REVENUE DEPARTMENT (DM)

(DISASTER MANAGEMENT SECRETARIAT)

ANNUAL REPORT

2023-24

OVERVIEW

REVENUE DEPARTMENT (DM) (DISASTER MANAGEMENT SECRETARIAT)

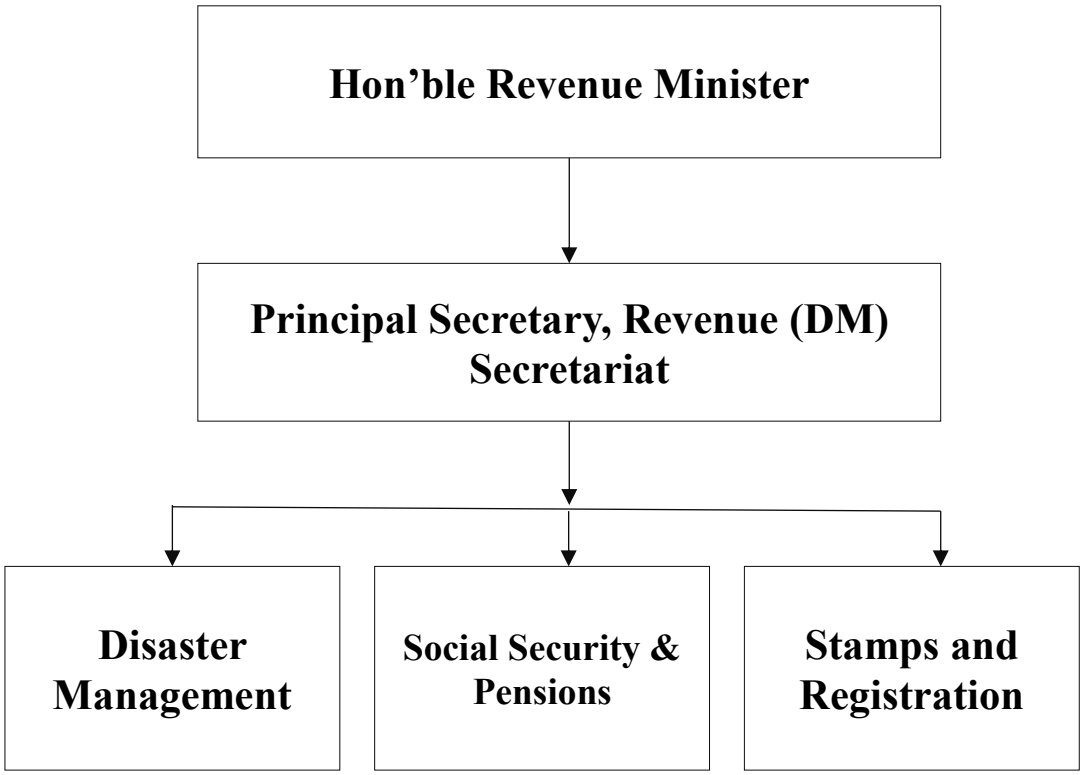
The evolution of an organization is a testament to its adaptive journey. Originally established in the 1980s with a primary focus on drought relief, the Revenue Department Disaster Management Secretariat has undergone a transformative process. Today, it stands as a robust entity geared towards multi-hazard response and comprehensive disaster risk reduction.

In a pivotal moment on December 23, 2005, the Government of India enacted the Disaster Management Act. Mandated by this legislation, the State Government established the State Disaster Management Authority (SDMA), headed by the Hon'ble Chief Minister. The mandate of the SDMA is to lead and execute a holistic and integrated approach to disaster management within the state.

In adherence to Section 20 of the Disaster Management Act, 2005, the State Executive Committee, chaired by the Chief Secretary, was established. This committee serves as the pivotal coordinating and monitoring body for disaster management initiatives in the State.

The overarching goal of the Revenue Department Disaster Management is to foster a state-wide commitment to mitigate the impact of natural and man-made disasters. This is accomplished through the sustained and collective efforts of all government agencies and active participation from the public. The department envisions achieving this through a forward-looking, technology-driven, proactive, multi-hazard, and multi-sectoral strategy. The aim is to cultivate a safer, disaster-resilient, and dynamically evolving Karnataka. The specific mandate and responsibilities of the department are detailed in the Overview chapter under the Disaster Management Section.

REVENUE DEPARTMENT (DM)
(DISASTER MANAGEMENT SECRETARIAT)
STRUCTURE



ANNUAL REPORT

2023-24

DISASTER MANAGEMENT

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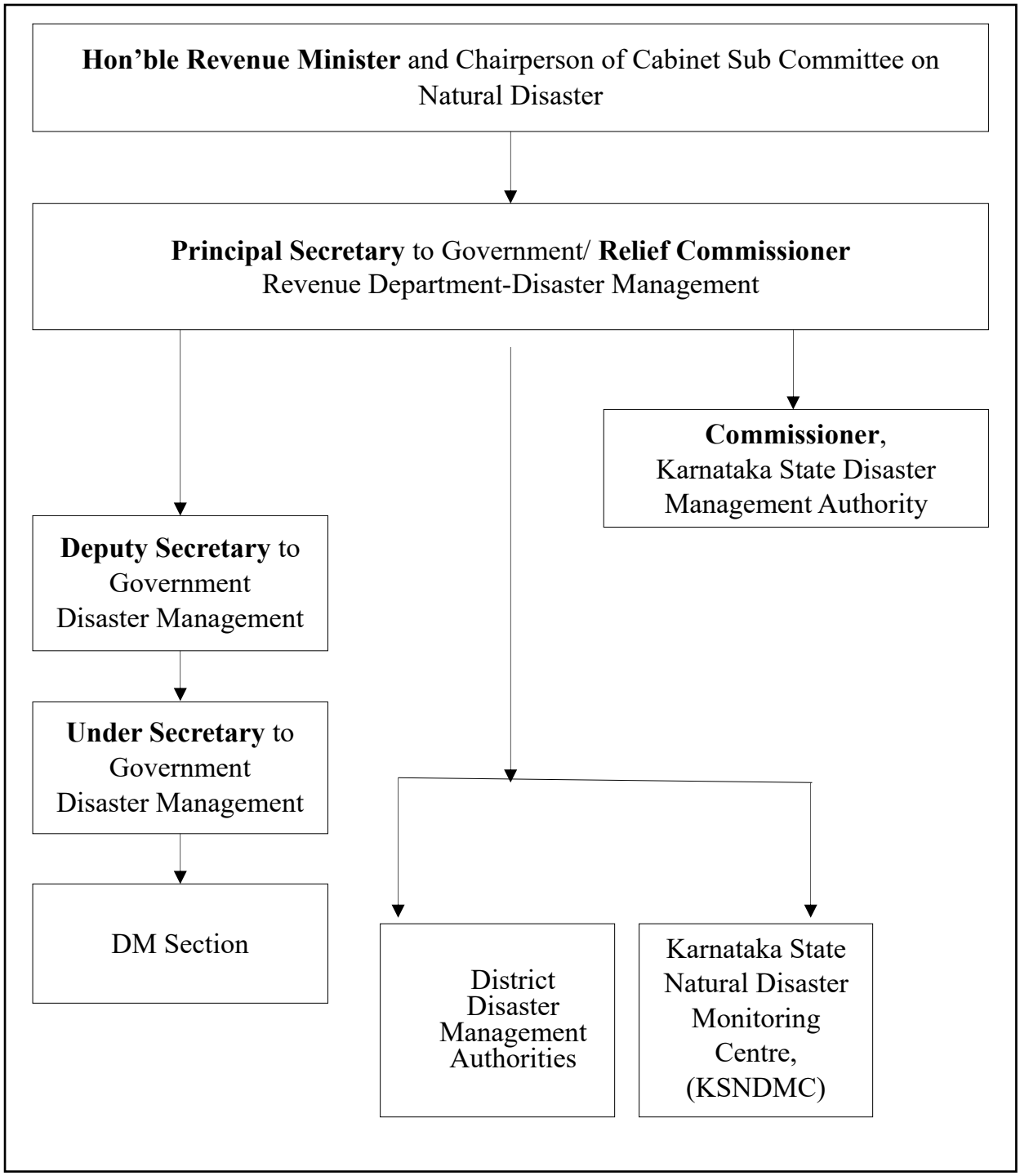
I. DEPARTMENT OVERVIEW

Mandate and Organizational Structure of Revenue Department Disaster Management

- Nodal Department to provide immediate response/relief and co-ordinate with all stakeholders in light of natural disasters.
- Coordination with Ministry of Home Affairs, DM Division, and other nodal ministries for assistance.
- Responsible for legislation, policy, capacity building, prevention, mitigation, and response
- Matter related to disaster response-Resource mobilization (men and equipment), coordinating search, rescue, relief in the event of natural and man disasters.
- All administrative and budget matters related to DM. Administration of State Disaster Response Fund (SDRF) and National Disaster Response Fund (NDRF).
- Preparation and submission of Memorandum to GoI for assistance from NDRF in case of disaster of severe nature.
- Matters related to preparedness, prevention, mitigation and capacity building (through training, workshops and conference).
- Operation State Emergency Operation Center and preparation of situation and other reports.
- Strengthening DM and District Emergency Operation Centers in districts.
- Support for strengthening State Disaster Response Force and Fire and Emergency Services.
- Supervising and coordinate preparation of State Disaster Management Plans, District Disaster Management Plans, Departmental Plans, other disaster management plans and Mitigation plans.
- Administration of the Disaster Management Act, 2005.
- Monitoring and Funding allied organizations-KSDMA, KSNDMC and ATI-CDM.
- Multi-hazard Early Warning Systems.
- Declaration State-Specific Disaster.
- Providing secretarial support to Cabinet Sub Committee on Natural Disaster and State Executive Committee

ORGANOGRAM – REVENUE DM SECRETARIAT



II. MONSOON PREPAREDNESS

Monsoon Preparedness 2023

The National Disaster Management Authority, Government of India has issued guidelines and recommendations on monsoon preparedness and mitigation measures during the monsoon season. Indian Meteorological Department, dated 11-04-2023 forecasted normal and above normal rainfall for the state. In this regard, a circular has been issued on 22-05-2023 for monsoon preparedness plan and specifying the duties and responsibilities of the concerned departments, district administrations at district and taluk level to manage and deal with heavy rainfall and flood conditions.

Disaster preparedness refers to measures taken to get ready to meet disasters when they occur to reduce the effects thereof. Though no control can be exercised over natural incidents arising during monsoon, the pro-active monsoon preparedness by the State and District Administration involving all stakeholders can minimise the loss of precious human and animal lives, damage to infrastructure and public/private property in the event of extreme weather conditions during the Southwest & Northeast monsoon 2023.

The objective of holding the meeting was to discuss a detailed plan for the preparedness to meet such eventualities by taking a concerted effort in advance at all levels of the Government so as to mitigate the effect of disasters, wherein the Monsoon Preparedness meetings reviewed action as below:

- Anticipating the type of risks that may occur and to prepare a plan to meet the risk
- Methodology through which the effects of Natural disasters during monsoon can be reduced
- Assessment of availability of resources in terms of both men, machinery and materials and new procurement required
- The manner in which the Departments and Nodal agencies concerned should operate.
- Allocation of responsibilities to the concerned

In order to tackle monsoon effectively and efficiently, meeting under the Chairpersonship of Hon'ble Chief and Minister Hon'ble Revenue Minister Government were held to activate emergency support functionaries /departments to take preventive measures from their past experience and get prepared to meet out any eventuality during monsoon.

The following directions will be issued to the Deputy Commissioners and Stakeholders for an efficient management of SW Monsoon.

- Disseminating Early Warnings and Alerts through KSNDMC, IMD and CWC
- Identification of Vulnerable Areas and Relief camps
- Storage of Essential Items
- Constitution of Rescue and Relief teams
- Coordination with Revenue (DM), KSNDMC and SEOC
- Functioning of DDMA and DEOC
- Repair and Restoration and Preventive Measures
- IEC Activities
- Updating Daily Situational Reports
- Preparation and response measures still keeping in view Covid-19 Protocol

SOUTH WEST MONSOON PREPAREDNESS 2023

Status of preparedness, particularly in the context of South-West Monsoon 2023 was reviewed by Hon'ble Chief Minister and Hon'ble Revenue Minister and important issues related to strengthening of disaster management system in the district were discussed.

The Department had issued detailed circular on 22-05-2023 outlining department wise specific actions/measures to be taken to prevent/mitigate the adverse impact of heavy rainfall/floods/landslides during the ensuing monsoon season. Focus areas were as follows:

- Districts Emergency Operation Center of all districts were activated and were operational 24/7. Taluk Emergency Operation Center (TEOC) in flood vulnerable taluks were are also activated. Crowd source information using social media such as Whatsapp, Twitter, etc, were collated for situational awareness.
- DDMA meetings and Taluk Disaster Committees were held regularly to take stock of South West Monsoon situation and related issues.
- Mechanism for dissemination of real time alerts/warning to the last mile through SACHET CAP, WhatsApp and other traditional methods were in place.
- Pre-deployment of specialized Search and Rescue Teams such as NDRF, SDRF: NDRF teams with requisite Search and Rescue equipment were pre-deployed in Kodagu, Dakshina Kannada, Belagavi, and Raichur districts. In addition, SDRF teams

were also stationed at Dakshina Kannada, Belgavi, Davanagere, Kalaburagi and Bengaluru.

- Volunteers trained under Apada Mitra, were kept standby to assist district administration for flood relief
- The Indian Disaster Resources Network (IDRN) portal was updated with inventory of search and rescue equipment (boats, cutters, earth moving equipment, etc).
- Flood vulnerable/low lying areas were identified based on historical data. Evacuation plan had been drawn for areas vulnerable for inundation. Relief Camps at higher locations had been identified with optimal route identification for evacuation and transportation of relief materials.
- State and District Disaster Management Plans are formulated based on Hazard, Risk, Vulnerability and Assessment (HRVA) of the State and Districts respectively. Disaster Response Plans have been prepared for 1018 Gram Panchyats, wherein vulnerable villages have been identified and disaster specific action plan has been drawn to prevent/mitigate adverse impact due to disaster.
- Concerned departments (ULB, RDPR, PWD, etc) have undertaken extensive desilting/clearing of drains and channels before the onset of South West Monsoon.
- Forest Department teams undertook pruning trees, removing death wood, etc.
- Respective DISCOMS constituted teams to inspect stability of electrical poles, wires, insulation, etc to prevent electrocution.
- Inter-State Coordination for management of flows in Dams/reservoir were established with Maharashtra and Kerala.
- Health and Animal Husbandry Department teams were constituted for surveillance and prevention of outbreak of disease.
- Mock Drills on flood rescue scenarios are conducted in vulnerable areas involving community.

III. KHARIF DROUGHT 2023

a. The Southwest Monsoon (SWM) set in over the coast of Karnataka on 10th June 2023, as against the normal onset of 5th June. The SWM gradually advanced thereafter and covered the entire State on 24th June, as against the normal coverage date of 15th June. The delayed onset coupled with sluggish progress of SWM during June resulted in Malnad districts and North Interior Karnataka districts with large agriculture land such as Belagavi, Bagalkot, Haveri, Dharwad recorded large deficit rainfall. Karnataka as a whole recorded -56% deficit rainfall in June, which is the third lowest in the last 122 years for the State. Thereafter, there were spells of heavy rains during the 3rd and 4th week of July, which was only confined to 10 days, and the State as a whole recorded +29% for the month of July.

b. However, during August 2023, the crucial phase for agriculture and horticulture crops growth, Karnataka as a whole received 60 mm of rainfall, as against the Long Period Average of 220 mm, which is -73% of LPA with 29 districts out of 31 districts falling under large deficit category, which is the lowest in the last 122 years for the month of August. Deficit rainfall coupled with above normal temperature severely affected the standing crops in large part of rainfed areas.

c. During September 2023 , the State as a whole recorded an actual amount of 145 mm of rainfall as against the normal rainfall of 161 mm with a percentage departure from normal being (-) 10%.

d. Rainfall over the State as a whole during monsoon season (June-September), 2023 was -25% of its long period average (LPA), i,e., the State as a whole recorded an actual amount of 642 mm of rainfall as against the normal rainfall of 852 mm, which falls under deficit category. Overall rainfall pattern during Kharif 2023 was erratic with large temporal variation in the distribution of rainfall.

e. The South West Monsoon made its onset along the coast of Karnataka on the 10th of June 2023, marking a delay of five days from the usual onset of the 5th June. Likewise, the withdrawal of the Southwest Monsoon from Karnataka and the entire country occurred on the 19th of October 2023, deviating by four days from the typical withdrawal date of the 15th of October. This delayed onset of the South West Monsoon has impacted agricultural landscape of the state, affecting the optimal sowing window in certain taluks and leading to a delay in the sowing process.

f. Further, Climate Change has propelled erratic rainfall, concentrations of large spells of rainfall in a short span of time and intermittent dry-spells. Therefore, Karnataka witnessed a “Green drought" where the health and growth of vegetation is affected due to soil moisture stress, while not necessarily leading to immediate or obvious visual signs of stress, such as wilting or browning of plants. In other words, during a green drought, the vegetation may appear green but there is stunted growth and soil moisture stress for more than a month impacting yields drastically. This phenomenon is particularly problematic because it can be challenging to detect and monitor.

Procedure for declaration of drought:

Procedure for declaration of drought is delineated in the Manual for Drought Management 2020: The Karnataka State Natural Disaster Monitoring Centre (KSNDMC) constantly monitors and assesses the Drought conditions during the Southwest Monsoon.

The complexity of drought cannot be captured with the aid of a single indicator, but requires a more comprehensive understanding of data on several parameters read in conjunction with rainfall, the most important and mandatory parameter in any determination of drought and bolstered by a field verification.

Step 1: Trigger 1: Rainfall Related Indices The total rainfall received during the Monsoon period or any declaration period during Monsoon is Deficit by 60% or more as compared to the normal rainfall accompanied or otherwise with 3 or more consecutive weeks of dry spell. If the above parameters indicate the Existence of Drought condition, then the following step to be followed to assess the drought

Step 2 : Trigger 2: Impact Indicators Once Trigger 1 is set off, select any three of the four Impact Indicators:

1. Area under Sowing.
2. Remote sensing based Indices.
3. Soil Moisture
4. Hydrological Indices.

After analyzing the Impact Indicators, the Drought Condition is categorized as Severe or Moderate

Step 3: In the event that trigger 2 is set off (severe or moderate), States will conduct sample survey for Ground Truthing (GT). The finding of field verification exercise (GT) will be final for judging the intensity of drought as 'severe' or 'moderate' depending on the crop loss. In case, 80% of ground truthing reveals crop loss of more than 50%, States have option to upgrade the intensity of drought from Moderate to Severe category. The criteria for declaration will be same in case of consecutive drought. **The finding of field verification exercise (GT) will be final for judging the intensity of drought as "severe" or "moderate" depending on the crop loss.**

Ground Truthing: As mandated in the Manual for Drought Management 2020, a comprehensive ground-truthing exercise was undertaken through an exclusive mobile application developed by the e-Governance Department covering 2980 villages selected on random basis, which equates to 10% of villages situated across 223 taluks eligible for ground-truthing assessment. To carry out this extensive operation, a total of 2404 surveyor teams were deployed. The ground-truthing encompassed 22165 individual plots, each exceeding an acre in size.

The Cabinet Sub Committee on Natural Disasters under the Chairpersonship of Hon'ble Revenue has been evaluating drought conditions from July (almost every fortnightly) strictly as per Manual for Drought Management 2020, however, erratic rainfall pattern and stringent parameters constrained our efforts to a large extent to the point that Hon'ble Chief Minister wrote to the Union Agriculture Minister in August (probably 13th August) to amend the parameters to make it State specific.

The evolution of Drought Memoranda is as follows:

- The Cabinet Sub Committee on Natural Disasters chaired by Hon'ble Revenue Minister reviewed the seasonal condition on 22-08-2023. As per KSNDMC, 113 taluks have qualified for Ground Truthing (GT) following parameters prescribed in the Drought Management Manual 2020.
- Cabinet Sub Committee on Natural Disasters again reviewed the rainfall situation on 04-09-2023. After considering the rainfall status upto 2nd September and based on the parameters prescribed in the Drought Management Manual 2020, further 83 taluks qualified for Ground Truthing.

- The Ground Truthing report of 195 taluks were placed before the Cabinet Sub Committee on Natural Disaster meeting on 13-09-2023 reviewed the Ground truthing report and following approval of the Hon'ble Chief Minister and Chairperson, Karnataka State Disaster Management Authority (KSDMA) 195 taluks were declared as drought affected vide No. RD 449 TNR 2023; dated:13.9.2023, out which 161 taluks were categorized as severely Drought affected and 34 taluks as moderately Drought affected as per the procedure outlined in the Drought Management Manual 2020.
- Following declaration of drought, the information on crop loss and drought relief measures were collated from Agriculture, Horticulture, Animal Husbandry, RDPR, Water Resources Departments, etc and Memorandum was prepared by 21st September.
- The Memorandum was placed before the Cabinet in the meeting convened on 22nd September and it was decided to submit Memorandum to the Ministry of Agriculture and Farmers Welfare.
- Consequently, the Memorandum seeking Rs.4860.13 Crore from NDRF was submitted to Ministry of Agriculture and Farmers Welfare on 22nd September 2023.
- Following submission of Memorandum, the Ministry of Agriculture and Farmers Welfare constituted an Inter-Ministerial Central Team (IMCT) to assess the drought situation in Karnataka.
- The 10 member IMCT visited various drought affected districts from 4th to 9th October to make a comprehensive assessment of drought situation in the State.
- The seasonal conditions for the entire South West Monsoon season 2023 (1st June to 30 September) was again assessed. As per KSNDMC additional 21 qualified for Ground Truthing.
- In a subsequent Cabinet Sub Committee meeting convened on 09-10-2023, it was decided to undertake Ground Truthing in the additional taluks 21 that have qualified for Ground Truthing, as well as follow-up Ground Truthing in 22 out of 34 taluks which were previously declared as moderately effected vide No. RD 449 TNR 2023; dated:13.9.2023.
- Following the conclusion of the Ground Truthing process, 21 taluks were declared as drought affected vide vide No. RD 449 TNR 2023; dated:12.10.2023, out of which 17 are severely affected, with the remaining 4 as moderately affected. With respect to

follow-up GT of the 22 taluks previously identified among the 34 moderately drought-affected taluks 11 taluks have been upgraded to severe category. In total, out of the 236 taluks, 216 are drought-affected, with 189 taluks falling into the severe affected category and 27 categorized as moderately drought-affected taluks. Hence the following order.

- Supplementary Memorandum was submitted to Ministry of Agriculture and Farmers Welfare on 20-10-2023 seeking Rs.17,901.73 Crore from NDRF, which includes claims of Rs.12,577.86 Crore towards Gratuitous relief.
- Cabinet Subcommittee on Natural Disasters led by Hon'ble Revenue Minister on 25-10-2023 appraised the Union Agriculture Secretary and Union Home Secretary on the prevailing drought condition and requested expediting the process for release of fund from NDRF.
- The rainfall over the State as a whole for the month of October 2023 recorded 47 mm of rainfall as against Long Period Average (LPA) of 131 mm the normal , i.e., a deficit of -65%, categorized as "large deficit." This, coupled with above-normal temperatures during October, has severely affected the late-sown crops. Consequently, a thorough reassessment of seasonal conditions was conducted at the end of October and 7 taluks qualified for ground trothing. Following Ground Truthing the State Government, vide GO No. 449 TNR 2023 dated 04-11-2023, declared additional 7 taluks as severely drought-affected.
- Cabinet Sub Committee on Natural Disasters led by Hon'ble Revenue Minister met Union Agriculture Secretary and Union Home Secretary on 25-10-2023 and appraised them about the prevailing drought situation and memorandums submitted. Issue of reliance on 8-year-old Agriculture Census 2015 for computing input subsidy and necessity to provide Gratuitous relief was discussed extensively.
- Additional memorandum seeking financial assistance for 7 taluks was submitted to Ministry of Agriculture and Farmers Welfare on 15-11-2023.
- For the Kharif 2023 season as whole, a total of 223 out of 236 taluks are declared as drought-affected, with 196 taluks categorized as severely affected and the remaining 27 categorized as moderately affected.

