



**Govt of Maharashtra**  
**Revenue and Forest Department**  
**Relief and Rehabilitation Department**

**District Disaster Management Plan**  
**Sangli District**  
**2025-2026**

**District Disaster Management Authority,  
Office of the District Collector Sangli,  
Govt. Of Maharashtra- 416416  
Toll-Free No. 1077, Telephone no. 0233-2600500**

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## Message from the District Collector

**Dear Citizens of Sangli,**

As we embark on the year 2025-26, it is my privilege to present the District Disaster Management Plan (DDMP) for Sangli. This comprehensive plan is a testament to our unwavering commitment to safeguarding the lives and livelihoods of our community.



The DDMP for 2025-26 has been meticulously crafted, incorporating the latest advancements in disaster management and lessons learned from past experiences. Our primary objective is to enhance our preparedness, response, and recovery capabilities to effectively mitigate the impact of natural and man-made disasters.

Key highlights of this year's plan include:

- **Community Engagement:** Strengthening community participation through awareness programs, training sessions, and mock drills to ensure every citizen is well-prepared.
- **Infrastructure Resilience:** Upgrading critical infrastructure to withstand potential disasters, ensuring minimal disruption to essential services.
- **Early Warning Systems:** Enhancing our early warning systems to provide timely and accurate information, enabling prompt action.
- **Resource Allocation:** Ensuring adequate resources, including emergency supplies and trained personnel, are readily available to respond to any crisis.
- **Collaboration and Coordination:** Fostering strong partnerships with local, state, and national agencies to ensure a coordinated and efficient response.

I urge all citizens to actively participate in the initiatives outlined in the DDMP and to stay informed about the measures being implemented. Together, we can build a resilient Sangli that can withstand and recover from any adversity.

Let us work hand in hand to ensure the safety and well-being of our beloved district.

Warm regards,

**Shri Ashok Kakade (IAS)**

Collector and Chairman,  
District Disaster Management Authority,  
Sangli, Maharashtra

## **Message from the Resident Deputy Collector**

As the Deputy Collector of Sangli, it is my duty and privilege to ensure the safety and well-being of all our residents. The District Disaster Management Plan (DDMP) for 2025-26 has been meticulously crafted to prepare, respond, and recover from any potential disasters that may affect our district.

Our DDMP is a comprehensive guide that outlines the necessary steps and measures to be taken in the event of natural or man-made disasters. It is designed to minimize risks, protect lives and property, and ensure a swift recovery. The plan includes a elementary risk assessment to identify and analyze potential hazards specific to our district. Preparedness measures have been established to ensure we are ready for any emergency, including the allocation of resources and the formation of trained emergency response teams. Response strategies are in place to coordinate with various agencies and deploy these teams effectively. Additionally, recovery plans have been developed to provide a structured approach to restoring normalcy post-disaster. Community involvement is a crucial aspect of our DDMP, and we are committed to engaging and educating the public through awareness programs and drills.

I urge every resident to actively participate in our disaster preparedness initiatives. Your cooperation and vigilance are vital in making Sangli a resilient and disaster-ready district.

Together, we can ensure the safety and security of our community. For more information, please visit our official website or contact the District Disaster Management Office.

Stay safe and prepared.

Warm regards,

**Dr.Snehal Kaniche**

Residential Deputy Collector,  
District Disaster Management Authority,  
Sangli, Maharashtra

**District Disaster Management Plan**  
**Sangli District**  
**2025-2026**



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## **PREFACE**

The District Disaster Management Plan (DDMP) for Sangli, 2025-26, marks a significant step in enhancing our community's safety, resilience, and well-being. This strategic framework focuses on preparedness, mitigation, response, and recovery to protect lives, minimize property damage, and preserve our environment.

### **Key Components**

#### **1. Hazard Identification and Risk Assessment**

- Identifying potential hazards like floods, droughts, and cyclonic storms.
- Emphasizing risk assessment, early warning systems, and training for responders and citizens.

#### **2. Mitigation Strategies**

- Strengthening critical infrastructure.
- Enforcing zoning regulations.
- Educating the public about disaster risks.

#### **3. Response Framework**

- Upgrading the command center.
- Ensuring rapid resource deployment.
- Facilitating collaboration among authorities, emergency services, NGOs, and community groups.

#### **4. Recovery Plans**

- Conducting thorough damage assessments.
- Implementing rehabilitation programs.

- Providing financial assistance for reconstruction.

The DDMP encourages public participation, training for local responders, and dissemination of disaster preparedness information. It is a dynamic document, regularly updated to reflect new insights and emerging threats.

The plan integrates best practices and lessons from past events, emphasizing community engagement, capacity-building, and a multi-disciplinary response. It ensures our local governance, emergency services, and citizens are well-equipped to handle disasters.

Together, we can build a safer, more resilient Sangli. By committing to disaster risk reduction and implementing this plan, we aim for a well-prepared community where every citizen is empowered to act with knowledge and confidence during crises.

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# 1. INTRODUCTION

## 1.1. Rationale

The rationale behind the DDMP is to establish a structured and systematic framework for disaster preparedness, mitigation, response, and recovery. By identifying and analyzing the specific hazards and vulnerabilities of Sangli, the plan aims to implement targeted strategies that can effectively reduce the impact of disasters. For instance, the plan includes measures such as early warning systems, embankment construction, and efficient evacuation strategies to mitigate flood risks. In drought-prone areas, it promotes water conservation, rainwater harvesting, and sustainable agricultural practices to ensure a stable water supply and enhance the resilience of local farmers.

Furthermore, the DDMP emphasizes the importance of infrastructure development and environmental conservation in disaster management. Community engagement and capacity building are also central to the DDMP's rationale. By involving local authorities, agencies, NGOs, and citizens in disaster management efforts, the plan ensures that the community is well-informed, prepared, and capable of responding effectively to disasters. Public awareness campaigns, training programs, and information dissemination are key initiatives that foster a culture of preparedness and resilience within the district.

In summary, the DDMP for Sangli is essential for addressing the district's specific disaster risks and enhancing its overall resilience. By integrating comprehensive strategies for disaster risk reduction, the plan aims to safeguard lives, protect property, and ensure a sustainable future for the community.

## 1.2. Vision

***To build a disaster-resilient Sangli by enhancing preparedness, mitigation,***

*and response mechanisms, ensuring the safety, sustainability, and well-being of all communities while minimizing the impact of natural and man-made disasters.*

### 1.3. Aim and Objective

#### **Aim:**

The District Disaster Management Plan (DDMP) for Sangli aims to establish a proactive and systematic approach to disaster risk reduction. It focuses on strengthening infrastructure, environmental conservation, and community preparedness for effective disaster management. By integrating technology, governance, and community participation, the plan enhances disaster resilience efforts, ensuring a safer and more resilient Sangli.

#### **Objectives:**

- **Disaster Preparedness & Mitigation:** Develop early warning systems, flood barriers, and drought management strategies.
- **Community Empowerment:** Conduct training, awareness programs, and capacity-building initiatives to enhance public readiness.
- **Interagency Coordination:** Strengthen collaboration among government bodies, NGOs, and local communities for a unified disaster response.
- **Technology Integration:** Utilize GIS mapping, real-time data monitoring, and digital tools for effective disaster risk management.

By focusing on these objectives, the DDMP aims to enhance Sangli's resilience, ensuring long-term sustainability and disaster preparedness.

### 1.4. Terminology of Disaster Management

**Disaster:** A severe disruption of the functioning of a community or a society at any scale due to hazardous events interacting with conditions of

exposure, vulnerability, and capacity, leading to one or more of the following: human, material, economic and environmental losses and impacts.

**Disaster Risk:** The potential loss of life, injury, or destroyed or damaged assets that could occur to a system, society, or a community in a specific period, determined probabilistically as a function of danger, exposure, vulnerability, and capacity.

**Disaster Risk Reduction (DRR):** Disaster risk reduction is aimed at preventing new and reducing existing disaster risks and managing residual risk, all of which contribute to strengthening resilience and, therefore, achieving sustainable development.

**Early warning system:** An integrated system of hazard monitoring, forecasting and prediction, Disaster risk assessment, communication and preparedness activities, systems and processes that enable individuals, communities, governments, businesses, and others to take timely action to reduce disaster risks in advance of hazardous events.

**Hazard:** A process, phenomenon or human activity that may cause loss of life, injury or other health impacts, property damage, social and economic disruption, or environmental degradation.

**Mitigation:** Measures taken to reduce or prevent the adverse effects of hazards, including structural and non-structural interventions.

**Preparedness:** Refers to the level of readiness to manage an impending disaster situation or disaster and its associated effects.

**Response:** The activities and measures are taken to address the immediate impacts of a disaster, including search and rescue, emergency medical care, shelter provision, and humanitarian assistance.

**Recovery:** The restoring or improving livelihoods and health, as well as economic, physical, social, cultural, and environment assets, systems, and activities, of a disaster-affected community or society, aligning with the

principles of sustainable development and “build back better”, to avoid or reduce future disaster risk.

**Resilience:** The ability of individuals, communities, and systems to withstand, adapt to, and recover from the impacts of disasters while maintaining essential functions and minimizing disruption and loss.

**Rehabilitation** refers to restoring or regaining the physical, mental, social, or economic well-being of individuals or communities affected by a disaster or other adverse event.

**Vulnerabilities:** The conditions determined by physical, social, economic, and environmental factors or processes that increase the susceptibility of an individual, a community, assets or systems to the impacts of hazards.

## 1.5. Realigning the Plan

The District Disaster Management Plan (DDMP) Sangli 2025-26 is meticulously aligned with several key frameworks and agreements, including the Maharashtra State Disaster Management Plan (MSDMP) 2023, the Sendai Framework for Disaster Risk Reduction (2015-2030), the Paris Agreement (COP 21), and the Prime Minister’s 10-Point Agenda. This alignment underscores the plan's commitment to strengthening disaster resilience and climate adaptation in Sangli.

By integrating the strategies outlined in MSDMP 2023, the DDMP focuses on multi-hazard risk assessment, climate adaptation, and capacity building. This ensures a coordinated and effective disaster response, particularly for Sangli’s flood-prone western regions and drought-affected eastern talukas. The plan's emphasis on understanding disaster risk through GIS mapping and real-time monitoring aligns with the Sendai Framework, which also advocates for strengthening disaster governance and investing in resilient infrastructure. Additionally, the plan enhances community preparedness



through early warning systems and comprehensive training programs.

Supporting the Paris Agreement, the DDMP promotes climate adaptation measures such as water conservation, drought-resistant agriculture, and sustainable infrastructure development. These initiatives not only help mitigate the impacts of climate change but also contribute to low-carbon growth.

Reflecting the Prime Minister's 10-Point Agenda, the DDMP identifies risks through detailed vulnerability mapping and focuses on building resilient infrastructure. The use of technology for disaster response, fostering community participation, and integrating climate resilience into local planning are key components of this agenda. By involving local authorities, agencies, NGOs, and citizens, the plan ensures a comprehensive and inclusive approach to disaster management.

In summary, the DDMP Sangli 2025-26 adopts a proactive, sustainable, and inclusive approach to disaster management. By aligning with national and global frameworks, it aims to safeguard the safety and well-being of Sangli's communities, ensuring a resilient future in the face of natural disasters and climate change.

## 2. DISTRICT PROFILE

### 2.1. District Profile

Sangli district, located in the western part of Maharashtra, is known for its rich cultural heritage and vibrant economy. The district is a significant hub for agriculture, industry, and education, contributing to its diverse socio-economic landscape. Sangli is renowned for its production of turmeric, grapes, and sugarcane, making it an essential agricultural center in the region. The district's strategic location, coupled with its robust infrastructure, has made it a focal point for trade and commerce. Sangli's cultural richness is reflected in its festivals, traditions, and historical landmarks, which attract tourists and scholars alike.

Sangli district is prone to a range of hazards, with floods being the most frequent due to heavy monsoon rains and the overflow of the Krishna River. The regions along the river, particularly Miraj, Palus, and Walwa talukas, are highly susceptible to flooding. Droughts also pose a significant threat, especially in the northern parts of the district, impacting agriculture and water supply. Although the district experiences low to moderate seismic activity, the risk of earthquakes cannot be overlooked. Additionally, the presence of chemical and sugar industries in the Sangli-Miraj-Kupwad industrial belt increases the potential for industrial accidents.

To mitigate these risks, the district has implemented several preparedness measures. Flood control efforts include the construction of embankments, regular desilting of rivers, and the establishment of flood forecasting systems. Drought mitigation strategies focus on water conservation

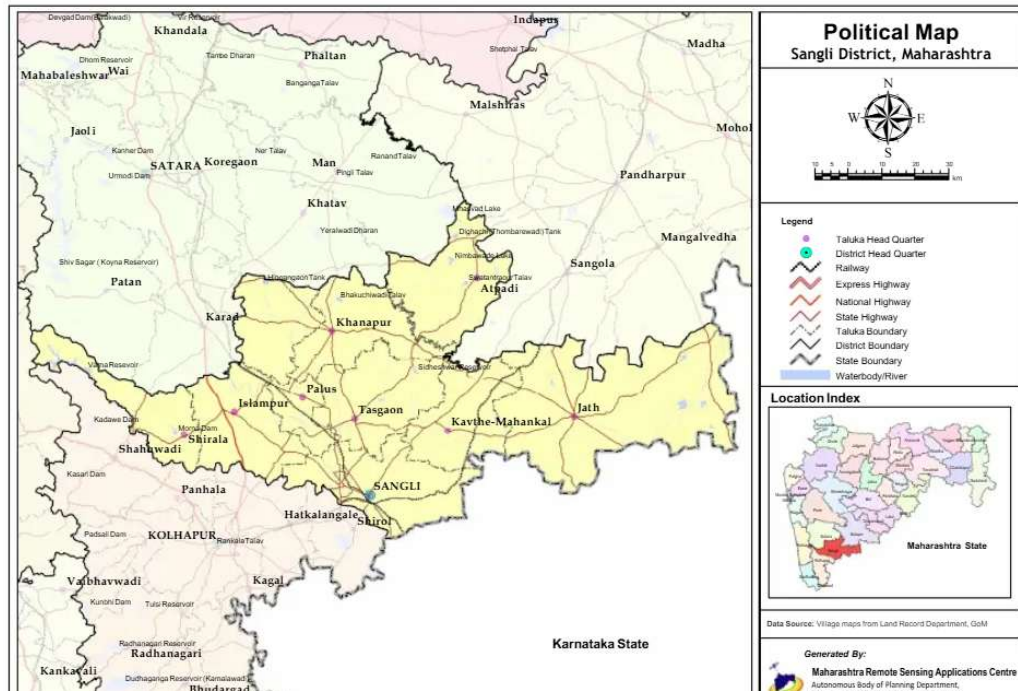


Figure 1 Political Map of Sangli District

techniques, rainwater harvesting, and the promotion of drought-resistant crops. Industrial safety is ensured through strict adherence to safety protocols, regular inspections, and comprehensive emergency response plans.

## 2.2. Area and Administrative Divisions

Sangli district covers an area of approximately 8,572 square kilometers, making it one of the larger districts in Maharashtra. Situated at an elevation of 553 meters above sea level, it is bordered by Satara and Solapur districts to the north, Kolhapur district and Belgaum and Bijapur districts of Karnataka state to the south, Bijapur district of Karnataka state to the east, and Ratnagiri district to the west. It is administratively divided into 10

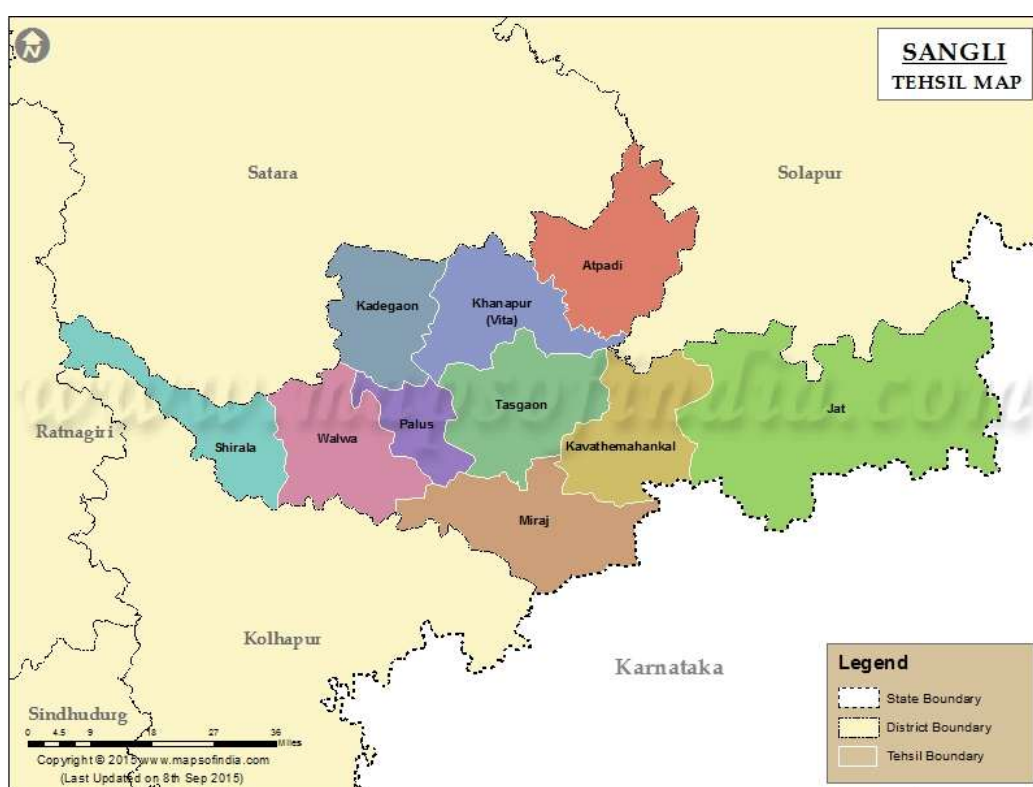


Figure 2 Administrative Map of Sangli

talukas: Miraj, Tasgaon, Khanapur, Atpadi, Jat, Kavathe Mahankal, Palus, Shirala, Walwa, and Kadegaon. The district headquarters is located in the city of Sangli, which serves as the administrative and economic center. Each taluka is further subdivided into smaller administrative units, including villages and towns, managed by local governing bodies. This administrative structure ensures effective governance and the delivery of public services across the district.

Table 1 Sangli District Profile

Sl. No.	Particulars	Details
1	Area	8,572 sq. km
2	Latitude	16.85° to 17.22° North
3	Longitude	73.42° to 75.40° East
4	Tehsils (Census 2011)	10
5	Towns (Including Census Towns) & (Census 2011)	7
6	Municipal Councils	4
7	Nagar Panchayat	7
8	Panchayat Samiti	10
9	Gram Panchayat	705
10	Villages	773

Table 2 Administrative Division of Sangli

Sl. No.	Sub-division	Taluka within the Sub-division
1	Miraj	Miraj, Tasgaon, Kavathe-Mahankal
2	Walwa	Walwa, Shirala, Palus
3	Jat	Jat, Atpadi
4	Khanapur (Vita)	Khanapur (Vita), Kadegaon

### 2.3. Demographic Profile of District

According to the 2011 Census, Sangli district has a population of approximately 2.82 million people, with a population density of around 329 persons per square kilometer, reflecting a moderately populated region. The district boasts a literacy rate of 81.48%, with male literacy at 88.22% and female literacy at 74.59%. The sex ratio stands at 966 females for every 1,000 males, indicating a relatively balanced gender distribution. Sangli is home to diverse communities, including Scheduled Castes (SC) and Scheduled Tribes (ST), which constitute 12.51% and 0.65% of the population, respectively. The district comprises 773 villages, each contributing to its rich cultural tapestry. Notably, Miraj Taluka has the highest population, while Atpadi Taluka has the least. Significant SC/ST

populations are found in Miraj, Walwa, and Jat talukas. This demographic profile highlights the need for inclusive development policies to harness the district's human resource potential and address its disaster management challenges effectively.

Table 3 Demographic Profile of Sangli District

Sr. No.	Particulars	Rural	Urban	Total
1	Households	442,436	155,950	598,386
2	Population	2,102,786	719,357	2,822,143
3	Male	1,071,124	364,604	1,435,728
4	Female	1,031,662	354,753	1,386,415
5	Sex Ratio	963	973	966
6	Scheduled Caste	264,000	89,093	353,093
7	Scheduled Tribe	13,000	5,333	18,333
8	Literates	1,494,000	555,467	2,049,467

### 2.3.1. Population Summary for Rural and Urban Locations

#### Urban Population

Sangli district has 7 cities with a combined population of 719,357, comprising 364,604 males and 354,753 females. These urban areas include 155,950 families, with a population density of 2,032 per square kilometer and a sex ratio of 973 females per 1,000 males.

Table 4 Urban Population of Sangli District

Taluka	Area (sq. km)	No. of Cities	Population	No. of Families	Density (per sq. km)	Sex Ratio
Miraj	918.19	1	854,581	155,950	931	966
Walwa	776.07	1	456,002	72,000	588	939
Jat	2239.77	1	328,324	60,000	147	951
Tasgaon	819.74	1	251,401	45,000	307	962
Khanapur (Vita)	731.69	1	170,214	30,000	233	1011

Taluka	Area (sq. km)	No. of Cities	Population	No. of Families	Density (per sq. km)	Sex Ratio
Palus	297.34	1	164,909	29,000	555	933
Shirala	625.67	1	162,911	28,000	260	1015
Kavathe-Mahankal	724.29	1	152,327	27,000	210	963
Kadegaon	575.68	1	143,019	25,000	248	993
Atpadi	863.56	1	138,455	24,000	160	995
<b>Total</b>	<b>8,572</b>	<b>10</b>	<b>2,822,143</b>	<b>598,386</b>	<b>329</b>	<b>966</b>

### Rural Population

Sangli district has a rural population of 2,102,786, comprising 1,071,124 males and 1,031,662 females. These rural areas include 442,436 families, with a population density of 245 per square kilometer and a sex ratio of 963 females per 1,000 males.

Table 5 Rural Population of Sangli District

Taluka	Area (sq. km)	No. of Villages	Population	No. of Families	Density (per sq. km)	Sex Ratio
Miraj	918.19	72	854,581	155,950	931	966
Walwa	776.07	98	456,002	72,000	588	939
Jat	2239.77	147	328,324	60,000	147	951
Tasgaon	819.74	69	251,401	45,000	307	962
Khanapur (Vita)	731.69	56	170,214	30,000	233	1011
Palus	297.34	35	164,909	29,000	555	933
Shirala	625.67	95	162,911	28,000	260	1015
Kavathe-Mahankal	724.29	67	152,327	27,000	210	963
Kadegaon	575.68	56	143,019	25,000	248	993
Atpadi	863.56	60	138,455	24,000	160	995
<b>Total</b>	<b>8,572</b>	<b>725</b>	<b>2,822,143</b>	<b>598,386</b>	<b>329</b>	<b>966</b>

## 2.4. Agriculture and Livestock

Sangli district has a diverse agricultural landscape, with a significant portion of its land dedicated to various crops. The district is known for its production of sugarcane, grapes, turmeric, and pomegranates. Sangli's fertile soil and favorable climate conditions support the cultivation of these high-value crops. In the year 2023-24, approximately 54.78% of the cultivated area was under food grains, 13.35% under pulses, 23.07% under sugarcane, and 0.24% under fodder crops. The remaining 8.56% was primarily used for fruits, vegetables, cotton, and tobacco. Among food grains, cereals accounted for 81.39% of the area, with jowar and bajra being the major crops. Sugarcane cultivation is particularly prominent in Walwa taluka. The district also saw significant cultivation of rice in Shirala taluka and pulses in Jat taluka.

Livestock farming is a vital part of Sangli's rural economy. According to the 2019 livestock census, the district has around 1.4 million livestock, including cows, buffaloes, sheep, goats, and poultry. The highest livestock density is found in Palus taluka, while Shirala taluka has the lowest. The district is well-equipped with veterinary facilities, including six veterinary hospitals, 146 veterinary dispensaries, and five mobile veterinary dispensaries, ensuring the health and productivity of the livestock. Additionally, the district has a substantial poultry population of approximately 3.744 million.

Table 6 Taluka wise Crop Distribution of Sangli District 2023-24

Taluka	Rice	Wheat	Jowar	Bajra	Corn	Pigeon Pea (Tur)	Green Pea (Moong)	Black gram(urad)
Shirala	12500.00	560.00	2476.00	0.00	550.00	0.00	0.00	0.00
Walwa	1438.00	3780.00	2962.00	0.00	610.00	42.00	92.00	93.00
Palus	133.00	1433.00	535.00	0.00	260.00	0.00	91.00	74.00
Kadegao	183.00	1973.00	8162.00	24.00	3316.00	596.00	727.00	568.00



Taluka	Rice	Wheat	Jowar	Bajra	Corn	Pigeon Pea (Tur)	Green Pea (Moong)	Black gram(urad)
n								
Khanapur	0.00	1140.00	5250.00	100.00	4715.00	60.00	885.00	1792.00
Atpadi	0.00	903.00	11750.00	7200.00	2475.00	80.00	70.00	25.00
Tasgaon	0.00	2105.00	20257.00	0.00	2162.00	868.00	492.00	1030.00
Miraj	21.50	2031.00	18585.00	291.00	7453.00	295.00	1963.30	2353.00
Kavathe Mahankal	0.00	713.00	15538.80	7677.00	7263.00	160.00	489.80	2482.00
Jat	0.00	3960.40	63919.00	38938.00	11950.00	9083.00	2782.00	6545.00
<b>Total</b>	<b>14275.50</b>	<b>18598.40</b>	<b>149434.80</b>	<b>54230.00</b>	<b>40754.00</b>	<b>11184.00</b>	<b>7592.10</b>	<b>14962.00</b>

Source: District Statistics Report, Sangli 2024

Table 7 Taluka wise Fruits Distribution of Sangli District 2023-24

Taluka	Sugarcane	Chillies	Garlic	Mango	Grapes	Fruits (Lemon, Orange etc)	Banana
Shirala	11230.00	4.00	0.00	110.00	0.00	4.00	5.00
Walwa	35085.00	24.30	0.00	50.80	1489.70	1.70	250.35
Palus	14407.00	10.00	0.00	6.00	1704.00	2.00	45.00
Kadegaon	18592.00	30.00	0.00	133.75	229.00	2.00	29.00
Khanapur	16550.00	32.00	10.00	40.00	660.00	8.00	29.00
Atpadi	3516.00	45.00	2.00	338.70	568.05	29.30	41.00
Tasgaon	9529.00	5.00	5.00	254.00	9731.00	4.00	22.20
Miraj	18209.00	55.00	18.00	195.20	8834.00	7.50	141.20
Kavathe Mahankal	5352.00	10.00	0.00	85.00	4150.00	19.00	36.00
Jat	11657.00	55.00	183.87	207.90	6426.20	92.20	77.10
<b>Total</b>	<b>144127.00</b>	<b>270.30</b>	<b>218.87</b>	<b>1421.35</b>	<b>33791.95</b>	<b>169.70</b>	<b>675.85</b>

Taluka	Sugarcane	Chillies	Garlic	Mango	Grapes	Fruits (Lemon, Orange etc)	Banana
			7				

Source: District Statistics Report, Sangli 2024

Table 8 Taluka wise Livestock Details of Sangli District 2023-24

Taluka	Cows	Buffaloes	Sheep	Goats	Horses, Mules & Ponies	Donkeys	Other Livestock (Pigs, Camels)	Total Livestock
Shirala	26,496	45,422	1,746	6,995	6	0	25	80,690
Walwa	49,301	68,218	11,674	21,133	109	5	1178	151,618
Palus	21,198	34,011	1,980	16,412	127	48	0	73,776
Kadegaon	17,151	38,313	5,086	20,529	19	118	0	81,216
Khanapur	19,069	39,292	3,417	34,878	35	0	0	96,691
Atpadi	23,307	31,183	31,597	63,730	88	392	700	150,997
Tasgaon	28,050	54,701	3,449	38,570	86	98	161	125,115
Shirur	36,729	61,910	7,197	36,973	331	493	80	143,713
Kavathe Mahankal	32,798	40,468	18,043	49,663	110	0	0	141,082
Jat	70,836	70,832	46,565	165,242	207	69	1173	354,924
<b>Total</b>	<b>324,935</b>	<b>484,350</b>	<b>130,754</b>	<b>454,125</b>	<b>1,118</b>	<b>1,223</b>	<b>3317</b>	<b>1,399,82</b>

Source: 20<sup>th</sup> Animal Census, 2019

Table 9 Taluka wise Poultry Details of Sangli District 2023-24

Taluka	Chickens	Ducks	Other Poultry (Turkeys, Quails, et c.)	Total
Shirala	157,806	6	96	157,908
Walwa	273,609	21	828	274,458
Palus	116,927	86	39	117,052
Kadegaon	435,622	7	59	435,688
Khanapur	863,059	8	278	863,345
Atpadi	232,542	37	8	232,587
Tasgaon	322,898	13	15015	337,926
Shirur	596,122	7	1090	597,219
Kavathe Mahankal	427,204	9	3000	430,213
Jat	292,753	2	5154	297,909
<b>Total</b>	<b>3,718,542</b>	<b>196</b>	<b>25567</b>	<b>3,744,305</b>

*Source: 20th Animal Census, 2019*

## 2.5. Health Profile

Sangli district boasts a comprehensive network of health facilities catering to the diverse needs of its population. The district is equipped with 18 public hospitals, 3 special hospitals for diseases like cancer and TB, 95 dispensaries, 73 maternity homes, 239 primary health centers, and 1,281 sub-centers, providing extensive healthcare coverage. Additionally, there are 490 private hospitals, 11 special hospitals, 511 dispensaries, and 151 maternity homes, significantly enhancing the healthcare infrastructure. The district also has a substantial number of beds, totalling 9,149 across both public and private facilities. In response to the COVID-19 pandemic, Sangli has established 10 reserved hospitals with 66 isolation beds, 56 ICU beds, and 130 ventilators to manage and treat COVID-19 patients effectively.

Among the talukas, Miraj stands out with the best hospital facilities, including 4 public hospitals, 3 special hospitals, 17 dispensaries, 12 maternity homes, 42 primary health centers, and 501 sub-centers, with a total of 8,090 beds. This makes Miraj a central hub for healthcare services in the district. On the other hand, Shirala has the least hospital facilities, with only 2 public hospitals, no special hospitals, 11 dispensaries, 9 maternity homes, 20 primary health centers, and 122 sub-centers, with a total of 90 beds. Due to the limited facilities in Shirala, residents often have to travel to other talukas or districts for better healthcare services.

Most people in Sangli district travel to Miraj for advanced healthcare facilities, given its extensive medical infrastructure and availability of specialized treatments.

Table 10 Public Health Facilities in Sangli District

Taluka	Hospital	Special Hospitals (Cancer, T B, etc.)	Dispensaries	Maternity Homes	Primary Health Centers	Sub Centers	Total Beds
Shirala	2	0	0	11	9	39	122
Walwa	2	0	21	15	13	54	125
Palus	1	0	0	3	2	18	42
Kadegaon	2	0	0	7	5	20	90
Khanapur	2	0	0	6	4	30	84
Atpadi	1	0	0	5	4	20	54
Tasgaon	1	0	0	9	8	38	78
Miraj	4	3	17	12	18	51	501
Kavathe Mahankal	1	0	1	5	5	27	80
Jat	2	0	0	9	9	48	108

Taluka	Hospital	Special Hospitals (Cancer, TB, etc.)	Dispensaries	Maternity Homes	Primary Health Centers	Sub Centers	Total Beds
Total	18	3	39	84	77	345	1311

*Source: District Statistics Report, Sangli 2024*

Table 11 Private Health Facilities in Sangli District

Taluka	Private Hospitals	Special Hospital (Cancer, TB, etc)	Dispensaries	Maternity Homes	Beds
Shirala	18	0	5	13	90
Walwa	49	0	26	23	443
Palus	10	0	5	5	94
Kadegaon	10	0	9	1	77
Khanapur	6	0	3	3	104
Atpadi	18	0	2	16	76
Tasgaon	10	0	4	6	94
Miraj	352	10	443	81	8,090
Kavathe Mahankal	1	0	0	1	25
Jat	16	1	14	2	56
Total	490	11	511	151	9,149

*Source: District Statistics Report, Sangli 2024*

## 2.6. Educational Profile

Sangli district offers a robust educational infrastructure, catering to the diverse needs of its students. The district is home to 1,702 primary schools, 774 secondary schools, and 407 higher secondary schools, ensuring comprehensive coverage from early education to pre-university levels. Additionally, there are 72 colleges, 10 Industrial Training Institutes (ITIs),

and 1 polytechnic, providing ample opportunities for higher education and vocational training. Among the talukas, Miraj stands out with the highest number of educational institutions, including 223 primary schools, 114 secondary schools, 70 higher secondary schools, 28 colleges, 1 ITI, and 1 polytechnic. This extensive network of educational facilities ensures that students in Sangli district have access to quality education and diverse learning opportunities, fostering academic growth and development across the region.

Despite the extensive educational facilities within the district, there is a notable trend of migration for studies. Many students from Sangli district migrate to larger cities such as Pune, Mumbai, and Kolhapur for higher education and specialized courses that may not be available locally. Pune and Mumbai, being major educational hubs, attract a significant number of students due to their renowned universities, colleges, and diverse academic programs. Additionally, some students also migrate to other states for specialized courses and better educational opportunities.

Table 12 Educational Facilities

Taluka	Primary Schools	Secondary Schools	Higher Secondary Schools	Colleges	ITIs	Polytechnics	Total Educational Institutions
Shirala	147	86	37	10	1	0	281
Walwa	194	125	47	16	1	0	383
Palus	79	36	15	4	1	0	135
Kadegaon	86	75	24	2	1	0	188
Khanapur	123	72	28	2	1	0	226
Atpadi	122	45	13	1	1	0	182
Tasgaon	157	65	47	5	1	0	275
Miraj	223	114	70	28	1	1	437
Kavathe Mahankal	139	66	44	3	1	0	253

Taluka	Primary Schools	Secondary Schools	Higher Secondary Schools	Colleges	ITIs	Polytechnics	Total Educational Institutions
Jat	432	90	82	1	1	0	606
Total	1,702	774	407	72	10	1	2,966

*Source: District Statistics Report, Sangli 2024*

## 2.7. Industry Profile

Sangli district is a vibrant industrial hub with a diverse range of industries contributing to its economic growth. The district is home to several large-scale industries, including the renowned Kirloskar Brothers Ltd. in Kirloskarwadi and the Sangli Turmeric Cluster, which is a significant agro-based industry. Medium-scale industries such as the Sangli Sugar Factory and various units in the Miraj MIDC Industrial Area play a crucial role in the local economy. Additionally, the district boasts a substantial number of small-scale industries and micro-enterprises, particularly in sectors like textiles, food processing, and engineering. The Miraj MIDC Industrial Area and the Walchandnagar Industrial Area are key industrial zones, housing numerous enterprises and providing employment opportunities. Cooperative industrial estates like the Sangli Cooperative Industrial Estate and the Vasantdada Industrial Estate further support the growth of small and medium enterprises (SMEs). This diverse industrial landscape ensures that the Sangli district remains a vital contributor to Maharashtra's industrial sector, fostering economic development and job creation.

**Table 13 Number of Industrial Projects in Sangli District**

Taluka	MIDC	CIDC	Large Scale	Medium, small & micro
Shirala	34	NA	9	6988
Walwa	162	NA	21	13951

<b>Taluka</b>	<b>MIDC</b>	<b>CIDC</b>	<b>Large Scale</b>	<b>Medium, small &amp; micro</b>
Palus	27	160	8	11961
Kadegaon	36	NA	5	4608
Khanapur	44	50	8	3205
Atpadi	NA	NA	3	3012
Tasgaon	NA	30	3	10501
Miraj	979	273	37	39807
Kavathe Mahankal	21	NA	7	2795
Jat	25	NA	0	2990
<b>Total</b>	<b>1328</b>	<b>513</b>	<b>101</b>	<b>99518</b>

Table 14 MIDC and Cooperative Industrial Zones

<b>No.</b>	<b>Industrial Zone</b>	<b>Location</b>	<b>Major Industries</b>
1	Miraj MIDC Industrial Area	Miraj	Animal Feed, Auto Components, Chemicals, Pharmaceuticals, Electrical Equipment, Food Products, Textiles
2	Walchandnagar Industrial Area	Walwa	Engineering, Machinery, Manufacturing
3	Sangli Cooperative Industrial Estate	Kupwad, Sangli	Agro-based industries, Engineering, Textiles, Food Processing
4	Vasantdada Industrial Estate	Sangli	Small and Medium Enterprises (SMEs) in various sectors

## 2.8. Police Stations

The police play a crucial role in disaster management, acting as first responders during times of crisis. Their responsibilities include ensuring the safety and security of the community, conducting search and rescue operations, and providing immediate assistance to those affected by disasters.



Sangli district's police organization comprises a total of 25 police stations, 30 outposts, and 28 police posts. These are staffed by 121 officers and 1,472 employees at the police stations, 20 officers and 161 employees at the outposts, and 24 officers and 234 employees at the police posts. This comprehensive structure ensures effective law enforcement and public safety across the district.

Table 15 List of Police Station

Taluka	Police Thane			Out Post			Police Chauki		
	No.	Officer	Employees	No.	Officers	Employees	No.	Officers	Employees
Miraj	8	46	625	4	7	48	22	22	222
Tasgaon	1	9	88	3	2	14	--	--	--
K. Mahankal	1	6	67	2	--	8	--	--	--
Jath	2	10	123	5	3	24	--	--	--
Vita	1	8	91	1	1	11	--	--	--
Atpadi	1	7	62	3	--	15	--	--	--
Kadegaon	2	2	82	4	2	16	--	--	--
Palus	3	6	121	--	--	--	6	2	12
Shirala	2	6	82	2	--	04	--	--	--
Walawa	4	21	231	6	5	21	--	--	--

*Source: Police Department, Sangli*

## 2.9. Climate and Rainfall

Sangli district can be divided into three distinct regions based on topography, climate, and rainfall. The western part is hilly and receives heavy rainfall, the central region near the rivers experiences moderate rainfall and has fertile plains, while the eastern part consists of plateaus

with coarse soil and receives less rainfall, making it somewhat drought prone. The western slopes of the Sahyadri range, particularly the Bhairavgad hills, mainly cover the western parts of Shirala and Walwa talukas. The central region, with moderate rainfall and fertile plains, includes the western and northern parts of Jat taluka, the western part of Palus taluka, and the eastern parts of Walwa and Shirala talukas. The eastern region, with less rainfall and coarse soil, includes Atpadi, Jat, Kavathemahankal, and Khanapur talukas, as well as the eastern parts of Jat and Tasgaon talukas.

The climate of Sangli district is classified as tropical, with distinct wet and dry seasons. The average annual temperature is around 25.2°C (77.4°F). Summers are hot, with temperatures peaking in April at around 38°C (100.4°F). The monsoon season brings relief from the heat, with temperatures dropping to an average of 28°C (82.4°F) in July and August. Winters are mild, with January being the coldest month, averaging around 23.1°C (73.6°F). The humidity levels are highest during the monsoon season, reaching up to 84% in July and August.

Rainfall in Sangli district is seasonal, with the majority occurring during the monsoon months from June to September. According to the India Meteorological Department (IMD), the average annual rainfall in Sangli is approximately 789 mm. The highest rainfall is typically recorded in July, with an average of 185 mm. The western part of the district, especially Shirala taluka, receives the most rainfall, while the eastern parts, such as Jat taluka, receive the least. This variation in rainfall significantly influences the agricultural practices and water resources across the district.

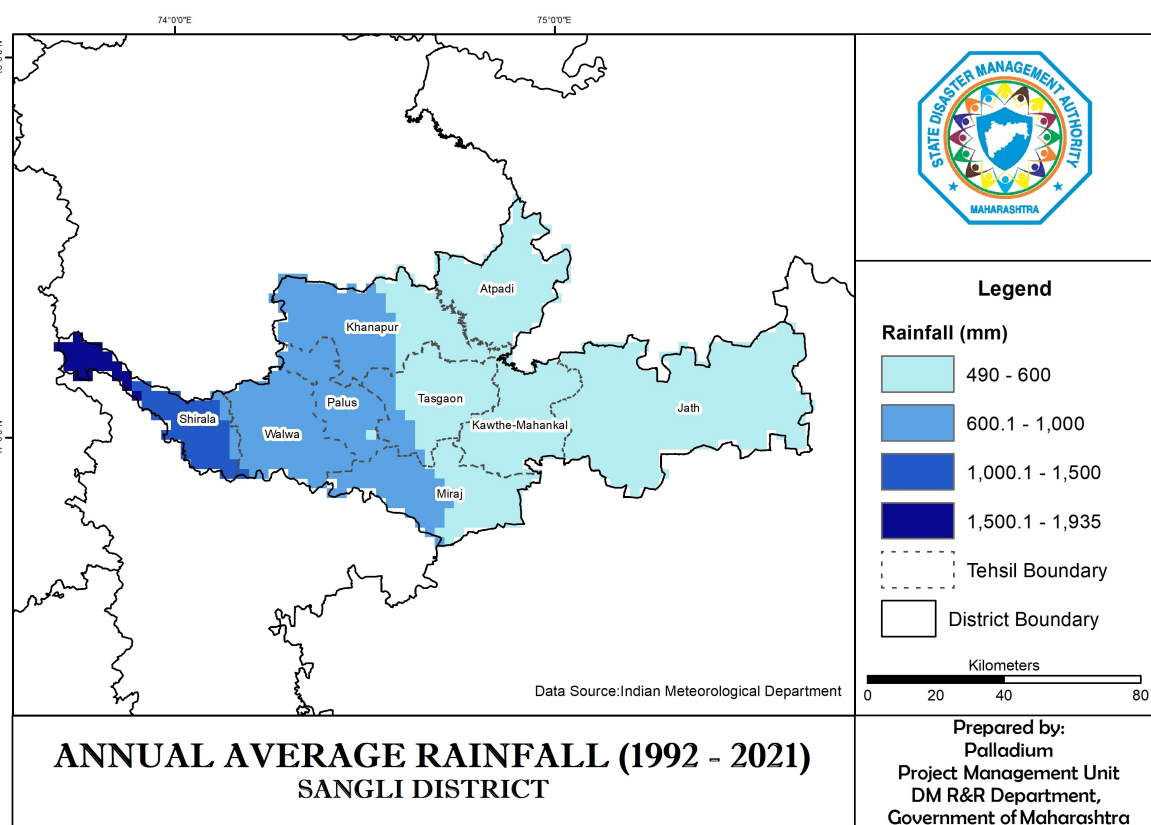


Figure 3 Annual Average Rainfall (1992-2021)

## 2.10. Historical and Religious Centers

Sangli district is rich in historical and religious heritage, featuring numerous significant sites. The Ganesh Temple, built by Shrimant Appasaheb Patwardhan in 1844 on the banks of the Krishna River, and the Ganesh Temple in the garden near Haripur are prominent places of worship. The Datt Temple at Audumbar is a revered pilgrimage site. The grand Ganesh Temple in Tasgaon, constructed by the Maratha warrior Parshuram Bhau Patwardhan in 1799, showcases exquisite ancient architecture. Other notable religious sites include the Jiv Temple on the Dandoba hills, the Mahadev Temple near the confluence of Krishna and Yerala rivers at Brahmanal, the Ramling Temple at Bahe in Walwa taluka, the Machindranath Samadhi at Machindragad, the Revan Siddh Samadhi at Renavi in Khanapur taluka, and the Samadhi of Chokhamela near Bhavani Ghat. Additionally, the district is home to the Chandoli Wildlife

Sanctuary/Tiger Project and the Sagareshwar Wildlife Sanctuary, enhancing its cultural and natural significance

Table 16 List of Historical & Religious Centers

Name	Location	Fairs and Festivals
Ganesh Temple	Sangli City	Ganesh Chaturthi
Datt Temple	Audumbar	Datta Jayanti
Ganesh Temple	Tasgaon	Ganesh Chaturthi
Jiv Temple	Dandoba Hills	Various local festivals
Mahadev Temple	Brahmanal	Mahashivratri
Ramling Temple	Bahe, Walwa Taluka	Ram Navami
Machindranath Samadhi	Machindragad	Various local festivals
Revan Siddh Samadhi	Renavi, Khanapur Taluka	Various local festivals
Chokhamela Samadhi	Near Bhavani Ghat	Various local festivals
ISKCON Aravade, Sri Sri Radha Gopal Temple	Aravade	Janmashtami, Radhashtami
Sangmeshwar Temple	Sangli City	Mahashivratri
Sangli Fort	Sangli City	Historical site, no specific fairs
Bahubali Hill Temples	Near Sangli	Mahavir Jayanti, Paryushan
Chandoli Wildlife Sanctuary	Border of Ratnagiri, Kolhapur, and Sangli districts	Wildlife tours, no specific fairs
Sagareshwar Wildlife Sanctuary	Border of Walwa, Kadegaon, and Palus talukas	Wildlife tours, no specific fairs

## 2.11. River System and Dams

The main rivers flowing through Sangli district are Krishna, Warna, Yerala, Man, Bor, and Agrani. Among these, Krishna, Warna, and Yerala rivers flow through regions with significant rainfall. The Krishna River initially flows from west to east and then south-east, covering approximately 130 km through the district. The Warna River flows from west-southwest to east, covering 173 km along the Kolhapur-Sangli district border before joining the Krishna River near Haripur in Sangli. The Yerala River flows north-south for 85 km, while the Agrani and Man rivers flow from north-west to south-east, covering 85 km and 35 km respectively. The Bor River flows from west to east for about 64 km.

Irrigation and lift irrigation schemes have been implemented on the Krishna and Warna rivers to bring land under cultivation. Additionally, ambitious projects like the Krishna-Koyna lift irrigation project, Tembhu project, and Wakurde water schemes are progressing.

