

Government of Karnataka
Watershed Development Department

Annual Report 2019-20

OUR VISION

1. To be counted among the most Professional, Pioneering, Innovative, Dedicated and Farmer- Focused Watershed Development Department in the nation.
2. To have sustainable development of land resources in the rainfed / degraded areas of rural Karnataka and to enhance their productivity.
3. To achieve the goal of sustainable development through participatory approach of stakeholders in watershed development programme and enhance livelihood opportunities of the people living in the rainfed / degraded areas.

OUR MISSION

Our mission is to develop, promote and implement through participatory approaches, a decentralized, cost effective/productive, transparent and sustainable Watershed treatment package;

1. To meet rural livelihood needs
2. To enhance employment and income opportunities for the poor,
3. To improve the productive potential of natural resource base,
4. To reduce the poverty and natural resources like soil, water, plant and livestock resource degradation.

INTRODUCTION

India is one of the major agricultural countries with more than 65% of the population depending on it. Indian agriculture is dependent on monsoon which is not uniform over the years. Nearly three fourth of the cultivable land in India is dependent on monsoon.

The productivity of any crop mainly depends on two natural resources- land and water in addition to management practices. Therefore the conservation, up gradation and utilization of these two natural resources on scientific principles is essential for the sustainability of rainfed agriculture. The watershed concept for development of rainfed agriculture is gaining importance over the years and it amply demonstrated that watershed developmental tools are very effective in meeting the objectives and mission.

Karnataka has been given an important place for Watershed Development because 75% of the cropped area in Karnataka depends upon low and uncertain rainfall. The geographical area of the State is 190.51 lakh ha. of which 129.70 lakh ha. is available for watershed development. Up to the end of 2019-20 an area of 69.85 lakh ha is already treated, and 59.85 lakh ha. (Out of which 7.54 lakh ha. is under treatment) is yet to be treated.

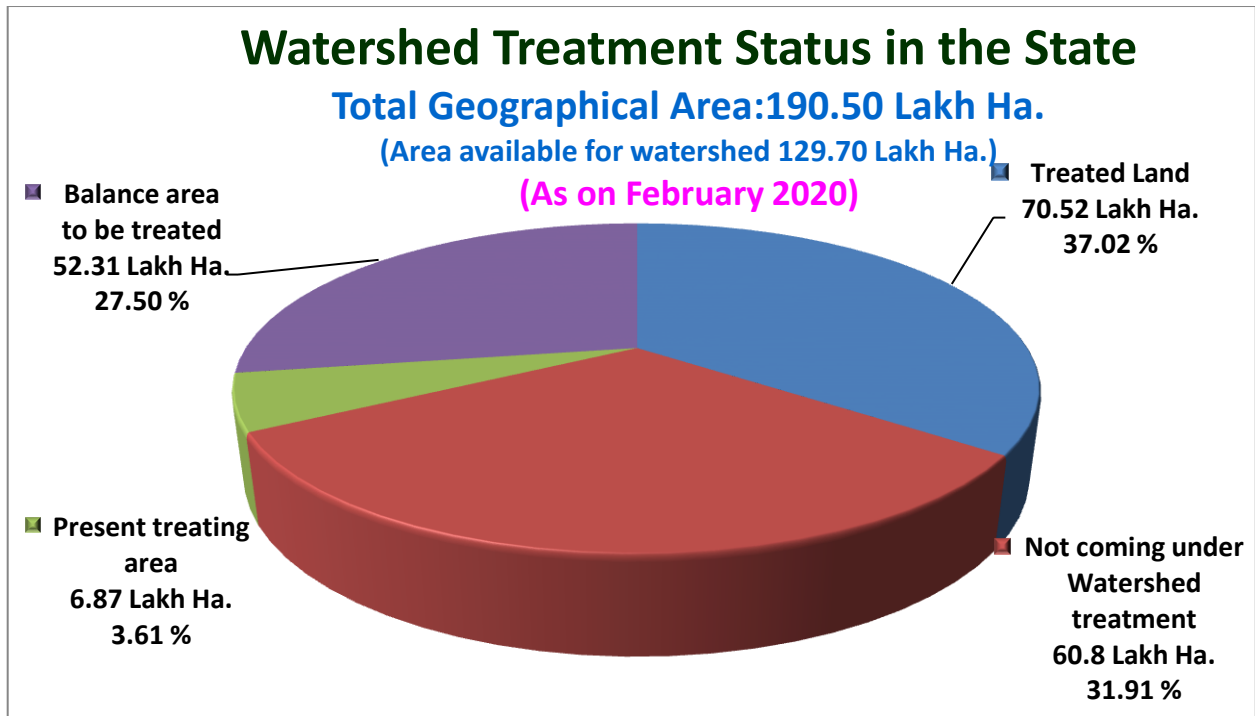
Importance of watershed development in Karnataka:

