



RAJASTHAN STATE FLOOD ACTION PLAN 2024

DISASTER MANAGEMENT, RELIEF AND CIVIL DEFENCE
GOVERNMENT OF RAJASTHAN

INTRODUCTION

Rajasthan is a state in northern India. It covers 3,42,239 square kilometers or 10.4% of India's total geographical area. It is the largest Indian state by area and the seventh largest by population. It is on India's northwestern side, where it comprises most of the wide and inhospitable Thar Desert (also known as the Great Indian Desert) and shares a border with the Pakistani provinces of Punjab to the northwest and Sindh to the west, along the Sutlej-Indus River valley. It is bordered by five other Indian states: Punjab to the north; Haryana and Uttar Pradesh to the northeast; Madhya Pradesh to the southeast; and Gujarat to the southwest. Its geographical location is 23.3 to 30.12 North latitude and 69.30 to 78.17 East longitudes, with the Tropic of Cancer passing through its southernmost tip.

Floods are indeed a part of the earth's natural water cycle and have been accruing right from the beginning. In fact earth's geography has time and again been altered by floods and changing courses of major river systems. However, the damage due to flood has tended to increase with time due to greater interference by man in natural process and encroachment of flood zones and even riverbeds by human beings.

Occurrence of floods is as old as the rivers and the hills themselves. The earliest references to floods are found in the Rig-Veda and to the "Deluge" in the Old Testament. They were believed to be divine punishment meted out to humans for their cause widespread devastation even now. It is recognized that floods are a natural phenomenon, which cannot be entirely eliminated. Man has, therefore, to learn to live with the floods and where possible, rectify the ecological mistakes.

The term "flood" denotes both the discharge of a river under condition of excessive rainfall and the inundation of low lying areas. It has been observed that floods in rivers have certain characteristics, depending on the topography, meteorology and hydrology of the regions through which the rivers flow. Some rivers are erratic in that they often change their course.

Floods are classified as downstream and upstream floods. The downstream floods are most spectacular and damages are more apparent and hence the upstream floods are not taken adequate notice of.

Forecast For The Monsoon Season (June–September) Rainfall Over The Country As A Whole.

The forecast based on both dynamical and statistical models suggests that quantitatively, the monsoon seasonal rainfall during June to September is likely to be 106% of the Long Period Average (LPA) with a model error of $\pm 5\%$. The LPA of the season rainfall during June to September over the country as a whole based on the data of 1971-2020 is 87 cm.

The five category probability forecasts for the Seasonal (June to September) rainfall over the country as a whole are given below. It suggests that there is high probability (61%) of southwest monsoon seasonal rainfall to be above normal ($>104\%$ of LPA).

Category	Rainfall Range (% of LPA)	Forecast Probability (%)	Climatological Probability (%)
Deficient	< 90	2	16
Below Normal	90 - 96	8	17
Normal	96 -104	29	33
Above Normal	104 -110	31	16
Excess	> 110	30	17

The MME forecast for the 2024 southwest monsoon season rainfall was prepared based on the April initial conditions and using a group of coupled climate models which have highest prediction skill over the Indian monsoon region.

The spatial distribution of probabilistic forecasts for tercile categories (above normal, normal and below normal) for the seasonal rainfall (June to September). The spatial distribution suggests that above normal seasonal rainfall is very likely over most parts of the country except some areas over Northwest, East and Northeast India, where below normal rainfall is very likely. The model has no clear signal over the white shaded areas of the country.

