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Emerging Scenario of Farm Subsidies in New Trade Regime in India : An Economic Analysis

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ABSTRACT

The paper seeks to address the issue of subsidisation of Indian farmers. It is found that input subsidies as percentage of the value of agricultural output have declined in the recent years. In terms of product specific support, Indian agriculture has been heavily net taxed. The product-specific support has in way of nullifying the inputs subsidies. As a result, the aggregate measurement of support for Indian agriculture has been negative since 2007-2009. It indicates that benefits of input subsidies have totally passed either on to the consumers or on to input supplying agencies. To reduce the burden of input subsidies in the government budget, India needs to enhance the efficiency of input supplying agencies.

Keywords: Subsidy, Regime, Trade, AOA, WTO, Input/Output.

JEL: Q11, Q13, Q16, Q17

I

INTRODUCTION

The subsidy in farm inputs was initiated with a noble idea of achieving the self-sufficiency in food grains through spread of the bio-chemical technology (Jha, 2001) of various input subsidies supposedly going to Indian cultivators, and fertilisers and power subsidies have constituted a major share. In 2012-13, fertiliser and power subsidies have marked Rs. 476 billion, i.e., 1.43 per cent of gross domestic product (GDP) of this power subsidy constituted a large chunk of about Rs. 276 billion (i.e., 68.4 per cent). The fertiliser subsidies are financed by the central government.

On the other hand, farmers claim that they are mere conduits in the subsidy game and derive no benefit from the input subsidies. They oppose any input price increase especially if unaccompanied by higher price for their output. As a matter of fact, the Government of India has not been providing any direct fertiliser subsidy to the farmers.

As reported by the *Economic Survey* for the financial year 2011-12 Government of India has been granting subsidy to fertiliser plants in order to ensure the availability of fertilisers to farmers at affordable prices. Furthermore, input subsidies have not been provided for the sake of farmers but for strengthening the food security

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base of the country, i.e., to ensure the economic accessibility of food for all and every one. To achieve this goal, control on output prices and availability of inputs at affordable prices have been adopted as chief instruments. The government of India has been attempting to govern the price of agricultural commodities. As reported by government of India in this mid-term review for the financial year 2013-14, various measures have been initiated to check the rising prices of food articles. These consists of (i) ban on the export of wheat and no basmati rice, (ii) allowing duty free imports of wheat for private traders, (iii) import of pulses at zero duty, (iv) imports of wheat and pulses through government agencies like National Agricultural Co-operative Marketing Federation of India Ltd. (NAFED) and other public sector under taking like STC and PFC, (v) release of wheat under open market scheme, (vi) suspension on future trading in urad, tur, wheat and rice, (vii) frequent cut in import duty on palm oil and (viii) removal of additional custom duty on edible oils. Moreover, under the market access provision of the agreement on agriculture (AOA) of the WTO, India has removed quantitative restrictions on the imports of agricultural commodities (Bhattacharya, 2004). Besides, India has unilaterally gone ahead to reduce its agricultural tariff barriers much below the bound tariff stipulated under AOA. As a consequence of these, Indian farmers have not received fair prices for their produce. In this situation, the issue of subsidisation for Indian farmers may be addressed along with the following lines; “if farmers receive lower prices of their produce than what they would have been at world market price in a fair and free world agricultural trading system, then what the quantum of budgetary or economic subsidy on agricultural inputs would dictate, the net result may be that farmers are not really subsidised”. The AOA signed in 1994 and implemented since January 1995 with the establishment of WTO, strives to establish a fair and free market-oriented world trade in agricultural commodities through stage-by-stage reduction in trade distorting domestic support to agriculture. It divides the trade distorting domestic support into two parts, namely product specific support, i.e., market price support and non-product specific support, i.e., inputs subsidies like subsidies on electric power, credit, canal irrigation and seed etc. A new round of multilateral negotiation on agriculture has already begun, as mandated by the Article 20 of the AOA and has reached at a critical stage. It is therefore pertinent to examine India’s current level of domestic support to agriculture will lead to understanding of the generic issue; are Indian farmers net subsidised. It requires a comprehensive study to quantify the inputs and output subsidies for Indian agriculture.

The study is organised into four sections. Section II sets out the objectives of the study and discusses the analytical techniques used to analyse the information. The quantum of subsidies on various inputs, namely, fertiliser, electrical power, canal irrigation, seed and credit, break-up commodities market price support and total aggregate measurement of support for Indian agriculture are presented in Section III. The last section summarises the main findings and offers policy implications.

II

OBJECTIVES AND METHODOLOGY

The study aims at the following objectives: (i) To work-out the quantum of subsidies on chemical fertilisers, electrical power, seed credit and canal irrigation for Indian farmers and (ii) to estimate the magnitude of non-product-specific support, product-specific support and aggregate measurement of support for Indian agriculture.

Methodology

Farm subsidies have been estimated within the broad framework of the Agreement on Agriculture (AOA). To achieve the above said objectives pre-requisite information has been collected from various secondary sources. For analysing the information we have used various mathematical tools/techniques/methods in order.

Market Price Support

Market price support for agricultural commodities is measured on a product-by-product basis as the gap between domestic support price and a fixed external reference price time the quantity of that product which is eligible to get such domestic support price. Market price support may be expressed as:

$$MP_S = Q (P_d^{off} - P_w^{off}) \quad \dots(1)$$

where,

MP_S : Market price support

Q : quantity eligible to receive applied price

P_d^{off} : Applied price / official price

P_w^{off} : Fixed external reference price based on 2007-09

Now, product-specific support as percentage of value of agricultural output of the concerned commodity

(PAV) is defined as :

$$PAV = 100 \frac{Q (P_d^{off} - P_w^{off})}{QP_d^{off}} \quad \dots(2)$$

The fixed external reference price based on the year 2007-09 is the per unit free of board (FOB) price for the net exported agricultural product and per unit cost insurance and freight (CIF) price for the net imported agricultural product during the base period (2007-09). The reference price is adjusted for quality differences. The

applied price is the government procurement price and quantity eligible to receive support is the total output of the product.