Table 17 List of Rivers in Sangli District

Sr. No.	Name of River	Station	Normal Level (Meter)	Warning Level (Meter)	Danger Level (Meter)
1.	Krishna	Krishna Bridge Karad	561.890	563.400	567.070
		Irwin Bridge Sangli	540.390	541.910	543.440
		Ankali Bridge Haripur	538.710	539.600	541.770

		ur			
		Rajapur Weir	532.720	535.160	536.680
2.	Koyna	Koyna bridge Kara d	562.200	564.100	567.170

Table 18 List of Dams

Sr.No	Taluka	Name of Dam	Capacity of Dam (MCUM)	Maximum Water Level (Meter)
1.	Kavathemahakal	Basappawadi	7.780	633.50
2.		Bandgarwadi	2.060	101.50
3.		Borgaon	1.634	91.50
4.		Dudhebhavi	3.984	117.00
5.		Ghorpadi	1.500	54.50
6.		Haroli	1.150	51.90
7.		Kuchi	2.239	681.55
8.		Landagewadi	1.050	207.00
9.		Langarpeth	2.220	101.50
10.		Nangole	1.299	84.50
11.		Raywadi	2.169	125.60
12.	Jath	Doddanala	7.780	511.00
13.		Sankh	19.930	523.30
14.		Ankalagi	4.646	510.65
15.		Belunki	1.985	96.00
16.		Bhivargi	9.220	511.70
17.		Bilur(Kesral)	1.670	101.50
18.		Birnal M.I. Tank	2.426	98.50
19.		Daflapur	1.390	103.50
20.		Daribadachi	1.879	99.40
21.		Gugwad	1.775	99.00
22.		Jalihal	2.230	59.40

23.		Khojanwadi	2.146	91.37
24.		Kosari	1.450	121.81
25.		Mirawad	1.580	53.30
26.		Pandozari	3.855	97.80
27.		Pratapur	1.670	110.50
28.		Revnal	2.380	629.00
29.		Sanmadi	1.982	101.20
30.		Shegaon No.1	8.080	581.30
31.		Shegaon No.2	1.160	95.75
32.		Sidhanath	6.430	490.00
33.		Soradi	4.410	98.00
34.		Tikondi No. 1	3.240	48.50
35.		Tippehalli	1.582	107.33
36.		Umrani	1.138	108.20
37.		Walekhindi	4.130	89.50
38.		Yelavi	2.582	87.00
39.	Miraj	Bhose (Miraj)	1.010	659.69
40.		Morana Shirala	21.180	595.70
41.		Antri	2.820	107.80
42.	Shirala	Shivani	1.690	58.70
43.		Takave	2.970	658.80
44.		Wakurde	1.676	98.40
45.		Karve	1.050	637.00
46.	Walwa	Rethare Dharan	0.415	633.48

## 2.12. Land Use Land Cover Patterns

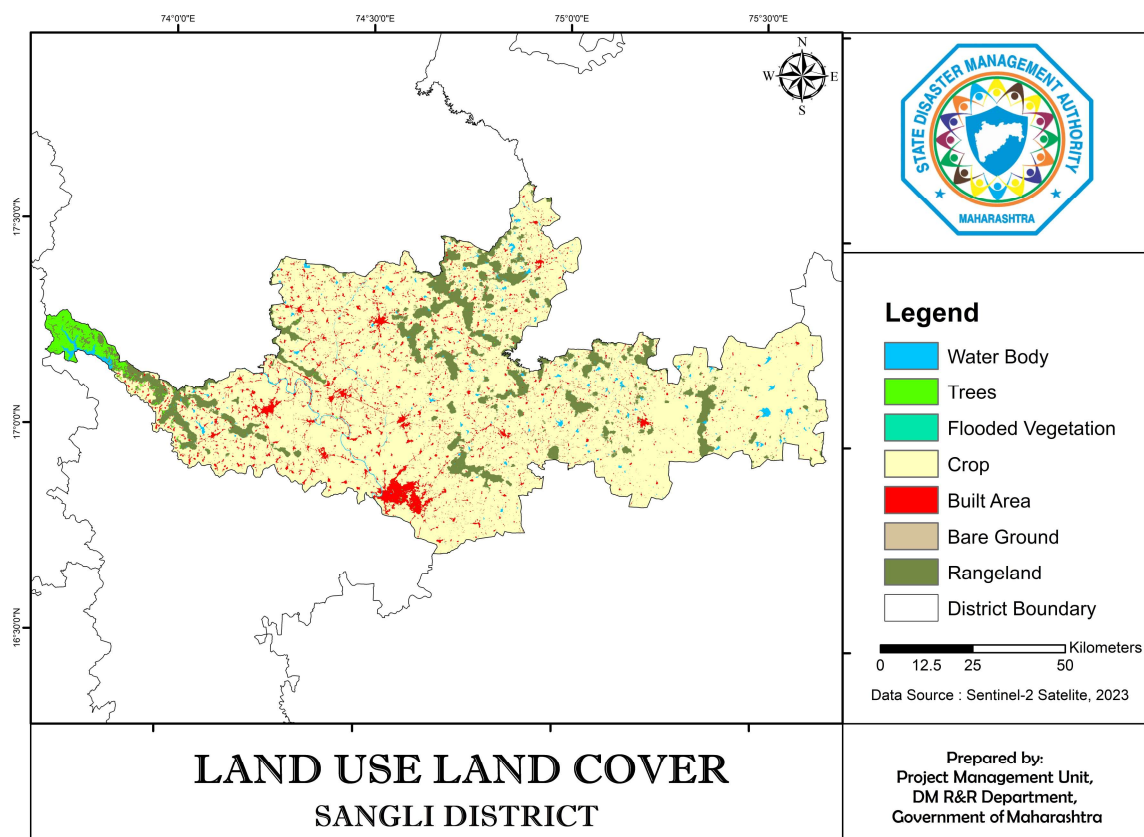


Figure 4 Land Use Land Cover Map

In Sangli district, out of the total 8.59 lakh hectares of land, approximately 20.23% is comprised of forests, wastelands, barren lands, non-agricultural land, permanent pastures, and grazing lands, as well as land under trees and shrubs, which are not suitable for cultivation. Additionally, 6.14% of the total geographical area is classified as fallow and other fallow lands. The remaining 73.63% of the land is cultivable. Of the cultivable land, 89.98% was sown during the reference year. The highest percentage of sown area to cultivable area is in Walwa taluka at 96%, while the lowest is in Jat taluka at 57.09%.

In the reference year, the total irrigated area in the district was approximately 6.24 lakh hectares, of which 20.01% was double cropped. The highest percentage of double-cropped area to total irrigated area is in Shirala taluka at 46.71%, followed by Kadegaon taluka at 39.10%. The



lowest percentages are in Atpadi and Walwa talukas at 9.69% and 3.86%, respectively.

### 2.13. Power Stations and Electricity Installations

Sangli has a robust power infrastructure, with several power stations and electricity installations ensuring a stable supply of electricity. In the year 2023-24, the total electricity consumption in Sangli district was 212,172 million kilowatt-hours, with the number of consumers reaching 9.63 lakh. Although there was an overall increase in electricity usage compared to 2022-23, the consumption for other and commercial lighting purposes decreased compared to the previous year. However, usage in all other sectors saw an increase. The per capita electricity consumption in the district for 2023-24 was recorded at 6,843.68 kilowatt-hours.

### 2.14. Transport and Communication Network

Sangli has a well-developed transport and communication network, facilitating connectivity within the district and beyond. By the end of the year 2023-24, the total length of roads in Sangli district was 11,963 kilometers. Of this, 7,242 kilometers were asphalt roads, 693 kilometers were gravel roads, and 4,028 kilometers were made using other materials.

As of the end of 2023-24, there were 1.173 million vehicles in use in the district, with two-wheelers accounting for the majority at 74.90%. The Maharashtra State Road Transport Corporation (MSRTC) has 10 S.T. Depot and operated 649 buses in the district during the year, transporting an average of 248,000 passengers daily and generating a revenue of ₹468.23 crore.

### 3. HAZARD RISK ASSESSMENT AND VULNERABILITY ANALYSIS

#### 3.1. Hazard History and Impact in the Last 15 Years

Sangli's hazard profile includes a range of natural and human-made hazards, with floods, droughts, and heatwaves being the most significant. The district's geographical location, climate, and socio-economic conditions contribute to its vulnerability to these hazards. Effective hazard profiling involves mapping hazard-prone areas, assessing the frequency and intensity of hazards, and identifying vulnerable populations and assets.

Table 19 Details of Past Hazards

Year	Hazard Type	Description	Impact
2015	Flood	Heavy monsoon rains caused the Krishna River to overflow.	Thousands displaced, significant crop and property damage.
2016	Drought	Below-average rainfall led to severe water shortages.	Affected agriculture, water supply, and livelihoods.
2017	Flood	Monsoon floods due to heavy rainfall in the Krishna River basin.	Evacuation of several villages, damage to infrastructure and crops.
2019	Flood	Severe flooding in August due to abnormal rainfall patterns.	Over 200,000 people evacuated, extensive damage to homes and crops.
2020	Cyclone Nisarga	Cyclone Nisarga brought heavy rains and strong winds.	Damage to buildings, power outages, and agricultural losses.
2021	Flood	Heavy monsoon rains caused flooding in low-lying areas.	Displacement of residents, damage to property and crops.
2022	Drought	Insufficient monsoon rains led to drought conditions.	Water shortages, impact on agriculture and daily life.
2023	Flood	Intense monsoon rains resulted in	Evacuation of affected area

Year	Hazard Type	Description	Impact
		n river flooding.	s, significant damage to infrastructure.

### 3.2. Seasonality of Disasters

Disaster	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
Earthquake												
Floods												
Cyclones												
Heatwave												
Cold wave												
Epidemics												
Industrial Accidents												
Fires												
Road Accidents												
Lightning												
Drought												
Human Animal Conflict												

### 3.3. Hazard Profile of the District

Damage	Earthquake	Flood	Cycl-one	Epidemic	Industrial Accident	Fires	Road Accidents	Land slide	Human Animal Conflict
Loss of lives									
Damage to and Destruction to Property									
Damage to									

Cattle and Livestock	Medium	Medium	Low	Medium	Low	Low	Medium	Low	Medium
Damage to subsistence and crops	Low	Medium	Medium	Low	Low	Medium	Low	Low	Low
Disruption of Lifestyle	Medium	Medium	Low	Low	Low	Low	Low	Medium	Low
Disruption of Community life	Medium	Medium	Low	Low	Medium	Low	Low	Medium	Medium
Loss of livelihood	Medium	Medium	Low	Low	Medium	Low	Low	Medium	Medium



High



Medium



Low

### 3.4. Hazard Assessment

#### 3.4.1. Flood

Sangli district, located in the western part of Maharashtra, faces a recurring threat of flooding, particularly in its tehsils. Miraj, Palus, Walwa, and Shirala are among the tehsils most vulnerable to inundation during heavy monsoon rains and cyclonic disturbances. The district's low-lying topography and proximity to the Krishna and Warna rivers exacerbate the risk of flooding in these areas. According to data from the Central Water Commission (CWC), the inundation map of Sangli district from 1984 to 2019 highlights that 150 villages in Miraj tehsil are flood-affected, followed by 120 villages in Palus and 100 villages in Walwa. The 2019 floods were particularly devastating, with unprecedented rainfall leading to severe flooding, displacement of thousands, and extensive damage to crops and infrastructure.

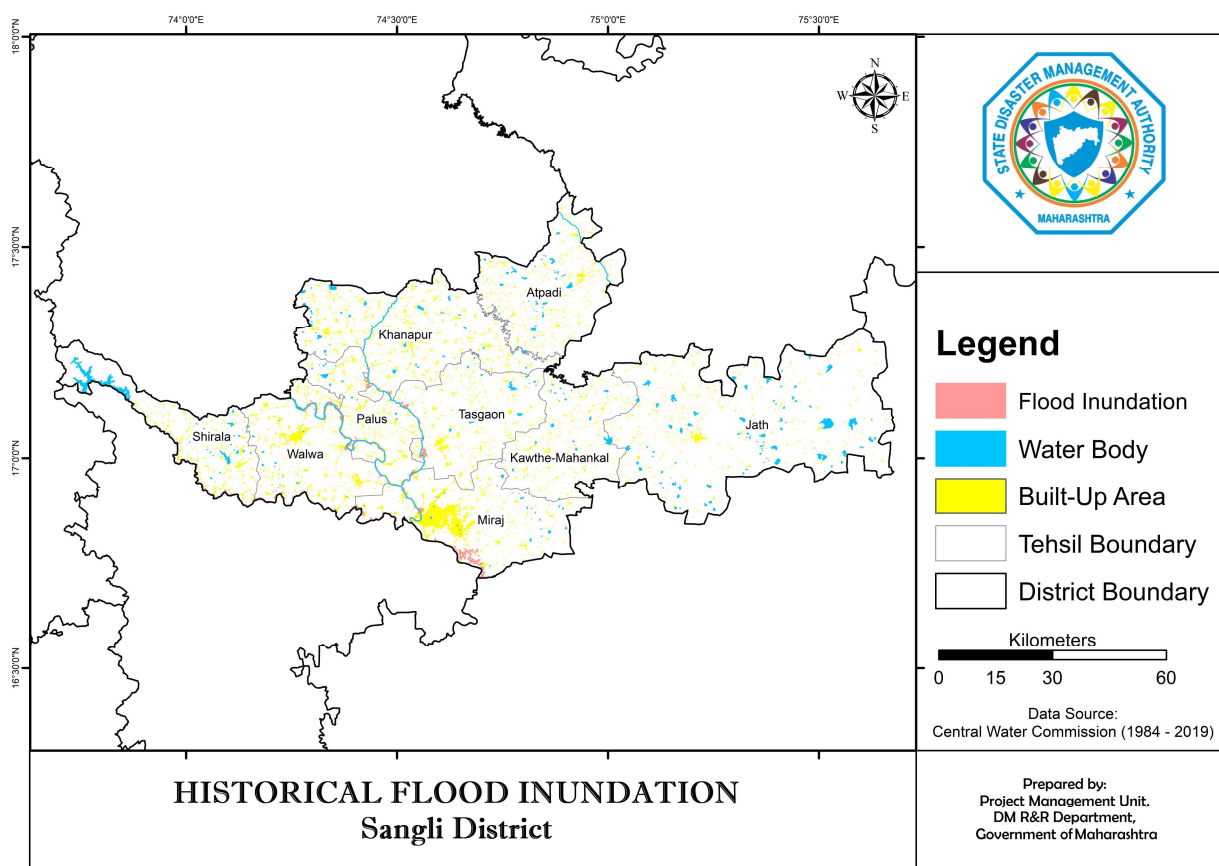


Figure 5 Historical Flood Inundation Map

### 3.4.2. Landslides:

In November 2023, IIT Delhi developed India's first national-scale machine learning-based landslide susceptibility map at a resolution of  $0.001^\circ$  ( $\sim 100$  m). This map classified the susceptibility into five major classes: very low, low, medium, high, and very high, achieving an accuracy of 95.73%.

For Sangli district, the assessment identified several areas with varying degrees of susceptibility to landslides. The areas with the highest susceptibility include:

- **Miraj:** Covering 15,000 hectares, Miraj is one of the most susceptible areas in Sangli district. The region's topography and soil composition contribute significantly to its high susceptibility.
- **Tasgaon:** With 12,500 hectares classified as highly susceptible, Tasgaon is another critical area. Factors such as slope steepness and

land use patterns play a role in its vulnerability.

- **Khanapur:** This area has 10,800 hectares marked as highly susceptible. The combination of geological and environmental factors makes Khanapur prone to landslides.

Historically, Sangli district has experienced several landslides, particularly during the monsoon season. These landslides have often been triggered by heavy rainfall, leading to soil erosion and slope instability. The most notable incidents occurred in the years 2005 and 2019, causing significant damage to infrastructure and agriculture. These events have highlighted the need for effective landslide risk management and mitigation strategies in the region.

These classifications and historical data are crucial for understanding the risk and planning mitigation strategies in the region. The detailed mapping helps local authorities and policymakers to prioritize areas for intervention and develop effective disaster management plans.

Table 20 Details of Past Incidents of Landslide

Year	Location	Village	Cause	Impact
2005	Miraj	Arag	Heavy rainfall	Damage to infrastructure and agriculture
2010	Tasgaon	Manerajuri	Monsoon rains	Displacement of residents, road blockages
2015	Khanapur	Vita	Soil erosion	Loss of crops, minor injuries
2019	Miraj	Kavathe Mahankal	Intense monsoon	Significant damage to homes and farmlands
2022	Tasgaon	Palus	Prolonged rainfall	Landslide-induced flooding, evacuation required

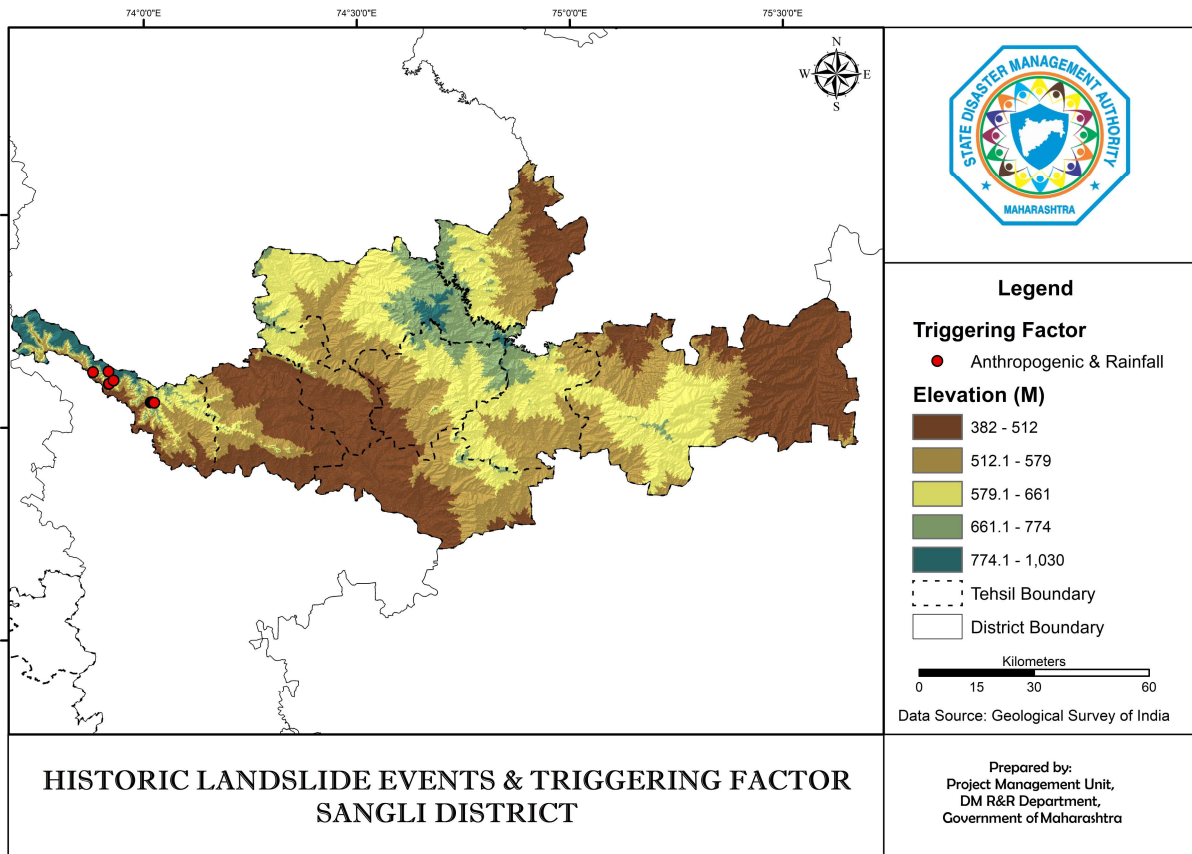


Figure 6 Historical Landslide Events & Triggering Factor

### 3.4.3. Drought

Sangli district in Maharashtra has faced significant challenges due to recurring droughts. The region has experienced severe droughts in 1972, 2005, and 2015. These droughts have had a profound impact on agriculture, which is the primary livelihood for many residents. The uneven and insufficient rainfall has led to water scarcity, affecting both crop production and daily life. Efforts to mitigate the impact of droughts include improving irrigation systems and utilizing Geographic Information Systems (GIS) for better drought management and decision-making. Despite these efforts, the

district continues to struggle with the adverse effects of drought, highlighting the need for sustainable water management practices.

Sangli district in Maharashtra has faced significant challenges due to recurring droughts, with the worst affected areas being the talukas of Jat and Atpadi. These regions have experienced severe droughts despite the proximity of the Krishna River, primarily due to poor groundwater management and insufficient irrigation facilities.

The droughts have had a profound impact on agriculture, which is the primary livelihood for many residents. Traditional crops like sorghum, pearl millet, and wheat that require less water are commonly grown. However, in recent years, farmers have shifted to cash crops like pomegranates, which are more water intensive. This shift has exacerbated the water scarcity, leading to significant crop losses and economic hardship for the farmers.

Efforts to mitigate the impact of droughts include improving irrigation systems and utilizing Geographic Information Systems (GIS) for better drought management and decision-making. Despite these efforts, the district continues to struggle with the adverse effects of drought, highlighting the need for sustainable water management practices.

#### **3.4.4. Earthquake**

Sangli district, located in Maharashtra, has experienced several minor earthquakes over the years. While it is not in a highly seismic zone, the region has felt tremors due to its proximity to more active seismic areas. The most notable earthquake in recent history occurred on December 11, 1967, with a magnitude of 6.5, causing significant damage and raising awareness about earthquake preparedness in the region. More recent tremors, such as those recorded in 2024 with magnitudes ranging from 2.5 to 3.5, have been less impactful but serve as reminders of the underlying seismic activity.



Table 21 List of Past Earthquakes

Year	Location	Magnitude	Impact
1967	Sangli City	6.5	Significant damage to buildings and infrastructure
2017	Miraj	4.8	Minor structural damage, no casualties
2023	Tasgaon	3.3	Felt by residents, no significant damage
2024	Khanapur	3.5	Minor tremors, no damage reported
2024	Vita	3.2	Felt by residents, no significant damage

### 3.4.5. Cyclones

Sangli District in Maharashtra, while not as frequently impacted by cyclones as coastal regions, still faces significant vulnerability due to its geographical location and climate patterns. Historically, Sangli has experienced the adverse effects of cyclonic storms, particularly those that originate in the Arabian Sea and move inland. The district's vulnerability is heightened by its proximity to the Western Ghats, which can exacerbate the impact of heavy rains and strong winds associated with cyclones. The most notable incidents include the cyclones that have caused severe flooding and infrastructure damage, disrupting daily life and agricultural activities. The increasing frequency and intensity of cyclones due to climate change underscore the need for robust disaster preparedness and mitigation strategies to protect the district's population and economy. Enhanced early warning systems, resilient infrastructure, and community awareness programs are crucial to reducing the impact of future cyclonic events on Sangli District.

Table 22 List of Past Cyclones

Cyclone Name	Year	Location	Impact
Cyclone Nisarga	2020	Sangli	Heavy rainfall, flooding, damage to crops and infrastructure
Cyclone Ockhi	201	Sangli	Heavy rainfall, strong winds, agricultural losses

Cyclone Name	Year	Location	Impact
	7		
Cyclone Phyan	2009	Sangli	Moderate rainfall, minor flooding, crop damage

#### 3.4.6. Heatwave

Sangli district in Maharashtra experiences significant heatwaves during the summer months. The mean summer temperature typically ranges around 29.7°C (85.5°F), with maximum temperatures often reaching up to 38°C (100.4°F) in April.

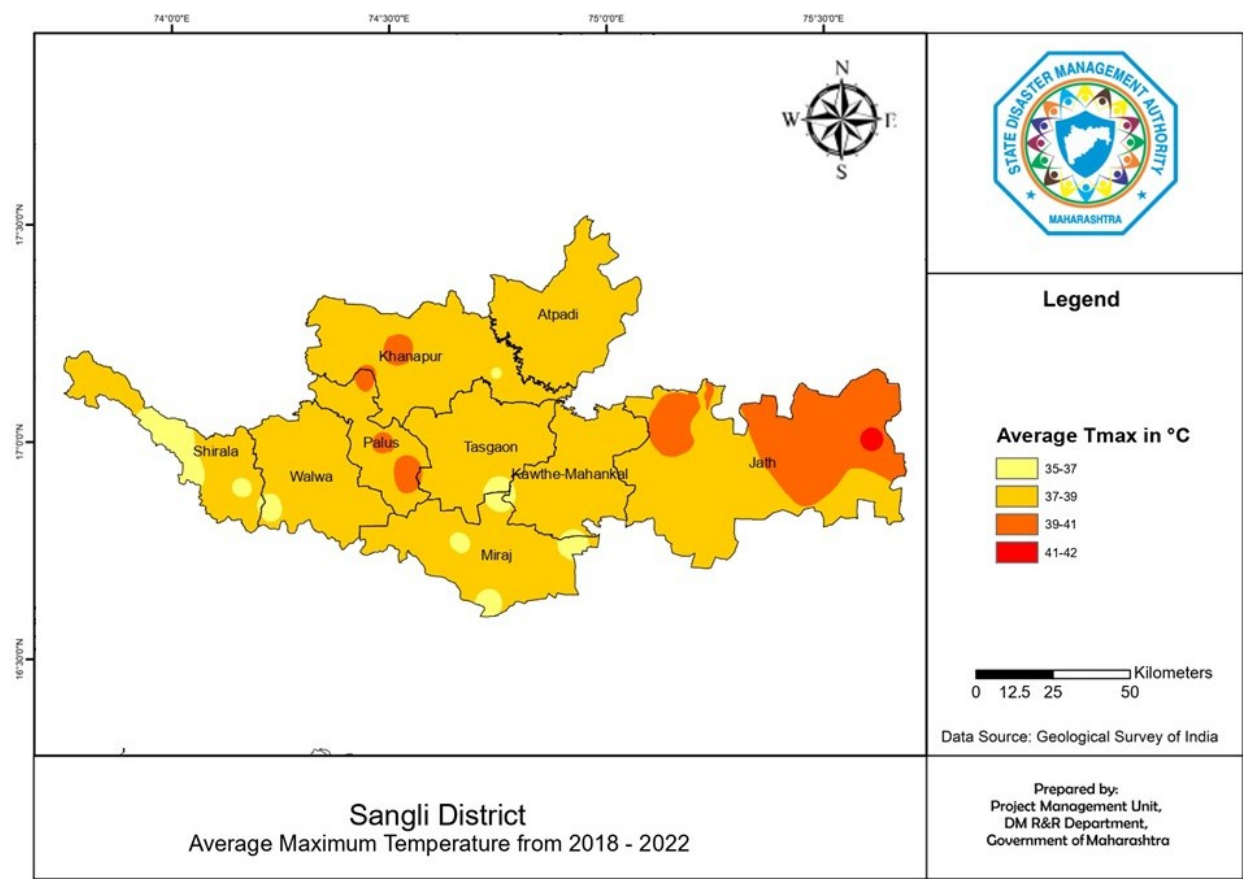
Heatwaves are common, with several days each summer experiencing extreme temperatures. The worst affected talukas include Jat and Atpadi, which face severe heat and water scarcity. These areas often struggle with the compounded effects of drought and heatwaves, leading to significant challenges for agriculture and daily life.

Sangli District in Maharashtra has experienced severe heatwaves in recent years, notably in 2015, 2016, and 2022. These heatwaves have led to significant health impacts, including heat-related illnesses and fatalities, with temperatures frequently exceeding 40-42°C. Prolonged periods of extreme heat, lasting up to 15 days in some years, have affected public health, agriculture, and infrastructure. The increasing frequency and severity of heatwaves due to climate change underscore the need for enhanced preparedness and adaptation strategies to mitigate their impacts on the district's population and economy.

The severity of heatwaves in Sangli District has significant impacts on the population and various sectors. Prolonged high temperatures exacerbate health issues such as heat exhaustion, heatstroke, and dehydration,

particularly among vulnerable groups like the elderly and those with pre-existing conditions. This leads to increased healthcare costs and fatalities. The extreme heat also disrupts daily life, affecting productivity and increasing the risk of accidents. Agriculture suffers from reduced crop yields and heightened irrigation demands, impacting food security and farmer incomes. Traditional crops like sorghum, pearl millet, and wheat are particularly affected, while the shift towards more water-intensive cash crops like pomegranates has exacerbated the situation. This leads to significant crop losses and economic hardship for farmers.

Infrastructure, including roads and power systems, can face stress due to extreme heat, leading to additional maintenance challenges. The heatwaves place considerable strain on public health systems, the economy, and everyday living conditions in Sangli District. The most vulnerable populations during heatwaves include infants, young children, pregnant women, the elderly, and outdoor workers. These groups are at higher risk of heat-



related illnesses and require additional attention and care during extreme heat events. Overall, the severe heatwaves place considerable strain on public health systems, the economy, and everyday living conditions in Sangli District. Enhanced preparedness and adaptation strategies are crucial to mitigate their impacts on the district's population and economy.

Figure 7 Average Maximum Temperature 2018-2022

#### 3.4.7. **Lightning**

Sangli District in Maharashtra has experienced several severe lightning incidents in recent years, causing significant damage and loss of life. One notable incident occurred in April 2022, when a shepherd and ten of his sheep were struck by lightning in the Kavthe-Mahankal taluka. Such incidents highlight the vulnerability of rural populations, particularly those engaged in outdoor activities like farming and herding. The unpredictable nature of lightning storms, often accompanied by heavy rains and strong winds, exacerbates the risk. These events underscore the need for improved early warning systems and public awareness campaigns to educate residents about safety measures during thunderstorms. Enhanced infrastructure, such as lightning rods and shelters, can also help mitigate the impact of these natural disasters on the district's population and economy.

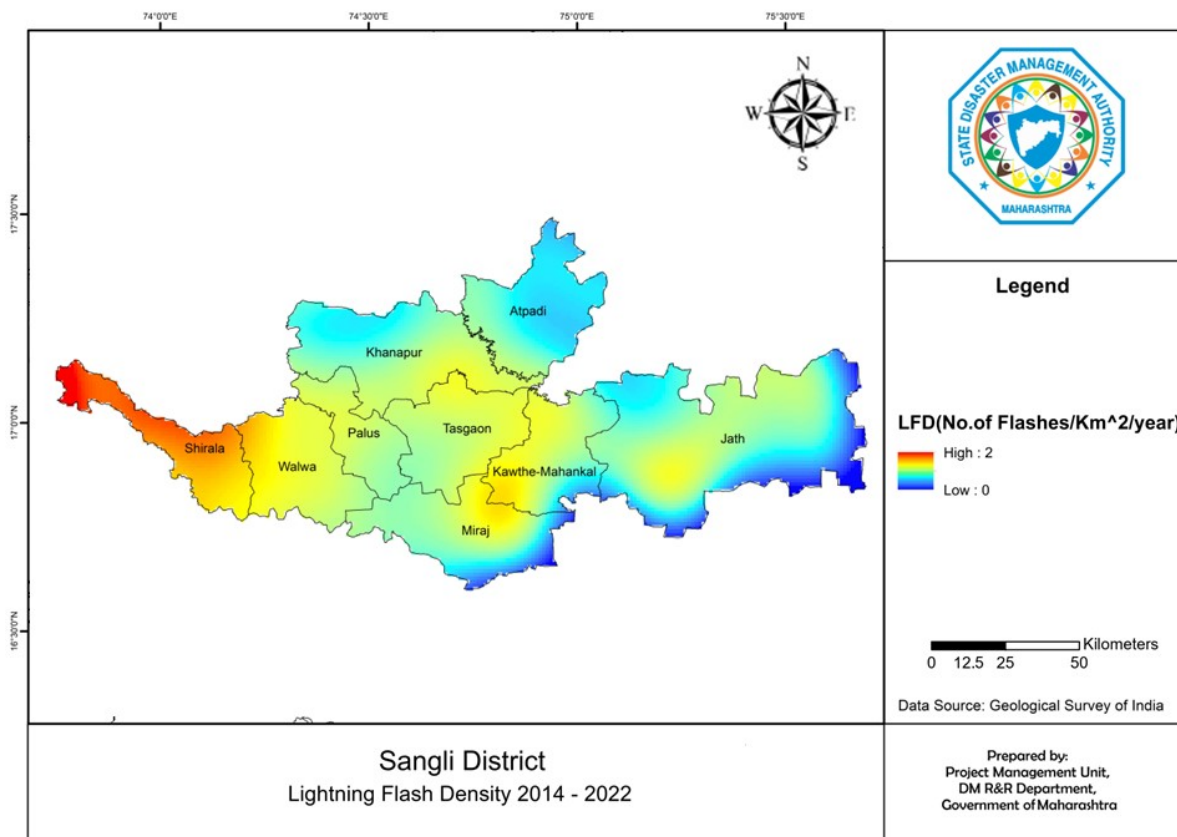


Figure 8 Lightning Flash Density 2014-2022

### 3.4.8. Fire accidents

Sangli District in Maharashtra is particularly vulnerable to fire accidents due to a combination of industrial activities, agricultural practices, and inadequate safety measures. The district has witnessed several significant fire incidents, including a tragic gas leak at a fertilizer factory in Shalgaon MIDC in 2024, which resulted in fatalities and hospitalizations. Additionally, fires in food processing units and fireworks godowns have caused substantial property damage and loss of life. The prevalence of such incidents highlights the need for stringent safety protocols, regular inspections, and effective emergency response systems. Enhanced public awareness and adherence to fire safety regulations are crucial to mitigating the risk of fire accidents and ensuring the safety of residents and workers in Sangli District.

### 3.4.9. Epidemic

Sangli District in Maharashtra has a history of vulnerability to epidemics, with notable incidents including a severe typhoid fever outbreak between December 1975 and February 1976, which affected over 9,000 people in Sangli town due to contaminated municipal water supply. Another significant event was the cholera outbreak in February and March 2005, caused by *El Tor Vibrio cholerae*, which led to numerous cases of acute watery diarrhea. The district's population, which was approximately 2.82 million according to the 2011 census and projected to be around 3.1 million in 2025, is particularly susceptible to waterborne diseases due to inadequate sanitation and water supply systems. The COVID-19 pandemic also had a profound impact on Sangli, disrupting various sectors and highlighting the need for robust public health infrastructure and preparedness. These events underscore the importance of maintaining proper sanitation, improving healthcare facilities, and implementing effective epidemic response strategies to protect the district's population.

Sangli District in Maharashtra experienced significant impacts from the COVID-19 pandemic. During the peak of the pandemic, the district saw a rapid increase in cases, with active cases rising from 166 to 2,261 within a month. By April 2021, Sangli had reported a total of 3,420 cases and 44 deaths. The mortality rate in the district was approximately 1.2%. The surge in cases put a considerable strain on the healthcare infrastructure, highlighting the need for robust public health measures and preparedness to manage such crises effectively.

Table 23 List of Past Epidemics

Year	Disease	Impact
1975-1976	Typhoid Fever	Over 9,000 cases due to contaminated municipal water supply

Year	Disease	Impact
2005	Cholera	Numerous cases of acute watery diarrhoea caused by El Tor <i>Vibrio cholerae</i>
2020-2021	COVID-19	Rapid increase in cases, with significant strain on healthcare infrastructure

#### 3.4.10. Rail accident

Sangli District in Maharashtra has experienced several railway accidents in recent years, highlighting the need for improved safety measures and infrastructure maintenance. One notable incident occurred in March 2025, when a freight bogie derailed in Miraj, causing significant disruption to rail traffic between Pune and Mumbai for several hours. This incident, along with others, underscores the vulnerability of the district's railway network to accidents, which can result from factors such as track defects, human error, and inadequate maintenance.

Another significant incident was the derailment of a freight train in the same area, which further disrupted rail services and highlighted the recurring issues within the railway infrastructure. These accidents not only cause immediate disruptions but also have long-term impacts on the local economy, affecting the timely transportation of goods and passengers. The safety of railway workers and passengers is also at risk, necessitating stringent safety protocols and regular inspections to prevent such incidents.

The impact of these accidents extends beyond immediate disruptions, affecting the local economy and posing risks to public safety. Enhanced safety protocols, regular inspections, and timely maintenance are crucial to preventing such incidents and ensuring the smooth operation of railway services in Sangli District. Additionally, public awareness campaigns about railway safety can help mitigate risks and ensure that both workers and

passengers are better prepared to handle emergencies.

#### **3.4.11. Road Accident**

Sangli District in Maharashtra has seen a troubling increase in road accidents in recent years, primarily due to poor road conditions and increased traffic congestion. One significant incident occurred in May 2023, when an SUV collided with a tractor near Miraj on the Ratnagiri-Pandharpur Road, resulting in the deaths of five people and injuries to three others. Another tragic accident happened in February 2024, when a speeding truck hit a stationary tractor-trolley, killing four sugarcane laborers and injuring ten others. These incidents highlight the urgent need for improved road infrastructure, better traffic management, and stringent enforcement of safety regulations to reduce the frequency and severity of road accidents in the district.

The primary causes of road accidents in Sangli include human error, such as speeding, reckless driving, and driving under the influence of alcohol. Poor road conditions, including potholes and inadequate signage, also contribute significantly to accidents. Additionally, the lack of proper traffic management and enforcement of safety regulations exacerbates the problem. Addressing these issues through infrastructure improvements, public awareness campaigns, and stricter enforcement of traffic laws is crucial to enhancing road safety in Sangli District.

#### **3.4.12. Industrial and Chemical Accidents**

Sangli District in Maharashtra, while not as prominently industrialized as some other regions, hosts several industrial areas that have seen rapid growth in recent years, leading to an increase in industrial accidents. The district has multiple industrial zones, including the Sangli MIDC, Miraj MIDC, and Kupwad MIDC, which house a variety of industries ranging from chemical manufacturing to food processing. The major industries in the



district are chemical, textile, and food processing, with several units handling hazardous materials.

One of the key industrial areas, Sangli MIDC, includes factories that store and handle dangerous chemicals such as chlorine, hydrochloric acid (HCL), and nitric acid (HNO<sub>3</sub>). These factories are equipped with safety mechanisms to handle emergencies, including fire-resistant materials, safety gear, and emergency response protocols. For instance, a chemical factory in Sangli MIDC has implemented stringent safety measures, including the deployment of security personnel and the installation of fire extinguishing systems.

Another significant industrial area, Miraj MIDC, houses a pharmaceutical company that produces and stores large quantities of chemicals, posing risks of chemical leaks and explosions. The company has established comprehensive safety protocols, including regular safety drills and the use of protective equipment such as masks, gloves, and fire-resistant clothing.

The district also has adequate fire-fighting forces in each taluka, supported by local police stations and health facilities. These forces are trained to respond to industrial accidents and have access to necessary equipment such as fire extinguishers, fire-resistant clothing, and first aid materials. Additionally, the district administration conducts regular inspections and safety audits to ensure compliance with safety regulations and to mitigate the risk of industrial accidents.

Overall, while Sangli District continues to develop its industrial sector, the emphasis on safety measures and emergency preparedness is crucial to protecting workers and residents from the potential hazards associated with industrial activities.

Sangli District in Maharashtra has experienced several significant industrial and chemical accidents in recent years, highlighting the need for stringent

safety measures and regular inspections. One tragic incident occurred in November 2024, when a gas leak at a fertilizer factory in the Shalgaon MIDC area resulted in the deaths of three workers and the hospitalization of nine others due to inhaling toxic fumes. The leak, suspected to be ammonia, caused severe respiratory issues among the affected workers. Another major incident took place at a pharmaceutical company in the same area, where a gas leak led to the deaths of three people and injuries to nine others.

These accidents underscore the vulnerability of the district's industrial sector to such hazards, often resulting from inadequate safety protocols, poor maintenance, and human error. The impact of these incidents extends beyond immediate health risks, affecting the local economy and public confidence in industrial safety standards. Enhanced safety protocols, regular inspections, and effective emergency response systems are crucial to preventing such accidents and ensuring the safety of workers and residents in Sangli District.

### 3.5. Social, Economic, and Environmental Vulnerability Analysis

#### 3.5.1. Social Vulnerability

Social vulnerability in Sangli is influenced by factors such as poverty, education, health, and social inclusion. Vulnerable groups, including women, children, the elderly, and marginalized communities, are disproportionately affected by disasters. Addressing social vulnerability involves implementing inclusive policies, enhancing social protection measures, and promoting community resilience.

Sangli District in Maharashtra faces significant social vulnerability due to a combination of economic disparities, inadequate infrastructure, and limited access to essential services. The district's population, which is

predominantly rural, experiences high levels of poverty, with many residents relying on agriculture for their livelihoods. This dependence on agriculture makes them particularly vulnerable to environmental changes and natural disasters, such as droughts and floods.

The rural areas of Sangli also suffer from inadequate healthcare facilities and educational institutions, which further exacerbate social inequalities. Women and children are among the most disadvantaged groups, facing challenges such as limited access to education, healthcare, and economic opportunities. Additionally, the district's social development is uneven, with significant disparities between different talukas. Efforts to address these vulnerabilities include initiatives to improve infrastructure, enhance access to education and healthcare, and promote economic development through microfinance and self-help groups. However, sustained efforts and targeted interventions are necessary to reduce social vulnerability and ensure equitable development across the district.

### **3.5.2. Environmental Vulnerability**

Environmental vulnerability in Sangli is linked to land degradation, deforestation, and water scarcity. Sustainable land management practices, reforestation programs, and water conservation initiatives are essential to reduce environmental vulnerability. Protecting natural ecosystems and promoting biodiversity also contribute to environmental resilience.

Sangli District in Maharashtra faces significant environmental vulnerabilities due to a combination of factors, including climate change, deforestation, and inadequate waste management. The district is prone to droughts, with approximately 66% of its land being drought prone. This vulnerability is exacerbated by erratic rainfall patterns and increasing temperatures, which impact agricultural productivity and water availability. Additionally, the district has experienced severe flooding, particularly from the Krishna and Warna

rivers, which have caused extensive damage to crops, infrastructure, and homes.

Deforestation and land degradation further contribute to environmental vulnerability in Sangli. The loss of forest cover reduces the land's ability to retain water, increasing the risk of soil erosion and reducing agricultural yields. Inadequate waste management, particularly in urban areas, leads to pollution of water bodies and soil, posing health risks to the population.

Efforts to address these vulnerabilities include the implementation of Geographic Information Systems (GIS) for better drought management, reforestation programs, and improved waste management practices. However, sustained efforts and community involvement are crucial to mitigating the environmental risks and ensuring the long-term sustainability of the district.

### **3.5.3. Economic Vulnerability**

Economic vulnerability in Sangli is driven by the dependence on agriculture, limited industrial diversification, and inadequate infrastructure. Enhancing economic resilience involves diversifying livelihoods, investing in resilient infrastructure, and promoting sustainable economic development. Supporting small and medium enterprises (SMEs) and fostering innovation are also crucial for economic resilience.

Sangli District in Maharashtra faces significant economic vulnerability due to a combination of factors, including its heavy reliance on agriculture, regional disparities, and limited industrial development. The district's economy is predominantly agrarian, with a large portion of the population dependent on farming for their livelihoods. This reliance on agriculture makes the district particularly susceptible to environmental changes, such as droughts and floods, which can severely impact crop yields and farmers' incomes.

Regional disparities within the district further exacerbate economic vulnerability. While some talukas like Walwa and Miraj are relatively more developed, others lag behind in terms of infrastructure and economic opportunities. This uneven development leads to significant socio-economic inequalities, affecting access to education, healthcare, and employment opportunities.

The limited industrial development in Sangli also contributes to its economic vulnerability. Although there are several industrial areas, including Sangli MIDC, Miraj MIDC, and Kupwad MIDC, the overall industrial growth has been slow. This limits the district's ability to diversify its economy and create job opportunities outside of agriculture.

Efforts to address these vulnerabilities include promoting microfinance and self-help groups (SHGs) to support rural development and improve economic resilience. Additionally, initiatives to enhance infrastructure, attract industrial investment, and improve agricultural practices are crucial to reducing economic vulnerability and ensuring sustainable development in Sangli District.

## 4. INSTITUTIONAL ARRANGEMENT FOR DISASTER MANAGEMENT

Disaster management in India is primarily handled at the state and district levels, with the central government providing support when the disaster's impact exceeds local capacities. The Disaster Management Act of 2005 (DM Act, 2005) establishes institutional and coordination mechanisms to enhance disaster management effectiveness at the national, state, and district levels. This chapter outlines the institutional arrangements for disaster management in Sangli District.

When a disaster's impact surpasses the capacities of district and state authorities, the central government steps in to provide assistance. This support includes mobilizing emergency teams, support personnel, specialized equipment, and operational facilities based on the severity of the disaster and the specific needs of the affected areas. Active assistance from the central government is typically initiated following the declaration of a national-level disaster, activating the national response mechanism and ensuring prompt assistance for ongoing state or district-level disasters.

The DM Act, 2005, has created a multi-tiered institutional structure comprising the National Disaster Management Authority (NDMA), led by the Prime Minister, the State Disaster Management Authorities (SDMAs), overseen by the Chief Ministers, and the District Disaster Management Authorities (DDMAs), chaired by District Collectors and co-chaired by elected representatives of local authorities within their respective districts. According to NDMA guidelines, these entities aim to shift from traditional relief-centric approaches to proactive, holistic, and integrated strategies that strengthen disaster preparedness, mitigation, and emergency response efforts.

In Sangli District, the disaster management framework follows the guidelines

set by the DM Act, 2005. The District Disaster Management Plan (DDMP) for Sangli outlines the regulatory frameworks, emergency preparedness, and response strategies specific to the district. This plan ensures that Sangli is equipped to handle various disaster scenarios effectively, promoting safety and resilience within the community.

## 4.1. Institutional Framework

### 4.1.1. National Level

At the national level, the Ministry of Home Affairs is the nodal ministry for disaster management. The National Disaster Management Authority (NDMA), headed by the Prime Minister, coordinates disaster management efforts across the country. The NDMA formulates policies, plans, and guidelines for disaster management and ensures their implementation.

### 4.1.2. State Level

The State Disaster Management Authority (SDMA), chaired by the Chief Minister, is responsible for disaster management at the state level. The SDMA formulates policies and plans for disaster management in the state and ensures their implementation. It also coordinates with the NDMA and other state-level agencies to ensure a cohesive disaster management strategy.

### 4.1.3. District Level

The District Disaster Management Authority (DDMA) in Sangli is responsible for disaster management at the district level. The DDMA is chaired by the District Collector and co-chaired by the President of the Zilla Parishad. The DDMA formulates and implements district-level disaster management plans, coordinates with state and national authorities, and ensures effective disaster response and recovery.

Table 24 Structure of DDMA

Sr. No.	Members	Designation
1	District Collector	Chairperson
2	President, Zilla Parishad	Co-chairperson
3	Additional District Magistrate	Member Secretary
4	Chief Executive Officer, ZP	Member
5	Superintendent of Police	Member
6	District Civil Surgeon	Member
7	Executive Engineer, PWD	Member
8	Executive Engineer, Irrigation	Member
9	Home Guard	Member

#### 4.2. Nodal Departments for Various Hazards

Different types of disasters require specialized responses, and various departments are designated as nodal agencies for specific hazards. These departments are responsible for coordinating disaster preparedness, response, and recovery efforts related to their respective hazards.