Probabilistic Rainfall Forecast For Monsoon Season (June – September), 2024

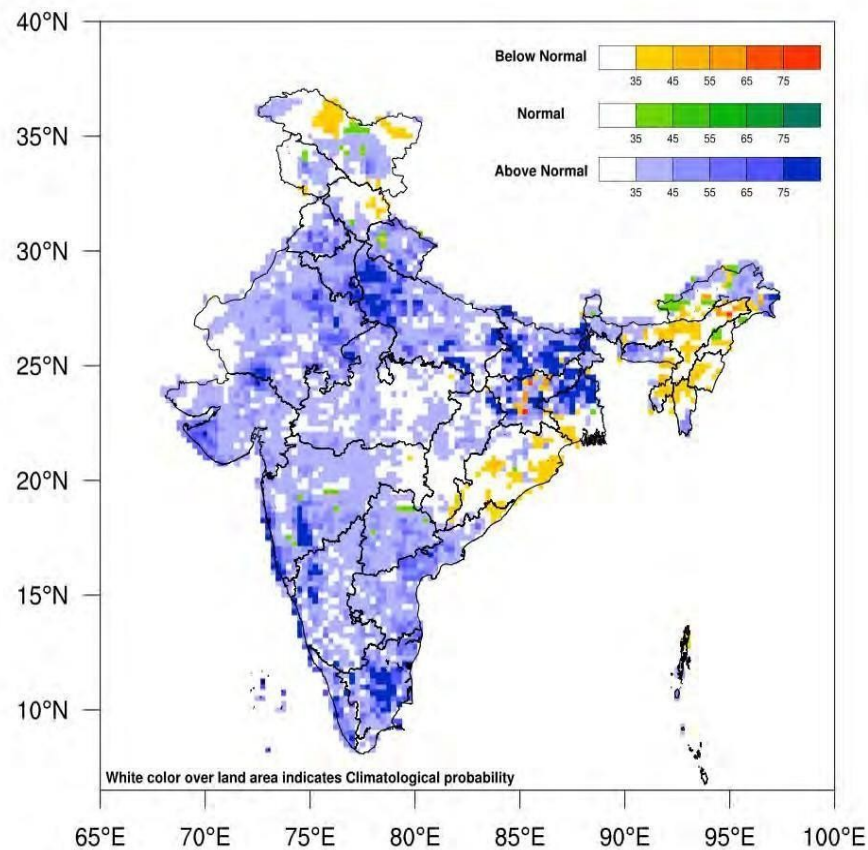


Fig.1. Probability forecast of tercile categories (below normal, normal, and above normal) for the seasonal rainfall over India during monsoon season (June - September), 2024. The figure illustrates the most likely categories as well as their probabilities. The model has no clear signal over the white shaded areas of the country. (Tercile categories have equal climatological probabilities, of 33.33% each).*

Flood Policy

The Government of India announced the First National Flood Control Policy for adoption by the whole country in September 1954. A Central Flood Control Board was constituted by the Ministry of Irrigation and Power.

Now Government of India had set up Rashtriya Barh Ayog (RBA) in 1976 to carry out a review of the flood protection measures and to evolve a comprehensive approach to the problem of floods in the country. The Ayog submitted its report in 1980, which contains policy and guidelines for control of floods along with all related aspects.

The report of the RBA contained 207 recommendations covering the entire gamut of flood management activities.

VARIOUS APPROACHES FOR FLOOD MANAGEMENT CAN BE BROADLY CATEGORIZED AS UNDER

- (1) Modify the floods in order to keep the flood waters away from development and populated areas by decreasing runoff, by increasing channel capacity or by containing, diverting or storing flood waters.
- (2) Modify the susceptibility of flood damage by keeping people and development subject to damage, out of the flood hazard areas or by making such development resistant to damage.
- (3) Modify the loss burden by reducing the financial and social impact of flood through such measures as post flood assistance and insurance.
- (4) Bearing the losses, i.e., living with floods.

The flood control measures generally adopted, so far, are structural measures like reservoirs, embankments, drainage improvement works, anti-erosion works, etc., and non- structural measures like flood plain zoning, flood forecasting, flood proofing, flood insurance, etc. Though a combination of structural and non-structural measures would be required to provide reasonable degree of protection, it would become imperative to depend more on non-structural measures. The strategies are given below.