The land resources of Karnataka, especially its dry drought prone lands, which comprises more than 79 % of the total arable area, have been poorly managed by the resource poor farmers of the State. Soil loss due to erosion coupled with reduced water resources has led to a situation of rapid soil fertility deterioration, declining/stagnating crop yields, depletion of underground water sources, deforestation, denudation, destruction of natural pasture and diminishing biomass production. Exploring the full potential of rainfed agriculture to meet the food , fodder and fuel requirement of the State population, is the only alternative, however, this will require investing in suitable soil and water conservation technologies, crop breeding targeted to rainfed environments, agricultural extension services and access to markets, credit and input supplies in rainfed areas.

Karnataka has the highest proportion (79%) of drought prone area among all major States in the country and in absolute terms it has the second largest area of dry land in the country after Rajasthan.

Area scenario for development on watershed concept in Karnataka

- Total geographical area : 190.50 lakh ha
- Total area available for treatment :129.70 lakh ha
- Total area already treated : 70.52 lakh ha
- Balance area to be treated : 59.18 lakh ha
(Including the area under treatment)
- Area not available for treatment : 60.80 lakh ha



AIMS AND OBJECTIVES OF THE WATERSHED DEVELOPMENT PROGRAMMES

1. Reducing soil erosion, runoff and nutrient loss.
2. Improve water availability at surface and ground.
3. Improving agricultural productivity.
4. Improving vegetative cover.
5. Increasing milk and horticulture production.
6. Increasing fodder and fuel availability.
7. Increasing household income.
8. Enhancing quality of life among local communities.
9. Local institutional development through community based organizations.
10. Ensuring institutional support by Watershed Development Department as facilitator and by NGOs for community organization and strengthening.

CHAPTER-I

History of Watershed Development:

1. Watershed Development Department(WDD): (2000 onwards)

Soil and water conservation, a pre-requisite for the farming sector to flourish, started with a massive field bunding programme, which has undergone a horizontal and vertical transformation up to year 2000 and Karnataka State Dept of Agriculture (KSDA) was the nodal agency. The Watershed Development Department was started during the year 2000 to make the watershed development a more professional and to implement the watershed programmes on more co-ordinated and in an integrated manner. The concept of peoples participation was refined, redefined and strengthened by way of restructuring the guidelines for implementation of NWDPRA (Jana sahabhagithva 2002) and Area Development Programmes like DPAP / DDP / IWDP (Hariyali 2003) by GoI. Even though initially all the watershed development projects implemented by KSDA were transferred to WDD, the projects of ADP were also transferred to WDD, later in the year 2005.

