

A STUDY OF FINANCIAL EXPENDITURE ON IRRIGATION PROJECTS IN INDIA



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ABSTRACT

Water is the prime important factor besides high yielding seeds, manures and fertility of soil in improving agricultural economy of the country. Indian economy has predominantly remained agrarian in nature since independence as more than 70% population, living in about 6 lakh villages, are solely dependent upon agriculture and its allied activities. In the absence of proper irrigation facilities, agricultural activities were largely dependent upon the vagaries of weather and precipitation of rain fall. The overall goal of this paper is to understand the impact of investment on irrigation sector in India has had on grain production

and incomes, in general, and income and poverty alleviation in poor areas, in particular. The paper seeks to meet two objectives. First, we describe the comparison between financial expenditure and gross receipts among the states in India. Second, we seek to understand financial expenditure analysis among the Major irrigation projects & Medium Irrigation projects, Minor Irrigation projects and CAD Programme.

KEYWORDS : *Financial, Expenditure, Government Policies, Irrigation, development, agriculture.*

INTRODUCTION :

The development of irrigation has made major contributions to the growth and sustenance of Indian agriculture in the last five decades. But the irrigation sector is besieged by a number of problems. Apart from inordinate delays in the completion of large and medium surface irrigation projects, the underutilization of the potential created the unsatisfactory quality of irrigation, low cost recovery and the adverse ecological and social consequences of the present irrigation systems have become issues of public debate¹. The main objective of the irrigation system is to distribute adequate water in time and in an equitable manner across various user groups and areas within the command area. If water is not sufficient, it is allocated based on priorities².

STATEMENT OF THE PROBLEM:

Increasing agricultural production is one of the important objectives of the five year plans in

India. This objective can be achieved by increasing the net area for cultivation. But the present world faces the problems of inadequacy of land due to the diversion of land from cultivation to developmental activities. This has reduced the net area available for cultivation. This shortage of land poses the need for increasing production and productivity per unit of land with help of strengthening the use of the new technology developing of irrigation-seed-fertilizer-strategy. This led to the emergence of a number of large scale irrigation projects in India.

SCOPE OF THE STUDY:

The present study aims at analyzing the financial expenditure on irrigation sector in India. The study covers investment in irrigation sector for development irrigation projects in India. Irrigation development and proposes to quantify the extent to which it has increased agricultural production and productivity, farm income favorable cropping pattern and cropping intensity. It also intends to find its role as the generator of employment opportunities.

OBJECTIVES OF THE STUDY:

The present study is undertaken with the following objectives:

- To review the financial expenditure on irrigation projects for irrigation development in India during the 2007-2012.
- To assess the impact of irrigation on gross receipts of all states in India.

REVIEW OF LITERATURE:

A number of researcher and scholar have worked on various aspects of irrigation. In their works, they have studied potential of water resources, different sources of irrigation with emphasis on surface and ground water, irrigation development in India in general and their respective states in particular. They have studied ultimate irrigation potential, it's utilization, problems of under utilization of created irrigation potential, role of irrigation for agriculture and rural development etc. They have also studied irrigation development strategy of government. Some researcher have concentrated on water allocation policy, water charge, water use efficiency and water management practices, covering public, private, co-operative and participatory irrigation management.

According to Dhawan, B. D. (1995), The impact of irrigation with particular reference to canal irrigation, on production, productivity and income from farming has, however, been analyzed by many researchers, especially since independence. These studies have found positive association between income and the farm size in the canal irrigated areas. apart from stabilization of farm output. The increase in output per unit of irrigated area, though obvious. Has been brought out by many scholars in different agro-climatic regions Based on the source-wise ratio of net irrigated to net sown area across the major states in India.³

According to Shah (1993), In India in 1970 people living below the poverty line were 50 % but in 1990 it decreased to about 35 % , while in Bangladesh people living below the poverty line fell significantly during this period. However, at the same time the people living below the poverty line increased in absolute terms in both the countries. To eradicate the poverty the government in both the countries increased its funding by investing in irrigation.⁴

FINANCIAL EXPENDITURE ON IRRIGATION PROJECTS:

The government of India has provided fund for irrigation development through the states government. The irrigation development is the life of agriculture and Indian economy is the depend on

the agriculture development therefore the government has launched various schemes for irrigation development. The detailed information about states wise financial expenditure on irrigation projects in India is given below.