Table 25 Nodal Departments for Various Hazards

Hazard Type	Nodal Department
Hydro-meteorological, Geological, Biological	Revenue & Disaster Management
Road Accidents, Stampede, Law and Order	Police
Flood, Dam Break	Irrigation



<b>Hazard Type</b>	<b>Nodal Department</b>
Heat Waves, Chemical, Biological, Radiological & Nuclear Disasters	Health & Family Welfare
Industrial Accidents	Factories & Boilers Department
Pest Attacks, Drought, Flood, Cyclone	Agriculture
Cattle Epidemics	Animal Husbandry
Dam Break	Water Resources
Building and Road Collapse	Public Works
Forest Fire, Landslides	Forests
Air Accidents	Airport
Cyclone, Storm Surge, Tsunami, Boat Accident, Oil Spill	Port/Fisheries
Rail Accidents	Railway Division

### 4.3. District Disaster Management Committee (DDMC)

Disasters arise from various calamities, each presenting unique challenges. Addressing these challenges effectively requires a well-organized structure and trained personnel, including a team of high-level officials dedicated to disaster management. To mitigate the impact of disasters, meticulous planning and coordination under the leadership of the Chairperson of the District Disaster Management Authority are crucial. Therefore, forming a District Disaster Management Committee (DDMC) under the chairmanship of the District Collector is essential.

The DDMC is established under the leadership of the District Collector to ensure effective disaster management within the district. The committee

convenes at least once a year to evaluate overall mitigation and preparedness activities. The DDMC plays a vital role in assessing the district's vulnerability to various disasters, reviewing preparedness measures, and recommending improvements to the District Disaster Management Plan (DDMP).

The Disaster Risk Management Programme also highlights the importance of forming multiple-level committees, each equipped with plans and task forces. The responsibilities of the Disaster Management Committee include:

- Assessing disaster threats
- Evaluating the district's vulnerability to such disasters
- Reviewing preparedness measures
- Recommending enhancements to the District Disaster Management Plan (DDMP)

This committee meets annually under the guidance of the District Collector and includes the following members:

Table 26 Structure of DDMC

Sr. No.	Members	Designation
1	District Collector	Chairman
2	District Superintendent of Police	Member
3	Chief Executive Officer, Zilla Parishad	Member
4	Additional Collector	Member
5	Resident District Collector	Member-Secretary
6	Chief Fire Officer	Member
7	District Health Officer	Member

<b>Sr. No.</b>	<b>Members</b>	<b>Designation</b>
8	District Agriculture Officer	Member
9	District Animal Husbandry Officer	Member
10	Civil Surgeon	Member
11	Executive Engineer, PWD	Member
12	Executive Engineer, Irrigation Department	Member
13	Executive Engineer, Minor Irrigation Division	Member
14	Executive Engineer, MSEDCL	Member
15	Executive Engineer, MWSSB	Member
16	District Education Officer	Member
17	Divisional Manager, Railways	Member
18	Regional Transport Officer	Member
19	Regional Manager, MSRTC	Member
20	District Publicity Officer	Member
21	District Supply Officer	Member
22	Local Station Director, AIR	Member
23	Local Station Director, Doordarshan	Member
24	Assistant Commissioner, Fisheries	Member

This structure ensures a comprehensive and coordinated approach to disaster management at the district level, enhancing the district's resilience and preparedness for various calamities.

#### 4.4. Coordination Structure at District Level

The coordination structure at the district level ensures effective communication and collaboration among various departments and agencies involved in disaster management. This structure facilitates the seamless flow of information and resources during disaster response and recovery operations.

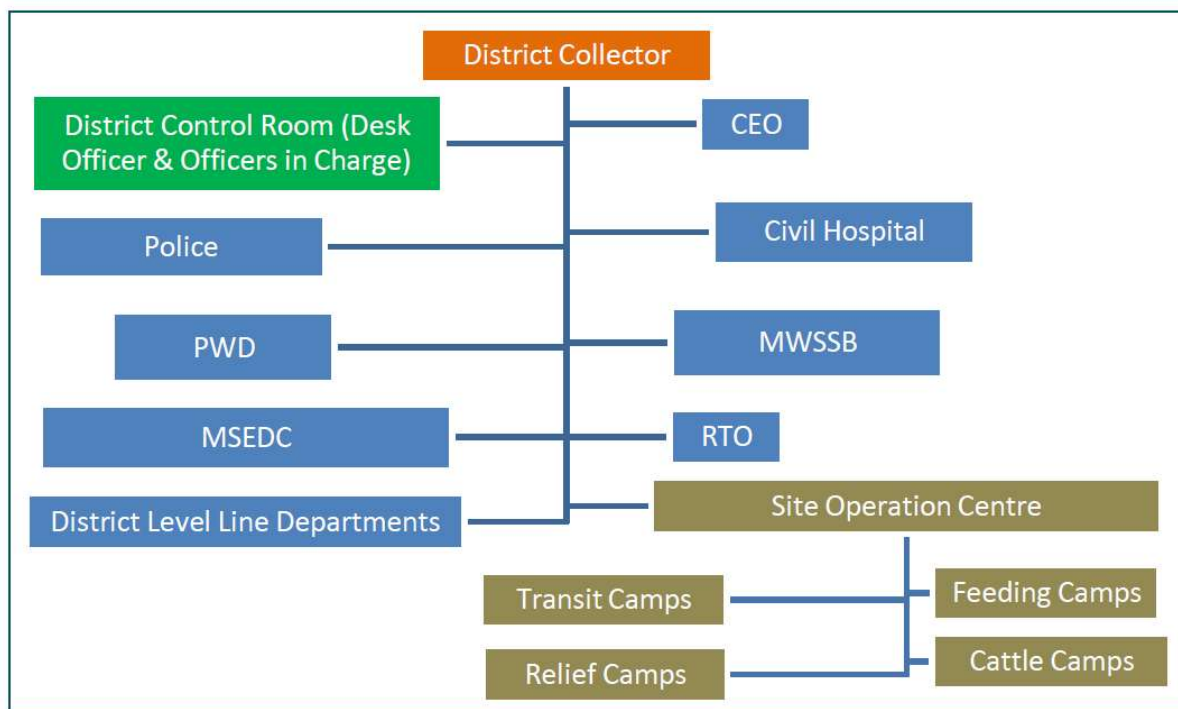


Figure 9 Coordination Structure in District

- District Collector: Acts as the central coordinating authority for disaster management at the district level.
- District Disaster Management Authority (DDMA): Comprises key officials from various departments, ensuring a coordinated response.
- Nodal Departments: Specific departments are designated as nodal agencies for different types of disasters (e.g., Health & Family Welfare for biological disasters, Irrigation for floods).
- Emergency Operation Centre (EOC): Operates as the command-and-control center during disasters, facilitating communication and

coordination among all stakeholders.

- **Local Authorities:** Municipal councils, panchayats, and other local bodies play a crucial role in implementing disaster management plans at the grassroots level.
- **Community-Based Organizations (CBOs) and NGOs:** Assist in disaster preparedness, response, and recovery efforts, ensuring community participation.
- **Public Information and Communication:** Ensures timely dissemination of warnings and alerts to the public through various channels (e.g., media, public announcements).

#### 4.5. Agencies Competent for Disseminating Warnings/Alerts

Timely dissemination of warnings and alerts is critical for effective disaster management. Various agencies are designated to issue warnings and alerts for different types of disasters. These agencies work in coordination with the DDMA to ensure that the public and relevant authorities are informed promptly.

Table 27 Agencies Competent for Disseminating Warnings/Alerts

Disaster Type	Agencies
Earthquakes	IMD, MERI
Floods	Meteorology Department, Irrigation Department
Drought	Meteorology Department, Irrigation Department
Cyclones	IMD, Fisheries, Port
Epidemics	Public Health Department
Road Accidents	Police

Disaster Type	Agencies
Industrial and Chemical Accidents	Industry, Police
Fires	Fire Brigade, Police

The warning or occurrence of a disaster will be communicated to:

- Chief Secretary, Relief Commissioner, Emergency Operation Centre
- Office of Divisional Commissioner
- All district-level officials, Municipal Councils
- Officials of the central government located within the district
- Non-officials such as Guardian Minister of the district, Mayor, ZP Presidents, MPs, Local Defence Services

The institutional arrangement for disaster management in Sangli District is designed to ensure a coordinated and effective response to disasters. By leveraging the strengths of various departments and agencies, the district aims to enhance its disaster preparedness, mitigation, and response capabilities. Continuous evaluation and improvement of these arrangements are essential to address emerging challenges and ensure the safety and well-being of the community.

## 5. PREVENTION AND MITIGATION MEASURES

Preventing disasters or minimizing their impact is crucial for effective disaster management. The District Disaster Management Plan (DDMP) incorporates various preventive measures to mitigate risks and enhance community resilience. This chapter outlines the prevention and mitigation measures, strategies, disaster-specific mitigation actions, and risk insurance and financing for Sangli District.

### 5.1. Preventive Measures

1. **Risk Assessment and Hazard Mapping:** Conduct comprehensive risk assessments and mapping to identify vulnerable areas and potential hazards. This enables informed decision-making and targeted interventions.
2. **Early Warning Systems:** Establish robust early warning systems to provide timely alerts and information to at-risk communities, allowing for proactive preparedness and evacuation measures.
3. **Building Regulations and Land Use Planning:** Implement strict building regulations and land use planning policies to mitigate risks associated with improper construction practices and urban development in hazard-prone areas.
4. **Infrastructure Development:** Invest in resilient infrastructure, such as flood barriers, stormwater drainage systems, and earthquake-resistant buildings, to withstand natural disasters and minimize damage.
5. **Environmental Conservation:** Promote environmental conservation and sustainable land management practices to reduce the likelihood of disasters such as landslides, forest fires, and ecosystem degradation.
6. **Community Awareness and Capacity Building:** Conduct community

awareness campaigns and capacity-building programs to educate residents about disaster risks, preparedness measures, and response protocols.

7. **Emergency Response Planning:** Develop comprehensive emergency response plans that outline roles, responsibilities, and coordination mechanisms for various stakeholders to ensure swift and effective response during emergencies.
8. **Risk Reduction Measures:** Implement risk reduction measures, such as retrofitting vulnerable structures, establishing evacuation routes, and conducting regular drills and exercises to enhance preparedness and resilience at the local level.
9. **Multi-Sectoral Collaboration:** Facilitate multi-sectoral collaboration and partnerships among government agencies, non-governmental organizations, private sector entities, and community groups to address disaster risks and strengthen resilience collectively.
10. **Continuous Monitoring and Evaluation:** Regularly monitor and evaluate the effectiveness of preventive measures, update risk assessments, and refine strategies based on lessons learned and emerging threats to ensure the ongoing effectiveness of the DDMP.

By prioritizing prevention measures, the district can proactively mitigate risks, reduce vulnerabilities, and build resilience to disasters, ultimately safeguarding lives, livelihoods, and infrastructure.

## 5.2. Mitigation Measures & Strategies

Mitigation encompasses all actions aimed at diminishing the impact of a hazard and the susceptibility of the affected conditions, thereby minimizing the magnitude of future disasters. Its goal is to decrease physical, economic, and existential threats and address the root causes of



vulnerability.

### 5.2.1. Structural Measures

Structural mitigation measures play a vital role in enhancing the resilience of disaster-prone districts by reducing the impact of hazards on infrastructure, buildings, and communities. These measures involve the construction of physical structures designed to withstand or mitigate the effects of disasters. Key points to consider during the implementation of structural mitigation strategies include:

**Engineering Solutions:** Utilize engineering techniques to design and construct resilient infrastructure, such as bridges, roads, buildings, and flood control structures. These structures are engineered to withstand natural disasters like earthquakes, floods, hurricanes, and landslides.

**Building Codes and Standards:** Implement and enforce stringent building codes and standards to ensure that new construction and retrofitting of existing structures meet safety requirements. This includes provisions for earthquake-resistant construction, wind-resistant design, flood-proofing measures, and adherence to zoning regulations.

**Flood Control Measures:** Construct flood control structures such as levees, floodwalls, dams, and stormwater drainage systems to manage floodwaters and reduce the risk of inundation in flood-prone areas. Proper maintenance and periodic inspections of these structures are essential to ensure their effectiveness.

**Seismic Retrofitting:** Retrofit vulnerable structures to improve seismic performance and earthquake resilience. This may involve strengthening foundations, adding structural bracing, reinforcing walls, and installing energy dissipation devices to absorb seismic energy.

**Landslide Mitigation:** Implement slope stabilization measures, such as

retaining walls, rockfall barriers, and vegetation management, to mitigate the risk of landslides in hilly or mountainous terrain. Landslide hazard mapping and land-use planning are essential to identify and avoid high-risk areas.

**Coastal Protection:** Install coastal protection structures such as seawalls, breakwaters, and beach nourishment projects to mitigate the impact of coastal hazards like storm surges, erosion, and tsunamis. Dune restoration and mangrove reforestation can also provide natural coastal protection.

**Resilient Infrastructure Design:** Design infrastructure with resilience in mind, incorporating features such as flexible utility systems, redundant lifelines, and modular construction techniques. This ensures that critical infrastructure can continue to function during and after disasters.

**Community Engagement:** Involve local communities in planning, designing, and implementing structural mitigation measures to ensure solutions are tailored to their needs and priorities. Community education and awareness programs can promote the adoption of resilient building practices and disaster preparedness measures.

By prioritizing structural mitigation measures, disaster-prone areas can reduce vulnerability, minimize damage to infrastructure and property, and enhance the overall resilience of communities to natural disasters. However, it's essential to complement structural measures with non-structural approaches, such as land-use planning, early warning systems, and emergency preparedness initiatives, to achieve comprehensive disaster risk reduction.

#### 5.2.2. Non-Structural Measures

Non-structural mitigation measures are also essential to disaster risk reduction strategies, focusing on reducing vulnerability and increasing resilience through methods other than physical infrastructure. These

measures address the social, economic, environmental, and institutional aspects of disaster management. Key considerations for implementing non-structural mitigation in disaster-prone areas include:

**Risk Assessment and Planning:** Conduct comprehensive risk assessments to identify district hazards, vulnerabilities, and exposure. Develop risk maps and hazard profiles to inform land-use planning, development regulations, and emergency response plans.

**Land-Use Planning:** Implement zoning regulations and land-use plans that steer development away from high-risk areas, such as floodplains, earthquake fault lines, and landslide-prone slopes. Encourage sustainable development practices that minimize exposure to natural hazards.

**Community Awareness and Education:** Conduct public awareness campaigns and educational programs to inform residents about local hazards, evacuation routes, emergency procedures, and preparedness measures. Empower communities to take proactive steps to reduce their vulnerability to disasters.

**Early Warning Systems:** Establish and maintain early warning systems to provide timely alerts and information to at-risk communities. Use various communication channels, including sirens, text messages, social media, and community networks, to disseminate warnings effectively.

**Capacity Building and Training:** Provide training and capacity-building programs for local authorities, emergency responders, community leaders, and volunteers. Equip them with the knowledge, skills, and resources to effectively prepare for, respond to, and recover from disasters.

**Economic Diversification and Livelihood Protection:** Promote economic diversification and livelihood protection measures to reduce dependence on vulnerable sectors and enhance resilience to financial shocks caused by disasters. Support small-scale enterprises, agriculture diversification, and

alternative livelihood opportunities.

**Environmental Conservation and Ecosystem Restoration:** Preserve and restore natural ecosystems, such as wetlands, mangroves, and forests, which provide valuable ecosystem services, including flood control, erosion prevention, and biodiversity conservation. Healthy ecosystems can buffer communities against the impacts of disasters.

**Community-Based Disaster Risk Management (CBDRM):** Foster community participation and ownership in disaster risk management through CBDRM initiatives. Empower local communities to identify risks, priorities, and solutions and integrate their knowledge and traditional practices into disaster planning and response efforts.

**Social Protection and Vulnerability Reduction:** Implement social protection programs and measures to support vulnerable populations, including older people, children, persons with disabilities, and marginalized groups. Address underlying social inequalities and inequities that exacerbate vulnerability to disasters.

**Coordination and Collaboration:** Foster multi-stakeholder coordination and collaboration among government agencies, non-governmental organizations, academia, private sector entities, and community-based organizations. Promote partnerships for holistic and integrated approaches to disaster risk reduction.

By prioritizing non-structural mitigation measures, disaster-prone districts can enhance their resilience, reduce vulnerabilities, and mitigate the impacts of natural hazards on communities and livelihoods. These measures complement structural interventions and contribute to comprehensive disaster risk reduction efforts to build safer, more resilient societies.

### 5.3. Disaster-Specific Mitigation Measures

The strategy aims to establish a comprehensive policy framework for disaster risk reduction, focusing on prevention, mitigation, and preparedness in the pre-disaster phase. Key initiatives include creating a mitigation fund for the district, raising awareness of disaster risk reduction at all levels, and enhancing preparedness among stakeholders through optimized and accessible Information and Communication Technology Systems. To support these efforts, appropriate legislative and regulatory instruments will be developed to strengthen enforcement mechanisms at various government levels. Local and regional capacity building will focus on vulnerability, risk assessment, and post-disaster damage investigation. Additionally, the strategy prioritizes promoting disaster-resistant construction techniques and enforcing safe building codes and practices across all sectors. Scientific research on risks and disasters will be encouraged to develop databases, enhance understanding of impacts, and identify preventive measures for the district.

#### 5.3.1. Flood

##### **Pre-Flood Actions:**

- Upon receiving a flood alert, the District Collector should promptly issue a flood alert to all police stations.
- Tehsildars should immediately inform residents living in low-lying areas about the potential flood risk.
- Utilize the public address system, SMS, and local cable TV networks to inform the public about the flood.
- The Additional District Magistrate should coordinate with the Chief Medical Officer, District Health Officer, Rural Development Officers, and District Inspector of Schools.

- Ensure the complete evacuation of residents from low-lying areas.
- Tehsildars should ensure that relief centers are equipped with basic amenities to prevent the spread of diseases and provide first aid to the injured.

#### **Actions During Floods:**

- Cordoning off roads to areas prone to water accumulation due to incessant rains.
- Marking entry points, such as road entry points from the National Highway, with names of villages and inundated areas.
- Transmitting traffic suspension signals to neighbouring districts in the event of floods or damage caused by heavy rains.
- Relaying information well in advance to prevent road congestion on National Highway/District Road sections.
- Notifying relevant authorities in the event of potential disruptions to train traffic, such as floods, bridge damage, or inundation of tracks, including contacting the Divisional Railway Manager.
- Cutting off electrical supply to prevent electrocution hazards.
- Contacting the Konkan Railway authority for real-time updates on the situation.

#### **Post-Flood Actions:**

- Clearing debris and carcasses of animals and disposing of them appropriately to prevent the outbreak of epidemics.
- Restoring communication links and essential services such as electricity and transportation.
- Conducting vaccination campaigns against waterborne diseases for

individuals at risk.

- Inspecting all road and rail bridges for structural integrity before reopening them to the general public.
- Collaborating with NGOs and CBOs for psychological support.
- Conducting thorough inspections of railway lines to ensure their safety and allow relief trains to pass.
- Conducting post-disaster assessments and evaluations to identify lessons learned, preparedness gaps, and improvement opportunities. Incorporating findings into future disaster preparedness and mitigation efforts to enhance resilience and reduce vulnerability to landslides and other hazards.

### 5.3.2. Drought

#### **Pre-Drought Actions:**

- **Risk Assessment and Planning:** Conduct comprehensive risk assessments to identify drought-prone areas and develop drought management plans.
- **Water Conservation:** Implement water conservation measures, such as fixing leaks, installing water-efficient fixtures, and promoting water-saving practices among residents.
- **Public Awareness Campaigns:** Conduct awareness programs to educate the public about drought risks, water conservation techniques, and preparedness measures.
- **Early Warning Systems:** Establish and maintain early warning systems to provide timely alerts and information to at-risk communities.
- **Drought-Resistant Agriculture:** Promote the use of drought-resistant crops and sustainable agricultural practices to reduce the impact of

drought on food production.

#### **Actions During Drought:**

- **Water Use Restrictions:** Implement water use restrictions, such as limiting lawn watering, car washing, and other non-essential water uses.
- **Emergency Water Supply:** Ensure the availability of emergency water supplies for drinking, sanitation, and irrigation.
- **Public Communication:** Use various communication channels, including social media, SMS, and public announcements, to keep the public informed about drought conditions and water conservation measures.
- **Support for Farmers:** Provide support to farmers through subsidies, alternative livelihood options, and technical assistance to cope with reduced water availability.
- **Monitoring and Reporting:** Continuously monitor water levels, weather conditions, and drought impacts, and report findings to relevant authorities for timely action.

#### **Post-Drought Actions:**

- **Damage Assessment:** Conduct thorough assessments of the impact of drought on agriculture, water resources, and communities.
- **Restoration of Water Sources:** Restore and rehabilitate water sources, such as wells, reservoirs, and rivers, to ensure long-term water availability.
- **Soil Rehabilitation:** Implement soil conservation and rehabilitation measures to restore soil fertility and prevent erosion.
- **Economic Recovery:** Provide financial assistance and support to affected communities and farmers to aid in economic recovery.



- **Review and Update Plans:** Review and update drought management plans based on lessons learned and emerging best practices to enhance future preparedness and resilience.

By implementing these drought-specific mitigation measures, the district can enhance its preparedness, reduce vulnerabilities, and improve its overall resilience to drought conditions.

### 5.3.3. Landslide

#### Pre-Landslide Actions:

- **Risk Assessments:** Conduct comprehensive risk assessments to identify areas prone to landslides based on susceptibility zonation.
- **Early Warnings:** Disseminate early warnings using rainfall gauges, ground cracks, leaching, and weather forecasts to detect potential landslide triggers and alert residents and authorities.
- **Sustainable Land Use:** Implement sustainable land use practices, ensuring construction is not made on slopes steeper than 30 degrees to minimize slope instability.
- **Vegetation Management:** Implement strategies such as afforestation, reforestation, and slope stabilization techniques to enhance soil stability, reduce erosion, and mitigate landslide risks.
- **Infrastructure Strengthening:** Strengthen and retrofit critical infrastructure such as roads, bridges, and buildings in landslide-prone areas to withstand impacts and minimize damage.
- **Community Education:** Conduct education and awareness campaigns to inform residents about landslide risks, evacuation routes, and emergency preparedness measures. Provide training on hazard recognition, early warning signs, and response protocols.

- **Emergency Response Plans:** Develop and implement emergency response plans for landslide events, including evacuation procedures, shelter locations, and coordination mechanisms between government agencies, first responders, and community organizations.
- **Protective Structures:** Install warning signs, barriers, and protective structures in landslide-prone areas to restrict access and minimize human exposure to hazards. Develop evacuation routes and emergency communication systems to facilitate timely evacuation and rescue operations.

#### **Actions During Landslides:**

- **Evacuation:** Promptly evacuate people from areas at risk of landslides to designated safe locations using established evacuation routes.
- **Early Warning Activation:** Activate early warning systems to alert residents about the imminent threat of landslides using sirens, loudspeakers, text messages, social media platforms, and other communication channels.
- **Emergency Response Teams:** Mobilize search and rescue teams, medical personnel, and first responders to conduct rescue operations and aid affected individuals. Establish temporary shelters and emergency medical facilities for displaced residents.
- **Road Closures:** Close roads and highways in landslide-prone areas to prevent accidents and ensure public safety. Redirect traffic away from affected areas and implement traffic management measures to minimize congestion and facilitate emergency response efforts.
- **Utility Shutdowns:** Shut down utilities such as gas, electricity, and water supply in landslide-affected areas to mitigate the risk of secondary hazards such as fires, electrocution, and contamination. Coordinate with

utility companies to safely restore services once the landslide threat has passed.

- **Structural Assessments:** Assess the structural integrity of buildings, infrastructure, and utilities in landslide-affected areas to identify damage and potential hazards. Conduct inspections of roads, bridges, and structures to determine their safety and suitability for use.
- **Search and Rescue:** Conduct systematic search and rescue operations to locate and rescue individuals trapped or injured by landslides. Deploy trained personnel, search dogs, and specialized equipment to identify and extricate survivors from debris and unstable terrain.
- **Coordination:** Coordinate with local authorities, emergency management agencies, and humanitarian organizations to facilitate a coordinated response to the landslide emergency. Provide logistical support, medical supplies, and humanitarian assistance to affected communities.
- **Public Information:** Provide timely and accurate information to the public about the landslide situation, evacuation procedures, emergency shelters, and available support services. Offer psychological support and counselling to individuals affected by the landslide, including survivors, families, and first responders.

#### **Post-Landslide Actions:**

- **Casualty and Injury Assessment:** Assess the extent of casualties and injuries resulting from the landslide. Provide survivors with medical assistance and emergency treatment and evacuate them to medical facilities for further care.
- **Damage Assessment:** Conduct a comprehensive assessment of the damage caused by the landslide to infrastructure, buildings, utilities, and natural resources. Document the extent of structural damage, debris

accumulation, and environmental impacts to inform recovery and reconstruction efforts.

- **Evacuation and Shelter:** Evacuate residents from landslide-affected areas to safe locations and establish temporary shelters or evacuation centers for displaced individuals and families. Provide evacuees with essential services such as food, water, sanitation, and medical care.
- **Debris Clearance:** Clear blocked roads, highways, and transportation routes to restore access for emergency responders, relief supplies, and essential services. Remove landslide debris and stabilize slopes to prevent further hazards and facilitate recovery.
- **Infrastructure Repair:** Repair and restore damaged infrastructure such as roads, bridges, utilities, and communication networks to ensure the resumption of essential services and connectivity. Prioritize critical infrastructure and key lifelines to expedite recovery efforts.
- **Psychosocial Support:** Provide psychosocial support and counselling services to individuals and communities affected by the landslide, including survivors, families of victims, and first responders. Address emotional trauma, stress, and mental health needs to promote resilience and recovery.
- **Community Engagement:** Engage affected communities in the recovery planning process to identify needs, priorities, and strategies for long-term recovery and reconstruction. Develop community-driven recovery plans that address housing, livelihoods, infrastructure, and social services.
- **Post-Disaster Evaluation:** Conduct post-disaster assessments and evaluations to identify lessons learned, preparedness gaps, and improvement opportunities. Incorporate findings into future disaster preparedness and mitigation efforts to enhance resilience and reduce

vulnerability to landslides and other hazards.

By implementing these landslide-specific mitigation measures, the district can enhance its preparedness, reduce vulnerabilities, and improve its overall resilience to landslide events.

#### 5.3.4. Cyclone

##### **Pre-Cyclone Actions:**

- **Risk Assessments:** Conduct comprehensive risk assessments to identify cyclone-prone areas and develop hazard maps to inform land-use planning and building regulations.
- **Early Warning Systems:** Establish and maintain early warning systems to provide timely alerts and information to at-risk communities. Use various communication channels, including sirens, text messages, social media, and public announcements.
- **Public Awareness Campaigns:** Conduct awareness programs to educate the public about cyclone risks, safety measures, and evacuation procedures.
- **Emergency Preparedness:** Develop and regularly update emergency response plans, conduct drills, and ensure that emergency supplies are readily available.
- **Infrastructure Strengthening:** Strengthen and retrofit critical infrastructure such as roads, bridges, and buildings to withstand cyclone impacts and minimize damage.
- **Community Engagement:** Involve local communities in planning, designing, and implementing cyclone mitigation measures to ensure solutions are tailored to their needs and priorities.

##### **Actions During Cyclones:**

- **Evacuation:** Promptly evacuate people from areas at risk of cyclones to designated safe locations using established evacuation routes.
- **Early Warning Activation:** Activate early warning systems to alert residents about the imminent threat of cyclones using sirens, loudspeakers, text messages, social media platforms, and other communication channels.
- **Emergency Response Teams:** Mobilize search and rescue teams, medical personnel, and first responders to conduct rescue operations and aid affected individuals. Establish temporary shelters and emergency medical facilities for displaced residents.
- **Road Closures:** Close roads and highways in cyclone-prone areas to prevent accidents and ensure public safety. Redirect traffic away from affected areas and implement traffic management measures to minimize congestion and facilitate emergency response efforts.
- **Utility Shutdowns:** Shut down utilities such as gas, electricity, and water supply in cyclone-affected areas to mitigate the risk of secondary hazards such as fires, electrocution, and contamination. Coordinate with utility companies to safely restore services once the cyclone threat has passed.
- **Structural Assessments:** Assess the structural integrity of buildings, infrastructure, and utilities in cyclone-affected areas to identify damage and potential hazards. Conduct inspections of roads, bridges, and structures to determine their safety and suitability for use.
- **Search and Rescue:** Conduct systematic search and rescue operations to locate and rescue individuals trapped or injured by cyclones. Deploy trained personnel, search dogs, and specialized equipment to identify and extricate survivors from debris and unstable terrain.

- **Coordination:** Coordinate with local authorities, emergency management agencies, and humanitarian organizations to facilitate a coordinated response to the cyclone emergency. Provide logistical support, medical supplies, and humanitarian assistance to affected communities.
- **Public Information:** Provide timely and accurate information to the public about the cyclone situation, evacuation procedures, emergency shelters, and available support services. Offer psychological support and counselling to individuals affected by the cyclone, including survivors, families, and first responders.

#### **Post-Cyclone Actions:**

- **Casualty and Injury Assessment:** Assess the extent of casualties and injuries resulting from the cyclone. Provide survivors with medical assistance and emergency treatment and evacuate them to medical facilities for further care.
- **Damage Assessment:** Conduct a comprehensive assessment of the damage caused by the cyclone to infrastructure, buildings, utilities, and natural resources. Document the extent of structural damage, debris accumulation, and environmental impacts to inform recovery and reconstruction efforts.
- **Evacuation and Shelter:** Evacuate residents from cyclone-affected areas to safe locations and establish temporary shelters or evacuation centers for displaced individuals and families. Provide evacuees with essential services such as food, water, sanitation, and medical care.
- **Debris Clearance:** Clear blocked roads, highways, and transportation routes to restore access for emergency responders, relief supplies, and essential services. Remove cyclone debris and stabilize areas to prevent further hazards and facilitate recovery.

- **Infrastructure Repair:** Repair and restore damaged infrastructure such as roads, bridges, utilities, and communication networks to ensure the resumption of essential services and connectivity. Prioritize critical infrastructure and key lifelines to expedite recovery efforts.
- **Psychosocial Support:** Provide psychosocial support and counseling services to individuals and communities affected by the cyclone, including survivors, families of victims, and first responders. Address emotional trauma, stress, and mental health needs to promote resilience and recovery.
- **Community Engagement:** Engage affected communities in the recovery planning process to identify needs, priorities, and strategies for long-term recovery and reconstruction. Develop community-driven recovery plans that address housing, livelihoods, infrastructure, and social services.
- **Post-Disaster Evaluation:** Conduct post-disaster assessments and evaluations to identify lessons learned, preparedness gaps, and improvement opportunities. Incorporate findings into future disaster preparedness and mitigation efforts to enhance resilience and reduce vulnerability to cyclones and other hazards.

By implementing these cyclone-specific mitigation measures, the district can enhance its preparedness, reduce vulnerabilities, and improve its overall resilience to cyclone events.

#### 5.3.5. Industrial Accidents

##### **Pre-Industrial Accident Actions:**

- **Risk Assessments:** Conduct comprehensive risk assessments to identify potential hazards and vulnerable areas within industrial facilities. Develop hazard maps and safety protocols to mitigate risks.



- **Safety Plans:** Develop, communicate, and regularly update safety plans, including emergency response plans, to address various accident scenarios. Ensure these plans are tested periodically.
- **Public Awareness Campaigns:** Conduct awareness programs to educate employees and nearby communities about industrial accident risks, safety measures, and emergency procedures.
- **Early Warning Systems:** Establish and maintain early warning systems to provide timely alerts and information to employees and nearby communities in case of an industrial accident.
- **Training and Drills:** Provide regular training and conduct drills for employees, emergency responders, and local authorities to ensure preparedness for industrial accidents.
- **Infrastructure Strengthening:** Strengthen and retrofit critical infrastructure within industrial facilities to withstand potential accidents and minimize damage.
- **Personal Protective Equipment (PPE):** Ensure the availability and proper use of PPE for all employees working in hazardous environments.

#### **Actions During Industrial Accidents:**

- **Immediate Evacuation:** Promptly evacuate employees and nearby residents from the affected area to designated safe locations using established evacuation routes.
- **Early Warning Activation:** Activate early warning systems to alert employees and nearby communities about the imminent threat of an industrial accident using sirens, loudspeakers, text messages, and other communication channels.

- **Emergency Response Teams:** Mobilize emergency response teams, including fire brigades, medical personnel, and hazardous material (HAZMAT) teams, to conduct rescue operations and aid affected individuals. Establish temporary shelters and emergency medical facilities for displaced residents.
- **Utility Shutdowns:** Shut down utilities such as gas, electricity, and water supply in the affected area to mitigate the risk of secondary hazards such as fires, explosions, and contamination. Coordinate with utility companies to safely restore services once the threat has passed.
- **Containment Measures:** Implement containment measures to prevent the spread of hazardous materials and minimize environmental impact. Use barriers, absorbents, and neutralizing agents as necessary.
- **Public Information:** Provide timely and accurate information to the public about the industrial accident situation, evacuation procedures, emergency shelters, and available support services. Offer psychological support and counselling to individuals affected by the accident, including employees, families, and first responders.

#### **Post-Industrial Accident Actions:**

- **Casualty and Injury Assessment:** Assess the extent of casualties and injuries resulting from the industrial accident. Provide survivors with medical assistance and emergency treatment and evacuate them to medical facilities for further care.
- **Damage Assessment:** Conduct a comprehensive assessment of the damage caused by the industrial accident to infrastructure, buildings, utilities, and the environment. Document the extent of structural damage, contamination, and environmental impacts to inform recovery and reconstruction efforts.

- **Debris and Contamination Cleanup:** Clear debris and contaminated materials from the affected area to restore safety and prevent further hazards. Ensure proper disposal of hazardous waste.
- **Infrastructure Repair:** Repair and restore damaged infrastructure such as industrial facilities, utilities, and communication networks to ensure the resumption of essential services and operations. Prioritize critical infrastructure and key lifelines to expedite recovery efforts.
- **Psychosocial Support:** Provide psychosocial support and counselling services to individuals and communities affected by the industrial accident, including employees, families of victims, and first responders. Address emotional trauma, stress, and mental health needs to promote resilience and recovery.
- **Community Engagement:** Engage affected communities in the recovery planning process to identify needs, priorities, and strategies for long-term recovery and reconstruction. Develop community-driven recovery plans that address housing, livelihoods, infrastructure, and social services.
- **Post-Disaster Evaluation:** Conduct post-disaster assessments and evaluations to identify lessons learned, preparedness gaps, and opportunities for improvement. Incorporate findings into future disaster preparedness and mitigation efforts to enhance resilience and reduce vulnerability to industrial accidents and other hazards.

By implementing these industrial accident-specific mitigation measures, the district can enhance its preparedness, reduce vulnerabilities, and improve its overall resilience to industrial accidents.

#### 5.3.6. Heatwave

##### **Pre-Heatwave Actions:**

- **Risk Assessments:** Conduct comprehensive risk assessments to identify areas prone to heatwaves and develop heat action plans.
- **Early Warning Systems:** Establish and maintain early warning systems to provide timely alerts and information to at-risk communities. Use various communication channels, including sirens, text messages, social media, and public announcements.
- **Public Awareness Campaigns:** Conduct awareness programs to educate the public about heatwave risks, safety measures, and hydration practices.
- **Emergency Preparedness:** Develop and regularly update emergency response plans, conduct drills, and ensure that emergency supplies such as water, electrolytes, and cooling devices are readily available.
- **Infrastructure Improvements:** Implement infrastructure improvements such as green roofs, cool pavements, and increased vegetation to reduce urban heat islands and lower temperatures.
- **Community Engagement:** Involve local communities in planning, designing, and implementing heatwave mitigation measures to ensure solutions are tailored to their needs and priorities.

#### **Actions During Heatwaves:**

- **Stay Indoors:** Advise people to stay indoors during peak heat hours and seek air-conditioned environments such as public libraries, shopping malls, or cooling centers.
- **Hydration:** Encourage frequent hydration by drinking plenty of water and avoiding sugary, caffeinated, and alcoholic beverages.
- **Cooling Measures:** Promote the use of cooling measures such as cool showers, baths, and wearing loose, lightweight, light-coloured clothing.

- **Public Communication:** Use various communication channels to keep the public informed about heatwave conditions, safety measures, and available cooling centers.
- **Check on Vulnerable Populations:** Regularly check on vulnerable populations such as older adults, children, and individuals with chronic illnesses to ensure their safety and well-being.
- **Utility Management:** Coordinate with utility companies to manage electricity demand and prevent power outages during heatwaves.

#### **Post-Heatwave Actions:**

- **Health Assessments:** Assess the health impacts of the heatwave on the population, particularly focusing on heat-related illnesses such as heat exhaustion and heat stroke.
- **Infrastructure Assessment:** Evaluate the impact of the heatwave on infrastructure, including roads, bridges, and utilities, and plan for necessary repairs and improvements.
- **Public Health Campaigns:** Conduct public health campaigns to address the long-term health effects of heatwaves and promote preventive measures.
- **Community Support:** Provide psychosocial support and counselling services to individuals and communities affected by the heatwave, including those who have experienced heat-related illnesses or fatalities.
- **Review and Update Plans:** Review and update heat action plans based on lessons learned and emerging best practices to enhance future preparedness and resilience.
- **Environmental Monitoring:** Monitor environmental conditions and implement measures to mitigate the effects of future heatwaves, such

as increasing green cover and improving urban planning.

By implementing these heatwave-specific mitigation measures, the district can enhance its preparedness, reduce vulnerabilities, and improve its overall resilience to extreme heat events.

#### 5.4. Risk Insurance and Financing

Risk financing and insurance are crucial components of a comprehensive disaster management plan, providing financial protection and facilitating rapid recovery after disasters. Here are some key points:

- **Risk Financing Strategies:** District authorities should develop risk financing strategies to ensure adequate funding for disaster response, relief, and recovery efforts. This may involve setting aside contingency funds or establishing risk pools to cover potential losses.
- **Insurance Coverage:** Districts should explore insurance options to mitigate the financial impact of disasters on public infrastructure, property, and livelihoods. This includes procuring insurance policies for critical assets such as government buildings, schools, hospitals, and public utilities. Insurance coverage can extend to businesses, farmers, and households to protect against losses from natural disasters.
- **Catastrophe Bonds and Reinsurance:** Catastrophe bonds and reinsurance mechanisms provide additional financial protection against large-scale disasters that exceed the capacity of traditional insurance. Districts can collaborate with insurance companies and reinsurance firms to access these instruments and transfer risk to the global financial markets.
- **Risk Assessment and Premium Setting:** Effective risk assessment is essential for determining insurance premiums and coverage limits.

Districts should conduct vulnerability assessments and use risk modelling tools to estimate potential losses and inform insurance decisions.

- **Public-Private Partnerships:** Collaboration between government entities, private insurers, and financial institutions is essential for enhancing risk financing and insurance mechanisms. Public-private partnerships can facilitate the development of innovative insurance products tailored to the needs of local communities.
- **Community Outreach and Education:** District authorities should engage in community outreach and education initiatives to raise awareness about the importance of insurance and risk financing. Educating residents about available insurance options and risk reduction measures can enhance disaster preparedness and resilience at the grassroots level.
- **Post-Disaster Claims Processing:** Streamlining the claims processing and settlement process is critical for ensuring timely financial assistance to affected individuals and businesses. Districts should establish clear procedures for filing claims, assessing damages, and disbursing insurance payouts after disasters.

Incorporating risk financing and insurance into the district disaster management plan can help build financial resilience and safeguard communities against the economic impact of disasters. The prevention and mitigation measures outlined in this chapter aim to reduce the risk and impact of disasters in Sangli District. By implementing these measures, the district can enhance its resilience and ensure the safety and well-being of its residents.

## 6. PREPAREDNESS STRATEGIES

Preparedness measures are crucial for reducing the risk and minimizing loss and damage to life and property during disasters. Preparedness, mitigation, response, and recovery are integral to the disaster management cycle. The district's preparedness plan aims to safeguard the lives and properties of Sangli residents from potential hazards by implementing an effective long-term safety policy. This chapter outlines the preparedness strategies for Sangli District, including administrative preparedness, community education, insurance promotion, and departmental measures.

### 6.1. Reliable Communication Systems

Sangli, as a rapidly growing district, boasts a well-established communication system. However, during disasters such as earthquakes, there have been instances of partial or total collapse of the general communication infrastructure. This disruption hampers the flow of crucial information from disaster sites, resulting in delays in relief operations.

Therefore, The DEOC has the following equipment:

Table 28 List of Equipment in DEOC of Sangli

Sl.no	Facility	Number
1	Telephone	2
2	Fax	1
3	Hotline	1077
4	Computer	4
5	Printer	4



6	Police Wireless	1
7	Mobile	1
8	Wifi	1
9	Public Addressing System	1
10	CCTV	2
11	Inverter	1

### 6.1.1. Communication and Media

The following departments are responsible for monitoring, predicting, and warning systems for specific disasters.

Table 29 List of Departments Responsible for Monitoring, Predicting, and Warning System for Specific Disaster in Sangli

Disaster	Monitoring stations	Warning Systems and Technology	Departmental Agency
Earthquake	Observatory at Satara and Koynanagar Tal. Patan	Through Police, Wireless and Phones	Dist Controller
Floods	Irrigation dept.	Phone, Wireless	Irrigation
Cyclones	Fisheries, PORT	Phone, Wireless, Radio	PORT
Epidemics	PHC & Civil Hospitals	Phones, Wireless	Civil Surgeon/ DHO
Industrial Chemical Accidents	Industrial Safety and Health	Phone, Wireless	DISH
Fires	Municipal Corporation	Phone, Wireless	Municipal Council (all 9 in district)
Road	Police Stations	Phone, Wireless	Police

accidents			
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### 6.1.2. Mass Media

The Presence of Media through different platforms are listed below:

Table 30 List of Mass Media in Sangli

Number of local newspapers	20
Number of radio stations	6
Number of TV transmission centres	-
Number of cable Operators	-

## 6.2. Administrative Preparedness

### 6.2.1. Control Room at the District

A 24/7 operational control room is established at the Collectorate, equipped with a wireless system connected to Tahsil's headquarters. Additionally, there is a 24/7 operational police control room linked with the District Control Room. These control rooms serve as the central hubs for coordinating disaster response activities and ensuring effective communication among various agencies.

#### Suggested Improvements:

- **Integration of Technology:** Implement advanced communication technologies such as satellite phones and GIS-based systems to enhance real-time data sharing and coordination.
- **Regular Drills and Simulations:** Conduct regular multi-agency drills and simulations to test the effectiveness of the control room operations and improve coordination among different departments.

### 6.2.2. Community Education and Preparedness Programmes

Over 20 local NGOs operate in Sangli District, focusing on capacity

development at the community level for disaster preparedness and recovery measures. These NGOs collaborate closely with the district administration during disasters, contributing to response management activities such as search and rescue operations, shelter management, and distribution of essential items in affected areas. Community education programs aim to raise awareness about disaster risks and promote preparedness actions among residents.

**Suggested Improvements:**

- **Enhanced Community Engagement:** Increase community engagement through regular workshops, seminars, and interactive sessions to ensure widespread awareness and participation.
- **Use of Digital Platforms:** Utilize digital platforms and social media to disseminate information and conduct virtual training sessions, making it accessible to a larger audience.

**6.2.3. Measures Taken for Promotion of Life/Crop/Property Insurance**

Special initiatives have been implemented in disaster-prone areas to promote insurance coverage for life, crops, and property, enhancing resilience and mitigating losses. These initiatives include awareness campaigns, workshops, and collaboration with insurance companies to provide affordable insurance options to residents.

**Suggested Improvements:**

- **Incentive Programs:** Introduce incentive programs such as premium subsidies or tax benefits to encourage more residents to opt for insurance coverage.
- **Partnerships with Financial Institutions:** Strengthen partnerships with banks and financial institutions to offer bundled insurance products and easy financing options for insurance premiums.

#### 6.2.4. Preparedness Measures Undertaken by Departments

District-level departments and other relevant agencies contribute to preparedness efforts by reporting their respective measures. The District Collector uses this information to assess various departments' capabilities and preparedness levels, facilitating coordination with the Emergency Operations Center, Relief Commissioner, and Divisional Commissioner. Departments are required to develop and regularly update their disaster preparedness plans, conduct drills, and ensure the availability of necessary resources.

#### **Suggested Improvements:**

- **Standardized Reporting Mechanisms:** Implement standardized reporting mechanisms to ensure consistency and comprehensiveness in departmental preparedness reports.
- **Inter-Departmental Coordination:** Foster inter-departmental coordination through regular meetings and joint training sessions to enhance collaborative efforts.

### 6.3. Strategies for Hazard Loss Reduction

Strategies for hazard loss reduction focus on mitigating losses in the event of future hazards. Preparedness encompasses measures that enable individuals, households, organizations, communities, and societies to respond effectively and recover quickly from disasters. It ensures that necessary resources are available for an effective response and that responders are trained to utilize them effectively.

#### 6.3.1. Hazard Analysis

Hazard analysis has identified that Sangli is a commercial and medium industrial center with highways and a railway line running parallel. The

district is vulnerable to major earthquakes, floods, fires, or chemical explosions, which could have significant impacts. The hazard analysis helps in identifying high-risk areas and prioritizing preparedness measures.

**Suggested Improvements:**

- **Comprehensive Hazard Mapping:** Conduct comprehensive hazard mapping using advanced technologies such as remote sensing and GIS to identify and monitor high-risk areas.
- **Regular Updates:** Ensure that hazard analysis and risk assessments are regularly updated to reflect changing conditions and emerging threats.

### 6.3.2. Community Engagement and Training

Increasing community engagement and training initiatives can strengthen the district's preparedness and resilience to disasters. Community-based organizations and local leaders play a crucial role in mobilizing residents, conducting training sessions, and promoting disaster preparedness activities. Regular drills and simulations are conducted to ensure that communities are well-prepared to respond to emergencies.

**Suggested Improvements:**

- **Targeted Training Programs:** Develop targeted training programs for vulnerable groups such as children, elderly, and persons with disabilities to ensure inclusive preparedness.
- **Volunteer Networks:** Establish and train volunteer networks within communities to assist in disaster response and recovery efforts.

### 6.3.3. Resource Mobilization

Ensuring the availability of essential resources such as food, water, medical supplies, and emergency equipment is critical for effective disaster response.

The district administration collaborates with various agencies and organizations to stockpile resources and establish supply chains for timely distribution during disasters.

Suggested Improvements:

- **Resource Inventory Management:** Implement a centralized resource inventory management system to track and manage the availability and distribution of resources.
- **Partnerships with Private Sector:** Strengthen partnerships with private sector entities to leverage their resources and expertise in disaster response.

