Distribution of Irrigation Subsidies in India (Zone-Wise Analysis)

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ABSTRACT

The Government of India started the scheme of subsidies on purchase of various agriculture inputs (like fertilizer, electricity, irrigation etc) to facilitate the farmers after independence. In this paper, an attempt is made to analysis the distribution of irrigation subsidies in different zones of India from 1980-81 to 2006-07. In an Indian agrarian economy irrigation has played a major role in the agricultural production process. Irrigation development in the country has been taken up in a big way through Major, Medium and Minor irrigation schemes. This paper showed that at national level as well as zone level the irrigation subsidy in Rs. crores, has increased in absolute terms during pre as well post liberalisation periods. As post-liberalisation period (2006-07) is compared with post-liberalisation (1990-91), it is found at national level this has increased near about nine times, whereas in south zone this has increased near about nineteen times, in west zone has got more than seven times, in east as well as in north-east zones near about five and in north zone more than four times of irrigation subsidy. Study suggested that government should adopt some criteria to distribute the irrigation subsidies among all the zones.

Keywords:- Agriculture, Economy, Distribution, Subsidies, Irrigation, Liberalization, Production.

I. INTRODUCTION

The socio - economic structure, which prevailed prior to the British rule in the country, resulted in the organization of self-sufficient villages. It has been maintaining some kind of static equilibrium. The Indian peasant, though not properly educated, has adequate experience of farming systems and he has been dependent on it for the means of living. The Royal commission of Agriculture in India observed that both the methods of cultivation and social organization exhibit that settled order which is characteristic of all countries in which the cultivating peasant has long lived in and closely adapted himself to the conditions of a particular environment.

The British government in India did not bother for the development of agriculture in this country. The East India Company had also done nothing it was primarily interested in trading and exploitation of resources of the country. The main objective of the British policy was administrative consolidation other than economic regeneration till the end of the nineteenth century, no attention was paid to agriculture (Mishra, 2006).

The Indian agrarian economy on the eve of independence was critical in situation. It could be characterized totally primitive, deteriorative and turbulent. During the British imperial regime, no pervasive and conductive measures were taken to boost the agriculture. At the time of independence, Indian economy was in the worst state of affairs, the deficiency of food grains was quite alarming and aggravating (Chahal, 1999).

The partition of country worsened the food situation in the country. This reduced the agricultural production and created difficulties both for food grains and commercial crops. The country was left with 82 per cent of the total population of undivided India as well as only with 69 per cent of land under rice, 65 per cent under wheat and 75 per cent under all cereals. The cultivators were under heavy debt and most of the holdings were uneconomic (Chahal, 1999).

Agricultural development is a condition precedent for the overall development of the economy. A progressive agriculture serves as a powerful engine of economic growth. It helps in initiating and sustaining the development of other sectors of the economy by providing necessary capital, labour, raw material, wage goods and foreign exchange (Kumar, 2007).

In view of this, after independence tremendous efforts were made to boost the agriculture as one of the tools for development. The Government of India adopted a positive approach and hence a well defined policy of integrated production programmes with defined targets and a proper distribution programme was adopted along with other measures for the overall economic development of the country. Specific programmes like new agriculture technology were introduced to convert agriculture into a successful and prosperous business, to bring more land under cultivation and to raise agriculture production (Singh, 1994).

In India, the adoption of new agricultural technique was costly than that of traditional method of cultivation. In traditional method, inputs were least expensive, on the other hand, inputs in modern technology like high yielding varieties of seeds, fertilizers, farm mechanization and irrigation were very costly and Indian farmers being poor were not in a position to buy these expensive inputs. On the recommendations of food grain price committee (Jha Committee), the Government of India started the scheme of subsidies on purchase of various agriculture inputs to facilitate the farmers (Singh, 1994).

Subsidies, by means of creating a wedge between consumer prices and producer costs, lead to changes in demand/supply decisions. Subsidies are often aimed at inducing higher consumption/production and offsetting market imperfections including internalization of externalities, achievement of social policy objectives including redistribution of income (Gulati, 2007).