Table No.1
State wise Financial Expenditure on Major and Medium Irrigation during XI Plan
(Rs.Crores)

Sr. No	States	XI Five year Plan (2007-2012)					Total
		2007-08	2008-09	2009-10	2010-11	2011-12	
01	Andhra Pradesh	11285.5	8097.9	10488.1	9072.3	12054.5	50998.3
02	Arunachal Pradesh	0.5	0.5	0.0	0.6	0.7	0.23
03	Asam	23.3	80.9	90.5	36.2	151.6	382.5
04	Bihar	559.2	519.9	514.5	561.8	984.9	3140.3
05	Chhatisgarh	444.4	586.7	850.5	720.1	1253.8	3855.5
06	Goa	118.2	117.5	88.6	107.2	110.7	542.2
07	Gujarat	4020.4	6907.6	4299.7	4560.1	8080.1	27867.9
08	Haryana	662.6	705.2	669.7	575.0	600.0	3212.5
09	Himachal Pradesh	96.0	80.0	85.1	62.0	101.8	424.9
10	Jammu & Kashmir	49.9	62.1	118.0	101.8	125.8	457.6
11	Jharkhand	694.5	322.9	215.4	408.0	886.3	2527.1
12	Karnataka	2058.4	2020.9	2939.4	3600.0	5434.0	16053.1
13	Kerala	121.7	117.2	82.2	218.0	271.1	810.2
14	Madhya Pradesh	1941.1	1691.5	1952.3	2042.7	2323.4	9951.0
15	Maharashtra	2982.5	6196.1	6278.7	6985.3	6113.0	28555.6
16	Manipur	107.4	40.7	126.6	275.2	262.3	812.2
17	Meghalaya	0.0	0.0	0.0	0.2	23.6	23.8
18	Mizoram	0.0	0.0	0.0	0.0	0.0	0.0
19	Nagaland	0.1	0.1	0.2	0.0	0.0	0.4
20	Orissa	1298.4	1283.4	1282.8	1189.1	1310.0	6363.7
21	Punjab	91.8	77.3	78.2	187.3	503.6	938.2
22	Rajasthan	595.3	586.6	569.8	447.5	609.9	2809.1
23	Sikkim	0.0	0.0	0.0	0.0	0.0	0.0
24	Tamil Nadu	220.4	384.1	644.3	324.4	370.9	1944.1
25	Tripura	6.1	9.7	15.6	58.8	38.2	128.4
26	Uttar Pradesh	1695.2	1971.1	1609.0	1831.7	1920.0	9027.0
27	Uttarakhand	127.8	216.3	310.3	399.7	290.5	1344.6
28	West Bengal	98.3	118.9	87.5	362.7	1160.0	1827.0
Total		29298.7	32194.9	32996.7	34127.5	44980.3	173598.1

Source: - Report of Central Water Commission 2013, page No. 137.

From the Table No.1 shown that the 50998.3 crores has been spent on major and medium irrigation sector in Andhra Pradesh and Mizoram, Sikkim states has not spent amount on the irrigation sectors it has contribution on irrigation development is zero during the XI plan period (2007-2012). Government of Andhra Pradesh has lot of amount spent on irrigation development out of all states of India. Government of Mizoram and Sikkim states lack of policy for development of irrigation in the

state.

According to the Table No.1, The Maharashtra is second largest state in the country because the government of Maharashtra has 28555.6 crores spent on irrigation development and 27867.9 crores amount has been spent on major and medium irrigation projects by the government of Gujarat in during XI plan period. Andhra Pradesh, Maharashtra, Gujarat and Karnataka have largest investment in the major and medium irrigation sectors for irrigation development in the country and for the development of Indian economy and increasing the farmer's production and productivity during XI plan period. The major & medium irrigation sources is a most important instrument for increasing production and productivity of agriculture. Government has 76 percent amount investment in major and medium irrigation sectors. The detailed about state wise investment in minor irrigation sector is given Table No.2.

