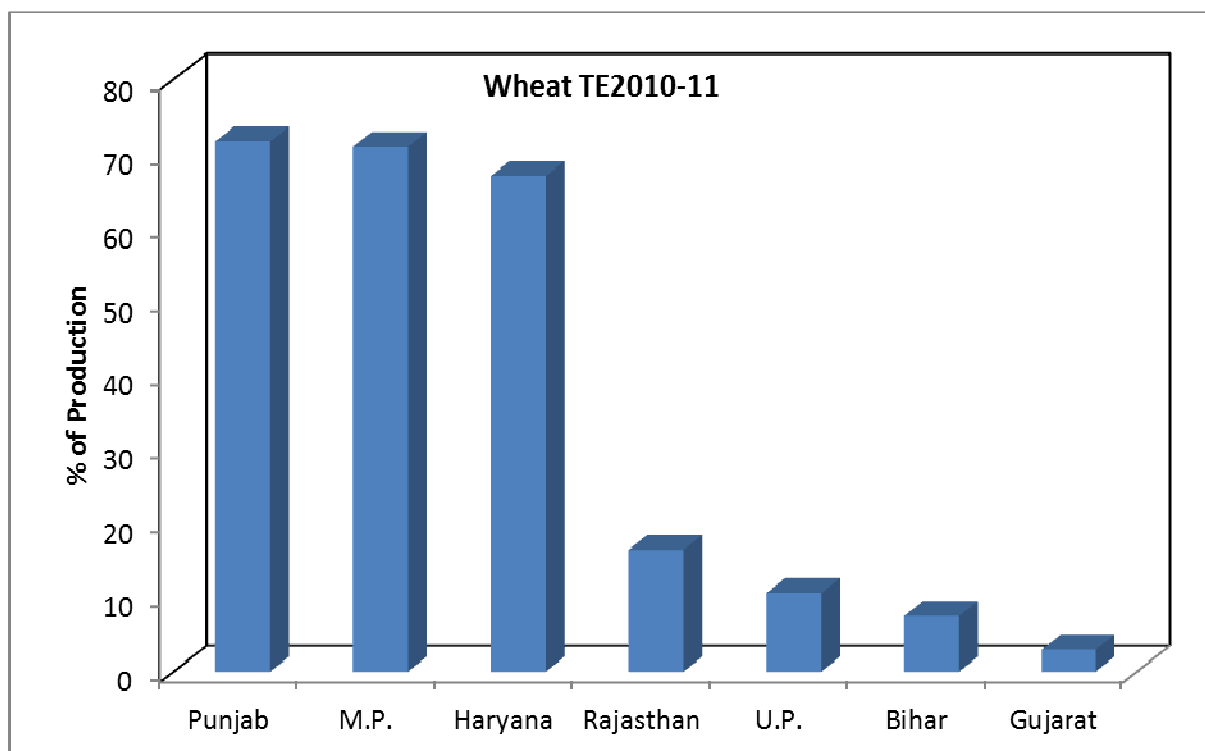


Source: Source: Gol (2012g) and FCI (2012c)

The above results clearly show that participation of States in procurement of rice has improved during the last decade but there is a need to involve more states in procurement operations. West Bengal, which is the largest producer of rice with estimated share of about 16-17 per cent of total rice production in the country, has less than 5 per cent share in total rice procurement and 9.7 per cent of total rice production in the State is procured. The share of procurement (as % of total rice production) varied from less than 5 per cent in Karnataka (3.3%), Jharkhand (2%), Assam (0.2%) to 80.9 per cent in Punjab, 71.4 per cent in Chhattisgarh, 68.8 per cent in Andhra Pradesh and 46.8 per cent in Haryana (Figure 14). In case of wheat, except Punjab (71.6%), Madhya Pradesh (70.9%) and Haryana (67%), share of procurement is low (Rajasthan, 16.4%, Uttar Pradesh, 10.6%, Bihar, 7.5% and Gujarat, 3%). Therefore, there is a need to rope in more states like Assam, Bihar, Karnataka, and Jharkhand in rice procurement operations and Rajasthan, Bihar, Gujarat and Maharashtra in wheat procurement. In addition, share of coarse cereals in total procurement of foodgrains is negligible and has witnessed a declining trend during the last decade. For example, total procurement of coarse cereals has declined from about 3.4 lakh tonnes during the TE2003-04 to 1.9 lakh tonnes in TE2011-12.