Creation of Watershed Development Department in Karnataka:

In the background of growing population in the State with a consequent increasing demand for food grains, was strongly felt for bringing large tracts of rainfed / dry land area under watershed treatment to increase productivity. Different Departments like the Agriculture, which was implementing different soil and water conservation programmes and watershed projects, the RD&PR implementing various rural development programmes having, watershed concept as a component through Panchayath Raj Institutions, the Horticulture, Forest, and Animal Husbandry Departments were also carrying out various watershed programmes. In addition, there is also a component of non-land based activities in watershed development and participation of NGOs and village committees. Therefore the GoK considered various aspects including commitment given in the context of an externally aided project and decided that better co-ordination in planning, implementation and supervision would be achieved by setting up a separate department of watershed with multi-disciplinary teams. With this prime aim, to develop watershed in an integrated and coordinated manner, the Government of Karnataka created Watershed Development Department vide order **AHD: 206:AML.94 (Vol-III) dated 31.12.1999** and it came into effect from **01.04.2000**. This Department is given the responsibility of coordinating the formulation, planning and execution of different activities of agriculture, soil conservation, afforestation, horticulture, livestock, pasture development and income generation activities etc., in an integrated manner on the watershed concept.

CHAPTER-II

I. PRADHAN MANTRI KRISHI SINCHAYI YOJANA-WATERSHED DEVELOPMENT (ERSTWHILE IWMP)

a)	Name of the Scheme and year of introduction	Pradhan Mantri Krishi Sinchayi Yojana-Watershed Development & Other Interventions (Erstwhile IWMP) programme started in the year-2009-10
b)	Budget head	2402-00-102-0-30 (Plan)
c)	If plan,the Central and State share is	In the ratio of 60:40 central and state share (Rs. 12000.00 unit cost/ha in plain areas, Rs. 15000.00 unit cost/ha in desert / hilly areas)

d)	Objective of the Programme	<ul style="list-style-type: none"> ▪ To conserve soil, moisture and nutrients & enhance recharge of underground water ▪ To improve vegetation by afforestation and dry land horticulture ▪ To increase availability of fodder and fuel ▪ To enhance Agricultural Productivity ▪ To form and strengthening of community based organizations and to encourage livestock production. ▪ providing livelihood activities for the assets less persons ▪ Production systems and micro enterprises i.e., income generating activities ▪ Effective management of runoff water and improved soil & moisture conservation activities such as ridge area treatment, drainage line treatment ▪ Rain water harvesting, In-situ moisture conservation and other allied activities on watershed basis. Converging with MGNREGS for creation of water source to full potential in identified backward rainfed blocks including renovation of traditional water bodies.
e)	Estimated benefit and number of estimated beneficiaries from the programme (measurable out put at the end of year)	During 2019-20, upto February-2020 totally 61065 ha. area has been treated with various soil and moisture conservation activities and 2406 water harvesting structures have been constructed. 19735 hectare area of afforestation and dry land horticulture activities were taken up. An area of 7218 ha. is brought under additional irrigation as a protective irrigation facility during the dry spells of the season.
f)	Financial (Rs. In lakhs)	Rs. 16600.00 lakhs.

Expenditure (Rs. In lakhs)

2017-18		2018-19 Revised Budget		2019-20	
Release	Expenditure	Release	Expenditure	Release	Expenditure (upto end of Feb, 2020)
71886.00	40667.67	58369.00	46006.00	16600.00	18749.66

Physical Achievements: (Units – in Hectares)

2017-18		2018-19		2019-20	
Target	Achievement	Target	Achievement	Target	Achievement
2,00,259	1,36,258 ha. / 10717 water harvesting structures	1,50,516 6064 water harvesting structures	234400 ha. / 9148 water harvesting structures	82918 ha. / 2837 water harvesting structures	61065 ha. / 2406 water harvesting structures

Pradhan Mantri Krishi Sinchayi Yojana (Erstwhile IWMP) programme was started during the year 2009-10 in 29 districts and 165 taluks of state. There are about 569 projects are being implementing the state. DoLR, GOI stopped the central assistance for the 132 projects of Batch-V and Batch-VI from

31.8.2019 in the Karnataka State. For effective implementation of these projects, staffs/officers at field level have to be appointed immediately to reach the project benefits effectively to the beneficiaries.

The projects sanctioned under Batch-I and Batch-II are completed in March-2017 and March-2018 respectively. All 246 final completion and evaluation report is submitted to DoLR GOI.

