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Performance of Watershed Development Programme in Chittoor District of Andhara Pradesh

P. Varalakshmi

Asst.Professor of Economics
M.V.S.Govt.Degree college Mahaboobnagar
Telangana

Water is a biological need for all the living beings. It is one of the most important natural resources which plays a vital role for holistic and sustainable development of an economy. It is well-known fact that majority of the population in rural India depends on agriculture and the agricultural sector depends on water and irrigation facilities. However, availability of water depends on different climatic conditions, such as soil and rich vegetation. Therefore, sustainable socio-economic development in general and development of agriculture in particular depends on natural resource like water. Development of agriculture can be possible and feasible only through a well-planned and executed watershed programme especially in rain-fed areas. Hence, watershed programmes, today, are conceived as strategies both at national and international level aiming at development of forests, pasturelands, raising soil conservation, improved and diversified land use pattern and host of other socio-economic development programmes.

Concept of watershed

The concept of Watershed Development in India has been proposed by Shri (Late) Y.P. Bali in 1974. When the Ministry of Agriculture, Government of India has proposed the programme of soil and water conservation adopting watershed as a planning unit. Watershed is defined as an area enclosed in a catchment boundary of a river basin. It is enclosed by two ridgelines and it has a natural outlet. It is also defined as a land area from which the water drains to a given point. In other words, the word catchment and drainage basin were considered as synonymous with watersheds. It can also be viewed as an Ariel expansion of land from the runoff flows, through a drain, stream of river.

Further, it is defined as a hydrological entry and an area above a given drainage point where the total area contributes water flowing into a single outlet. In other words, watershed is a resource region where the ecosystem is closely interconnected around a

basic resource- 'water'. Thus, watershed is an ecosystem or bio-geo-physical unit in which the interdependency of renewable and non-renewable environment is closeted.

Need and Importance of Watershed Programme

The Watershed Programme is the basic need for integrated development and management of the land and water resources which provide life support for rural communities. Thus the prospects for agriculture in the dry land areas are severely constrained by the specific feature of their natural resource endowments and the changed context. In a situation of low pressure on resources, viability was possible through traditional land cultivation practices. Watershed Programme ensures supply of water to every field, removes hunger and poverty from poor areas, provide green cover over denuded areas, bring in more rains and improve the environment. Watershed Programme is also described as a programme that holds the key to solve problems of employment, ecology, export and equity. The watershed development programme holds significance for individual village as well as national development. The attention has been focused on this programme in order to provide impetus to development in the country. Through the watershed development programme, we can achieve the following:

- The problem of drinking water can be solved, and to some extent, the problem of water for irrigation will also be solved.
- Increase in agricultural production due to watershed development can create employment within the village and make food available to them.
- Migration to urban areas can be checked, which will also arrest the problem of growing cities.
- Due to soil and water conservation, ecological balance can be restored.
- Heavy siltation in dams will give rise to many problems related to electricity supply, urban water supply. Industries depend on this water are also facing problems. Soil and water conservation can arrest the flow of silt into the dams.

The Watershed Development Programme evolved out of large number of experiments carried by Member Organisations to eliminate drought. Today the programme takes into account the soil, the rocks, the water, the geography, the biomass living within and above the earth. Thus as many as 6000 impounding structures were constructed during the period of learning along with borewells, lift irrigation schemes etc. today, Action for Agricultural Renewal in Maharastra (AFARM) proposes participatory watershed development where people are using their traditional knowledge, available material, imagination and creativity to plan their watershed and implement a programme.

Watershed Programme in India

Traditionally, India depends on agriculture and the Indian farmers themselves maintained the watersheds like ponds, tanks and other irrigation systems for centuries. As noted activities such as desiltation of water channels and ponds, protection of vegetative and soil conservation activities were effected collectively under the guidance of village councils. Increase in population pressure and erosion of socio-religious and political institutions degraded the land, water and vegetation.

The importance of micro Watershed Programme was recognized and is being practiced in the country since 1973 due to the recommendations of the Task Force on Integrated Development of Drought Prone Areas. From 1979-80, the Watershed Programme was transferred to the State Governments as per the recommendations of the National Development Council. The farmers and villagers themselves undertook the programme through direct participation. Watershed Programme in India appears both fantastic and frightening. After 73rd Constitutional Amendment, Watershed Programme has been included in the schedule of subjects to be handled by the Panchayats. This provides opportunities for combining development of grassroots democracy and natural resources in a systematic manner. Watershed Management would ensure supply of water to every field and restore ecological balance.