Figure 14: Procurement as Percentage of Production in Major Rice and Wheat Producing States in India in TE2010-11





Source: Computed from FCI (2012c) and Gol (2011a)

The efforts should be made to bring more states in the fold of decentralised procurement as well as increase the basket of crops in procurement operations with active participation of States. These efforts would reduce transportation and handling costs as well as improve storage and distribution efficiency. There is a serious shortage of quality storage facilities/infrastructure in the country. The warehouse capacity available in the country in public, cooperative and private sector is about 108.75 million tonnes. The covered storage capacity available with FCI, Central Warehousing Corporation (CWC) and State Warehousing Corporations (SWCs) for storing foodgrains is about 60 million tonnes, which is not sufficient to meet the requirement and as a result, a substantial quantity of foodgrains is stored in Cover and Plinth (CAP) Storage (Gol, 2012a). In view of need for increased procurement and storage of foodgrains to fulfil requirements under proposed National Food Security Bill, it is high time that additional modern storage capacity for foodgrains is created through private sector participation. Therefore, there is a need to promote public-public partnership (decentralised procurement) through effective involvement of more states in procurement operations and public-private partnership in augmenting quality storage capacity.

3.2 Stop Open-ended Procurement of Foodgrains

The procurement of foodgrains is open-ended and government agencies purchase all the quantities offered by farmers at government announced procurement price in many states. This open ended procurement policy has led to excessive stocks of foodgrains causing high procurement, distribution and carrying costs. During the mid-1960s to mid-1970s, government used to announce minimum support price (MSP) and procurement price (PP). The MSP was based on the variable cost of production (cost A2 plus cost of family labour used in production) and MSP was required to ensure farmers remain in business as long as their variable costs are covered and also to encourage farmers to adopt new technologies without fear of a price collapse if the output increased substantially (Desai, et. al. 2011). The procurement price (PP) was determined based on both the variable cost as defined above and the fixed cost of production. PPs were set above minimum support prices. But over time, the distinction between the two disappeared and in effect, the government purchased whatever quantity was offered at the announced procurement prices. Inevitably, this led to political pressure not only for raising procurement prices, and open ended procurement policy but also lowering standards for the grains to be procured. In order to contain food subsidy, the practice of using MSP must be restored in the context of higher risks associated with rapid production increases from the preferred technical change and MSP should be announced before the sowing season. Secondly, procurement of the needed quantity for TPDS and welfare schemes as well as for buffer stock should be undertaken at PP, determined based on both the variable cost and fixed cost of production, and purchases by the government in excess of this quantity should be undertaken only if farm harvest price (FHP) fall below MSP. In recent years, with substantial increase in procurement price, foodgrains procurement has been much higher than buffer stock norms, resulting in an inevitable build-up of stocks and high carrying costs resulting in significant increase in food subsidy bill. It is clear that any inefficiency in FCI and/or increase in procurement prices, excessive stocks and unchanged issue prices would raise the subsidy cost, so restricting procurement based on actual requirement rather than open-ended procurement policy will help in reducing food subsidy burden.

3.3 Periodic Increase in Central Issue Price

Food Subsidy is provided to meet the difference between economic cost of foodgrains and their sales realization at Central Issue Prices fixed for Targeted Public Distribution System (TPDS) and other welfare schemes. In addition, the Central Government also procures foodgrains for meeting the requirements of buffer stock, so part of the food subsidy also goes towards meeting the carrying cost of buffer stock. The subsidy is provided to Food Corporation of India, for procurement and distribution of wheat and rice under TPDS and other welfare schemes and for maintaining the buffer stock of foodgrains as a measure of food security. Under scheme of decentralized procurement, State specific economic cost is determined by the Government of India and the difference between the economic cost and the Central Issue Prices is given to the States as food subsidy. The difference between economic costs and CIP, which was about Rs. 5.33 per kg in 2001-02, increased to Rs. 16.19 per kg in 2011-12 for rice and from Rs. 4.34 per kg to Rs. 12.37 per kg for wheat for BPL households. The corresponding subsidies for AAY households were much higher (Rs. 7.98 in 2001-02 and Rs. 18.84 in 2011-12 in case of rice and Rs. 6.53 in 2002-03 and Rs. 14.52 in 2011-12 for wheat). These subsidies for APL category were lower at Rs. 13.54 per kg in 2011-12 for rice and Rs. 10.41 per kg for wheat in 2011-12. The total cost of food subsidies that amounted to about 2.2 per cent of agricultural GDP during the 1990s increased significantly to about 5 per cent during the last decade. It is clear that any increase in procurement and distribution costs and/or increase in procurement prices would increase the subsidy bill at unchanged issue prices. Therefore, there is a need to increase CIP every year to contain food subsidy bill. The High Level Committee on Long Term Grain Policy had also recommended that APL price should be 80 per cent of economic cost and for BPL 50 per cent excluding statutory levies.