M/s Remote Sensing Instruments, Hyderabad has been selected for all four revenue divisions as per the provisions of the KTTP act for Batch-III and Batch-IV projects to undertake Monitoring, Evaluation, Learning and Documentation programme. The implementation of Monitoring, Evaluation, Learning and Documentation under Batch-V and VI.

II. Watershed Development for Drought Proofing

a)	Name of the Scheme and year of introduction	Watershed Development for Drought Proofing Year of introduction: 5th November 2019
b)	Budget head	4402-00-102-0-05 (Plan)
c)	If plan, the Central and State share is	It is State Sector Programme
d)	Objective of the Programme	<ul style="list-style-type: none"> ▪ To manage the natural resources based on watershed principle and/or by using the Scientific Land Resource Information to improve the rainfed area land productivity and its production capabilities. ▪ To improve the soil and water conservation and ground water recharging ▪ To harvest rain water for moisture availability and protective irrigation. ▪ To convert uncultivable waste land to cultivable land. ▪ To improve the living status of the people of watershed area and also provide livelihood activities to assetless farmers in the project area through various quality skill based training programme there by providing employment opportunity at their door step. ▪ To improve the soil health through improvement in soil carbon status. ▪ To enhance the green cover in the watershed area. ▪ To improve the availability of fodder, fuel and increase in the milk production. ▪ To strengthen the community based organizations in order to manage the natural resources.
e)	Estimated benefit and number of estimated beneficiaries from the programme (measurable out put at the end of year)	Under this programme so far 155 Gokkotte/Vented dam, 119 Downers cow lifting device, 94,378 Kitchen garden seedlings and 41.54 lakh forest nursery activities are implemented. Totally 34000 farmers in the project area benefitted out of the programme.
f)	Financial (Rs. In lakhs)	Rs. 2500.00 lakhs.

Expenditure (Rs. In lakhs)

2017-18		2018-19		2019-20	
Release (includes OB)	Expenditure	Release (includes OB)	Expenditure	Release (includes OB)	Expenditure
1	2	3	4	5	6
–	–	–	–	2500.00	981.11

Physical Achievements: (Units – in Hectares)

2017-18		2018-19		2019-20	
Target	Achievement	Target	Achievement	Target	Achievement
1	2	3	4	5	6
–	–	–	–	400 Water Harvesting structure	155 Water Harvesting structure

From 2019-20 Watershed Development for Drought Proofing (WDDP) is implemented in the 29 districts of the State in 100 drought hit and low ground water level taluks in covering an area of 3000 to 5000 hectares by using Land Resource Inventory (LRI) in saturation approach, in convergence with Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) and Pradhan Mantri Krishi Sinchai Yojana (PMKSY). The programme will be implemented through watershed committees headed by president GP.

For effective implementation of these projects, staffs/officers at field level have to be appointed immediately to reach the project benefits effectively to the beneficiaries.

III. Karnataka Watershed Development Project – KWDP II (Sujala-III)

Watershed Development Department has implemented Karnataka Watershed Development Project-II (Sujala-III) with the World Bank assistance from 2013-14 in the selected 2534 micro watersheds located in 11 project districts viz., Bidar, Kalaburagi, Yadgir, Raichur, Koppal, Vijayapura, Gadag, Davangere, Tumkur and Chamarajanagara till December 2019. The revised project cost is Rs.412.59 crores, in which Rs.102.74 crores has been allocated to Horticulture component is implemented by the Department of Horticulture. Project ended in December-2019.



The KWDP-II (Sujala-III) project components include Improved Program Integration in Rainfed Areas, Research Development and Innovation, Institutional Strengthening, Strengthening Horticulture and Project Co-ordination & Management.

The project activities aim at providing scientific planning tools through generation of data of Land Resource Inventory (LRI), Hydrological Studies, Baseline studies, weather data etc., to enable institutions to develop more accurate participatory micro-watershed plans for effective implementation of watershed

development projects. It is also aimed for establishment of Digital Library, Decision Support System (DSS) and Land Resource Inventory Portal, by utilizing these data for Agriculture development, benefit of farmers and exchange of information and knowledge for better planning, implementation and integration of the schemes of various land related departments.