The Watershed Management was started in India in 1962-63 with the launching of the government scheme, "Soil conservation works in the catchments of River Valley Projects." The chief aim of it was the prevention of siltation of reservoirs built with huge government funds. The National Watershed Development Programme for Rainfed Agriculture (NWDPA) started in 1995-96. Watershed community is now being encouraged to participate in the government/ donor/Non-Governmental Organizations (NGOs) projects and contribute labour or cash. Watershed Programme technology should meet the watersheds of the community if the government has to be accepted and replicated by the people. The priority of water should be in the following order – potable water, domestic use, animal drinking, agriculture, horticulture etc.

REVIEW OF LITERATURE

An attempt is made to review the existing literature on watershed Management Programmes.

T.B. Singh, et al; (1988), attempted to analyse the constraints in growing rabi crops in parunala watershed project in Madhya Pradesh and identified the adoption gaps.

The Government of India in its report on Drought monitoring programme (1989), studied the problem of drought from its national natural resources management point of view. This study followed a scientific chart of drought identification for its analysis.

In the study of K.P. Singh (1995) the dry land farming system is very risky and farmers depend on locally available inputs and used to row a number of crops, which can better withstand the drought situation. With a lack of suitable security for obtaining loan is difficult and the repaying capacity of the dry land farmers are very low because they often face the

Ramappa et. Al (2008) made a micro-level study on Watershed Development and its impact in Anantapur district. The authors revealed that watershed development works alone cannot improve the position of farmers. They suggested that the efforts must be made to divert water from surplus basins to drought-prone areas and rain fall must be augmented either by cloud seeding or by some other method. So that the productivity levels of different crops grown in drought-prone areas can be enhanced.

Watershed restoration requires three goals be met.

- Building human and social capital,
- Development and adoption of watershed management plans,
- implementation of specific projects (restoration, monitoring, outreach, education).

According to Talberth et al. (2013) the decision-support tools like Benefit-Cost Analysis (BCA) can be used to help development decision-makers decide on public infrastructure investments, including both ecosystem (or green infrastructure) and man-made (or gray infrastructure) components. As WSD promotes restoration and conservation of ecosystems for provision of ecosystem services, valuation can potentially be used to decide on portfolios of WSD interventions and target funding. There are well-established valuation methods that can capture both market and non-market benefits of ecosystems, including agricultural productivity increases, water filtration and storage,

biodiversity and habitat improvement, and health improvements due to better nutrition and water supply. Benefit-Cost Analysis and other decision-support tools can capture these benefits and allow comparison with project costs. As a result, valuation can provide decision-makers with a more holistic picture for how to develop WSD programs.

Objectives

- To understand the impact of watershed programme in Chittoor District.
- To understand the impact of watershed programme in Chittoor District.

METHODOLOGY

The present study is based on the data from secondary sources. The secondary data has been collected from Annual Reports, Action Plans, Reports of various studies and Government publications.

Drought Prone Area Programme and Desert Development Programme in Watershed Development in Andhra Pradesh

This is a centrally sponsored scheme funded by central and state governments on 50:50 bases up to IVth batch i.e., 1998-99. From Vth the batch i.e., 1999-2000 onwards 75:25 bases aimed at developing the drought prone area with an objective of drought proofing by taking up of soil, land moisture conservation, water harvesting structures, afforestation and horticulture programmes on a comprehensive micro water basis. During 1994-95 the programme is extended further and now there are 11 districts with 94 blocks under the scheme and Kurnool with 16 blocks under Desert Development Programme (DDP). 4129 watershed were taken up covering 110 blocks in 12 districts covering an area of 23.21 lakhs hectares. Almost 30.00 percent of the total watersheds in country are located in Andhra Pradesh.

The details of year wise watersheds under Drought Prone Area Programme (DPAP) in Andhra Pradesh are presented table2.1.