#### 6.3.4. Early Warning Systems

Establishing and maintaining early warning systems for hazards such as floods, cyclones, and heatwaves is essential for timely evacuation and response. The district administration works with meteorological agencies and other relevant organizations to disseminate early warnings and alerts to residents through multiple channels, including SMS, radio, television, and public announcements.

Suggested Improvements:

- **Multi-Hazard Early Warning Systems:** Develop and implement multi-hazard early warning systems that can provide alerts for various types of disasters.
- **Community-Based Warning Systems:** Establish community-based warning systems that involve local volunteers in disseminating alerts and ensuring timely evacuation.

#### 6.3.5. Risk Insurance and Financing

Risk insurance and financing are essential components of disaster

management, providing financial protection and resources for recovery and reconstruction. The following measures are recommended for Sangli District:

- **Insurance Coverage:** Promoting insurance schemes for households, businesses, and agricultural activities to cover losses from disasters.
- **Catastrophe Bonds:** Issuing catastrophe bonds to raise funds for disaster response and recovery.
- **Disaster Relief Funds:** Establishing and maintaining disaster relief funds at the district level to provide immediate financial assistance during emergencies.
- **Public-Private Partnerships:** Encouraging partnerships between the government and private sector to finance disaster risk reduction and recovery projects.
- **Microfinance and Credit Facilities:** Providing microfinance and credit facilities to support small businesses and farmers in disaster-affected areas.

Suggested Improvements:

- **Awareness Campaigns:** Conduct extensive awareness campaigns to educate residents about the benefits of risk insurance and available financing options.
- **Simplified Processes:** Simplify the processes for claiming insurance and accessing disaster relief funds to ensure timely assistance.

#### 6.4. Preparedness Measures Undertaken by Departments:

District-level departments and other relevant agencies contribute to preparedness efforts by reporting their respective measures. The District Collector uses this information to assess various departments' capabilities and preparedness levels, facilitating coordination with the Emergency

Operations Center, Relief commissioner, and Divisional Commissioner.

### **Preparedness Checklist for Police**

(Filled in by the Department Head and submitted to the District Collector every six months)

Preparedness Checklist for Police Department in Sangli

Preparedness measures taken	Details/Remarks
<ul style="list-style-type: none"><li>• The department is familiar with the disaster response plan, and disaster response procedures are obviously defined.</li></ul>	
<ul style="list-style-type: none"><li>• Orientation and training for disaster response plans and procedures undertaken</li><li>• Special skills required during emergency operations are imparted to the officials and the staff.</li></ul>	
<ul style="list-style-type: none"><li>• Reviewed and updated</li><li>• Preventive measures and procedures</li><li>• The precautions to be taken to protect equipment</li><li>• The post-disaster procedures to be followed</li></ul>	
<ul style="list-style-type: none"><li>• Adequate warning mechanisms established for evacuation</li></ul>	
<ul style="list-style-type: none"><li>• An officer has been designated as a Nodal Officer for Disaster Management.</li></ul>	
<ul style="list-style-type: none"><li>• Sources of Materials required for response operations have been identified.</li></ul>	



Reported by:

Designation:

Signature:

Date:

## Preparedness Checklist for Public Health Department

(Filled in by the Civil Surgeon and District Health Officer and submitted to the DCR every six months)

### Preparedness Checklist for Public Health Department in Sangli

Preparedness measures taken	Details/Remarks
<ul style="list-style-type: none"><li>The department is familiar with the disaster response plan, and disaster response procedures are obviously defined.</li></ul>	
<ul style="list-style-type: none"><li>A plan for that private hospital's facilities, equipment and staff based on "The Guide to Health Management in Disasters has been developed.</li></ul>	
<ul style="list-style-type: none"><li>Orientation and training for disaster response plans and procedures undertaken.</li><li>Special skills required during disaster situations are imparted to the officials and the staff.</li></ul>	
<ul style="list-style-type: none"><li>Hospital staff are aware of which hospital rooms/ buildings are damage -proof.</li></ul>	
<ul style="list-style-type: none"><li>It was reviewed and updated. Preventive measures and procedures. The precautions that must be taken to protect equipment The post-disaster procedures to be followed</li></ul>	
<ul style="list-style-type: none"><li>All hospital staff have been informed about the possible disasters in the district, probably damages and effects and information about ways to protect life, equipment and property.</li></ul>	
<ul style="list-style-type: none"><li>An area of the hospital was identified for receiving large numbers of casualties.</li></ul>	

• Emergency admission procedures with adequate record keeping developed.	
• Field staff oriented about DDMP & Standards of services	
• Procedures for tagging	
• An officer has been designated as a Nodal Officer for Disaster Management.	
• Sources of materials required for response operations have been identified	

Reported by:

Designation:

Signature:

Date:

### **Preparedness Checklist for MSEB**

(Filled in by the Department Head and submitted to the District Collector every six months.)

#### **Preparedness Checklist for MSEB in Sangli**

Preparedness measures taken	Details/Remarks
• The department is familiar with the disaster response plan, and disaster response procedures are clear.	
• Orientation and training for disaster response plans and procedures undertaken	
• Special skills required during	

emergency operations are imparted to the officials and the staff.	
<ul style="list-style-type: none"> <li>• Reviewed and updated</li> <li>• Preventive measures and procedures</li> <li>• The precautions to be taken to protect equipment</li> </ul>	
<ul style="list-style-type: none"> <li>• An officer has been designated as Nodal Officer for Disaster Management</li> </ul>	
<ul style="list-style-type: none"> <li>• Sources of materials required for operations have been identified</li> </ul>	

Reported by:

Designation:

Signature:

Date:

**Preparedness Checklist for Maharashtra Jeevan Pradhikaran (MJP)**

(Filled in by the Department Head and submitted to the District Collector each six months)

Preparedness Checklist for Maharashtra Jeevan Pradhikaran (MJP) in Sangli

• Preparedness Measures Taken	Details / Remarks
<ul style="list-style-type: none"> <li>• The department is familiar with disaster response, and</li> <li>• disaster response procedures are clear.</li> </ul>	
<ul style="list-style-type: none"> <li>• Orientation and training for disaster response plans and procedures undertaken</li> <li>• Special skills required during emergency operations are imparted to the officials and the staff.</li> </ul>	
<ul style="list-style-type: none"> <li>• Reviewed and updated</li> <li>• Preventive measures and procedures</li> <li>• The precautions to be taken to protect equipment</li> </ul>	
<ul style="list-style-type: none"> <li>• Adequate warning mechanisms for informing people to store an emergency drinking water supply have been developed.</li> </ul>	
<ul style="list-style-type: none"> <li>• Procedures established for the emergency distribution of water if the existing supply is</li> </ul>	
<ul style="list-style-type: none"> <li>• An Officer has been designated as a</li> </ul>	

Nodal officer for Disaster Management.	
<ul style="list-style-type: none"> <li>Sources of materials required for response operations have been identified.</li> </ul>	

Reported by:

Designation:

Signature:

Date:

### **Preparedness Checklist for Irrigation Department**

(Filled in by the department and submitted to the District Collector each six months)

Preparedness Checklist for Irrigation Department in Sangli

Preparedness measures taken	Details /Remarks
<ul style="list-style-type: none"> <li>The department is familiar with the disaster response plan, and disaster response procedures are obviously defined.</li> </ul>	
<ul style="list-style-type: none"> <li>Orientation and training for disaster response plans and procedures undertaken</li> <li>Special skills required during emergency</li> </ul>	

operations are imparted to the officials and staff.	
<ul style="list-style-type: none"> <li>• Reviewed and updated</li> <li>• Preventive measures and procedures</li> <li>• The precautions to be taken to protect equipment the post-disaster procedures to be followed</li> </ul>	
<ul style="list-style-type: none"> <li>• Flood monitoring mechanisms can be activated in all flood-prone areas starting on the first of June.</li> </ul>	
<ul style="list-style-type: none"> <li>• All staff are aware of precautions to protect their lives and personal property.</li> </ul>	
<ul style="list-style-type: none"> <li>• Each technical assistant has instructions and knows operating procedures for disaster conditions.</li> </ul>	
<ul style="list-style-type: none"> <li>• The method of monitoring and impounding the levels in the tanks evolved.</li> <li>• Methods of alerting officers on other dam sites and the district control room established forewarning settlements in the downstream evacuation coordination with other dam authorities.</li> </ul>	
<ul style="list-style-type: none"> <li>• An officer has been designated as a Nodal Officer for Disaster Management</li> </ul>	
<ul style="list-style-type: none"> <li>• Sources of materials required for response operations have been identified.</li> </ul>	

Reported by:

Designation:

Signature:

Date:

### **Preparedness Checklist for Telecommunications**

(Filled in by the Department Head and submitted to the District Collector each six months)

Preparedness Checklist for Telecommunications in Sangli

<ul style="list-style-type: none"><li>• Preparedness measures taken</li></ul>	Details/Remarks
<ul style="list-style-type: none"><li>• The department is familiar with disaster response, and disaster response procedures are clear.</li></ul>	
<ul style="list-style-type: none"><li>• Orientation and training for disaster response plans and procedures undertaken</li><li>• Special skills required during emergency operations are imparted to the officials and the staff.</li></ul>	
<ul style="list-style-type: none"><li>• Reviewed and updated</li><li>• Preventive measures and procedures</li><li>• The precautions to be taken to protect equipment are the post-disaster procedures to be followed</li></ul>	
<ul style="list-style-type: none"><li>• An officer has been designated as Nodal Officer for Disaster Management.</li></ul>	



- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>Sources of materials required for response operations have been identified.</li> </ul> |  |
|---|--|

Reported by:

Designation:

Signature:

Date:

### Preparedness Checklist for PWD

(Filled in by the Department Head and submitted to the District Collector every six months)

Preparedness Checklist for PWD in Sangli

Preparedness Measures taken	Details/ Remarks
<ul style="list-style-type: none"> <li>The department is familiar with the disaster response plan, and disaster</li> </ul>	

response procedures are clearly defined.	
<ul style="list-style-type: none"> <li>• Orientation and training for disaster response plans and procedures undertaken</li> <li>• Special skills required during emergency operations are imparted to the officials and staff.</li> </ul>	
<ul style="list-style-type: none"> <li>• Reviewed and updated</li> <li>• Preventive measures and procedures</li> <li>• The precautions to be taken to protect equipment</li> <li>• The post-disaster procedures to be followed.</li> </ul>	
<ul style="list-style-type: none"> <li>• All officers are familiar with pre-disaster precautions and post-disaster procedures for road clearing and defining safe evacuation routes where necessary.</li> </ul>	
<ul style="list-style-type: none"> <li>• An officer has been designated as a Nodal Officer for Disaster Management.</li> </ul>	
<ul style="list-style-type: none"> <li>• Sources of materials required for response operations have been identified.</li> </ul>	

Reported by:

Designation:

Signature:

Date:

### **Preparedness Checklist for the Agriculture Department**

(Filled in by the Department Head and submitted to the District Collector every six months)

#### **Preparedness Checklist for Agriculture Department in Sangli**

<ul style="list-style-type: none"><li>• Preparedness Measures taken</li></ul>	Details/Remarks
<ul style="list-style-type: none"><li>• The department is familiar with the disaster response plan, and disaster procedures are obviously defined.</li></ul>	
<ul style="list-style-type: none"><li>• Orientation and training for disaster response plans and procedures undertaken</li><li>• Special skills are required for the officials and the staff during emergency operations.</li></ul>	
<ul style="list-style-type: none"><li>• Reviewed and updated</li><li>• Preventive measures and procedures</li></ul>	

<ul style="list-style-type: none"> <li>• The precautions to be taken to protect equipment are the post-disaster procedures to be followed</li> </ul>	
<ul style="list-style-type: none"> <li>• Information was provided to all concerned about the disasters, probably damage to crops and plantations, and information about ways to protect the same.</li> </ul>	
<ul style="list-style-type: none"> <li>• The NGOs and other relief organizations are informed about the department's resources</li> </ul>	
<ul style="list-style-type: none"> <li>• An Officer has been designated as a Nodal Officer for Disaster Management.</li> </ul>	
<ul style="list-style-type: none"> <li>• Sources of materials required for response operations have been identified.</li> </ul>	

Reported by:

Designation:

Signature:

Date:

**Preparedness Checklist for Animal Husbandry Department**

(Filled in by the Department Head and submitted to the District Collector every six months)

#### Preparedness Checklist for Animal Husbandry Department in Sangli

• Preparedness measures taken	Details / Remarks
• The department is familiar with disaster response plans, and disaster response procedures are obviously defined.	
• Orientation and training for disaster response plans and procedures undertaken • Special skills are required for the officials and staff during emergency operations.	
• Reviewed and updated • Preventive measures and procedures • The precautions to be taken to protect equipment • The post-disaster procedures to be followed	
• Hospital staff are aware of which hospital rooms /buildings are damage-proof.	
• All veterinary hospitals and centers staff have been informed about the possible disasters, likely damages and effects and information about ways to protect life, equipment and property	
• An area of the hospital was identified for receiving large numbers of livestock.	
• Emergency admission procedures with adequate recordkeeping were developed.	

<ul style="list-style-type: none"> <li>• An officer has been designated as a Nodal Officer for Disaster Management.</li> </ul>	
<ul style="list-style-type: none"> <li>• Sources of materials required for response operations have been identified.</li> </ul>	

Reported by:

Designation:

Signature:

Date:

## 6.5. Inventory and Evaluation of Resources

An inventory and evaluation of resources are essential for effective disaster preparedness and response. This involves identifying and cataloguing all available resources, including personnel, equipment, and supplies, and assessing their readiness and availability.

### Key Actions:

- **Resource Mapping:** Conduct a comprehensive mapping of resources available within the district, including emergency response teams, medical facilities, shelters, and essential supplies.
- **Regular Audits:** Perform regular audits to ensure that resources are maintained in a state of readiness and are easily accessible during emergencies.
- **Resource Mobilization Plans:** Develop and implement plans for the rapid mobilization and deployment of resources during disasters.

## 6.6. Community Awareness and Education

Over 20 local NGOs are actively engaged in Sangli District. Most of these NGOs focus on capacity development at the community level, explicitly addressing disaster preparedness and recovery measures during crises. Strong coordination exists between the district administration and these NGOs, particularly during disasters, facilitating practical response management activities such as search and rescue operations, shelter management, and the distribution of essential items to affected communities. The DDMA has also executed several awareness programs at the community level, schools, and colleges to create a better preparedness strategy.

### **Suggested Improvements:**

- **Enhanced Community Engagement:** Increase community engagement through regular workshops, seminars, and interactive sessions to ensure widespread awareness and participation.
- **Use of Digital Platforms:** Utilize digital platforms and social media to disseminate information and conduct virtual training sessions, making it accessible to a larger audience.

## 6.7. District-wise IEC Plan Based on Hazard Calendar

A district-wise Information, Education, and Communication (IEC) plan based on the hazard calendar is crucial for effective disaster preparedness. This plan outlines the key focus areas and strategies for disseminating information and raising awareness about disaster risks and preparedness measures.

### 6.7.1. Key Focus Areas for the Effectiveness of IEC Material

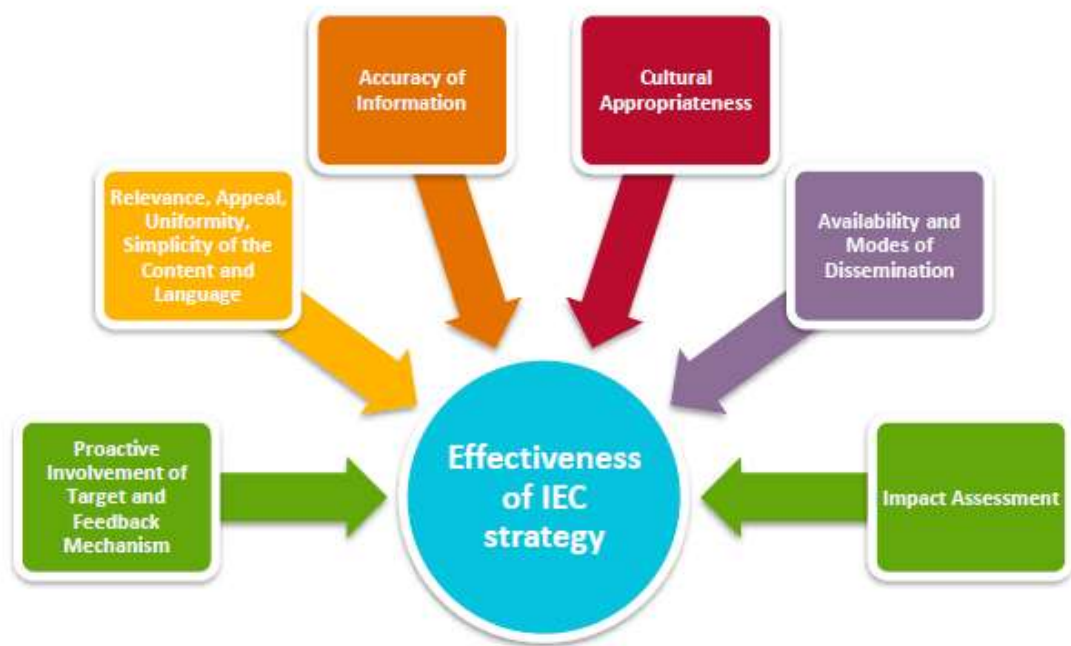


Figure 10 Effectiveness of IEC Strategy

- **Relevance:** Ensure that IEC materials address the specific needs and concerns of the target audience.
- **Clarity:** Use simple and clear language to convey messages effectively.
- **Cultural Appropriateness:** Design IEC materials that are culturally appropriate and resonate with the local community.
- **Accessibility:** Make IEC materials accessible to all segments of the population, including vulnerable groups.
- **Pre-testing:** Conduct pre-testing of IEC materials with a sample of the target audience to ensure their effectiveness.

### 6.7.2. Vulnerable Individuals/Groups and Alternative IEC

Vulnerable individuals and groups, such as children, elderly, persons with disabilities, and economically disadvantaged communities, require special attention in disaster preparedness efforts. Alternative IEC strategies should



be developed to ensure that these groups receive timely and accurate information.

Table 31 List of Vulnerable Individuals/Groups and Alternative IEC

No.	Vulnerable Group	Barrier (generally multiple barriers)	Alternatives
1	Illiterate	Cannot access IEC in literary form	Audio-visual content like videos, audio, pictorial material
2	People with visual impairment	Cannot access IEC in a literary and visual format	Audio, Braille Handbook, screen reading software, audio description, DAISY (the Digital Accessible Information System)
3	Gender-based - women, LGBTQ+ (sexual minorities)	Social, technological, literary	Specialized in human interactions
4	Children (Different for different age groups - 1-6, 7-12 yr)	Physical and psychological	Specialized in human interactions
5	Communities with special needs, intellectual, speech, & hearing impairments	Multiple barriers	Specialized in human interactions
6	People living in remote and inaccessible locations	Technological, infrastructural	Specialized in human interaction
7	Linguistic & cultural groups	Language	IEC in the local language
8	Nomadic/ Migratory groups	Unstable nature of routine and others (cultural, linguistic, literary)	Specialized in human interaction

### 6.7.3. Important Days in Maharashtra for IEC interventions

Table 32 List of Important Days for IEC Intervention

No.	Day	Date	Significance	Tentative Topic
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No.	Day	Date	Significance	Tentative Topic
1	Balika Din	3 Jan	Birth anniversary of Savitribai Phule	Gender Inclusive Disaster Management
2	Patrakar Din	6 Jan	Birth Anniversary of Balshastrri Jambhekar	Role of Media in Disaster Management
3	Sinchan Din	26 Feb	In memory of Shankarrao Chavan	Water Security, Drought, Sustainable Water Management
4	Marathi Rajbhasha Din	27 Feb	Birth Anniversary of Kusumagraj (V. V. Shrivadkar)	Language access in emergency and disaster preparedness, Language as a Tool for Disaster Management, Importance of IEC in Local Language
5	Udyog Din	10 Mar	In memory of Laxmanrao Kirloskar	Entrepreneurship in Disaster Management, The Role of Disaster Entrepreneurship in Disaster Risk Reduction, Role of Businesses, MSMEs in DRM, Disaster Risk Management and the Role of the Corporate Sector, BCM, ESG, CSR role in DRM
6	Samata Din	12 Mar	Birth anniversary of Yashwantrao Chavan	Diversity, equity-focused DRM, Inclusive Disaster Risk Management
7	Shikshak Hak Din (Teacher's Rights Day)	11 Apr	Birth anniversary of Mahatma Phule	Role of Teachers and Educators in DRM
8	Dyan Diwas (Knowledge Day)	14 Apr	Birth anniversary of Dr. B. R. Ambedkar	Role of Education in DRM, Role of Research and Dissemination in Strengthening DRM, Role of Educational Institutions in Disaster Knowledge Creation
9	Maharashtra Day	1 May	Also, an international labour day	Resilient Maharashtra: from present to future for all, Labor Safety, Industrial Disasters, including mining
10	Samajik Nyay Din (Social)	26 June	Birth anniversary of Shahu Maharaj	Role of Leadership in Disaster Management, Grassroots leadership and DRM, Social and Environmental Justice

No.	Day	Date	Significance	Tentative Topic
	Justice Day)			Justice, Disaster Justice, Social Inclusion and DRM
11	Krishi Din	1 July	Birth anniversary of Vasant Rao Naik	Agriculture-related disasters and relevant topics, soil erosion, Sustainable Agriculture, natural farming, Climate-resilient farming, etc.
12	Shetkari Din	29 Aug	In the memory of Vitthal Rao Vikhe Patil	Empowering farmers for DRM, Relevant schemes, programmes and interventions
13	Shram Pratishtha Din	22 Sept	In the memory of Karmavir Bhaurao Patil	-
14	Rajya Mahiti Adhikar Din	28 Sept	Awareness about the Right to Information	EWS, EWDS, Database management and mapping
15	Rangbhumi Din	5 Nov	Birth Anniversary of Vishnudas Bhave	Indigenous community, culture, traditions and DRR, Role of Dance, Drama and other cultural activities in Disaster Awareness, Role of art in Disaster mental Health and providing Psycho-social Support
16	Vidyarthi Din (Student Day in Maharashtra)	7 Nov	In the memory of Dr. B. R. Ambedkar	Child Centric DRR, School Safety, Role of School Students in Disaster Management, Disaster Management in Schools
17	Jaiv Tantradyan Din	14 Nov	Biotechnology Day	Biohazards, pest attacks, pandemics, etc.

#### 6.7.4. IEC interventions on festivals, reducing the risk of disasters.

Below, Festivals celebrated in Maharashtra have special cultural significance, and the days are also prone to specific hazards. IEC material relating to such hazards can be disseminated during festivals to reduce the risk of

disasters.

Table 33 List of Festival and Suitable IEC

Sl. No	Festival	Focus of IEC Material
1	Ganesh Chaturthi	Drowning, Fire, Stampede
2	Navratri and Dussehra or Vijayadashmi	Fire, Stampede
3	Diwali	Fire
4	Janmashtami	Stampede
5	Ram Navami and Hanuman Jayanti	Stampede
6	Gudi Padwa or Chaitra Pratipada: The Harvest Festival of Maharashtra	-
7	Ramzan-Id (Id-UI-Fitr), Bakri-Id (Id-UI-Zuhra)	Stampede
8	Narali Purnima	Drowning
9	Makar Sankranti	Accidents
10	Ashadhi Ekadashi	Stampede, Landslide, Flood
11	Holi	Water-related

## 6.8. GO-NGO Coordination

Sections 35 and 38 of the Disaster Management Act emphasize the necessity of coordinating efforts with NGOs. The National Policy on Disaster Management (NPDM) further highlights the national vision for community mobilization and participation in disaster management (DM), aiming to unite efforts across government agencies and NGOs. A key focus of the NPDM is community-based disaster management, which includes integrating policies, plans, and execution at the grassroots level, as well as early warning dissemination.

The policy framework places a strong emphasis on fostering productive partnerships with NGOs, recognizing the significant opportunities to enhance NGO engagement in DM and leverage their unique strengths and core competencies. Strengthening humanitarian coalitions, alliances, and NGO networks is crucial, as is improving public awareness, capacity building, and

knowledge management through Community-Based Organizations (CBOs) and NGOs.

Moreover, there is a need to fortify institutional mechanisms for advocating and engaging NGOs with government agencies on DM matters. Encouraging the replication and scaling up of successful community-level practices remains a vital aspect of this approach.

#### **6.8.1. GO-NGO Coordination Strategy**

Effective coordination between government organizations (GOs) and non-governmental organizations (NGOs) is essential for a comprehensive disaster management approach. The GO-NGO coordination strategy involves establishing clear roles and responsibilities, fostering collaboration, and leveraging the strengths of both sectors.

##### **Key Actions:**

- **Coordination Committees:** Establish district-level coordination committees comprising representatives from GOs and NGOs to facilitate regular communication and collaboration.
- **Joint Planning:** Involve NGOs in the planning and implementation of disaster preparedness and response activities.
- **Resource Sharing:** Promote resource sharing between GOs and NGOs to enhance the overall capacity for disaster management.

#### **6.8.2. GO-NGO Communication Protocol During Emergencies**

A well-defined communication protocol is crucial for ensuring effective coordination between GOs and NGOs during emergencies. This protocol outlines the communication channels, information flow, and reporting mechanisms to be followed during disaster response operations.

##### **Key Actions:**

- **Communication Channels:** Establish multiple communication channels, including phone, email, and radio, to ensure continuous and reliable communication.
- **Information Flow:** Define the information flow process, specifying the types of information to be shared, the frequency of updates, and the responsible parties.
- **Reporting Mechanisms:** Implement standardized reporting mechanisms to ensure timely and accurate information exchange between GOs and NGOs.

## 6.9. List of NGOs/CBOs in Details

A detailed list of NGOs and community-based organizations (CBOs) operating in Sangli District is essential for effective coordination and collaboration. This list includes the names, contact information, areas of expertise, and key activities of each organization.

Table 34 List of NGOs/CBOs in Sangli District

NGO/CBO Name	Contact Person	Areas of Expertise	Key Activities
Sangli Disaster Relief	Mr. A. Kumar	Disaster Response, Relief	Search and Rescue, Shelter Management
Community Aid Society	Ms. B. Sharma	Community Development, Education	Awareness Programs, Capacity Building
Health and Hope	Dr. C. Patel	Medical Aid, Health Services	Medical Camps, Health Education
Green Earth Foundation	Mr. D. Singh	Environmental Protection,	Afforestation, Sustainable

NGO/CBO Name	Contact Person	Areas of Expertise	Key Activities
		Agriculture	Farming
Women's Empowerment	Ms. E. Desai	Women's Rights, Livelihood Support	Skill Training, Microfinance

## 7. CAPACITY BUILDING AND TRAINING MEASURES

Under the Disaster Management Act (2005), capacity-building involves identifying, acquiring, and creating necessary resources, and organizing training for effective disaster management. The goal is to mitigate risk and enhance community safety by building resilience and strengthening coping mechanisms.

At the district level, active stakeholder involvement is crucial. The Deputy Commissioner oversees capacity-building, while Heads of Departments enhance their respective departments' capacities. The District Disaster Management Authority (DDMA) plays a key role by:

- Organizing training sessions, workshops, and drills for officials, first responders, community leaders, and volunteers.
- Conducting awareness campaigns and public outreach programs about hazards, risks, and preventive measures.
- Running simulation exercises and mock drills to test preparedness and response capabilities.
- Collaborating with NGOs, civil society, academic institutions, private sector, and other stakeholders for a coordinated approach.
- Hosting marathons, slogan-writing contests, and painting competitions to encourage diverse participation.
- Providing specialized training for masons and engineers on constructing disaster-resistant buildings.
- Distributing Information, Education, and Communication (IEC) materials to various institutions.
- Arranging training programs for state government agency stakeholders and employees.



## 7.1. Training and Capacity Building

To effectively enhance disaster management capabilities, a comprehensive capacity analysis approach should consider short-term, medium-term, and long-term perspectives, addressing both policy and operational levels. Training initiatives should focus on identified capacity gaps and leverage local expertise within the district.

Key training programs should target:

- **Policy-level stakeholders:** Officials at the District Disaster Management Authority (DDMA).
- **Operational-level stakeholders:** Civil defence, home guard, and police personnel.

### 7.1.1. Roles and Responsibilities of the Departments for Capacity Building

Department	Role
<b>Revenue &amp; Disaster Management</b>	<ul style="list-style-type: none"><li>- Ensure operational readiness of DEOC</li><li>- Train DEOC staff regularly</li><li>- Equip DEOC with emergency resources and communication network</li><li>- Develop skilled workforce for mountain rescue, swimming, diving, and boat operation</li><li>- Train rescue teams in first aid, search and rescue, and life-saving procedures</li><li>- Maintain database of trained personnel</li></ul>

	<ul style="list-style-type: none"> <li>- Ensure supply of search and rescue equipment, first aid kits, etc.</li> <li>- Train revenue officers in first aid and search and rescue</li> <li>- Establish District Disaster Response Force</li> </ul>
<b>Police, Home Guards, Civil Defence &amp; Fire Services</b>	<ul style="list-style-type: none"> <li>- Document trained police personnel in disaster management database</li> <li>- Provide ongoing training in modern techniques and technologies</li> <li>- Conduct refresher courses for police officials</li> <li>- Train teams in psycho-social care to prevent human trafficking</li> <li>- Ensure availability of SAR equipment</li> <li>- Offer volunteer training in SAR, first aid, traffic management, etc.</li> <li>- Equip Home Guards with SAR items</li> <li>- Conduct regular mock drills for firefighting staff</li> <li>- Arrange refresher courses for departmental staff</li> <li>- Inspect industrial units for fire safety compliance</li> </ul>
<b>Health</b>	<ul style="list-style-type: none"> <li>- Train healthcare personnel in disaster response, triage, first aid, infection control</li> <li>- Establish and train emergency medical teams</li> <li>- Educate community on disaster preparedness and response</li> <li>- Collaborate with other agencies and NGOs</li> <li>- Conduct simulation exercises and drills</li> <li>- Provide psychosocial support training for healthcare providers</li> </ul>

	<ul style="list-style-type: none"> <li>- Train local communities, PHCs, CHCs, Anganwadi workers, and ASHAs</li> <li>- Undertake capacity-building through Hospital Emergency Preparedness Programme</li> <li>- Collaborate with Red Cross, NCC, NSS, and Civil Defence volunteers</li> <li>- Develop and distribute awareness materials</li> <li>- Identify and train master trainers</li> <li>- Evaluate capacity-building efforts regularly</li> </ul>
<b>Education</b>	<ul style="list-style-type: none"> <li>- Integrate disaster management education into school curriculum</li> <li>- Organize training programs for teachers</li> <li>- Conduct regular drills and training sessions for students</li> <li>- Collaborate with disaster management agencies and NGOs to develop educational materials</li> <li>- Support research and innovation in disaster management education</li> </ul>
<b>Irrigation</b>	<ul style="list-style-type: none"> <li>- Train staff in managing irrigation systems during disasters</li> <li>- Organize public awareness campaigns on disaster preparedness in flood-prone areas</li> <li>- Implement and maintain early warning systems for floods</li> <li>- Maintain irrigation infrastructure to withstand extreme weather</li> <li>- Engage in research and innovation for disaster-resilient irrigation systems</li> </ul>
<b>Agriculture</b>	<ul style="list-style-type: none"> <li>- Educate farmers on disaster preparedness, response, and</li> </ul>

	recovery <ul style="list-style-type: none"> <li>- Promote resilient farming practices</li> <li>- Train livestock farmers on disaster preparedness</li> <li>- Establish and maintain early warning systems for weather-related disasters</li> </ul>
<b>Animal Husbandry</b>	<ul style="list-style-type: none"> <li>- Train livestock owners on disaster preparedness, response, and recovery</li> <li>- Provide training on primary animal health care and first aid</li> <li>- Develop and implement livestock evacuation plans</li> <li>- Educate on disaster risk reduction measures for livestock</li> </ul>
<b>Zilla Parishad and Gram Panchayat</b>	<ul style="list-style-type: none"> <li>- Organize training sessions and awareness campaigns at village and district levels</li> <li>- Conduct vulnerability and risk assessments</li> <li>- Train elected representatives, community leaders, and volunteers</li> <li>- Organize search and rescue training programs for local volunteers and emergency responders</li> </ul>

### 7.1.2. Institutional Capacity Building and Training Need Assessment

Institutional capacity building and training needs assessment are essential for creating an effective district disaster management plan. These processes involve evaluating the current capabilities and resources of various institutions in disaster response and mitigation. By identifying strengths, weaknesses, and capacity gaps, targeted training programs can be developed to enhance the skills and competencies of government agencies,

NGOs, community groups, and other stakeholders.

Training needs assessments help pinpoint specific knowledge and skills required for different roles within disaster management, ensuring that training programs are tailored to address these needs. Continuous monitoring and evaluation mechanisms enable ongoing learning and improvement, keeping capacity-building efforts relevant and effective in the face of evolving risks and challenges. A collaborative and multi-sectoral approach is crucial for building resilience and preparedness within the district's disaster management framework.

Below are the sets of questionnaires for conducting a Training Needs Assessment, which all departments are required to complete to prepare a training calendar accordingly:

#### **Training Need Assessment for Government Officials**

- General Profile:
- Name:
- Department:
- Designation:
- District:
- Sex: ☐ Male ☐ Female ☐ Other
- Age (In years):
- Years of Experience in the current department:
- Highest qualification:
- Additional Qualification, if any:
- Telephone No. (Official):

- Telephone No. (Mobile- WhatsApp No. preferred)
- Email Id (Official):
- Email Id (Personal):
- Level of Expertise:
- Please mark your expertise in the following by choosing the appropriate options
- Disaster Management Act 2005:
  - ☐ No Idea ☐ Beginner ☐ Competent ☐ Proficient ☐ Expert
- State Disaster Management Plan of Maharashtra 20192023:
  - ☐ No Idea ☐ Beginner ☐ Competent ☐ Proficient ☐ Expert
- Possible disaster risk reduction intervention in your department?
  - ☐ No Idea ☐ Beginner ☐ Competent ☐ Proficient ☐ Expert
- Incident Response System (IRS) in Disaster Management
  - ☐ No Idea ☐ Beginner ☐ Competent ☐ Proficient ☐ Expert
- India Disaster Resource Network (IDRN)
  - ☐ No Idea ☐ Beginner ☐ Competent ☐ Proficient ☐ Expert
- Early Warning System
  - ☐ No Idea ☐ Beginner ☐ Competent ☐ Proficient ☐ Expert
- National level Relief Norms (NDRF)
  - ☐ No Idea ☐ Beginner ☐ Competent ☐ Proficient ☐ Expert
- State-Level Relief Norms (SDRF)
  - ☐ No Idea ☐ Beginner ☐ Competent ☐ Proficient ☐ Expert
- SOP of Disaster Management
  - ☐ No Idea ☐ Beginner ☐ Competent ☐ Proficient ☐ Expert

- Minimum Standard of Relief  
☐ No Idea ☐ Beginner ☐ Competent ☐ Proficient ☐ Expert
- Damage loss Assessment  
☒ No Idea ☐ Beginner ☐ Competent ☐ Proficient ☐ Expert
- Do you know the significant national and international frameworks on which India's National DRM Policy and Strategy was built? If yes, please mention it.  
☐ No Idea ☐ Beginner ☐ Competent ☐ Proficient ☐ Expert
- Sendai Framework for Disaster Risk Reduction  
☐ No Idea ☐ Beginner ☐ Competent ☐ Proficient ☐ Expert
- Sustainable Development Goals  
☐ No Idea ☐ Beginner ☐ Competent ☐ Proficient ☒ Expert
- Prime Minister's 10 Points Agenda  
☐ No Idea ☐ Beginner ☐ Competent ☐ Proficient ☐ Expert
- Relevant Policies and Plans related to DRR:  
☐ No Idea ☐ Beginner ☐ Competent ☐ Proficient ☐ Expert
- Please self-assess by using a low, medium or high level of knowledge for each of the items in the table given below:

Table 35 Self-Assessment Matrix for Capacity Building

Sl.no	Topic	Level (L/M/H)	Remarks/ Explanation
1.	Basic knowledge of hazards and disasters, particularly in Maharashtra		
2.	Relevant Policies and Plans related to Disaster Risk Reduction (DRR)		

3.	Programs/initiatives/approaches related to DRR and climate change adaptation in the department		
4.	Formulation and updating of Disaster Management Plans at the District level		
5.	Develop and update departmental DM Plans.		

### **Department-level awareness of DRR**

- Was your department's functioning affected by the disaster in the past (e.g. Flood, landslide)

Yes ☐ No ☐

- If yes, please write briefly about the impacts.
- Name the scheme/programs implemented by your department about disasters or emergencies, if any.
- Are you aware of any funds within your department that may be used for disaster mitigation and capacity-building activities?

Yes ☐ No ☐

- If yes, then please list them out.
- Have you been involved in preparing department annual plans in the past?

Yes ☐ No ☐

- Has there been a disaster-specific action plan at your departmental level?

Yes ☐ No ☐

- Have you undergone any training on disaster risk reduction?



Yes ☐ No ☐

- If you answered yes to the previous question, please mention it.

Table 36 DRR Training Matrix

Title of Training	Date of training attended	Details of Organizer	Should this training be organised for others within the department?

- Have you conducted /facilitated any training sessions in your department?

Yes ☐ No ☐

- If yes, write down your expertise in training and the sessions.
- What are your expectations from the training program organised by SDMA?
- Does your department have a fully functional training institution to train its officials?

Yes ☐ No ☐
- If yes, kindly provide details like

Table 37 Functional Training Institution Matrix

Sr. No.	Name of Training Institutions	Contact Person	Contact No.	Email ID	Address of Training Institutions

- Does your department have an updated departmental disaster management plan?

Yes ☐ No ☐

- Does your department have a standard operating procedure concerning disasters or emergencies?

Yes ☐ No ☐

- If yes, mention details, such as GO/SOPS/Guidelines/Order/Circulars issued by your department concerning emergencies.

- Write down the training sessions related to disaster risk reduction that you prefer to include in this training program.

- Has your department undertaken any Disaster Risk assessment? If yes, please state the year and title of the report.

- Have the assessment findings been used to design and implement plans/programs/other initiatives? If yes, elaborate on how they were used and for which initiatives.
- Is there any existing data collection mechanism, systematic observation, and disaster risk monitoring?
- Describe the key challenges your department/organisation faces in its scope of operation (preparedness and mitigation concerning disaster). (such as knowledge, data/information, technology, funds, time, leadership or other)
- In your opinion, what are the top 5 training program topics required for building capacities of your department/organisation in Disaster Risk Reduction? Please list them and indicate the target group.
- In your opinion, what are the top 5 priority sectors in Maharashtra where there is a need to develop capacities to include/mainstream DRR in these sectors effectively? Please list the five industries.
- Describe the critical SWOTs of your sector/organisation in effectively preparing and implementing DRR.

Table 38 Swots Analysis Matrix

Sl.no	Strength	Weakness	Opportunities	Threat


- What training program topics does your department require to develop virtual cadre officials' capacity to carry out the tasks?

Table 39 Training Requirement Matrix

Sl.no	Topic	Target audience	Priority (H/M/L)	Remarks (Reasons for this specific topic)
1.	Basic Disaster Management Course			
2.	Training on Formulation of District DM Plans			
3.	Training on Emergency Response			
4.	Training on the formulation of Departmental DM Plans			
5.	Training on Mainstreaming DRR			
6.	Mitigation proposal development			
7.	IRS/IDRN			
8.	Remote Sensing and GIS in Disaster Management			
9.	Early warning techniques			

10.	HRVCA			
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Any other sector-specific course/ Any hazard-specific training

### 7.1.3. Community Capacity Building

Community-Based Disaster Management (CBDM) or Community-Based Disaster Risk Management Capacity (CBDRM) emphasizes local participation to reduce vulnerability and disaster risk. This approach is guided by the principles of self-help, helping thy neighbour, and helping thy community. Key activities include establishing and strengthening disaster response structures, raising awareness, conducting training sessions, launching public information campaigns, and promoting sustainable livelihood activities through skill development. Task teams are formed for Search and Rescue (SAR), Water, Sanitation, and Hygiene (WASH), Early Warning Systems, First Aid, and Shelter Management. Special attention is given to the needs of vulnerable groups such as older people, women, children, and persons with disabilities. Youth and women's organizations are networked and trained in various response aspects, including first aid, search and rescue, shelter management, and psychosocial counselling.

Community plans are integrated into Panchayat, Block, and District plans, with coordination from the District Disaster Management Authority (DDMA) and involvement of volunteers and social organizations such as Home Guards, National Youth Corps (NYKS), National Cadet Corps (NCC), Red Cross, market trade associations, youth clubs, self-help groups (SHGs), community-based organizations (CBOs), NGOs, and Anganwadi centres. These entities play vital roles in disseminating community awareness. Traditional methods like folk songs, street plays, and engagement through local fairs, festivals, documentaries, and mass media are employed to educate and raise awareness. Community-Based Disaster Risk Reduction

(CBDRR) and Village Contingency Planning (VCP) are essential for capacity building at the grassroots level, managed by relevant departments with support from local authorities, Panchayat Raj and Rural Development (PRED), and Urban Local Bodies (ULBs), all under the overarching guidance of the District Administration. This comprehensive approach ensures local ownership, addresses local needs, and fosters volunteerism and mutual aid to prevent and mitigate disaster damage.

Table 40 List of Training Method and Approaches for Capacity Building

Sl. No.	Task	Method	Nodal Agency	Supporting Agency
1	Information dissemination regarding various hazards and their respective do's and don'ts, prioritizing community-based disaster management plans in high-vulnerability areas like schools, industrial clusters, slums, and resettlement colonies. Second priority to communities on district outskirts, particularly villages.	Through Natak, Film Shows, Rallies, Media, Newspaper, Posters, Pamphlets, Group discussions, and workshops	District Administration	NGOs, Schools and colleges volunteers, NSS, NCC, Sports groups, etc.
2	Constitution of Community-Based Disaster Management Committees and Taskforces	Community-level meetings	District Administration	Aapadamitra, Members, Local Volunteers, etc.
3	Capacity Building of Community Members	Mock drills, preparation of	District Administration	Civil Defence, Police, Fire,

Sl. No.	Task	Method	Nodal Agency	Supporting Agency
		community plans, trainings, and workshops on disaster-specific topics		CBOs, and NGOs
4	Training task forces and committee members in first-aid, trauma counselling, search and rescue, firefighting, warning dissemination, etc.	Training and workshops	Revenue Department along with Health, Police, and Fire Departments	Civil Defence, Police, Fire, CBOs, and NGOs
5	Addressing post-disaster epidemic problems	Seminars and community meetings	Health Department	Local health departments, and NGOs
6	Training programs on constructing seismic-resistant buildings and retrofitting existing structures for contractors, masons, engineers, architects, and local communities	Films, videos, posters, brochures, reading materials, etc. in training and workshops	District Administration	PWD, Private contractors, and NGOs

#### 7.1.4. Training of Trainer

Training of trainers (ToT) is essential for capacity building in disaster management for several reasons:

- **Multiplier Effect:** Effectively trained trainers can educate more individuals, spreading knowledge and skills widely within the community or organization.
- **Quality Assurance:** ToT ensures trainers possess the necessary knowledge, skills, and resources to deliver high-quality training programs, providing accurate information and essential disaster preparedness, response, and recovery skills.
- **Standardization:** ToT programs establish standardized training methodologies, materials, and approaches, ensuring consistency in training across different locations and trainers, leading to uniform disaster management practices.
- **Sustainability:** Training trainers within the community or organization creates a sustainable mechanism. Trainers can continue to provide training over time, even as new members join.
- **Adaptability:** Trainers who undergo ToT are equipped to tailor training programs to the specific needs and contexts of different communities or organizations, ensuring relevance and effectiveness in diverse settings.
- **Empowerment:** ToT empowers individuals within communities or organizations to take ownership of disaster management initiatives. Trained trainers can lead local capacity-building efforts, encouraging others to contribute to disaster resilience and response efforts.

#### 7.1.5. Disaster Management Education

Disaster management education involves a wide range of learning activities designed to prepare individuals, communities, and organizations to effectively handle natural and man-made disasters. This education includes both formal academic programs and informal learning opportunities such as



workshops, training sessions, and public awareness campaigns. It aims to equip people with the knowledge, skills, and attitudes needed to understand various hazards, assess risks, and implement measures to reduce vulnerability and enhance resilience.

Key components of disaster management education include preparedness, early warning systems, evacuation procedures, emergency response protocols, and post-disaster recovery strategies. By promoting a culture of safety, collaboration, and proactive action, disaster management education helps build more resilient and disaster-ready societies.

#### 7.1.6. **Role of Aapda Mitra**

Aapda Mitra, or disaster volunteers, play a crucial role in Community-Based Disaster Risk Reduction (CBDRR) efforts. These community members are trained and equipped to assist in local disaster management. Their roles in CBDRR include:

- **Risk Identification and Assessment:** Aapda Mitra helps identify and assess disaster risks within their communities. They gather information about local hazards, vulnerabilities, and capacities, contributing to the development of community risk maps and profiles.
- **Disaster Preparedness Planning:** They are involved in creating and implementing community disaster preparedness plans. This includes organizing drills, training sessions, and awareness campaigns to educate community members about disaster risks and preparedness measures.
- **Early Warning Dissemination:** Aapda Mitra assists in spreading early warning messages and ensuring that vulnerable populations are aware of evacuation procedures. They may organize evacuation drills and provide guidance during evacuation efforts.

- **First Response:** In the event of a disaster, Aapda Mitra acts as first responders, providing immediate assistance such as search and rescue, first aid, and temporary shelter. They work alongside other emergency responders and community leaders to coordinate response efforts and address immediate needs.
- **Recovery and Rebuilding:** Aapda Mitra contributes to the recovery process by assisting in damage assessment, debris removal, and the distribution of relief supplies. They also help community members access government assistance programs and rebuild their lives.

Overall, Aapda Mitra is vital in strengthening community resilience and fostering a culture of preparedness and solidarity in the face of disasters. Their involvement in CBDRR efforts helps communities become more self-reliant and better equipped to cope with and recover from adverse events.

#### 7.1.7. Skill Upgradation and follow-up training

Skill upgradation and follow-up training are essential for enhancing disaster management capabilities. As disaster risks and challenges evolve, it is crucial for individuals and organizations involved in disaster response to continuously improve their skills and knowledge. Skill upgradation involves targeted training programs that address specific needs identified through capacity assessments and feedback from previous sessions. These programs cover various topics, such as search and rescue techniques, first aid, disaster communication, evacuation procedures, and disaster risk assessment. Follow-up training sessions reinforce learning, address gaps in understanding, and keep participants updated on the latest best practices and innovations in disaster management. By investing in both skill upgradation and follow-up training, organizations ensure their personnel are well-prepared to respond effectively to disasters, minimize loss of life and property, and support communities during crises.