In essence, during June to October 2023, the State has witnessed 3 spells of drought as below**:**

1st Assessment – 1st June to 19th August 2023, 2nd Assessment – 1st June to 2nd September 2023,

3rd Assessment- 1st June to 30th September, 4th Assessment- 1st June to 31st October

GO number and Date of declaration	No. of taluks	Memorandum submission date
RD 449 TNR 2023; dated:13.9.2023	195	22nd September 2023.
RD 449 TNR 2023; dated:12.10.2023	21	20th October 2023
RD 449 TNR 2023, dated: 04-11-2023	7	15th November 2023
Total	223 (196 Severe, 27 Moderate)	

In total, the State Government is seeking Rs.18,171.44 crore from NDRF towards input subsidy, Gratuitous Relief and to undertake other immediate drought relief measures. The abstract of the claims of memorandum is as follows:

SUMMARY OF LOSS AND RELIEF CLAIMED AS PER SDRF NORMS DUE TO DROUGHT DURING KHARIF 2023

(Rs. in Crore)

Sl. No	Item	Total for 223 Taluks	
		EstimatedLoss	Relief claimed
1	**Agriculture Croploss (46.09 lakhs Ha)**	32245.23	4431.39
2	**Horticulture CropLoss (2.06 lakh ha)**	2916.82	231.73
	Sub Total	**35162.05**	**4663.12**
3	**Animal Husbandry**		
	Assistance for opening 223 cattle camps		119.31
	Assistance for opening 713 Fodder banks		144.37
	Medicines		25
	Nutritional supplements		25
	Fodder seed minikits		50
	Sub Total		**363.68**
4	**Drinking Water indrought taluks**		
	a.Drinking watersupply in rural areas for 180 days		352.8
	b.Drinking watersupply in urban areas for 180 days		213.98
	Sub Total		**566.78**
5	Gratuitous Relief tofamilies whose livelihood is seriously affecteddue to drought for 90days		**12577.9**
Total (Total of 1 to 5)		**35,162.05**	**18171.44**

Total estimated loss due to crop damage in the Stat: Rs. 35,162.05 crore
Assistance sought from Government of India under NDRF: Rs. 18,171.44 Crore

- In a letter dated 15-11-2023, the Hon'ble Chief Minister reached out to the Hon'ble Union Home Minister, Union Agriculture and Farmers Welfare, and Union Financing Minister, seeking their intervention to expedite the release of NDRF funds. Additionally, the Chief Minister emphasized the importance of ensuring rightful input subsidy and Gratuitous relief.
- On 23rd November 2023, the Hon'ble Revenue Minister and Hon'ble Agriculture Minister personally met with the Hon'ble Union Finance Minister to apprise them of the critical drought situation in the State and sought intervention for the timely allocation of NDRF and Gratuitous relief.
- On 19th December, Hon'ble Chief Minister and Revenue Minister met the Hon'ble Prime Minister and appraised about the prevailing drought situation and also sought his intervention for early release of funds from NDRF. Further, Hon'ble Chief Minister and Revenue Minister met Union Home Minister on 20th December urging him to immediately convene High Level Committee meeting to decide on the quantum of release form NDRF.

Drought Relief and Management: The response of the State has been proactive and well-coordinated. The details of relief measures taken are as follows:

a. The State government released Rs.324 crore to 31 districts vide GO RD 513 TNR 2023, dated 31-10-2023 towards immediate drought relief measures.
b. Task force Committee under MLA constituted vide GO RD 449 TNR 2023, dated 06-11-2023 to oversee immediate drought relief measures.
c. Inter State fodder transport restriction order GO No 497 TNR 2023, date 22-11-2023
d. Circular on drinking water supply and fodder dated 04-12-2023 (No RD 543 TNR 2023)
e. Rs.20 crore has been released to Animal Husbandry Department for fodder kit. The district wise distribution is annexed.

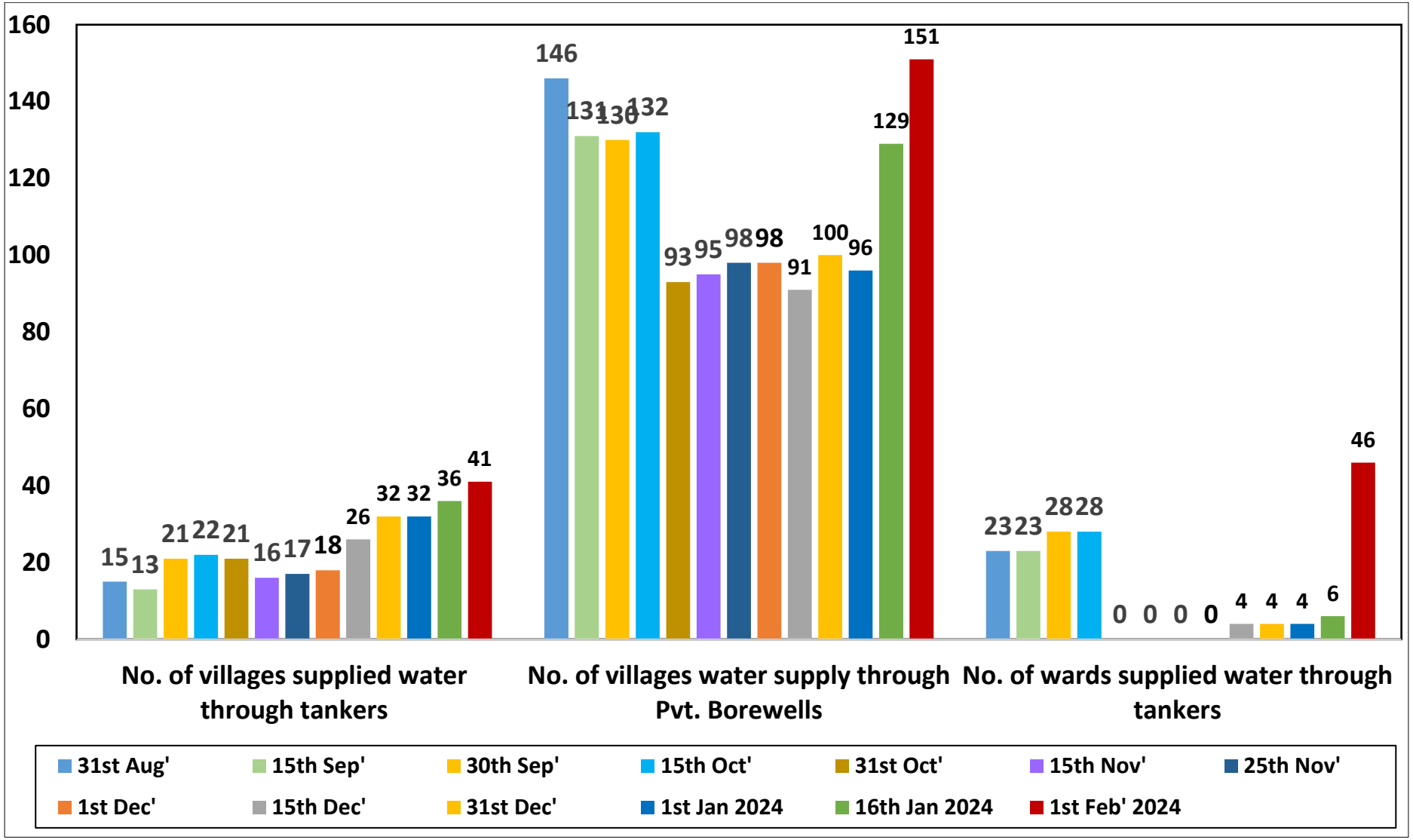
Drinking water supply status:

As on 4th February 2024, 46 villages are supplied drinking water through tankers 60 tankers and 157 villages supplied through 180 hired borewells. In urban areas 46 wards are supplied drinking water through 12 tankers.

DRINKING WATER SUPPLY DETAILS IN RURAL AND URBAN AREAS ((TANKERS AND HIRED BOREWELLS) AS ON 04-02-2024

SL No	District	Rural Drinking water supply details (excluding villages where there is perennial supply (365 days) of water through tanker due to drought							Urban Areas (ULBs) drinking water supply status		
		No of taluks facing drinking water problem	No. of GPs facing drinking water problems	Tanker supply details			Hired borewell details (as per RDWS-ZP)		No. of Urban Local Bodies facing drinking water Problems	No. of wards supplied water through tankers	Drinking water supplied through how many tankers
				No. of villages supplied water through tankers	No. of tankers utilized for supply of drinking water		No. of Private Borewells hired	No. of villages water supply through Pvt. Borewells			
					No. of departmental tankers utilized	No. of private tankers utilized					
1	Chikkaballapur	4	12	0	0	0	15	15	0	0	0
2	Chikkamagalur	5	10	0	0	0	11	11	0	0	0
3	Davanagere	4	9	0	0	0	14	10	0	0	0
4	Ballari	2	7	1	2	0	8	8	0	0	0
5	Kalaburagi	1	2	0	0	0	3	3	0	0	0
6	Bengaluru Urban	3	18	20	20	0	7	7	4	46	12
7	Mandya	3	5	1	0	1	4	4	0	0	0
8	Hassan	5	20	0	0	0	29	28	0	0	0
9	Ramanagara	1	1	0	0	0	1	1	0	0	0
10	Vijayapura	5	14	23	36	0	7	7	0	0	0
11	Dharwad	1	1	1	0	1	0	0	0	0	0
12	Yadgiri	4	8	0	0	0	16	14	0	0	0
13	Haveri	3	18	0	0	0	39	24	0	0	0
14	Shivamogga	0	0	0	0	0	0	0	0	0	0
15	Uttara Kannada	1	2	0	0	0	2	2	0	0	0
16	Mysuru	1	1	0	0	0	1	1	0	0	0
17	Kodagu	0	0	0	0	0	0	0	0	0	0
18	Vijayanagara	3	13	0	0	0	23	22	0	0	0
Total		**46**	**141**	**46**	**58**	**2**	**180**	**157**	**4**	**46**	**12**

DRINKING WATER SUPPLY STATUS (TANKERS AND HIRED BOREWELLS) COMPARISON – 2023-24



Further, the State Government has proactively identified 6168 villages and 1193 urban wards that are likely to face drinking water problems in the coming months. Around 5954 high yielding borewells have been identified for hiring.

Sl. No	District	No. of villages identified which are likely to face drinking water issues in coming months	No. of wards identified which are likely to face drinking water issues in coming months	No. of high yielding private bore wells identified	No. of high yielding private bore wells for which advance agreement has been done
1	Bengaluru Urban	174	120		
2	Bengaluru Rural	68	78	258	0
3	Ramanagara	108	34	108	108
4	Kolar	493	78	10	0
5	Chikkaballapura	163	18	117	105
6	Tumakuru	746	0	530	0
7	Chitradurga	289	0	170	87
8	Davanagere	105	0	109	66
9	Chamarajanagara	136	18	85	74
10	Mysuru	102	0	93	
11	Mandya	236		170	6
12	Ballari	114	97	122	0
13	Koppala	132	4	898	140
14	Raichur	374	0	269	59
15	Kalaburagi	282	17	157	0
16	Bidar	119	0	34	
17	Belagavi	339	49	203	
18	Bagalkote	171	71	1411	1178
19	Vijayapura	243	26	23	
20	Gadag	76	81	38	38
21	Haveri	304	54	268	173
22	Dharwad	128		16	0
23	Shivamogga	238	11	68	0
24	Hassan	361		142	0
25	Chikkamagaluru	313		268	8
26	Kodagu	58	0	0	0
27	Dakshina Kannada	40	129	26	26
28	Udupi	171	46	62	25
29	Uttara Kannada	509	181	133	69
30	Yadgir	26	35	26	
31	Bengaluru Urban	473	46	578	481
	Total	**6168**	**1193**	**5954**	**2535**

Crop loss Input subsidy payment status

A new integrated approach for payment of input subsidy has been adopted, which combines Digital crop survey (Kharif) with FRUITS and Parihara systems, eliminating manual data entry issues. In the new system, the Input subsidy payment is done on entitlement basis of the affected land area and crops identified as having suffered crop loss by the respective District Administration.

State Government without waiting for the NDRF releases, in a span of one month, has as on 02/02/2024 disbursed crop input subsidy of up to Rs. 2000 per farmer to 30,24,795 farmers, amounting to a total of Rs. 573.28 crore. The district-wise breakdown is provided below.

Sl. No.	District	No. of Farmers paid
1	Bagalkot	154570
2	Bengaluru Urban	11604
3	Bengaluru Rural	56294
4	Belagavi	314598
5	Ballari	32831
6	Bidar	141594
7	Vijayapura	223809
8	Chamarajanagara	42099
9	Chikkamagaluru	44162
10	Chitradurga	121453
11	Dakshina Kannada	1306
12	Davanagere	71611
13	Dharwad	90861
14	Gadag	101119
15	Kalaburagi	215603
16	Hassan	180791
17	Haveri	175162
18	Kodagu	10286
19	Kolar	47415
20	Koppal	90291
21	Mandya	70767
22	Mysuru	62859
23	Raichur	112618
24	Shivamogga	71752
25	Tumakuru	166613
26	Udupi	17583
27	Uttara Kannada	65928
28	Chikkaballapura	82299
29	Ramanagara	48812
30	Yadgir	88421
31	Vijayanagara	109684
Total		**3024795**

Fodder: State Government through the Animal Husbandry Department is encouraging cultivation of green fodder by distributing free fodder minikits to farmers who have irrigation facility this will ensure sufficient availability of green fodder in the coming months. District wise distribution of fodder details is as follows:

Sl. No	District	No. of Minikits allocated to the district by the Animal Husbandry Department (Fodder Mini Kits)	(No. of Farmers to whom mini fodder kits distributed)	No. of Mini fodder kits distributed as on 31st January 2024
1	Bengaluru Urban	12877	3240	11985
2	Vijayanpura	35308	17668	35808
3	Raichur	12680	2846	12680
4	Bidar	3942	3371	3942
5	Belagavi	17931	17931	17931
6	Yadgir	11527	3452	3314
7	Mysuru	72613	53765	68698
8	Koppal	17783	6663	16400
9	Shivamogga	18875	10456	14373
10	Davanagere	18694	7097	12256
11	Dharwad	31694	10595	15803
12	Kalaburagi	39361	12961	35535
13	Haveri	10297	7014	10297
14	Bagalkot	10421	8237	8481
15	Hassan	102242	62743	100942
16	Vijayanagara	12057	4778	11876
17	Mandya	18525	17668	17668
18	Chikkamagaluru	25645	6536	17147
19	Chamarajanagara	20210	6105	11343
20	Bengaluru Rural	42476	12254	40076
21	Chitradurga	13307	6588	13307
22	Kolar	13280	6500	13280
23	Gadag	11590	3042	9126
24	Ballari	5168	1764	5168
25	Dakshina Kannada	720	700	720
26	Chikkaballapura	21583	13349	21583
27	Uttara Kannada	17124	9095	16476
28	Ramanagara	15194	15194	15194
29	Udupi	1654	622	1170
30	Tumakuru	108401	57335	108401
31	Kodagu	800	700	700
Total		**743979**	**390269**	**671680**

Drought Monitoring and Review:

The State Government has been proactive in monitoring drought situation taking appropriate measures on employment generation under MGNREGA, ensuring clean drinking water and cattle protection. Weekly Weather Watch Committee meetings chaired by the Addl. Chief Secretary and Development Commissioner that includes Secretaries of more than 10 stakeholders Departments has been reviewing the seasonal conditions on a weekly basis and directions have been issued to Deputy Commissioners on drought mitigation measures. Hon'ble Chief Minister has reviewed the seasonal conditions three times. Cabinet Sub Committee on Natural Disaster has met eight times since the 1st June to review drought situation and provide issued to take proactive steps to mitigation drought.

The abstract drought review meeting details are as follows:

Details of meetings conducted:

Meeting	No. of meeting conducted
Hon'ble Chief Minister	3
Cabinet Sub Committee meeting chaired by Hon'ble Revenue Minister	8
Hon'ble Revenue Minister	Conducted review meet in 28 districts 6 All DCs meeting
Weather Watch Committee Chaired by Development Commissioner	12
District Disaster Management Authorities chaired by Deputy Commissioner	226 (district wise meeting details given below)
Taluk Task Force Committee meeting chaired by Hon'ble MLAs	183 (meeting details annexed Annexure 4)

The district wise DDMA meetings details are as below.

The proceedings of DDMA meetings are uploaded in the respective District Official Websites.

DDMA meeting details		
Sl. No	**District**	**No.of DDMA meetings held from 1st June 2023 to 31st January 2024**
1	Bengaluru Urban	6
2	Vijayapura	9
3	Raichur	6
4	Bidar	5
5	Belagavi	8
6	Yadgir	7
7	Mysuru	10
8	Koppal	12
9	Shivamogga	5
10	Davanagere	7
11	Dharwad	4
12	Kalaburagi	5
13	Haveri	8
14	Bagalkot	14
15	Hassan	4
16	Vijayanagara	10
17	Mandya	7
18	Chikkamagaluru	13
19	Chamarajanagara	8
20	Bengaluru Rural	8
21	Chitradurga	7
22	Kolar	5
23	Gadag	8
24	Ballari	7
25	Dakshina Kannada	5
26	Chikkaballapura	7
27	Uttara Kannada	4
28	Ramanagara	4
29	Udupi	7
30	Tumakuru	11
31	Kodagu	5
	Total	**226**

The district wise task force meeting details are as below. The proceedings of the Taluk Task Force meetings are uploaded in the respective District Official Websites

Sl. No	District	No.of Taluk Task Force Committee meetings held from 6th November 2023 to 31st January 2024
1	Bengaluru Urban	9
2	Vijayapura	14
3	Raichur	5
4	Bidar	7
5	Belagavi	17
6	Yadgir	8
7	Mysuru	8
8	Koppal	9
9	Shivamogga	9
10	Davanagere	14
11	Dharwad	8
12	Kalaburagi	29
13	Haveri	16
14	Bagalkot	10
15	Hassan	14
16	Vijayanagara	9
17	Mandya	32
18	Chikkamagaluru	14
19	Chamarajanagara	9
20	Bengaluru Rural	5
21	Chiradurga	9
22	Kolar	14
23	Gadag	13
24	Ballari	15
25	Dakshina Kannada	8
26	Chikkaballapura	18
27	Uttara Kannada	19
28	Ramanagara	10
29	Udupi	9
30	Tumakuru	28
31	Kodagu	5
	Total	**394**

Fund Availability for Drought Relief and Management at the Districts:

There is around 863.67 crore available (DC and Tahsildar PD accounts) in the districts to take up immediate drought relief measures. District wise availability is as below.

Amount available in Tahsildar calamity account as on 31st January 2024		
Sl. No	District	Amount available in Tahsildar calamity account Amount in lakhs
1	Bengaluru Urban	164
2	Bengaluru Rural	182.92
3	Ramanagara	437.16
4	Kolar	180.82
5	Chikkaballapura	549.27
6	Tumakuru	476
7	Chitradurga	264.51
8	Davanagere	267.59
9	Chamarajanagara	174.89
10	Mysuru	435.7
11	Mandya	315.5
12	Ballari	211.35
13	Koppala	344.94
14	Raichur	474.62
15	Kalaburagi	422.4
16	Bidar	318.23
17	Belagavi	1731.72
18	Bagalkote	595.38
19	Vijayapura	488.8
20	Gadag	274.89
21	Haveri	795.37
22	Dharwad	199
23	Shivamogga	198.4
24	Hassan	857.73
25	Chikkamagaluru	369.14
26	Kodagu	394.15
27	Dakshina Kannada	231.76
28	Udupi	228.35
29	Uttara Kannada	615.64
30	Yadgir	291.23
31	Vijayanagar	288.93
Total		12780.39

DC PD account status as of 29th January 2024:

Sl. No.	District	**Total amount available** Amount in **crore**
1	Bengaluru Rural	21.88
2	Bengaluru Urban	25.21
3	Koppal	18.03
4	Gadag	18.78
5	Chikkaballapura	19.99
6	Belagavi	55.04
7	Bagalkot	20.52
8	Yadgir	24.01
9	Ballari	29.93
10	Raichur	24.8
11	Shivamogga	25.45
12	Bidar	6.25
13	Vijayapura	33.7
14	Chamarajanagar	23.35
15	Chikkamagaluru	23.64
16	Chitradurga	19.6
17	Dakshina Kannada	12.99
18	Davangere	16.78
19	Kalaburagi	49.88
20	Hassan	18.15
21	Haveri	18.27
22	Kodagu	52.03
23	Kolar	23.96
24	Mandya	18.67
25	Mysuru	14.83
26	Ramanagara	19.78
27	Tumakuru	22.69
28	Uttara Kannada	28.36
29	Dharwad	15.95
30	Udupi	11.92
31	Vijayanagara	21.42
Total		**735.87**

Delinking PMFBY from SDRF:

The Hon'ble Revenue Minister in the Meeting of Ministers of Disaster Management held on 13-06-2023 under the Chairmanship of Hon'ble Union Home Minister brought forth a pertinent issue of adjusting PMFBY with crop loss input subsidy as per the SDRF/NDRF norms dated 10th October 2022 which as unfair and which was likely to affect large number of small and marginal farmers. Following Hon'ble Revenue Minister's intervention the below mentioned provision has been **removed** vide MHA letter No 33-03/2020-NDM-I, dated 11th July 2023

"*The provision that "Assistance for input subsidy under item No. 5(i) (B) and 5 (ii) will be adjusted to the extent of insurance claims received under the Prime Minister Fasal Bhima Yojna (PMFBY), for the instant calamity"*

This has benefitted crores of small and marginal farmers across the country.

No. 33-03/2020-NDM-I
Government of India
Ministry of Home Affairs
(Disaster Management Division)

'C' Wing, 3rd Floor, NDCC- II,
Jai Singh Road, New Delhi-110001,
Dated, the 11th July 2023

To,

1. Chief Secretaries of all States,
2. The Relief Commissioners / Secretaries (Department of Disaster Management) of all States.

Subject:- Revised Items and Norms of assistance from the State Disaster Response Fund (SDRF) and the National Disaster Response Fund (NDRF) for the period 2022-23 to 2025-2026.

Sir/ Madam,

I am directed to refer to this Ministry's letter No. 33-03/ 2020-NDM-I, dated 10th October 2022 regarding forwarding the list of revised items and norms from assistance from SDRF/ NDRF in the wake of identified natural disasters.

2. It has now been decided to further revise the norms as under:

2.1 In respect of item No. 1(e) (except drought), item 3(a), (c), 6(ii), 9, the provision is revised that ***'expenditure on this account, in no case, should exceed 30% of SDRF allocation under this window (Response & Relief) for the year'***.

2.2 In the case of drought, [i.e. item No. 1(e)], the provision is revised that ***'expenditure on this account, in no case, should exceed 50% of SDRF allocation under this window (Response & Relief) for the year'***.