Table No. 2
State-wise Financial Expenditure on Minor Irrigation - State Sector

Sr. No	States	<i>XI Five year Plan (2007-2012)</i> (Rs.Crores)					Total
		2007-08	2008-09	2009-10	2010-11	2011-12	
01	Andhra Pradesh	661.1	684.4	954.6	1681.4	2563.6	6525.1
02	Arunachal Pradesh	58.7	70.1	70.2	113.9	74.1	387.0
03	Asam	9.9	144.1	370.3	431.0	192.5	1147.8
04	Bihar	109.7	80.9	78.4	64.9	255.5	589.4
05	Chhatisgarh	509.0	296.1	154.3	69.9	758.4	1787.7
06	Goa	31.5	39.2	39.3	60.0	69.1	239.1
07	Gujarat	697.9	875.1	1016.9	986.5	1140.5	4716.9
08	Haryana	0.0	0.0	0.0	0.0	0.0	0.0
09	Himachal Pradesh	89.2	140.4	130.4	141.5	161.9	663.4
10	Jammu & Kashmir	59.0	113.7	196.1	152.3	209.8	730.9
11	Jharkhand	102.5	77.2	46.5	50.0	648.7	924.9
12	Karnataka	362.0	591.3	551.9	787.6	956.8	3249.6
13	Kerala	28.8	34.1	37.0	78.2	75.3	253.4
14	Madhya Pradesh	130.1	540.2	627.8	691.7	694.0	2683.8
15	Maharashtra	114.8	463.9	895.5	809.7	1200.0	3483.9
16	Manipur	57.3	3.9	50.3	63.4	63.4	238.3
17	Meghalaya	11.9	40.8	43.1	86.0	101.6	283.4
18	Mizoram	33.1	66.4	48.0	59.4	78.4	285.3
19	Nagaland	45.5	49.7	74.0	143.3	141.6	454.1
20	Orissa	175.7	180.8	228.8	256.0	592.4	1433.7
21	Punjab	60.9	145.9	202.9	169.9	140.3	719.9
22	Rajasthan	225.9	176.2	144.3	144.3	257.0	947.7
23	Sikkim	6.2	15.5	30.9	99.9	46.6	199.1
24	Tamil Nadu	82.1	84.6	20.0	45.6	173.8	406.1
25	Tripura	23.6	23.7	21.2	14.8	99.3	182.6
26	Uttar Pradesh	303.8	354.6	431.1	566.9	619.0	2275.4
27	Uttarakhand	218.6	275.7	368.6	209.0	235.0	1306.9
28	West Bengal	62.7	129.1	114.8	147.5	390.5	844.6
Total		4271.3	5697.5	6947.1	8124.5	11939.0	36979.4

Source: Ministry of Water Resources (Minor Irrigation Division), Annual Plan documents Planning

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According to the Table No. 2, the table has been shown that the 36979.4 crores have been invested in the minor irrigation sector during the XI plan period 2007-2012. The amount has been invested by the state government for sources of minor irrigation development. 11939 crores amount has been spent on minor irrigation during the 2011-2012 and during the 2007-2008, 4271.3 crores have been invested in minor irrigation in India. According to the table no. 2, Andhra Pradesh is a largest state about the investment in minor irrigation sectors during the XI plan period. The 6525.1 crores have been spent by the Andhra Pradesh on minor irrigation sectors then Gujarat has 4716.9 crores spent on minor irrigation sectors and Maharashtra is a third largest state in India for the about investment in minor irrigation sectors. The government has implemented various policies and programmes for development of irrigation sectors like as CAD programme, the detailed about investment in irrigation sectors under CAD Programme is given in Table No. 3.

Table No. 3
State-wise expenditure under CAD Programme during XI Plan - State Sector

Sr. No.	States	XI Five year Plan (2007-2012)					Total
		2007-08	2008-09	2009-10	2010-11	2011-12	
01	Andhra Pradesh	17.7	9.68	6.06	15.56	26.53	75.23
02	Arunachal Pradesh	2.40	2.50	0.30	1.51	3.00	9.71
03	Asam	0.75	2.95	7.18	11.10	19.28	41.26
04	Bihar	34.39	25.95	73.12	55.00	90.00	278.46
05	Chhattisgarh	20.98	30.06	21.35	64.12	21.96	158.47
06	Goa	3.75	4.16	5.50	6.31	6.92	26.64
07	Gujarat	6.08	5.71	12.53	11.38	13.63	49.33
08	Haryana	26.84	27.32	45.85	141.00	18.00	259.01
09	Himachal Pradesh	1.34	0.02	0.00	2.00	10.00	13.36
10	Jammu & Kashmir	19.50	23.84	11.00	18.00	18.00	90.34
11	Jharkhand	0.12	0.12	21.62	2.00	2.00	25.86
12	Karnataka	64.68	69.41	73.00	104.00	438.15	749.24
13	Kerala	4.79	4.06	2.62	6.27	4.25	21.99
14	Madhya Pradesh	5.11	6.35	7.71	10.00	18.25	47.72
15	Maharashtra	0.00	22.60	0.12	43.45	44.00	110.17
16	Manipur	6.50	7.48	9.00	21.65	17.00	61.63
17	Meghalaya	0.09	0.01	0.08	0.50	0.55	1.23
18	Mizoram	0.19	0.15	0.15	0.15	0.15	0.79
19	Nagaland	0.08	0.00	0.08	0.50	1.00	1.66
20	Orissa	14.01	69.94	61.65	47.43	76.00	269.33
21	Punjab	17.20	85.53	124.48	514.76	255.00	996.97
22	Rajasthan	54.07	72.41	68.00	90.72	102.00	387.2
23	Sikkim	0.04	0.36	0.04	0.00	0.55	0.99
24	Tamil Nadu	22.77	19.49	19.30	21.03	24.67	107.26
25	Tripura	0.00	0.00	0.00	0.00	0.50	0.00
26	Uttar Pradesh	54.19	64.71	79.19	63.52	294.78	556.39
27	Uttarakhand	5.54	1.50	5.03	0.00	0.00	12.07
28	West Bengal	7.68	15.86	12.62	16.00	24.00	76.16
	Total	790.16	572.17	667.61	967.96	1602.17	4600.07