3.4 Reduction in Procurement Incidentals and Distribution and Carrying Costs

The food subsidy consists of two components, one representing the consumer subsidy and the other relating to the cost of carrying buffer stocks. The consumer subsidy is influenced by procurement price, handling charges and issue price. The pattern of changes in the procurement price and handling charges (procurement and distribution costs) has clearly indicated that procurement prices have been primarily responsible for increase in consumer

subsidy. The procurement price of wheat has increased from Rs. 700 per quintal in 2006-07 to Rs. 1285 per quintal in 2012-13, an increase of about 84 per cent, while procurement price of paddy has more than doubled from Rs. 620 in 2006-07 to Rs. 1250 in 2012-13. The changes in the handling cost indicate that it has gone up from about Rs 450 per quintal during 2006-07 to about Rs 602 per quintal during 2012-13 in case of wheat and from Rs. 483 to Rs 785 per quintal during the same period. The breakup of the procurement costs for TE2004-05 and TE2010-11 indicated that procurement incidentals have increased mainly due to increased share of statutory charges such as market fee, rural development cess, infrastructure development cess, and purchase/sales tax/VAT imposed by state governments and non-statutory charges like dami/arhatia commission, mandi labour charges and cost of gunny bags, which are not in the control of FCI. One of the options to contain rising food subsidy due to rising procurement incidentals could be to implement the recommendation of the High Level Committee and declare a procurement price inclusive of all expenses with a uniform maximum limit of allowance for State levies. In case of distribution costs, freight, interest and handling costs are major components and accounted for more than 70 per cent of total distribution costs. Effective participation of state government in procurement and distribution of foodgrains can reduce freight and handling costs.

During the period TE2004-05 and TE2010-11, the share of transit shortages has increased from about 0.3 per cent to 1.4 per cent of total distribution costs. The main factors responsible for transit loss in foodgrains were pilferage and theft en route, drriage, multiple handling, poor quality of gunny bags, use of hooks on bags by labourers, spillage through wagon holes, spillage at transshipment points, which has led to increase in food subsidy. However, storage losses have declined significantly from 1.6 per cent during the TE2004-05 to 0.6 per cent during the TE2010-11, showing an improvement in storage efficiency. These losses are mainly due to loss of moisture, insect-pest and disease infestation, quality deterioration of stocks, rodents, spillage of grain from gunny bags, etc. Most of these losses can be controlled if scientific storage facilities are created in the country and private sector can play an important role in this aspect.

The second element of food subsidy is the cost of carrying buffer stock, which FCI has to maintain as a measure of food security to guard against situations of scarcity of foodgrains and also to enable the Government to intervene effectively to stabilize market prices in time of price rise in the market. Carrying cost is influenced by the size of foodgrains stocks, expenses on storage and handling, interest on capital, freight, administrative overheads and storage loss. It is estimated that interest on capital accounted for the major share of the cost of carrying stock and the storage charges were the next important item. Since the government has adopted open-ended procurement policy leading to excessive stocks during the last 5-6 years and that has led to increase in subsidy bill. There is a need to have need-based procurement rather than open-ended procurement of foodgrains. The above discussion clearly reveals that most of cost items are not within the control of FCI and are influenced by other institutions/organizations such as banks, warehousing corporations, railways, and State government. Therefore, it is unfair to blame the FCI for these inefficiencies.

4. Concluding Observations

India's food subsidy system has been a major component of the social safety net for the poor, guaranteeing the availability of foodgrains at affordable prices, helping to reduce malnutrition and ensuring price stability in the country. The results highlight a number of issues in the food subsidy debate. The results show that food subsidies have grown very sharply in the post-reforms period, in fact, by more than 300 per cent in a period of just six years between 2006-07 and 2011-12. The economic cost of rice has increased from Rs. 1391 per quintal in 2006-07 to Rs. 2184 in 2011-12, an increase of about 57 per cent and in case of wheat it has increased from Rs. 1178 to Rs. 1652 (40.3% increase) during the same period. Increase in procurement price (74.2% in rice and 67.1% in wheat) was main contributor to increase in economic cost of foodgrains. Procurement incidentals have increased more than distribution costs in both rice and wheat. Under procurement costs, component that contributed the most to food subsidy was statutory charges like mandi charges and purchase/sales tax/VAT. The open-ended procurement policy, high food stocks and unchanged central issue prices also led to increase in food subsidy. However, most of these variables are beyond the control of FCI. On the other hand, subsidy components that

are under the control of FCI (administration charges, storage losses, etc.) have shown some improvement during the last decade. There is need to further improve efficiency in operations of FCI but that may not lead to significant reduction in the subsidy. Steps need to be taken to reduce other costs through appropriate procurement price policy, encouraging involvement of more states in procurement and distribution of foodgrains including coarse cereals and private and/or public-private partnership in creating scientific storage facilities to reduce losses, reduction in state-level statutory and non-statutory charges, need-based procurement of foodgrains, and periodic increase in central issue prices of foodgrains.

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