2.3 The provision that "Assistance for input subsidy under item No. 5(i)(B) and 5 (ii) will be adjusted to the extent of insurance claim received under the Prime Minister Fasal Bima Yojna (PMFBY), for the instant calamity', **is removed**.

Abstract of Damages due to natural Disaster during 2023-2024-excluding drought (1st April to 3rd Feb)

Sl. No	Item	No	Assistance paid in lakhs
1	No. of human lives lost	120	600
2	No. of animals affected	Big-379 Small-429	234.42
3	Houses damaged	Completely-162 Severly-2095 Partially-7118	5038.46
4	Crop loss (excluding flood)	26189 ha	Rs. 3555.9 lakh disbursed to 46397 farmers

IV. SEASONAL CONDITION 2023-24

Pre-monsoon, Southwest and Northeast Seasonal Condition 2023

1.1.RAINFALL PATTERN DURING PREMONSOON 2023

Pre-monsoon (March to May) Rainfall Pattern during 2023:

The State as a whole recorded an actual amount of 116 mm of rainfall as against the normal rainfall of 115 mm with a percentage departure from normal being (+) 1% and State as a whole is classified under the "Normal" Category.

Meteorological sub divisionwise rainfall indicates that Percentage departure from Normal was (+) 18% in South Interior Karnataka, (+) 21 % in North Interior Karnataka, (-) 21% in the Malnad region, and (-) 60% in Coastal Region.

Out 31 districts, 18 districts received Normal to large Excess Rainfall and 13 districts received Deficit to Large Deficit Rainfall. Out of 236 taluks, 141 taluks received Normal to large Excess and 86 taluks received Deficit to large deficit Rainfall.

Region-wise Pre-monsoon Rainfall Pattern March to May 2023:

Region	Normal (mm)	Actual (mm)	% Departure
South Interior Karnataka	138	163	18
North Interior Karnataka	79	95	21
Malnad	163	128	-21
Coastal	156	62	-60
State	115	116	1

Region-wise Monthly rainfall Pattern March to May 2023:

Region	Rainfall March 2023			Rainfall April 2023			Rainfall May 2023		
	Normal (mm)	Actual (mm)	%DEP	Normal (mm)	Actual (mm)	%DEP	Normal (mm)	Actual (mm)	%DEP
South Interior Karnataka	11	18	61	40	26	-35	87	119	38
North Interior Karnataka	7	9	16	23	34	49	49	53	8
Malnad	13	4	-69	52	26	-50	98	98	0
Coastal	8	2	-78	29	8	-72	118	52	-56
State	9	10	9	32	28	-14	74	79	7

1.2. SOUTHWEST MONSOON RAINFALL PATTERN DURING 2023:

During 1st June to 30th September 2023 , the State as a whole recorded an actual amount of 642 mm of rainfall as against the normal rainfall of 852 mm with a percentage departure from normal being (-) 25%. Thus, the State as a whole is classified under the "Deficit" Category.

Meteorological sub division-wise rainfall indicates that Percentage departure from Normal was (-) 26% in South Interior Karnataka, (-) 19 % in North Interior Karnataka, (-) 39% in the Malnad region, and (-) 19% in Coastal Region.

Region wise Rainfall Pattern – 1st June to 30th September 2023:

Meteorological Region	Normal (mm)	Actual (mm)	% Departure from Normal	Rainfall Category
South Interior Karnataka	369	271	-26	Deficit
North Interior Karnataka	479	386	-19	Normal
Malnad	1556	956	-39	Deficit
Coastal	3101	2514	-19	Normal
State	852	642	-25	Deficit

District and Taluk: Categories of Rainfall deviations during Southwest Monsoon Season 2023

Out of 31 districts, rainfall was in Deficit in 23 districts and Normal in 8 districts. Out of 236 taluks, rainfall was in Large Deficit in 2 taluks, Deficit in 144 taluks, Normal in 86 taluks, Excess in 4 taluks and Large Excess in 12 taluks.

Region-wise Monthly rainfall Pattern June to September 2023:

Region	Rainfall June 2023			Rainfall July 2023			Rainfall August 2023			Rainfall September 2023		
	Normal (mm)	Actual (mm)	%DEP	Normal (mm)	Actual (mm)	%DEP	Normal (mm)	Actual (mm)	%DEP	Normal (mm)	Actual (mm)	%DEP
South Interior Karnataka	66	55	-16	79	84	6	88	25	-71	136	108	-21
North Interior Karnataka	103	46	-56	116	194	67	118	34	-71	142	111	-22
Malnad	363	96	-74	591	620	5	423	85	-80	179	157	-12
Coastal	832	365	-56	1142	1518	33	823	229	-72	304	407	34
State	199	85	-57	271	349	29	220	60	-73	161	145	-10

Considering the month-to-month rainfall variation over Karnataka as a whole, the season is very uniquely placed in the historical record for its distinct and contrasting month-to-month variation.

STATE DAILY RAINFALL TIME SERIES ANALYSIS FOR THE PERIOD 1ST JUNE TO 30TH SEPTEMBER 2023

Southwest Monsoon season rainfall pattern 2023:

Southwest Monsoon ended on September 30 with below-normal rainfall. The state recorded a cumulative rainfall deficiency of 25% of the long-period average. Out of 31 districts, 23 districts have recorded deficient rainfall. The monsoon season started under the influence of El Nino, leading to less rainfall in June, August and September.

The Extreme weather events continued throughout the four months monsoon season. After a sluggish start due to delayed monsoon, onset and slow progress resulted in 56% deficit rainfall in June, July witnessed 29% excess rains across the State. Large intra seasonal variations marred the second half of the 2023 monsoon season in the state. The core monsoon month of August recorded all time low rainfall in the last 122 years; because of prolonged break monsoon conditions.

During 1st June to 30th September 2023 , the State as a whole recorded an actual amount of 642 mm of rainfall as against the normal rainfall of 852 mm, Which is the lowest 5th lowest recorded rainfall since 1967 (57 years). This, however, does not clearly capture the erratic nature of its progression and distribution over the State. Seasonal rainfall sometimes hide more than they reveal. Although the aggregate shows 25% deficit, the wide regional and special variations in in the four months reveal that the rainfall was deficit this year.

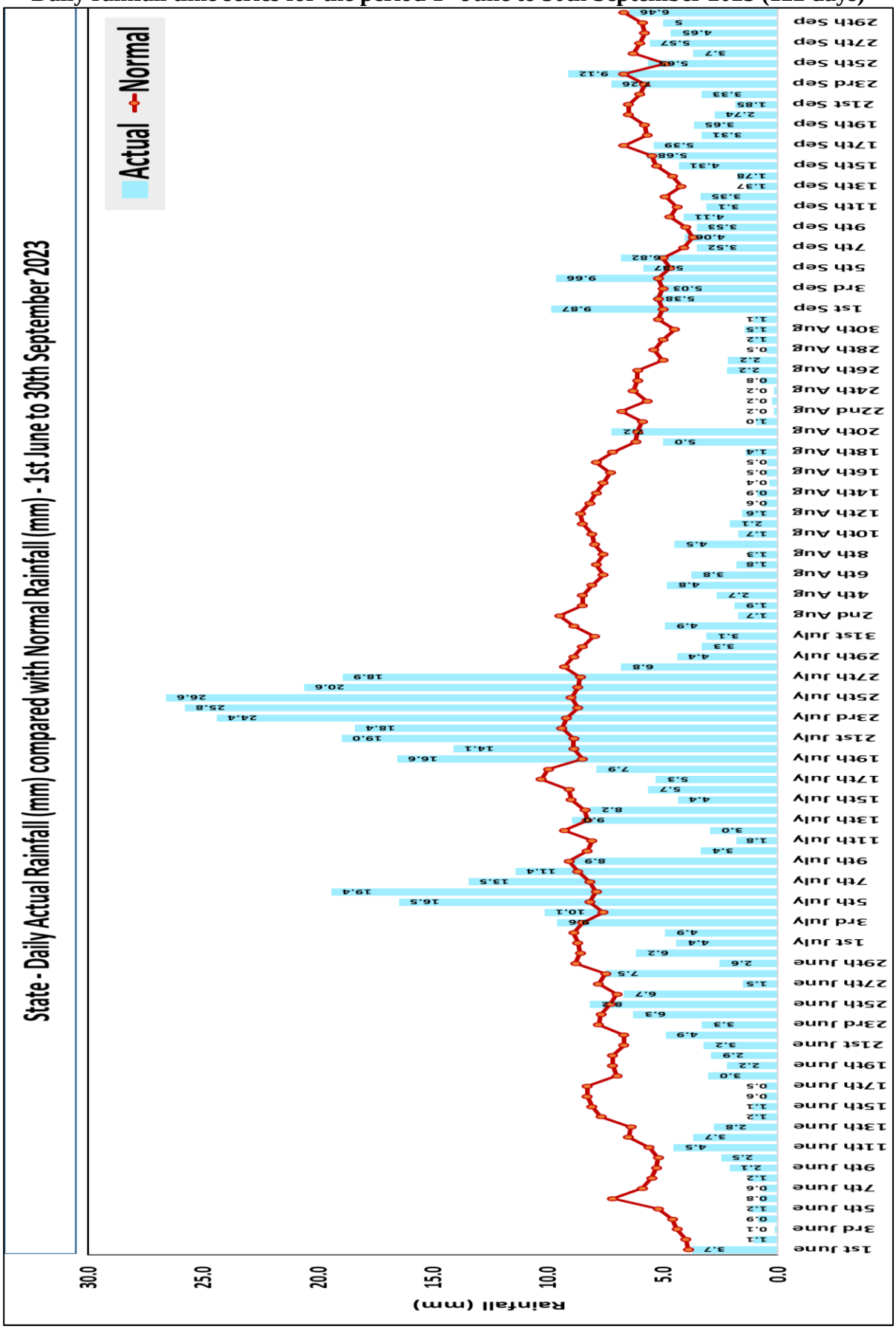
Karnataka receives 74% of its annual rainfall in these four months. A normal and well-distributed monsoon is crucial for the farmers who are dependent on rains for practicing agriculture.

Daily Rainfall time series for the State

During 1st June to 30th September 2023, daily actual rainfall compared with normal rainfall shows that the State received above normal rainfall in June 2023 for 1 day, during July 2023 for 16 days, **during August 2023 for only 1 day**, and during September 2023 for 6 days. Overall**, the Southwest monsoon season 2023 as a whole recorded only 24 days above normal rainfall and the remaining 98 days below normal rainfall**.

KARNATAKA –

Daily rainfall time series for the period 1st June to 30th September 2023 (122 days)



DISTRICTWISE SOUTHWEST MONSOON RAINFALL PATTERN 2023

Sl. No.	Region	Normal (mm)	Actual (mm)	% Departure from Normal	Rainfall Category
1	Bengaluru Urban	471	324	**-31**	Deficit
2	Bengaluru Rural	444	406	**-9**	Normal
3	Ramanagara	436	278	**-36**	Deficit
4	Kolar	399	355	**-11**	Normal
5	Chikkaballapura	416	334	**-20**	Deficit
6	Tumakuru	358	297	**-17**	Normal
7	Chitradurga	282	183	**-35**	Deficit
8	Davanagere	393	308	**-22**	Deficit
9	Chamarajanagara	320	202	**-37**	Deficit
10	Mysuru	419	267	**-36**	Deficit
11	Mandya	316	213	**-33**	Deficit
12	Ballari	366	187	**-49**	Deficit
13	Vijayanagar	389	235	**-40**	Deficit
14	Koppala	383	269	**-30**	Deficit
15	Raichur	440	346	**-21**	Deficit
16	Kalaburagi	576	549	**-5**	Normal
17	Yadgir	517	468	**-10**	Normal
18	Bidar	650	595	**-9**	Normal
19	Belagavi	599	520	**-13**	Normal
20	Bagalkote	362	242	**-33**	Deficit
21	Vijayapura	396	297	**-25**	Deficit
22	Gadag	372	285	**-23**	Deficit
23	Haveri	512	350	**-32**	Deficit
24	Dharwad	514	399	**-22**	Deficit
25	Shivamogga	1991	1251	**-37**	Deficit
26	Hassan	754	484	**-36**	Deficit
27	Chikkamagaluru	1447	872	**-40**	Deficit
28	Kodagu	2188	1278	**-42**	Deficit
29	Dakshina Kannada	3388	2616	**-23**	Deficit
30	Udupi	4022	3156	**-22**	Deficit
31	Uttara Kannada	2647	2244	**-15**	Normal

1.3.NORTHEAST MONSOON RAINFALL PATTERN DURING 2023:

During 1st October to 31st December 2023 , the State as a whole recorded an actual amount of 114 mm of rainfall as against the normal rainfall of 182 mm with a percentage departure from normal being (-) 38%. Thus, the State as a whole is classified under the "Deficit" Category.

Meteorological sub division-wise rainfall indicates that Percentage departure from Normal was (-) 31% in South Interior Karnataka, (-) 69 % in North Interior Karnataka, (-) 15% in the Malnad region, and (+) 5% in Coastal Region.

Region wise Rainfall Pattern – 1st October to 31st December 2023:

Meteorological Region	Normal (mm)	Actual (mm)	% Departure from Normal	Rainfall Category
South Interior Karnataka	**202**	**139**	**-31**	Deficit
North Interior Karnataka	**140**	**43**	**-69**	Large Deficit
Malnad	**226**	**191**	**-15**	Normal
Coastal	**259**	**272**	**5**	Normal
State	**182**	**114**	**-38**	Deficit

District and Taluk: Categories of Rainfall deviations during Northest Monsoon Season 2023

Out of 31 districts, rainfall was in Deficit to Large Deficit in 24 districts and Normal to Excess in 7 districts. Out of 236 taluks, rainfall was in Large Deficit in 91 taluks, Deficit in 94 taluks, Normal in 38 taluks, Excess in10 taluks and Large Excess in 3 taluks.

Region-wise Monthly rainfall Pattern October to December 2023:

Region	October 2023			November 2023			December 2023		
	Normal (mm)	Actual (mm)	%DEP	Normal (mm)	Actual (mm)	%DEP	Normal (mm)	Actual (mm)	%DEP
South Interior Karnataka	**138**	**49**	**-65**	**52**	**83**	**62**	**13**	**7**	**-48**
North Interior Karnataka	**107**	**11**	**-90**	**27**	**29**	**11**	**6**	**3**	**-55**
Malnad	**159**	**93**	**-42**	**55**	**83**	**51**	**11**	**15**	**35**
Coastal	**188**	**152**	**-19**	**60**	**105**	**73**	**11**	**15**	**38**
State	**131**	**47**	**-65**	**42**	**60**	**45**	**10**	**7**	**-30**

DISTRICTWISE NORTHEAST MONSOON RAINFALL PATTERN 2023

Sl. No.	Region	Normal (mm)	Actual (mm)	% Departure from Normal	Rainfall Category
1	Bengaluru Urban	219	156	-29	Deficit
2	Bengaluru Rural	213	131	-38	Deficit
3	Ramanagara	226	155	-31	Deficit
4	Kolar	219	120	-45	Deficit
5	Chikkaballapura	211	108	-49	Deficit
6	Tumakuru	186	105	-44	Deficit
7	Chitradurga	155	96	-38	Deficit
8	Davanagere	161	97	-40	Deficit
9	Chamarajanagara	263	175	-33	Deficit
10	Mysuru	214	215	1	Normal
11	Mandya	217	192	-11	Normal
12	Ballari	159	24	-85	Large Deficit
13	Vijayanagar	155	40	-74	Large Deficit
14	Koppala	149	47	-68	Large Deficit
15	Raichur	146	22	-85	Large Deficit
16	Kalaburagi	127	42	-67	Large Deficit
17	Yadgir	134	16	-88	Large Deficit
18	Bidar	117	46	-60	Large Deficit
19	Belagavi	133	72	-46	Deficit
20	Bagalkote	141	29	-79	Large Deficit
21	Vijayapura	133	36	-73	Large Deficit
22	Gadag	147	50	-66	Large Deficit
23	Haveri	166	51	-69	Large Deficit
24	Dharwad	148	63	-58	Deficit
25	Shivamogga	205	146	-29	Deficit
26	Hassan	220	197	-10	Normal
27	Chikkamagaluru	221	199	-10	Normal
28	Kodagu	288	259	-10	Normal
29	Dakshina Kannada	376	549	46	Excess
30	Udupi	312	316	1	Normal
31	Uttara Kannada	187	126	-32	Deficit

1.4.ANNUAL RAINFALL PATTERN DURING 2023:

During 1st January to 31st December 2023 , the State as a whole recorded an actual amount of 872 mm of rainfall as against the normal rainfall of 1153 mm with a percentage departure from normal being (-) 24%. Thus, the State as a whole is classified under the "Deficit" Category.

Meteorological sub division-wise rainfall indicates that Percentage departure from Normal was (-) 20% in South Interior Karnataka, (-) 25 % in North Interior Karnataka, (-) 35% in the Malnad region, and (-) 19% in Coastal Region.

Region wise ANNUAL Rainfall Pattern – 1st January to 31st December 2023:

Meteorological Region	Normal (mm)	Actual (mm)	% Departure from Normal	Rainfall Category
South Interior Karnataka	**714**	**572**	**-20**	Deficit
North Interior Karnataka	**702**	**524**	**-25**	Deficit
Malnad	**1950**	**1275**	**-35**	Deficit
Coastal	**3518**	**2848**	**-19**	Normal
State	**1153**	**872**	**-24**	Deficit

District and Taluk: Categories of Rainfall deviations during Annual 2023

Out of 31 districts, rainfall was in Deficit in 19 districts and Normal in 12 districts. Out of 236 taluks, rainfall was in Large Deficit in 3 taluks, Deficit in 151 taluks, Normal in 80 taluks and Excess in 2 taluks.

Region-wise Seasonal rainfall Pattern 2023:

Region	Pre-Monsoon Cumulative Rainfall (1st March to 31st May 2023)			Southwest-Monsoon 2023 Rainfall pattern (1st June to 30th September)			Northeast Monsoon 2023 (1st October to 31st December)		
	Normal (mm)	Actual (mm)	%DEP	Normal (mm)	Actual (mm)	%DEP	Normal (mm)	Actual (mm)	%DEP
South Interior Karnataka	138	163	18	369	271	-26	202	139	-31
North Interior Karnataka	79	95	21	479	386	-19	140	43	-69
Malnad	163	128	-21	1556	956	-39	226	191	-15
Coastal	156	62	-60	3101	2514	-19	259	272	5
State	115	116	1	852	642	-25	182	114	-38

DISTRICTWISE ANNUAL RAINFALL PATTERN 2023

Sl.No.	District	Normal (mm)	Actual (mm)	% DEP	Rainfall Category
1	Bengaluru Urban	846	689	-18	Normal
2	Bengaluru Rural	798	701	-12	Normal
3	Ramanagara	840	647	-23	Deficit
4	Kolar	735	689	-6	Normal
5	Chikkaballapura	736	586	-20	Deficit
6	Tumakuru	669	574	-14	Normal
7	Chitradurga	540	353	-35	Deficit
8	Davanagere	659	470	-29	Deficit
9	Chamarajanagara	787	601	-24	Deficit
10	Mysuru	837	690	-18	Normal
11	Mandya	699	580	-17	Normal
12	Ballari	599	266	-56	Deficit
13	Vijayanagar	643	338	-47	Deficit
14	Koppala	614	383	-38	Deficit
15	Raichur	654	479	-27	Deficit
16	Kalaburagi	770	716	-7	Normal
17	Yadgir	719	582	-19	Normal
18	Bidar	838	840	0	Normal
19	Belagavi	826	679	-18	Normal
20	Bagalkote	582	341	-42	Deficit
21	Vijayapura	591	422	-29	Deficit
22	Gadag	624	399	-36	Deficit
23	Haveri	800	483	-40	Deficit
24	Dharwad	787	552	-30	Deficit
25	Shivamogga	2325	1479	-36	Deficit
26	Hassan	1142	859	-25	Deficit
27	Chikkamagaluru	1833	1193	-35	Deficit
28	Kodagu	2729	1690	-38	Deficit
29	Dakshina Kannada	4006	3284	-18	Normal
30	Udupi	4535	3525	-22	Deficit
31	Uttara Kannada	2936	2408	-18	Normal

2. RESERVOIR STATUS AS ON 2ND FEBRUARY 2024

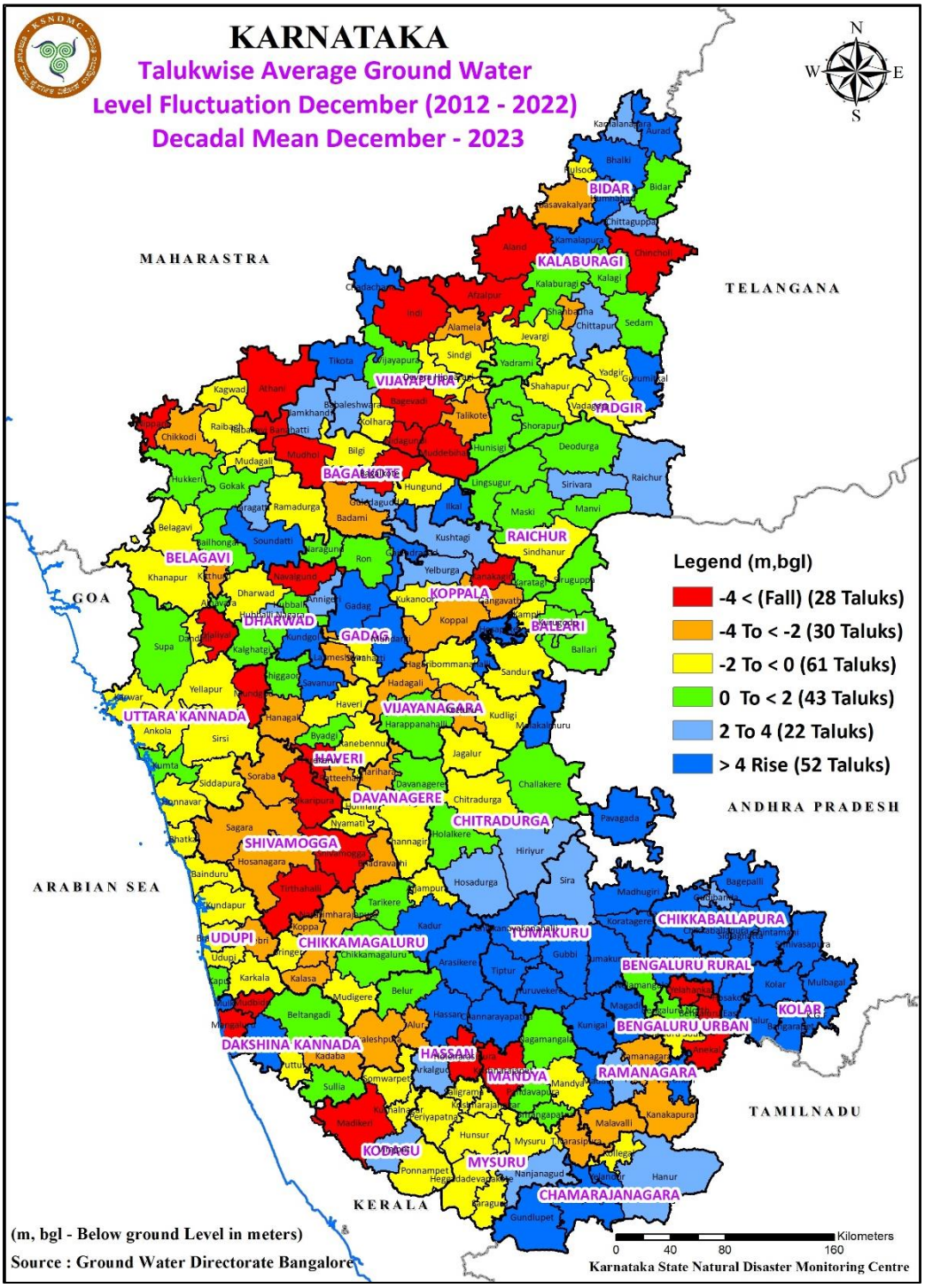
Sl.No.	Name of the Reservoir	Reservoir Level Information (Meters)			Capacity in TMC				Flow details	
		FRL in meter above MSL	RL as on 02/02/2024	RL as on 02/02/2023	Gross Capacity TMC	Gross Storage as on 02/02/2024 TMC	Gross Storage as on 02/02/2023 TMC	Present Capacity % of Col. 8 as % of Col. 7	Cumulative inflows from 01.06.2023 (TMC)	Cumulative outflows from 01.06.2023 (TMC)
1	2	3	4	5	7	8	9	10	13	14
1	Linganamakki	554.44	541.16	547.03	151.75	47.52	83.57	31	105	66
2	Supa	564.00	541.15	547.44	145.33	65.15	83.20	45	80	56
3	Varahi	594.36	579.41	582.62	31.10	9.29	12.77	30	14	7
HYDEL					**328.18**	**121.97**	**179.53**	**37**	**199**	**130**
4	Harangi	871.38	863.04	862.25	8.50	3.42	3.29	40	27	25
5	Hemavathi	890.58	881.26	885.09	37.10	14.86	22.35	40	38	38
6	K.R.S.*	38.04	28.00	34.50	49.45	17.08	35.04	35	74	65
7	Kabini	696.13	692.65	692.33	19.52	12.99	12.44	67	49	39
CAUVERY BASIN					**114.57**	**48.34**	**73.13**	**42**	**150**	**130**
8	Bhadra	657.73	645.89	654.55	71.54	32.10	59.04	45	35	28
9	Tungabhadra	497.71	484.09	492.49	105.79	9.66	50.51	9	110	108
10	Ghataprabha	662.91	655.66	654.00	51.00	33.69	30.32	66	54	26
11	Malaprabha	633.80	626.46	629.06	37.73	13.11	19.95	35	17	12
12	Almatti	519.60	513.61	516.08	123.08	51.99	74.16	42	226	196
13	Narayanapura	492.25	488.70	491.03	33.31	19.60	28.08	59	169	164
KRISHNA BASIN					**422.45**	**160.14**	**262.05**	**38**	**417**	**336**
14	VaniVilasSagar	652.24	648.52	652.21	30.42	20.64	30.34	68	0.35	5
TOTAL					**895.62**	**351.09**	**545.05**	**39**	**767**	**601**