Table -1

District-wise and year-wise status of watersheds under DPAP in Andhra Pradesh during 2001-02 to 2012-13

S. No.	Name of the Districts	Years wise Number of Watersheds Sanctioned												Total
		2001-2002	2002-2003	2003-2004	2004-2005	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	
1.	Adilabad	53 (15.77)	27 (6.82)	10 (2.952)	60 (15.15)	80 (20.20)	18 (4.54)	7 (1.77)	27 (6.82)	27 (6.65)	27 (6.65)	28 (7.07)	32 (8.08)	396 (100.00)
2.	Chittoor	47 (11.58)	0 (0.00)	58 (14.26)	55 (13.55)	47 (11.57)	113 (27.83)	0 (0.00)	16 (3.94)	16 (3.94)	16 (3.94)	18 (4.43)	20 (4.93)	406 (100.00)
3.	Kadapa	41 (13.14)	0 (0.00)	40 (12.82)	50 (16.02)	41 (15.36)	16 (5.12)	16 (5.12)	21 (6.73)	21 (6.73)	21 (6.73)	23 (7.37)	2 (7.05)	312 (100.00)
4.	Kurnool	76 (13.31)	0 (0.00)	40 (70.05)	105 (18.33)	76 (13.31)	40 (7.01)	39 (6.83)	39 (6.83)	39 (6.83)	39 (6.83)	39 (6.83)	39 (6.83)	571 (100.00)
5.	Khammam	10 (8.40)	6 (5.04)	14 (11.76)	15 (12.60)	16 (14.44)	14 (11.76)	0 (0.00)	12 (10.08)	8 (6.72)	8 (6.72)	8 (6.72)	8 (6.72)	119 (100.00)
6.	Medak	28 (12.12)	15 (6.49)	20 (8.65)	30 (12.98)	43 (18.61)	20 (8.66)	0 (0.00)	15 (6.49)	15 (6.49)	15 (6.49)	15 (6.49)	15 (6.49)	231 (100.00)
7.	M.Nagar	92 (14.04)	0 (0.00)	40 (6.11)	120 (18.32)	92 (14.04)	35 (5.34)	36 (5.49)	48 (7.33)	48 (7.33)	48 (7.33)	48 (7.33)	48 (7.33)	655 (100.00)
8.	Nalgonda	49 (13.31)	0 (0.00)	30 (8.15)	75 (20.33)	49 (13.31)	12 (3.26)	18 (4.89)	27 (7.34)	27 (7.34)	27 (7.34)	27 (7.34)	27 (7.34)	368 (100.00)
9.	Prakasam	78 (13.80)	0 (0.00)	20 (3.54)	110 (19.47)	78 (13.81)	41 (7.26)	28 (4.96)	42 (7.43)	42 (7.43)	42 (7.43)	42 (7.43)	42 (7.43)	565 (100.00)
10.	R.Reddy	39 (12.30)	0 (0.00)	30 (9.46)	50 (15.77)	39 (12.30)	5 (1.58)	14 (4.45)	28 (8.83)	28 (8.83)	28 (8.83)	28 (8.83)	28 (8.33)	317 (100.00)
11.	Srikakulam	14 (7.41)	12 (6.35)	19 (10.05)	30 (15.87)	26 (13.76)	0 (0.00)	8 (4.23)	16 (8.47)	16 (8.46)	16 (8.46)	16 (8.46)	16 (8.46)	189 (100.00)
Total		527 (12.76)	60 (1.45)	321 (7.78)	700 (16.95)	587 (14.21)	314 (7.60)	166 (4.02)	291 (7.05)	287 (6.95)	287 (6.95)	292 (7.07)	297 (7.19)	4129 (100.00)

Source: Commissionerate, Rural Development, Govt. of Andhra Pradesh.

The table -1 reveals the sanction of watershed in Andhra Pradesh under Drought Prone Area Programme (DPAP) during the years 2001-02 and 2012-13, it is noticed that the district, Mahaboob Nagar (655) occupied first place in sanction of watersheds followed by Kurnool (571), Prakasam (565). Similarly the least number of watersheds sanctioned were recorded in Khammam (119) followed by Srikakulam (189) and Medak (231) etc., in Mahaboob Nagar the maximum number of watersheds were sanctioned in the year 2004-05 followed by 2001-02, 2005-06 and 2008-2009 to 2012-2013 years. In case of Khammam, more watersheds were sanctioned in 2005-06 followed by 2004-05. During the year 2007-2008 no watershed was sanctioned in the district. In case of Mahaboob Nagar more watersheds were sanctioned (120) in 2004-05 and the least number (35) of watersheds were sanctioned in the year 2006-2007.