II. REVIEW OF LITERATURE

Review of literature of the past theory and practice is necessary when conducting any research work. It provides information of the work done in the related area and the theoretical frame work on which the proposed solution of the problem can be based. The relevant literature was reviewed in detail to understand the nature and extent of the work done on the related topic. An attempt is made to analyse the nature of the work done during past in the related field. The brief review of literature has been given as under: -

Mehta, (1998) tried to examine that irrigation and power being state subjects, the analysis was carried out for three states Gujarat, Punjab and Uttar Pradesh. The choice of the states was based on the fact that, all the three has large agriculture sectors, Moreover, the three states were districts in terms of their sources of irrigation and the power pricing policies. The author found that rapid rural electrification along with subsidized power and irrigation for agriculture has led to high dependence on underground water sources. The overuse of groundwater especially in some districts, was merging as a grave concern. The author found that during 1985, out of 183 total blocks in Gujarat, 6 blocks were over exploited which increased to 45 blocks in 1994. In Punjab, out of 118 total blocks, 64 blocks were over exploited, during 1985 which incurred its 73 blocks in 1994. Similarly in Uttar Pradesh, out of total 895 blocks, 53 blocks were over exploited in 1985 which increased to 65 in 1994. The author showed that moreover highly subsidized or free supply of inputs like power and irrigation has also led to inappropriate cropping patterns. For example in water scarce areas, water intensive sugar cane and rice crops were being promoted. The author suggested that a policy package that is economically and environmentally sound is needed, besides being socially acceptable.

Jogi, (2001) stated that the provision of electricity and irrigation at concessions has encouraged inefficient use of a scarce resources such as water, distorted the inter-temporal resource allocation and promoted spatial, inter-personal and inter-temporal inequities. In Punjab 52.17 per cent of the total blocks in the state were over-exploited and 7.97 per cent of all blocks are dark areas as on 31.3.98. The over-exploitation of underground water has caused a fall in the water table in large parts of the state and this has entailed increased expenditure on deepening of tube wells. In case of canal irrigation it is found that 44 per cent of the water entering the canal has got lost in the canal itself, 27 per cent of the water is wasted by the farmers through excessive use and only 29

per cent is actually used by the crops. The author suggested that if government imposed cha canal irrigation, then the farmers would use natural resources more efficiently. At the same time with the reduction subsidies the government should be able to increase investment in the power sector to improve quality and quantity supplied as well as to increase their efficiency reducing transmission and distribution losses and improving the quality of the service.

From the above studies, it may conclude that agriculture subsidies are a worldwide phenomenon.

OBJECTIVES OF THE PRESENT STUDY:

1. To study the zone wise growth and distribution of irrigation subsidies in India.
2. To suggest ways and means for giving irrigation subsidies to farmers of India.

METHODOLOGY:

The present study is related to irrigation subsidies in India 1980-81 to 2006-07. For analysing the growth and distribution pattern of irrigation subsidies, five zones i.e. south zone (includes Andhra Pradesh, Karnataka, Kerala, Tamil Nadu, Pondicherry, Andaman and Nicobar Islands and Lakshadweep), west zone (includes Gujarat, Madhya Pradesh, Chhattisgarh, Maharashtra, Rajasthan, Goa, Daman and Diu and Dadra Nagar Haveli), east zone (Bihar, Jharkhand, Orissa and West Bengal), north zone (Haryana, Punjab, Uttar Pradesh, Uttaranchal, Himachal Pradesh, Jammu and Kashmir, Delhi and Chandigarh) and north-east zone (Assam, Tripura, Manipur, Meghalaya, Nagaland, Arunachal Pradesh, Mizoram and Sikkim) are taken.

The present study has been divided into different sections. The first section provides an introduction to the concept of agriculture subsidies. The second section is related to the review of literature, objectives and methodology of the study. The third section deals with the zone-wise irrigation subsidies in India. The last section presents the summary, conclusions and policy implications.

III.IRRIGATION SUBSIDIES IN INDIA

In an agrarian economy like India, irrigation has played a major role in the agricultural production process. Irrigation development in the country has been taken up in a big way through Major, Medium and Minor irrigation schemes since independence. Agricultural prices, taxes and subsidy are powerful policy tools for a government that wants to advance its production or welfare goals. For its policies to be effective, it must predict how heterogeneous groups of farmers will alter their chosen crops and water use. A key determinant of a farmer's response is his or her access to water, especially where agriculture depends on irrigation from a canal. Other things being equal, downstream farmers in a canal suffer disproportionately from up- stream seepage. They also lose more water to theft, a widely observed phenomenon on canals in India and elsewhere. A government concerned about the welfare implications of existing prices should explicitly acknowledge that many farmers steal water. conversely, a government concerned about the social cost of water theft must understand the contribution of its own price distortions (Ashra, 2007).

The irrigation subsidy in five zones of India during 1980-81 to 2006-07 is shown in table no 1. It shows that in India as well as in the zones, this subsidy has increased at different increasing rate during pre as well as post liberalisation periods.

In south zone, irrigation subsidy has risen up from Rs.139.03 crores in 1980-81 to Rs.15,223.37 crores in 2006-07, whereas in west zone, this has increased from Rs.129.68 crores in 1980-81 to Rs.12,338.08 crores in 2006-07. In north zone, this has gone up by 338.61 per cent in 1985-86,160.33 per cent in 1990-91,50.70 per

cent in 1996-97,52.56 per cent in 2000-01 and 105.53 per cent in 2006-07 as compared predecessor in the table.