3. MINOR IRRIGATION (MI) TANKS STATUS AS ON 31ST JANUARY 2024

Sl No.	DISTRICT	No Of Tanks	Full Capacity mcft.	No.of Tanks (Storage)		
				<30% Insigficant	30 to 50%	>50%
1	Bengaluru Urban	46	1400	0	20	26
2	Bengaluru Rural	98	3107	7	65	26
3	Ramanagara	101	4946	14	62	25
4	Kolar	138	5182	0	116	22
5	Chikkaballapura	201	7954	25	159	17
6	Tumakuru	371	16673	125	223	23
7	Chitradurga	166	9131	12	142	12
8	Davanagere	72	5121	6	62	4
9	Shivamoga	306	3556	0	253	53
10	Mysuru	50	1116	2	32	16
11	Chamarajnagar	64	2360	11	41	12
12	Mandya	48	1232	9	31	8
13	Hassan	170	4946	7	158	5
14	Chikkamagulur	124	4267	20	63	41
15	Dakshina Kannada	2	7	0	1	1
16	Udupi	4	42	0	0	4
17	Kodagu	29	509	0	24	5
18	Belgauvi	290	3237	131	145	14
19	Vijayapura	157	3635	56	64	37
20	Bagalkote	69	1838	39	18	12
21	Dharwad	112	1739	0	100	12
22	Gadag	32	1377	2	25	5
23	Haveri	264	4010	0	165	99
24	Uttara kannada	91	1773	0	81	10
25	Kalaburgai	169	4954	40	109	20
26	Yadgiri	71	2777	2	44	25
27	Bidar	125	2958	29	47	49
28	Ballari	36	766	14	20	2
29	Vijayanagara	84	3450	34	50	0
30	Koppala	122	1937	46	66	10
31	Raichur	73	1789	11	48	14
TOTAL		**3685**	**107788**	**642**	**2434**	**609**
				17%	**66%**	**17%**

4. GROUND WATER STATUS DECEMBER 2023

Ground Water Level Fluctuation: December (2012-2022) Vs December 2023



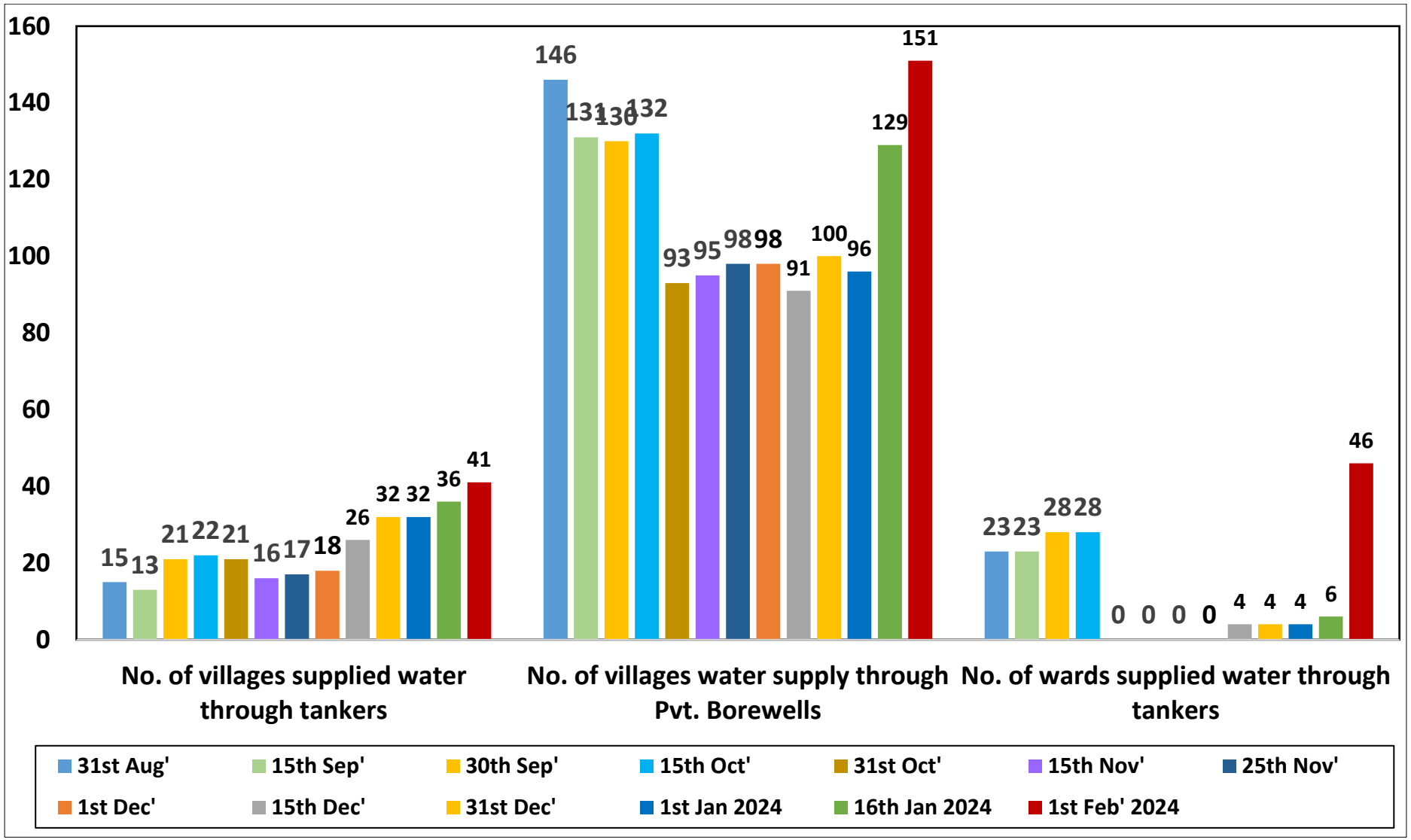
Taluk-wise Groundwater level for DEC' (2012-2022) decadal mean is compared with the groundwater level in DEC' 2023:

Out of 236 taluks, 117 taluks under Rise Category and 119 Taluks under fall category

5. DRINKING WATER SUPPLY DETAILS IN RURAL AND URBAN AREAS ((TANKERS AND HIRED BOREWELLS) AS ON 04-02-2024

SL No	District	Rural Drinking water supply details (excluding villages where there is perennial supply (365 days) of water through tanker due to drought							Urban Areas (ULBs) drinking water supply status		
		No of taluks facing drinking water problem	No. of GPs facing drinking water problems	Tanker supply details			Hired borewell details (as per RDWS-ZP)		No. of Urban Local Bodies facing drinking water Problems	No. of wards supplied water through tankers	Drinking water supplied through how many tankers
				No. of villages supplied water through tankers	No. of tankers utilized for supply of drinking water		No. of Private Borewells hired	No. of villages water supply through Pvt. Borewells			
					No. of departmental tankers utilized	No. of private tankers utilized					
1	Chikkaballapur	4	12	0	0	0	15	15	0	0	0
2	Chikkamagalur	5	10	0	0	0	11	11	0	0	0
3	Davanagere	4	9	0	0	0	14	10	0	0	0
4	Ballari	2	7	1	2	0	8	8	0	0	0
5	Kalaburagi	1	2	0	0	0	3	3	0	0	0
6	Bengaluru Urban	3	18	20	20	0	7	7	4	46	12
7	Mandya	3	5	1	0	1	4	4	0	0	0
8	Hassan	5	20	0	0	0	29	28	0	0	0
9	Ramanagara	1	1	0	0	0	1	1	0	0	0
10	Vijayapura	5	14	23	36	0	7	7	0	0	0
11	Dharwad	1	1	1	0	1	0	0	0	0	0
12	Yadgiri	4	8	0	0	0	16	14	0	0	0
13	Haveri	3	18	0	0	0	39	24	0	0	0
14	Shivamogga	0	0	0	0	0	0	0	0	0	0
15	Uttara Kannada	1	2	0	0	0	2	2	0	0	0
16	Mysuru	1	1	0	0	0	1	1	0	0	0
17	Kodagu	0	0	0	0	0	0	0	0	0	0
18	Vijayanagara	3	13	0	0	0	23	22	0	0	0
Total		**46**	**141**	**46**	**58**	**2**	**180**	**157**	**4**	**46**	**12**

DRINKING WATER SUPPLY STATUS (TANKERS AND HIRED BOREWELLS) COMPARISON - 2023



6. Fodder Availability as on 28-01-2024

State has 115 lakhs Major ruminants (Cattle and Buffalo) and 172 lakhs Minor Ruminants (Sheep and Goat)

Fodder Availability: 148 lakhs tons of fodder which is sufficient for next 27 weeks

Sl No.	District	20 th Livestock Census of District Major Ruminants (cattle & Buffaloe)	20 th Livestock Census of District Minor Ruminants (Sheep & Goat)	Total Fodder availability (in Tons)	Fodder Sufficient for weeks
1	Bengaluru(U)	165029	145337	185191	25
2	Bengaluru (R)	187646	213944	332002	38
3	Chitradurga	338907	1737145	183021	9
4	Chikkaballapura	230727	779867	287609	22
5	Davanagere	329697	317796	608338	41
6	Kolara	236162	577605	166014	14
7	Ramanagara	307146	278118	351003	25
8	Shivamogga	639216	102245	1329350	49
9	Tumakuru	574190	1719048	374478	12
10	Chamarajanagara	254722	279954	227096	19
11	Chikkamagaluru	326313	139502	456997	32
12	Dakshina kannada	252401	32504	187515	18
13	Hassan	656156	328445	1532413	53
14	Kodagu	76920	8253	96489	30
15	Mysore	514280	411669	788877	36
16	Mandya	479429	693563	254077	11
17	Udupi	257184	3107	236075	22
18	Belagavi	1393711	1459420	1542184	24
19	Bagalakote	457163	1006782	787850	35
20	Dharwada	233464	153938	254792	25
21	Gadaga	192109	587555	191781	19
22	Haveri	346561	458174	787318	49
23	Uttara kannada	410305	19192	345677	20
24	Vijayapura	379190	916168	317017	17
25	Ballari	181426	591634	302047	31
26	Bidar	299144	270183	329931	24
27	Koppala	294880	797945	464532	31
28	Kalburagi	458756	558587	325742	15
29	Raichure	357794	940351	459435	25
30	Yadagiri	290774	693940	709063	48
31	Vijayanagara	338560	979426	373780	22
	Total	**11459962**	**17201397**	**14787694**	**27**

V. STATE DISASTER AND HAZARD SPECIFIC ACTION PLANS IN DISASTER MANAGEMENT

1. Karnataka State Disaster Management Plan (KSDMP)

Karnataka State has been facing successive varied disasters threatening normal life and property of many people and unsettling communities at large. To deal with such devastating situations of huge magnitude and gear up quickly, a Comprehensive Disaster Management Plan must be in place for the State, detailing the various action plans to enable the State machinery to handle the situations efficiently and effectively.

KSNDMC, an autonomous organisation affiliated to Revenue Department (DM), Govt. of Karnataka has prepared the KSDMP and the plan incorporates experiences learnt from the past disasters and the best practices adopted in Disaster Management elsewhere in the Country. The plan is very comprehensive and has adopted an inclusive approach. Relevant features have been added to cover more disasters, including Heat Wave Action Plan, Flood Risk Management Plan, Chemical Disasters, COVID-19 Pandemic and Climate Change. This Action Plan has undoubtedly guided the Stakeholder's understanding of the various factors involved in Disaster Management.

2. Heat Wave Action Plan

The India Meteorological Department's forecasted high temperature compare to normal maximum temperatures in most parts of the Country. Some parts of north interior and south interior Karnataka forecasted high temperature of 2-3 degrees above normal temperature, which is harmful to human and animal health. Due to high temperature and heat wave condition in some parts of north interior Karnataka districts, heat wave related health issue and trauma is very common. In this contest, Revenue Department (DM) in association with KSNDMC framed and brought out Heat wave Action Plan 2023. A circular has been issued to carry out these programmes to all the districts.

Heat-Wave Action plan aims to provide a framework for evaluating extreme heat response activities in cities/towns/villages in the State to reduce its negative impact. The plan's primary objective is to alert the community at risk of heat-related illness and to take appropriate precautions in vulnerable zones. The action plan focuses primarily on creating awareness through a range of IEC activities and highlights do's and don'ts during the heat wave period to reduce morbidity and mortality. Increased occurrences and severity of heat waves is a wake-

up call for all departments to take necessary action for prevention, preparedness and community outreach to save lives.

KSNDMC, an autonomous organisation affiliated to Revenue Department (DM), Govt. of Karnataka has estimated the maximum temperature threshold values with 95th percentile at the taluk level based on the temperature data for the last 21 years (2002-2022). The Karnataka State Heat Wave Action Plan for the year 2023-24 is prepared and submitted to Government for implementation. The Heat Wave Action Plan was circulated to all the District Deputy Commissioners through e-Mail and was also placed in the KSNDMC's web portal.

3. Thunderstorm & Lightning Action Plan

National Disaster Management Authority has issued advice/instructions to mitigate the impact of thunder and lightning strikes and frame the state lightning and thunderstorms action plan. The lightning and thunderstorms is very common during pre-monsoon and south west monsoon seasons in many parts of Karnataka. Due to striking of lightning and thunderstorms human and animal deaths are increasing in alarm rate and loss of agriculture and horticulture crops and damage of public infrastructure are noticed in every year. In this context, the Revenue Department (DM) in collaboration with KSNDMC bring out the lightning and thunderstorm action Plan 2023. A circular has been issued for the information of the public advice/instructions to be followed in the event of thunder and lightning to all the districts.

The Thunderstorm & Lightning Action Plan-2023-24 is intended to provide help to the residents in vulnerable areas in the State and to develop tools for Early Warning, Preparedness, Mitigation as well as to formulate coordinated strategies for departments concerned in the State to minimize loss of lives and property arising from thunderstorm & lightning.

The Action plan is expected to minimize hardship faced by the community in the State due to thunderstorm & lightning and discusses widely on its vulnerability in Karnataka, Lightning Detection & Early Warning system setup in the State by KSNDMC, Prevention, Mitigation & Preparedness measures and Capacity Building.

The Karnataka State Lightning and Thunderstorm action plan for the year 2023-24 is prepared and submitted to Government for implementation. The Lightning & Thunderstorm Action Plan was circulated to all the District Deputy Commissioners through e-Mail and was also placed in the KSNDMC's web portal.

4. Landslide Action Plan

The Western Ghats constitutes a very prominent physiographic feature on the western margin of the peninsular India, with hill ranges running nearly 1,600 km in NNW-SSE direction. These Ghats, which forms a gorgeous mountain chain separating the Arabian Sea and the eastern plain, has been witnessing frequent landslides. The topography of Malnad and coastal region is sensitive and any changes in the land use causes landslide or slope failure affecting the population. Slope angle having >25° in coastal and Malnad regions have experienced more numbers of landslides.

Major objectives to prepare landslide action plan in coastal and Malnad districts of Karnataka are towards reducing the losses from landslides, Policies to encourage landslide hazard mitigation through government agencies with the involvement of communities, Establishment of a well-coordinated landslide emergency response mechanism, Real-time monitoring of critically hazardous rainfall induced landslides, Greater public awareness about landslide hazards and methodologies for mitigating losses, Preparation of training material for geologists, geo-technicians, engineers, administrators, and planners and Curricula and training material for public awareness on landslide hazards.

The approach towards landslide incidences must be flexible and iterative to determine whether the strategies to deal with them are effective and have no unintended negative consequences. After every monsoon season, the State must assess the efficacy of its Action Plan, including the processes, outcomes and impacts. Stakeholders should then identify gaps and make improvements for the next season.

The Landslide Action Plan has been prepared for the State and is being updated periodically by incorporating the updated information, changes in Government policies, initiatives, and priorities as well as technological changes and global experiences.

5. Earthquake Action Plan

An Earthquake management plan is a preventative plan designed to reduce the harmful effects of a disaster, wherein one can minimize time and resources that are all too precious after a disaster. Each time there is a major earthquake, lives are lost along with property. Preparation can cut down on the loss of lives, which is why we should have a plan in place in case there is an earthquake. An Earthquake Management Plan covers all phases of earthquake management right from mitigation, preparedness, emergency response, relief to recovery. The plan discusses

roles and responsibilities of each stakeholder and should be used as a guide by all the concerned line departments to prepare their respective departments to play these critical roles and responsibilities. An Earthquake Management Plan is also crucial to achieve the global targets under the Sendai Framework for Disaster Risk Reduction 2015-2030.

The State Earthquake Action Plan comprises of information on its objectives, institutional mechanism setup at national & State level, earthquake hazard, vulnerability, capacity and risk analysis, monitoring and dissemination mechanism, mitigation, response & relief, recovery, preparedness & capacity building, disaster resilience and responsibility framework of various stakeholders. The Earthquake Action Plan shall be implemented by the District Disaster Management Authorities (DDMA's) chaired by the District Deputy Commissioners in consultation with the State Disaster Management Authority (SDMA) and further co-ordination with the District Stakeholders based on the hazard situation.

The Earthquake Action Plan has been prepared for the State and is being updated periodically by incorporating the updated information, changes in Government policies, initiatives, and priorities as well as technological changes and global experiences.

6. Karnataka State Disaster Risk Reduction (KSDRR) Road Map 2023-2030

The 2nd National Level Forum on Disaster Risk Reduction (NPDRR) was held during 15-16th May, 2017 at Vigyan Bhawan, New Delhi on Disaster Risk Reduction Measures for Sustainable Development-2030 India. The forum has discussed on Prime Minister's 10-point agenda on disaster risk reduction and disaster management issues. The forum recommended Prime minister's 10-point agenda for disaster risk reduction. Accordingly, the states of Bihar, Assam, Tamil Nadu, Kerala and Andhra Pradesh have already prepared an agenda for creating and implementing a Disaster Risk Reduction Road Map.

Karnataka is highly drought prone due to erratic and uneven spatial distribution of rainfall. State faced 5 year of consecutively flood, landslides and other intermittent disasters cause of agriculture and horticultural crop, damage of houses and public infrastructures and it is estimated more than Rs. 1.00 Lakh Crore in the last 5 years. In this background, after consultation with various departments in collaboration with UNICEF, an agenda was formulated in March 2021 to prepare Karnataka State Disaster Risk Reduction Road Map 2023-2030.

Karnataka State Disaster Risk Reduction Road (DRR) Map 2022-2030 by the Government of Karnataka is a guiding document for disaster resilience through a proactive DRR management mechanism that will address risk governance,mitigation measures, and preparedness of the State Institutions and communities in rural and urban areas. It is an important initiative of the Government of Karnataka the fourth priority of Build Back Better is achieved. Karnataka State Disaster Risk Reduction Road Map 2023-2030 is framed by Government of Karnataka contains the necessary guidelines for disaster management, through proactive and risk reduction management approaches in urban and rural areas. The plan describes ready and preparedness plans for short-term and long-term disaster management activities to be undertaken by various departments in the next 8 years (2023-2030) and to mitigate and reduce loss of life and property due to disasters. Accordingly the relevant departments have to implement disaster risk reduction measures in their departmental plans and strengthen the state by reducing the disaster risk and climate change adaptability.

VI. NEW INITIATIVES IN DISASTER MANAGEMENT

1. Drought 2023 Input Subsidy

Input subsidy payment process:

The earlier system of Input Subsidy/Parihara payment before Drought 2023:

- Crop loss compensation/Input subsidy/Parihara claims were taken through standalone data entry at VAO level. Multiple logins were given and data entry enabled with no accountability whatsoever.
- There was no correlation between the Calamity Memorandum submitted by the Government for NDRF assistance detailing the crop loss due to calamity and the data entry of the beneficiaries and the crop loss payments made as the system could not account for-
  - i) the sameness of the area of loss declared in the Memorandum and that claimed through standalone data entry
  - ii) the sameness of the farmers or crops
  - iii) the type of crops rainfed/irrigated/perennial declared in the Memorandum and claimed in the data entry
- The input subsidy amount due to a farmer as per SDRF norms is calculated on the variables of type of crop, type of irrigation source and area extent of crop loss damage. Due to manual data entry total discretion on identification of all these three variables was with the VAO and data entry operator including the identification of the beneficiary farmer. Hence inclusion and exclusion were discretionary with no objectivity and accountability in the system. Genuinely affected farmers could be excluded and ineligible beneficiaries included without the system flagging these ineligibilities.
- The entire revenue machinery was involved in data entry for atleast one-two months (for an average crop loss of twelve to sixteen lakh hectares) hampering other revenue department work. Data entry was time consuming, payment of Input Subsidy was through a centralized bank account and payment was triggered in discretionary cycles.
- There was repeated movement of citizens to the respective revenue offices for submission of application, data entry issues, to trigger payments etc. Middlemen thrived and there were extraneous costs per application fixed for data entry and payment.