In Andhra Pradesh, during the study period, totally 4129 watersheds were sanctioned. The maximum percentage (16.95 percent) of watersheds was sanctioned in 2004-2005 followed by the year 2005-2006 (14.21 percent). The least (1.45 percent) percentage of watersheds sanctioned was noticed in the year 2002-2003.

Table - 2

**YEAR WISE NUMBER OF WATERSHED SANCTIONED AND COMPLETED
WATERSHEDS IN CHITTOOR DISTRICT DURING 2001-02 to 2012-13**

S. No.	Year	No. of Watersheds Sanctioned and Completed	Percentage to total
1	2001-02	112	15.24
2	2002-03	79	10.75
3	2003-04	101	13.74
4	2004-05	55	7.48
5	2005-06	74	10.07
6	2006-07	47	6.39
7	2007-08	113	15.37
8	2008-09	24	3.27
9	2009-10	16	2.18
10	2010-11	26	3.54
11	2011-12	28	3.81
12	2012-13	60	8.16
Total		735	100.00

Source: District Water Management Agency, Chittoor

The table -2 shows the number of watersheds sanctioned and completed in Chittoor District during the period 2001-02 to 2012-13. The data reveals that highest number of watersheds sanctioned and completed in the year 2007-2008 which

accounts to 15.37 per cent, followed by 112 watersheds sanctioned and completed during 2001-02 with 15.24 per cent and 101 watersheds sanctioned and completed during 2003-04 with 13.74 per cent. For the remaining years the number of watersheds sanctioned and completed in adequate number in the district

Table - 3.
MANDAL WISE NUMBER OF WATERSHED SANCTIONED AND COMPLETED
WATERSHEDS IN CHITTOOR DISTRICT DURING 2001-2002 TO 2012-2013

S.No.	Name of the Mandal	No. of Watersheds Sanctioned and Completed	Percentage to total
1.	B.Kothakota	16	2.18
2.	Baireddy palle	13	1.77
3.	Bangarupalem	16	2.18
4.	G.Gallu	10	1.36
5.	Chendragiri	12	1.63
6.	Chowdepalli	15	2.04
7.	Gangavaram	22	2.99
8.	Gudupalli	18	2.45
9.	Gurram Konda	14	1.90
10.	Irala	11	1.50
11.	KN Palle	18	2.45
12.	Kalakada	8	1.09
13.	Kalikiri	17	2.31
14.	Kuppam	26	3.54
15.	Kurabalakota	14	1.90
16.	Madanapalli	18	2.45
17.	Molakacheruvu	24	3.27
18.	Nimmannapalle	13	1.77
19.	PTM	21	2.86
20.	Pakala	09	1.22
21.	Palamaneru	10	1.36
22.	Peddamandayam	16	2.18
23.	Peddapanjani	11	1.50
24.	Pileru	5	0.68
25.	Pulicherlla	9	1.22
26.	Punganuru	19	2.59
27.	Ramakuppam	18	2.45
28.	Ramasamudram	18	2.45
29.	Renigunta	5	0.68
30.	Rompicherlla	10	1.36
31.	Shantipuram	17	2.31
32.	Sodam	15	2.04
33.	Somula	17	2.31

34.	Thambalapalli	18	2.45
35.	Thavanam Palle	9	1.22
36.	Thotambedu	23	3.13
37.	Tirupati	3	0.41
38.	V.Kota	22	2.99
39.	Vadamalapeta	8	1.09
40.	Voyalpadu	10	1.36
41.	Yerpedu	13	1.77
42.	Yerravaripalem	11	1.50
43.	BN Kandriga	4	0.54
44.	G.D. Nellooru	6	0.82
45.	K.V.B.Puram	6	0.82
46.	Karvetinagar	6	0.82
47.	Nagalapuram	4	0.54
48.	Nagari	2	0.27
49.	Narayanavanam	1	0.14
50.	Nindra	2	0.27
51.	Palasamudram	18	2.45
52.	Penamuru	3	0.41
53.	Pichaturu	3	0.41
54.	Putalapattu	8	1.09
55.	Putturu	3	0.41
56.	Ramachendrapuram	2	0.27
57.	SR Puram	13	1.77
58.	Satyaveedu	6	0.82
59.	Srikalalhati	14	1.90
60.	Varadayapallem	2	0.27
61.	Vedurukuppam	8	1.09
62.	Vijayapuram	2	0.27
63.	Yadamarri	8	1.09
64.	Chittoor	8	1.09
65.	Gudipala	4	0.54
Total		735	100.00