On the other hand, in east zone, subsidy of irrigation has increased from Rs.33.68 crores in 1980-81 to Rs.1861.20 crores in 2006-07. North-east zone has got Rs.8.66 crores, Rs.74.30 crores, Rs.74.40 crores and Rs.301.74 crores in 1980-81, 1990-91, 1996-97 and 2006-07 respectively.

It is seen that in 1980-81, south zone has got topmost position by getting huge amount of subsidy of irrigation at country level followed by west zone (32.49 per cent), north zone (22.06 per cent), east zone (8.44 per cent) and north-east zone (2.17 per cent). During 1985-86 to 2000-01, west zone has occupied first rank followed by south, north, east and north-east zones. Again in 2006-07, south zone achieved topmost rank, west, north, east and north-east zones has got second, third, fourth and fifth position.

In south zone, the percentage share has declined from 34.84 in 1980-81 to 44.16 in 2006-07, on the other hand, it has risen up from 32.49 per cent in 1980- 81 to 42.03 per cent in 1990-91 and further risen up to 48.04 per cent in 1996-97 and declined to 35.79 per cent in 2006-07 in west zone.

The percentage share of north zone increased from 22.06 in 1980-81 to 25.66 in 1990-91 and declined to 13.78 in 2006-07. In east zone, the percentage share has increased from 8.44 in 1980-81 to 9.81 in 1990-91 and declined to 8.88 in 2000-01 and further declined to 5.40 in 2006-07. North-east zone has got 2.17 per cent, 1.73 per cent, 1.90 per cent, 0.72 per cent and 0.88 per cent in 1980-81, 1985-86, 1990-91, 1996-97 and 2006-07 respectively.

Table 1

Zone-wise Distribution of Irrigation Subsidy in India during 1980-81 to 2006-07

(In Rs. Crores)

Years/ Zones	1980-81	1985-86	1990-91	1996-97	2000-01	2006-07
South	139.03 (34.84)	407.94 (24.47)	806.78 (20.59)	2,929.42 (28.15)	4,721.18 (32.09)	15,223.37 (44.16)
West	129.68 (32.49)	658.78 (39.51)	1,646.68 (42.03)	4,998.84 (48.04)	6,266.48 (42.60)	12,338.08 (35.79)
North	88.05 (22.06)	386.20 (23.16)	1,005.39 (25.66)	1,515.13 (14.56)	2,311.48 (15.71)	4,750.87 (13.78)
East	33.68 (8.44)	185.40 (11.12)	384.26 (9.81)	886.94 (8.52)	1,306.28 (8.88)	1,861.20 (5.40)
North-East	8.66 (2.17)	28.89 (1.73)	74.30 (1.90)	74.40 (0.72)	106.29 (0.72)	301.74 (0.88)
India	399.10 (100)	1,667.21 (100)	3,917.41 (100)	10,404.73 (100)	14,711.71 (100)	34,475.26 (100)

Source: (1) Government of India, Pricing of Water in Public System in India 2010, Combined Finance and Revenue Accounts of different states.

Note: (1) Irrigation subsidies in Rs. Crores of zones are calculated by adding the irrigation basis.

(2) Percentages are shown in parentheses

It is observed that at national level as well as zone level, the irrigation subsidy in Rs. crores has increased in absolute terms during pre as well post liberalisation periods. As post-liberalisation period (2006-07) is compared with post-liberalisation (1990-91), it is found at national level, this has increased by near about nine times, whereas in south zone this has increased by near about nineteen times, in west zone has got more than seven times, in east as well as in north-east zones near about five and in north zone more than four times of irrigation subsidy. In 1990-91, west zone has got more than two times and north zone near about three times more of irrigation subsidy as compared to south and east respectively, whereas in post liberalisation period (2006-07), south zone has received 1.23 times and north zone near about three times more of irrigation subsidy as compared to west zone and east zone respectively.

The per hectare irrigation subsidy of five zones of India 1980-81 to 2006-07 is shown in table 2. The irrigation subsidy also increased in all the zones except in north-east zone (in this zone, this subsidy has declined in 2000-01) of India.

This table reveals that in India, this subsidy has increased during 1980-81 to 2006-07. This has gone up from Rs.430.27 crores in 1980-81 to Rs. 6,13,552.27 crores in 2006-07. In south this has increased from Rs.155.94 crores in 1980-81 to Rs.4,950.01 crores in 2000-01 and further increased to Rs.12,851.27 crores in 2006-07, whereas this subsidy risen up from Rs.44.12 crores in 1980-81 to Rs.12,730.72 crores in 2006-07 in west zone.