Details of the scheme are as follows;

a)	Name of the Scheme and year of introduction	Karnataka Watershed Development Project – KWDP-II (Sujala-III) Started in the year : 2013-2014
b)	Budget head	2402-00-102-0-28 plan (EAP)
c)	If plan, the Central and State share is	Externally aided project 70% - World Bank loan 30% - State fund
d)	Objective of the Programme	The Project Development Objectives (PDO) is to demonstrate more effective watershed management through greater integration of programmes related to rainfed agriculture, innovative and science based approaches, and strengthened institutions and capacities of stakeholders at different levels.
e)	Estimated benefit and number of estimated beneficiaries from the programme (measurable output at the end of year)	Complete details in respect of number of beneficiaries will be given at the end of the project.
f)	Finance allocation for the year 2019-20	Rs.3925.78 lakhs (Revised)

Project partner institutions and roles: The project activities are being implemented by signing the MoU / contracts with the 15 project partner institutions.

The NBSS&LUP has been assigned the role of lead project partner for LRI activity and IISc, Bangalore is the lead partner for hydrological activities, to coordinate among the State Agricultural and Horticultural Universities. KRSAC, Bangalore assigned with the task of supplying satellite imageries to the partners and the KSNDMC provided the climate and weather data of the project area.

KVAFSU has conducted various interventions related to animal husbandry and veterinary aspects along with demonstrations of new technologies developed. IIS&WC Bellary institute has conducted the technical monitoring and evaluation of the project and M/s. TERI carried out third party Monitoring and Evaluation at field level in saturation projects. ICAR- ATARI taken up trainings in the selected Villages in the project area, for dissemination of project outputs and the NACER has organized income generating activities (IGA) trainings for members of the SHGs in the project area and further settlement.

Land Resource Inventory: Land Resource Inventory was carried out by the NBSS&LUP and State Agricultural and Horticultural Universities. Soil profile studies, analysis of soil samples and soil fertility are the major component of the LRI studies. Baseline studies are completed and reports generated.

The details of micro-watershed wise LRI progress upto December 2019 is furnished below.

Sl. No.	Particulars	NBSS LUP	UAS B	UAS D	UAS R	UHS B	UAHS S	Total	%
	Micro-watersheds Target (Nos)	604	423	633	430	229	215	2534	
1	LRI work completed Nos)	Ach. 604	423	633	430	229	215	2534	100
2	English Atlases generated (Nos)	Ach. 604	423	633	430	229	215	2534	100
3	Kannada Atlases generated (Nos)	Ach. 604	423	633	430	229	215	2534	100
4	MC Reports generated	Ach. 604	423	633	430	229	215	2534	100

Progress of Hydrological activities: Hydrological studies were taken up by the State Agricultural and Horticultural Universities in the selected 14 model micro-watersheds under the guidance of IISc. The data collected at specific intervals on ground water fluctuation, analysis of soil moisture, monitoring of wells for well yield, analysis of water samples etc. and maps generated for the model micro-watersheds. In remaining watersheds Hydrological studies are conducted and 425 sub-watershed wise atlases are generated.

Saturation of watersheds: Saturation of watersheds by utilizing scientific inputs generated in the project was taken up on pilot mode in all 11 project districts in the selected watersheds.

DL, DSS & LRI Portal : LRI (Land Resource Inventory) portal, Digital Library and the Decision Support System (DSS) has been developed and LRI data and atlases are being uploaded.

Installation of LED Display units installed in the premises of RSK, ADA and JDA offices in the project area for disseminating the day to day meteorological information to the farming community with the assistance of KSNDMC.

Dissemination of LRI outputs:

For dissemination of LRI outputs and utilization of Digital Library, Decision Support System (DSS) and Land Resource Inventory Portal for farming community, various line departments and related private agencies LRI stakeholder workshop conducted at state, district & taluka levels.