- There was no integration with other trusted data sources of Government departments; for eg crop survey crop could be totally different from the crop shown as grown in the data entry for which Parihara was claimed and paid as crop loss compensation for the same plot of land.
- Beneficiary validation was lax and dual claims were surreptitiously allowed as unique beneficiary id was not created and de-duplication not done as the payment was through a bank account. For eg in the same season kharif/rabi there are instances of the same beneficiary claiming compensation for crop loss and desilting. As Aadhaar number was entered manually there are instances where the Aadhaar number belonged to a totally unrelated individual who was not the landowner.
- Sanction of Input Subsidy to ineligible beneficiaries has resulted in complaints and inquiries/ongoing inquiries in Haveri, Chitradurga, Chikkamagalur and other districts.
- Payment was done on an inverted priority basis, the largest payments were made first ie perennial, then irrigated and lastly the rainfed farmers, thereby inverting the purpose of Input Subsidy.

Entitlement based Input subsidy for Kharif drought 2023:-

- The new initiative integrates Digital crop survey (Kharif) + FRUITS + Bhoomi data systems through the Parihara software. Through this integrated approach manual data entry application for each affected farmer is not required (there was total discretion on the type of crop, type of irrigation source, area of crop loss damage, identification

Entitlement based Input subsidy for Kharif drought 2023:-

- The new initiative integrates Digital crop survey (Kharif) + FRUITS + Bhoomi data systems through the Parihara software. Through this integrated approach manual data entry application for each affected farmer is not required (there was total discretion on the type of crop, type of irrigation source, area of crop loss damage, identification of all these three variables was vested with the VAO and data entry operator including the identification of the beneficiary farmer).All farmers having FRUITS id in the drought affected Taluk, who had grown crops as identified in the Memorandum as having suffered crop damages due to drought are obtained from the FRUITS and digital crop survey database. The source of crop grown, extent and type of irrigation is crop survey database.

- There is no time lag, repeated movement of citizens to the respective revenue office for data entry of application and related issues, errors in Aadhaar number entry resulting in

disbursement of input subsidy to ineligible persons, follow up by farmers for triggering payments etc.

- Without obtaining a single application from the affected farmers, input subsidy payment is being done on entitlement basis of the affected land area and crops identified as having suffered crop loss by the respective district administration during joint survey while preparing the Memorandum of crop loss.

- If the old system of data entry was followed it would have taken atleast two months for data entry of affected farmers.

Prioritization to the farmer with the least landholding:-

The payment logic of input subsidy in the new system begins with payment for the smallest rainfed landholding farmer and fulfills an increasing order of claims. The total area is rationalized to taluk wise area affected, category wise (rainfed, irrigated, perennial) area as per the Memorandum of crop loss submitted (annexure 5C) by the Deputy Commissioner.

The prioritization for payment logic of input subsidy is as follows:

1. SMF-Rainfed (farmer having the least area is prioritized)
2. OSMF-Rainfed (restricted to 2 ha)
3. SMF-Irrigated (farmer having least area is prioritized)
4. OSMF-Irrigated (restricted to 2 ha)
5. SMF-Perennial (farmer having least area is prioritized)
6. OSMF-Perennial (restricted to 2 ha)
7. Area limit with taluk as unit is restricted to the affected area identified in the Memorandum as also the nature of land (rainfed/irrigated/perennial) as per the extent identified in the Memorandum for the taluk. The list of eligible crops is as per the crops identified for that Taluk in the Memorandum submitted by the Deputy Commissioner.

World Bank Project :

The State Cabinet has on 7th December has given approval to take up World Bank funded **Karnataka Multisector Disaster And Climate Resilience Project**. The Karnataka Multisector Disaster and Climate Resilience Project envisages to enhance Karnataka's resilience against the impacts of climate change and natural disasters, facilitate the mainstreaming of climate and disaster resilience in planning, and implementation of investments. The project envisages a multi-sectoral approach towards strengthening resilience in the state and enhancing the community's resilience against the adverse impacts of climate-induced extreme events like floods and drought through effective climate and disaster risk governance and effective last mile delivery of early warning systems. The told amount for the world bank project is Rs. 5000 crores, State share Rs. crores and World Banks share Rs. 3500 Crore. At present the project is poised before Department Economic Affairs, Ministry of Finance, Government of India

NDMF Project:

- **Bengaluru city urban flood risk reduction project** is being taken up under NDMF. Under this scheme and structural and non-structural intervention are taken to reduce risk from Urban Flooding. The total fund for this project is Rs. 275 Crores. The project has been submitted to Technical Advisory Committee.

- **Drought Mitigation Project:** Drought Mitigation Planning involves developing long-term management mechanisms at the State and District Level, with Rs. 100 Cr each allocated to twelve most drought-prone states over five years. Each drought affected district has to develop a plan to bring about convergence of interventions and monitor them on a long-term basis, with focus on semi-arid areas, dryland farming, and small and marginal farmers. Karnataka state Krishi Bagya (farm ponds) has been a success in the mitigation drought and recharging ground water. Rs.100 crore from Mitigation fund is being earmarked for construction of farm ponds. The project has been cleared by Technical Advisory Committee (TAC) and its placed before the SC-NEC.

VII. ACTIVITIES & BEST PRACTICES OF KSNDMC IN DISASTER MANAGEMENT

Karnataka, eighth largest State in the Country in terms of geographical area (19.1M. sq.km) is one of the States having largest rainfed agriculture area in the Country (about 7.01M Ha out of the net cultivated area of 10.5 M Ha). As only about 26% of the total sown area is under irrigation, the agriculture in Karnataka is heavily dependent on Monsoon rainfall. Of the total normal annual rainfall of about 1150 mm, more than 70% it occurs during the Southwest monsoon alone. Also, the spatial and temporal distribution of rainfall varies significantly within the state. For instance, though the state average rainfall is 1150 mm, the north interior Karnataka receives less than 750 mm of rainfall annually. Highly varying rainfall distribution coupled with deficient rainfall during successive monsoon seasons, leaves farmers in worse condition.

KSNDMC has been serving as a common platform to the various response players in the field of Natural Disaster Management by providing timely proactive Science and Technology inputs. Karnataka has been experiencing weather related Natural Hazards consecutively every year since 2001. The management of weather related Natural Hazards requires Forecasting, Monitoring, Early Warning, Early Recognition and providing Advisories to the response players-Governance & Community towards Preparedness and Mitigation measures.

Karnataka has been subjected to various Natural Disasters, both Hydro-Meteorological and Geological successively every year. Devastating weather phenomena like successive Drought, Flood, Hailstorm, strong surface winds and intense vertical wind shear haven been causing loss of life and property in the State. About 80% of the Geographical area in the state is prone to Drought, 22% of the Geographical area in the state is prone to moderate earthquake risks with possibility of earthquakes with magnitude of 5 to 6.9, 24% of the Geographical area in the state is prone to cyclone and heavy winds, land-slides do affects the areas with slops of more than 30%, 359 km coastal line is prone to sea-erosion and Tsunami threat, Hailstorms are experienced almost every year and causes damages to crops, human lives and livestock's, Thunder storms, cloud burst and lightening causes considerable damages and loss to lives and properties and all the districts in the state are vulnerable to more than one natural hazard

Thus, to monitor and mitigate the impact of these Disasters, for the first time in the Country, Govt. of Karnataka installed an Institutional Mechanism in the form of **"Drought Monitoring Cell"** (DMC) in 1988. Subsequently, DMC was renamed as **"Karnataka State Natural**

Disaster Monitoring Centre" (KSNDMC) with a mandate of Monitoring all the Natural Disasters in the State. Since 2007, Karnataka State Natural Disaster Monitoring Centre (KSNDMC) has taken up pioneering and path breaking initiatives towards monitoring all the Natural Disasters. The Disaster monitoring mechanism, with a proactive approach, adopted by KSNDMC is a unique model in the Country which has enabled the Executives earmarking areas affected by Disasters and notifying them in time. This has greatly supported the activation of response system in planning and implementing mitigation measures in the State.

KSNDMC is an autonomous organisation to Revenue Department, Government of Karnataka. It covers and provides a formal common platform to achieve synergy in the field of disaster management in all the 31 districts of Karnataka.

It is estimated that one rupee spent on early warning and preparedness helps in reducing the cost on rescue, relief and rehabilitation by 7-10 rupees. The investment made on early warning and preparedness has high cost-benefit ratio. It comprises installation of field monitoring sensors - Weather, Geological, Hydrological; collection of data on real time, transmission of the same to a central computational/analysis Centre; data processing; analysis; alert recognition; simulation through appropriate mathematical models, customized report generation; dissemination of the alerts/reports/advisories to the users.

KSNDMC is providing a formal common platform to achieve synergy in the field of Disaster Management in the State of Karnataka.
The main objectives are:

- Hazard mapping and Vulnerability Studies
- Strengthening of Information Technology for Natural Disasters Management
- Monitoring and impact assessment of Natural Hazards
- Human Resource Development mainly by imparting training
- Natural Disaster Early Warning System

Weather Monitoring Network in Karnataka

Karnataka state was the first State in the country to establish a Drought Monitoring Cell (DMC) in 1988. This Centre has taken the lead in monitoring and managing the recurring Drought situation in the State on a scientific basis. A Drought Monitoring Cell is thus considered a success in knowledge management and decision support systems. Subsequently, the DMC was renamed Karnataka State Natural Disaster Monitoring Centre (KSNDMC) and functions as an

autonomous body affiliated to the Revenue Department (Disaster Management), Govt. of Karnataka. KSNDMC has developed a robust mechanism to monitor and assess Drought periodically at the Hobli level which is helping the response players to take necessary action in time to mitigate the impact of Drought in the State.

Karnataka has established a dense network of Solar Powered, and GPRS enabled Telemetric Rain Gauges (TRG) stations covering all the 6589 Grama Panchayaths (25 sq. km each) and Telemetric Weather Stations (TWS) at all the 850 Hoblis in the State (200 sq. km each). The other key features of the network are the Rainfall measuring accuracy of 0.5 mm, Data collected every 15 minutes, no Manual intervention, and all the stations working 24 x 7 and 365 days. The dense network of Rainfall and weather monitoring stations is the first of its kind in the country.

KSNDMC has established a state-of-the-art facility to collect data at a very high spatial and temporal resolution, data analysis, information and advisory generation and dissemination to the Stakeholders in a near-real-time. Necessary computer/web applications have been indigenously developed to collect, store, analyse and transmit reliable, accurate and seamless data with the least manual intervention. As a result, the time interval between data collection to decision-making is almost at a near-real-time. Based on the near real-time data collected, KSNDMC identifies and maps the vulnerable hazard areas, prepares reports with advisories and disseminates them to stakeholders.

The near-real-time data collected through the network of the station is being used for monitoring and assessing Drought indicators at the Hobli level in the State every week. KSNDMC is monitoring and guiding the state executives and the farming communities to reduce the impact of and also to plan & implement long-term mitigation measures. The Centre is also assessing the impact of Drought using Weather Data, Soil Moisture & Agricultural crop Status, Satellite products, Surface & Groundwater Status on Standard Weekly basis during each Season.

Some numerical standard is needed for comparing measures of Drought from region to region, as well as for comparing past Drought events, because of the complexity of Drought, no single index has been able to adequately capture the intensity and severity of Drought and its potential impacts on such a diverse group of users. However, to facilitate the decision to declare Drought over a specified administrative unit and provide relief assistance to affected people in time, the Ministry of Agriculture, Cooperation and Farmers Welfare, Government of India, has brought

out a Manual for Drought Management 2020 which comprises Scientific Indices for Drought assessment. It is acknowledged that a combination of carefully chosen indicators and indices derived from ground-level and satellite observations can identify areas with Drought.

Weather Forecast System at KSNDMC

Weather forecast at very high temporal and spatial resolution is yet another critical factor, especially for the Agriculture and allied sector. So, the KSNDMC generates Rainfall / Weather Forecast for Karnataka every day in collaboration with national agencies like Space Applications Centre (SAC), Ahmadabad and Satish Dhawan Space Centre (SDSC-SHAR), Sriharikota, Indian Space Research Organization (ISRO) and India Meteorological Department (IMD), MoES, Govt. of India.

Short Range Weather Forecast: Includes forecast for rainfall, temperature, cloud cover, wind speed and direction at Gram Panchayat level for the entire state at 12 hrs format for the following three days. Also, the forecast is revised every day.

Medium-Range Weather Forecast: The rainfall forecast at Gram Panchayat level at 24 hrs format for the following 10 days is generated every day.

Long Range Weather Forecast: KSNDMC provides a 5-day weather forecast generated by IMD weekly cumulative rainfall outlook for two weeks generated by National Environmental Prediction Centre (NCEP). In addition, the long-range weather outlook generated by IMD is also made available

Data Dissemination in Weather Forecast Model: The weather data observed on the ground is also ingested into some of these weather forecasting models and it has been to be useful in correcting and improving the Model output over the years

KSNDMC has made MoU's with various Organizations like SAC – ISRO, Ahmadabad, CSIR 4PI, NCMRWF and IMD to get diversified weather forecast for all types like from Nowcasting to long range / seasonal forecast at different levels (sub block to GP level) for the State through file transfer protocol (FTP) mode on daily basis.

Type of Forecast	Source of Information
Nowcast & Short Range	IMD, SAC & SDSC-SHAR - ISRO
Medium & Long Range	IMD, SDSC- SHAR, ISRO, NCEP-NCAR
Seasonal Outlook	IMD-IITM, MoES
Short & Seasonal	IMD, MoES

Drought Monitoring:

The near-real-time data collected through the network of station is being used for monitoring and assessing Drought indicators at Hobli level in the State on a weekly basis. KSNDMC is monitoring and guiding the State executives and the farming communities to reducing the impact of and also to plan & implement long term mitigation measures. The Centre is also assessing the impact of Drought using Weather Data, Soil Moisture & Agricultural crop Status, Satellite products, Surface & Groundwater Status on Standard Weekly basis during each Season. The Ministry of Agriculture & Farmers Welfare, Govt. of India, has brought out a manual for Drought Management during December, 2016. The manual prescribes several Science & Technology based Indices, as mentioned below, to be used by respective States to assess the Drought condition.

The Ministry of Agriculture & Farmers Welfare, Government of India, released a Manual for Drought Management in 2009. A revised manual for Drought Management was brought out in December 2016 (Updated in 2020). The manual prescribes several science & technology based Indices, as mentioned below, to be used by respective states to assess the Drought condition.

Drought Monitoring and Early Warning Systems Objectives:

Provide accurate and timely information on:

- Rainfall, crop sown area
- Data on soil moisture
- Stream flow, groundwater, lake and reservoir storage at the relevant spatial scale at the State/district / Taluk/ Sub-taluk levels
- Detect Drought conditions as early as possible to implement District Agriculture Contingency Plans and the Crisis Management Plan
- Weather Forecast: Short, Medium, Long Range

Key Parameters for Assessing Drought

1. **Rainfall Based:** Rainfall amount and deviation, rainfall distribution (Dry Spell) and Standardized Precipitation Index
2. **Crop Based:** Sowing Progression, Crop Damage/ Crop Yield and Moisture Availability (Moisture Adequacy Index, Plant Available Water Content, etc.)
3. **Satellite Based:** NDVI,NDWI, Vegetation Condition Index and Soil Moisture Index
4. **Hydrological Parameters:** Stream flow, Reservoir level and Groundwater level

5. **Other factors:** Socio-economic parameters such as availability of Food, Fodder & Water; Demand for Work; Migration, Distressed sales etc.
6. **Weather forecasting:** Short, Medium, Long Range

Cabinet Sub-Committee and Weather Watch Committee at the State Level

- Cabinet Sub-Committee on natural calamities headed by the Revenue Minister (with Cabinet ministers of Agriculture, Horticulture, Rural Development, Public Works and Co-operative departments as members) periodically reviews the seasonal conditions and guides the implementation of mitigation measures. The Cabinet is also appraised on a fortnightly basis of the emergent weather conditions.
- The Additional Chief Secretary (ACS) & Development Commissioner chairs the State level Weather Watch Committee, and Principal Secretaries / Secretaries of more than ten line departments of the State are members. The Committee reviews the disaster situations prevailing from time to time and guides the implementation of mitigation measures by the departments concerned. Weather Watch Meeting is an inter-departmental forum that watches the progress of seasonal weather conditions, forecasts, crop sowing, moisture adequacy index, Satellite-based vegetation indices Like NDVI, NDWI and VCI, reservoirs and tanks status, groundwater status, drinking water supply status, fodder availability, seeds and fertilizer availability and MGNREGA status**.**

- KSNDMC coordinates with all line departments collects and collate the information and provides detailed Weather related Information like Seasonal Rainfall Condition, Weather forecast, Rainy days, Reservoir level data, Minor irrigation tank status, Groundwater status, Water spread Area derived from satellite data, Satellite-based Vegetation indices, Moisture adequacy Index data to the Weather Watch Committee and also to the Central Weather Watch Group on Drought Management (CWWGDM), Govt. of India.

Flood Monitoring:

Flood is one of the most common and recurring Natural Disasters in Karnataka, in the last decades. Large parts of North Interior Karnataka, which is under Krishna River basin is prone to severe floods. Similarly, the Malnad region and parts of South Interior Karnataka, which are in the Cauvery river basin, are also prone to floods and associated with landslides/mudflows. Heavy and high-intensity rainfall during the Monsoon season has been causing floods in one

or the other parts of the state resulting in loss of life, livelihood, property, enormous damage to the standing crops, destroying critical infrastructure. Considering the flood severity over the State a dedicated Flood Forecast Cell with a group of officials was created at KSNDMC, which facilitates the stakeholders to take appropriate measures to mitigate the impact of floods, for providing flood forecast, alerts and early warnings. The Flood Forecast Cell has been assigned to carry out the analysis of weather condition and issue customised weather forecast, alerts and early warnings as and when necessary to the concerned about the impending severe weather condition and resultant possible floods in the State.

The cell to update the regular inflow and outflow information of Reservoirs and Rainfall forecasts issued by IMD & CWC to estimate the inflow to each reservoir. Technical input is also being given to concerned authorities regarding rainfall forecast, alerts & early warnings, water levels and basin wise heavy rainfall/high Intensity messages.

Urban Flood Monitoring :

An integrated Urban Flood Model for Bangalore City (UFM) is being developed by Karnataka State Natural Disaster Monitoring Centre (KSNDMC) in collaboration with Indian Institute of Science (IISc) Bangalore, to manage floods in the city. An efficient forecast system with a well-established network of 100 Telemetric Rain gauge Sensors and 12 Telemetric Weather Stations with integrated two-dimensional flood model, along with 26 Water Level Sensors, provides information on the spread of the floodwater (vis- à-vis flood inundation). An automated information dissemination Web Portal and a Mobile app named Bengaluru Meghasandesha (BMS) has been developed to disseminate relevant information to stakeholders.

The Flood forecast issued about 6-8 hrs in advance has been found to be of great help to the civic authorities, responsible for managing the city. They could take appropriate and timely decision to manage the resources in terms of man-power and machinery in handling the adverse situation arising from inundation or food in the city area. The Traffic Police has also been using the information and forecast for managing the traffic congestion and or accidents due to inundation or flood.

Thunderstorm and Lightning Monitoring:

Lightning strikes have been causing loss of life and property in Karnataka as well. Apart from the loss of life, there is a huge loss of livestock as well as infrastructure due to lighting strikes

in the State every year. Apart from the loss of life, there is a huge loss of livestock as well as infrastructure due to lighting strikes in the State every year. A moderate thunderstorm can damage thatched huts, kutcha roads, standing crops, orchards, power and communication lines.

Alerts are being disseminated through Common Alert Protocol (CAP) system and alert dissemination system at 104 Grampanchayath locations initially and extend further to all the vulnerable areas in the State. Like any other natural disasters, the effect of Lightning strikes cannot be completely avoided. However, the Lightning Strike Early Warning system developed in Karnataka is intended to effectively minimize the loss of life and property in the State. KSNDMC disseminates Lightning & thunderstorm information through various methods such as area specific SMS, through VAUNAMTRA call Centre, issuing alerts, advisories and early warnings to all the stakeholders in real time. Based on the real time lightning data, KSNDMC has developed Mobile App "**SIDILU**" for disseminating the location specific information about Lightning Strikes in the State.

Apart from the Early Warning, the App also provides the advisory about the safety measures in the form of Do's & Don't's to the public, which will help them to secure themselves during the Lightning activity to their location. Early Warning about the lightning strikes will also be disseminated to the public in regional language through 24x7 Interactive Help Desk "VARUNA MITRA" operational at KSNDMC. The database, customized to every Grampanchayath, of about 28 lakh farmers / general public available at KSNDMC will also be used for disseminating Lightning Strike Early Warning.

The APP offers a comprehensive map view of the real time occurrences of lightning(s) around the user's current geo location within Karnataka. The concentric circles at the centre of the map show the lightning occurrences that span from a radius within 1 KM (RED – high danger); within 5 KM (ORANGE – moderate danger); within 15 KM (YELLOW – still within overall dangerous zone) from the user's current geo location. If there are lightning occurrences happening within any of these radiating circles, push notifications will be sent to the mobile user, bringing his/her attention to the severe weather occurrence.

The APP issues warnings to smart phone users 30 to 45 minutes before the lightning strike by displaying information in different colours. An alert in red indicates that the user is in danger zone as there is a 90% probability of a lightning strike within one km radius of the location; Orange shows the possible occurrence of the strike within 5 km radius and yellow in 15 km radius.

Seismic Monitoring:

Quaking or shaking of the earth is a common phenomenon undoubtedly known to humans from earliest times. It is estimated that around 500,000 earthquakes occur each year, detectable with current instrumentation. About 100,000 of these can be felt and others go unnoticed. Geographically, Karnataka forms a part of peninsular India, and is tectonically identified as an intraplate shield. Due to the convergent movement of the Indian plate at the rate of 5 cm/year, it induces moderate to high deformations in the interior of the Indian plate and therefore, the peninsular India can no longer be considered as a stable landmass with low seismicity.

Monitoring: KSNDMC at its Master Control Facility (MCF) is receiving the Seismic data on real time from the 14 remote Observatories through VSAT & GPRS modes. The data received to KSNDMC is being monitored by the scientific personnel continuously and information pertaining to the local earthquakes is being marked for further analysis.

Data Analysis: Necessary processing techniques are being adopted through applying required filters to the marked seismic data to enhance the seismic signal and pass out the local noise level. The Primary, Secondary & Surface waves are being picked with time along with the coda wave length for calculating the following parameters:

Epicentral Distance (kms); Epicentre of the Tremor (Co-ordinates); Magnitude; Focal depth (kms); Total duration of the Earthquake waveform in UTC timing.

Later, the data pertaining to a particular event is being cut and moved to event wise folder along with the details of the event for future reference as and when required.

Information Dissemination: The analysed earthquake event is disseminated to the officials of District, Taluk and Gramapanchayath, Dam Authorities through SMS initially. Later a Technical Report will be disseminated detailing the geology of the area where the tremor was felt, presenting the recorded seismograms with mark of primary & secondary waves, mapping the faults, major & minor lineaments in the area, if any, Do's & Don't's during an earthquake and safety measures to the local community.