In north zone, this has gone up from Rs.126.57 crores in 1980-81 to Rs.21,325.23 crores in 2006-07, on the other hand in east zone irrigation subsidy has increased from Rs.40.06 in 1980-81 to Rs.3,896.11 in 2006-07. This has increased from Rs.63.57 crores in 1980-81 to Rs.2,225.34 crores in 1996-97 and declined to Rs.1,741.93 in crores 2000-01 and again increased to Rs.1,0548.93 crores in 2006-07 in north-east zone.

The percentage-wise analysis shows a lot of variation in all the zones. The percentage share of south zone has declined from 36.24 in 1980-81 to 25.98 in 1996-97 and further declined 20.95 in 2006-07. West zone has got 10.25 per cent, 12.17 per cent, 28.79 per cent and 20.75 per cent in 1980-81, 1990-91, 1996-97 and 2006-07 respectively. It is found that the percentage share of north zone has declined during 1980-81 to 2000-01 and increased in 2006-07. This zone has received 28.42 per cent, 24.37 per cent and 14.00 per cent in 1980-81, 1990-91, 1996-97 and 2006-07 respectively. It is observed that it has increased from 9.31 per cent in 1980-81 to 8.49 per cent in 1996-97 and declined to 6.35 per cent in 2006-07 in east zone.

Table 2

Zone-wise Distribution of Irrigation Subsidy in India during 1980-81 to 2006-07

(In Rs./ Hectare)

Years/ Zones	1980-81	1985-86	1990-91	1996-97	2000-01	2006-07
South	155.94 (36.24)	443.43 (23.51)	944.47 (19.98)	3,033.41 (25.98)	4,950.01 (30.26)	12,851.27 (20.95)
West	44.12	306.28	575.53	3,361.04	5,814.72	12,730.72

	(10.25)	(16.24)	(12.17)	(28.79)	(35.55)	
North	126.57 (29.42)	513.15 (27.20)	1,152.05 (24.37)	2,064.44 (17.68)	2,443.41 (14.00)	21,325.23 (34.76)
East	40.06 (9.31)	204.47 (10.84)	400.70 (8.48)	990.65 (8.49)	1,405.63 (8.59)	3,896.11 (6.35)
North-East	63.57 (14.77)	418.96 (22.21)	1,655.13 (35.01)	2,225.34 (19.06)	1,741.93 (10.65)	10,548.93 (17.19)
India	430.27 (100)	1,886.30 (100)	4,727.89 (100)	11,674.89 (100)	16,355.69 (100)	61,352.27 (100)

Source: (1) Government of India, Pricing of Water in Public System, 2010, Combined Finance and Revenue Accounts of different states.

(2) Government of Punjab, Statistical Abstract, various years.

Note: (1) Irrigation subsidies per hectare of zones are calculated by adding the irrigation subsidies on zone basis

(2) Percentages are shown in parentheses

Above table shows that at national level as well as zone level (except in north-east zone), irrigation subsidy per hectare has increased in absolute term during pre as well as post liberalisation periods. As post liberalisation period (2006-07) as compared to pre-liberalisation period (1990-91), at country level this has increased near about twenty times, whereas zone-wise analysis reveals that in west zone, this has increased the maximum times i.e. twenty two times, in north zone 18.5 times, in south zone more than thirteen times, in east zone more than nine times and in north-east zone more than six times. As compared to east zone, the south zone has got 2.36 times more of irrigation subsidy (in 1990-91) and 3.3 times (in 2006-07), whereas north zone two times more (in 1990-91) and near about two times (in 2006-07) as compared to west zone.

IV. CONCULSION

At national level as well as zone level the irrigation subsidy in Rs. crores, has increased in absolute terms during pre as well post liberalisation periods. As post-liberalisation period (2006-07) is compared with post-liberalisation (1990-91), it is found at national level this has increased near about nine times, whereas in south zone this has increased near about nineteen times, in west zone has got more than seven times, in east as well as in north-east zones near about five and in north zone more than four times of irrigation subsidy. In 1990-91, west zone has got subsidy more than two times and north zone near about three times more of irrigation subsidy as compared to south and east respectively, whereas in post liberalisation period (in 2006-07), south zone has received 1.23 times and north zone near about three times more of irrigation subsidy as compared to west zone and east zone respectively. Out of five zones of India, west zone is ahead among all the other states during pre as well as post liberalisation periods except in 1980-81 and in 2006-07 (in these two years south zone has got first rank). Findings showed that in all the zones there is unequal distribution of irrigation subsidies. At the end it is suggested that government should adopted some criteria for the distribution of irrigation subsides.

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