Flood is a complex phenomenon and providing cent percent protection is difficult due to several constraints. However, successful flood management can be achieved with a certain degree probability. Flood management is done keeping a few risk factors depending on the type of area to be saved e.g. strategic locations, city, town, and agricultural area vis-a-vis the cost involved in the management. Flood can be managed with a particular designed magnitude, which should have some engineering, social and economic basis. However, in the event of excessive flood situation the non-structural measures e.g. evacuation of population/livestock, flood plain zoning

and other non-structural measures have to be applied.

Factors contribute to danger from floods are:

- Flowing of rivers their natural banks
- Meandering of rivers in plains.
- Gradual erosion of banks, reducing the capacity of rivers for containing water.
- Heavy rains in areas with poor drainage.

ROLE OF IRRIGATION DEPARTMENT:

Irrigation Department prepares a Flood Memorandum, which contains various Performa for periodical inspections of dams, list of wireless and high frequency stations, existing river gauge discharge sites along with format for reporting flood situations and Modal Action Plan, EAP (Emergency Action Plan), material requirements along with direction for flood management and reporting the damages with list of flood prone areas in the State etc. This document is updated and published every year by Irrigation Department and circulated to all concerns.

In Rajasthan, every Executive Engineer of Irrigation of the district keeps a record of high flood marks, attained at different rivers and works in his jurisdiction. This enable he to keep a record as to how many and which villages get affected or will be affected whenever flood water attains that particular flood level. An index plan of the jurisdiction showing the areas affected is also sent to Chief Engineer, Irrigation for information. .

A state level disaster management committee has been formed under the chairmanship of the Chief Secretary. Irrigation Department has been nominated as Nodal Department for Dam burst related disaster. Accordingly on the guidelines of Trigger Mechanism, Flood Disaster has to be dealt in four steps namely as L-O, L-1, L-2&L-3.

1. **L-O:-** This is a preliminary stage before onset of monsoon where J.En, A.En, and XEn will thoroughly inspect the sites and ensure that the required material to meet any eventualities have been procured and stored.

2. **L-1:-** It is a sort of first aid, in case of any disaster is reported about irrigation tank/reservoir. As soon as the information of any disaster like leakage, piping etc., takes place in reservoir immediate action is to be taken to safeguard the structure of the reservoir. It is to ensure that the public property and life of the people living near by the reservoir is safe, for which warning of alertness is to be given in time. For this action, the officer/official should not wait for seeking the approval of the higher authority and thereby wasting the time. The official/officer should also send such a message immediately through nearest available communication to his next higher officer.
3. **L-2: -** It is that stage where the officer/official finds that the situation is not under his control and the material which he has in his stock is insufficient to cope up with the situation then he should immediately inform to his next higher Authority i. e. E.E., S.E. and the Collector without wasting any time so that situation can be controlled with the combined efforts of the other agencies of the district.
4. **L-3:-** It is that stage when L-1 level of disaster becomes more severe and the basic initial disaster management which was made before onset of monsoon failed to meet this situation and the resources available as district level also seems to be insufficient to cope with the requirement to handle the disaster then matter should be brought in the notice of the Chief Engineer, Irrigation Rajasthan, Jaipur and meanwhile with the help of public and district administration every effort should be made to control the situation.

Fixing of responsibility at L-0, L-1 & L-2 level is to be done by Superintending Engineer, Irrigation of the Circle and copy is sent to the Chief Engineer, Irrigation and Central Flood Cell, I.D&R. unit, Jaipur before onset of monsoon.

RAINFALL

The average normal rainfall of India is about 883 mm, whereas the average normal rainfall of Rajasthan is 531 mm. Western Rajasthan receives average rainfall of 279 mm and Eastern Rajasthan receives average rainfall of 631 mm. The Indian Meteorological Department (IMD) has been maintaining one Meteorological Centre at Jaipur for collection of meteorological data on uniform scientific lines, and issues daily bulletin of weather forecasts for whole Rajasthan. The routine monitoring of rainfall and tank water level during the monsoon season is a important task for ID&R, Irrigation Unit Jaipur. At present it depends largely on voice communication by

telephone or wireless and production of daily report is entirely manual.

Clarifications in respect of terminology used by the meteorological department in rainfall.