Fertiliser Subsidy

The fertiliser subsidy is computed as the gap between import parity price and farm gate sale price of fertiliser times the quantity of fertiliser utilised by the agricultural sector accordingly.

$$F_S = Q_F (P_1 - P_t) \quad \dots(3)$$

where,

F_S : Fertiliser subsidy

Q_F : quantity of fertiliser utilised by the agricultural sector

P_1 : Import parity price, i.e., CIF price + dealer margin + pool handling expense

P_t : Farm gate sale price of fertiliser

Power Subsidy

The power subsidy is estimated as the gap between unit cost of power supply to all sectors and per unit tariff charged from the agricultural sector times the number of units utilised by the agricultural sectors. It is defined as:

$$P_S = Nu (C_S - T_A) \quad \dots(4)$$

where,

P_S : Power subsidy

Nu : Number of units utilised by the agricultural sector

C_S : Per unit cost of power supply to all sectors.

T_A : Per unit tariff for agricultural sector

Irrigation Subsidy

The irrigation subsidy is calculated as the gap between operational and maintenance expenditure (excluding interest payment) on major, medium and minor irrigation projects and gross receipts received from these projects it is defined as:

$$I_S = O - R \quad \dots(5)$$

where,

I_S : Irrigation subsidy

O : Operational and maintenance expenditure

R : Gross receipt received from major, medium and minor irrigation projects.

Credit Subsidy

The credit subsidy is measured to the differential rate of interest between the market lending rate of interest on advances and the rate charged from the farmers for their short-term loans to agriculture sector. It is defined as:

$$C_S = A_L (R_M - R_F) \quad \dots(6)$$

where ;

C_S = Credit subsidy

A_L = Amount of short-term loans to agriculture sector

R_M = Marketing lending rate of interest on advance

R_F = Rates charged from the farmers for their short-term loans

Seed Subsidy

The seed subsidy is measured as the gap between the annual income and expenditure of the national seed corporation limited, i.e., the amount of revenue fore gone for the provision of seeds. It is defined as:

$$S_1 = Y_1 - E_1 \quad \dots(7)$$

where,

S_1 = Seed subsidy in the i-th year

Y_1 = Income of the national seed corporation in the i-th year

E_1 = Expenditure of the national seed corporation in the i-th year

Non-Product Specific Support

The non-product specific support is defined as the sum of the subsidies on various agricultural inputs like credit, seed, fertilisers, canal irrigation and electricity.

Product-Specific Support

The product-specific support is defined as the market price support through minimum support price (MSP).

Aggregate Measurement of Support

The Aggregate Measurement of Support (AMS) is defined as the sum of all non-exempted domestic annual level of support, expressed in monetary terms, provided in favour of agricultural producers. The AMS consists of both product-specific support and non-product-specific support.

$$\text{Thus, Total AMS} = \text{Product-specific support} + \text{Non-Product Specific Support} \quad \dots(8)$$

III

SUBSIDY FOR INDIAN AGRICULTURE

Budgeted Subsidies on Fertiliser and Power

We began by analysing the budgeted subsidies on fertiliser and power.

Table 1 presents the time profile of budgeted subsidies on fertiliser and power in terms of value and share of GDP. It exhibits that the amount of budgeted subsidy on fertiliser and power has increased from Rs. 16182 crore in 1994-95 to its peak of Rs. 38860 crore in 2007-08; from 2008-09 and onward it has started to decline and has dropped to Rs. 37545 crore in 2011-12. In terms of share of GDP these subsidies increased from 1.60 per cent in 2006-07 to 2.12 per cent in 1998-99 which slipped back to 1.62 per cent in 2004-05. After increasing during 2007-08 it further dropped to 1.62 per cent in 2008-09. The increase from 2.10 per cent in 1999-2000 was at its maximum. It indicates that power and fertiliser subsidies have not kept pace with GDP it may be noted that this decrease has come through reduction in both power and fertiliser subsidies.

TABLE 1. FERTILISER AND POWER SUBSIDIES FOR INDIAN AGRICULTURE

Year (1)	Fertiliser subsidies (Rs. crore) (2)	Fertiliser subsidies (Rs. crore) (3)	Total subsidies (Rs. crore) (4 = 2+3)	As per cent of GDP at factor cost (5)
1994-95	5241	10941	16182	1.76
1995-96	6735	13606	20341	1.90
1996-97	7578	15586	23164	1.86
1997-98	9918	19021	28939	2.08
1998-99	11387	22479	33866	2.12
1999-2000	13244	24856	38100	2.10
2000-2001	13800	24029	37830	1.96
2001-02	12593	24829	37424	1.78
2002-03	11014	25964	36978	1.64
2003-04	11847	23179	35026	1.68
2004-05	11923	23723	35646	1.62
2005-06	11983	23918	35901	1.64
2006-07	12013	24112	36125	1.60
2007-08	12326	34534	38860	2.47
2008-09	12488	24637	37125	1.62
2009-10	12512	24912	37424	1.69
2010-11	12565	25014	37579	1.70
2011-12	12617	24928	37545	1.69

Source: Computed on the basis of data available from *Economic Survey*, Ministry of Finance, Government of India, New Delhi.