Source: District Water Management Agency, Chittoor

The table 3. shows the mandal wise number of watersheds sanctioned and completed in Chittoor District during the period 2001-02 to 2012-13. The data reveals that highest number of watersheds sanctioned and completed were in Kuppam mandal accounts to 3.54 per cent, followed by 24 watersheds sanctioned and completed in Molakalacheruvu mandal with 3.27 per cent and 23 watersheds sanctioned and completed in Thotambedu mandal with 3.13 per cent. For the remaining mandals the number of watersheds sanctioned and completed is less in the

district. The details also show that the selected mandals were not given any previously in the district. Table 3.7 gives details of various schemes through which the watersheds sanctioned and completed during 2001-02 to 2012-13.

Table - 4
SCHEME- WISE NUMBER OF WATERSHED SANCTIONED AND COMPLETED
WATERSHEDS IN CHITTOOR DISTRICT
DURING 2001-02 TO 2012-13

S.No.	Name of the Scheme	No. of Watersheds Sanctioned and Completed	Percentage to total
1	APRLP (I)	21	2.86
2	DPAP (I)	47	6.39
3	DPAP(III)	58	7.89
4	DPAP (IV)	55	7.48
5	EAS	110	14.97
6	IWDP (I)	17	2.31
7	IWDP (II)	17	2.31
8	IWDP (IV)	22	2.99
9	RIDF (VI)	74	10.07
10	DPAP (V)	47	6.39
11	DPAP (VI)	113	15.37
12	IWDP (V)	12	1.63
13	IWDP (VI)	24	3.27
14	DPAP (VIII)	16	2.18
15	HARIYALI (I)	16	2.18
16	IWDP (VII)	10	1.36
17	HARIYALI (II)	16	2.18
18	IWDP (VIII)	12	1.63
19	HARIYALI (III)	18	2.45
20	HARIYALI (IV)	18	2.45
21	IWDP (IX)	12	1.63
Total		735	100.00

Source: District Water Management Agency, Chittoor

It is clear from table -4 that during the period 2001-02 to 2012-13, overall 735 watersheds were sanctioned under schemes viz., Employment Assurance Scheme (EAS), Drought Prone Area Programme (DPAP), Integrated Watershed Development Programme (IWDP), Andhra Pradesh Rural Livelihood Project (APRLP), Rural Infrastructure Development Fund (RIDF) and Hariyali.

The data also reveals that highest number of watersheds sanctioned and completed were under in the scheme of DPAP-VI Which accounts to 15.37 per cent, followed by 110 watersheds sanctioned and completed through EAS scheme with 14.97 per cent and 74 watersheds sanctioned and completed through RIDF-VI scheme

with 10.07 per cent. Under the remaining schemes all other watersheds were sanctioned and completed in the district.

Conclusion

Chittoor District figures quite predominantly in the contribution it made to the liberation from British imperialist rule. Panapakam Anandacharyulu, native of Chittoor attended the first session of the Indian National Congress held at Bombay in 1885. He presided the annual session of the Congress held at Nagpur in 1891. The people of the district actively participated in Swadeshi Campaign, Home Rule Movement, Non Co-operation Movement, Khaddar Movement, Salt Satyagraha and Quit India Movement. The most important leaders who participated in the freedom struggle against the British are Ananda Charyulu, Anni Beasant, Margaret Cousins, Anantasayanam Iyyengar, B.Munuswamy, M.Srinivasulu, T.N.Ramakrishna Reddy, D.Srinivasa Iyyengar, K.Varadachari, R.B.Ramakrishna Raju, P.Timma Reddy, T.C.Rajan, Ramasubbamma, Anayasuya Devi, Janakamma etc.

The district derives its name from Chittoor, its headquarters town. It is located between the Northern Latitudes of 37" and 148" and between the Eastern Longitudes 7833" and 7955". It is bounded on the east by Nellore District of Andhra Pradesh and Trivuvallur and Vellore Districts of Tamilnadu, on the west by Kolar and Chikkaballapur Districts of Karnataka, on the North Kadapa District of Andhra Pradesh and on the south by Dharmapuri District of Tamilnadu. In respect of area it takes the eighth place with an area of 15,150 Square Kilometers which accounts for 5.51 percent of the total area of the state. The general elevation of the mountainous part of the district is 2500 feet above sea level. The Chennai and Bangalore cities are located in 150 Kms. and 165 Kms. respectively to Chittoor Town. The District has good business and marketing for Mango, Tomato and Other Products.