(a) Heavy rainfall will imply expected rainfall between 65 mm. to 124 mm. in 24 hours in the specified area. Very heavy rainfall will imply expected rainfall 125 mm. or more in 24 hours in the specified area. For special distribution terminology used is given below.

(b) Terminology used Percentage area coverage under specified

Weather Isolated	:	1 to 25 per cent.
Scattered	:	25 to 50 percent.
Fairly wide spread	:	51 to 75 per cent.
Wide spread	:	75 to 100 per cent

HEAVY RAINS

Heavy-rains would normally mean rainfall above 125 mms. Within 24 hours, as decided by the Meteorological Department and flood central authorities. However, criteria to be adopted for grant of relief to the persons, affected by heavy rains should not merely be physical dimensions of the rainfall, but the fact of actual damage caused to the community and the persons concerned." Persons affected by heavy rains are eligible to receive relief in the State hereafter mentioned.

Method of data recording of rainfall:

- **Ordinary Rain gauges:** The daily data at these stations are being collected manually. Only two observations are taken daily at 8.30 & 17.30 hrs. But this frequency of data observations is not adequate for rainfall behavioral studies.
- **River Gauging Stations:** These are usually a series of gauges at different locations across the riverbed. Observations are taken two hourly during the monsoon season, by noting down the levels manually on gauges fixed in the riverbed. The "Slope Area Method" calculates discharge and finally daily/monthly flows are computed.
- **Meteorological observations:** The Conventional Meteorological Stations have been set up to observe the minimum and maximum Temperatures, Wet & Dry bulb for humidity, Wind direction & velocity and Sun shine hours.

- **Modernized data recording system:** Water resource projects are executed not only for Irrigation purposes in modern days but are also planned for other purposes, particularly for Domestic and Industrial Water Supply, producing Hydro-Electric Power, Navigation, recreation, fishing, wild life as well as flood control etc. There has been significant development in the country in this field and new techniques, methodology and latest designs have been developed in order to design suitable project.

A successful Water Management requires various types of vital hydrological data as mentioned below:

1. Hydro-meteorological data
2. Stream flow data
3. Sediment data
4. Ground Water data
5. Water quality data
6. Miscellaneous data i.e. Topography, soil etc.

The main deficiency had been the lack of establishment of a properly designed data collection network and data storage and retrieval system to provide scientifically based hydrological and meteorological data of required quality and quantity for different purposes.

AIM

“To evolve a comprehensive strategy to prepare the State Machinery in conjunction with Civil Society and neighboring states/country to handle floods and its aftermath”.

SCOPE

Following aspects are covered in the flood management strategy: -

Part-1: Preventive/Mitigation Measures

Part-2: Actions during Preparatory Phase.

Part-3: Actions during Rescue & Relief Phase.

Part-4: Rehabilitation, Reconstruction and Mitigation

Part-5: Roles and Responsibilities

Part-6: Miscellaneous

HAZARD AND RISK ASSESSMENT

Floods may be caused in rivers by excessive downpour in their catchment areas. They may also be caused by cloudbursts in a specific area. In the case of river floods preventive measures can be undertaken. Since floods in the latter case cannot be anticipated, preventive measures are difficult to undertake. This distinction between the river floods and the cloud burst floods need to be borne in mind in relief administration.