Economic Subsidy on Agricultural Inputs Fertiliser Subsidy

Table 2 presents per tonne subsidy on urea (N), Di- ammonium phosphate (P_2O_5) and nurate of Potash (K_2O). The table shows that nitrogenous fertiliser which was net taxed to Rs. 418.28 per tone in 1994-95 has turned out to net subsidised and subsidy on it has widened from Rs. 670.36 per tonne in 1995-96 to Rs. 6540 per tonne in 1999-2000. After narrowing in 2000-01 it further climbed to its peak of Rs. 11239.56 per tonne in 2003-04. From 2003-04 and onward it started to decline and dropped to Rs. 2198.91 per tonne in 2006-07. It has again increased from Rs. 4228.29 per tonne in 2008-09 to Rs. 11812.78 per tonne in 2011-12.

During 1994-95 to 1998-99, the domestic price of phosphate fertiliser remained constant at their 1994-95 level. So the per tonne subsidy on phosphatic fertiliser turned out from net tax of Rs. 424.15 per tonne in 1994-95 to subsidy of Rs. 1509.41 in 1998-99. Because of faster growth of domestic price of phosphatic fertiliser than that of international price phosphatic fertiliser was again net taxed during 2000-01 to 2004-05. From 2005-06 fertiliser subsidy started to increase and reached to Rs. 3652.14 in 2006-07, during 2008-12 phosphatic fertiliser was again net taxed.

The per tonne subsidy on potassic fertiliser increased from Rs. 264.99 in 1994-95 to Rs. 3626.23 in 1999-2000. Due to higher increase in domestic prices of potassic fertiliser than that of the international prices, potassic fertiliser was net taxed during 2000-01. From 2001-02 and onward per tonne subsidy on it started to widen and reached its peak of Rs. 4865.00 in 2007-08 which slipped back to Rs. 4149.62 in 2011-12. It is clear that per tonne subsidies on nitrogenous and potassic fertilisers have been fluctuating over the years but these have registered an upward trend.

The utilisation and total economic subsidy on various types of fertilisers and economic subsidy as share of budgeted subsidy are given in Table 3. The table shows that utilisation of nitrogenous fertiliser has increased from 5716.00 thousand tonnes in 1994-95 to 11077.00 thousand tonnes in 2011-12. During 1994-95 to 1999-2000 utilisation and total subsidy on nitrogenous fertilisers registered a robust growth rate of 8.1 per cent and 75.3 per cent per annum respectively. During 1999-2000 to 2005-06 per tonne subsidy growth rate dropped to 9.1 per cent per year. As a result growth rate of total subsidy on nitrogenous fertiliser declined to 16 per cent per year during the same period. During 2006-07 to 2011-12 per tonne and total subsidy on nitrogenous fertiliser have increased by 27.8 and 15.4 per cent per year respectively. In spite of increase in per tonne subsidy its domestic prices have also increased.

So its utilisation has declined from 11353.8 thousand tonnes in 2005-06 to 11077 thousand tonnes in 2011-12. All these evidences support the negative relationship between price and utilisation of nitrogenous fertiliser. During 1994-95 to 1999-2000 utilisation of phosphatic fertiliser witnessed a robust growth rate of 10.9 per cent per year respectively. During 2000-01 to 2003-04 fertiliser was net taxed resulting into decrease in its utilisation from 3321.20 thousand tonnes in 1999-2000 to 2897.50 thousand tonnes in 2003-04. On account of both increase in domestic prices and

TABLE 3. EXTENT OF ECONOMIC SUBSIDY ON DIFFERENT TYPES OF FERTILISERS FOR INDIAN AGRICULTURE

Year (1)	Fertiliser utilised (000 tonnes) economic subsidy on (Rs. crore)						Total economic subsidy on fertiliser (Rs.crore) (8 = 5-6-7)	Fertiliser subsidy as given in GOI budget (Rs.crore) (9)	Share of budgetary subsidy going to farmer (per cent) (10 = 8/9 100)
	N (2)	P (3)	K (4)	N (5)	P (6)	K (7)			
1994-95	5716.00	2078.90	850.00	- 239.09	-88.18	22.52	-304.74	1897	-1606
1995-96	5716.08	2187.10	880.50	383.20	- 26.00	76.58	433.78	2164	20.05
1996-97	7251.00	2720.70	1068.40	1092.23	479.29	205.50	1777.02	3201	55.51
1997-98	7385.90	3014.20	1168.00	1954.73	518.99	297.84	2771.56	4542	61.02
1998-99	7997.20	3221.00	1328.00	2024.04	486.18	360.45	2870.67	4389	65.41
1999-2000	8046.30	3321.20	1380.60	4770.27	390.61	493.38	5654.26	4800	117.80
2000-01	8426.80	2843.80	883.90	5511.85	- 1027.20	-86.18	4398.47	5796	75.89
2001-02	8788.30	2669.30	908.70	3969.06	- 767.97	71.79	3272.88	4400	74.38
2002-03	9507.10	2931.70	1124.80	6994.06	- 834.48	110.94	6270.52	5241	119.64
2003-04	9822.80	2897.50	1155.80	11600.29	-1409.36	109.45	10300.38	6735	152.94
2004-05	10001.80	2976.80	1029.60	11578.77	-404.40	190.60	11364.96	7578	149.97
2005-06	10901.80	3913.60	1372.50	7401.84	376.71	388.42	8166.97	9918	82.34
2006-07	11353.80	4112.20	1331.50	4400.34	1501.83	572.99	6475.16	11387	56.86
2007-08	11592.50	4797.90	1678.40	2549.09	1075.04	816.54	4440.67	13244	33.53
2008-09	10920.20	4214.60	1567.50	4617.81	-31.30	689.96	5276.47	13800	38.24
2009-10	11310.20	4382.40	1667.10	5694.84	-484.22	794.93	6005.15	12595	57.68
2010-11	10474.10	4018.80	1601.20	5931.52	-129.61	739.69	6541.41	11014	59.39
2011-12	11077.00	4124.30	1597.90	13085.02	-104.09	663.07	13644.00	11847	115.17
Average									72.70