The data reveals that it is learnt that the growth of population in Chittoor district during the period of 100 years i.e., from 1901 to 2001 is tremendously increased from 11,24,261 to 37,45,875. The population pressure in the district is gradually increasing which requires the effective utilization of resources with a judicious combination of natural capital and technological resources. There is a threefold increase in the population in the district. The density of population in the district was 74 in 1901 and it increased to 126 by 1961. The density of population over a period of 100 years increased very significantly from 74 to 247 during 1901 – 2001. The growth rate of the population fluctuated between -1.07 per cent in 1951 and 1.40 per cent in 2001.

The district has the benefit of receiving rainfall during both the South-West and North-East Monsoon periods. While the Normal Rainfall of the district for the South-West Monsoon period is 438.0 mms. and for the North-East Monsoon period is 396.0 mms. The Rainfall received during the Winter Period and Hot Weather Period is negligible, their respective normals being 12.0 mms. and 88.0 mms. The Annual Normal Rainfall of the district is 934.0 mms. The Rainfall received from the South-West Monsoon is more copious compared to the North-East Monsoon in the Western Mandals and in the Central Part of the district, where as the rainfall received from North-East Monsoon is comparatively copious in the Eastern Mandals of the District.

Traditionally the development activities such as, development and management of irrigation sources, soil and moisture conservation activities, farm and social forestry, pasture development, changing of cropping pattern etc., used to be planned and implemented taking the revenue district as a unit. Since this is heterogeneous in its resources, this approach could not make any impact on the development of the area.

To alleviate the above soils and Drought prone Area, the government has formulated a comprehensive scheme i.e., Desert Development Programme. The Drought Prone Area Programme was initially started in this district in the year 1974-75. The implementation of Desert Development Programme was carried out on watershed approach for the first time in the district in the year 1984-85. For further perfection the integrated approach of watershed treatment, Drought Prone blocks of the district were subjected to satellite imageries study and prioritization of watershed was carried out with the help of Andhra Pradesh State Remote Sensing application Centre, Hyderabad.

The study reveals that the number of watersheds sanctioned and completed in Chittoor District during the period 2001-02 to 2012-13. The data reveals that highest number of watersheds sanctioned and completed in the year 2007-2008 which accounts to 15.37 per cent, followed by 112 watersheds sanctioned and completed during 2001-02 with 15.24 per cent and 101 watersheds sanctioned and completed during 2003-04 with 13.74 per cent. For the remaining years the number of watersheds sanctioned and completed in adequate number in the district.

The data reveals that it is found that out of Rs. 10552.07 lakhs released amount 78.70 percent was incurred towards completion of watershed activities during 2001-02 to 2012-13. The year 2001-2002 occupied first place with regard to releases and expenditure under implementation of watershed activities with a release of 380.00 lakhs. In the year 2001-2002 cent percent releases were spent for the completion of watershed activities in Chittoor district. During 2003-2004, 2005-2006 and 2007-2008 almost 85.00 percent of the amount releases was spent and almost 50.00 percent was incurred for completion of watershed activities.

The data reveals that it is found that out of Rs. 10552.07 lakhs released amount 78.70 percent was incurred towards completion of watershed activities under various schemes during 2001-02 to 2012-13. The IWDP occupied first place with regard to expenditure under implementation of watershed activities with an expenditure of 1503.22 lakhs. Under APRLP scheme 85.05 percent releases were spent for the completion of watershed activities and for other schemes more than 70.00 percent of the amount was spent for completion of watershed activities in the district.

The study reveals that the mandal wise number of watersheds sanctioned and completed in Chittoor District during the period 2001-02 to 2012-13. The data reveals that highest number of watersheds sanctioned and completed were in Kuppam mandal accounts to 3.54 per cent, followed by 24 watersheds sanctioned and completed in Molakalacheruvu mandal with 3.27 per cent and 23 watersheds sanctioned and completed in Thotambedu mandal with 3.13 per cent. For the

remaining mandals the number of watersheds sanctioned and completed is less in the district. The details also show that the selected mandals were not given any previously in the district.

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