Major Rivers are mentioned here-

- **Chambal River:** Chambal is a significant river in central India and a significant tributary of the Yamuna. Its origins are in the Vindhya mountain range in West Central India, near Janapav (Madhya Pradesh). The Chambal River travels northeast through Madhya Pradesh before entering Rajasthan and forming a boundary between the two states. It then continues southeast toward Uttar Pradesh, where it joins the Yamuna. During its 900-kilometre journey, the river passes through several physical features and terrains before joining the Yamuna at Pachnada near Bhareilly in Uttar Pradesh.
- **Banas River:** The Banas River originates in Rajasthan and flows into the Chambal River. The Khamnor hills in the Aravalli mountain range (approximately 5 kilometres from Kumbhalgarh in Rajasthan's Rajsamand district) are the source of this river. The river travels through the Mewar area before entering Chambal near the Rameshwar hamlet in the Sawai Madhopur district. During its 512-kilometer trip, rivers such as Berach, Menali, Kothari, Khari, Dai, Dheel, Sohadara, Morel, and Kalisil join it.
- **Ghaggar-Hakra River:** The Ghaggar-Hakra River is a significant waterway that flows across the plains of northern India in a western direction. The Ghaggar-Hakra rises in Himachal Pradesh's Shivalik hills and runs south through the states of Haryana and Rajasthan before entering Pakistan and drying out before reaching the Arabian Sea. The current length of the waterway is around 320 kilometres.
- **Luni River:** The Luni River flows through Rajasthan's western region and originates in the Aravalli Ranges in Naga hills near Pushkar. The river begins its journey in the Ajmer region and flows through the peaty plains of Gujarat's Rann of Kutch. The river

runs about 530 kilometres from Rajasthan to Gujarat. This river is known by several names depending on where it alters its path. The Luni River Basin covers 37,363 km² and includes numerous areas of the Ajmer area from Barmer to Jalor before proceeding on through Jodhpur, Nagaur, and Pali before entering the Sirohi district.

- **Mahi River:** The Mahi River flows from Minda Village in the Dhar Madhya Pradesh District to the Gulf of Khambat. It begins in Madhya Pradesh and runs through the Vagad district of Rajasthan before entering Gujarat and spilling into the Arabian Sea.

In addition to these, rivers like Arvari, Bandi, Berach, Jawai and Kali Sindh also flow through Rajasthan.

CAUSES OF FLOODS

In its strictest sense, a "river in flood" means overflowing of its water into the surrounding countryside. The height of the banks and consequently the flow of water may vary greatly within comparatively short stretches. The floods are caused due to the following factors:

1. Extra-ordinary heavy precipitation concentrated in the catchment over a period of few days.
2. Choking of the bed of the river with heavy detritus and the consequent change in the river course
3. Artificial obstruction to natural river flow like inadequate waterways provided on railways or road bridges or road embankments.
4. The problem of floods faced by India is unique in several respects due to varied climate and rainfall pattern in different parts of the country. Of the country's total geographical area of about 328 million hectares, about 41 million hectare or nearly 12%, is considered flood-prone. Though most of the floods occur during the south-west monsoon season, which accounts for about 80% of the total annual precipitation, inundation of inhabitant land even in other parts of the year, too, is not uncommon. There are occasions, when one part of the country is experiencing floods while another is in the grip of severe drought.