Source: Economic Survey of India.

decrease in world prices of phosphatic fertiliser it has again been net taxed during 2008-09 to 2011-12. Its utilisation has also decreased from 4797.90 thousand tonnes in 2007-08 to 4018.80 thousand tonnes in 2010-11. It strongly and clearly indicates a negative relationship between price and utilisation of phosphatic fertiliser. During 1994-95 and 1999-2000 per tonne subsidy on potassic fertiliser registered a whopping growth of 61.5, 11.1 and 79.4 per cent per year respectively. The potassic fertiliser was net taxed in 2000-01. As a result, its utilisation also declined from 1360.60 thousand tonnes in 1999-2000 to 883.90 thousand tonnes in 2000-01. It indicates a negative relationship between price utilisation of potassic fertiliser. Due to higher of domestic price of potassic fertiliser than that of its international price, per tonnes subsidy on potassic fertiliser has decreased at the rate of 0.7 per cent per year during 2006-07 to 2011-12. As a consequence of this, the growth rate of utilisation of potassic fertiliser has also declined from 7.7 per cent per year during 2000-01 to 2005-06 to 2.4 per cent per year during 2006-07 to 2011-12.

Table 3 also shows that fertiliser as a whole which was net taxed at Rs. 304.74 crore in 1994-94, has turned out to net subsidised in 1995-96 and total fertiliser subsidy increased from 433.78 crore in 1995-96 to Rs. 11364.96 crore in 2004-05 which further increased to Rs. 13664 crore in 2011-12. The table shows that fertiliser subsidy has an upward trend. During 1994-95 to 1999-2000 total fertiliser subsidy grew at the rate of 75.3 per cent per year. During 2000-01 to 2005-06 its growth rate decreased at the rate of 23.3 per cent per year. In 2006-07 to 2011-12 it has further decreased to 15.4 per cent per year. It may be noted on an average increase in price of fertilisers has been higher than that of quantity of fertiliser utilised for Indian

agriculture. It may be argued that increase in fertiliser subsidy is mainly due to increase in international prices of various types of fertiliser specifically the price of nitrogenous fertiliser rather than through increase in the utilisation of fertilisers. It can be seen from Table 3 that farmers share in government budgeted fertiliser subsidies which was -16.06 per cent in 1994-95 implying farmer were net taxed has increased from 20.05 per cent in 1995-96 to 65.41 per cent in 1998-99. And it touched a peak of 152.94 per cent in 2003-04. However, during the year 2011-12 it has plummeted to 115.17 per cent. An estimate of more than 100 per cent indicates that not only the entire subsidy mentioned in the Government of India budget goes to farmers but that fertiliser industry is being implicitly taxed to the tune of excess over 100 per cent this is because the import parity prices during these years were so high that equating these with farm gate domestic sale price would have meant large profit to fertiliser industry a whole. On an average during the entire period of 1994-95 to 2011-12, the share of farmers in budgeted fertiliser subsidy was 72.76 per cent. The rest of the budgeted fertilisers support, i.e., 27.23 per cent can be deemed to going either to the fertiliser industry or to its feed stock supplying agencies. These results are consistent with the other studies (i.e., Gulati, 1999, Ghose, 2004).

Power Subsidy

Table 4 exhibits the subsidies on electrical power, canal irrigation, seeds, credit, fertiliser in value terms and total input subsidies as percentage of value of agricultural output. The power subsidy which amounted to Rs. 1515.98 crore in 1994-95, has reached its maximum up to Rs. 24856 crore in 2007-08 before taking a dip to Rs. 23179.78 crore in 2011-12. From the year 2009-10 onward power subsidy has shown a downward trend. During 1994-95 to 1999-2000 it grew at the rate of 28.9 per cent per year. During 2000-01 to 2005-06 its growth rate declined to 20.9 per cent per year. During 2007-08 to 2015-16 power subsidy has fallen at the rate of 0.2 per cent per annum. It may be noted that power subsidy has grown at the faster pace than that of number of units utilised for Indian agriculture. This is due to increase in the supply price of power which indicates the inefficiency in power plants.

Agricultural Statistics at a Glance indicates that the share of agricultural sector in total consumption of power which was 21.66 per cent in 1994-95, has reached at a peak of 30.95 per cent in 2003-04. From the year 2003-04 it has started to decline and has dropped to 22.9 per cent of the total power consumption in 2012-13. Currently not only the share but also the number of units of power utilised for Indian agriculture has decreased.

Irrigation Subsidy

Table 4 also shows that amount of irrigation subsidy which increased from 1249.20 crore in 1994-95 to Rs. 4933.58 crore in 2006-07, touched a peak of Rs.

