



## **Progress of Irrigation Facilities in Cachar District: A Comparative Analysis with special Reference to India and Assam**

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Availability of water is the most critical input for agricultural production and productivity. Supply of water from rivers, tanks, wells, canals and other artificial projects for the purpose of cultivation and agricultural activities is refers to irrigation. In India, 64% of cultivable land is dependent on monsoon which is restricted only for four months in a year. Therefore, irrigation has been considered as one of the most important agricultural infrastructure. Many studies in India have observed that productivity in irrigated land is always higher than un-irrigated land. It is estimated in late 1980s that per hectare productivity of foodgrains in irrigated land of India was two to six times higher than the productivity on un-irrigated land. In a study Vaidyanathan estimated that nearly three-fourths increase in total crop production in India between 1970s and 1980s was the direct result of expansion in irrigated area and increase in the per hectare productivity of irrigated land (Vaidyanathan, 2012). In India the development of irrigation has much economic significance. Expansion in irrigation is necessary to reduce over dependence on monsoons, advanced agricultural productivity, bringing more land under cultivation, reducing instability in output levels, creation of job opportunities, electricity and transport facilities, control of floods and prevention of droughts. Irrigation has been considered as one of the six important components for the development of rural infrastructure under Bharat Nirman and aims at creating more irrigation potential in the coming years to mitigate the drought situations whenever it is being experienced and increase agricultural production to feed the burgeoning population in the country.

However, the irrigation facility in India was extremely inadequate. In 1950-51, the total area irrigated in the country was 22.6 million hectares. The gross area irrigated as percentage of gross cropped area in 1950-51 was only 17 percent. But, during the plan period, massive investment has been made on major, medium and minor irrigation projects. As a result, the gross irrigated area in the country increased to 91.5 million hectares in 2011-12. The percentage of gross area irrigated to gross cropped area also increased to 46.9 percent. Irrigation Projects in India are classified into three categories viz. major, medium and minor irrigation. Projects which have a culturable command area (CCA) of more than 10,000 hector are termed as major projects, those irrigation projects which have a CCA of less than 10,000 hector but more than 2,000 hector are termed as medium projects and those irrigation projects which have a CCA of 2,000 hector or less are known as minor projects. A broad assessment of the area that can be ultimately brought under irrigation, both by surface and ground water, made by the various states in sixties has indicated that ultimate irrigation potential of the country would be of the order of 113.2 million hectare.

However, the ultimate potential is 139.89 million hectare, the increase being primarily due to upward revision in assessed potential of minor ground water schemes and minor surface water schemes to 64 million hectare and 17 million hectare respectively. Minor irrigation projects have both surface and ground water as their source, while major and medium projects mostly exploit surface water resources.

The table - 1 below presents an account of trend in net area irrigated by different sources in India.

**Table: 1**  
**Net Area under Irrigation by Sources in India**

(<sup>'000 hectares</sup>)

Year	Source of Irrigation							Net Irrigated Area
	Canals			Tanks	Tube-Wells	Other Wells	Other Sources	
	Govt.	Private	Total					
2001-02	14993	209	15202	2196	23245	11952	4342	56936 (40.28)
2002-03	13867	206	14073	1811	25627	8727	3658	53897 (38.30)
2003-04	14251	206	14458	1916	26691	9693	4299	57057 (43.24)
2004-05	14553	214	14766	1734	25235	9956	7538	59229 (42.09)
2005-06	16490	227	16718	2083	26026	10044	5966	60837 (43.26)
2006-07	16802	224	17027	2078	26942	10698	5999	62744 (44.45)
2007-08	16531	217	16748	1973	28497	9864	6107	63189 (45.19)
2008-09(p)	16686	195	16881	1981	28367	10389	6020	63638 (45.13)
2009-10(p)	14789	188	14978	1587	28371	9992	7008	61936 (43.65)
2010-11(p)	15472	171	15643	1980	28543	10629	6864	63659 (45.74)
2011-12(p)	15833	172	16005	1919	29943	10595	7236	65697 (46.41)
2012-13(p)	15506	165	15672	1753	30543	10763	7536	66266 (47.01)
2013-14(p)	16115	163	16278	1842	31126	11312	7542	68100 (48.67)

**Source:** Directorate of Economics & Statistics, Ministry of Agriculture and Farmers Welfare, Govt. of India.

**Note:** i) (p) Provisional.

ii) Figures in the parenthesis are percentage of net irrigated area to the total cropped area.

The economy of Assam is predominantly based on agricultural. About 85% of the populations of the state live on agriculture and allied activities for their livelihood. The agriculture in the state is primarily rainfed. But, unpredictable and adverse weather condition always disrupts the agricultural productivity of the state. Therefore, expansion of irrigation facility is essential for the development of agricultural sector of the state. Moreover, due to the lack of irrigation infrastructure in the state, double or multiple cropping is not so popular. Therefore, development of irrigation is highly essential for the state agricultural sector to cope with the growing problem of food shortage due to formidable increase of population, natural calamities etc. Over and above, availability of assured irrigation facility is undoubtedly essential for a sustained development in the agricultural sector. Thus, the development irrigation bears special significance in the context economic development of the state.