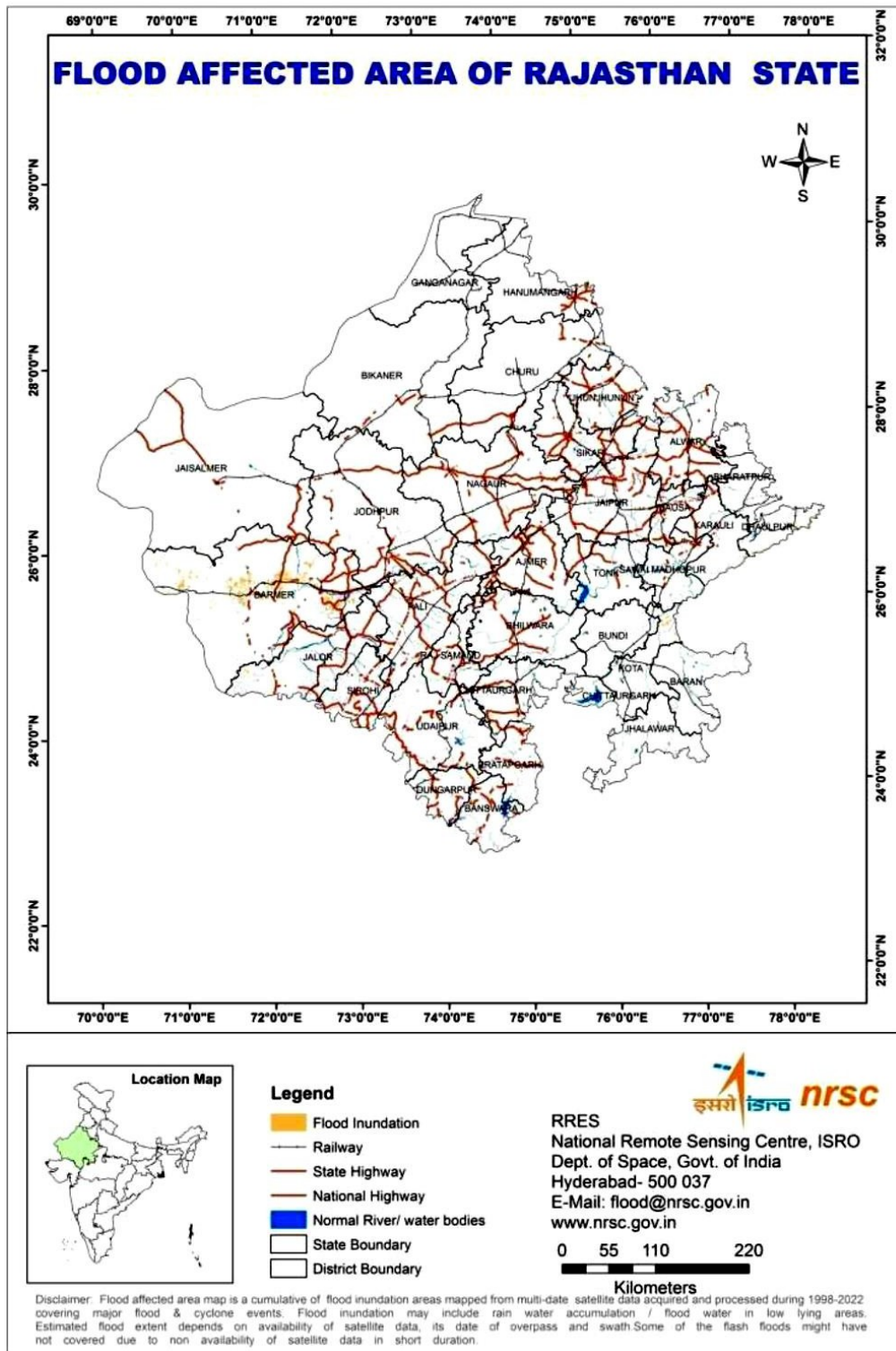
FLOOD PROBLEM IN RAJASTHAN

Even though Rajasthan is largely water deficit, there are incidents of flood. The flood prone areas in Rajasthan include Ajmer, Barmer, Jodhpur, Pali, Jalore, Kota, Jaipur etc. These regions are spread across the basins and sub-basins of rivers like Chambal, Banas, Banganga, Ghaggar and Luni. The floods in rivers mostly occur either due to heavy rainfall or obstructions that restrict the flow of rivers. In urban areas, floods usually occur because of lack of proper planning and choking of drainage systems. 2006, 2016 and 2022 are the recent years.