The processed information from the above stations is also being made available to the users through the Centre's web portal at www.ksndmc.org and e-mails. This Centre through KSNDMC Daily Reports provides Daily Earthquake information on Local, Regional & Teleseismic Earthquakes to the CM's Office and offices of all Line Departments. To address the Seismicity in the State, KSNDMC has established a Network of 14 VSAT Enabled and

Solar Powered Permanent Seismic Monitoring Stations at different vulnerable locations in the State. The data pertaining to these 14 Seismic Stations is being received to the Master Control Facility (MCF) located at KSNDMC, Bengaluru in Real Time through VSAT & GPRS Technologies. Through this Network of Stations in the State, KSNDMC is monitoring Local, Regional and Teleseismic Earthquakes. Technical support in terms of providing Earthquake information through SMS followed by Technical Reports are being provided to the Stakeholders of GoK and the Dam Authorities for taking up mitigation measures accordingly.

Real-Time Decision Support System (RTDSS) for Flood Early Warning System in Krishna Basin of Karnataka

Many districts in north Karnataka falling in the Krishna basin have suffered severe floods during 2005, 2009, 2019, 2020 and 2021. The impact of floods was severe to the agriculture, transportation sectors, livestock, life, and properties. Establishing a fully operational RTDSS for real-time "End to End" Flood Forecasting and Early Warning System has enabled the community and administrators to have area-specific disaster (flood) preparedness plans to reduce the impact of the flood. Early warning is expected to give a reasonable lead time for stakeholders and vulnerable communities to have better action plans and preparedness to tackle the flood risk.

KSNDMC has established RADAR Stream gauges & Velocity meters along with Reservoir level Sensors, in all the six major Reservoirs in the Krishna basin and in selected upstream and downstream of the river, data collection and analysis, developing State-of-the-art modelling tools for flood forecasting and inundation mapping compatible to GIS environment, development of dissemination system for Early Warnings & Advisories to all the Stakeholders.

Weather Monitoring and Flood Early Warning System for SMART Cities (Belagavi, Mangaluru and Hubballi-Dharawada) of Karnataka

KSNDMC has established a smart weather monitoring system (75 Telemetric Rain Gauges, 29 Telemetric Weather Sensors and 50 Water level sensors) using ICT enabled sensors network and hydrological model to continuously monitor dynamic weather condition and provide S & T based inputs for effectively managing the urban flood events in Smart cities of Belagavi, Mangaluru and Hubballi-Dharwad.

KSNDMC has been providing rainfall, severe weather alerts, flood forecast, and early warning messages to the Government Agencies in the Smart Cities through SMS to their mobile phones on social media platforms and dedicated web-portal. The information thus provided by

KSNDMC has been of great help for the civic authorities in the smart cities to take necessary preventive action to implement flood impact reduction activities and effectively manage the floods in the cities on occurrence. It also helps the public to be aware of the location specific real-time weather and near real-time weather forecast parameters to plan their activities.

Real-time weather monitoring portal, generation of flood hazard and inundation maps for vulnerable locations, high Intensity Rainfall Alerts (HIRA) and advisories to Municipal authorities and other line departments, Mobile app for disseminating real-time and forecast weather, early warning on severe weather, lightning and thunderstorm, flood to the stakeholders are the outcomes of such establishment.

Early Warning for disaster reduction is a legitimate matter of public policy at the highest national levels for two main reasons. Firstly, the public safety, and the protection of human lives and Secondly, protection of the resource base and productive assets like infrastructure or investments to ensure long-term development and economic growth. Effective early warning system helps in reducing the impact of disasters, ease the financial and political burden of massive rehabilitation costs.

Communication of early warning information:

An effective early warning system needs an effective communication system. Early warning communication systems are made of two main components:

- Communication infrastructure hardware that must be reliable, robust and failsafe, especially during the natural disasters
- Provision for appropriate and effective interactions among the main players of the early warning process such as the scientific community, stakeholders, decision makers, the public, and the media

Early warning dissemination through centralised wireless broadcasting system:

In order to provide early warning with sufficient lead time to the vulnerable community to take appropriate action to mitigate the impact of any disaster, a full-bodied Early Warning System with last mile connectivity is being installed in 104 highly disaster vulnerable Grampanchayaths in Karnataka. The state-of-the-art technology driven system is designed for disseminating necessary / precautionary messages through public announcements from central system from the state headquarters directly to the vulnerable Gramapanchayaths. The solution is a 3-tier system where messages can be relayed directly from State or District or Taluk

Headquarters to the Gramapanchayaths. The system has features for recording the customized messages, storing, forwarding & broadcasting, which can be scheduled at various timelines along with broadcasting repetitions also. The system also has designed to playback automatic messages using text to speech.

Types of messages broadcasted through the system:

- Weather forecast that include Rainfall, Temperature, Relative Humidity, Wind speed, Wind direction etc.,
- Disaster survival messages on how to safeguard oneself from lightning, Storms, Earthquakes, Fire safety, Floods, Tsunamis, Urban Floods, Landslides, Biological Emergencies etc.,
- Drought Management and information on assistance to community on drought relief
- Government Messages to the local community
- Local customized messages pertaining to the vulnerable GP's or the respective taluks

Implementing Insurance Schemes at KSNDMC

The high-resolution weather data collected from the ground level has been used for the implementation of Crop Insurance Scheme in the State, which is considered as a risk transfer mechanism. The weather data is used at different levels. First, it is used in designing the Term-sheets in case of Restructured Weather Based Crop Insurance Scheme (R-WBCIS), wherein area-specific and crop-specific term sheets are designed by using high-resolution historical weather data by the agencies. Similarly, the ground-level weather data is also being used by the public for claiming insurance for the damage/loss of property incurred due to weather aberration.

Incidences of damage to industrial sheds or the chimneys due to high wind activity are being established and assessed using the weather data collected from the TWS station network. Likewise, damages to the poly-houses installed for floriculture and/or cash crop cultivation are also assessed using the weather data. The observed data from the nearby TWS or TRG station is used to corroborate the incidence of weather aberration beyond a threshold, and accordingly, insurance claims are being settled between the parties.

Water Resource Management

The information on the weather, based on the high resolution data, and weather forecast is also being used for efficient management of the water resources in the State. For instance, by considering the available water storage in the Reservoirs, the current inflow based on the ongoing rainfall activity in the catchment and expected inflow based on the rainfall forecast, the water is allocated / utilised for drinking, industries and irrigation for the agriculture. In this

process of decision making about utilization of available water, the need of water for drinking purpose is given first priority during the distress years. Only after this critical need is met, decision is taken on quantity and time for releasing the water for irrigation purposes.

Information Dissemination mechanism at KSNDMC

Information Dissemination plays an important role in disaster risk reduction. KSNDMC has deployed various dissemination systems to communicate disaster-related information through Alerts, Advisories and Early Warnings to all the Government Executives & Community at last mile in real-time. High Spatial and Temporal resolution data thus collected from the ground on various parameters are being converted into information. Subsequently, in conjunction with the weather forecast, the meteorological information is used to generate customized weather Advisories and disseminated to the users. This has enabled the stakeholders at all levels to take appropriate decisions at the right time in the domain of Drought Monitoring & Management, Crop Assessment Survey Mechanism, Water Resource Management. Implementing Insurance Schemes and Power generation and Grid load management.

For providing early warnings on extreme weather conditions, a Weather forecast at high spatial and temporal resolution helps the end-users to plan and implement appropriate measures to minimise the adverse impact of such extreme weather conditions. The weather-related information, and advisories will help especially the farmers to protect their crops from adverse weather conditions and also take advantage of good weather to enhance productivity. The Information Dissemination activities undertaken by KSNDMC are through Email, SMA, Dynamic Dashboard, Website, Varuna Mitra – Help Desk, Social media, SEOC, DEWS, Pronit and Electronic Meadia, mass awareness program and Common alert Protocol (CAP)

For providing early warnings on extreme weather conditions, a Weather forecast at high spatial and temporal resolution helps the end-users to plan and implement appropriate measures to minimise the adverse impact of such extreme weather conditions. The weather-related information, and advisories will help especially the farmers to protect their crops from adverse weather conditions and also take advantage of good weather to enhance productivity. The Information Dissemination activities undertaken by KSNDMC are through the following:

The weather advisories enables farmers to take mid-course corrections aid adoption of better agriculture practices are leading to significant financial savings and returns. The financial gain for the farmer can be assessed as an aggregate of the following factors:

- Improving the efficacy of the operations and enhancing productivity by advancing or postponing critical field level operations
- Minimizing wastage of valuable seeds, labour, and time due to informed choices about the time and acreage of sowing, based on impending rainfall data; and
- Securing the produce against rain damage by hastening harvesting operations
- The advisories to farmers in crop management and farming activity have far reaching benefits which are difficult to be analysed comprehensively

24 x 7 interactive Help-Desk VARUNA MITRA - 9243345433

To disseminate the Agro-Met information, forecast and advisories directly to the farmers, a 24x7 Interactive Help Desk "VARUNA MITRA" has been functioning in Karnataka at KSNDMC. Some of the unique features of this dissemination model are,

- The farmers can get the information on what they need and when they need.
- Provides weather Advisories directly to the farmers through interactive telephony in the language and frequency a farmer can comprehend.
- Information on rainfall, temperature, humidity, cloud cover, wind speed and weather forecast is made available at Grama Panchayat level (highest spatial resolution in the country at present).
- The information and Advisories are based on high spatial and temporal resolution ground level weather observation and same resolution weather forecast.
- Alerts on extreme weather events, information on reservoir status, stream flow etc., are also made available to the users.
- Voice recording of each call is used to improve the service and also to address the complaints.
- The farmers have been calling Varuna Mitra and collecting customized information pertinent to their respective Gram Panchayats and using the information and advisories for planning their agricultural activities starting from land preparation, sowing, inter-crop cultivation, application of fertilizers, spraying pesticides and harvesting. Though it is not a Toll-Free service, the number of calls have been increasing annually and lakhs of farmers are seen to be benefitting from the Varuna Mitra Services.

How does VARUNA MITRA help the farmers?

- Varuna Mitra virtually guide the farmer to choose the right time to carry out necessary activity in the field using the output from different types of forecast products available for different periods like short, medium & long term predictions. Some of the examples are as follows.
- **Sowing:** The farmers go for sowing by anticipating the Southwest Monsoon sets in the normal course and they get seasonal rainfall in their area. But, if there is a delay in the on-set of Monsoon and its advancement to the interior regions, the sowing will be a waste and the farmers have to sow the same crop again or some time even have to choose a short-term variety depending on the sowing-window available in that season. Farmers take the advantage of medium-term forecast provided by Varuna Mitra, choose the right time to take up sowing, and are successful.
- **Pest Control chemical (PCC) Application:** Pest and insect attack is one of the hazards the farmers face during the season. To protect their crop, farmers spray different Pest Control Chemicals, depending on the crop and stage of the crop. The application of PCC will be effectiveness only if it done at right time. If there is an overcast weather (cloudy) or windy or there is even a drizzling will diminish the effect of the chemical applied. It is always ideal to apply the PCC during a sunny day. Otherwise the farmers have to redo the PCC application which increase the input cost, waste of time, energy and material. Just by making a phone call to Varuna Mitra, farmers choose the right day and time for effective PCC application and successfully protect the crop.
- **Irrigation:** By taking the rainfall forecast for the next 3 days or 10 days farmers can decide on supplementary irrigation. If the crop is going to suffer due to soil moisture stress and if there is no possibility of rainfall in the next few days, the farmers irrigate their crop either pumping the water from the bore-well or farm pond or canal etc. If there is a prospect of rainfall, then farmers withhold giving supplementary irrigation. It will save them the cost towards electricity / diesel used for pumping the water from the well, secure the most precious natural resource, water for later usage. All this is possible just through a phone call to Varuna Mitra.
- **Harvesting:** one of the most risky phase in a crop calendar is harvesting. After a lot of hard work farmers grow the crop by nurturing it carefully. Just because of some weather aberration if the crop is lost just during harvesting, then it will be devastating for the famers. If the crop is lost in the early or mid-stage in the crop calendar, an alternate crop

can be grown. But if the full grown crop is lost during harvesting stage then everything will be lost and there is no alternate for the farmer but to wait for the next season. The Varuna Mitra services has been helping the farmers to right time harvesting so that their crop is well secured from the weather aberration, if any.

Providing timely, precise information to the end user will be vital for mitigating the impact of Drought. If the information is provided well in advance, it will help to ease the situation further. As the information and advisories are reaching the executives on a near or real-time basis, it is helping them immensely in planning and executing mitigating measures.

The near-real-time weather data is also being made available to the stakeholders through a dynamic Dash Board on a GIS-enabled web portal, www.ksndmc.org, where data collected from the weather/rainfall monitoring stations every 15 minutes is uploaded. Apart from station-wise data, distribution maps are also generated dynamically on the dashboard.

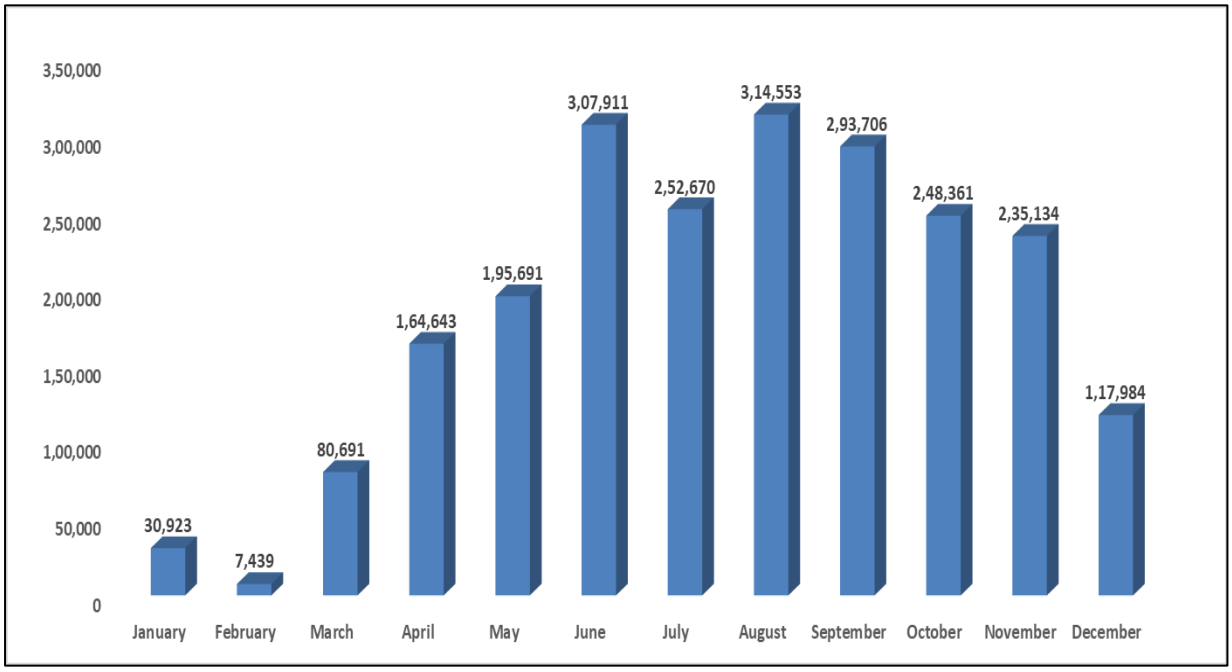
The 24x7 interactive meteorological service platform Varuna Mitra operational at KSNDMC, has been providing meteorological information and advisories to the stakeholders, especially the farming community in Karnataka. Lakhs of farmers have been using the services to minimize possible crop loss due to adverse weather conditions and, on the other hand, enhance crop productivity during favorable weather conditions.

As the farmers interact with Varuna Mitras on a day-to-day basis and share their experiences concerning Agricultural activities in their farm fields and around, the information gathered through the system is also being used as a mechanism to monitor, access and manage the intensity, spread and impact of Drought at micro-level in the State. The VARUNA MITRA Meteorological Services Platform successfully functioning for more than a decade is an exemplary system in this field in the country. Implementation of similar system in other states in the country would help to minimise the burden on the Agriculture and allied sector and also would assist in enhancing the Farmer income and thereby improving the farmer's livelihood.

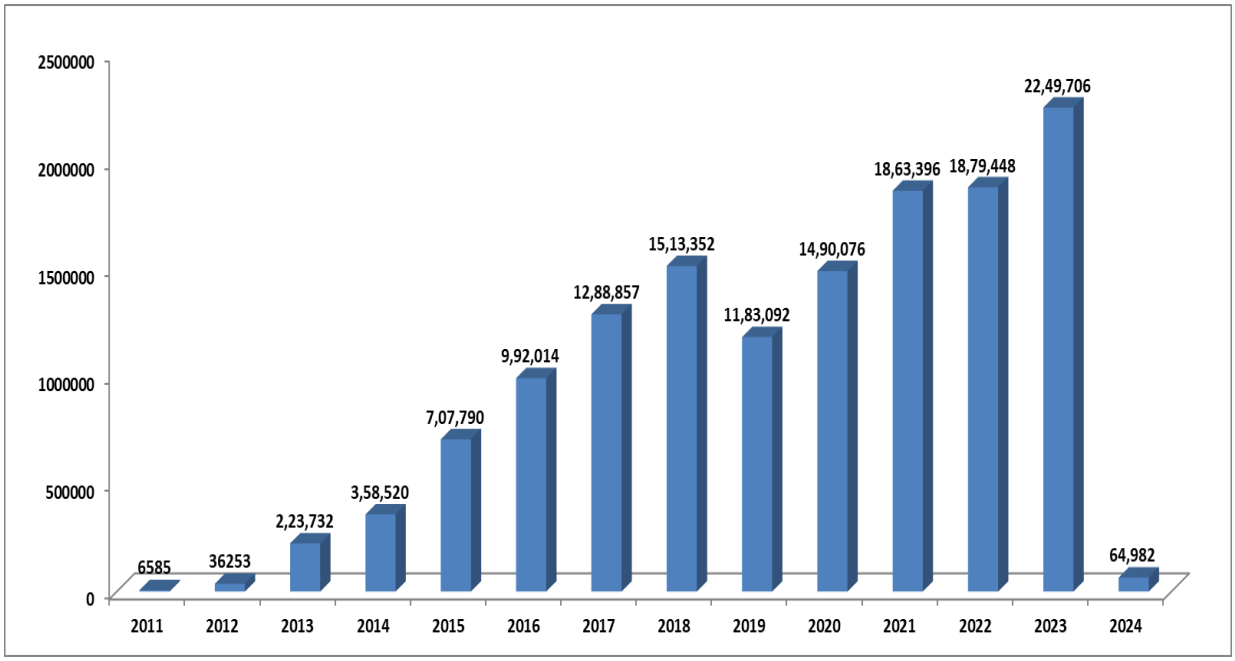
Planning and implementing Drought monitoring and mitigation mechanism is the need of the hour to ease the impact of Drought on the farming community and to protect their livelihood. Karnataka, through KSNDMC, is the first to proactively build an imitational mechanism to provide Science and Technology based solutions with a multi-disciplinary approach to tackle the Drought situation in Karnataka. State–of–the–art techniques employed by KSNDMC have

been of great help to policymakers and Government Executives in planning and executing Drought mitigation measures at the micro-level. As the farming community is directly involved in the process, the availability of the correct information at the right time has been of immense help for them to minimize the loss due to Drought conditions.

MONTHLY CALL VOLUMES FROM JANUARY TO DECEMBER 2023



YEARLY CALL VOLUMES FROM JANUARY TO 15Th SEPTEMBER 2023



Capacity Building / Training

As a part of Capacity Building Activities, KSNDMC Scientific Personnel have been the Resource Persons for several training programmes on "Disaster Monitoring and Management" and also conducting workshops at the centre to the students of School, College, Universities and officers of various Departments of GoK. Scientific Personnel of KSNDMC are participating in the UN Conventions and other NDMA Meetings and presenting the details of Drought Monitoring and Mitigation system in Karnataka. Awareness programmes are conducted and assisted various schools in Bangalore to evaluate their school safety from disaster management perspective and helped them to develop their School Safety Management Plan according to NDMA School Safety Guidelines, 2017.

Internship Program at KSNDMC

Every year KSNDMC provides internship for students/researchers of academics/research/ training institutions. The objective is to provide an Internship/Dissertation programme for the students of reputed educational institutions to pursue their Project work and be submitted. The candidates are supposed to analyse various data and information available in the centre and deduce their findings therefrom. Some of the findings/ ideas generated, which are of good value and implementable, may incidentally be added to disaster management strategies. The internship programme will provide the interns with an excellent opportunity to familiarize themselves with the applications of Remote Sensing (RS) and GIS in natural disaster management.

REPORTS PUBLISHED BY KSNDMC

1. Daily Reports: 365
2. Weekly Reports (960): State – 30, District – 930
3. Monthly Reports (224) : State-7, District-217

SEASONAL REPORTS:

4. Pre-Monsoon Season (32) : State-1, District-31
5. Southwest Monsoon Season (32) : State-1, District-31
6. Northeast Monsoon Season (32) : State-1, District-31
7. Annual (32) : State-1, District-31

TOTAL REPORTS 1677

Memorandum of Understanding Of KSNDMC With State / National Level Organisations:

1. Space Applications Centre (SAC), ISRO, GOI, Ahmedabad
2. National Centre for Medium Range Weather Forecasting (NCMRWF), New Delhi
3. CSIR Fourth Paradigm Institute (CSIR-4PI), Bengaluru
4. Central Ground Water Board (CGWB), Bengaluru
5. Smart Cities of Bengaluru and Hubbali-Dharwad
6. Institute for Socio Economic Change (ISEC), Bengaluru
7. Watershed Development Department (WDD), Bengaluru
8. SPMU-Atal Bhujal, Bengaluru
9. University of Agricultural Sciences, Bengaluru
10. Geological Survey of India, (GSI), Kolkata

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VIII. G.O'S RELATED TO RELIEF TOWARDS DISASTER MANAGEMENT

The following Office Orders/Circulars have been issued for carrying out natural calamity and relief works in the State

Sl. No	Month	Subject	Details of Order / Circular
1	April 2023	Issue Advice / instructions during heat wave to mitigate the adverse effects of heat wave	RD 155 TNR 2023 Dated:25-04-2023
2	May 2023	Issue Advice / instructions and preparedness plan to mitigate the adverse effects of Lightning and thunderstorm	RD 173 TNR 2023 Dated:22-05-2023
3		Issue the order/instructions for Monsoon 2023 Preparedness	RD 203 TNR 2023 Dated:22-05-2023
4		Updating the information's in portal to provide the crop input subsidy for crop loss during pre-monsoon 2023	RD 224 TNR 2023 Dated:26-05-2023
5	June 2023	Release of funds of Rs.42.00 Cr. for flood management under SDRF	RD 237 TNR 2023 Dated:15-06-2023
6	July 2023	Monthly remuneration grant release for DDMA professionals of Gadaga and Kalaburagi district	RD 30 TNR 2023 Dated:21-07-2023
7		Payment of input subsidy at revised rate for crop loss during 2023-24 due to heavy rain and flood	RD 238 TNR 2023 Dated:25-07-2023
8	August 2023	Release of fund for reconstruction/repair of houses damaged by heavy rain and flood	RD 243 TNR 2023 Dated:03-08-2023
9		Release of grant of Rs.5.00 Cr for Uttara Kannada District under SDRF	RD 237 TNR 2023 Dated:07-08-2023
10		Joint survey and ground truthing report in drought affected taluks during monsoon 2023 from the district administration	RD 429 TNR 2023 Dated:25-08-2023
11	September 2023	Joint survey and ground truthing report in drought affected taluks from the district administration	RD 429 TNR 2023 Dated:04-09-2023
12		Declaring the drought affected taluks during south west monsoon 2023	RD 449 TNR 2023 Dated:13-09-2023
13		Release of grant of Rs.168.49 lakh to strengthening of district disaster management authority and continuation of district disaster professional service and their monthly remuneration	RD 266 TNR 2023 Dated:16-09-2023
14		Release of grant of Rs.500 Cr for house damages due to flood and heavy rains	RD 392 TNR 2023 Dated:16-09-2023
15		Release of grant of Rs.20.00 cr to department of Animal husbandry for providing fodder mini kits in drought affected taluks	RD 449 TNR 2023 Dated:22-09-2023

Sl. No	Month	Subject	Details of Order / Circular
16		Release of grant of Rs.4.0 cr to Bidar District for disaster relief Management activities	RD 237 TNR 2023 Dated:27-09-2023
17	October 2023	Declaring the list of drought affected taluks during the Southwest monsoon 2023	RD 449 TNR 2023 Dated:09-10-2023
18		Declaring the additional list of drought affected taluks during the south west monsoon 2023	RD 449 TNR 2023 Dated:12-10-2023
19		Releasing the grant of Rs.324.00 Cr to all the 31 districts for drought mitigation measures and management	RD 513 TNR 2023 Dated:31-10-2023
20	November 2023	Declaring the additional list of drought affected taluks during the south west monsoon 2023	RD 449 TNR 2023 Dated:04-11-2023
21		Release of grant of Rs.178.56 lakh to establish disaster management cell at BBMP head office and 8 zonal offices	RD 539 TNR 2022 Dated:04-11-2023
22		Establish and structuring the taluk level Task force for drought management during south west monsoon 2023	RD 449 TNR 2023 Dated:06-11-2023
23		Avoid and restrictions on inter-state fodder transport	RD 497 TNR 2023 Dated:22-11-2023
24	December 2023	Supply of drinking water, providing fodder and drought mitigation measure	RD 543 TNR 2023 Dated:04-12-2023
25	January 2024	Release of grant of Rs.105.00 for crop input subsidy to farmers for crop loss due to drought condition during south west monsoon 2023	RD 560 ETC 2023 Dated:05-01-2024
26		Release of grant of Rs.237.53 for crop input subsidy to farmers for crop loss due to drought condition during south west monsoon 2023	RD 560 ETC 2023 Dated:16-01-2024
27		Release of grant of Rs.342.47 for crop input subsidy to farmers for crop loss due to drought condition during Southwest monsoon 2023	RD 560 ETC 2023 Dated:22-01-2024

IX. FINANCIAL ARRANGEMENTS

Financial Mechanism and Expenditure

The financing the relief expenditure is based on the recommendations of the successive Finance Commissions. 15th Finance Commission (FC) had recommended annual SDRF allocations to the State for the period from 2021 to 2026.