### 7.1.8. Training Calendar & stakeholders to be trained

Table 41 Tentative Annual Training Calendar of DDMA Sangli, (2025-26)

No.	Name of Training Programs	Target Audiences	Duration of Program	No. of Participants	No. of Training Programs Required
1	Training of Nodal officers of district line departments about their roles and responsibilities in disaster/climate risk management and the DM planning process, developing disaster mitigation proposals and their implementation.	Nodal officers of district line departments	2 Days	30	2
2	Orientation of Tehsildar and BDOs on disaster/climate risk management and nature-based solutions	RDCs, Tehsildars, BDOs	1 Day	30	2
3	Training Program on Urban Disaster Resilience and Climate Risk Mitigation in urban areas	SDO, BDO, CEO-Municipality	1 Day	20	1
4	Training program on Urban Risk Reduction and Resilience: Focus on flood risk management, Solid Waste Management and Drainage System	Line department	1 Day	30	1
5	Training program on Lightning	Farmers, NGO,	1 Day	30	1

No.	Name of Training Programs	Target Audiences	Duration of Program	No. of Participants	No. of Training Programs Required
	Risk Management and Safety Measures at the Taluka level	Agriculture department			
6	Training Program on Crowd Management and Stampede Risk Reduction at Taluka level	Taluka level Police, Home guard, Aapada Mitra	1 Day	30	1
7	Training program on Effective Involvement of CBOs, NGOs, CSOs and private sector stakeholders in Disaster Risk Management at Taluka level	CBOs, NGOs, CSOs and private sector stakeholders	1 Day	20	1
8	Training on Child-Centric DRR	Schools	1 Day	30	1
9	Training on River Basin Management	Irrigation Dept, DDMO, PWD, CWC, WRD, Tehsildar	1 Day	30	1
10	Training on mental health and psycho-social wellbeing in DM at Taluka level	Health dept, NGO	1 Day	30	1
11	Training on gender-inclusive DRR	SDRF, Fire, Civil society, WCD, SJD	1 Day	30	1
12	Training on Industrial and Chemical Disaster	Local industries	2 Days	30	2

No.	Name of Training Programs	Target Audiences	Duration of Program	No. of Participants	No. of Training Programs Required
	Management, CBRN				
13	Training of trainers for Life-saving techniques in disasters, Triage, Rainwater Harvesting and Energy Conservation	Aapda Mitra, Local Youth, Schools	1 Day	35	4
14	Training on handling tourists during emergency	Tourism, Travel agency, Coast Guards, Aapada Mitra, NGO	1 Day	30	1
15	Training on school safety and security at the Taluka level	Schools	1 Day	30	1

#### 7.1.9. List of training undertaken and impact of training

Table 42 List of Training Undertaken at Sangli and Its Impact

Sl.no	Date	Subject	Number of Participants
1			
2			
3			
4			

5			
6			
7			
8			
9			
10			
11			
12			
13			

## 8. RESPONSE AND RELIEF MEASURES

Effective response and relief measures are crucial for minimizing the impact of disasters and ensuring the safety and well-being of affected communities. This chapter outlines the response and relief measures for Sangli District, including the levels of emergency, response structure and functions, emergency support functions by line departments, the role of the District Emergency Operation Centre, the Incident Response System, preparedness measures, and the use of Early Warning Dissemination Systems (EWDS).

### 8.1. Levels of Emergency

Emergencies are classified into different levels based on their severity and the required response. The levels of emergency typically include:

**Level 1:** Localized incidents that can be managed with local resources. These incidents are usually small-scale and do not require external assistance. Examples include minor fires, small-scale floods, and localized power outages. The local administration and community resources are sufficient to handle these emergencies.

**Level 2:** Incidents that require additional resources and coordination from neighboring districts or state-level agencies. These incidents are more severe and may involve multiple locations or a larger geographic area. Examples include moderate earthquakes, significant floods, and large-scale industrial accidents. Coordination with neighboring districts and state agencies is necessary to manage the response effectively.

**Level 3:** Major incidents that require national-level intervention and resources. These are large-scale disasters that have widespread impacts and require substantial resources and coordination at the national level. Examples include major earthquakes, cyclones, and large-scale terrorist attacks. National agencies, including the National Disaster Response Force

(NDRF), are mobilized to provide assistance and support.

## 8.2. Response Structure and Functions

At the district level, before and immediately after a disaster, the district administration will activate the district control room to ensure that relevant information is promptly disseminated to the appropriate authorities.

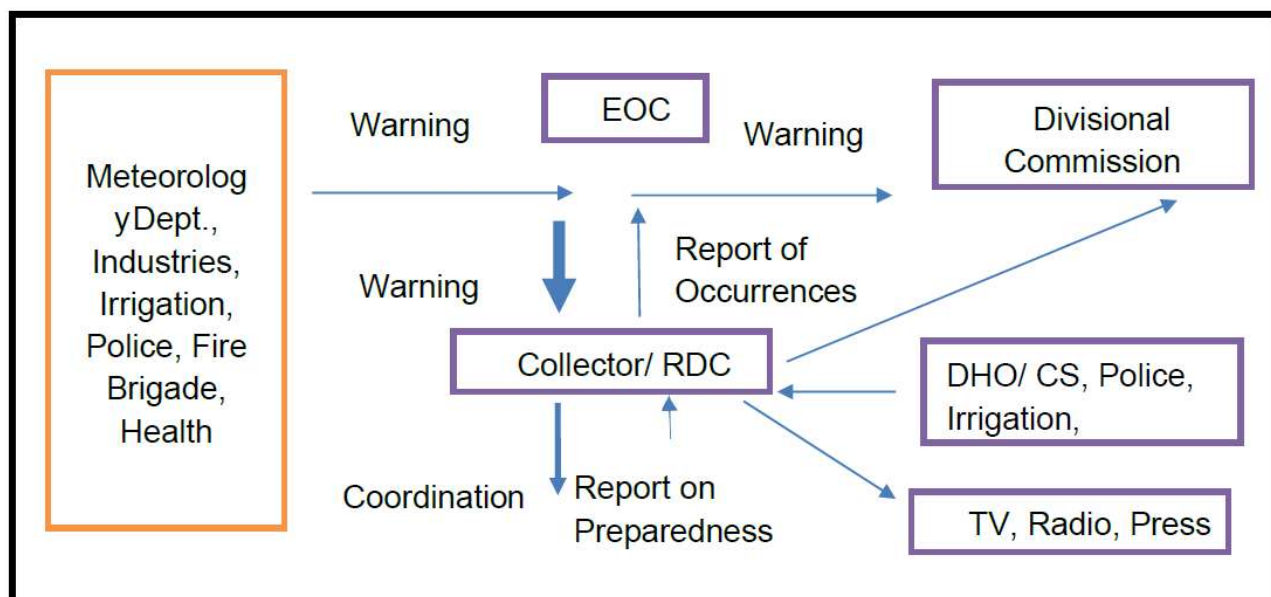


Figure 11 Response Structure and Functions

### 8.2.1. 3.1 Incident Command System (ICS)

The Incident Command System (ICS) is a standardized approach to the command, control, and coordination of emergency response. It provides a common hierarchy within which responders from multiple agencies can be effective. Key features of ICS include:

- **Unified Command:** Allows agencies with different legal, geographic, and functional responsibilities to coordinate, plan, and interact effectively. This ensures that all agencies work towards a common goal and reduces duplication of efforts.
- **Modular Organization:** The structure expands, and contracts based on the size and complexity of the incident. This flexibility allows for



efficient resource allocation and management.

- **Common Terminology:** Ensures clear communication among all responders. Using standardized terms reduces misunderstandings and enhances coordination.
- **Integrated Communications:** Facilitates information flow and coordination. Effective communication systems are established to

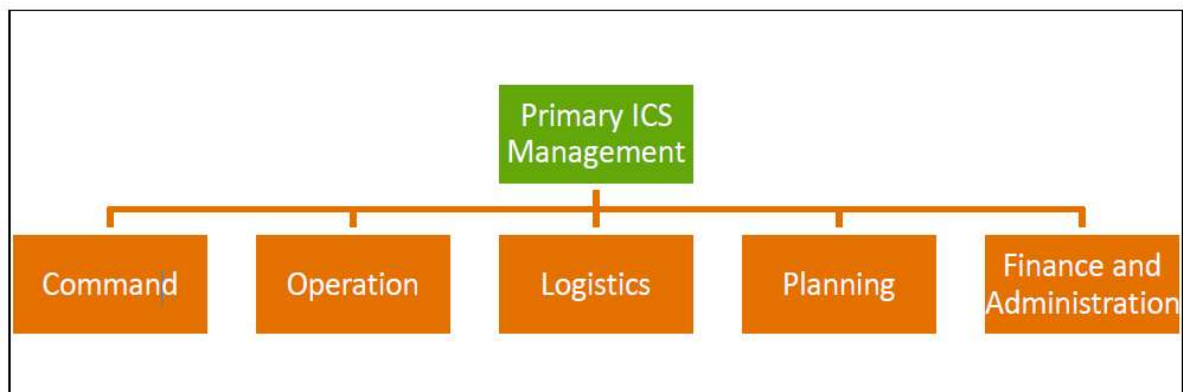


Figure 12 Structure of Incident Command System

ensure that all responders have access to timely and accurate information.

### 8.2.2. 8.2.2 Incident Command Organisation Chart

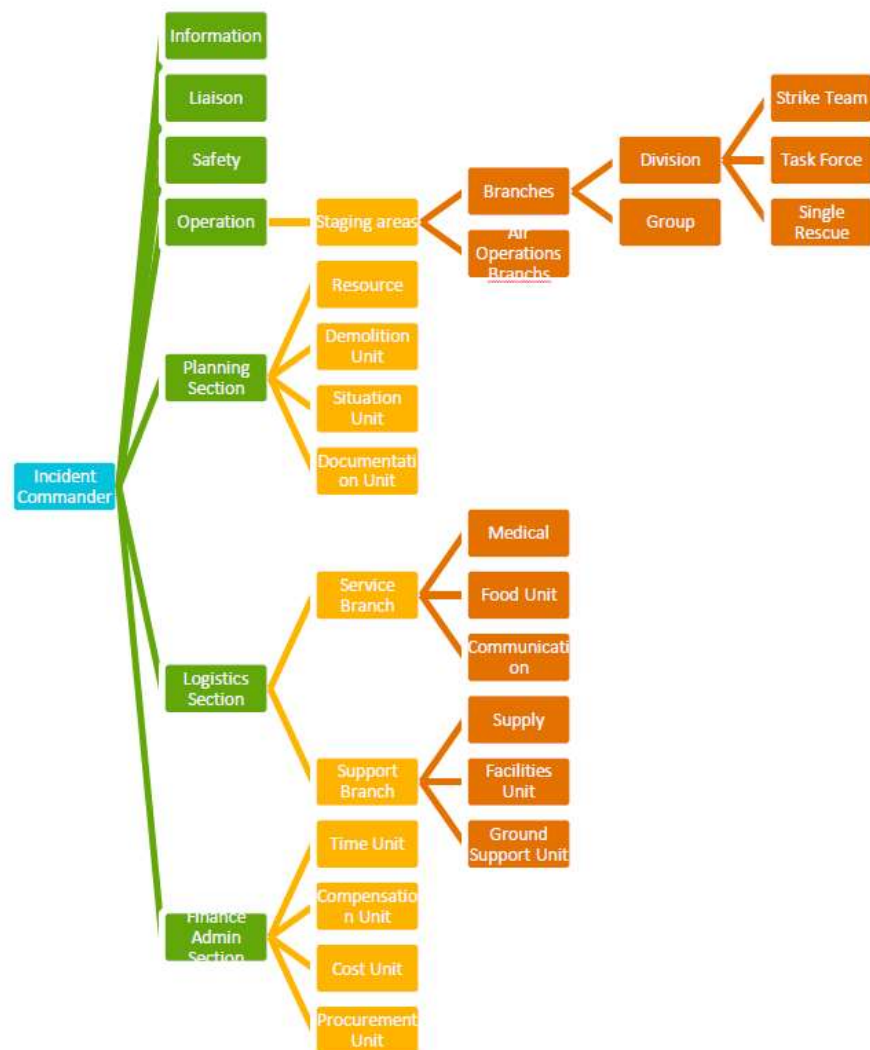


Figure 13 Structure of Incident Commanding Organization

### 8.2.3. Response Structure

The response structure for disaster management in Sangli District includes the following components:

- **District Disaster Management Authority (DDMA):** The primary agency responsible for coordinating disaster response at the district level. The DDMA oversees all response activities and ensures that resources are allocated effectively.

- **Incident Response Teams (IRTs):** Pre-designated teams that are activated during emergencies to manage response operations. These teams include personnel from various departments and agencies, trained to handle specific types of incidents.
- **Emergency Support Functions (ESFs):** Functional areas that provide support during disaster response, such as transportation, communications, public works, firefighting, and medical services. Each ESF is led by a designated agency responsible for coordinating activities within that function.

#### **Planning Assumptions:**

- The multi-disaster response plan adopts a general approach to various disaster scenarios, focusing on identifying information needs, communication, coordination, monitoring, and institutional arrangements.
- The overall response structure remains consistent regardless of the disaster type.
- The flow chart outlines the command chain to be activated for disaster management.

Table 43 Department-Wise Response Mode

Department/Agency	Response Mode
D.S.P.	Standby
Sangli and Supporting NGOs	Standby
Fire Brigade, Civil Defence, Home Guards, and Supporting NGOs	Standby & Alert
Executive Engineer, PWD, Executive Engineer MI, and	Standby

<b>Department/Agency</b>	<b>Response Mode</b>
Supporting NGOs	
SDO/Tahsildar and Supporting NGOs	Standby
DHO/Civil Surgeon and Supporting NGOs	Standby & Alert
Executive Engineer MSEB and Supporting NGOs	Standby

### **Response Actions:**

- Cordoning off Area: D.S.P.
- Evacuation: Sangli and Supporting NGOs
- Law and Order: Fire Brigade, Civil Defence, Home Guards, and Supporting NGOs
- Local Warning: Executive Engineer, PWD, Executive Engineer MI, and Supporting NGOs
- Traffic Management: SDO/Tahsildar and Supporting NGOs

### **Engagement of Defence and Paramilitary Forces:**

In the event of a disaster at the district level, the District Collector will promptly communicate the required assistance to various departments. Efforts will be made to mobilize support from NGOs and other relevant agencies within the district. If the District Collector deems the situation beyond the district's capacity to manage, assistance from the defence and paramilitary forces may be requested.

### **Important Contact Numbers:**

Table 44 List of Important Contacts Responsible for Response Mechanism

Name of Department	Reporting Office	Contact No.
Navy	Maritime Operation Centre, Mumbai	022-22751920 / 22751486
	INS Shivaji (Lonavala)	02114-284304 / 284862
	Commodore Harish Batra	Mobile No. 7350018001
Air Force	Air Force Station Cotton Green	022-23714982 / 4902 / 4947
	Group Captain	
Army	2nd Maratha Life Infantry, Pune	Captain Pawan Singh - 08283864213
Civil Defence & Home Guard	Civil Defence Head Office, Mumbai	022-2284 3667 / 4171
	Civil Defence, Pune	020-26360041 / 26361072 / 26360067
	Civil Defence, Nashik	0253-2573149
	Civil Defence, Kalyan	0251-2313494 / 2317578
	Civil Defence, Thane	022-25342288
	Civil Defence, Uran	022-27222343 / 27221355
	Civil Defence, Tarapur	02525-264677 / 78
	Home Guard Head Office, Mumbai	022-2284 2423 / 6941
Police	D.G.P. Control	022-2202 6636 / 2282 2631

Name of Department	Reporting Office	Contact No.
Geological Survey of India	Director, GSI, Pune	020-26696489
NDRF	National Disaster Response Force	02114-247000
Weather Forecasting Centre	Pune Forecasting Centre	020-25535211
	Regional Meteorological Dept., Colaba	022-22150431
Mantralaya Control Room	Mumbai	022-222027990 / Mobile: 9321587143
Divisional Commissioner Office Control Room	CBD Belapur	022-27571516

#### **Communication:**

- Manage all outgoing communications on behalf of the Relief Camp Officer, including data collection, record-keeping, assisting in locating missing persons, and organizing information for the Site Operations Center.
- The communication room is equipped with various facilities such as telephones, fax machines, intercom units, VSAT connections, PCs with modems and printers, mobile phones, photocopying machines,

and wireless communication.

- During sensitive situations, the media should exercise caution to avoid causing mental distress to victims. They should disseminate accurate information and refrain from spreading rumors to prevent misinformation.
- Publishing accurate numerical data is essential to ensure the public is well-informed and not misled.

#### **Law and Order:**

The Police Department plays a crucial role in disaster management by:

- Relocating people to safer areas.
- Assisting the Revenue Department in relief work.
- Safeguarding victims' properties.
- Maintaining law and order in disaster-affected regions.
- Coordinating search and rescue operations with NCC/VTF/NGOs.
- Providing security at relief camps and material storage facilities.
- Ensuring orderly distribution of relief materials.
- Overseeing the evacuation of people to safe locations.
- Facilitating post-mortem examinations and legal procedures.
- Giving special attention to protecting children and women in shelter places.

#### **Public Grievances / Missing Persons Search:**

A district-level committee, chaired by the District Collector, addresses public

grievances related to missing persons. Search and rescue teams are deployed to locate missing individuals, whether alive or deceased.

**Animal Care:**

The Animal Husbandry Department provides the necessary equipment for managing cattle deaths in disaster-affected areas, including carcass disposal and treatment of injured animals. Vaccination programs are implemented to prevent disease outbreaks among animals. Separate arrangements are made for pets and cattle.

**Management of Deceased:**

The Carcass Disposal team is responsible for promptly clearing carcasses after a disaster to prevent disease spread. The health department initiates post-mortem procedures for deceased individuals as per regulations. Proper disposal of dead bodies is essential to prevent epidemics, and death certificates are issued to relatives to facilitate legal processes.

**Plan Activation:**

Upon receiving a disaster warning or the occurrence of a disaster, the disaster response structure will be activated with approval from the competent authority. The occurrence of a disaster will be promptly reported to the Commissioner of Relief/SDMA by the concerned monitoring authority through the fastest available means. The Commissioner of Relief (CoR) will activate all departments for emergency response, including the State Emergency Operations Center (EOC), District EOC, and Emergency Response Centres (ERCs). Instructions will be issued detailing the exact resources required, such as workforce, equipment, and essential items from key departments/stakeholders, the type of assistance needed, and the time frame for assistance. Coordination details with other Task/Response Forces will also be included. The State EOC and other control rooms at the State and district levels will be activated with full staffing. The State Government



may issue a notification in the official gazette declaring affected areas as disaster zones under applicable Acts/Rules. Once the situation is under control and normalcy is restored, the Commissioner of Relief will declare the end of the emergency response and issue instructions to withdraw staff deployed in emergency duties.

Table 45 List of Stakeholders Responsible of Emergency Planning

<b>Sr. No.</b>	<b>Emergency Management Function / Tasks</b>	<b>Function / Task Lead</b>	<b>Support function officer/agencies</b>
1	Direction, Control, Coordination	DM	DDO, SP, Resident Dy. Collector and Tahsildar
2	Information Collection, Analysis and Damage Survey	DM	DDO, SP, Resident Dy. Collector (RDC), Tahsildar, DIC, Dy. DDO, Ex. Engr, R&B, DAO
3	Communication	RDC	Dy. Tahsildar, Mobile Operators, TV, Radio, Police, Forests, Fire
4	Alert and Warning	RDC / SP	EOC / Disaster Tahsildar, District Information Officer (DIO)
5	Transport (ESF,	RTO / DTO	RDC, DDO, DSO, SP, DMHO

### 8.3. Emergency Support Functions by Line Departments

<b>Department</b>	<b>Roles and Responsibilities</b>
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Department	Roles and Responsibilities
Health Department	<ul style="list-style-type: none"> <li>- Provide medical care and treatment to disaster survivors, including emergency medical services, triage, and patient stabilization.</li> <li>- Conduct disease surveillance and implement control measures such as vaccination campaigns and vector control.</li> <li>- Support healthcare facilities with medical supplies, equipment, and patient transfers.</li> <li>- Offer mental health and psychosocial support services.</li> <li>- Assess and address environmental health hazards.</li> <li>- Coordinate medical evacuations and patient transportation.</li> </ul>
Police and Civil Defence	<ul style="list-style-type: none"> <li>- Maintain law and order in disaster-affected areas.</li> <li>- Enforce evacuation orders, manage traffic control, and prevent criminal activities.</li> <li>- Conduct search and rescue operations.</li> <li>- Manage crowd control at evacuation shelters and disaster sites.</li> <li>- Assist in evacuating residents to safe locations and manage shelter operations.</li> <li>- Disseminate vital information to the public.</li> <li>- Collaborate with other emergency response agencies.</li> </ul>

Department	Roles and Responsibilities
Revenue Department	<ul style="list-style-type: none"> <li>- Conduct rapid damage assessments.</li> <li>- Coordinate the distribution of relief materials.</li> <li>- Assist in evacuating residents and manage evacuation centers.</li> <li>- Facilitate rehabilitation and recovery of affected communities.</li> <li>- Assess and disburse compensation to affected individuals and families.</li> <li>- Coordinate with government and non-governmental organizations for relief efforts.</li> </ul>
Irrigation and Water Supply Department	<ul style="list-style-type: none"> <li>- Manage rivers, dams, and reservoirs to mitigate flood impacts.</li> <li>- Provide emergency water supply during droughts or water scarcity situations.</li> <li>- Maintain canals, drains, and embankments to prevent flooding and waterlogging.</li> <li>- Assess and repair damage to irrigation infrastructure after disasters.</li> </ul>
Transport Department	<ul style="list-style-type: none"> <li>- Develop evacuation plans for areas at risk of natural disasters.</li> <li>- Mobilize additional public transportation services during</li> </ul>

Department	Roles and Responsibilities
	<p>emergencies.</p> <ul style="list-style-type: none"> <li>- Clear debris and repair damaged transportation infrastructure after disasters.</li> </ul>
National Disaster Response Force (NDRF)	<ul style="list-style-type: none"> <li>- Engage in search and rescue operations during disasters.</li> <li>- Conduct training and capacity-building programs during peacetime.</li> <li>- Deploy units for search and rescue efforts and leverage expertise for training programs.</li> </ul>

#### 8.4. 5. District Emergency Operation Centre

The Emergency Operation Centre (EOC) in Sangli district is a critical hub for disaster management, operating 24/7 with a dedicated workforce and modern equipment. To ensure it remains effective, the EOC needs regular updates and enhancements. This includes upgrading communication systems, ensuring all Emergency Support Functions (ESF) have the latest technology, and maintaining robust internet and telephone connectivity. Additionally, continuous training for the District Disaster Management Officer, IT assistant is essential to keep them prepared for any emergency. Regular drills and simulations can help in identifying areas for improvement and ensuring seamless coordination with supporting agencies. By keeping the EOC updated, Sangli district can enhance its disaster preparedness, response, and recovery efforts, ensuring the safety and well-being of its residents.

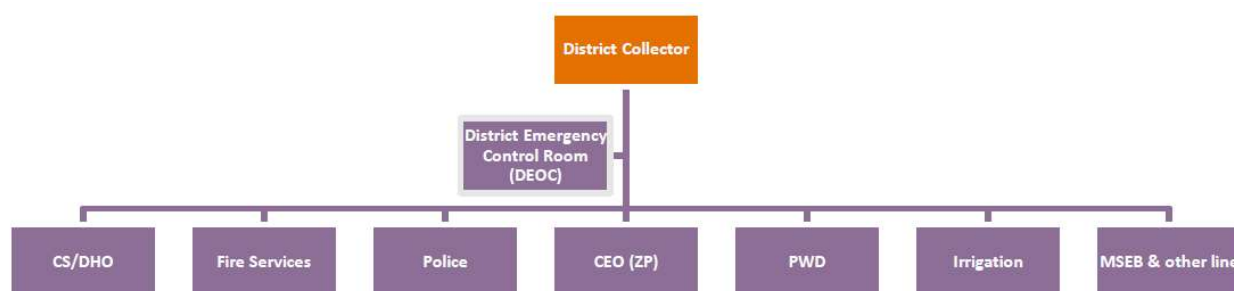


Figure 14 Structure of District Emergency Operation Centre

#### 8.4.1. Role of Emergency Operation Centre in Normal Time

The Collector of District Sangli is authorized to designate an Administrative Officer as the Emergency Operation Centre's (EOC) officer-in-charge. This individual will be responsible for ensuring the EOC's efficient operation. The key responsibilities of the EOC in charge during regular periods include:

- **Verifying Equipment:** Ensuring the operational status of all equipment within the EOC.
- **Data Collection:** Regularly gathering data on the vulnerability of various blocks and villages from relevant line departments for disaster management.
- **Status Reports:** Compiling status reports on preparedness and mitigation initiatives undertaken by district-level departments and forwarding them to the Government of Maharashtra and the Divisional Commissioner's office.
- **Plan Implementation:** Overseeing the proper implementation of the District Disaster Management Plan.
- **Resource Management:** Maintaining and updating the Inventory of Resources and data bank.
- **Plan Updates:** Updating the District Disaster Management Plan in

response to evolving circumstances.

- **Trigger Mechanism:** Activating the trigger mechanism upon receipt of disaster warnings or occurrences within the district.

Additionally, the EOC is responsible for:

- **Coordination:** Facilitating coordination among various agencies and stakeholders involved in disaster management. The EOC ensures that all agencies are prepared and that their activities are aligned.
- **Training and Drills:** Conducting regular training sessions and mock drills to ensure preparedness. These activities help responders practice their skills and improve their response capabilities.
- **Resource Management:** Maintaining an inventory of resources and ensuring their availability during emergencies. The EOC tracks resources and ensures that they are ready for deployment.

#### **8.4.2. Role of Emergency Operation Centre during Disaster**

Upon receiving messages from competent agencies, it is imperative to issue warnings to the general public and critical departments essential for emergency response. Ensuring the accuracy and timeliness of these warnings is a primary responsibility of the Emergency Operation Centre (EOC). The EOC must establish a well-organized communication network to disseminate these warnings effectively. The Collector serves as the competent authority for issuing disaster warnings.

Furthermore, disaster warnings must be communicated to the following stakeholders:

- Chief Secretary, Revenue, Government of Maharashtra
- All Emergency Support Functions

- Members of the District Disaster Management Committee (DDMC)
- Hospitals, especially those located in the disaster-affected area and other hospitals within the district
- Office of the Divisional Commissioner
- Sangli Municipal Corporation and local units of the Defence Services
- Emergency Operation Centres in neighbouring districts
- National/State Emergency Operation Centre
- People's representatives from the district

The Emergency Operation Centre (EOC) is tasked with arranging desks for Emergency Support Functions within its premises to enhance coordination and assistance. In the absence of the Collector, the Additional District Magistrate & Resident Deputy Collector assumes authority and carries out all duties and powers of the designated officer. Community preparedness and disaster response measures are promptly implemented upon receiving a warning.

Additionally, the occurrence of a disaster triggers the following actions:

- **Expansion of the EOC:** Accommodate desks for Heads of Departments responsible for specific tasks.
- **Direction and Control:** The Responsible Officer, as required by the Collector, directs and controls all district-level staff. This includes staff from various departments such as Industrial Safety & Health, Health Department, Red Cross Society, Food & Supply, Police, Zilla Parishad, Municipal Authorities, Public Health, PWD, Transport Department, Irrigation, Fire Brigade Department, and Telecommunication. Any scheduled leave for officers and staff from these organizations is automatically cancelled upon requisition by the

Responsible Officer, who directs them to report for duty immediately.

- **Liaison with Defence Units:** In large-scale disasters, the Responsible Officer may liaise with local Army/Navy/NDRF Battalion units for incident response, including rescue, evacuation, and emergency relief measures.
- **Resource Requisition:** The Responsible Officer may requisition resources, materials, and equipment from the private sector.
- **Industry Activation:** Activation of onsite plans with assistance available upon request.
- **Response Plan Activation:** Desk arrangements for the Operation Logistics and Planning Section overseen by the Responsible Officer.
- **Establishing Camps:** Authorization for establishing transit and relief camps, feeding centres, and cattle camps through the Operation and Logistics Section.
- **Wireless Communication:** Activation of wireless communication from the EOC to the Operation Section Chief, Site Operations Bases, Transit Camps, Feeding Centers, Relief Camps, and Cattle Camps.
- **Reporting:** Submit the Preliminary Information Report and Action Taken Report, based on available information, to the Chief Secretary, Director of Disaster Management Unit (DMU), Principal Secretary of Rehabilitation & Reconstruction, and the Divisional Commissioner.
- **Immediate Evacuation:** Authorization of immediate evacuation as deemed necessary by the Responsible Officer. In case of potential disasters in neighbouring districts or beyond state borders, the Responsible Officer issues alert warnings to the concerned authorities.



#### **8.4.3. Trigger Mechanism**

Upon receiving information about an emergency, the staff on duty at the Emergency Operation Centre (EOC) will promptly relay the information to the District Collector (DC) or Additional District Magistrate (RDC) and await further instructions. If the emergency involves a disaster occurring in any part of the district, the EOC staff will also notify members of the District Disaster Management Authority (DDMA), leaders of Emergency Support Functions, central hospitals, and the State Disaster Management Authority. Additionally, the on-duty staff will gather relevant details regarding the disaster's type, magnitude, and location and communicate this information to the appropriate authorities.

The EOC in charge will ensure that contact details for the Divisional Commissioner and State EOC are readily available. Desk officers, team leaders, and members of the Incident Command Team will be promptly notified to report to the District EOC. The Incident Command Team and Desk officials will then respond according to their standard operating procedures and directives from the Incident Commander (IC).

#### 8.4.4. Trigger Mechanism for Sangli District

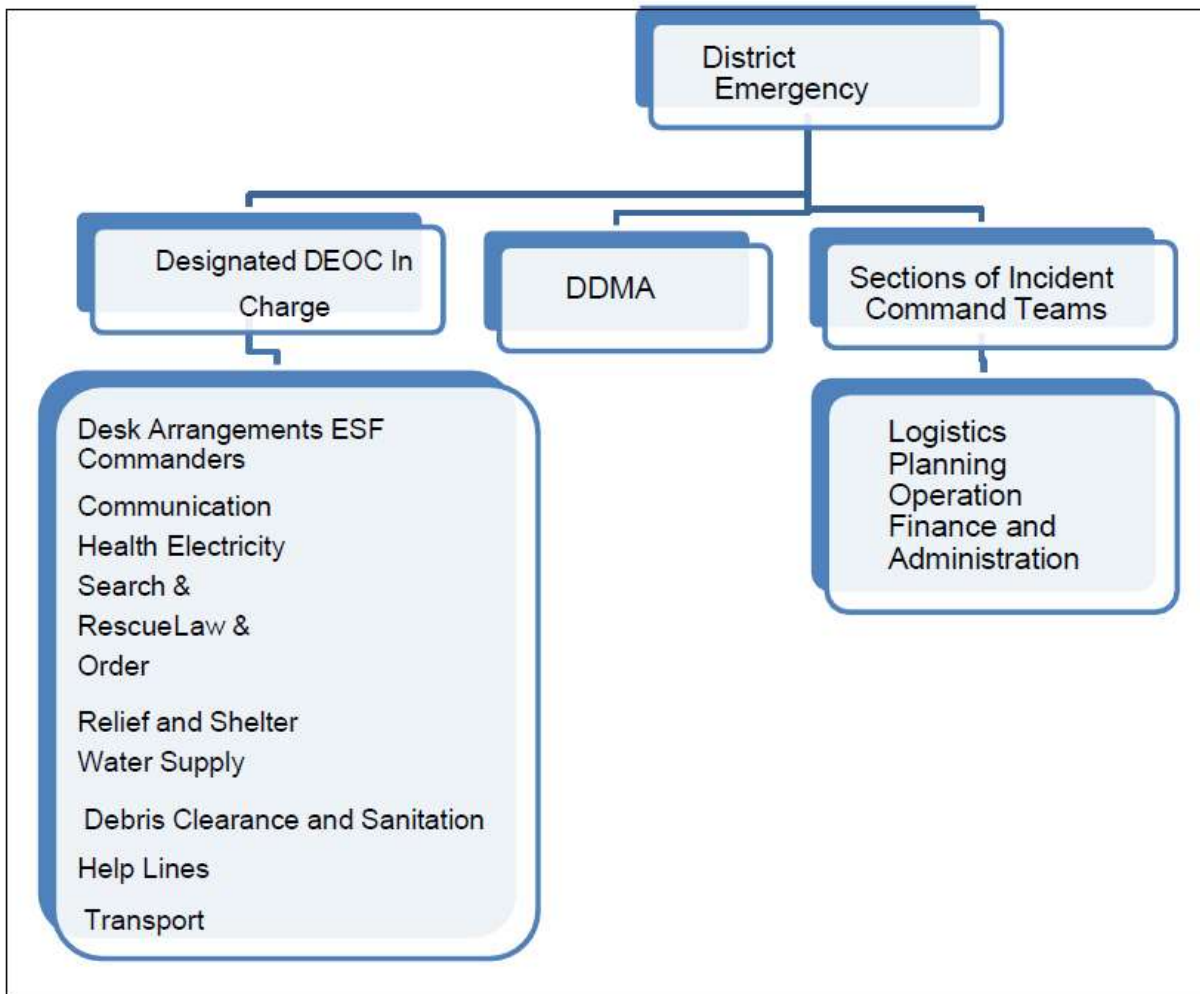


Figure 15 Structure of Emergency Trigger Mechanism

### 8.5. 6. Incident Response System (IRS) Application and Modules

The Incident Response System (IRS) is a comprehensive framework designed to manage and coordinate emergency response activities during disasters and crises. It comprises various applications and modules tailored to different aspects of incident management, including:

- **Incident Reporting:** This module allows individuals, organizations, or government agencies to report incidents. It facilitates real-time monitoring, status tracking, and data aggregation to provide situational awareness to decision-makers.

- **Resource Management:** This application helps inventory and track available resources such as personnel, equipment, and supplies. It enables efficient allocation and utilization of resources based on the needs identified during incident response operations.
- **Communication and Collaboration:** This module focuses on facilitating communication and collaboration among stakeholders involved in incident response, including government agencies, emergency responders, and partner organizations. It provides tools for sharing information, coordinating activities, and managing communication channels effectively.
- **GIS Integration:** GIS technology is integrated into the IRS to provide spatial data analysis, mapping, and visualization capabilities. It helps identify high-risk areas, assess the impact of incidents, and plan response operations based on geographic information.
- **Situational Awareness and Decision Support:** The IRS includes modules that provide decision-makers with timely and accurate information about incident dynamics, resource availability, and response priorities. It supports the generation of reports, dashboards, and analytical insights to aid in decision-making processes.
- **Training and Capacity Building:** This module focuses on training and capacity-building activities for stakeholders involved in incident response. It offers e-learning modules, tabletop exercises, and simulation-based training sessions to enhance the skills and preparedness of responders and decision-makers.
- **Documentation and Reporting:** The IRS facilitates the documentation and reporting of incident response activities, including incident logs, situation reports, after-action reviews, and lessons learned. It ensures accountability, transparency, and continuous improvement in

emergency management practices.

Overall, the IRS applications and modules provide a robust framework for enhancing preparedness, response, and recovery capabilities in the face of various emergencies and disasters. They enable efficient coordination, communication, and resource management to mitigate the impact of incidents and safeguard the lives and livelihoods of the population.

## 8.6. Preparedness Measures for Effective Response

Preparedness measures are essential for ensuring an effective response to disasters. This proactive approach to disaster management involves various actions and strategies to minimize the impact of disasters and enhance response capabilities. Key preparedness measures include conducting risk assessments to identify potential hazards, developing comprehensive disaster response plans, and providing regular training and capacity-building initiatives for emergency responders and community members. Additionally, ensuring the availability and proper maintenance of essential resources, establishing robust communication systems, conducting public awareness campaigns, and implementing early warning systems are vital components of preparedness efforts. By prioritizing these measures, communities and organizations in Sangli can enhance their readiness to respond swiftly and effectively to disasters, ultimately saving lives and reducing the impact on affected populations.

## 8.7. Use of EWDS

### **Common Alerting Protocol (CAP) Sachet:**

The Common Alerting Protocol (CAP) Sachet, developed by the National Disaster Management Authority (NDMA), is a tool designed to facilitate effective communication during emergencies. These sachets contain

standardized information formatted according to the CAP, enabling authorities to disseminate alerts, warnings, and other critical information to the public and response agencies promptly and consistently. In India, including Maharashtra, CAP Sachets enhance communication capabilities during disasters such as floods, cyclones, earthquakes, and other emergencies. CAP Sachets help improve coordination among various stakeholders, streamline response efforts, and ultimately enhance community resilience to disasters by providing a common platform for alerting and sharing information. More information can be found on the CAP Sachet website.

#### **Damini Lightning Alert App:**

The Damini Lightning Alert app, developed by IITM-Pune and ESSO, provides early warnings about lightning activity in India. The app sends GPS notifications to users when lightning is detected within 20-40 kilometers of their location. It also provides information about the current location of lightning strikes, probable locations of upcoming lightning, and the direction and movement of thunderstorms. Additionally, the app includes general information about lightning and precautionary steps to take during lightning events.

## 9. REHABILITATION, RECONSTRUCTION AND RECOVERY MEASURES

Rehabilitation, reconstruction, and recovery measures are essential for restoring normalcy and rebuilding communities after a disaster. These measures aim to address the immediate needs of affected populations, restore infrastructure, and promote long-term resilience. This chapter outlines the strategies and actions for post-disaster rehabilitation, reconstruction, and recovery in Sangli District.

### 9.1. Post-Disaster Rehabilitation and Reconstruction Strategies

Post-disaster rehabilitation and reconstruction strategies focus on rebuilding infrastructure, restoring livelihoods, and enhancing community resilience. The key components of the strategy include:

Category	Key Points
<b>Assessment and Planning</b>	- Conduct comprehensive damage and needs assessments to inform recovery planning.
<b>Community Involvement</b>	- Engage local communities in the planning and implementation of recovery efforts.
<b>Sustainable Development</b>	- Incorporate principles of sustainable development to ensure long-term resilience.
<b>Coordination and Collaboration</b>	- Ensure effective coordination among government agencies, NGOs, and other stakeholders.
<b>Damage Assessment</b>	- Conduct thorough assessments to evaluate the extent of damage caused by the disaster.
<b>Disposal of Debris</b>	- Implement efficient debris disposal methods to clear affected areas.
<b>Disbursement of Assistance for Houses</b>	- Provide financial assistance for the reconstruction and repair of damaged houses.
<b>Formulation of</b>	- Develop comprehensive assistance packages to

Category	Key Points
<b>Assistance Packages</b>	support affected individuals and families.
<b>Monitoring and Review</b>	- Continuously monitor and review recovery efforts to ensure effectiveness and address any issues.
<b>Non-Starters and Rejected Cases</b>	- Address cases of non-starters, rejected cases, and non-occupancy of houses.
<b>Relocation</b>	- Facilitate the relocation of affected individuals to safer areas.
<b>Town Planning and Development Plans</b>	- Develop and implement town planning and development plans to rebuild affected areas.
<b>Reconstruction as Housing Replacement Policy</b>	- Implement reconstruction efforts as part of a housing replacement policy.
<b>Awareness and Capacity Building</b>	- Conduct awareness campaigns and capacity-building initiatives to enhance community preparedness.
<b>Housing Insurance</b>	- Promote housing insurance to provide financial protection against future disasters.
<b>Grievance Redressal</b>	- Establish a grievance redressal mechanism to address concerns and complaints from affected individuals.

#### 9.1.1. Strategy

Strategies for Restoring Physical Infrastructure and Lifeline Services:

- **Build Back Better:** Ensure greater resilience, preparedness, and minimal loss in the event of future disasters.
- **Participatory Planning:** Infrastructure improvement measures should align with the social and cultural needs and preferences of beneficiaries.
- **Coordination:** A recovery plan will enhance coordination between various development agencies. Damage and needs assessments will

form the basis of recovery planning. The recovery process may involve multiple sectors, including:

- **Essential Services:** Restoration of essential commodities (food), health services, water supply, sanitation, power, communication, and transport.
- **Infrastructural:** Reconstruction of housing, public buildings, and roads.
- **Livelihood:** Support for employment, agriculture, cottage industries, shops, and establishments.

Restoring essential services such as power, water supply, and sanitation should be prioritized. Alternate water supply arrangements and temporary sanitation facilities can be established with the help of specialized agencies. Special arrangements should be made to provide essential services, including creating temporary infrastructure for storing and distributing water, running tankers, and ensuring power supply and sanitation facilities.

## 9.2. Post-Disaster Damage and Needs Assessment

Post-disaster needs assessment is a crucial process conducted in the aftermath of a disaster to evaluate the impact on affected communities and determine their immediate and long-term needs. This assessment involves gathering comprehensive information about the extent of damage caused by the disaster, including damage to infrastructure, homes, livelihoods, and social services. Additionally, it identifies the vulnerabilities of the affected population and assesses their capacity to cope with the aftermath of the disaster. The needs assessment findings guide the development of response and recovery strategies, ensuring that assistance is targeted effectively to address the most pressing needs of the affected communities. Moreover, the assessment helps coordinate efforts among various



stakeholders, including government agencies, humanitarian organisations, and local communities, to facilitate a comprehensive and coordinated response to the disaster.

#### 9.2.1. PDNA District Committee members

The PDNA should be a well-coordinated inter-agency mechanism. Agreement on the management structure of the PDNA is essential. The management structure shall comprise of the following:

- **PDNA management team:** depending on the district's decision, the district Collector typically leads the assessment team. The management team shall meet regularly to oversee the assessment process, provide strategic guidance, take decisions, and ensure that the necessary resources are available for undertaking the evaluation.
- **Coordination team:** the PDNA management team will agree on assigning a few staff to provide coordination between the district government and logistics. The members can be from the district line department. The team shall be responsible for managing day-to-day planning, coordinating with the sector team members and state government and donors in conducting the assessment, analysing the data, preparing the reports, and developing the recovery and reconstruction framework under the guidance of the PDNA management team. The Coordination team shall be responsible for organising the assessment's conduct and ensuring all logistical arrangements are in place.
- **Sector teams:** The sector teams shall comprise designated technical representatives from line departments. The team members from the state level will assist the district level during the field visit to the affected area. The sector team will collect sector-specific baseline data, damage, and loss data, undertake field visits to validate the

data collected, analyse the data, and write the sectorial assessment report on damage and loss and proposed sector priorities for recovery and reconstruction.

- **Report Preparation Secretariat:** the coordination team, with technical support from development partners (if required), shall coordinate with the sectorial team members for the sector report based on data analysis for their sector. The coordination team will then compile and summarise the individual sectorial report into a consolidated report.

The Post-Disaster Needs Assessment (PDNA) District Committee is responsible for conducting damage and needs assessments. The committee includes representatives from various departments and agencies, such as:

- District Collector (Chairperson)
- Representatives from the Health Department
- Representatives from the Public Works Department
- Representatives from the Agriculture Department
- Representatives from the Revenue Department
- Representatives from NGOs and community-based organizations

### 9.3. PDNA Format

#### **Sector-wise Damage Assessment Formats**

After a disaster, every intending department shall communicate the damage-loss assessment to the district authorities through proper channels in the format below.

Name of Department:

Dated:

Type of Hazard:

### Power Supply Department

Sl.no	Name of Tehsil	Name of village	Item/Ser vices	No. of unit damage	No. of the village affected	Populati on affected	Recover y measure
			Feeder				
			Transfor mer				
			HT lines				
			LT line				
			Electric poles				

### Health Department

Sl. No	Name of Tehsil	Name of Village	Items	Particulars	Total
1			PHCs (Damaged/Destroyed)	No. of buildings	Estimate loss (Rs.)
2			CHCs (Damaged/Destroyed)	No. of buildings	Estimate loss (Rs.)
3			Other Buildings (Damaged/Destroyed)	No. of buildings	Estimate loss (Rs.)
4			Human lives lost	Male	Female
5			A person who	Male	Female

Sl. No	Name of Tehsil	Name of Village	Items	Particulars	Total
			suffered grievous injuries		
6			A person who suffered minor injuries	Male	Female

#### Irrigation Department

Sl. No	Tehsil	Village	Type	No. of units affected	Population affected	Recovery measure
1			Well			
2			Bore Well			
3			Water Supply Disrupted			
4			Contamination			
5			ESR damaged			
6			GLR Damaged			
7			Sump Damaged			
8			Pipelines damaged			
9			Stand Post damaged			
10			Hand Pump			

**PWD**

Sl. No	Name of Tehsil	Name of Village	Items	Particulars	Total
1			Fully Damaged Pucca House	No. of Houses	Estimated Loss in Rs.
2			Fully Damaged Kuccha House	No. of Houses	Estimated Loss in Rs.
3			Severely Damaged Pucca House	No. of Houses	Estimated Loss in Rs.
4			Severely Damaged Kuccha House	No. of Houses	Estimated Loss in Rs.
5			Partly Damaged Houses (Pucca/Kuccha)	No. of Houses	Estimated Loss in Rs.
6			No. of huts damaged	No. of Houses	Estimated Loss in Rs.
7			Roads (All)	No. of Houses	Estimated Loss in Rs.
8			State Roads	No. of Houses	Estimated

Sl. No	Name of Tehsil	Name of Village	Items	Particulars	Total
					Loss in Rs.
9			District Roads	No. of Houses	Estimated Loss in Rs.
10			Village Roads	No. of Houses	Estimated Loss in Rs.
11			Bridges	No. of Houses	Estimated Loss in Rs.
12			Culvert	No. of Houses	Estimated Loss in Rs.
13			Hospital	No. of Houses	Estimated Loss in Rs.
14			Office Buildings	No. of Houses	Estimated Loss in Rs.
15			Police Station	No. of Houses	Estimated Loss in

Sl. No	Name of Tehsil	Name of Village	Items	Particulars	Total
					Rs.
16			Shops	No. of Houses	Estimated Loss in Rs.
17			Others	No. of Houses	Estimated Loss in Rs.

#### Agriculture Department

Sl. No	Name of Tehsil	Name of Village	Type of Crop	Total cropped area affected (in Ha)	Estimated loss to crops in Rs.	Total
1			Agriculture			
2			Horticulture			

#### Livestock/Animal Husbandry Department

Sl. No	Name of Tehsil	Name of Village	Items	Particulars	Total
1			Milch animal lost (Buffalo/Cow)	No	Estimate loss (Rs.)
2			Milch Animal lost (Sheep/Goat)	No	Estimate loss (Rs.)
3			Draught animal lost	No	Estimate

Sl. No	Name of Tehsil	Name of Village	Items	Particulars	Total
			(Horse/Bullock)		loss (Rs.)
4			Draught animal lost (Calf/Donkey/Pony/Mule)	No	Estimate loss (Rs.)
5			Poultry Lost (Chick/Duck)	No	Estimate loss (Rs.)
6			Others	No	Estimate loss (Rs.)