TABLE 4. INPUTS SUBSIDY FOR INDIAN AGRICULTURE

Year (1)	Fertiliser subsidy (2)	Power subsidy (3)	Irrigation subsidy (4)	Credit subsidy (5)	Seed subsidy (6)	<i>(Rs. crore)</i>	
						Total input subsidy (Rs. crore) (7=2+3+4+5+6)	Input subsidies as percentage of the value of agricultural output (per cent) (8)
1994-95	-304.74	1515.98	1249.20	111.39	4.56	2576.39	2.64
1995-96	433.78	2401.86	1395.32	107.66	2.61	4341.23	3.99
1996-97	1777.02	2670.02	1595.68	114.41	4.07	6161.20	4.63
1997-98	2771.56	3096.30	1604.85	124.57	5.89	7603.17	5.20
1998-99	2870.67	4604.04	3073.80	81.15	9.28	10638.94	6.23
1999-2000	5654.24	5889.10	2932.89	230.10	8.91	14715.26	7.25
2000-2001	4398.47	7335.00	3291.31	302.73	6.01	15333.52	6.88
2001-02	3272.88	8966.00	2941.92	197.24	3.68	15381.72	5.66
2002-03	6270.52	10941.00	3203.66	39.69	2.10	20456.97	6.54
2003-04	10300.38	13606.00	3951.51	108.94	-0.86	27966.17	8.16
2004-05	11564.96	15586.00	3673.03	127.49	-0.49	30750.99	7.69
2005-06	8166.97	19021.00	3969.85	-51.60	-0.02	31106.20	7.29
2006-07	6475.16	22473.00	4933.38	-59.76	-0.17	33821.81	6.67
2007-08	4440.67	24856.43	3926.50	-72.41	-0.32	33150.87	6.44
2008-09	5276.47	24029.95	5706.38	333.14	5.71	35411.65	6.83
2009-10	6005.15	24929.20	5447.49	202.55	2.99	36487.38	6.38
2010-11	6541.41	25964.20	5781.19	578.51	-0.93	38864.38	6.94
2011-12	13644.00	23179.78	4882.68	780.00	-3.03	41983.43	6.61

Note: The information on irrigation subsidies for 2008-09 and onward it projected on the bases of data of revenue expenditure for irrigation available in CMIE Publication.

5781.19 crore in 2010-11. In 2011-12 it has slipped back to Rs. 4882.68 crore. During the period under investigation it has registered an annual average compound growth rate of 8.6 per cent. However during the same period the growth in net area under canal irrigation has not been significant.

Credit Subsidy

It can be seen from Table 4 that total credit subsidy which amounted Rs. 111.39 crore in 1994-95, has touched a peak of Rs 302.73 crore 2000-01. During 2005-06 to 2007-08, credit was net taxed on an average the interest rate for short-term credit to agricultural sector was highest than that of other proposes – but in 2011-12 credit subsidy became Rs. 780 crore. During the same period, the amount of short term credit to agriculture sector has increased at an annual average compound growth rate of 161 per cent. However, the average subsidy rate has decreased from 2.38 per cent per half year in 1994-95 to 1.5 per cent per half year in 2011-12. During 1994-95 to 1999-2000 total credit subsidy grew at the rate of 8.5 per cent per year. During 2000-01 to 2004-05 it decreased at an annual average rate of 10.7 per cent. During 2007-08 to 2011-12 has again grown by an annual average rate of 43.4 per cent.

Seed Subsidy

It is clear from Table 4 that seed subsidy to Indian agriculture has been quite erratic, indicating an adhoc approach rather than a well thought policy towards it. In

fact, the seed has been net taxed in the year of 2003-04 and has remained so for two year period of 2007-09. Here it may be pointed out that Indian agriculture has been facing an acute shortage of good quality seed. An examination of total good quality seed supplied and total area under cultivation shows that in 2011-12, on an average, Indian farmers have used 80 per cent home grown seed.

Total Inputs Subsidies

As in evident from Table 4 total inputs subsidy in value term has increased from Rs. 2576.39 crore in 1994-95 to Rs. 41983.43crore in 2011-12. Total inputs subsidy as percentage of value of agricultural output increased from 2.64 per cent in 1994-95 to 8.16 per cent in 2003-04. From 2004-05 and onward it has continued to decline and has dropped to 6.61 per cent in 2011-12. It indicates that total inputs subsidies have not kept pace with value of agricultural output. The above analysis reflects that India does not have any commitment with or without the share of small and marginal farmers to AOA of the WTO for reduction in input subsidies.

Figure 2 shows the share of various inputs in total subsidy. The figure indicates that fertiliser and power subsidies have a lion's share in total input subsidies, while the share of canal irrigation and credit has declined in total inputs subsidies. It may be noted that, despite the need and willingness, India's financial situation does not allow for increase in farm inputs subsidies. The net total liabilities of the union government during 2013-14 were to the extent of Rs. 24,73,562 crore. Even in an agriculturally developed state like Punjab, the public debt was about Rs. 53000 crore (*Economic Survey 2012-13*). Thus it is due to our own financial constraints that the union and state governments cannot increase subsidies for the agricultural sector.

Are Indian Cultivators Net Subsidised?

The inputs subsidies accruing to appear as per above discussion is only the first stage analysis, a partial indicator and may be misleading because it does not consider the prices that farmers receive from their output. It implies that to tackle the situation of rising inputs subsidies, output subsidies (or taxes) should be considered.

The commodity-wise product specific support in terms of percentage of value of total output of that commodity is presented in Table 5. The Table depicts that in terms of product-specific support all commodities (except rapeseed/mustard and sugar) are net taxed right since 1996-98. It means that the applied prices of various agricultural commodities are still much below their 1996-98 external reference prices. These results indicating that Indian farmers have not received fair prices for their produce, are consistent with other studies (i.e., Bhatia, 1994, Gulati and Sharma, 1994, WTO, 1998 and 2002, Hoda, 2002, Bhalla, 2004) which provide the strong evidence in support of the hypothesis that Indian farmers are exploited. During the period under reference, the commodity-wise net tax in percentage terms was the highest for barley which was in range of 265.72 to 175.80 per cent. During the base

period other product groups with more than 100 per cent of net tax per unit output were jute, groundnut, sorghum, wheat, tobacco and rice with 134.91, 132.64, 114.47, 111.47, 102.68 and 102.08 per cent respectively.