The SDRF has been sub-divided into three sub-allocation viz; (a) Response and Relief (40% of SDRMF), (b) Recovery and Reconstruction (30% of SDRMF), and Preparedness and Capacity-building (10% of SDRMF). There could be flexibility for re-allocation within the three sub-windows of SDRF for that financial year.

Over and above the provisions of the SDRF, funding is supplemented from the NDRF in the wake of disasters of severe nature.

The quantum of relief for notified calamities is as per the items and norms of assistance from SDRF/NDRF issued by the Ministry of Home Affairs vide letter dated 10-10-2022 and further amended vide letter dated 11-07-2023. The norms can be accessed through https://ndmindia.mha.gov.in/images/Revised%20Items%20&%20norms%20%2011-7-2023.pdf.

The MHA has also issued guidelines for constitution and administration of SDRF and NDRF same may be accessed at
https://ndmindia.mha.gov.in/images/gallery/Guidelines%20SDRF%20&%20NDRF.PDF
The details of allocation and expenditure of SDRF for the year 2023-24

SDRF / NDRF & SDMF fund position 2023 - 24 Allocation of SDRF (Rs. In Lakhs) (as on 3rd Feb' 2024)

Sl. No.	Head Of Account Details	Details of % as per GOI Norms	2023-24 Budget	Re-Appropriation By FD	State Additonality	Revised Budget	Concurrence Given By FD	Amount Released	Balance Available
1	2245-80-102-0-01-051- (Preparedness & Capacity Building)	10%	11627.00	-10380.15		1246.85	1246.85	363.85	883.00
2	2245-80-102-0-01-059 (Response & Relief Operations)	40%	46507.00	40160.40	37805.00	124472.40	124472.40	102900.00	21572.40
3	2245-80-102-0-01-140 (Minor Works - Recovery & Reconstruction)	30%	34880.00	-29780.00	50000.00	55100.00	55100.00	55100.00	0.00
TOTAL BUDGET SDRF			**93014.00**		**87805.00**	**180819.25**	**180819.25**	**158363.85**	**22455.40**
4	2245-80-102-0-02-059- State Disaster Mitigation Fund (SDMF)	20%	23253.00					0.00	0.00
TOTAL SDRF & SDMF			**116267.00**	**0.00**	**87805.00**	**204072.00**	**180819.25**	**158363.85**	**22455.40**

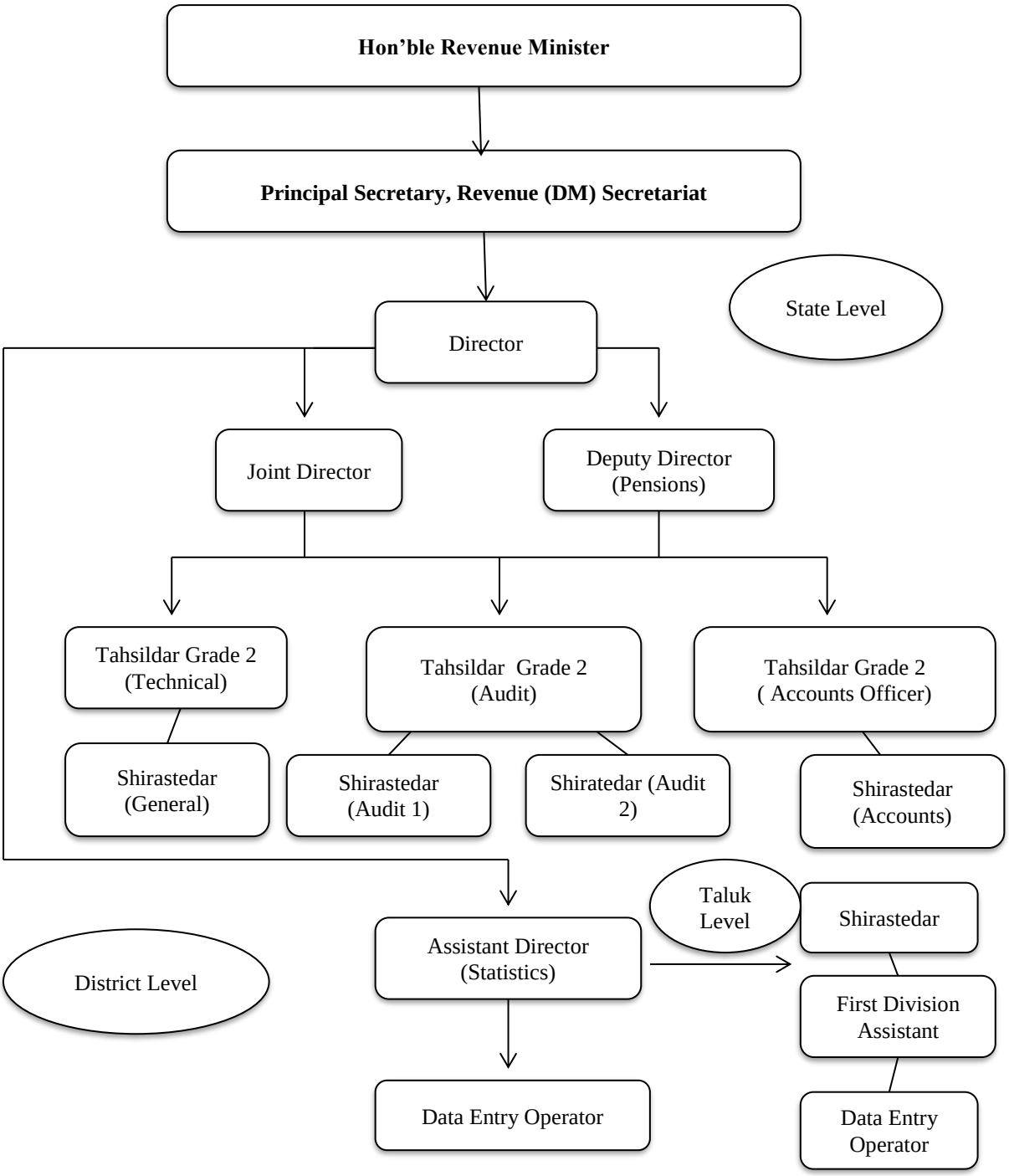
**** Interest Amount released by Finance department is Rs. 20 lakhs**

ANNUAL REPORT
2023-24

DIRECTORATE OF SOCIAL SECURITY
& PENSIONS

INDEX

I. DEPARTMENT STRUCTURE



II. PERFORMANCE

Social Security Schemes Implemented by the Directorate of Social Security & Pensions, Revenue Department:

1. Indira Gandhi National Old Age Pension Scheme (IGNOAPS)

Purpose: To help the old persons

Pension amount:	**Age**	**Pension Amount**
	60 – 64 Years	Rs. 600 per month
	65 above	Rs. 1200 per month

Income limit: Annual Income has been increased to Rs. 32000 for both Rural and Urban Areas with effect from 10.02.2021

Eligibility criteria: Person aged above 60 years and belonging to Below Poverty Line (BPL) Family.

2. Indira Gandhi National Disabled Pension Scheme (IGNDPS)

Purpose: To help the handicapped persons

Pension amount: Rs.800 pm for persons having disability 40% & above 75% Rs.1400 pm and above 75% Intellectually Disabled persons will get Rs 2000/- pm.

Income limit: Annual Income has been increased to Rs. 32000 for both Rural areas and Urban Areas with effect from 10.02.2021

3. Sandhya Suraksha Yojane (SSY) :

Purpose: To help the Senior citizen

Pension amount: Rs. 1200 pm

The purpose of the scheme is to provide some relief to the aged above 65 years by providing financial assistance and bring them to the main stream of the society.

Eligibility under the scheme: A person will be eligible for pension under this scheme if she/he satisfies the following conditions.

He/She should be 65 years or more in age.Such of the persons availing Old age Pension, Destitute widow pension or disabled person pension or any other form of pension from public or private sources are not covered under this scheme.

Income limit: Annual Income has been increased to Rs. 32000 for both Rural areas and Urban Areas with effect from 10.02.2021

The intended beneficiaries should be from the following occupational groups

1. Small farmers
2. Marginal farmers
3. Agricultural labourers
4. Weavers

5. Fishermen
6. Labourers from unorganized sectors (excluding Building and other construction workers)

4. Mythri :

Purpose: To help the transgenders
Pension amount: Rs.800 pm.
Income limit: Annual Income has been increased to Rs. 32000 for both Rural areas and Urban Areas with effect from 10.02.2021
Eligibility criteria: Transgender from BPL families aged between 25 – 64 years

- **Option has been provided in the Beneficiary Management application itself to identify the beneficiaries who have crossed 65 years and action is being initiated to move the beneficiaries to OAP and then by extending higher benefit**.

5. Endosulphan Pension:

Purpose: To help the Endosulphan victims of D.K, U.K and Udupi districts Only
Pension amount: : Rs.2000 pm for persons having disability above 25% upto 59% and Rs.4000 pm for persons having disability above 60%

Eligibility criteria: The intended beneficiary should be a beneficiary identified as Endosulphan victim by Health and Family Welfare Department.

6. State Freedom Fighter Pension/family Pension:
Pension Amount: 10,000/- pm
Purpose: Pension for State Freedom Fighters and their family.

7. Goa Freedom Fighter Pension/family Pension:
Pension Amount: 9000/- pm
Purpose: Pension for Goa Freedom Fighters and their family.

8. National Family Benefit Scheme:

Purpose: To help the families below poverty line during the time of distress caused due to **death of principle bread earner of the family**.
Amount: Rs.20,000/- one-time Payment fully sponsored by Central Government
Age limit: The principle bread earner should be aged between 18 to 59 years belonging to the family of below poverty line (BPL)

9. Adarsha Vivaha Yojane (AVY):

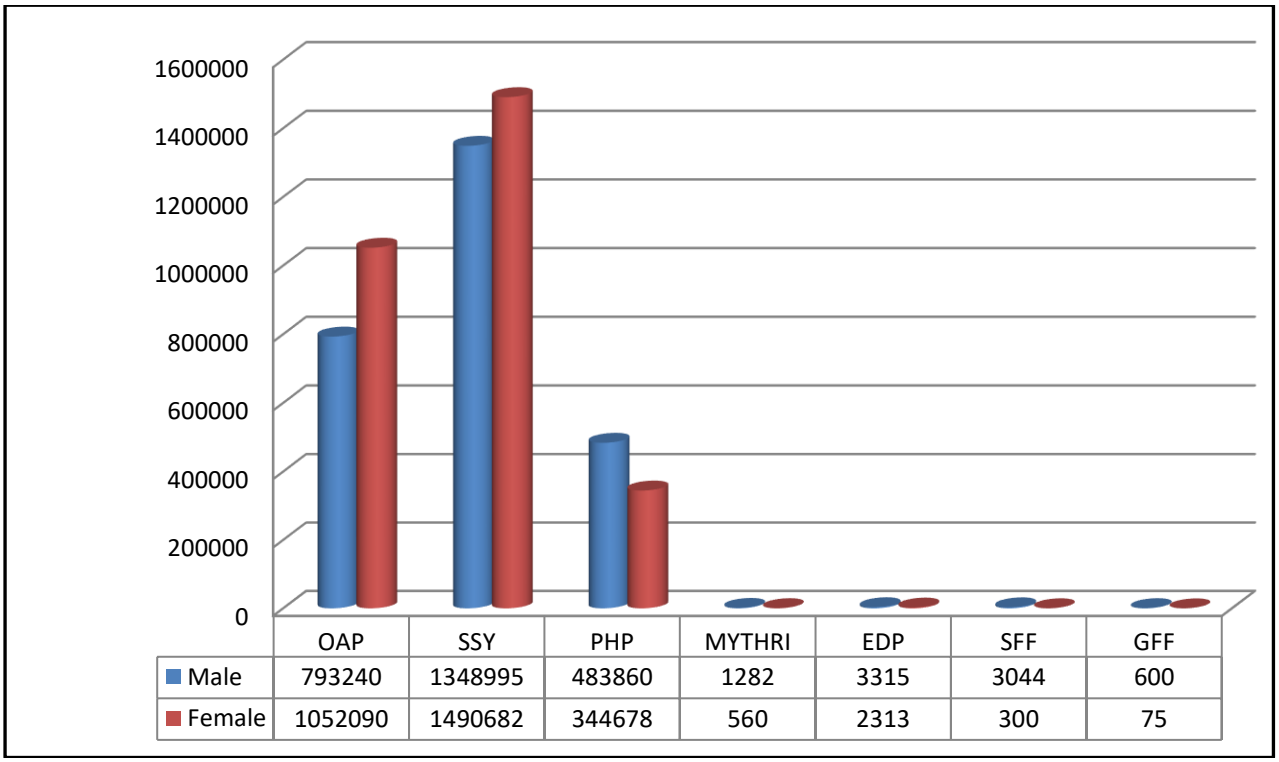
Purpose: To encourage simple and mass marriages.

An amount of Rs.10000/- **(one-time payment)** is paid in term of deposit (2years) in the name of bride, the couples who are getting married in mass marriages of more than 25 in urban areas and 10 in rural areas.

10. COVID-19 COMPENSATION:

State Government has announced a compensation of Rs.1 lakh to BPL family who have lost their family member due to Covid-19, in addition to Rs.50,000 compensation to all death cases as announced by the Central Government.

III. DSSP GENDER CALCULATION REPORT



	OAP	SSY	PHP	MYTHRI	EDP	SFF	GFF
Male	793240	1348995	483860	1282	3315	3044	600
Female	1052090	1490682	344678	560	2313	300	75

IV. WOMEN ORIENTED SCHEMES

1. Indira Gandhi National Destitute Widow Pension Scheme (IGNWPS)

Purpose: To help the destitute widows
Pension amount: Rs.800/- per month
Age limit: 18 to 64 years who losts her husband
Income limit: Annual Income has been increased to Rs. 32000 for both Rural areas and Urban Areas with effect from 10.02.2021

2. Manaswini :

Purpose: To help the unmarried and divorced women
Pension amount: Rs.800 pm.
Income limit: Annual Income has been increased to Rs. 32000 for both Rural areas and Urban Areas with effect from 10.02.2021
Eligibility criteria: Unmarried and Divorced women from BPL families aged between 40 – 64 years.

3. Widow Pension For Former Suicide Case:

Purpose: To Protect the Family Of Former who burdened with debt and Committed Suicide
Pension amount: Rs.2000 pm.
Eligibility criteria: The intended beneficiary should be a beneficiary identified and availed compensation by Agriculture Department in case of former suicide who burdened with debt.

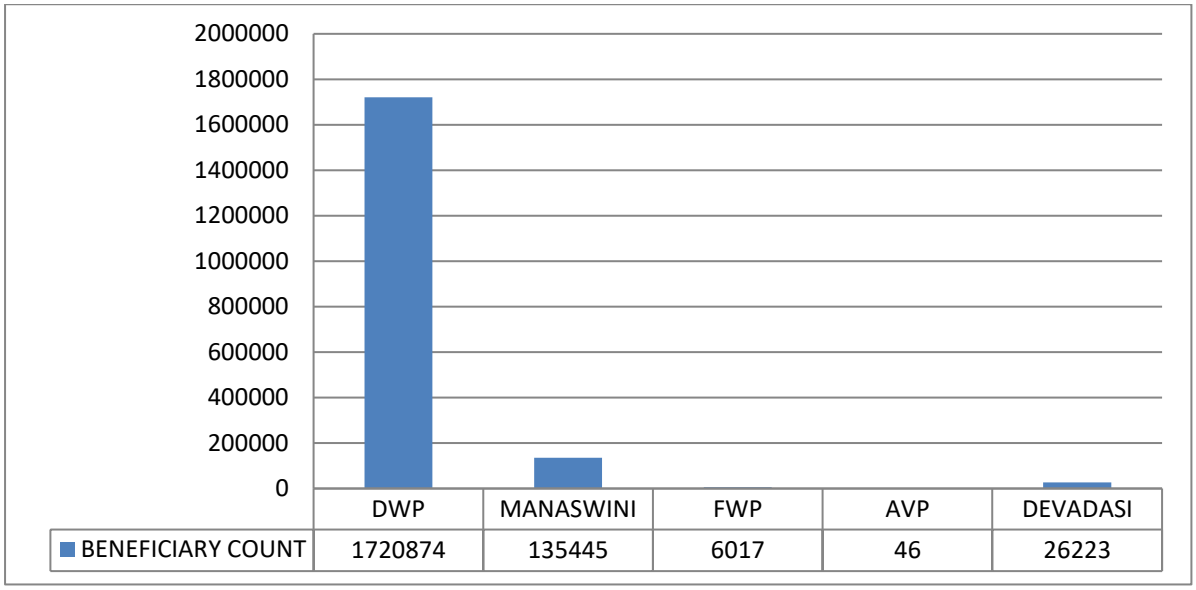
4. Acid Victims Pension:

Purpose: To help the Acid attacked Women/Girl child
Pension amount: Rs 10000/- pm.
Eligibility criteria: The intended beneficiary should be a beneficiary identified and availed compensation under Suraksha Scheme which is implemented by Women and Child Development Department wherein compensation and rehabilitation is provided to acid attacked women/Girl child.

5. Ex- Devadasis Pension:

Pension Amount: 1500/- pm
Purpose: To Provide financial security to Ex-devadasis above 45 years of age identified in a survey conducted by Women and Child Development Department.

WOMEN ORIENTED SCEMES REPORT



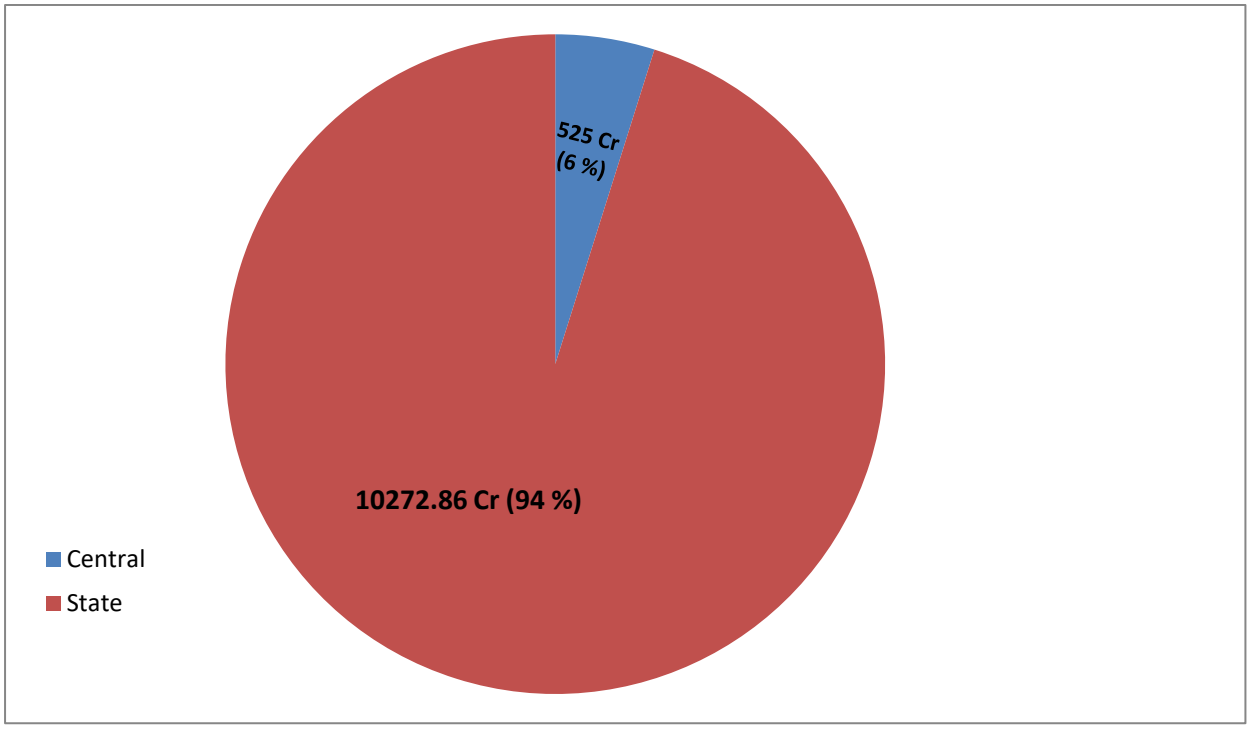
V. 2023-24 FINANCIAL AND EXPENDITURE REPORT TILL END OF DECEMBER 2023

In crores.