#### Education Department

Sl. No	Name of Tehsil	Name of Village	Items	Particulars	Total
1			Primary School (Damaged- Fully/Partially)	No. of Buildings	Estimate loss (Rs.)
2			High School (Damaged- Fully/Partially)	No. of Buildings	Estimate loss (Rs.)
3			Colleges (Damaged- Fully/Partially)	No. of buildings	Estimate loss (Rs.)
4			University (Damaged- Fully/Partially)	No. of buildings	Estimate loss (Rs.)
5			Other Educational Institute	No. of buildings	Estimate loss (Rs.)
6			Others	No	Estimate loss (Rs.)



### Women and Child Development Department

Sl. No	Name of Tehsil	Name of Village	Items	Particulars	Total
1			Anganwadi (Damaged-Fully/Partially)	No. of Buildings	Estimate loss (Rs.)
2			Others (Damaged-Fully/Partially)	No. of Buildings	Estimate loss (Rs.)
3			Others	No. of Buildings	Estimate loss (Rs.)

### Food Supplies Department

Sl. No	Name of Tehsil	Name of Village	Type	No. of Godown damaged	The kind of Grain perished	Qty of Grain perished (Ton)	Qty of Grain at risk (Ton)	Recovery measure
1								
2								

## 9.4. Key Timeline

Recent advancements in disaster assessment, particularly the adoption of the National Disaster Management Plan, 2016, by the Government of India,

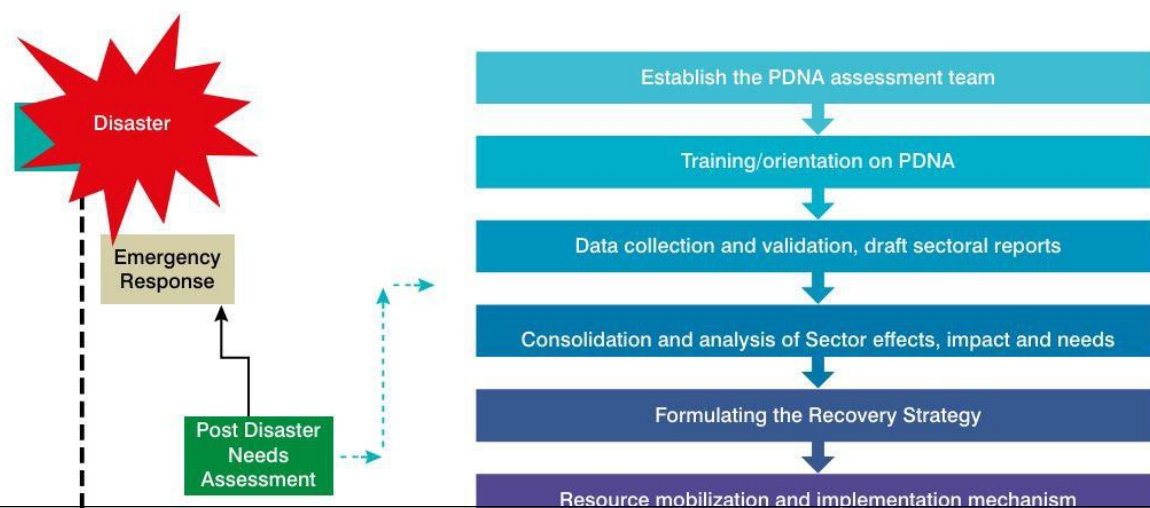


Figure 16 Steps of PDNA as Per NDMA

align with the Sendai Framework for Disaster Risk Reduction (DRR) 2015-2030, emphasizing resilient recovery. A critical aspect of resilient recovery is the assessment of post-disaster damage and needs. While the PDNA Manual provides a detailed explanation of the steps involved, the key steps are summarized below.

For each of the steps, the critical factor is the timeline. The agreed international methodology based on UN-ECLAC by the UN, EU and WB proposed the following timeline for a comprehensive assessment.

### Survey Timeline

The survey timeline for conducting PDNA includes the following phases:

- Initial Assessment (0-7 days): Rapid assessment of immediate needs and damage.
- Detailed Assessment (7-30 days): Comprehensive assessment of damage and needs across all sectors.
- Recovery Planning (30-60 days): Development of detailed recovery and reconstruction plans based on assessment findings.

Table 46 Survey Timeline for PDNA

Types	Week							
	1	2	3	4	5	6	7	8
Estimation of disaster effects								
Baseline data collection								
Field visit and survey								
Estimation of damage and production losses								
Aggregation of damage and								

production losses								
Estimation of disaster impact								
Micro-economic impact analysis								
Macro-social impact analysis								
Personal/household impact analysis								
Estimation of post-disaster needs								
Recovery needs								
Reconstruction needs								
Assessment report preparation								

## 9.5. SOPs for Training District Officials and Stakeholders on PDNA

### Training Content:

1. Introduction to Post-Disaster Needs Assessment (PDNA) methodology and frameworks.
2. Overview of the assessment process, including data collection methods, tools, and techniques.
3. Identification and prioritisation of critical sectors for assessment, such as shelter, infrastructure, livelihoods, health, education, and environment.
4. Guidance on conducting damage and loss assessments, including rapid assessments and detailed assessments.
5. Training on vulnerability and capacity assessments (VCA) to identify the needs and vulnerabilities of affected populations.

6. Overview of data analysis and interpretation techniques to derive meaningful insights from assessment findings.
7. Guidelines for developing assessment reports and presenting findings to relevant stakeholders.
8. Case studies and practical exercises to reinforce learning and application of assessment methodologies.

#### **Training Delivery:**

1. Identify qualified trainers with expertise in disaster management and needs assessment methodologies.
2. Conduct training sessions in a conducive in-person or virtual environment, ensuring accessibility for all participants.
3. Utilize multimedia presentations, training manuals, and interactive activities to engage participants and facilitate learning.
4. Encourage active participation and group discussions to share experiences, challenges, and best practices.
5. Provide opportunities for hands-on practice through simulation exercises and mock assessment scenarios.
6. Conduct post-training evaluations to assess participants' understanding and identify areas for improvement.

#### **Training Logistics:**

1. Arrange a training venue with necessary facilities, including audiovisual equipment, internet connectivity, and training materials.
2. Coordinate with relevant stakeholders to ensure participation from critical

departments and organisations involved in disaster management.

3. Prepare and distribute training materials to participants, including presentations, handouts, and reference guides.
4. Schedule training sessions at convenient times and allocate sufficient duration for comprehensive coverage of training topics.

#### **Monitoring and Evaluation:**

1. Monitor training sessions to ensure adherence to the training agenda and address any issues or concerns participants raise.
2. Conduct pre-and post-training assessments to measure participants' knowledge gain and assess the effectiveness of the training.
3. Collect participant feedback to evaluate the training delivery quality and identify improvement areas.
4. Review training outcomes and make necessary adjustments to future training sessions based on lessons learned.

#### **Documentation and Reporting:**

1. Maintain comprehensive records of training sessions, including attendance sheets, training materials, and evaluation reports.
2. Prepare training reports summarising key outcomes, participant feedback, and recommendations for future training initiatives.
3. Share training reports with relevant stakeholders and incorporate feedback into the planning and implementing future training programs.

#### **Continuous Improvement:**

1. Regularly review and update training materials and methodologies to incorporate new developments and lessons learned from past

experiences.

2. Encourage ongoing professional development opportunities for trainers and participants to enhance their skills and knowledge in post-disaster needs assessment.
3. Foster collaboration and knowledge-sharing among stakeholders to promote a culture of continuous learning and improvement in disaster management practices.

## 9.6. Infrastructure Restoration and Reconstruction

### 9.6.1. Short-term Recovery Programs

Short-term recovery programs play a vital role in restoring livelihoods and providing immediate support to individuals and communities affected by disasters. These programs often include measures to ensure the economic stability of disaster-affected populations, such as providing short-term employment opportunities, vocational training, and income-generating activities to help individuals regain their financial footing. Additionally, access to loans, financial assistance, and grants are essential components of short-term recovery efforts, offering individuals and businesses the financial resources needed to rebuild and recover. These assistance programs serve as a lifeline for those dealing with the aftermath of disasters, offering hope and support as they work towards recovery and resilience.

### 9.6.2. Long-term Recovery Programs: Sustainable Livelihood

Long-term recovery programs aim to promote sustainable livelihoods and enhance community resilience. Key activities include:

- **Housing Reconstruction:** Rebuilding damaged houses using resilient construction techniques.
- **Livelihood Support:** Providing support for livelihood restoration, such as agricultural inputs, vocational training, and microfinance.
- **Infrastructure Development:** Reconstructing and upgrading infrastructure, including roads, bridges, schools, and healthcare facilities.
- **Community Development:** Implementing community development programs to strengthen social cohesion and resilience.

Disaster recovery unfolds in distinct phases, initially focusing on addressing immediate needs such as shelter, food, and water for those affected. As homes and businesses undergo repairs, individuals return to their routines, and communities embark on cleanup and reconstruction efforts. A collaborative effort among government agencies, voluntary organizations, and the private sector is vital in providing assistance and support throughout this process. However, some individuals, families, and communities facing significant challenges may require more time and specialized aid to recover fully. In such cases, a structured approach to recovery is necessary to address unique needs and complex rebuilding tasks.

Community recovery initiatives adopt a comprehensive, long-term perspective to address critical recovery needs and mobilize resources effectively. This often involves forming committees or task forces to develop specific recovery plans, identify funding sources, and coordinate assistance efforts. Under the National Response Framework, the Emergency Support Function (ESF) for Community Recovery plays a crucial role in coordinating federal resources to facilitate the long-term recovery of states and communities. This function focuses on restoring infrastructure, housing, and local economies to reduce future risk and

ensure sustainable recovery. While routine disaster assistance and mitigation programs address some recovery aspects, incidents with severe impacts and complex recovery needs necessitate extensive inter-agency coordination and technical support through ESF efforts.

### 9.6.3. Matrix of Short-term and Long-term Recovery Program

Table 47 Short Term and Long-Term Recovery Program Matrix

Activity/Action	Estimate of Duration (Short term)	Estimate of Duration (Long term)
Warning	Hours to a few days	
Response/Operations	Ongoing	Ongoing
Emergency	15 days	60 days
Preparation of damage assessment	4 days	4 - 8 days
Disaster declaration	1 - 10 days	0 - 30 days
Federal/State Mitigation Strategy	1 - 15 days	15 - 30 days
Recovery	7 - 150 days	150 - 365 days
Temporary building moratorium	<= 30 days	<= 60 days
Letter of intent to submit HM Grant	<= 60 days	<= 60 days
Short term reconstruction	<=1 year	200 - 365 days
Long term reconstruction	100 days to 5 years	5 to 10 years

## 9.7. Social and Psychological Support

Social and psychological support is crucial for helping affected individuals and communities recover from the trauma of disasters. Key activities include:



- **Counselling Services:** Providing counselling and mental health services to affected individuals.
- **Community Support Groups:** Establishing support groups to facilitate peer support and community cohesion.
- **Training for Care Providers:** Training healthcare providers, social workers, and volunteers in psychosocial support and trauma-informed care.
- **Awareness Campaigns:** Conducting awareness campaigns to reduce stigma and promote mental health and well-being.

## 10. SOCIAL INCLUSION IN DISASTER RISK REDUCTION

Disasters often exacerbate existing societal inequalities, underscoring the need for inclusive disaster response strategies. Traditional approaches frequently fail to account for disparities based on gender, caste, or class, treating all affected individuals as uniform victims. This oversight perpetuates injustice, as vulnerable groups suffer disproportionately. Disaster Risk Reduction (DRR) seeks to address these inequities by recognizing the varied coping capacities within society. While addressing social marginalization extends beyond DRR's scope, DRR initiatives must understand social realities and strive for inclusivity.

Legislation such as the Disaster Management Act of 2005 prohibits discrimination in disaster-related activities, acknowledging that economically weaker and socially marginalized groups are most affected. Vulnerability to disasters is influenced by a community's social, cultural, economic, and political context, which can exacerbate existing inequalities and disenfranchise affected groups from decision-making processes.

Social inclusion, as defined by the World Summit for Social Development, emphasizes active participation, equity, equality, social justice, and human dignity, embracing diversity. Conversely, social exclusion manifests as discrimination, deprivation, and denial based on various attributes, hindering full societal participation. Socially excluded groups often remain invisible in disaster response efforts despite forming a significant portion of the population. Their specific needs are frequently overlooked in Disaster Management Plans (DMPs).

Inclusive Disaster Risk Management aims to ensure equal rights and opportunities, preserve dignity, embrace diversity, and build resilience for all community members without excluding anyone based on age, gender, disability, or other factors.

In the context of Sangli district, it is crucial to develop disaster response strategies that specifically address the unique vulnerabilities of its diverse population. This includes involving marginalized groups in decision-making processes, ensuring their needs are met in Disaster Management Plans, and fostering a culture of inclusivity and resilience. By doing so, Sangli can better prepare for and respond to disasters, ensuring that no one is left behind.

### 10.1. Gender Perspective and DRR

Gender-based vulnerabilities in disaster situations stem from entrenched societal norms and power dynamics that favour men over women. These inequalities result in women having less access to resources, decision-making power, and legal protection, making them more susceptible to the impacts of disasters. Despite their potential contributions to disaster risk reduction, women are often marginalized in relief and recovery efforts. Disasters exacerbate existing gender inequalities, increasing women's vulnerability to violence, malnutrition, and economic hardships. Post-disaster reconstruction programs frequently overlook the needs of women, particularly those heading households or lacking formal property ownership. Women face challenges accessing relief, participating in decision-making processes, and rebuilding their lives after disasters.

However, disasters also present opportunities to empower women and challenge traditional gender roles. Efforts to promote gender equity in post-disaster recovery include registering reconstructed houses in joint names, providing shelters to widows and single women, and empowering women through access to social security measures and income-generating activities. Additionally, it is crucial to address the concerns of sexual and gender minorities in disaster risk management. These groups face additional vulnerabilities due to societal stigma and discrimination, which are often

overlooked in disaster planning and response. Including sexual and gender minorities in disaster risk reduction efforts can help mitigate their heightened vulnerabilities and promote a more equitable approach to disaster management.

In light of these considerations, it is essential to adopt a comprehensive and inclusive approach to disaster risk management that recognizes and addresses the unique needs of all genders and marginalized groups. This approach not only enhances the resilience of communities but also promotes social justice and equality.

## 10.2. Scheduled Castes and Scheduled Tribes

Scheduled Castes (SC) and Scheduled Tribes (ST) constitute significant portions of India's population and are recognized in the Indian Constitution as historically disadvantaged groups. Various governmental committees and commissions have been formed to address the issues faced by these communities. Legal frameworks like the Scheduled Castes and Scheduled Tribes (Prevention of Atrocities) Act aim to protect their rights and prevent discrimination.

In Disaster Risk Reduction (DRR), acknowledging the specific challenges SC and ST communities face is crucial. Caste-based discrimination and social exclusion are prevalent issues, exacerbating vulnerabilities during disasters. Many SC and ST communities reside in hazard-prone areas with inadequate infrastructure and limited access to basic amenities, increasing their susceptibility to disasters. Additionally, women from these communities often face intensified gender-based discrimination and violence.

DRR efforts should ensure the inclusion of SC and ST communities in planning, implementation, and decision-making processes. Particular attention should be given to addressing caste-related challenges and

avoiding caste-blind approaches. Post-disaster situations and mitigation planning must prioritize social inclusion practices, such as ensuring equitable distribution of relief materials and access to essential services without discriminatory practices.

For Scheduled Tribes, the Constitution of India protects their identity, traditions, and customs through Schedules V and VI. Tribal communities tend to remain marginalized due to geographical isolation and social exclusion. DRR efforts for tribal communities should focus on restoring their natural resource base, providing timely relief and rehabilitation packages, and promoting community participation and ownership over interventions. Customised plans aligned with the Panchayats Extension in Scheduled Areas (PESA) should be developed to address their needs and priorities.

Additionally, it is essential to recognize the intersectionality of caste and gender. Women from SC and ST communities face compounded vulnerabilities due to both caste-based and gender-based discrimination. DRR initiatives must address these intersecting challenges by ensuring that women from these communities have equal access to resources, participation in decision-making, and protection from violence and exploitation. By adopting an inclusive and intersectional approach, DRR can contribute to building more resilient and equitable communities.

### 10.3. Children

The United Nations Convention on the Rights of the Child (1989) established legally binding international standards to safeguard children's rights. It asserts children's entitlement to essential needs such as food, water, shelter, and education, emphasizing protection from abuse, neglect, exploitation, and trafficking, particularly in disaster situations. Children's vulnerability due to their age and limited understanding of crises

underscores the need for special attention and support during emergencies.

In disaster scenarios, children face various risks, including separation from families, gender-based violence, and recruitment into child labor. Disruptions in education, access to food, and nutrition exacerbate their vulnerability. Post-disaster recovery efforts must prioritize reopening Anganwadi centers and schools, even if temporary structures are required. Increased food supplies in these facilities help address nutritional needs.

The Juvenile Justice Act (2000) mandates care, protection, and rehabilitation for children, establishing Child Protection Units at village and block levels. These units offer nutrition, child-friendly recreational spaces, protection from violence and trafficking, and efforts to reunite children with their families. The Ministry of Women and Child Development, Ministry of Social Justice and Empowerment, Ministry of Human Resource Development, and relevant commissions and societies collaborate to develop support mechanisms and oversee child protection efforts during disasters, ensuring timely intervention and support.

Additionally, it is crucial to integrate child-centered approaches in Disaster Risk Reduction (DRR) initiatives. This includes involving children in disaster preparedness education, ensuring their voices are heard in decision-making processes, and addressing their specific needs in disaster management plans. By doing so, we can enhance the resilience of children and their communities, ensuring that their rights and well-being are protected in the face of disasters.

#### 10.4. Elderly

The global population is aging rapidly, with projections indicating that by 2030, more people will be over 60 than under 10. While this trend signifies progress, failure to adapt disaster risk reduction (DRR) efforts to

this demographic shift can increase the vulnerability of older people to disasters. In India, like elsewhere, changes in the population's age structure occur due to increased life expectancy and better healthcare, leading to population aging. Although the proportion and size of the elderly population are increasing over time, the elderly face unique challenges during disasters, often overlooked and highly vulnerable.

Specific attention is needed in all phases of disaster risk management to address their psychological vulnerabilities, impaired mobility, health issues, and economic limitations. The UN Charter for Older People in DRR emphasizes three fundamental principles: recognizing the needs of older people, ensuring they are not overlooked, and valuing their knowledge and skills in disaster management. Governments, donors, and organizations are urged to fulfill older people's rights, engage their capacities, and address the shortcomings in DRR policies and practices.

In post-disaster situations, it is essential to consider the needs of older people separately and establish community-based support mechanisms to assist them without uprooting them from their immediate surroundings. District-level DRR plans should identify elderly individuals living without family support, and temporary arrangements should be made to provide for their needs, including food, medicine, and shelter. Special measures may also be necessary to protect the property and assets of senior citizens.

Additionally, it is crucial to integrate older adults into disaster preparedness and response planning actively. This includes ensuring that early warning systems are accessible and understandable, evacuation plans account for mobility and health issues, and relief services provide necessary medical and nutritional support. By adopting an inclusive approach that recognizes and addresses the unique challenges faced by older adults, we can enhance their resilience and ensure their safety and well-being in the face of disasters.

## 10.5. Persons with Disabilities (PWD)

The UN Convention on the Rights of Persons with Disabilities (UNCRPD) defines persons with disabilities as those with long-term impairments that hinder their full participation in society due to various barriers. The convention emphasizes their inclusion in disaster relief and risk reduction efforts. In India, the population of persons with disabilities (PWD) is 2.68 crore, comprising 2.2% of the total population, with a majority residing in rural areas. Studies show that PWDs are disproportionately affected by disasters due to a lack of personal preparedness plans and inadequate consultation about their needs.

During disasters, evacuation is challenging for many PWDs, and they often feel excluded from humanitarian responses. They face barriers throughout the disaster risk management (DRM) cycle, including limited social participation, poor access to information and services, and invisibility during relief operations. To address these challenges, DRR efforts must focus on the vulnerabilities of PWDs, ensuring their specific needs are met. Local community-based support systems, including buddy systems, can assist PWDs during emergencies. Proactive efforts by PWDs to identify reliable helpers and keep them informed about their needs are essential.

Disaster response planning should include lists of PWDs requiring special care, and post-disaster facilities should be barrier-free and PWD-friendly. Additionally, special arrangements may be necessary to protect PWDs' property and assets. The Rights of Persons with Disabilities Act, 2016, emphasizes the need for inclusive infrastructure and services, which should be integrated into DRR plans. By adopting an inclusive approach that recognizes and addresses the unique challenges faced by PWDs, we can enhance their resilience and ensure their safety and dignity in the face of disasters.





## 11. FINANCIAL ARRANGEMENTS/RESOURCES

### 11.1. Recommendation by XV Finance Commission

The XV Finance Commission has made significant recommendations for Disaster Risk Management (DRM), presenting two reports covering 2020-21 and 2021-22 to 2025-26. These recommendations introduce a new methodology for fund allocation, moving away from the previous expenditure-based approach. The new method integrates capacity (reflected through past expenditure), risk exposure (area and population), and hazard and vulnerability (disaster risk index). A State Contribution of 25% is suggested for allocations, except for the NEH States, which contribute 10%.

Funding structures have been revamped, proposing the National Disaster Risk Management Fund (NDRMF) and State Disaster Risk Management Fund (SDRMF) at national and state levels. Of the total earmarked grants for disaster management, 20% is designated for mitigation, and 80% for the response fund. The response fund is further divided into three windows: Response & Relief (40%), Recovery & Reconstruction (30%), and Preparedness & Capacity Building (10%). This allocation aims to balance resources for immediate response, rebuilding assets and livelihoods, and enhancing state preparedness through training and capacity building. For 2021-26, the suggested corpus includes Rs. 1,60,153 crores for SDRMF for states and Rs. 68,463 crores for NDRMF for states.

For Sangli district, these recommendations can be adapted to focus on local needs and vulnerabilities. The contribution ratio by Union and States to the State-level allocations for disaster management should be maintained, with Sangli contributing 25% of SDRF and SDMF funds. Mitigation Funds should be set up at the district level, used for local and community-based interventions that reduce risks and promote environment-friendly settlements and livelihood practices.

Allocation of disaster management funds to Sangli's SDRMF should be based on past expenditure, area, population, and disaster risk index. Assuming an annual increase of 5%, the total corpus for Sangli's disaster management should be proportionately allocated. The SDRF should receive 80% of the total allocation, distributed as follows: Response and Relief - 40%; Recovery and Reconstruction - 30%; and Preparedness and Capacity-building - 10%.

The allocation for the NDRMF should also be subdivided similarly, with 80% for the NDRF and further division into 40% for Response and Relief, 30% for Recovery and Reconstruction, and 10% for Preparedness and Capacity-building. The NDMF should be allotted 20% of the total allocation for the NDRMF.

To discourage excessive and unsubstantiated demands, all Central assistance through the NDRF and NDMF should be provided on a graded cost-sharing basis. Sangli should contribute 10% for aid up to Rs. 250 crore, 20% for assistance up to Rs. 500 crore, and 25% for all assistance exceeding Rs. 500 crore.

A Recovery and Reconstruction Facility should be established within the NDRF and SDRF. Assistance for recovery and reconstruction should be a multi-year program, with funds released annually against expenditures and as a percentage of the total cost.

Sangli's disaster preparedness should be enhanced through readiness and capacity-building grants, supporting local disaster management authorities, training activities, and emergency response facilities. Major capital works for proper upstream river basin management should be considered national priority projects to address flood mitigation adequately.

There should be earmarked allocations for priority areas, including the expansion and modernization of fire services, resettlement of displaced

people affected by erosion, managing seismic and landslide risks, reducing urban flooding risks, and implementing mitigation measures to prevent erosion. By adopting these recommendations, Sangli can build a comprehensive and resilient disaster management framework.

To enhance disaster management in Sangli district, a streamlined payment system between the Ministry of Defence and the Ministry of Home Affairs should be institutionalized through mutual consultations. Three options for this payment system have been outlined.

To strengthen institutional capacities, a dedicated unit should be established to supervise the National Disaster Risk Management Fund (NDRMF) and the State Disaster Risk Management Fund (SDRMF), and to augment disaster funding through other sources. Additionally, a disaster database should be developed to assess the impact of expenditures on various aspects of disaster management. Interventions such as disbursing assistance to women members of households will make disaster management more effective and efficient. The National Disaster Management Authority (NDMA), as the leading agency in disaster management, needs to be proactive and collaborate with states to push for reforms in disaster management.

To improve and streamline access to Central assistance, the existing system of damage assessment caused by natural calamities should be replaced by a two-stage assessment: an initial humanitarian needs assessment for response and relief assistance, and a post-disaster needs assessment (PDNA) for recovery and reconstruction needs.

All new funding windows need to be supported by the development of guidelines, which should be led by the NDMA. An annual report at the national level should record all allocations, expenditures, key achievements, and results against various indicators developed for the implementation of

the Sendai Framework for Disaster Risk Reduction (SFDRR). The contribution of these allocations to national and state capacities should be evaluated against a set of indicators determined by the NDMA.

If SDRMF and NDRMF assistance falls short of the required amount, the Union and States should have recourse to other financial instruments. These instruments include reconstruction bonds, contingent credit/stand-by facilities with international financial institutions, crowdfunding platforms, and corporate social responsibility.

Insurance mechanisms, which act as a social safety net and supplement existing financial mechanisms, must be introduced in partnership with insurance companies after due diligence. These mechanisms include a national insurance scheme for disaster-related deaths, synchronizing relief assistance with crop insurance, a risk pool for infrastructure protection and recovery, and access to international reinsurance for outlier hazard events.

By implementing these recommendations, Sangli district can build a robust and resilient disaster management framework, ensuring effective response, recovery, and preparedness for future disasters.

## 11.2. SDRF & SDMF Guidelines

The guidelines for the constitution and administration of the State Disaster Response Fund (SDRF) are crucial for structured disaster management at the state level. Issued under the Disaster Management Act of 2005, these guidelines cover the period of operation, funding allocations, calamities covered, fund constitution, contributions, release mechanisms, and other administrative aspects essential for effective disaster response and relief efforts.

Period of Operation: These guidelines apply from the financial year 2021-

22 to 2025-26, as recommended by the Fifteenth Finance Commission. The allocation for the State Disaster Risk Management Fund (SDRMF) during this period is divided into the State Disaster Response Fund (SDRF) and the State Disaster Mitigation Fund (SDMF). The SDRF, receiving 80% of the total SDRMF, is further subdivided into Response and Relief, Recovery and Reconstruction, and Preparedness and Capacity-building sub-allocations.

**Calamities Covered:** The SDRF is designated for immediate relief in disasters such as cyclones, droughts, earthquakes, fires, floods, tsunamis, hailstorms, landslides, avalanches, cloud bursts, pest attacks, frost, and cold waves. Additionally, states can allocate up to 10% of the SDRF for local disasters not listed by the Ministry of Home Affairs, subject to predefined norms.

**Constitution of State Disaster Response Fund:** The SDRF is established under the Reserve Fund, with contributions from the Central and State Governments. The interest accrued on the SDRF is credited half-yearly, and the fund is utilized strictly for disaster response and relief.

**Contributions to the Fund:** The total corpus of the SDRF is determined by the Fifteenth Finance Commission, with the Central Government contributing 75-90% of the funds based on the state's categorization. States must make suitable budget provisions to transfer their share of contributions promptly.

**Booking of Expenditure on Immediate Relief:** Expenditure from the SDRF is meticulously accounted for, with clear instructions on booking relief works. Any deviations from prescribed accounting norms may result in withholding further releases until compliance is achieved.

**Release of Central Government's Contribution:** The Central Government's contribution to the SDRF is disbursed in two instalments, with conditions

mandating compliance with accounting procedures and the State Executive Committees (SEC) constitution.

**State Executive Committee:** Each state is mandated to constitute a State Executive Committee responsible for managing SDRF affairs, including decision-making on relief expenditures, contributions, and investments.

**Accounts and Audit:** The Accountant General maintains the SDRF's accounts, ensuring transparency and accountability in fund utilization. The Comptroller and Auditor General of India conducts annual audits to ascertain adherence to approved norms and guidelines.

**SDMF:** Within the allocation recommended by the Fifteenth Finance Commission for the SDRMF, the SDMF receives 20% of the total funds, while the remaining 80% goes to the SDRF. The SDMF is essential for financing projects and initiatives that aim to mitigate the risks posed by disasters, such as infrastructure development, early warning systems, community-based disaster risk reduction programs, and other measures to reduce vulnerabilities to future disasters. Unlike the SDRF, which primarily deals with immediate response and relief activities, the SDMF focuses on proactive measures to minimize the adverse effects of disasters, ultimately contributing to building resilient communities and reducing the overall impact of disasters on society and the economy.

For Sangli district, these guidelines can be adapted to focus on local needs and vulnerabilities. The SDRF should be utilized for immediate relief in case of disasters specific to the region, such as floods and droughts. The SDMF should focus on proactive measures like improving infrastructure, developing early warning systems, and implementing community-based disaster risk reduction programs. By following these guidelines, Sangli can enhance its disaster management framework, ensuring effective response, recovery, and preparedness for future disasters.

### 11.3. Fund Outlay and Year-wise Status of Utilization

STATE DISASTER RISK MANAGEMENT FUND (SDRMF)							FUNDS (PERCENTAGE ALLOCATION)	
(IN CRORES) 100%							(IN CRORES)	
SDRMF	2021-22	2022-23	2023-24	2024-25	2025-26	Total	SDMF (20%)	32031
							SDRF (80%)	128122
Union Share	22184	23294	24466	25688	26969	122601	Response & Relief (40%)	64061
States' share	6799	7137	7491	7864	8261	37552	Recovery & Reconstruction (30%)	48046
							Preparedness & capacity building (10%)	16015
<b>TOTAL</b>	<b>28983</b>	<b>30431</b>	<b>31957</b>	<b>33552</b>	<b>35230</b>	<b>160153</b>	<b>Total</b>	<b>160153</b>

**•Funding Windows of SDRF and SDMF are not Interchangeable**  
**•Flexibility for re-allocation within three sub windows of SDRF up to 10% of the earmarked allocation has been recommended**

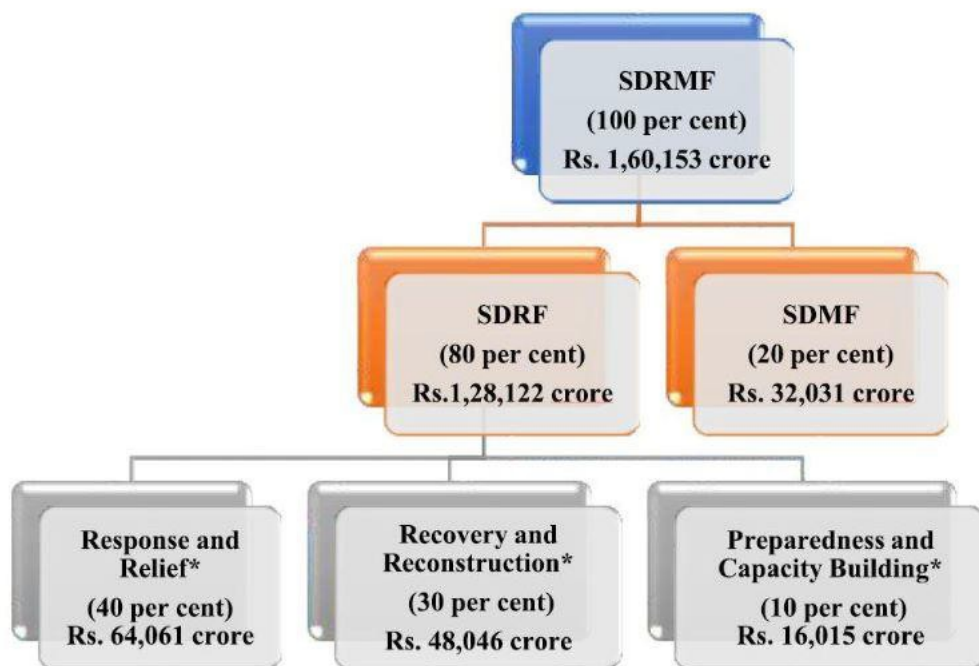


Figure 17 Fund Distribution Structure

Figure 18 Fund Outlay and Year-Wise Status Of Utilization

Table 48 Allocation of State Disaster Response Fund (SDRF) For The Award Period 2021-26 For Maharashtra

Year	State Share	Central Share	Total
2021-22	859.20	2577.60	3436.80



2022-23	902.40	2706.40	3608.80
2023-24	947.20	2841.60	3788.80
2024-25	994.40	2984.00	3978.40
2025-26	1044.00	3132.80	4176.80
Total	4747.20	14242.40	18989.60

## 11.4. Centrally Sponsored Schemes Supporting DRR and State Schemes

Centrally Sponsored Schemes (CSS) and state schemes play a crucial role in supporting Disaster Risk Reduction (DRR) efforts across India. These schemes integrate DRR into various developmental plans and projects, ensuring a comprehensive approach to disaster management.

### Centrally Sponsored Schemes Supporting DRR

- **Flexi Funds within CSS:** The Ministry of Finance allows up to 25% of Flexi Funds within CSS to be used for disaster mitigation and restoration activities. This flexibility enables states to address specific disaster risks and implement mitigation measures effectively.
- **National Water Shed Development Programme:** This program focuses on sustainable watershed management, which helps in reducing the risk of floods and droughts.
- **National Flood Management Programme:** Aimed at reducing flood risks through structural and non-structural measures, this program supports the construction of embankments, flood forecasting, and early warning systems.
- **Coastal Belt Shelter Plantation:** This scheme involves planting trees along coastal belts to act as natural barriers against cyclones and

tsunamis.

- **Capacity Building Grants:** Provided by the Finance Commission, these grants support the establishment and strengthening of Emergency Operations Centers (EOCs), preparation of disaster management plans, and training of stakeholders.
- **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA):** While primarily focused on providing employment and livelihood security in rural areas, MGNREGA also contributes to Disaster Risk Reduction (DRR) by creating community assets such as water conservation structures, flood control measures, and rural infrastructure that enhance resilience to disasters.
- **Atal Mission for Rejuvenation and Urban Transformation (AMRUT):** AMRUT aims to improve urban infrastructure in cities and towns, including water supply, sewerage, and urban transport. These infrastructure developments often incorporate disaster-resilient features, such as flood management systems, drainage improvements, and construction standards that mitigate risks from natural hazards in urban areas.
- **National Rural Drinking Water Programme (NRDWP):** NRDWP focuses on providing a safe and sustainable drinking water supply in rural areas. It includes provisions for water quality monitoring, source protection, and infrastructure development to address water-related risks and vulnerabilities, particularly during disasters like floods and droughts.
- **Pradhan Mantri Krishi Sinchayee Yojana (PMKSY):** PMKSY aims to enhance the irrigation potential and water use efficiency in agriculture. By promoting efficient water management practices, watershed development, and rainwater harvesting techniques, PMKSY reduces

agricultural vulnerabilities to droughts and floods, thereby enhancing resilience to climate-related disasters.

- **National Rural Livelihoods Mission (NRLM):** NRLM aims to reduce poverty by promoting diversified and gainful self-employment and wage employment opportunities for rural households, including those vulnerable to disasters. It supports forming self-help groups, developing skills, and accessing financial services.
- **State Urban Development Schemes:** Many states have urban development schemes, like AMRUT, tailored to their metropolitan areas' specific needs and priorities. These schemes often include provisions for improving infrastructure resilience to disasters, such as stormwater drainage systems, flood control measures, and earthquake-resistant construction standards.
- **Jal Jeevan Mission (JJM):** JJM aims to provide Functional Household Tap Connection (FHTC) to every rural household by 2024. The program focuses on service delivery at the household level, ensuring regular water supply in adequate quantity and prescribed quality. This also includes the provision of functional tap connections to schools, Anganwadi centers, GP buildings, health centers, wellness centers, and community buildings.
- **Swachh Bharat Mission (Grameen) (SBMG) Phase-II:** Implemented from 2020-21 to 2024-25, SBMG Phase-II focuses on sustaining Open Defecation Free (ODF) status and covering all villages with Solid and Liquid Waste Management. SBMG Phase-II is based on a convergence model between different funding sources, including SBM(G) budgetary grants, 15th Finance Commission grants to Rural Local Bodies (RLBs), and MGNREGA.

Rapid changes in India's climate stress ecosystems, agricultural output, and

freshwater resources. They are also causing damage to critical infrastructure, including those related to WASH services. Toilets and water pipelines in rural India are damaged, and water sources get contaminated. This leaves people previously covered by safe WASH services to 'slip back' to either practicing open defecation or accessing drinking water from polluted sources. In 2011, the Department of Drinking Water and Sanitation published the 'Standard Operating Procedures for Responding to Natural Disasters: Rural Drinking Water Supply and Sanitation'.

Other schemes, such as cash transfers via the direct benefit transfer (DBT) system, have assisted those most affected. Through the Pradhan Mantri Garib Kalyan Yojana (Prime Minister's Poor Welfare Package), the government disbursed Rs. 69,000 crore (approximately US\$ 9.25 billion) to 420 million individuals, along with free food grains for 750 million people during Covid-19 times. Programs such as the Pradhan Mantri Jan Dhan Yojana (Prime Minister's Financial Inclusion Scheme) and the Pradhan Mantri MUDRA Yojana have facilitated people's connection to banking services and provided them with affordable loans, integrating them into the expanding national financial framework. Additionally, agricultural insurance is crucial for mitigating risks faced by farmers, particularly small-scale ones.

By leveraging these centrally sponsored and state schemes, Sangli district can enhance its disaster management framework, ensuring effective response, recovery, and preparedness for future disasters. Integrating DRR into developmental plans and projects will help build resilient communities and reduce the overall impact of disasters on society and the economy.

#### **Other Financing Options for Disaster Risk Reduction (DRR) in Sangli District**

Apart from government schemes, Disaster Risk Reduction (DRR) in Sangli district can also be financed through various other means, including:

- **Corporate Social Responsibility (CSR):** Many corporations allocate a

portion of their profits to CSR activities, which can include initiatives related to DRR. These funds can support community resilience-building projects, disaster preparedness training, infrastructure development in disaster-prone areas, and rehabilitation efforts after disasters.

- **Public-Private Partnerships (PPPs):** Collaboration between governments, private sector entities, and civil society organizations can leverage CSR funds for DRR initiatives. PPPs can fund projects ranging from early warning systems to disaster-resilient infrastructure construction.
- **Crowdfunding:** Crowdfunding platforms allow individuals, organizations, and communities to raise funds for DRR projects. These projects range from building disaster shelters to implementing community-based early warning systems.
- **Disaster-Specific Campaigns:** During and after disasters, crowdfunding campaigns can quickly mobilize funds for emergency response and recovery efforts. Individuals and organizations worldwide can contribute to these campaigns, enabling rapid assistance to affected communities.
- **Philanthropic Foundations:** Philanthropic foundations often provide grants for DRR initiatives, research, and capacity-building programs. These funds can support various activities, including risk assessments, community training, and advocacy efforts.
- **Endowments:** Some foundations establish funds dedicated to DRR, ensuring sustained financial support for long-term resilience-building efforts.
- **Grant Programs:** International organizations and aid agencies provide grants to governments, NGOs, and communities for DRR projects

worldwide. These funds support initiatives such as disaster preparedness training, infrastructure development, and livelihood restoration.

- **Technical Assistance:** Besides financial support, international agencies offer technical expertise, knowledge-sharing, and capacity-building services to enhance DRR efforts at the local, national, and regional levels.

By leveraging these financing options, Sangli district can enhance its disaster management framework, ensuring effective response, recovery, and preparedness for future disasters. Integrating DRR into developmental plans and projects will help build resilient communities and reduce the overall impact of disasters on society and the economy.

## 12. MONITORING, EVALUATION, UPDATION, MAINTENANCE AND DISSEMINATION OF DDMP

The District Disaster Management Plan (DDMP) for Sangli is designed for public dissemination, aiming to inform both the general population and relevant institutions, departments, and agencies involved in disaster management. It serves as a comprehensive guide detailing policies, methodologies, and techniques to mitigate various disaster risks and effectively prepare for potential calamities, thereby minimizing the impact of disasters and safeguarding lives. The plan emphasizes the necessity for disaster management to be integrated across all departments, highlighting the collective responsibility shared by each entity in addressing disaster challenges.

### **Plan Evaluation**

The District Disaster Management Authority (DDMA) of Sangli conducts periodic reviews of the DDMP every six months, with updates occurring annually before the monsoon season, typically in May. Upon receiving approval from the relevant authorities, copies of the updated plan are distributed to the pertinent stakeholders within the DDMA. According to the Disaster Management Act of 2005, the DDMA is responsible for planning, coordinating, monitoring, and executing the DDMP.

- **Initial Drafts:** The initial drafts of the DDMP are discussed within the DDMA, with final adjustments made by the Chairman.
- **Annual Review:** As mandated by Section 31, Clause (4) of the Disaster Management Act, the DDMP undergoes an annual review and revision by the DDMA.
- **Incorporation of Plans:** This process involves incorporating both vertical and horizontal plans into the district-wide plan.

- **Dissemination:** The finalized and approved version of the updated DDMP is then disseminated to all stakeholders within the DDMA.
- **Implementation Evaluation:** The DDMA regularly evaluates the implementation of the plan and issues instructions to relevant stakeholders as deemed necessary for effective execution.

### **Contents of the DDMP**

The DDMP includes:

- **Vulnerable Areas:** Identification of areas in the district vulnerable to different forms of disasters.
- **Prevention and Mitigation Measures:** Measures to be taken for the prevention and mitigation of disasters by the Departments of the Government at the district level and local authorities.
- **Capacity-Building and Preparedness:** Measures for capacity-building and preparedness at the district level and local authorities to respond to any threatening disaster or disaster.
- **Response Plans and Procedures:** In the event of a disaster, the plan provides for:
  - Allocation of responsibilities to the Departments of the Government at the district level and local authorities.
  - Prompt response to disaster and relief efforts.
  - Procurement of essential resources.
  - Establishment of communication links.
  - Dissemination of information to the public.
- **Other Matters:** Any other matters as required by the State Authority.

### **Reporting and Review**



**Submission to State Authority:** The District Authority sends a copy of the District Plan to the State Authority, which forwards it to the State Government.

**Stakeholder Meetings:** To review different disaster management activities in the district and evaluate the DDMP, all concerned stakeholders/agencies participate in half-yearly meetings chaired by the Chairman of the DDMA - Sangli. In these meetings, all concerned departments/agencies provide their recommendations on specific issues of Disaster Management and are directed to submit their updated reports quarterly.

By following these guidelines, Sangli can enhance its disaster management framework, ensuring effective response, recovery, and preparedness for future disasters.

## 12.1. Plan Evaluation

Evaluating the District Disaster Management Plan (DDMP) is a continuous process that ensures its effectiveness and relevance in addressing disaster risks. This involves several key activities:

- **Periodic Reviews:** Conducting regular reviews, ideally on an annual basis, to assess the performance of the DDMP. These reviews should consider the plan's objectives, strategies, and outcomes to determine if they are being met effectively.
- **Performance Metrics:** Establishing clear and measurable performance metrics to evaluate the success of various components of the DDMP. These metrics could include response times, resource allocation efficiency, and the effectiveness of communication strategies.
- **Stakeholder Feedback:** Gathering input from a wide range of stakeholders, including government agencies, non-governmental organizations (NGOs), community members, and private sector partners.

This feedback is crucial for identifying gaps and areas for improvement in the plan.

- **Documentation and Reporting:** Maintaining detailed records of the evaluation process, including findings, recommendations, and actions taken. These reports should be shared with all relevant stakeholders to ensure transparency and accountability.

## 12.2. Post-Disaster Evaluation

Post-disaster evaluations are critical for learning from past events and improving future disaster management efforts. This process involves:

- **Data Collection:** Collecting comprehensive data on the disaster's impact, including the extent of damage, the number of affected individuals, and the effectiveness of the response and recovery efforts. This data should be gathered from multiple sources, including field reports, surveys, and satellite imagery.
- **Analysis:** Analyzing the collected data to identify strengths and weaknesses in the disaster response and recovery processes. This analysis should consider factors such as the timeliness of the response, the adequacy of resources, and the coordination among different agencies.
- **Lessons Learned:** Documenting the lessons learned from the disaster to inform future planning and decision-making. This includes identifying best practices and areas where improvements are needed.
- **Reporting:** Preparing a comprehensive post-disaster evaluation report that summarizes the findings and recommendations. This report should be shared with all relevant stakeholders to ensure that the lessons learned are incorporated into future disaster management plans.

### 12.3. Plan Update

Regularly updating the DDMP is essential to ensure that it remains current and effective in addressing emerging disaster risks. The plan update process includes:

- **Incorporating New Information:** Updating the DDMP with new data, technologies, and best practices. This includes integrating the latest scientific research, hazard maps, and risk assessments.
- **Stakeholder Involvement:** Engaging a wide range of stakeholders in the update process to ensure that their perspectives and needs are considered. This includes government agencies, community organizations, and private sector partners.
- **Approval Process:** Following a structured approval process to validate and formalize the updated plan. This process should include reviews by relevant authorities, public consultations, and final approval by the district disaster management authority.
- **Training and Capacity Building:** Providing training and capacity-building programs to ensure that all stakeholders are familiar with the updated plan and their roles and responsibilities.

### 12.4. Desktop Review

A desktop review involves a thorough examination of the DDMP documents to ensure accuracy and completeness. This process includes:

- **Document Verification:** Checking all documents for accuracy, consistency, and completeness. This includes verifying data sources, cross-referencing information, and ensuring that all sections of the plan are up to date.
- **Cross-Referencing:** Ensuring that all information in the DDMP is

cross-referenced with relevant sources and guidelines. This includes national and international disaster management frameworks, scientific research, and best practices.

- **Feedback Incorporation:** Integrating feedback from previous reviews and evaluations into the DDMP. This includes addressing any identified gaps or inconsistencies and updating the plan accordingly.

## 12.5. Consultation with Key Officials

Consulting with key officials is crucial for the effective implementation and updating of the DDMP. This process includes:

- **Regular Meetings:** Holding regular meetings with key officials from various departments and agencies involved in disaster management. These meetings should focus on reviewing the DDMP, discussing any issues or challenges, and identifying opportunities for improvement.
- **Collaborative Planning:** Working collaboratively with key officials to address any issues and incorporate their input into the DDMP. This includes ensuring that all relevant departments and agencies are involved in the planning process and that their roles and responsibilities are clearly defined.
- **Documentation:** Keeping detailed records of all consultations and decisions made. This includes meeting minutes, action items, and follow-up reports to ensure that all stakeholders are informed and engaged in the process.