For two agricultural commodities, namely, rapeseed / mustard and sugar product-specific support has been positive, i.e., 34.94 per cent and 20.98 per cent respectively. For all commodities (except soyabean and tobacco) the net tax as percentage of value of total output of the concerned commodity has a downward trend over the period of 1994-96 to 2011-12. It reveals that in monetary terms applied prices of various agricultural commodities have been slightly raised in comparison to their base period level. In the case of tobacco and soyabean their applied prices have been falling in comparison to the base period level. In the case of sugar product-specific support has been fluctuating over the year. During 1999-2000 to 2004-05 sugar was net taxed. Table 6, presents the time profile of the commodity wise product specific support in value term and total product specific AMS in terms of value and as percentage of the value of total agricultural output. In 2011-12 the commodity wise net tax was the highest for rice, i.e., 20628.40 crore. It has been followed by wheat, i.e., 11807.57 crore. As we have mentioned above, during the base period, in case of rapeseed/mustard and sugar the product-specific support has been positive, i.e., Rs. 687.13 crore and Rs. 794.15 crore respectively. In value terms the commodity wise net tax for all agricultural commodities (except maize, tur and moong) has registered an upward trend. It indicates that on an average output of various agricultural commodities has grown faster than their applied price. However, the total product-specific net tax percentage of total value agricultural output has shown a downward trend. It indicates the fact that procurement prices have been below the market prices. These are more conspicuously brought out by Figure 1. The figure shows that product-specific AMS for Indian agriculture has been negative since 1994-96 and this net tax has increased from Rs. 33624.16 crore in 1994-96 to its peak of Rs. 50294 crore in 2007-08 which declined to Rs. 42422.28 crore in 2011-12. It has registered an annual average growth rate of 0.9 per cent during 1994-96 to 2011-12. As the share of value of agricultural output the product-specific net tax increased from 29.72 per cent in 1994-96 to 35.64 per cent in 1997-98. It climbed to its peak of 42.63 per cent in 2000-01 which came down to 22.89 per cent in 2011-12. The above analysis indicates that in terms of market price support Indian agriculture has been taxed rather than being subsidised.

It may be pointed out that the world reference price of the agricultural commodities do not reflect the shadow prices because agriculture in developed countries is highly subsidised. The subsidies provided by developed countries cause excess supply of agricultural products in these countries, which make the producer to dump them into developing countries by cutting prices below long run marginal cost, which depress the world market prices. In the WTO regime, if the agricultural subsidy state is phased out, it will lead to a fall in the amount of output subsidies for Indian farmers.

TABLE 6. TOTAL PRODUCT-SPECIFIC SUPPORT FOR INDIA'S VARIOUS AGRICULTURAL COMMODITIES, 1994-96 TO 2011-12

(Rs. crore)								
Commodity	1994-96	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03	2003-04
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Rice	-16491.54	-19653.12	-19225.88	-22583.60	-20182.36	-24043.34	-21969.58	-23028.18
Wheat	-8555.39	-11133.61	-9595.07	-12674.42	-11591.26	-12131.89	-12188.13	-13395.96
Bajra	-691.78	-914.15	-935.95	-738.06	-1296.97	-791.50	-1079.82	-807.31
Maize	-374.61	-546.35	-492.68	-599.72	-625.55	-731.58	-583.03	-621.70
Sorghum	-1653.84	-2085.20	-1869.02	-1475.98	-2180.68	-2092.51	-1568.41	-1623.56
Barley	-466.07	-491.94	-398.18	-478.01	-499.01	-440.78	-374.29	-697.77
Tur	-466.78	-555.80	-799.00	-474.94	-497.50	-605.30	-427.38	-470.27
Gram	-632.47	-774.78	-414.23	-891.04	-633.73	-690.84	-694.56	-928.64
Urd	-145.06	-187.79	-132.64	-304.83	-194.94	-194.78	-129.75	-155.19
Moong	-179.61	-205.61	-165.32	-227.04	-251.55	-220.63	-164.31	-158.89
Groundnut	-3609.65	-4299.19	-3487.18	-4206.41	-4681.00	-4420.55	-4545.43	-4527.15
Soyabean	-27.50	-51.02	-72.34	-194.72	-166.47	-541.41	-161.25	-372.73
Rapeseed	428.21	766.42	661.58	413.48	619.24	279.86	-354.01	-326.67
Cotton	-635.79	-1000.71	-844.17	-1195.15	-1251.33	-1338.09	-1364.27	-1160.06
Jute	-385.05	-410.21	-457.02	-570.02	-455.79	-486.82	-516.95	-502.07
Sugarcane	756.40	282.52	594.29	-427.74	-228.04	-341.19	-78.50	-528.66
Tobacco	-515.53	-668.68	-759.45	-867.92	-896.94	-949.90	-884.26	-908.14
Total product Specific AMS-P.S								
AMS as per cent of value of total Agricultural out put	-33624.16	-41949.47	-37992.51	-47395.37	-45313.62	-49541.10	-46376.9	-49252.27
	-29.72	-34.64	-29.18	-42.59	-39.16	-42.63	-34.73	-35.86
(Contd.)								
Commodity	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12
(1)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
Rice	-21965.53	-21544.53	-23703.59	-23012.06	-22400.38	-24320.41	-19124.31	-20628.40
Wheat	-13017.34	-12605.65	-12646.24	-13043.14	-13989.52	-12656.60	-12841.71	-11807.57
Bajra	-1208.20	-1073.16	-1016.61	-820.39	-807.73	-1118.86	-629.62	-1301.89
Maize	-739.22	-644.94	-727.05	-744.43	-709.00	-707.65	614.79	-629.21
Sorghum	-1919.45	-1239.76	-1433.44	-1441.86	-1234.34	-1232.71	1123.07	-1053.53
Barley	-474.95	-427.53	-447.38	-410.00	-395.21	-373.05	-368.33	-355.89
Tur	-550.59	-369.16	-591.97	-490.36	-344.90	-552.20	-344.29	-294.61
Gram	-726.03	-812.05	-938.01	-923.64	-588.28	-399.51	-423.28	-234.58
Urd	-174.19	-142.83	-178.34	-127.89	-111.32	-100.34	-97.98	-537.04
Moong	-212.12	-147.96	-199.99	-146.72	-128.88	-118.86	-95.87	-80.08
Groundnut	-4874.03	4455.37	-5310.15	-2974.16	-3619.92	-3937.02	-2255.83	-4206.05
Soyabean	-316.22	-355.30	-441.64	-428.94	-355.79	-598.94	-343.45	-391.93
Rapeseed	288.94	-340.49	144.36	296.40	371.53	324.72	-405.57	687.13
Cotton	-1385.83	-912.97	-1151.83	-959.07	-818.47	-918.54	-810.72	-1106.02
Jute	-458.41	-638.24	-560.95	-556.22	-552.49	-632.64	-603.68	-572.66
Sugarcane	-190.24	274.70	182.68	-355.54	33.49	201.79	501.81	794.15
Tobacco	-871.33	-1005.90	-1058.44	-1177.10	-981.04	-557.08	-871.96	-722.63
Total product Specific AMS- P.S. AMS as per cent of value of total Agricultural out put	-48972.94	-45736.23	-50078.24	-50294.00	-46682.30	-47497.94	-39841.60	-42422.8
	-32.42	-29.70	-30.97	-31.57	-30.65	-29.55	-25.65	-22.89