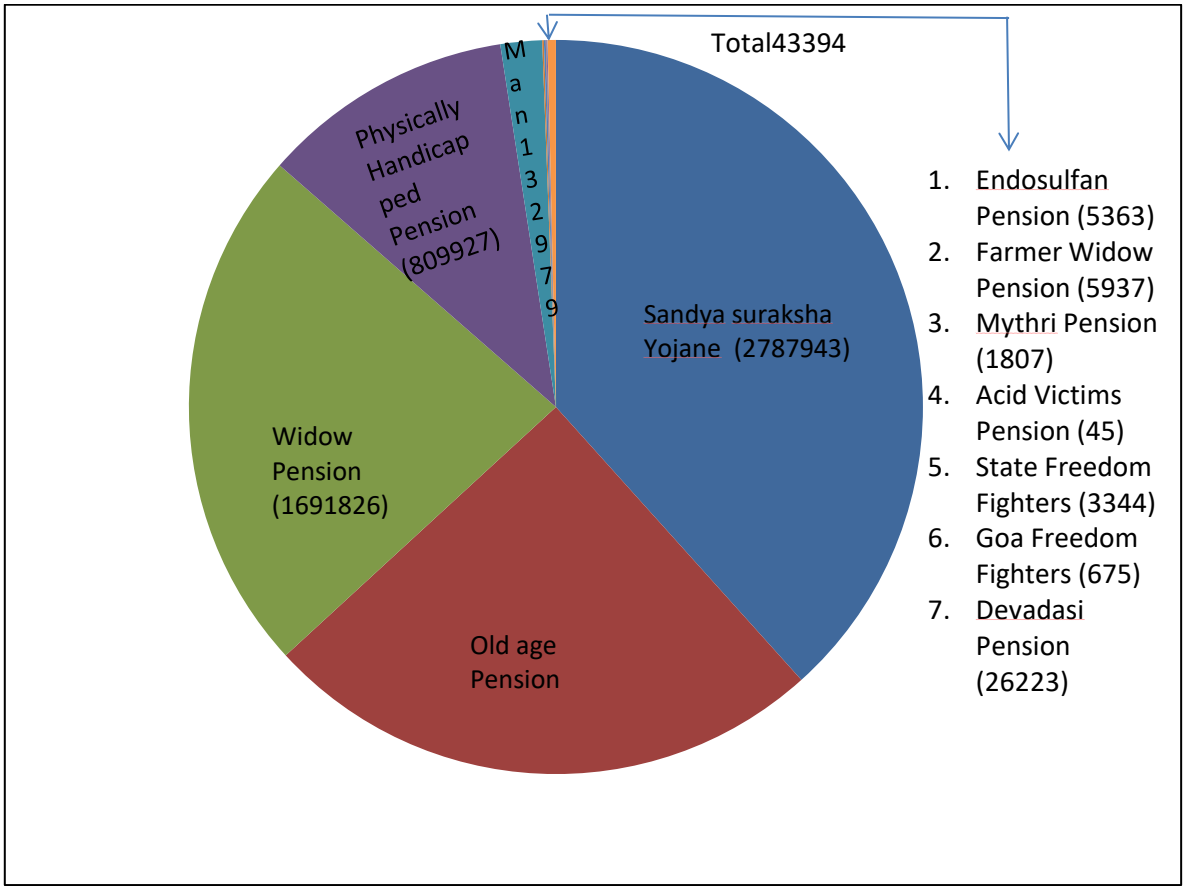
Sl no	Schemes	2023-24 Total Beneficiaties end of December-2023	2023-24 Allotment end of December-2023	2023-24 Expenditure end of December-2023	2024-25 Required Budget
Monthly Scheme					
1	Old Age Pension Scheme (OAP)	1805267	1904.63	1856.49	2576.95
2	Destitute Widow Pension Scheme (DWP)	1691826	1682.28	1402.75	1834.68
3	Physically Handicaped Pension Scheme (PHP) 40% & above	293168	1461.72	1167.30	1539.92
	75% & above	447836			
	75% above Intellectually Disabled	68923			
4	Sandhya Suraksha Yojane (SSY)	2787943	4841.76	3611.45	4811.82
5	ManaswiniYojane	132976	135.37	111.82	145.61
6	MythriYojane	1807	2.10	1.64	2.34
7	Endosulfhon Pension (EDP)	5363	27.37	21.18	27.96

Sl no	Schemes	2023-24 Total Beneficiaties end of December-2023	2023-24 Allotment end of December-2023	2023-24 Expenditure end of December-2023	2024-25 Required Budget
8	Widow Pension for Farmers Suicide Cases (FWP)	5937	13.93	10.90	15.69
9	Pension to Acid Attack Victims (AVP)	45	0.56	0.48	0.63
10	Mazi Devadasi Pension	25749	48.60	34.94	48.60
11	State Freedom Fighter Pension/Family Pension	2591	53.70	23.27	53.70
12	Goa Freedom Fighter Pension/Family Pension	574	6.91	3.51	7.29
	Total	**7270005**	**10178.93**	**8245.73**	**11065.19**
One time Scheme					
1	National Family Benefit Scheme (NFBS)	33971	70.23	67.94	79.20
2	AdrashaVivahaYojane (AVY)	9	0.01	0.00	0.10
3	Compensation under Farmer Suicide / Stock Loss / Snake Bite/Accidental Death	2695	75.85	75.85	70.00
4	Covid-19 Compensation Rs 50,000/- to all by Central Govt	0	0	0	10.61
	Total	**36675**	**146.09**	**143.79**	**159.91**

Budget Allocation (In Crores)



Social Security Scheme wise Beneficiaries Report



VI. DIRECTORATE OF SOCIAL SECURITY AND PENSIONS PERFORMANCE BUDGET 2024-25

Government of Karnataka is implementing various social security schemes to provide monthly financial assistance to aged, destitute widows, physically challenged, divorced/unmarried women, transgenders, acid victims and various other socially and financially deprived citizens. The Directorate of Social Security and Pensions was created under the Revenue Department as per the Government Order No: RD 44 MST 2007 Dated: 08-05-2007 to implement these schemes work even better. The Tahsildar / Deputy Tahsildar of the Revenue Department are the Sanctioning officers and the Deputy Commissioner and Regional Commissioner of the Revenue Department are the Monitoring Authority.

The Directorate manages the following social security and pension schemes.

1. Indira Gandhi National Old Age Pension Scheme
2. Indira Gandhi National Destitute Widow Pension Scheme
3. Indira Gandhi National Disabled Pension Scheme
4. Sandhya Suraksha Yojane
5. Manaswini
6. Mythri
7. Endosulphan Pension
8. Widow Pension For Former Suicide Case
9. Acid Victims pension
10. Mazi Devadasi Pension
11. State Freedom Fighter Pension/Family pension
12. Goa Freedom Fighter Pension/Family pension
13. National Family Benefit Scheme
14. Adarsha Vivaha Yojane
15. Covid-19 Compensation

1. Central Sponsored Schemes:

Indira Gandhi National Old Age Pension Scheme, Destitute Widow Pension Scheme, Disabled Pension Scheme and National Family Benefit Schemes has been Sponsored by Central Government.

Sl No.	Name of the Scheme	Eligibility criteria	Pension Amount			Number of beneficiaries allowed by the Central Government for Pension
			Central	State	Total	
1	Indira Gandhi National Old Age Pension Scheme	Person aged above 60 years and belonging to Below Poverty Line Family. Age 60 to 64 years	200	400	600	899422
		Age 65-79		1000	1200	
		Age 80 Above	500	700	1200	
2	Indira Gandhi National Destitute Widow Pension Scheme	Woman aged above 18 years from BPL Family, whose husband is legally dead.	-	800	800	452027
		40-79	300	500	800	
3	Indira Gandhi National Disabled Pension Scheme	Any child born with disability mentioned under or disability accrued due to accident with disability above 40%	-	800	800	44825
		18-79 (80% disabled)	300	1100	1400	
4	National Family Benefit Scheme	The principle bread earner should be aged between 18 to 59 years belonging to the family of below poverty line	One-time Payment fully sponsored by Central Government. Amount: 20000/-			18312

2. State Sponsored Schemes:

Sl No.	Name of the Scheme	Eligibility criteria	Pension Amount	Number of Beneficiaries
1	Destitute Widow Pension Scheme	Women aged above 18 years from BPL Family, who losts her husband.	800	1691826

Sl No.	Name of the Scheme	Eligibility criteria	Pension Amount	Number of Beneficiaries
2	Disabled Pension Scheme	Persons having disability 40% & above from BPL family	800	293168
		75% and above disability	1400	447836
		75% Intellectually Disabled persons	2000	68923
3	Sandhya Suraksha Yojane	He/She should be 65 years or more in age. Such of the persons availing Old age Pension, Destitute widow pension or disabled person pension or any other form of pension form public or private sources are not covered under this scheme.	1200	2787943
4	**Manaswini**	Unmarried and Divorced women aged between 40 – 64 years from BPL families	800	132976
5	**Mythri**	Transgender aged between 25 – 64 years from BPL families	800	1807
6	**Endosulphan Pension**	To help the Endosulphan victims of D.K, U.K and Udupi districts Only. The intended beneficiary should be a beneficiary identified as Endosuphane victim by Health and Family Welfare Department and having 25% to 59%	2000	5363
		60% above disability	4000	
7	**Widow Pension For Former Suicide Case**	The intended beneficiary should be a beneficiary identified and availed compensation by Agriculture Department in case of former suicide who burdened with debt.	2000	5937
8	**Acid Victims pension**	The intended beneficiary should be a beneficiary identified and availed compensation under Suraksha Scheme which is implemented by Women and Child Development Department wherein compensation and rehabilitation is provided to acid attacked women/Girl child.	10000	45
9	**Adarsha Vivaha Yojane**	To encourage simple and mass marriages.	Rs 10000/-	

Sl No.	Name of the Scheme	Eligibility criteria	Pension Amount	Number of Beneficiaries
		An amount of Rs.10000/- (one-time payment) is paid to couples who are getting married in mass marriages of more than 25 in urban and 10 in rural areas.		
10	**Covid-19 Compensation**	State Government has announced a compensation of Rs.1 lakh to BPL family who have lost their family member due to Covid-19, in addition to Rs.50,000 compensation to all death cases as announced by the Central Government.		

3. Scheduled Caste and Scheduled Tribes Yojane:

The progress of Scheduled Castes and Tribes Yojene in 2023-24 is as follows.

(SCP) **Rs in crores**

Sl No	Name of the Scheme	Budget released to SCP			Physical Target (Beneficiaries)	Physical Achievement (Beneficiaries)	Expenditure	Balance	%
		Central	State	Total			State	State	
1	Old Age Pension Scheme	79.91	535.36	615.27	427273	427273	535.21	0.15	99.97
2	Destitute Widow Pension	45.33	472.87	518.20	539788	531463	425.17	47.70	89.91
3	Disabled Pension Scheme	4.05	410.87	414.92	288135	250836	351.17	59.70	85.47
4	Sandhya Suraksha	0.00	1363.68	1363.68	946998	914517	1097.42	266.26	80.47
5	Manaswini	0.00	15.09	15.09	15716	15716	15.03	0.06	99.60
6	Farmer widow Pension	0.00	4.04	4.04	1683	1683	3.96	0.08	98.02
7	National Family Benefit Scheme	8.25	16.40	24.65	12325	3275	6.55	9.85	39.94
8	Mazi Devadasi Pension	0.00	48.60	48.60	27209	25749	34.94	13.66	71.89
Total		**138**	**2867**	**3004**	**2259126**	**2170511**	**2469**	**397**	**86**

(TSP)							Rs in crores		
Sl No	**Name of the Scheme**	**Budget released to SCP**			**Physical Target (Beneficiaries)**	**Physical Achievement (Beneficiaries)**	**Expenditure**	**Balance**	**%**
		Central	**State**	**Total**			**State**	**State**	
1	Old Age Pension Scheme	27.55	184.61	212.16	147335	147335	183.93	0.68	99.63
2	Destitute Widow Pension	15.63	163.06	178.69	186134	186134	152.05	11.01	93.25
3	Disabled Pension Scheme	1.62	141.68	143.30	99512	91336	127.87	13.81	90.25
4	Sandhya Suraksha	0.00	465.88	465.88	323531	322733	387.28	78.60	83.13
5	Manaswini	0.00	7.54	7.54	7858	7858	7.48	0.06	99.20
6	Farmer widow Pension	0.00	1.39	1.39	580	540	1.08	0.31	77.70
7	National Family Benefit Scheme	3.30	6.56	9.86	4930	3275	6.55	0.01	99.85
Total		**48**	**971**	**1019**	**769880**	**759211**	**866**	**104**	**89**

4. <u>2024-25 Budget Estimate:</u>

Name of the Scheme	HOA	2023-24 Budget Estimate (Rs in Crores)
Old Age Pension Scheme	2235-60-102-1-10	2576.95
Destitute Widow Pension Scheme	2235-60-102-2-01	1834.68
Disabled Pension Scheme	2235-02-101-0-20	1539.92
Sandhya Suraksha Yojane	2235-60-001-0-02	4811.80
Manaswini	2235-60-102-1-06	145.61
Mythri	2235-60-102-1-07	2.34

Name of the Scheme	HOA	2023-24 Budget Estimate (Rs in Crores)
Endosulphan Pension	2235-60-102-1-05	27.96
Widow Pension For Former Suicide Case	2235-60-102-1-08	15.69
Acid Victims pension	2235-60-102-1-09	0.63
Mazi Devadasi Pension	2235-02-103-0-53	48.60
State Freedom Fighter Pension	2235-60-107-0-01	53.70
Goa Freedom Fighter Pension	2235-60-107-0-08	7.29
	Total	**10338.67**

National Family Benefit Scheme	2235-60-102-1-03	79.20
Adarsha Vivaha Yojane	2250-00-103-5-10	0.10
Compensation under Farmer Suicide / Stock Loss / Snake Bite/Accidental Death	2235-60-102-1-08	70.00
Covid-19 Compensation	2245-80-102-0-01	10.61
	Total	**159.91**

Other Subjects:

- All Social Security Monthly Pension Schemes have been brought under DBT from December-2023 and about 74.82 lakh beneficiaries are being credited SSP Pensions directly to the beneficiaries Bank account through AEPS and 56,794 pending NPCI mapping and 3.59 lakh whose Aadhar Authentication failed, about 4.16 lakh beneficiaries are being processed to pay pension through K-2 through Account Based Payment till March-2024.

- The software has been updated bringing the newly sanctioned beneficiaries automatically under DBT coverage.

- Social security pension schemes have been simulated with E-Janma through family data, death registration information is being obtained and pension of deceased beneficiaries is being suspended. In the current year 1.32 lakh dead beneficiaries are been weeded out leading to Rs. 158.40 crores annual savings to State Exchequer.

- One-time Schemes such as National Family Benefit Scheme and Compensation under Farmer Suicide / Stock Loss / Snake Bite/Accidental Death have been brought under Aadhaar-based DBT.

- State Freedom Fighters' Honorarium /Family Pension and Goa Freedom Fighters' Honorarium /Family Pension Scheme has been brought under Aadhaar based DBT.

- Pinchani Adalath is being organized by Assistant Commissioners regularly at Hobli Level across the state to address grievances related to pensions & disbursement 98% of grievances have been disposed in Adalath.

- Application for sanction of pension and providing financial assistance is facilitated at Hobli level at Nadakacheri office and thereby reducing hardship of traveling long distance.

ANNUAL REPORT

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STAMPS AND REGISTRATION DEPARTMENT

INDEX

1. ADMINISTRATIVE SYSTEM

1.1 The Registration and Stamp Department is the third largest revenue earner for the state. Following is the information of Revenue collected for the last 8 years.

Sl.No.	Year	Revenue Collection
1	2016-17	7,830
2	2017-18	9,041
3	2018-19	10,845
4	2019-20	11,451
5	2020-21	10,824
6	2021-22	14,246
7	2022-23	17,874
8	2023-24 (January End)	15,748

1.2 The Commissioner of Land Survey Revenue & Land Records Department was ex-office Inspector General of Registration and Commissioner of Stamps for this Department. This Department was separated from the survey department dated: 01-03-1995 and the post of Inspector General of Registration and Commissioner of Stamps (IGR & CS) was created. IGR & CS is the Chief Controller of Revenue Authority in the State, is assisted by Five Deputy Inspector General of Registrations, and three Assistant Inspector General of Registrations, one Legal Officer and Five Head Quarter Assistants and other officers/staff. There is one District Registrar in each district in the state and 5 District Registrars in Bangalore City making a total of 35 District Registrars and 33 Head Quater Assistant Posts. In all 35 District Registrar, Officers and 256 Sub-Registrar Offices are functioning in the Department.

1.3 This Department is functioning as Stamps and Registration Department under the Revenue Department Government of Karnataka. All the administrative functions of this department are being carried by the revenue department. This department is mainly responsible for registering the documents relating to property transactions under the Registration Act, maintaining public records and fixing the guideline market value of

properties from time to time. Adequate maintenance and preservation of records mainly related to documents of the registered properties is a primary task of the department.

The department registers the documents in the latest online software Kaveri-2.0 in integration with Bhoomi & E-Swathu. The department also Registrars marriages under the Hindu Marriage Act and the Special Marriages Act. The Government and Department of Stamps and Registration issues suitable circulars and memorandums from time to time under the Act and Rules shown in Annexure-1 for the smooth functioning of the Department from time to time.

1.4 The revenue department in collaboration with the finance department sets the target of revenue collection every year, accordingly the District level officers and Sub Registrars are set target who take necessary steps to reach the same set by the government. An important factor is that the Finance Department is increasing the revenue target every year.

1.5 As regards Non registerable documents of the banks, societies, share transactions in the year 2023-24, under Section 67-B of the Karnataka Stamp Act, 1957 is Rs. 1,113 Cr's (April 2023 to Dec-2023) revenue has been collected.

2. AIMS AND ACHIEVEMENT OF THE DEPARTMENT:

2.1 The achievements of the Registration and Stamp Department for the year 2023-24 are as follows.

- A revenue collection target of Rs 25,000 crore has been set for the year 2023-24, and till the end of January 2024, revenue of Rs 15,748 crore has been collected, which is 82% of the target.

- Reduced Guideline values for immovable properties of the State i.e. agricultural land, non-agricultural land, plot, building, apartment/plot and other assets currently in force, with circular no. EST-1-89/2021-22 and came into force on 01-01-2022 and 31-03-2022.

- This reduction was introduced due to the spread of the Covid-19 virus resulting in distress sale of properties by public, the government had issued this order to reduce the financial burden.

- In order to encourage affordable houses, stamp duty for first registration of apartments valued above 35 lakhs and up to 45 lakhs has been reduced from 5% to 3% with effect from 05-10-2021.

- By the Government Order No. ಕಂಇ 83 ಎಂಎನ್ಎಯು/2021, Dated:31-03-2022, to reduce the delay in disbursement of agricultural loans, Declaration/Form-3 documents related to agricultural loans have been integrated with FRUITS SOFTWARE for filing of the same in Kaveri software. There is no need of physical presence of the mortagers to come to Sub-Registrar Office to register their Declaration/Form-3.

- A tender of Rs 406 crores has been called for acquiring new computer machines and other related equipment required for registration of documents in sub-registration offices and the said tender has been finalized. People-friendly service has been provided to the registration public by providing new computerized equipment to all the sub-registration offices and district registration offices of the state.

2.2 Central Valuation Committee

- Revised Market Value Guideline Rates of all immovable properties across the State, for the year 2023-24 from Date: 01-10-2023 is implemented across the State.

- Variance/modifications in guideline rates of immovable properties and special instructions for valuation of immovable properties were presented, discussed and approved in the Central Valuation Committee meeting and implemented by fixing the correct rate

- From time to time for the approval of the Central Valuation Committee, the rates have been scientifically fixed and implemented for new buildings and apartments received by all the District Registrars of the State.

2.3 Audit System

- There is a separate audit branch in this department, which audits the records from time to time for the lapses in financial administrative functions and financial objections related to the department and submits reports to the Government/Secretary General of the Department.

- Report is submitted to the Govt on findings of C&AG Report 2020-21

- The concerned District registrars are directed to take appropriate action for 06 audit findings related to the year 2021-22.

- District Registrars are directed to submit a report on the action taken in respect of 715 pending audit findings by the end of June-2023.

- The details of grants released and expenditure incurred under Account Head 2030 for office expenditure for the year 2023-24 to the Registration and Stamps Department is attached at Annexure 2.

3. HUMAN RESOURCE MANAGEMENT:-

3.1 The following figure indicates the number of officers/staff in the Registration and Stamps Department for the year 2022-23.

Sl. No.	Category of Officer/Staff	Total Number of	Total Posts filled (As per HRMS)	Total Vacancies
1	**2**	**3**	**4**	**5**
1.	A	80	44	36
2.	B	125	114	49
3.	C	1069	629	476
4.	D	445	162	283
5.	Own Pay scale	5	5	-
Total		**1724**	**956**	**844**

The Vacant Drivers, Typists and D Group Posts Govt are Outsourced as per the directions in the meeting Dt: 22-02-2005 and 25-04-2005 chaired by additional Chief Secretary.

3.2 The total number of posts of officers/staff of Registration and Stamps Department to be retired by the end of the year 2024 is 34.

3.3 The following table indicates the number of staff employed by the Registration and Stamps Department on outsourced basis.

Designation	Total
Computer Operator	970
D-Group	68
Drivers	33

4. COMPUTERZIATION

Programs implemented in 2023-24:

1) All of the Registration and Stamp Department on "Build Own Operate" model Offices will be provided with new IT hardware.
2) Kaveri 20 software will be developed in collaboration with Center for Smart Governance and implemented in all sub-registration offices of the state.

Programs proposed for the year 2024-25:

1. Online filing system for documents written by Government / Local bodies, Banks will be implemented.
2. Certified copies of documents registered at Sub-Registrar Offices through server signing to reduce delay in retrieval will be implemented.
3. Any where registration system in Bengaluru city registration districts will be extended to other districts of the state as well.

4.1 Kaveri software currently in use has been in use since 2003 for adoption of advanced technology and enhanced functionality for enhanced Kaveri Yojana-1 software developed in collaboration with M/S C-DAC, Pune, implemented on a pilot basis from Date: 01-02-2023 at Chincholi Sub-Registrar Office, followed by state wide adoption of the software. Better and faster service are provided to the public further the Kaveri software will be integrated with E-Asthi for the BBMP assets in 41 wards.

4.2 Website address of Registration and Stamps Department.

www.karunadu.karnataka.gov.in/karigr

5. OTHER INFORMATION

5.1 The following table indicates the number of RTI files handled in the Office of the Inspector General of Registration and Stamps during the year 2023-24

Total number of applications received under right to information	628
Total decided applications under right to information	548
Appeals to KIC under Right to Information	112
Appeals to IGR&CS under Right to Information	43

5.2 Details of Office Buildings:

The details of the buildings for the Head Office and Subordinate Offices of the Registration and Stamps Department are as follows.

Mini Vidhana Soudha/Government	153
Own building	28
Rented building	112
Total offices	**293**

6. ACTS AND RULES FOLLOWED BY THE DEPARTMENT

This department mainly functions under the following Acts and Rules.

1. Registration Act 1908
2. Karnataka Registration Rules 1965.
3. Indian Stamp Act 1899.
4. The Karnataka Stamps Act, 1957 and the rules made thereunder.
5. Indian Partnership Act 1932.
6. Hindu Marriage Act 1955.
7. Special Marriage Act 1954.
8. Parsi Marriage Act 1936.

7. NEW INITIATIVES

- The Kaveri-2 software is implemented on 01/04/2023.
- The market value guideline rates for immovable properties have been revised on 01/01/2019 (after 4 years) with effect from 01.10.2023.
- Fee revision for certain articles and sub-articles is made on the Karnataka Stamp Act, 1957 necessary amendments.
- In order to facilitate citizens and prevent revenue leakage, digital e-stamping system is being implemented in various government departments and transactions and automatic calculations are being implemented in Authorized Collection Centers.
- A system of Automated Concurrent Audit through Pre-registration document scrutiny is being implemented in Kaveri 2.0 software to prevent leakages in assessment of various documents and registration and stamp duty being fixed.