The total geographical area of the state is 78.44 lakh hectares. As per latest figure, it is estimated that the gross cropped area of the state is 40.76 lakh hectares and the net area sown is 28.08 lakh hectares. Area sown more than once is only 12.67 lakh hectares. The ultimate irrigation potential of the state is estimated at 27 lakh hectare which constitutes 66.24 percent of the total cropped area of the state. The irrigation department planned that 17 lakh hectares will be irrigated by developing minor irrigation schemes and rest 10 lakh hectares will be irrigated by developing major and medium irrigation schemes. The state irrigation department, agriculture department and panchayat and rural development department jointly associated with development of irrigation facilities in the state. The state irrigation department is the nodal department for development of irrigation in the state. It executes and maintains all the major, medium and minor irrigation schemes. Other two departments are associated only with minor irrigation schemes. The status of irrigation infrastructure is very poor. The poor performance towards providing irrigation facilities in the agricultural sector of the state is mainly due to late start of irrigation activities and inadequate plan allocation under irrigation sector of the state. The table - 2 presents an account of trend in net area irrigated by different sources in the state of Assam.

**Table: 2**  
**Net Area under Irrigation by Sources in Assam**

(’000 hectares)

Year	Source of Irrigation							Net Irrigated Area
	Canals			Tanks	Tube-Wells	Other Wells	Other Sources	
	Govt.	Private	Total					
2008-09	33	-	33	3	-	2	101	139 (3.48)
2009-10	162	-	162	2	7	0	26	197 (4.81)
2010-11	127	-	127	2	7	0	26	162 (3.89)
2011-12	33	-	33	5	27	2	94	161 (3.86)
2012-13	82	-	82	9	72	1	157	321 (7.88)
2013-14	79	-	79	9	74	1	140	303 (7.39)

**Source:** Directorate of Economics & Statistics, Ministry of Agriculture, Govt. of India.

**Note:** i) 0’ relates to the area below 500 hectares.

ii) Total may not tally due to rounding of the figures.

iii) Figures in the parenthesis are percentage of net irrigated area to the total cropped area.

Agriculture and its allied activities play an important role in the socio-economic development of the district of Cachar. Though irrigation has been considered as the main input to agriculture, but the facility is mostly absent in large part of the agricultural field of the district. At present, like the state, three government departments, viz., department of irrigation, department of agriculture and DRDA are associated with the development of irrigation facilities in the district. Here also, irrigation department is acting as the nodal department for development of irrigation in the district. Therefore, irrigation department has been executing and maintaining all the major, medium and minor irrigation schemes. The irrigation works of the other two departments are confined to minor schemes only. Table - 3 shows source wise net area irrigated in Cachar district.

**Table: 3**  
**Net Area under Irrigation by Sources in Cachar**

(in hectare)

Year	Source of Irrigation							Net Irrigated Area
	Canal			Tank	Tube Well	Other Well	Other Sources	
	Govt.	Private	Total					
2009-10	2130	-	2130	5	-	-	119	2254 (1.35)
2010-11	3081	-	3081	5	-	-	119	3205 (1.99)
2011-12	545	-	545	409	10	378	2796	4138 (2.54)
2012-13	-	-	-	-	30	-	5685	5715 (3.41)
2013-14	-	-	-	-	-	30	5685	5715 (3.73)
2014-15	-	-	-	-	30	-	5685	5715 (4.07)

**Source:** Directorate of Economics & Statistics, Ministry of Agriculture and Farmers Welfare, Govt. of India, New Delhi.

**Note:** i) Total may not tally due to rounding of the figures.

ii) Figures in the parenthesis are percentage of net irrigated area to the total cropped area.

Like the state, the status of irrigation in Cachar district is also inadequate. It is evident that during 2009-10, only 2,254 hectare were irrigated out of 1,67,046 hectare of total cropped area in the district, constituting only 1.35 percent of the total cropped area. In 2014-15, total cropped area in the district was 1,40,303 hectares; out of that only 5,715 hectares were irrigated which constitute 4.07 percent of total cropped area.

The data presented in the table - 4 shows the comparative status of irrigation facilities.

**Table: 4**  
**Comparative Statistics of Gross and Net Area Irrigated (2013-14)**  
(in hectares)

	Gross Cropped Area	Net Area Irrigated	Percentage of Net Area Irrigated to Gross Cropped Area
India	19,41,40,000	6,81,00,000	48.67
Assam	41,00,000	3,03,000	7.39
Cachar	1,53,391	5,715	4.07

**Source:** Directorate of Economics & Statistics, Ministry of Agriculture and Farmers Welfare, Govt. of India, New Delhi.

The data in the table reveals the percentage of net area irrigated to gross cropped area at national, state and district level. It is evident from that 48.67 percent of the gross cropped areas of the country are net irrigated area. But, in the state, only 7.39 percent of the gross cropped area is under net irrigated area. In Cachar district, the position is poorer than the state as it is evident from the percentage figure. The percentage of net irrigated area to gross cropped area in Cachar district is only 4.07 percent. Needless to say the district is lagging behind the state in case of irrigation infrastructure. Also both the district as well as the state lagging far behind the nation in the development level of irrigation infrastructure.

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