Source: Economic Survey of India.

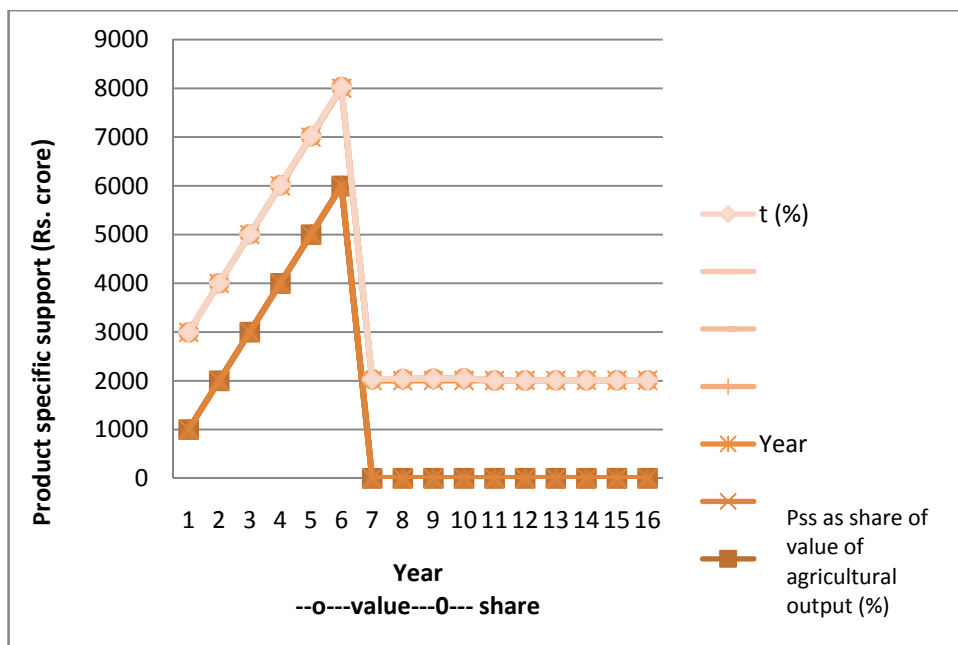


Figure 1. Product-Specific Support for Indian Agriculture

Total AMS for Indian Agriculture

The total AMS and non-product specific support for Indian agriculture are presented in Table 7. It indicates that the total non-product-specific support, i.e., input subsidies to large farmers have been positive since the base period. But it had not exceeded the de-minimis level individually or in the aggregate. In volume terms total non-product specific support has shown a rising trend. It has increased from Rs. 4359.60 crore in 1994-96 to Rs.6565.67 crore in 2011-12. However, as percentage of value of agricultural output it has shown a downward trend. It increased from 3.85 per cent in 1994-96 to 4.41 per cent in 2003-04 which slipped back to 3.54 per cent in 2011-12. It reveals that non-product-specific support has not kept pace with the value of agricultural output and India does not have any commitment for reduction in input subsidies to its agriculture.

As is clearly and strongly evident from Table 7 that Indian agriculture has net taxed right since the base period. It reveals that benefits of inputs subsidies have totally passed either on the consumers or to input supplying agencies.