Village level trainings are being conducted in the project districts by the concerned officials of the RSKs, to create awareness among about LRI outputs to the farmers in all the project area, where LRI is carried out. In this regard, LRI Extension Managers are hired for each RSK in the project area for facilitating in LRI dissemination. **Till December-2019 ICAR ATARI & through RSKs 2379 Village level training are conducted and 376273 LRI cards are distributed to farmers.**

LRI cards: LRI partner institutions are generating the LRI cards for each parcel of land, where LRI taken up and providing to the respective district offices for printing and distribution to the concerned farmers after conducting the village level trainings.

IGA Trainings: NACER is organizing trainings on income generating activities (IGA) like tailoring, dairy etc., for about 50% members of the SHGs in the project area and also further settlement by linking with NRLM scheme, to take up the IGA activities.

Other project activities : Other activities taken up under the project include, Research and Development, institutional strengthening, capacity building for the stakeholders and beneficiaries, productivity enhancement of agricultural and horticultural crops, formation of FPOs, veterinary animal and fisheries activities, Monitoring & Evaluation, Documentation etc.

Financial progress:

Budget for the WDD and Department of Horticulture have been allocated and released under separate head of accounts. The total release and expenditure details of the project for last three years for both WDD and DoH are given below.

(Rs. In lakhs)

	2017-18			2018-19			2019-20		
	Grant Released	Exp. (62-B)	IUFR Exp. (100%)	Grant Released	Exp. (62-B)	IUFR Exp. (100%)	Grant Released	Exp. (62-B)	IUFR Exp. (100%)
Total	7200.00	6889.77	7259.95	12980.00	12841.50	11685.98	5333.00	3436.21	7403.88

- Includes both DoH & WDD expenditure

IV. Watershed Development Training Centers.

In the State two Watershed Development Training Centers are established at Mysore and Vijayapura. The important objectives of the Centre is to train the Departmental staff, personnel of NGO's and members of EC and SHG /UG/ JLG in technical, social and economical aspects of Watershed Development.

a)	Name of the Scheme and year of introduction	Karnataka Watershed Development Training Center.
b)	Budget head	2402-00-109-0-02
c)	If plan, the Central and State share is	100% State plan
d)	Objective of the Programme	<ul style="list-style-type: none"> • Imparting training to Officers and staff of the Department from time to time • Training to staff of NGOs. • Training to members of Community Based Organizations (CBOs) • Exposure visits
e)	Benefits intended to be accrued and number of beneficiaries from the programme (measurable output at the end of year)	Capacity building of the Department staff, NGO staff and CBO staff/members.
f)	Financing (Rs. In Lakhs)	Rs. 137.00 Lakhs

Expenditure (Rs.In lakhs)

2017-18		2018-19		2019-20	
Release	Expenditure	Release	Expenditure	Release	Expenditure
99.00	83.44	109.00	119.41	137.00	121.18

The trainings were conducted as per schedule. No constraints. Exams were conducted to trainees after closure of trainings.

Mahatma Gandhi National Rural Employment Guarantee Programme (Convergence):

During the year 2019-20 under Mahatma Gandhi National Rural Employment Guarantee Programme (Convergence) Rs. 15662.67 Lakhs Financial Progress has been achieved by generating 52.27 Lakhs man days.

Annexure-1

**Statement showing physical and financial target and achievement under different schemes for the year 2019-20
(Rs. in lakhs, Area in Hectares, Structure & Micro Watershed in Numbers)**