Source: Ministry of Water Resources (CAD Wing) water related statistic page no, 142

CAD Programme has launched by the government for the irrigation development. 4600.07 Crores has been spent on irrigation development as state wise under CAD Programme. According to the table no.3, Punjab is a largest state in the country because the Punjab has spent 996.97 crores on irrigation development under CAD Programme during the XI Plan period then Karnataka is a second largest state in the country about invested amount in irrigation sector under CAD Programme. 749.24 crores have been spent on irrigation development under CAD Programme by Karnataka state. From the Table No. 3 shown, Uttar Pradesh is the third largest state in the India, about amount invested in irrigation sectors under CAD Programme. The 556.39 crores amount has been spent by the Uttar Pradesh on development irrigation sectors under CAD Programme during XI plan period.

Share Expenditure in Major & Medium, Minor and CAD Projects during XI plan period.

Share expenditure in major, medium minor and CAD irrigation project in India during the XI plan period has been shown the table No.4 It is seen from this table that out of the total expenditure incurred in the irrigation sector in the XI plan period (2007-2012) major and medium sector accounted for 81 percent and 19 percent amount has been spent on the minor irrigation projects and under CAD Programme.

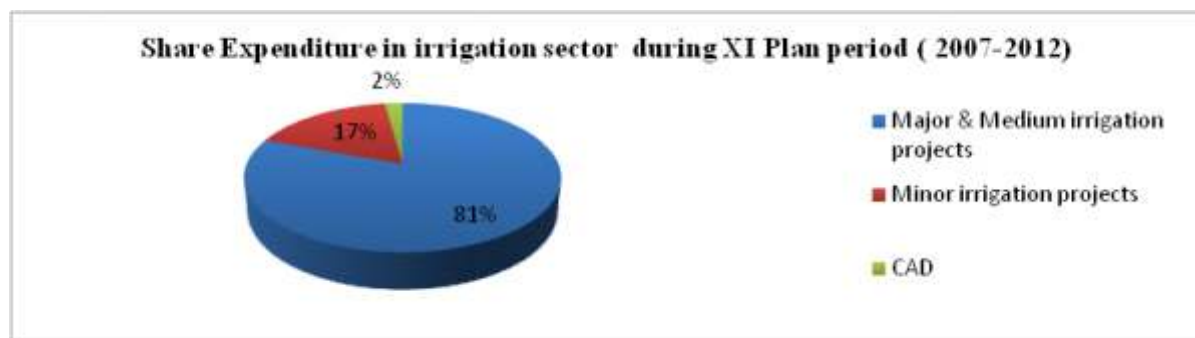
Table No. 4
Share expenditure on irrigation sector during XI Plan period (2007-2012)
(Rs.in Crores)

Sr No.	Types of irrigation sectors	Expenditure	Percent
1	Major & Medium Irrigation	173598	81
2	Minor Irrigation Sector	36979	17
3	CAD (Command Area Development Programme)	4600	02
Total		215177	100

Sources: - Report of Planning Commission 2007-2012.

Investment in irrigation sector is the most benefit for the farmer to the increasing their production and productivity. During the XI Plan period (2007-2012) government has 215177 crores spent on all types irrigation sectors in India, but 2 percent amount has been spent on irrigation under CAD programme it is 4600 crores and 173598 crores amount has been spent on major& Medium irrigation projects it is 81 percent and 17 percent amount spent on medium irrigation sector it is detailed is given in the figure No.1

Figure No.1



According to the figure No.1, 81 percent amount has been spent on the major & medium irrigation sector in the during the XI plan period. The government has large amount invested on major & medium irrigation sector in India and 17 percent amount has invested on minor irrigation sectors and 2 percent amount has been spent on irrigation under CAD Programme.

CONCLUSIONS:

The government has major money spent on the major & medium irrigation projects other than minor irrigation and CAD Programme during the 2007-2012 in India. Rs. 173598.1 crores has been spent on major & medium irrigation projects in all states during the 2007-2012.

SUGGESTIONS:

The government of India has should be money spent on minor irrigation projects because the minor irrigation is not developed after independence. Minor irrigation is increasing water level in land in the few budget. Agriculture is backbone of Indian economy therefore the irrigation sector should be must development for agriculture development.

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