## 12.6. Field/Observation Study

Field studies and observations provide valuable insights into the practical

aspects of disaster management. This process involves:

- **Site Visits:** Conducting site visits to assess the implementation of the DDMP on the ground. This includes visiting high-risk areas, critical infrastructure, and community facilities to evaluate their preparedness and resilience.
- **Interviews and Surveys:** Gathering information from local communities, responders, and other stakeholders through interviews and surveys. This helps to understand their experiences, challenges, and needs in the context of disaster management.
- **Real-Time Data:** Collecting real-time data to evaluate the effectiveness of the DDMP and identify areas for improvement. This includes monitoring weather conditions, hazard alerts, and response activities during disaster events.

## 12.7. Guidance for DDMP Review

Steps for Reviewing and Updating the District Disaster Management Plan (DDMP) for Sangli

- **Establish Review Committee:** Form a multidisciplinary review committee that includes representatives from relevant government departments, emergency responders, NGOs, community leaders, and other stakeholders involved in disaster management.
- **Conduct Desktop Review:** Perform a comprehensive desktop review of the existing DDMP. Assess its effectiveness, relevance, and alignment with current disaster risks, policies, and best practices. Identify any gaps, outdated information, or areas needing improvement.
- **Field/Observation Study:** Conduct field visits to evaluate the district's

ground realities, vulnerabilities, and capacities. Gather firsthand insights through site surveys, stakeholder interviews, and observations of infrastructure, natural features, and community dynamics.

- **Stakeholder Consultation:** Engage extensively with key stakeholders to collect feedback, insights, and recommendations for enhancing the DDMP. Solicit input from local authorities, emergency responders, community groups, and vulnerable populations to ensure inclusivity and relevance.
- **Review Plan Components:** Evaluate each component of the DDMP, including hazard assessments, risk analyses, mitigation strategies, response protocols, recovery plans, and coordination mechanisms. Assess the clarity, feasibility, and effectiveness of each aspect and identify areas for refinement.
- **Update Hazard Profiles:** Review and update hazard profiles to reflect the latest scientific data, historical trends, and emerging threats. Incorporate new hazards, such as pandemics or technological disasters, into the risk assessment framework.
- **Enhance Preparedness Measures:** Strengthen preparedness measures by identifying gaps in training, resources, and coordination mechanisms. Develop targeted capacity-building initiatives to address specific needs identified during the review process.
- **Improve Coordination Mechanisms:** Streamline coordination mechanisms between relevant government agencies, departments, and stakeholders involved in disaster management. Clarify roles, responsibilities, and communication protocols to ensure effective collaboration during emergencies.
- **Incorporate Lessons Learned:** Integrate lessons from past disasters,

exercises, and simulations into the DDMP. Analyze successes, challenges, and areas for improvement to enhance the plan's responsiveness and adaptability.

- **Finalize Updated DDMP:** Compile all feedback, recommendations, and revisions into a revised version of the DDMP. Ensure the updated plan is comprehensive, actionable, and aligned with national and international disaster management frameworks.
- **Approval and Adoption:** Present the updated DDMP to the District Disaster Management Authority (DDMA) for approval. Seek endorsement from relevant authorities and stakeholders before formally adopting the revised plan.
- **Dissemination and Training:** Distribute the updated DDMP to all relevant stakeholders and ensure widespread awareness of its contents. Conduct training sessions, workshops, and drills to familiarize stakeholders with their roles and responsibilities outlined in the plan.
- **Periodic Review and Revision:** Establish a schedule for regular review and revision of the DDMP to ensure its continued relevance and effectiveness. Monitor progress, evaluate implementation, and adapt strategies in response to evolving risks and priorities.

By following these steps, Sangli district can ensure that its DDMP remains a dynamic and effective tool for disaster management, enhancing the district's resilience and preparedness for future disasters.

## 12.8. DDMP Review, NDMA-2014 and NDMP 2019 Sharing the Report for Feedback and Finalization

As part of the review process, it is crucial to align the District Disaster

Management Plans (DDMPs) with the evolving priorities, guidelines, and frameworks established by the National Disaster Management Authority (NDMA). The NDMA's guidelines from 2014 and the National Disaster Management Plan (NDMP) of 2019 provide comprehensive frameworks and standards for disaster management at national, state, and district levels. These documents outline essential principles, strategies, and actions to mitigate risks, respond effectively, and facilitate recovery after disasters.

A thorough review of existing plans is necessary to ensure that DDMPs align with the latest NDMA guidelines and best practices. This review should assess the adequacy, relevance, and effectiveness of the DDMPs in addressing current and emerging risks, ensuring alignment with NDMA-2014 and NDMP 2019.

Upon completing the review, the findings, recommendations, and proposed revisions should be documented in a comprehensive report. This report should highlight areas of strength, areas for improvement, and specific actions required to enhance the DDMPs.

The report should then be shared with relevant stakeholders, including district authorities, government agencies, non-governmental organizations, community representatives, and other partners involved in disaster management. Their feedback and inputs should be sought to ensure the revised DDMPs reflect a collective understanding of local risks, vulnerabilities, and priorities.

Through collaborative feedback and consultation, the revised DDMPs can be finalized to incorporate the necessary updates, enhancements, and improvements recommended during the review process. This iterative approach ensures that DDMPs remain dynamic, responsive, and relevant to the district's evolving needs and disaster management challenges.

By aligning DDMPs with NDMA guidelines and engaging stakeholders in



the review and finalization process, districts can enhance their capacity to effectively prepare for, respond to, and recover from disasters, ultimately contributing to the overall resilience and well-being of their communities.

## 13. DISASTER RISK GOVERNANCE

### 13.1. Mainstreaming DRR in Developmental Planning

Disasters, depending on their scale, can significantly hinder the development of an affected region and beyond, potentially reversing decades of progress. Development that fails to recognize disaster probabilities and incorporate adequate risk reduction measures can exacerbate existing risks and introduce new ones, thereby worsening the impact of potential disasters.

Mainstreaming Disaster Risk Reduction (DRR) involves the thorough and effective integration of DRR into all developmental initiatives to enhance disaster resilience, reduce losses, and accelerate progress towards development goals. This approach ensures that both development and DRR are seamlessly incorporated into all aspects of development—policies, planning, and implementation.

Given that climate change acts as a risk multiplier, increasing uncertainties associated with almost every hydro-meteorological hazard, effective DRR mainstreaming must naturally integrate how climate change impacts alter risk scenarios. Unfortunately, DRR mainstreaming has often been misunderstood or vaguely interpreted by decision-makers and practitioners, a weakness that needs to be addressed.

In the future, DRR mainstreaming will undoubtedly play a more central role in both development and disaster management. It is, therefore, one of the main pillars of the District Disaster Management Plan (DDMP). Actions under the Sustainable Development Goals (SDGs) and responses to climate change are integral to development initiatives, with building disaster resilience being a common theme. DRR mainstreaming focuses on building disaster resilience not as a sub-component of a disaster-specific plan but

as an approach that must be tightly integrated into all developmental plans.

### 13.2. Inter-Agency Coordination

Inter-agency coordination at the district level is crucial for effective disaster governance, response, early warning dissemination, and the implementation of non-structural measures. In India, this coordination is facilitated through the District Disaster Management Authority (DDMA) and various institutional arrangements mandated by the National Disaster Management Act of 2005. The DDMA, established in every district, serves as the focal point for coordinating and implementing disaster management activities. Chaired by the District Magistrate or Collector, the DDMA includes officials and experts from relevant departments and sectors, ensuring a multi-disciplinary approach to disaster preparedness and response. Its primary functions include formulating and implementing the District Disaster Management Plan (DDMP), coordinating activities within the district, mobilizing resources, and conducting awareness programs.

The DDMA collaborates with governmental and non-governmental agencies to facilitate effective coordination, including other DDMA's, the State Disaster Response Force (SDRF), the National Disaster Response Force (NDRF), and other emergency response agencies. This collaboration ensures seamless coordination during disasters and maximizes resource utilization. The DDMA is empowered to issue necessary directions and guidelines to local authorities and agencies within its jurisdiction, ensuring the effective implementation of disaster management measures. It also plays a crucial role in disseminating early warnings and alerts issued by competent authorities for various hazards, including earthquakes, floods, cyclones, epidemics, industrial accidents, fires, and road accidents.

Institutional arrangements like the District Crisis Management Group (Task Force) further enhance coordination by overseeing critical response

operations through specialized task forces. These task forces, headed by relevant organizations, are responsible for specific functions such as coordination and planning, administration and protocol, warning dissemination, search and rescue, public health, shelter, logistics, damage assessment, telecommunications, and media liaison. Additionally, District Disaster Management Committees (DDMC) or Advisory Committees (DDMAC) are appointed to provide advice on various subject-specific fields within the overall context of disaster management. These committees comprise disaster management experts from government departments, research institutes, or NGOs, ensuring a comprehensive approach to disaster governance at the district level.

Moreover, coordination structures involve various levels of government and community organizations, including Urban Area Disaster Management Committees, Block Disaster Management Committees, and Gram Panchayat/Village Disaster Management Committees. These committees are responsible for developing and implementing disaster management plans at their respective levels, ensuring decentralized and localized approaches to disaster preparedness and response.

### 13.3. Roles and Responsibilities of the Line Departments in Preparedness, Response, and Recovery

#### 13.3.1. Phase 1: Preparedness

##### **District Administration/Collector's Office**

- Develops and updates the District Disaster Management Plan (DDMP).
- Coordinates with line departments to identify resources and capacities.
- Conducts mock drills and exercises to test preparedness levels.
- Establishes communication channels and early warning systems.

**District Disaster Management Authority (DDMA)**

- Formulates policies and guidelines for disaster management.
- Conduct risk assessments and hazard mapping.
- Facilitates training and capacity-building programs for stakeholders.
- Ensures the availability of emergency supplies and equipment.

**Health Department**

- Prepares medical response plans and stockpiles essential medicines.
- Trains healthcare workers in disaster response protocols.
- Identifies and equips health facilities to handle mass casualties.
- Establishes disease surveillance systems.

**Fire and Emergency Services**

- Conducts fire safety inspections and awareness campaigns.
- Trains personnel in search and rescue techniques.
- Procures and maintains firefighting equipment and vehicles.
- Establishes mutual aid agreements with neighbouring districts.

**Public Works Department (PWD)**

- Conduct vulnerability assessments of critical infrastructure.
- Develop contingency plans for infrastructure restoration.
- Procures emergency response equipment such as generators and pumps.
- Identifies safe locations for emergency shelters.

### **13.3.2. Phase 2: Response**

#### **District Administration/Collector's Office**

- Activates the District Emergency Operations Centre (EOC).
- Declares disaster alerts and issues evacuation orders if necessary.
- Coordinates search and rescue operations.
- Facilitates the deployment of resources and personnel.

#### **District Disaster Management Authority (DDMA)**

- Coordinates with line departments and external agencies.
- Monitors the situation and updates response plans accordingly.
- Provides regular briefings to stakeholders and the public.
- Ensures timely and effective communication with higher authorities.

#### **Health Department**

- Set up medical camps and emergency treatment centres.
- Mobilizes medical teams to affected areas.
- Conduct disease surveillance and outbreak response.
- Provides psychosocial support to affected individuals.

#### **Fire and Emergency Services**

- Conducts search and rescue operations in affected areas.
- Assists in evacuations and crowd control.
- Provides emergency medical services and first aid.
- Responds to hazardous material incidents.

#### **Public Works Department (PWD)**

- Clears debris and restores transportation routes.
- Assesses the structural integrity of buildings and infrastructure.
- Restores essential services such as water and electricity.
- Provides temporary shelter and housing solutions.

### **13.3.3. Phase 3: Recovery**

#### **District Administration/Collector's Office**

- Conduct damage assessments and surveys.
- Initiates the process of disbursing financial aid and compensation.
- Coordinates with NGOs and voluntary organisations for long-term recovery efforts.
- Implements measures to build back better and enhance resilience.

#### **District Disaster Management Authority (DDMA)**

- Develop recovery plans and strategies.
- Monitors progress and evaluates the effectiveness of recovery programs.
- Advocates for resources and support from higher levels of government and donors.
- Conducts lessons learned exercises to improve future response and recovery efforts.

#### **Health Department**

- Restores healthcare services to pre-disaster levels.

- Conduct health assessments and address lingering health issues.
- Implements public health interventions to prevent disease outbreaks.
- Provides ongoing support for mental health and psychosocial needs.

#### **Fire and Emergency Services**

- Repairs and maintains firefighting equipment and infrastructure.
- Conducts community outreach programs on fire safety.
- Participates in post-disaster reviews and debriefings.
- Updates emergency response plans based on lessons learned.

#### **Public Works Department (PWD)**

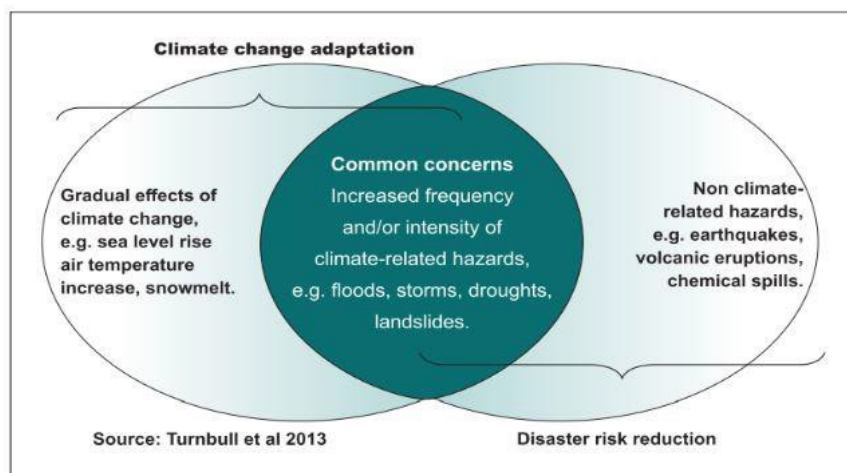
- Implements long-term infrastructure reconstruction projects.
- Upgrades infrastructure to mitigate future disaster risks.
- Engages in community rebuilding and resilience-building activities.
- Enhances emergency response capabilities through training and investment.

### **13.4. Establishing Coherence among DRR, Climate Change and Developmental Goals**

Establishing coherence among Disaster Risk Reduction (DRR), Climate Change, and Development involves recognizing the interconnectedness of these areas and aligning efforts across various sectors and ministries. The global agenda for 2030 emphasizes the potential for creating financing mechanisms, policies, and programs that address multiple targets



simultaneously. This approach not only enhances efficiency but also accelerates implementation. Achieving coherence and mutual reinforcement requires coordinated efforts across different sectors, extending beyond traditional inter-agency coordination. It calls for a new approach where actions taken under one framework support and strengthen goals across all three domains. To accomplish this, coherence must be integrated into mainstream planning mechanisms, ensuring that DRR, climate change adaptation, and development initiatives are harmonized and mutually



supportive.

Figure 19 Relation Between Climate Change and DRR

#### 13.4.1. Initiating Disaster Risk Reduction (DRR) Integration

From the perspective of Disaster Risk Reduction, several key areas can be identified to initiate the integration process:

- **Improving Risk Understanding:** It is essential to integrate the understanding of disaster risks, both natural and those induced by development, into all development initiatives. This includes comprehending risks from hazards as well as newly created risks.

- **Understanding Cascading Risks:** Recognizing the cascading nature of risks, where decisions in one sector can influence disaster risk in another, is crucial for effective risk management.
- **Assessing Capacities and Vulnerabilities:** Assessing vulnerabilities arising from cascading risks and the capabilities to resist, absorb, and accommodate these risks is essential.
- **Incorporating Disaster Risk into Initiatives:** Recognizing disaster risk as an intrinsic part of all projects, programs, and initiatives across government, private sector, and civil society is essential.
- **Aligning Risk Management Approaches:** Harmonizing risk management approaches across sectors facilitates coherent action.
- **Improving Integration within Government:** Enhancing horizontal and vertical integration for DRR within government structures through decision-making tools and information technology can improve coordination.
- **Setting Targets and Monitoring Mechanisms:** Establishing targets, timeframes, indicators, and monitoring mechanisms facilitates

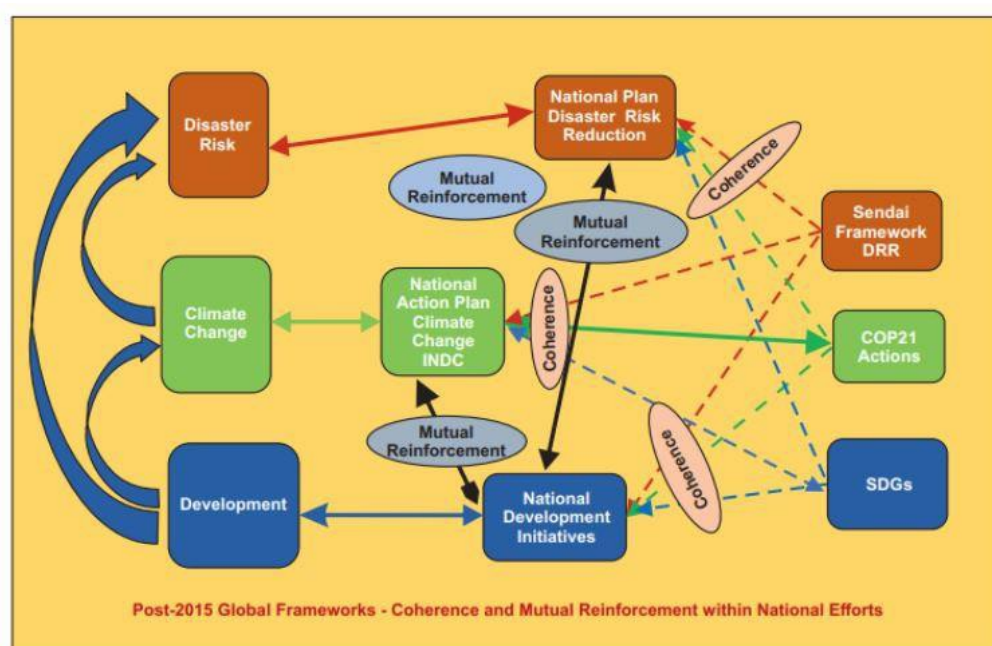


Figure 20 Coherence and Mutual Reinforcement Within National Efforts

consolidating efforts across sectors to enhance disaster resilience.

#### **13.4.2. Coherence and Mutual Reinforcement**

The presence of risk multipliers poses a threat to the success of all development frameworks, making risk management central to sustainable development. Given changes in human demographics, development trends, the impact of climate change, and increasing exposure to disaster risks, there has never been a greater need to enhance coherence and coordination among global initiatives to reduce risks and vulnerabilities and improve resilience.

Effective reduction of losses and risks from natural hazards and climate extremes requires integrated actions at different levels of governance. One of the most significant challenges is creating institutional convergence that integrates global goals from various agreements. DRR and Climate Change Adaptation are critical agendas in these recent global agreements, all aiming to make development sustainable. Strong commitment to ambitious goals and accelerated implementation of these international agreements must be a global priority.

Given the complementariness between the post-2015 agendas, leveraging the total impact of these instruments creates shared value. Efforts must be made to ensure that each framework does not build in "policy risks" or contradictory policies that generate more risk in development. The different targets and actions in the three frameworks constitute a more comprehensive resilience agenda than when implemented independently without mutual reinforcement. Building resilience requires action that spans multiple domains of development, humanitarian initiatives, climate change response, and disaster risk reduction.

## 14. Standard Operating Procedures & Checklists

### 14.1. SOP for Revenue Department

#### **Pre-Disaster Preparedness**

1. Establishing Disaster Management Committees at the district, taluka, and village levels to promptly initiate various actions during disasters and provide them with training.
2. Prepare a comprehensive disaster management plan and sensitise all departments, preparing a list of phone numbers and relevant contacts.
3. Activate control rooms at the district and taluka levels for 24 hours during monsoon emergencies, ensuring safe shelters are identified in advance.
4. Engage with voluntary organisations and other agencies for their participation in emergency management.
5. Coordinate the distribution and management of essential items and thoroughly inspect all arrangements.
6. Disseminate urgent messages through village committees upon receiving prior information and planning for the safe evacuation of people. Also, finalise alternative arrangements promptly.
7. Formulate response teams and coordinate alternate communication arrangements.
8. Coordinate with the administration and machinery of adjoining districts for waterlogging and rainfall-related issues.
9. Maintain updated records of standing orders.
10. Plan alternative arrangements based on the severity of contact breakdown in villages.

**During an emergency**

1. Prepare immediate damage assessment reports and plan for prompt action. Formulate response teams and appoint coordination and control officers.
2. Tackle natural disasters through various committees at the village and taluka levels.
3. Assist with government decisions, maintaining a record on the GR table.
4. Provide food, grains, clothing, and shelter assistance to the affected population. Prepare shelters and provide immediate relief and support, including food and water.
5. Collect information on incidents and report to senior offices promptly.
6. Provide essential items for first aid to voluntary organisations for distribution and assistance.
7. Arrange vehicles for transporting patients to hospitals.
8. Coordinate with various government offices.
9. Ensure the availability of diesel and petrol for all vehicles and machinery.
10. Seek assistance from neighbouring districts in the event of a major disaster.
11. Keep control rooms operational during disasters and maintain coordination.
12. Ensure proficiency in handling relief work without any lapses.
13. Arrange for meetings with key individuals as needed.

14. Maintain smooth operation of the emergency response committee through regular meetings.

#### **Post-emergency/disaster**

1. Provide orders/guidance from the government regarding the government's stance and disaster relief work to all departments.
2. Initiate disaster relief work by coordinating with the relevant departments.
3. Implement government aid funds and material distribution in the affected district.
4. Engage experts to assess the extent of damage caused by the disaster and formulate a comprehensive plan for addressing the situation.
5. Maintain a 24-hour information centre to disseminate information through media and communicate with the public.
6. Arrange for the safety of critical individuals.
7. Collect information and report to the government.
8. Implement special programs to mitigate post-disaster stress and tension in the affected areas.

### **14.2. SOP for Police Department**

#### **Pre-Disaster Preparedness**

1. Plan to evacuate people stranded due to heavy rainfall swiftly.
2. Activate control rooms to operate 24/7.
3. Pre-plan alternate routes for traffic in case of road closures due to flooding.

4. Arrange for relief funds and other necessities for those affected by the disaster. Deploy message transmission devices to areas prone to being cut off.

#### **During an emergency**

1. Ensure smooth traffic management systems.
2. Enforce laws and maintain order during the relief efforts.
3. Utilize various media channels to dispel rumours.
4. Clear roads and pathways in disaster-affected areas.
5. Provide immediate assistance and shelter to affected individuals.
6. Conduct medical assessments and provide first aid to injured individuals.
7. Maintain communication via wireless devices when landlines are down.
8. Engage in relief operations alongside NCC/NSS/Home Guard units.
9. Implement emergency communication setups in areas with broken communication links.
10. Ensure law and order are maintained.

#### **Post-emergency/disaster**

1. Enforce laws and maintain order to prevent looting and theft in affected areas.
2. Conduct search and rescue operations and control the crowd.
3. Organize safe shelter and relief distribution centres.
4. Ensure legal procedures and arrangements are made promptly for deceased individuals.

#### **Home Guard**

1. Control crowds and traffic in disaster-affected areas.
2. Assist in search and rescue operations.
3. Aid in the normalisation of civilian life.

### **14.3. SOP for Irrigation & Water Resource Department**

#### **Pre-Disaster Preparedness**

1. Implementation of Control Rooms operational 24 hours.
2. Appointment of Nodal Officers at each taluka and establishment of control rooms at the headquarters.
3. Deployment of communication devices capable of transmitting messages on all possible platforms.
4. Vigilance and coordination with relevant departments by ensuring proper management and coordination before and during the release and closure of water from dams. Stay in touch with Rainfall Measurement Centres and Survey Stations.
5. Arrangements for informing the people in the affected areas about the threat of floods and the release of water from dams, using vehicles



such as sirens, cables, and radios. Provision of pumps, generators, boats, excavators, etc., where necessary for water evacuation.

#### **During an emergency**

1. Monitor all dams by establishing communication networks and closely monitoring the rising water levels due to heavy rainfall.
2. Alert the people in the areas of the dams before the release of water.
3. Search and rescue operations for those stranded in flooded areas and provision of pumps, generators, boats, excavators, etc., for water evacuation where necessary.
4. Provide necessary information to the Revenue Department in case public panic leads to property damage.

#### **Post-emergency/disaster**

1. Surveying the condition of water resources and promptly rectifying any damages.
2. Providing the administration with all possible assistance in relief work.
3. Providing immediate water supply to relief camps and affected areas.
4. Ensuring that water resources are not contaminated.

### **14.4. SOP for Nagarpalika**

#### **Pre-Disaster Preparedness**

1. Establish 24-hour control rooms and appoint control officers.
2. Keeping firefighting equipment such as hoses, fire extinguishers, fire buckets, sandbags, and other supplies ready.
3. Plan to immediately clean all drains/sewers to ensure swift water drainage and implement preventive measures such as spraying

disinfectants to control diseases.

4. Inspect buildings susceptible to collapse during disasters and arrange immediate relocation if necessary.
5. Establishing emergency committees for disaster management and ensuring individual awareness. Prepare safe evacuation routes during emergencies.
6. Implementing an effective waste management system and raising public awareness.

#### **During an emergency**

1. Issuing alerts to the public using sirens during emergencies.
2. Mobilizing firefighting teams, equipment, and other resources.
3. Take immediate action to ensure quick drainage of excess water, conduct cleanliness drives, and administer medication.
4. Organizing relocation efforts if necessary.

#### **Post-emergency/disaster**

1. Maintaining 24-hour operation of control rooms for information dissemination and communication with the public.
2. Conducting awareness campaigns for public health and ensuring the provision of clean water.
3. Implementing sanitation campaigns to prevent the outbreak of diseases among the population.

### **14.5. SOP for Health Department**

#### **Pre-Disaster Preparedness**

1. Establishing 24-hour control rooms.

2. Keeping all officers stationed at headquarters and ensuring the availability of essential medicines and medical kits and planning to ensure continuous availability of gloves, masks, first aid supplies, anti-snake venom, and chlorine tablets, even in emergencies.
3. Establishing health camps, organising department-wise planning, and educating the public on cleanliness and health.

#### **During an emergency**

1. Ensuring all hospitals, primary health centres, and dispensaries have stocked medicines and updated medical records. Making available medical officers and updated medical kits at disaster sites.
2. Distributing preventive medicines and anti-allergic doses to prevent the spreading of contagious diseases and providing necessary information to municipalities and village panchayats to prevent the spread of infectious diseases.
3. Providing immediate medical treatment to the injured and conducting post-mortems for deceased individuals.

#### **Post-emergency/disaster**

1. Communicating with municipalities and relevant village panchayats to provide necessary information to prevent disease spread and ensure the availability of preventive medicines and medical supplies.
2. Providing immediate preventive medicines and anti-allergic doses to people engaged in relief work to prevent the spread of diseases.
3. Deploying health workers to provide health services to affected areas and controlling the situation.

### **14.6. SOP for Zila Parishad Health Department**

#### **During an emergency**

1. Providing information to the public to prevent the spread of infectious diseases by controlling food and water and emphasising hygiene and cleanliness. Assistance should be sought from voluntary organisations and concerned individuals.
2. Contact the Tehsildars for additional assistance, such as staff and medicines.
3. Providing medical treatment to the injured and those in distress.
4. Provision of first aid and medicines in affected areas.
5. Establishing information centres in hospitals.
6. Maintaining communication with the District Magistrate's control room.

#### 14.7. SOP for Public Works Department

##### **Pre-Disaster Preparedness**

1. Conduct regular risk assessments to identify vulnerable infrastructure.
2. Develop and maintain an updated disaster management plan for the PWD, including protocols for assessing damage, prioritising response actions, and coordinating with other relevant agencies.
3. Implement routine maintenance schedules for critical infrastructure assets to ensure structural integrity and resilience against disasters.
4. Identify high-risk structures and prioritise retrofitting or reinforcement measures to enhance their ability to withstand seismic activity, flooding, and other hazards.
5. Conduct community outreach programs and awareness campaigns to educate the public about disaster risks, evacuation routes, and emergency protocols related to public infrastructure.

##### **During Emergencies**

1. Deploy rapid assessment teams to conduct on-site inspections of damaged infrastructure, assess the extent of structural damage, and identify immediate safety hazards.
2. Collect and compile data on infrastructure damage, road blockages, and other critical issues to inform decision-making and resource allocation for emergency repairs and recovery operations.
3. Prioritize the clearance of debris, fallen trees, and other obstructions to restore access to roads, highways, and public facilities for emergency responders and the public.
4. Undertake temporary repair works, such as patching potholes, repairing damaged culverts, and stabilising slopes to ensure the safety and usability of key transportation routes and public assets.

#### **Post-Emergency/Disaster Recovery**

1. Conduct detailed structural assessments and engineering surveys to evaluate the long-term impacts of disasters on public infrastructure and determine the scope of rehabilitation and reconstruction efforts.
2. Document and analyse lessons learned from the disaster response and recovery process to identify areas for improvement in infrastructure design, construction standards, and emergency management practices.
3. Develop detailed reconstruction plans and specifications for repairing or replacing damaged infrastructure in accordance with engineering standards and safety regulations.
4. Coordinate with contractors, suppliers, and other stakeholders to expedite the procurement of materials and equipment needed for infrastructure restoration projects and ensure compliance with quality control measures.

5. Integrate disaster risk reduction principles and climate resilience considerations into designing and constructing new infrastructure projects to minimise vulnerability to future disasters.
6. Enhance the capacity of PWD staff through training programs, workshops, and knowledge-sharing initiatives on disaster risk management, emergency response procedures, and resilient infrastructure development strategies.

#### 14.8. SOP for Telecommunication Department

##### **During Emergencies**

1. Restoration of telecommunication services.
2. Preparation of various teams for the restoration of telecommunication services.
3. Contact the District Control Room through the Tehsildars for additional assistance.
4. Providing updated information to the District Control Room every two hours during emergencies.

#### 14.9. SOP for Railway Department

1. Control of crowds at railway stations through railway police.
2. Providing updated information on railway schedules and accidents to the public.
3. Sending injured individuals to hospitals.
4. Providing updated information to the District Control Room every two hours during emergencies.

## 14.10. SOP for Agriculture Department

### **Pre-Disaster Preparedness**

1. Conduct regular risk assessments to identify potential hazards.
2. Provide training to agricultural extension officers, farmers, and other stakeholders on disaster-resistant farming practices, early warning systems, and emergency response procedures.
3. ps and awareness programs to educate farmers on crop diversification, soil conservation techniques, and water management strategies to enhance resilience against disasters.
4. Maintain an inventory of agricultural inputs, including seeds, fertilisers, pesticides, and farming equipment, to ensure adequate supplies are available for emergency response.
5. Establish strategic stockpiles of essential agricultural commodities in accessible locations to support immediate post-disaster recovery efforts.
6. Coordinate with relevant government agencies, NGOs, and private sector partners to promptly procure and distribute relief supplies to affected farmers.

### **During Emergencies**

1. Monitor weather forecasts, crop conditions, and pest infestation patterns to provide early warnings to farmers about potential risks and advisories for preventive actions.
2. Activate communication channels, such as mobile alerts, radio broadcasts, and community meetings, to disseminate timely information and guidance to farmers during emergencies.
3. Deploy rapid assessment teams to survey agricultural areas affected by disasters and assess the extent of crop damage, livestock losses, and

infrastructure destruction.

4. Compile and analyse data collected from field assessments to prioritise response efforts, allocate resources, and develop recovery plans tailored to the needs of affected farmers.
5. Establish emergency assistance centres or mobile outreach teams to provide immediate support and relief services to affected farmers, such as emergency shelter, food, water, and veterinary care for livestock.

#### **Post-Emergency/Disaster Recovery**

1. Implement rehabilitation and recovery programs to restore agricultural infrastructure, rehabilitate degraded lands, and promote sustainable farming practices in disaster-affected areas.
2. Provide technical assistance and training to farmers on soil conservation, water management, organic farming, and climate-resilient agriculture techniques to build long-term resilience against future disasters.
3. Support farmers in marketing their produce, accessing markets, and diversifying income sources to mitigate the economic impacts of disasters and improve livelihood resilience.
4. Facilitate the revival of local agricultural value chains, agribusinesses, and rural enterprises through targeted interventions, market linkages, and capacity-building initiatives.

#### **14.11. SOP for District Information Office**

1. Dissemination of information about various accounts in the district through media.
2. Coordination with various media for dissemination.



## 14.12. SOP for State Transport Department

### **Pre-Disaster Preparedness**

1. Conduct regular risk assessments to identify potential hazards and vulnerabilities in the transport infrastructure, including roads, bridges, and public transport systems.
2. Develop and maintain an up-to-date emergency response plan that outlines roles, responsibilities, and procedures for different scenarios, such as natural disasters, accidents, and security threats.
3. Train transport department personnel regularly on emergency response procedures, including evacuation protocols, first aid, and communication protocols. Conduct drills and simulations to ensure readiness.
4. Implement a robust maintenance program to ensure the structural integrity of roads, bridges, and other transport infrastructure. Regular inspections should be carried out to identify and address potential hazards.
5. Establish partnerships and communication channels with other emergency response agencies, such as police, fire departments, and disaster management authorities, to facilitate coordinated responses during emergencies.
6. Educate the public about emergency preparedness measures, such as safe driving practices, evacuation routes, and emergency contact information. Utilise various communication channels, including social media, to disseminate information.
7. Maintain stockpiles of essential emergency supplies, such as road flares, first aid kits, emergency lights, and communication equipment, at strategic locations for rapid deployment during emergencies.

### **During Emergencies**

1. Immediately activate emergency response teams to assess the situation and coordinate response efforts. Designate specific personnel to manage communication with other agencies and stakeholders.
2. Implement traffic control measures to manage congestion and facilitate the movement of emergency vehicles. Deploy traffic marshals at critical intersections and diversion points to ensure smooth traffic flow.
3. Aid evacuees, including providing transportation services for vulnerable populations such as the elderly, disabled, and those without access to private vehicles. Coordinate with other agencies to establish evacuation shelters and distribution centres.
4. Mobilize teams to clear debris, repair damaged roads, and restore transport infrastructure quickly. Prioritise routes leading to critical facilities such as hospitals, emergency shelters, and relief distribution centres.
5. Regularly communicate with other emergency response agencies and stakeholders to share information, coordinate response efforts, and address emerging challenges. Utilise designated communication channels for efficient coordination.

### **Post-Emergency/Disaster**

1. Conduct rapid assessments to evaluate the extent of damage to transport infrastructure and facilities. Compile detailed damage reports and submit them to relevant authorities for further action.
2. Initiate recovery and restoration efforts to repair damaged infrastructure,

including roads, bridges, and public transport systems—Mobilise resources and personnel to expedite the restoration process.

3. Aid and support to affected communities, including facilitating transportation for relief workers, distributing emergency supplies, and offering counselling services to those in need.
4. Conduct a comprehensive review of the emergency response to identify strengths, weaknesses, and areas for improvement. Use the findings to update emergency response plans, procedures, and training programs.
5. Invest in measures to enhance the resilience of transport infrastructure against future emergencies and disasters. This may include infrastructure upgrades, adopting new technologies, and implementing risk reduction measures.

#### 14.13. SOP for Maharashtra State Electricity Board

##### **Pre-Disaster Preparedness**

1. Establishment of control rooms.
2. Identification of vulnerable power supply infrastructure for ensuring electrical safety.
3. Ensuring availability of maintenance equipment such as transformers, poles, and wires at appropriate locations.
4. Elevating transformers in flood-prone areas if feasible.

##### **During Emergencies**

1. Prompt restoration of damaged power supply lines.
2. Continuous operation of control rooms.

3. Swift replacement of submerged transformers.
4. Providing information about restoration work and estimated time of completion.
5. Establishment of information desks to address citizens' complaints.
6. Implementing measures to prevent accidents due to electrical hazards, ensuring proper flow of electricity on power lines, and promptly removing fallen trees and poles.

#### **Post-emergency/disaster**

1. Immediately conduct assessments of the electricity distribution infrastructure to identify damage to substations, transformers, poles, and power lines. Report findings promptly to the relevant authorities.
2. Develop a restoration plan prioritising critical infrastructure such as hospitals, emergency services, and communication facilities. Ensure that restoration efforts are coordinated and efficient.
3. Efficiently allocate resources, including personnel, equipment, and materials, to expedite restoration. Coordinate with other agencies and stakeholders to maximise resource utilisation.
4. Implement stringent safety protocols to prevent accidents during the restoration process. Provide training and guidance to field personnel on safe working practices.
5. Keep the public informed about the progress of restoration efforts, estimated timelines for power restoration, and safety instructions. Use multiple communication channels to reach a broad audience.
6. Engage with affected communities to address their concerns, provide assistance where needed, and facilitate community resilience efforts.

Establish communication channels to receive feedback and address grievances.

7. Monitor the restoration process closely and adapt plans as necessary based on evolving conditions and challenges. Maintain open communication channels with field teams to address any issues promptly.
8. Conduct a thorough review of the response to identify strengths, weaknesses, and areas for improvement. Use the findings to enhance future disaster preparedness and response efforts.

## 15. Annexure

### ➤ Administrative Division of District

Headquarter	Sangli City
District Control Room	Collector Office- 1077
Total Area	8,572 sq kms
District Geographical Coordination	Between 16° 51' 36" and 17° 22' 36" North latitudes 74° 34' 12" to 75° 15' 12" East longitudes
District Boundaries	North: Satara district, Solapur district East: Karnataka state Southeast: Kolhapur district South: Ratnagiri district Southwest: Kolhapur district West: Ratnagiri district

Taluka Name	Area (Sq. Km)	Head-quarter	No. of Villages	Gram Panchayat	Name of Municipal
Miraj	1,200	Miraj	115	85	Miraj Municipal Council
Tasgaon	1,150	Tasgaon	110	80	Tasgaon Municipal Council
Palus	1,100	Palus	105	75	Palus Municipal Council
Kavathe Mahankal	1,050	Kavathe Mahankal	100	70	Kavathe Mahankal Municipal Council
Jat	1,512	Jat	145	110	Jat Municipal Council
Khanapur (Vita)	1,290	Vita	120	90	Vita Municipal Council

<b>Taluka Name</b>	<b>Area (Sq. Km)</b>	<b>Head-quarter</b>	<b>No. of Villages</b>	<b>Gram Panchayat</b>	<b>Name of Municipal</b>
Atpadi	1,234	Atpadi	130	95	Atpadi Municipal Council
Walwa	1,080	Walwa	105	80	Walwa Municipal Council
Shirala	1,200	Shirala	115	85	Shirala Municipal Council
Kadegaon	1,125	Kadegaon	110	82	Kadegaon Municipal Council

➤ **Demographics:**

<b>Particulars</b>	<b>Total</b>	<b>Male</b>	<b>Female</b>
Total Population	3,100,000	1,642,000	1,458,000
Sex Ratio	966 females per 1000 males	-	-
Sex Ratio of 0-6 age	867 females per 1000 males	-	-
Population Density	329 per sq. km	-	-
Urban Population	1,235,000	640,000	595,000
Rural Population	1,865,000	1,002,000	863,000
SC/ST Population	1,020,000	530,000	490,000
Total Disabled Population	120,000	67,200	52,800

➤ **No of Hospitals, PHC & CHC**

**Major Hospitals/Medical Colleges**

<b>Name</b>	<b>Block Name</b>	<b>Location</b>	<b>Bed Strengt h</b>	<b>No of Doctor s</b>	<b>No of Ambulanc e</b>	<b>Contac t Details</b>
Bharati Vidyapeeth Deemed University Medical College & Hospital	Miraj	Sangli-Miraj Road, Miraj	750	250	20	0233-2212777
Civil Hospital Sangli	Miraj	Sangli-Miraj Road, Sangli	500	200	15	0233-2372222
Walwa Sub District Hospital	Walwa	Walwa	200	80	5	02342-224475
Tasgaon Sub District Hospital	Tasgaon	Tasgaon	150	60	4	02346-242328
Palus Sub District Hospital	Palus	Palus	150	60	4	02346-226220
Kadegaon Sub District Hospital	Kadegaon	Kadegaon	150	60	4	02347-242526
Jat Sub District Hospital	Jat	Jat	150	60	4	02344-248269
Kavthe Mahankal Sub District Hospital	Kavthe Mahankal	Kavthe Mahankal	150	60	4	02341-223045
Shirala Sub District Hospital	Shirala	Shirala	150	60	4	02345-237708
Khanapur Sub District Hospital	Khanapur	Khanapur	150	60	4	02347-271056

#### **Primary Health Centers**

<b>Name</b>	<b>Block</b>	<b>Bed</b>	<b>No of</b>	<b>No of</b>	<b>Contact Details</b>
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		<b>Strength</b>	<b>Doctors</b>	<b>Ambulances</b>	
PHC Miraj	Miraj	06	2	1	0233-2227490
PHC Tasgaon	Tasgaon	06	2	1	02346-242328
PHC Palus	Palus	06	2	1	02346-226220
PHC Kavathe Mahankal	Kavathe Mahankal	06	2	1	02341-223045
PHC Jat	Jat	06	2	1	02344-248269
PHC Khanapur	Khanapur	06	2	1	02347-271056
PHC Walwa	Walwa	06	2	1	02342-224475
PHC Shirala	Shirala	06	2	1	02345-237708
PHC Kadegaon	Kadegaon	06	2	1	02347-242526
PHC Atpadi	Atpadi	06	2	1	02343-221717

### Community Health Centre

<b>Name</b>	<b>Location</b>	<b>Bed Strength</b>	<b>No of Doctors</b>	<b>No of Ambulances</b>	<b>Contact Details</b>
CHC Miraj	Miraj	30	10	2	0233-2227490
CHC Tasgaon	Tasgaon	30	10	2	02346-242328
CHC Palus	Palus	30	10	2	02346-226220
CHC Kavathe Mahankal	Kavathe Mahankal	30	10	2	02341-223045
CHC Jat	Jat	30	10	2	02344-248269
CHC Khanapur	Khanapur	30	10	2	02347-271056
CHC Walwa	Walwa	30	10	2	02342-224475
CHC Shirala	Shirala	30	10	2	02345-237708
CHC Kadegaon	Kadegaon	30	10	2	02347-242526

Name	Location	Bed Strength	No of Doctors	No of Ambulances	Contact Details
Kadegaon					
CHC Atpadi	Atpadi	30	10	2	02343-221717

➤ **No. of Industry**

No	Factories Name and address	Factories Number	No. of Polluted Factories
1	M.I.D.C. Industrial colony, Miraj	450	15
2	Industrial colony, Kupwad	60	2
3	Industrial colony, Palus	35	3
4	Industrial colony, Tasgaon	10	0
5	Industrial colony, Vita	12	1
6	Industrial colony, Jat	18	0
7	Industrial colony, Kavathe Mahankal	20	1
8	Industrial colony, Khanapur	22	2
9	Industrial colony, Shirala	25	1
10	Industrial colony, Atpadi	5	0
11	Others Industrial colonies	8	4

➤ **NGOs/CBOs Information**

No.	Organization Name	Location	Mobile No.
1	Rotary Club	Behind Royal Palace, Sangli	9823040243
2	Rotaract Club of West	Pratap Nagar, Sangli	9422281113
3	Lions Club	Pukhraj Tourist Comp, Sangli	9823077251
4	Lions Club Central	Pravin Pagariya, Dalbazar, Sangli	9423187202
5	J.C.I. Club	Surendra Lodha	9422292765
6	J.C.I. Ajanta	Pramod Barhate, Ambedkar Market, Sangli	9422714057
7	J.C.I. Banana	Narendra Nandedkar, 128 Zilla Peth,	9822410069

		Sangli	
8	Rotary Club of East	Abhay Kankharia, Sangli	9422277122
9	Rotary Club of West	Mahendra Raison, Sangli	9823157786
10	Junior Chamber of East	Manish Vani, Balirampeth, Sangli	9822410069
11	Laughter Club	Vijay Lodha, Bahinabai Garden, Sangli	2226913
12	Subhash Chowk Friends Circle	Shrikant Khatol, Subhash Chowk, Sangli	9823082990
13	Sarathi Multipurpose Organization	Sujit Jadhav, Balaji Peth, Sangli	9425123640
14	J.C.I. Elite	Dr. Pratibha Siria	-
15	J.C.I. Ladies	Kiran Suvarnkar	9422276725
16	Red Swastik Society	Ashok Shinde	942284233
17	Red Cross Blood Bank	Dr. Sanchiti	9423147882
18	N.S.S.	Prof. M.P. Patil, Nutan Maratha College, Sangli	-
19	M.C.C.	Prof. K.N. Patil, Nutan Maratha College, Sangli	-
20	Navi Peth Friends Circle	Pramod Agrawal	-
21	Sant Sakham Maharaj Security Guard	Sangli	-

➤ **Hazard Wise Exposure village, population**

Sr No	Hazard Type	Taluka	No of Villages	List of Villages	Population
1	Flood	Walwa	5	Walwa, Ashta, Palus, Tasgaon, Kavathe Mahankal	150,000

2	Flood	Miraj	4	Miraj, Arag, Kavathe Ekand, Bedag	120,000
3	Drought	Jat	6	Jat, Daphalapur, Kavathe Mahankal, Atpadi, Kadegaon, Khanapur	80,000
4	Drought	Kavathe Mahankal	3	Kavathe Mahankal, Kasegaon, Kavathe Ekand	50,000
5	Earthquake	Tasgaon	10	Tasgaon, Manerajuri, Kavathe Mahankal, Palus, Ashta, Vita, Khanapur, Kadegaon, Atpadi, Jat	300,000
6	Earthquake	Miraj	4	Miraj, Arag, Kavathe Ekand, Bedag	100,000

#### ➤ Seasonality of Disaster

Disaster	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec
Earthquake												
Floods												
Cyclones												
Heatwave												
Cold wave												
Epidemics												
Industrial Accidents												
Fires												
Road												

Accidents												
Lightning												
Drought												
Human Animal Conflict												