Sl.No	Name of the Scheme	Unit	Annual Budget	Revised Budget			Releases including OB	Cumulative achievement up to March-2018	Physical Annual Target	Achievement	% of achievement for release	Remarks
				State Share	Central Share	Total						
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Watershed Devt. Dept. Est. 2402-00-102-0-15		1616.00	1616.00	0.00	1616.00	1291.41	1465.38	-	-	90.68	
2	Watershed Training Centre 2402-00-109-0-02		137.00	137.00	0.00	137.00	109.45	121.18	-	-	88.45	
3	Assistant to Zilla Parishads/District level Panchayats (2402-00-196-02-01)		3395.00	3395.00	0.00	3395.00	3744.66	3744.66	-	-	110.30	
4	Assistance to Block Panchayats/ Intermediate level Panchayats (2402-00-197-01-01)		85.00	85.00	0.00	78.32	78.32	78.32	-	-	100.00	
5	Pradhanamanthri krishi sinchayi yojane 2402-00-102-0-30 *	Hectares	16600.00	6640.00	9960.00	16600.00	25188.86	18749.66	82918	61065	112.95	
		Structures							2837	2406		
6	Sujala Watershed Project (Sujala-III) 2402-00-102-0-28	Hectares	5000.00	3925.78		3925.78	7997.55	6545.32	1650	6050	166.73	
		Micro watershed										
7	Watershed Development for Drought Proofing 4402-00-102-0-05	Structure	10000.00	2500.00		2500.00	2500.00	981.11	400	155	39.24	
8	NMSA-RAD 2401-00-108-1-15	Hectares	1666.66	666.66	1000.00	1666.66	1000.00	754.73	5250	2679	45.28	

Sl.No	Name of the Scheme	Unit	Annual Budget	Revised Budget			Releases including OB	Cumulative achievement up to March-2018	Physical Annual Target	Achievement	% of achievement for release	Remarks
				State Share	Central Share	Total						
1	2	3	4	5	6	7	8	9	10	11	12	13
9	RKVY-Saline & Alkaline 2401-00-800-01-57	Hectares	500.00	200.00	300.00	500.00	250.00	241.00	412	406	48.20	
10	RKVY- (2401-00-800-1-57) a) Check Dam	Structures	2000.00	800.00	1200.00	2000.00	0.00	0.00	400	0	0.00	
	b) Private Public Partnership for integrated Agriculture Development (PPPIAD)	No.s	800.00	320.00	480.00	800.00	621.72	602.00	9	8	75.25	
	c) Farmers Producers Organization-FPO	No.s	200.00	80.00	120.00	200.00	155.50	59.39	130	130	29.70	
Total		Hectares	41999.66	20365.44	13060.00	33418.76	42937.47	33342.75	90230	70200	99.79	
		Srtuctures							3237	2561		

CHAPTER-3

Organization Structure:

The Watershed Development Department is established with effect from 1.4.2000.

1. State level: This department is headed by the Commissioner, an I.A.S. or IFS Officer of super time scale, assisted by Director of Watershed, in addition a Chief Conservator of Forest, three Joint Directors of Agriculture, one Joint Director of Horticulture and one Joint Director of Animal Husbandry and one Deputy Director of Planning are assisting the Commissioner in the matters of Forestry, Horticulture, Agriculture and Animal Husbandry activities. Similarly for accounts, Chief Account Officer of the rank of Joint Controller of State Accounts.

2. District level: At the District Level, Joint Director of Agriculture is implementing the programmes of the watershed activities assisted by multidisciplinary staff from Agriculture, Forest, Horticulture & Animal Husbandry the overall control / supervision of Zilla Panchayath.

3. Taluka level: The Taluka Level Office is headed by the Assistant Director of Agriculture, who heads PIA (Project Implementing Agency) is responsible for implementation and monitoring of various schemes/ programme for the overall development of watershed.

Details of the Officers and Staffs Working Watershed Development Department.

Sl No	Cadre	Sanctioned Post	Filled Post	Vacant	Filled Post		Filled Post	
					Gents	Ladies	SC	ST
1	'A'	19	11	08	07	4	1	1
2.	'B'	17	11	06	4	7	1	1
3.	'C'	50	32	18	17	15	6	0
4.	'D'	15	06	09	4	2	1	0
	Total	101	60	41	32	28	9	2

**WATERSHED DEVELOPMENT DEPARTMENT
STATE LEVEL ORGANIZATION CHART
Minister of Agriculture (Government of Karnataka)**

Additional Chief Secretary and Development Commissioner

Secretary (Agriculture)

Commissioner (Watershed Development Department)