Indian farmers have been still exploited despite a large quantum of input subsidies. The amount of total tax for Indian agriculture has shown a rising trend during the period under reference. In terms of percentage of value of agricultural output it increased from 25.87 per cent in 1994-96 to 39.55 per cent in 2003-04 which

TABLE 7. INPUTS SUBSIDY FOR INDIAN AGRICULTURE

(Rs. crore)

Year (1)	Product specific support (2)	Non-product specific support (3)	Total AMS 4 = (2+3)	Value of agricultural output (excluding fishery and forestry product) (5)	Total AMS as percentage of value of agricultural output [6 = (4/5)100]	Product specific AMS as percentage of value of agricultural output [7 = (2/5)100]	Product specific AMS as percentage of value of agricultural output [8 = (3/5)100 or (7-6)]
1994-96	-33624.10	4359.60	-29264.5	113127.67	-25.87	-29.72	3.85
1997-98	-41949.20	3292.42	-38656.8	117697.18	-32.84	-35.64	2.80
1998-99	-37992.30	4292.57	-33699.7	127572.86	-26.42	-29.78	3.36
1999-2000	-47395.30	4331.78	-43063.5	111283.10	-38.70	-42.59	3.89
2000-01	-45213.60	4291.28	-40922.3	115465.20	-35.44	-39.16	3.72
2001-02	-49541.10	3591.38	-45959.6	116219.32	-39.55	-42.63	3.08
2002-03	-46376.90	4742.91	-41634.0	133526.56	-31.18	-34.73	3.55
2003-04	-49252.20	6060.98	-43191.2	137378.85	-31.45	-35.87	4.41
2004-05	-48973.00	6287.21	-42685.8	151058.98	-28.26	-32.42	4.16
2005-06	-45736.20	6126.13	-39610.1	153995.10	-25.72	-29.70	3.98
2006-07	-50078.20	5909.05	-44169.2	161698.80	-27.32	-30.97	3.65
2007-08	-50294.00	5655.56	-44638.4	159284.63	-28.02	-31.57	3.55
2008-09	-46662.30	5597.80	-41064.5	152251.95	-26.97	-30.65	3.68
2009-10	-47497.90	5534.81	-41963.3	160734.85	-26.11	-29.55	3.44
2010-11	-39841.50	5799.08	-34042.4	155302.17	-21.92	-25.65	3.73
2011-12	-42422.80	6565.67	-35857.1	185325.89	-19.35	-22.89	3.54

Source: Economic Survey of India.

Note: For base period inputs subsidies going to small and marginal farmers, i.e., farmers having operational holding up to 2-5 hectare are counted up in non-product-specific support.

declined to 19.35 per cent in 2011-12. Figure 2 depicts the AMS for Indian agriculture in terms of value and as percentage of value of agricultural output. It shows that AMS as share of the value of the agricultural output has been fluctuating over the year and has shown a downward trend and as percentage of the value of agricultural output has been fluctuating over the year and has shown a downward trend. It means that India does not have any commitment for reduction in its domestic support, i.e., aggregate measurement of support, Indian agriculture is net taxed than subsidised.

IV

CONCLUSION

The magnitude and dimension of inputs and output subsidies for Indian agriculture are estimated by comparing their world reference prices. It is found that input subsidies have not kept pace with the value of agricultural output. In total input subsidies, power and fertiliser have constituted a major chunk. In India, seed and potassic fertiliser have often been net taxed rather than subsidised. There is a negative relationship between price and utilisation of fertiliser. It suggests that to offset the adverse impact of frequent hike in fertiliser prices, India should check the downward

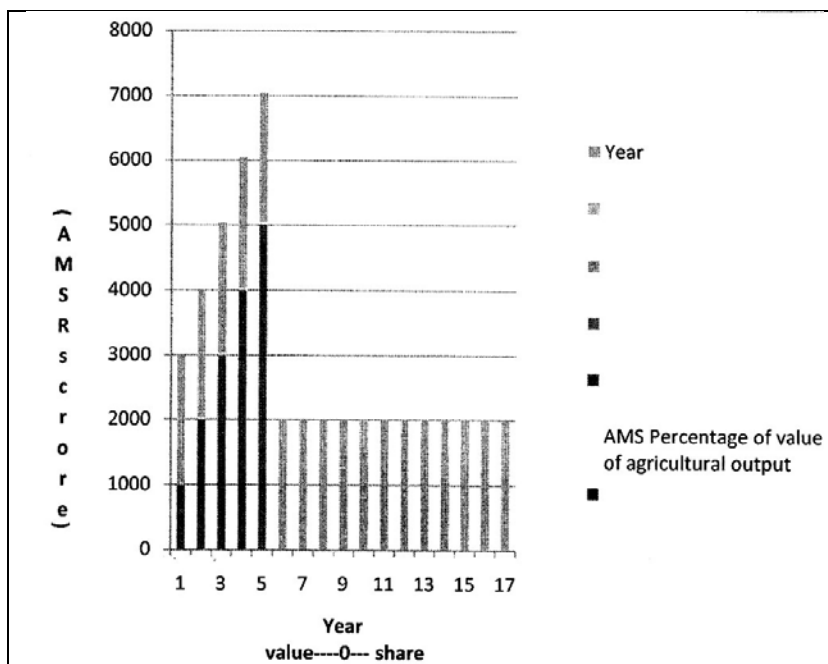


Figure 2. AMS for Indian Agriculture.

trend on fertiliser subsidy. In terms of product-specific support Indian agriculture is heavily net taxed. As a result, right since the base period the total aggregate measurement of support for Indian agriculture has been negative. The possibility of a positive AMS appears to be a remote one in Indian case. It indicates that the benefits of input subsidies have been totally passed either on the consumer or on the input supplying agencies. Indian farmers are still the exploited lot despite a large quantum of budgetary or economic subsidies on inputs. To safeguard the livelihood of farmers the Government of India may lift the rice and wheat export ban and may allow tariff free import of the farm inputs. The implication from this study suggest that to reduce the burden of input subsidies on government budget, India need to enhance the efficiency of inputs supplying agencies.

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