➤ **Nodal Agency for early warnings**

Sr. No.	Competent Agencies	Contact Details	Disaster Type	Nodal Agency for Early Warnings
1	Sangli Miraj and Kupwad Municipal Corporation	0233-2373721	Urban Flooding	Indian Meteorological Department (IMD)
2	District Disaster Management Authority (DDMA)	0233-2600500	Earthquakes, Floods	National Disaster Management Authority (NDMA)
3	Sangli Fire Department	101	Fire	Sangli Miraj and Kupwad Municipal Corporation
4	Public Health Department	0233-2373008	Health Emergencies	Health Department, Maharashtra
5	Public Works Department (PWD)	0233-2373008	Infrastructure Damage	Public Works Department
6	Police Department	100	Law and Order	Police Department, Maharashtra
7	Irrigation Department	0233-2373008	Flood Control	Irrigation Department, Maharashtra

➤ **Emergency Contact No**

Sr. No.	Name	Contact Details
1	Sangli District Collectorate	0233-2372222

Sr. No.	Name	Contact Details
2	Police Control Room	100 / 112 / 0233-2600500
3	District Civil Hospital	0233-2372222
4	Fire Brigade	101
5	Child Helpline	1098
6	Emergency (Revenue Services)	1077
7	National Emergency Medical Services (Ambulance)	108
8	District Health Authority	0233-2373008
9	District Animal Husbandry Authority	0233-2373008
10	State Electricity Distribution Company	1800-200-3435

➤ **Post Disaster Damage and Need Assessment**

Sr. No.	Sector	Damage Types	Source of Fund
1	Agriculture	Crop loss due to floods	State Disaster Response Fund (SDRF)
2	Infrastructure	Road and bridge damage	National Disaster Response Fund (NDRF)
3	Housing	Damage to residential buildings	Pradhan Mantri Awas Yojana (PMAY)
4	Health	Damage to health facilities	State Health Department
5	Education	Damage to schools and educational institutions	Sarva Shiksha Abhiyan (SSA)
6	Water Supply	Damage to water	Jal Jeevan Mission

	and Sanitation	supply systems	
7	Power	Damage to electrical infrastructure	State Electricity Board
8	Livelihood	Loss of income due to disaster	Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)
9	Environment	Soil erosion and deforestation	Ministry of Environment, Forest and Climate Change
10	Transport	Damage to public transport systems	Ministry of Road Transport and Highways

➤ **List of Rivers and Its Levels**

Sr. No.	Name of River	Station	Normal Level (Meter)	Warning Level (Meter)	Danger Level (Meter)
1.	Krishna	Krishna Bridge Karad	561.890	563.400	567.070
		Irwin Bridge Sangli	540.390	541.910	543.440
		Ankali Bridge Haripur	538.710	539.600	541.770
		Rajapur Weir	532.720	535.160	536.680
2.	Koyna	Koyna bridge Karad	562.200	564.100	567.170

➤ **List of Dams & Its Capacity**

Sr.No	Taluka	Name of Dam	Capacity of Dam	Maximum Water Level
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			(MCUM)	(Meter)
1.	Kavathemahaka I	Basappawadi	7.780	633.50
2.		Bandgarwadi	2.060	101.50
3.		Borgaon	1.634	91.50
4.		Dudhebhavi	3.984	117.00
5.		Ghorpadi	1.500	54.50
6.		Haroli	1.150	51.90
7.		Kuchi	2.239	681.55
8.		Landagewadi	1.050	207.00
9.		Langarpeth	2.220	101.50
10.		Nangole	1.299	84.50
11.		Raywadi	2.169	125.60
12.	Jath	Doddanala	7.780	511.00
13.		Sankh	19.930	523.30
14.		Ankalagi	4.646	510.65
15.		Belunki	1.985	96.00
16.		Bhivargi	9.220	511.70
17.		Bilur(Kesral)	1.670	101.50
18.		Birnal M.I. Tank	2.426	98.50
19.		Daflapur	1.390	103.50
20.		Daribadachi	1.879	99.40
21.		Gugwad	1.775	99.00
22.		Jalihal	2.230	59.40
23.		Khojanwadi	2.146	91.37
24.		Kosari	1.450	121.81
25.		Mirawad	1.580	53.30
26.		Pandozari	3.855	97.80
27.		Pratapur	1.670	110.50
28.		Revnal	2.380	629.00
29.		Sanmadi	1.982	101.20
30.		Shegaon No.1	8.080	581.30
31.		Shegaon No.2	1.160	95.75



32.		Sidhanath	6.430	490.00
33.		Soradi	4.410	98.00
34.		Tikondi No. 1	3.240	48.50
35.		Tippehalli	1.582	107.33
36.		Umrani	1.138	108.20
37.		Walekhindi	4.130	89.50
38.		Yelavi	2.582	87.00
39.	Miraj	Bhose (Miraj)	1.010	659.69
40.		Morana Shirala	21.180	595.70
41.		Antri	2.820	107.80
42.	Shirala	Shivani	1.690	58.70
43.		Takave	2.970	658.80
44.		Wakurde	1.676	98.40
45.		Karve	1.050	637.00
46.	Walwa	Rethare Dharan	0.415	633.48

➤ **Disaster Management Act-2005- DISTRICT DISASTER  
MANAGEMENT AUTHORITY**

*CHAPTER IV*

*DISTRICT DISASTER MANAGEMENT AUTHORITY*

*25. Constitution of District Disaster Management Authority. –(1) Every State Government shall, as soon as may be after issue of notification under sub-section (1) of section 14, by notification in the Official Gazette, establish a District Disaster Management Authority for every district in the State with such name as may be specified in that notification.*

*(2) The District Authority shall consist of the Chairperson and such number of other members, not exceeding seven, as may be prescribed by the State Government, and unless the rules otherwise provide, it shall consist of the following, namely:– (a) the Collector or District Magistrate or Deputy Commissioner, as the case may be, of the district who shall be Chairperson, ex officio; (b) the elected representative of the local authority who shall be the co-Chairperson, ex officio: Provided that in the Tribal Areas, as referred to in the Sixth Schedule to the Constitution, the Chief Executive Member of the district council of autonomous district, shall be the co-Chairperson, ex officio; (c) the Chief Executive Officer of the District Authority, ex officio; (d) the Superintendent of Police, ex officio; (e) the Chief Medical Officer of the district, ex officio; (f) not exceeding two other district level officers, to be appointed by the State Government.*

*(3) In any district where zila parishad exists, the Chairperson thereof shall be the co-Chairperson of the District Authority.*

*(4) The State Government shall appoint an officer not below the rank of Additional Collector or Additional District Magistrate or Additional Deputy Commissioner, as the case may be, of the district to be the Chief Executive Officer of the District Authority to exercise such powers and perform such functions as may be prescribed by the State Government and such other powers and functions as may be delegated to him by the District Authority.*

**26. Powers of Chairperson of District Authority.** *–(1) The Chairperson of the District Authority shall, in addition to presiding over the meetings of the District Authority, exercise and discharge such powers and functions of the District Authority as the District Authority may delegate to him.*

*(2) The Chairperson of the District Authority shall, in the case of an emergency, have power to exercise all or any of the powers of the District Authority but the exercise of such powers shall be subject to ex post facto ratification of the District Authority.*

*(3) The District Authority or the Chairperson of the District Authority may, by general or*

*special order, in writing, delegate such of its or his powers and functions, under sub-section (1) or (2), as the case may be, to the Chief Executive Officer of the District Authority, subject to such conditions and limitations, if any, as it or he deems fit.*

**27. Meetings.** *–The District Authority shall meet as and when necessary and at such a time and place as the Chairperson may think fit.*

**28. Constitution of advisory committees and other committees.** *–(1) The District Authority may, as and when it considers necessary, constitute one or more advisory committees and other committees for the efficient discharge of its functions.*

*(2) The District Authority shall, from amongst its members, appoint the Chairperson of the Committee referred to in sub-section (1).*

*(3) Any person associated as an expert with any committee or sub-committee constituted under sub-section (1) may be paid such allowances as may be prescribed by the State Government.*

**29. Appointment of officers and other employees of District Authority.***–The State Government shall provide the District Authority with such officers, consultants and other employees as it considers necessary for carrying out the functions of District Authority.*

**30. Powers and functions of District Authority.***–(1) The District Authority shall act as the district planning, coordinating and implementing body for disaster management and take all measures for the purposes of disaster management in the district in accordance with the guidelines laid down by the National Authority and the State Authority.*

*(2) Without prejudice to the generality of the provisions of sub-section (1), the District Authority may–*

*(i) prepare a disaster management plan including district response plan for the district;*

*(ii) coordinate and monitor the implementation of the National Policy, State Policy, National Plan, State Plan and District Plan;*

*(iii) ensure that the areas in the district vulnerable to disasters are identified and measures for the prevention of disasters and the mitigation of its effects are undertaken by the departments of the Government at the district level as well as by the local authorities;*

*(iv) ensure that the guidelines for prevention of disasters, mitigation of its effects, preparedness and response measures as laid down by the National Authority and the State Authority are followed by all departments of the Government at the district level and the local authorities in the district;*

*(v) give directions to different authorities at the district level and local authorities to take such other measures for the prevention or mitigation of disasters as may be necessary;*

*(vi) lay down guidelines for prevention of disaster management plans by the department of the Government at the districts level and local authorities in the district;*

*(vii) monitor the implementation of disaster management plans prepared by the Departments of the Government at the district level;*

*(viii) lay down guidelines to be followed by the Departments of the Government at the district level for purposes of integration of measures for prevention of disasters and mitigation in their development plans and projects and provide necessary technical assistance therefor;*

*(ix) monitor the implementation of measures referred to in clause (viii);*

*(x) review the state of capabilities for responding to any disaster or threatening disaster situation in the district and give directions to the relevant departments or authorities at the district level for their up gradation as may be necessary;*

*(xi) review the preparedness measures and give directions to the concerned departments at the district level or other concerned authorities where necessary for bringing the preparedness measures to the levels required for responding effectively to any disaster or threatening disaster situation;*

*(xii) organise and coordinate specialised training programmes for different levels of officers, employees and voluntary rescue workers in the district;*

*(xiii) facilitate community training and awareness programmes for prevention of disaster or mitigation with the support of local authorities, governmental and non-governmental organisations;*

*(xiv) set up, maintain, review and upgrade the mechanism for early warnings and dissemination of proper information to public; (xv) prepare, review and update district level response plan and guidelines;*

*(xvi) coordinate response to any threatening disaster situation or disaster;*

*(xvii) ensure that the Departments of the Government at the district level and the local authorities prepare their response plans in accordance with the district response plan;*

*(xviii) lay down guidelines for, or give direction to, the concerned Department of the Government at the district level or any other authorities within the local limits*

*of the district to take measures to respond effectively to any threatening disaster situation or disaster;*

*(xix) advise, assist and coordinate the activities of the Departments of the Government at the district level, statutory bodies and other governmental and non-governmental organisations in the district engaged in the disaster management;*

*(xx) coordinate with, and give guidelines to, local authorities in the district to ensure that measures for the prevention or mitigation of threatening disaster situation or disaster in the district are carried out promptly and effectively;*

*(xxi) provide necessary technical assistance or give advise to the local authorities in the district for carrying out their functions;*

*(xxii) review development plans prepared by the Departments of the Government at the district level, statutory authorities or local authorities with a view to make necessary provisions therein for prevention of disaster or mitigation;*

*(xxiii) examine the construction in any area in the district and, if it is of the opinion that the standards for the prevention of disaster or mitigation laid down for such construction is not being or has not been followed, may direct the concerned authority to take such action as may be necessary to secure compliance of such standards;*

*(xxiv) identify buildings and places which could, in the event of any threatening disaster situation or disaster, be used as relief centers or camps and make arrangements for water supply and sanitation in such buildings or places;*

*(xxv) establish stockpiles of relief and rescue materials or ensure preparedness to make such materials available at short notice;*

*(xxvi) provide information to the State Authority relating to different aspects of disaster management;*

*(xxvii) encourage the involvement of non-governmental organizations and voluntary social welfare institutions working at the grassroots level in the district for disaster management;*

*(xxviii) ensure communication systems are in order, and disaster management drills are carried out periodically;*

*(xxix) perform such other functions as the State Government or State Authority may assign to it or as it deems necessary for disaster management in the District.*

### **31. District Plan –**

- (1) There shall be a plan for disaster management for every district of the State.*
- (2) The District Plan shall be prepared by the District Authority, after consultation with the local authorities and having regard to the National Plan and the State Plan, to be approved by the State Authority.*
- (3) The District Plan shall include–*
  - (a) the areas in the district vulnerable to different forms of disasters;*
  - (b) the measures to be taken, for prevention and mitigation of disaster, by the Departments of the Government at the district level and local authorities in the district;*
  - (c) the capacity-building and preparedness measures required to be taken by the Departments of the Government at the district level and the local authorities in the district to respond to any threatening disaster situation or disaster;*
  - (d) the response plans and procedures, in the event of a disaster, providing for–*
    - (i) allocation of responsibilities to the Departments of the Government at the district level and the local authorities in the district;*
    - (ii) prompt response to disaster and relief thereof;*
    - (iii) procurement of essential resources;*
    - (iv) establishment of communication links; and*
    - (v) the dissemination of information to the public;*
  - (e) such other matters as may be required by the State Authority.*
- (4) The District Plan shall be reviewed and updated annually.*
- (5) The copies of the District Plan referred to in sub-sections (2) and (4) shall be made available to the Departments of the Government in the district.*
- (6) The District Authority shall send a copy of the District Plan to the State Authority which shall forward it to the State Government.*
- (7) The District Authority shall, review from time to time, the implementation of the Plan and issue such instructions to different departments of the Government in the district as it may deem necessary for the implementation thereof.*

**32. Plans by different authorities at district level and their implementation.**—Every office of the Government of India and of the State Government at the district level and

*the local authorities shall, subject to the supervision of the District Authority,–*

*(a) prepare a disaster management plan setting out the following, namely:–*

*(i) provisions for prevention and mitigation measures as provided for in the District Plan and as is assigned to the department or agency concerned;*

*(ii) provisions for taking measures relating to capacity-building and preparedness as laid down in the District Plan;*

*(iii) the response plans and procedures, in the event of, any threatening disaster situation or disaster;*

*(b) coordinate the preparation and the implementation of its plan with those of the other organisations at the district level including local authority, communities and other stakeholders;*

*(c) regularly review and update the plan; and*

*(d) submit a copy of its disaster management plan, and of any amendment thereto, to the District Authority.*

**33. Requisition by the District Authority.** *–The District Authority may by order require any officer or any Department at the district level or any local authority to take such measures for the prevention or mitigation of disaster, or to effectively respond to it, as may be necessary, and such officer or department shall be bound to carry out such order.*

**34. Powers and functions of District Authority in the event of any threatening disaster situation or disaster.***–For the purpose of assisting, protecting or providing relief to the community, in response to any threatening disaster situation or disaster, the District Authority may–*

*(a) give directions for the release and use of resources available with any Department of the Government and the local authority in the district;*

*(b) control and restrict vehicular traffic to, from and within, the vulnerable or affected area;*

*(c) control and restrict the entry of any person into, his movement within and departure from, a vulnerable or affected area;*

*(d) remove debris, conduct search and carry out rescue operations;*

*(e) provide shelter, food, drinking water and essential provisions, healthcare and services;*

*(f) establish emergency communication systems in the affected area;*

- (g) make arrangements for the disposal of the unclaimed dead bodies;*
- (h) recommend to any Department of the Government of the State or any authority or body under that Government at the district level to take such measures as are necessary in its opinion;*
- (i) require experts and consultants in the relevant fields to advise and assist as it may deem necessary;*
- (j) procure exclusive or preferential use of amenities from any authority or person;*
- (k) construct temporary bridges or other necessary structures and demolish structures which may be hazardous to public or aggravate the effects of the disaster;*
- (l) ensure that the non-governmental organisations carry out their activities in an equitable and non-discriminatory manner;*
- (m) take such other steps as may be required or warranted to be taken in such a situation.*



*Emergency*

# **Contact Directory**

**District Disaster Management Authority**  
**Office of the District Collector, Sangli**  
**Maharashtra**

## National, State and District Disaster Control Room Contact Details

S.No.	Department	Contact No.
1.	National Disaster Management Authority, Delhi Toll-Free: 0112-1078	0112 -6701728 0112- 6701729
<b>Mantralaya Control Room</b>		
2.	Mantralaya Disaster Control Room, Mumbai	022- 22027990 /9321587143
3.	Satellite Phone Numbers	9321590561 8991119253
4.	Director of Relief and Rehabilitation Department	022-22026712
<b>NDRF and SDRF Control Room</b>		
5.	Santosh Bahadur Singh, Commandant, NDRF Pune (National Disaster Response Force) Email: <a href="mailto:5bnndrf@gmail.com">5bnndrf@gmail.com</a>	02114247000 9423506765
6.	State Disaster Response Force, Dhule	9607081077
7.	Indian Meteorological Department, Pune	020-25514577 /25514578
<b>Divisional Commissioner Office, Pune Division</b>		
8.	Divisional Commissioner Office Control Room	020-26340534
<b>District Control Rooms</b>		
9.	Control Room, Collector Office, Sangli	0233-2600500
10.	Control Room, Collector Office, Satara	02162- 232175/232349
11.	Control Room, Collector Office, Kolhapur	0231-2659232 0231- 2652950/53/54
12.	Control Room, Collector Office, Solapur	0217-2731012
13.	Koyna Dam Management Department, Koynanagar	02372-284343
14.	Kolhapur Irrigation Department, Kolhapur	0231-2654736

## Karnataka State Control Room 2025

Flood Situation Control Important Contacts			
S. No.	Name of Officer	Landline No.	Mobile No.
1	Mohammad Roshan, District Collector, Belgaum	0831-2407200 0831-2407273 0831-2467222	8861122846
2	K.M. Janaki, District Collector, Bagalkot	08354-235091	9480031234
3	Basavaraj D, Chief Engineer, Almatti Project	08426-281038	9972783055
4	H.R. Hiregoudar, Superintend Engineer, Almatti Project	08426-281060	9019961226
5	Doddamani, Executive Engineer, Almatti Project	08426-281027	9448405892
Sangli District Irrigation Department			
1	Chandrakant Patole, Superintendent Engineer, Sangli	0233-2302709	9850967039
2	J.A. Devkar, Executive Engineer, Sangli	0233-2302925	9822264893

## Sangli District Key Officials Contact Numbers

District Collector Office			
S.No.	Name and designation	Office Contact No.	Mobile No.
1	Ashok Kakade, District Collector, Sangli	0233-2602001	9822808608
2	Sushant Khandekar, Additional District Collector	0233- 2600889	7588920328

3	Snehak Kaniche, Resident Deputy Collector	0233 – 2600059	8329488232
4	Rajiv Shinde, Deputy Collector (Revenue)	0233-2326824	7588812500
5	Ashish Phulke, District Supply Officer	0233-2600512	7741867577
6	Arvind Pote, Deputy Collector (Rehabilitation)	0233-2600019	9637252142
7	Neeta Shinde, Deputy Collector (Election)	0233-2600700	9421118446
8	Deputy Collector (ROHO)	0233-2600707	
9	Gajanan Gurav, Deputy Collector (Land Acquisition No. 6)	0233-2326824	
10	Ajay Pawar, Deputy Collector (Land Acquisition no. 1)		9403853248
11	Shivaji Jagtap, Deputy Collector (Land Acquisition no. 7)	0233-2211133	
12	Deputy Collector (Land Acquisition no. 9)	0233-2600185	
13	Savita Lokare, Deputy Collector (Land Acquisition no. 3)	0233-2602002	9922498291
14	Yasin Patel, District Information Officer	0233-2600600	9657340699
15	Ashok Patil, District Planning Officer	0233 –2600525	9960436613
16	Nagesh Gaikwad, Tehsildar, Sanjay Gandhi Yojna	0233– 2600185	9960006682
17	Leena Kharat, Tehsildar, General	0233– 2600185	9096792788
18	Ashok Kumar, Tehsildar, Revenue Sangli	0233-2600824	7249052004
19	Ranjana Umberhande, Special Executive Magistrate		9623596627

20	Digvijay Patil, District Mining Officer		8087357959
21	Rafiq Nadaf, District Disaster Management Officer	0233- 2600500	9096707339
22	Vaishali Pawar, Legal Officer		9850155122
23	Ranjna Bichkar Mandre, Tehsildar, Rehabilitation	0233-2600019	9607025599
24	Rupali Sholankhe, Assistant District Supply Officer	0233-2600512	9834864155

### Subdivisional Officer and Tehsildars

S.No.	Name and designation	Office Contact No.	Mobile No.
1	Uttam Dighe, Sub-Divisional Officer, Miraj	0233-2222683	9130550892
2	Aparna Dhumal, Tehsildar, Miraj	0233-2222682	7588695505
3	Archana Kapse, Tehsildar, K. Mahankal	02341-222039	9403964250
4	Atul Patole, Tehsildar, Tasgaon	02346-250630	9637992144
5	Ajaykumar Nate, Sub-Divisional Officer, Jat	02344-246134	7588019276
6	Praveen Dhanorkar, Tehsildar, Jat	02344-246234	9028129925
7	Dr. Vikram Badal, Sub-Divisional Officer, Vita	02347-272777	8551018747
8	Yogesh Tompe, Tehsildar, Khanapur	02347-272626	9637155511
9	Sagar Dhavale, Tehsildar, Atpadi	02343-295070	9763449293
10	Ranjit Bhosale, Sub-Divisional Officer, Kadegaon	02347-242624	9403777101

11	Ajit Shelar, Tehsildar, Kadegaon	02347-243122	9881759591
12	Dipti Rithe, Tehsildar, Palus	02346-226888	9226748425
13	Srinivas Arjun, Sub-Divisional Officer, Walwa	02342-225673	9422418966
14	Sachin Patil, Tehsildar, Walwa	02342-225050	9763287777
15	Shyamal Khot, Tehsildar, Shirala	02345-272127	8605071079
16	Rajshekhar Limbare, Additional Tehsildar, Asta		9405546576
17	Rohini Shankardas, Additional Tehsildar, Sankh		9765406008
18	Ashwini Warute, Additional Tehsildar, Sangli	0233 2331300	9923206540

### Zilla Parishad Chief Officer

S.No.	Name and designation	Office Contact no.	Mobile No.
1	Trupti Dhondamse (IAS), CEO	0233-2373008	9689360825
2	Nikhil P. Oswal, Additional CEO	0233-2328849	9158484816
3	Nandini Ghanekar, Project Director, District Rural Development Agency	0233-2375318	9960549495
4	Pramod Kale, Deputy CEO, General	0233-2372725	9764004001
5	Vitthal Chavan, Deputy CEO (Accounts and Finance)	0233-2372865	9822309484
6	Shashikant Shinde, Deputy CEO (Panchayat)	0233-2372726	9503912490

7	Somnath Rasal, Deputy CEO (Child Welfare)	0233-2325914	9175044909
8	Kiran Sayamote, Project Director, Jal Jeevan Mission.	0233-2374734	7796664499
9	Bharti Birajdar, Executive Engineer, PWD	0233-2372719	9075090541
10	Santosh Kumbhar, Executive Engineer (Minor Projects)	0233-2373028	9421130574
11	Dr. Vijaykumar Wagh, District Health Officer	0233-2373032	9867356734
12	Balasaheb Kamat, District Social Welfare Officer	0233-2372714	8459504540
13	Rajesahib Ladhe, Secondary Education Officer	0233-2377554	7875262727
14	Mohan Gaikwad, Primary Education Officer	0233-2372717	9834916754
15	Dr. Krishna Mali, Animal Husbandry Officer (ZP)	0233-2375108	9421224791
16	Manojkumar Vetale, Agriculture Development Officer (ZP)	0233-2372718	9767008833
17	Sanjay Yewale, Executive Engineer, Rural Water Supply	0233-2376650	8329834167
18	Santosh Kumbhar, District Water Conservation Officer	0233-2373028	9421130674

### Block Development Officer (BDO)

S.No.	Name and designation	Office Contact No.	Mobile No.
1	Chandrakant Arun Bodre, BDO, Miraj	0233-2222613	9404990633
2	Pramod Gofne, BDO, Kavathe Mahankal	02341-222031	9730444598
3	Anand Rawsaheb Lokre, BDO, Jat	02344-246229	9403454500

4	Rajendra Pandurang Kharat, BDO, Atpadi	02343-220229	9921472585
5	Santaji Mahadev Patil, BDO, Vita	02347 -272030	9665328975
6	Prashant Jagannath Raut, BDO, Kadegaon	02347-242798	9423504810
7	Aravind Seetaram Mane, BDO, Palus	02346-228400	9665223922
8	Kishor Prakash Mane, BDO, Tasgaon	02346-240646	8600822765
9	Raghunath Bangwon, BDO, Walwa	02342-224048	8208660065
10	Prakash Lalsaheb Pole, BDO, Shirala	02346-272128	7588204128

### **Sangli Miraj Kupwad City Municipal Commissioner Chief Officer**

<b>S.No.</b>	<b>Name and designation</b>	<b>Office Contact No.</b>	<b>Mobile No.</b>
1	Satyam Gandhi, Municipal Commissioner	0233-2329334	7827650769
2	Ravikant Adsul, Additional Commissioner, Sangli	0233-2373721	9923009444
3	Ravikant Adsul, Additional Commissioner, Miraj	0233-2373721	9923009444
4	Deputy Commisssioner, Sangli	0233-2373721	
5	Vijaya Yadav, Deputy Commissioner, Miraj and Kupwad	0233-2223271	8080276027
6	Shilpa Darekar, Deputy Commissioner, Property and Taxation	0233-2373721	8007952427
7	Prithviraj Chavan, City Engineer	0233-2373721	9922112511
8	P. Sahade Kavade, City Secretary	0233-2373721	9922415992



9	Sahadev Kawade, Asst. Comm. 1 Sangli	0233-2373722	9922415992
10	Pragya Tribhuvan, Asst. Comm. 2	0233-2223271	7709624934
11	Sachin Sagaonkar, Asst. Comm. 3	0233-2373721	7057567073
12	Anis Mulla, Asst. Comms. 4	0233-2373721	7972155733
13	Akash Daifode, Asst. Comm.	0233-2223271	7588419358
14	Dr. Vaibhav Patil, Medical Health Officer	0233-2373721	7776073007
15	Sunil Mali, Chief Fire Officer	0233-2373333	9284137120
16	Amarsingh Chavan, Electrical Engineer	0233-2373721	9922416030
17	Chidanand Kurane, Executive Engineer, Water Supply, and Drainage Department	0233-2374625	9822185969
18	Nakul Jakate, Special Duty Officer, Disaster Management	0233-2950161	9822185929
19	Vinayak Jadhav, Mechanical Engineer, Miraj	0233-2373721	9657257077
20	Nakul Jakate, System Manager/ Special Duty Officer, Disaster Management Department	0233-2373721	9822185929

### Nagar Parishad Chief Officers

S.No.	Name and designation	Office Contact No.	Mobile No.
1	Dattatray Langi, District Assistant Commissioner Municipality Administration Department, Sangli		9822213919
2	Prithviraj Patil, Chief Officer, Nagar Panchayet, Islampur	02342-222559	9561613638

3	Nirmala Rashinkar, Chief Officer, Nagar Panchayet, Ashta	02342 242023/241259	9763313669
4	Sudhakar Lendve, Chief Officer, Nagar Panchayet, Tasgaon	02346 -240125 02346—240143	8237274595
5	Vikram Singh Patil, Chief Officer, Nagar Panchayet, Vita	02347- 275265/2722065	7972300392
6	Laxman Rathod, , Chief Officer, Nagar Panchayet, Jat	02344-246020	8459200789
7	Nirmala Rashinkar, (Incharge, Ashta) Chief Officer, Nagar Panchayet, Palus	02346-226032	9763313669
8	Pavan Mhetre, Chief Officer, Nagar Panchayet, Kadegaon	02347-242242	9860010308
9	Avadhut Kumbhar, Chief Officer, Nagar Panchayet, Mahankal	02341-223643	9588668501
10	Vaibhav Hazare (In charge), Chief Officer, Nagar Panchayet, Khanapur	02347-257047	9028095050
11	Prithviraj Patil (In charge), Chief Officer, Nagar Panchayet, Shirala	02345-272212 02345-272011	9561613638
12	Vaibhav Hazare (In charge), Chief Officer, Nagar Panchayet, Atpadi		9028095050

### Fire Department

S.No.	Name and designation	Office Contact no.	Mobile No.
1	Sunil Mali, Acting Chief Fire Officer	0233-2373333/	9284137120
2	Vijay Pawar, Fireman, Fire Dept., Miraj	0233-2222610/ Toll Free 18002332375	9960492328

3	Dilip Kumar, Municipal Council, Islampur	02342-223398	9850034694
4	Ayub Maner, Tejas Bhise Municipal Council, Tasgaon	02346-240125	9767314242, 7798131320
5	Aniket Hendre, Municipal Council, Ashta	02342-242023	9595121358
6	Pandharinath Gaikwad, Municipal Council, Vita	02347-272021	9511761204

### **Maharashtra State Electricity Distribution Company Ltd. (MSEDCL) Officials**

<b>Sr. No.</b>	<b>Name &amp; Designation</b>	<b>Office Contact No.</b>	<b>Mobile No.</b>
1	Amit Bokil, Superintending Engineer, Sangli Circle Office, Vishrambag	0233-2970091-92	7875769222
2	Trupti Dipkar, Executive Engineer, Sangli Circle Office, Vishrambag	0233-2970091-92	7875769012
3	Amar Sheikh, Deputy Executive Engineer, Sangli Circle Office, Vishrambag	0233-2970091-92	7875769456
4	Control Room (24x7) Customer Service Center, Sangli Circle Office, Vishrambag	0233-2970091/92	7875769449
5	Ashish Mehta, Executive Engineer, Division Office, Sangli City	0233-2374270	7875769013
6	Suresh Sawairam, Executive Engineer, Rural Sangli (Tasgaon-Miraj)	0233-2301744-48	7875769014
7	Vinayak Idate, Executive Engineer, Vita Division	02347-273387	7875769015
8	Chandrakant Damse, Executive Engineer, Islampur Division	0234-2221181	7875769016
9	S. R. Shinde, Executive Engineer, Kavathe Mahankal Division	02341-223392	7875769017

10	Maharashtra State Electricity Distribution Company Ltd. Toll-Free	1800-102-3435 / 1800-233-3435	-
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### Public Works Department (PWD)

Sr. No.	Name & Designation	Office Contact No.	Mobile No.
1	Krantikumar Mirajkar, Executive Engineer, Public Works Department, Miraj	0233-2222665	7588167063
2	Kashinath Devappa Mudhale, Executive Engineer, Public Works Department, Sangli (West)	0233-2375898	7350531717
3	V.S. Karveer, Deputy Executive Engineer, Public Works Department, Miraj	0233-2222665	9922959410
4	V.P. Mahadik, Deputy Executive Engineer, Public Works Department (West), Sangli	0233-2375898	9850699614
5	K.B. Powar, Assistant Engineer, Grade 1, Public Works Sub-Division, Miraj	0233-2223023	8055149692
6	A.M. Nalwade, Assistant Executive Engineer, Public Works Sub-Division, Sangli	0233-2373266	
7	A.B. Pol, Deputy Engineer, Public Works Sub-Division, Kadegaon	02347-242134	7588167063
8	M.S. Patil, Deputy Engineer, Public Works Sub-Division, Palus	02346-228300	9970560579
9	P.N. Lawand, Deputy Engineer, Public Works Sub-Division, Kavathe Mahankal	02341-222227	9403703232
10	M.L. Mali, Deputy Engineer, Public Works Sub-Division, Jat (Zone 1)	02344-246206	9850207045
11	D.S. Katkar, Deputy Engineer, Public Works Sub-Division, Jat (Zone 2)	02344-246206	9921783115
12	P.V. Chaudhary, Deputy Engineer, Public Works Sub-Division,	02345-272122	9423828326

	Shirala		
13	S.A. Patil, Assistant Executive Engineer, Public Works Sub-Division, Walwa-Islampur	02342-224334	8830798204
14	A.J. Hudar, Assistant Engineer, Grade 1, Public Works Sub-Division, Tasgaon	02346-240526	8275795761
15.	V.V. Mohite Asst. Engineer, Grade 1, Public Works Subdivision Vita	02347-272645	9850733239
16	R.S. Patil, Deputy Engineer, Public Works Subdivision, Atpadi	02343-221208	9921226363
17	M.S.Patil, Deputy Enginee, rPublic Works Subdivision, Palus (Additional Charge)	0233-2377402	9970560579

### Public Works Department (PWD), Zilla Parishad

Sr. No.	Name & Designation	Office Contact No.	Mobile No.
1	Bharti Biraje, Executive Engineer, Public Works Department	0233-2372719	9423249641
2	Pradeep K. Surve, Acting Deputy Engineer, Public Works Department, Shirala	02345-270357	9766688079
3	Sandeep Patil, Deputy Engineer, Public Works Department, Walwa	02342-224048	9130609976
4	Pradeep K. Surve, Deputy Engineer, Public Works Department, Palus	02346-228400	9766688079
5	Vrinda R. Patil, Deputy Engineer, Construction Department, Miraj	0233-2222613	8275592122
6	Vishwas B Naik, Deputy Executive Engineer, PWD, Tasgaon	02346-240646	7588575915
7	Sandeep Kaingale, Deputy Engineer, PWD, Vita	02347-272030	8888968845
8	Vijay Kumar D. Koli, Deputy Engineer, PWD, Kadegaon	02347-242970	9850373657

9	Suresh Bhandugare, Deputy Engineer, PWD, Atpadi	02343-220229	9403601515
10	I.B. Shikalgar, Deputy Engineer, Kavthe Mahankal	02341-222031	9011568650
11	Hemantraje T. Gaikwad, Deputy Executive Engineer, PWD, Jat	02340-246229	9423871626

### Sangli Irrigation Circle

Sr. No.	Name & Designation	Office Contact No.	Mobile No.
1	Chandrakant Patole, Superintending Engineer, Irrigation Circle, Sangli	0233-2302709	9850967039
2	Jyoti Devkar, Executive Engineer, Irrigation Department, Sangli	0233-2302925	9822264893
3	Nitin Bhojkar, Assistant Engineer, Grade 1	0233-2302925	9028244344
4	Smita Mane, Executive Engineer, Irrigation Department (North), Kolhapur	0231-2654736	9158572265
5	M.M. Kitwadkar, Assistant Engineer, Grade 1, Warna Irrigation Sub-Division, Kodoli	02328-224016	7875517637
6	Abhinandan Harugade, Executive Engineer, Temhbu Lift Irrigation Division No. 1	0233-2302496	9405858925
7	M.V. Rasankar, Executive Engineer, Minor Irrigation Department, Sangli	0233-2302654	9404996464
8	Executive Engineer, Mhaisal Pump House No. 2, Sangli	0233-2302880	
9	Rajan Rediyar, Executive Engineer, Temhbu Lift Irrigation Project Management, Oglewadi	02164-271327	9850892507

10	Umesh Jadhav, Executive Engineer, Takari Mechanical & Electrical Department	0233-2302932	9860467721
11	R.P. Dawari, Executive Engineer, Takari Pump House Division No. 1, Devrashtra	02347-250340	9422853353
12	Rohit Kore, Executive Engineer, Takari-Mhaisal Lift Irrigation Management, Sangli	0233-2302689	9307832351
13	Nilesh Potdar, Executive Engineer, Koyna Irrigation Division, Koynanagar	02372-284343	7588619920

### Police Department

Sr. No.	Name & Designation	Office Contact No.	Mobile No.
1	Sunil Fulare, Special Inspector General of Police	0231-2656568	9763616161
2	Sandip Ghuge, Superintendent of Police	0233-2672323	9718409400
3	Additional Superintendent of Police	0233-2672550	-
4	Arvind Bodke, Deputy Superintendent of Police (Home Branch)	0233-2671042	9423044046
5	Flood Police Control Room, Sangli	0233-2672100	-
6	Vimala M., Sub-Divisional Police Officer, Sangli	0233-2377744	6382737233
7	Pranil Gilda, Sub-Divisional Police Officer, Miraj	0233-2222539	7410010089
8	Sachin Thorbole, Sub-Divisional Police Officer, Tasgaon	02346-242200	8600076692
9	Mangesh Chavan, Sub-Divisional Police Officer, Islampur	02342-222059	9823940951
10	Vipul Patil, Sub-Divisional Police Officer, Vita	02347-276116	9921575464
11	Sunil Salunkhe, Sub-Divisional Police Officer, Jat	02344-247900	9699601601

12	Sanjay More, Police Inspector, Sangli City	0233-2373033	9823223379
13	Kiran Chougale, Police Inspector, Sangli Rural	0233-2373252	9923058383
14	Sudheer Bhalerav, Police Inspector, Vishrambag	0233-2670033	9604676218
15	Kiran Raskar, Police Inspector, Miraj City	0233-2212100	9657670783
16	Ajay Sid, Police Inspector, Miraj Rural	0233-2232133	7972913994
17	Deepak Bhandwalkar, Sub-Police Inspector, Kupwad (MIDC)	0233-2644333	9518320961
18	Somnath Wagh, Police Inspector, Tasgaon	02346-240100	9923494280
19	Sandeep Patil, Sub-Police Inspector, Palus	02346-228100	9623457178
20	Vinay Bahir, Police Inspector, Atpadi	02343-220233	9881033837
21	Dhananjay Fadtare, Inspector, Vita	02347-272633	8380085554
22	Sangram Shewale, Police Inspector, Kadegaon	02347-242233	7875650324
23	Siddheshwar Jangam, Police Inspector, Shirala	02345-272133	9823223379
24	Kolekar, Police Inspector, Jat	02344-246233	8888144411
25	Jyotiram Patil, Police Inspector, Kavathe Mahankal	02341-222033	9967281027
26	Sanjay Harugade, Police Inspector, Islampur	02342-222033	9923694354
27	Shrikrishna Katakdhond, Police Inspector, Ashta	02342-243233	9870152242
28	Suraj Bijli, Police Inspector, Sanjay Nagar	0233-2313456	9923112377
29	Sh. Kurle, Control Room - Police Inspector	0233-2672100	9158911286
30	Bhairu Talekar, Police Inspector (Crime Branch, Sangli)	0233-2672696	9284186351



## Health Department

Sr. No.	Name & Designation	Office Contact No.	Mobile No.
1	Dr. Prakash Gurav, Dean, Government Medical College, Miraj	0233-2232091-99	-
2	Dr. Vikas Devkare, Medical Superintendent, PVPS Hospital, Sangli	0233-2374651	9930940307
3	Dr. Vikramsingh Kadam, District Surgeon, PV Pascha Hospital, Sangli	0233-2374452	9850564183
4	Dr. Vijaykumar Wagh, District Health Officer, ZP Sangli	0233-2373032	9867356734
5	Dr. Milind Pore, Additional District Health Officer	0233-2373032	9420491017
6	Dr. Pravin Kumar Patil, District Malaria Officer	0233-2377168	9423039039
7	Dr. Atul Watharkar, Taluka Health Officer, Miraj	0233-2227490	8449011999
8	Dr. Satish Kolekar, Taluka Health Officer, Kavathe Mahankal	02341-223045	9637691456
9	Dr. Hema Kshirsagar, Taluka Health Officer, Jat	02344-248269	9119546555
10	Dr. Vishal Karande, Taluka Health Officer, Tasgaon	02346-242328	8055224782
11	Dr. Sandeep Babar, Taluka Health Officer, Vita	02347-276056	8380944179
12	Dr. Sadhana Pawar, Taluka Health Officer, Atpadi	02343-221717	9421125450
13	Dr. Asha Chougule, Taluka Health Officer, Kadegaon	02347-295501	9604394757
14	Dr. Namrata Mule, Taluka Health Officer, Palus	02346-226220	7972406534
15	Dr. Saket Patil, Taluka Health Officer, Shirala	02345-271108	7588088595
16	Dr. Pravin Patil, Taluka Health Officer, Walwa	02342-224475	9423039039

## Animal Husbandry Department

Sr. No.	Name & Designation	Office Contact No.	Mobile No.
1	Dr. Ajaynath Thore, Deputy Commissioner, Animal Husbandry, Miraj	-	7588166703
2	Dr. Krishna Mali, District Animal Husbandry Officer, ZP, Sangli	0233-2375108	9421224791
3	Dr. Amit Chougule, Livestock Development Officer (Extension), Miraj	02332-222661	9637168242
4	Dr. Tanaji Rupnar, Livestock Development Officer (Extension), Tasgaon	02346-240646	9422618797
5	Dr. Sanjay Pawar, Livestock Development Officer (Extension), Palus	02346-228400	9923377638
6	Dr. Sayyed Maner, Livestock Development Officer (Extension), Khanapur	-	9595373129
7	Dr. Prerna Shelke, Livestock Development Officer (Extension), Kadegaon	02347-242798	8888560261
8	Dr. Kunal Kamble, Livestock Development Officer (Extension), Jat	02344-246229	9503858519
9	Dr. Akshata Renushe, Livestock Development Officer (Extension), Kavathe Mahankal	02341-222031	9765668579
10	Dr. Ambadas Madkar, Livestock Development Officer (Extension), Walwa	02342-224048	7972576154
11	Dr. Satish Kumar Jadhav, Livestock Development Officer (Extension), Shirala	02345-272128	9423864306

12	Dr. Avinash Chavan, Livestock Development Officer (Extension), Atpadi	02343-220229	7218011697
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### Agriculture Department

Sr. No.	Name & Designation	Office Contact No.	Mobile No.
1	Vivek Kumbhar, District Superintendent Agriculture Officer, Sangli	2601412 / 2601413	9860033575
2	D.M. Patil, Deputy Director of Agriculture, District Superintendent Agriculture Officer's Office	2601412 / 2601413	9922967504
3	Ganpati S. Patil, Sub-Divisional Agriculture Officer, Miraj	0233-2602236	9422543059
4	Milind Nimbalkar, Taluka Agriculture Officer, Miraj	0233-2222077	9096630388
5	Prakash P. Kumbhar, Sub-Divisional Agriculture Officer, Vita	02347-272613	9921958100
6	Ganesh Shrikhande, Sub-Divisional Agriculture Officer, Jat	02344-246526	7588334077
7	S.B. Patkure, Taluka Agriculture Officer, Palus	02346-229080	9850299295
8	Kiran Powar, Taluka Agriculture Officer, Shirala	02345-272953	8669080402
9	Pradeep R. Kadam, Taluka Agriculture Officer, Jat	02344-246203	7887563496
10	Ramesh H. Bhandare, Taluka Agriculture Officer, Kavathe Mahankal	02341-222012	9545957435
11	Dhanraj Rathod, Taluka Agriculture Officer, Vita	02347-272657	9370716409
12	Maruti Kaulge, Taluka Agriculture Officer, Atpadi	02343-220206	9834232240
13	Anil Fonde, Taluka Agriculture Officer, Tasgaon	02346-250464	7588628028
14	Vivekanand Chavan, Taluka Agriculture Officer, Kadegaon	02347-242304	9518507698

15	Indrajit Chavan, Taluka Agriculture Officer, Walwa	02342-295007	8275275245
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#### District Information Office

Sr. No.	Name & Designation	Office Contact No.	Mobile No.
1	Samprada Bidkar, District Information Officer	0233-2602059	9011261939
2	Jarandikar, All India Radio Program Coordinator/Program Officer	-	9422709985

#### Telephone Department

Sr. No.	Name & Designation	Office Contact No.	Mobile No.
1	R K Wankhede, Deputy General Manager, Sangli	0233-2330000	9422406479
2	D.N. Kulkarni, AGM	0233-2375999	9422406088

#### Railway Department

Sr. No.	Name & Designation	Office Contact No.	Mobile No.
1	Sambhaji Kale, Police Inspector, Railway Police, Miraj	2222533	9011075374

#### Other Important Department in Sangli District

Sr. No.	Name & Designation	Office Contact No.	Mobile No.
1	Nita Katti, Deputy Conservator of Forests	0233-2344639	9860272829
2	Dr. Bhimsen Chavdar (Lt. Colonel), Retired District Soldier	0233-	9882862848

	Welfare Officer, Sangli	2990712	
3	Amit Jirange, Senior Geologist, Groundwater Survey System, Sangli	0233-2601439	9960310092
4	Prasad Gajre, Deputy Regional Transport Officer, Sangli	0233-2310555	9405874762
5	Sunil Bhokare, Divisional Controller, State Transport Board	0233-2332113	9422377171
6	Deputy Commissioner of Charity, Public Trust Registration Office, Sangli	0233-2621502	-
7	Nilesh Masare, Assistant Commissioner (Food), Head of Office, Food & Drug Administration	0233-2602201	9890777065
8	Vidyasagar Killedar, Deputy Regional Officer, Maharashtra Pollution Control Board	0233-2672032	9422426100
9	D.K.Deole, Assistant Director, District Skill Development, Employment & Entrepreneurship Guidance Center	0233-2600554	9403430395
10	Sachin Desmukh, Superintendent Engineer, Maharashtra Jeevan Pradhikaran	0233-2322441	9850783218
11	Pravin Ashok Bondar, Deputy Director, Directorate of Industrial Safety	0233-2672359	9294127323
12	Meghna Joshi, Principal, Industrial Training Institute, Sangli	0233-2310139	9130194768
13	Amar Patil, District Head Assistant Commissioner, Fisheries Business (Technical) Sangli	0233-2600031	7820948231
14	Kiran Boradkar, District Sports Officer	0233-2212611	9420732870
15	Sunil Chavan, District Deputy Registrar, Cooperative Societies, Sangli	0233-2600300	9881013740
16	Ashok Patil, Deputy Director, Statistics Department, Sangli	0233-2600073	9960428496

17	Rajesh Kamble, Silk Development Officer	0233-2602187	9860852022
18	S.P. Setia, District Superintendent, Land Records, Sangli	0233-2600200	9422961157

### **District Disaster Management Authority Committee, Sangli**

<b>Sr. No.</b>	<b>Name &amp; Designation</b>	<b>Committee Position</b>	<b>Office Contact No.</b>	<b>Mobile No.</b>
1	Ashok Kakade, District Collector, Sangli	Chairman	0233-2602001	9822808608
2	Trupti Dhondamise, Chief Executive Officer	Member	0233-2373008	9689360825
3	Sandeep Ghuge Superintendent of Police	Member	0233-2672323	9718409400
4	Satyam Gandhi Commissioner, Municipal Corporation	Member	0233-2322167	7827650759
5	Dr. Snehal Kaniche Resident Deputy Collector	Secretary Member	0233-2600059	8329488232
6	Krantikumar Mirajkar Executive Engineer, Public Works Department, Miraj	Member	0233-2222665	7588167063
7	J.A. Devkar, Executive Engineer, Irrigation Department, Sangli	Member	0233-2302925	9822264893
8	Vikram Singh Kadam, District Surgeon, PV Pascha Hospital, Sangli	Member	0233-2374651	9850564183

9	District Commandant, Home Guard Department, Sangli	Member	0233-2672550	-
10	Amol Patil, AYUSH Helpline, Sangli - Volunteer Representative	Member	-	8275376889