MAJOR FLOOD EVENT OF RAJASTHAN

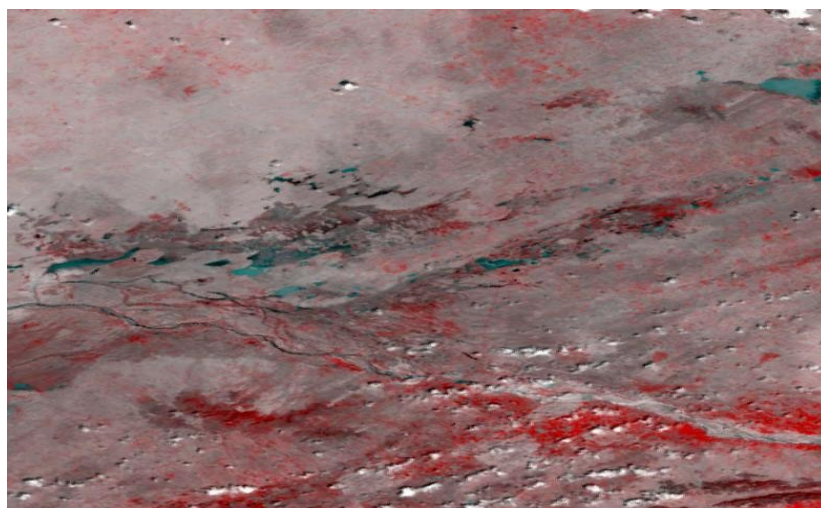
S.No	Year	Description of the flood event	Districts affected
1	2006	Floods were reported in the state due to heavy rains during 21 st Aug – 1 st Sep 2006	2
2	2016	Floods were reported in 2 nd week of August 2016	1
3	2022	Heavy incessant rains were reported in parts of Rajasthan during the first week of August, 2022. Many low lying areas along the Chambal river were inundated	5

The erratic and temporal occurrence of floods in Rajasthan adds to the difficulty of formulating a system. Documentation and analysis of flood damage and losses would be major exercise in itself cataloguing of flood prone areas.





Dhaulpur District Inundation Map



Barmer District Inundation Map

Institutional Framework & Coordination Measures

various stakeholders:

- **Neighborhood Community**

The local community in the affected neighborhood is always the first responder after a disaster. Experience has shown that over 80 per-cent of search and rescue is carried out by the local community before the intervention of the state machinery and specialized search and rescue teams. Thus trained and equipped teams consisting of local people will be setup in flood prone areas to respond effectively in the event of floods.

- **Search and Rescue Teams**

Teams will be developed in each district with basic training in search and rescue. On the ground, besides others, the NDRF battalions will also assist the State Government/District Authorities in training communities. Youth organizations such as the NCC, NSS and NYKS will provide support services to the response teams at the local level under the overall guidance and supervision of the local administration.

- **Emergency Relief**

District Administration along with help of Trained community level teams will assist in planning and setting up emergency shelters, distributing relief among the affected people, identifying missing people, and addressing the needs of education health care, water supply and sanitation, food etc. of the affected community. Members of these teams will be made aware of the specific requirement of the disaster-affected communities. It will be ensured by the concerned authorities that the stock piling of the essential commodities has been carried out. These teams will also assist the government in identifying the most vulnerable people who may need special assistance following floods.

- **Incident Command System**

All response activities will be undertaken at the local level through a suitably devised Incident Command System (IRS) coordinated by the local administration through the EOCs. State government will commission and maintain EOCs at appropriate levels for the coordination of human resources, relief supplies and equipment. Standard Operating Procedures (SOPs) for the EOC will be developed by state government and integrated within the framework of the IRS, which will take advantage of modern technologies and tools, such as GIS maps, scenarios and simulation models for effectively responding to disasters. The

state government/SDMA undertakes the training of personnel's involved in the IRS.

The primary responsibility for the implementation of the Rajasthan Flood Action Plan 2024. These institutions will work in tandem to ensure effective planning, preparedness, response, and recovery from flood-related disasters.

The key institutions involved are:

- 1. State Disaster Management Authority (SDMA):** The apex body responsible for overall disaster management in the state. It formulates policies, plans, and guidelines for disaster management and coordinates with national and district-level authorities.
- 2. District Disaster Management Authorities (DDMAs):** Responsible for planning, coordinating, and implementing disaster management activities at the district level. They are crucial for local-level response and recovery operations.
- 3. State-level Offices of Indian Meteorological Department (IMD):** Provide weather forecasts, warnings, and climate information crucial for early warning systems and decision-making processes.
- 4. Central Water Commission (CWC):** Offers flood forecasting and advisory services. Monitors water levels in major rivers and reservoirs to provide timely warnings.
- 5. Geological Survey of India (GSI):** Provides data on soil and land stability, which is essential for planning flood mitigation measures.
- 6. National Disaster Response Force (NDRF):** Specialized force equipped and trained for disaster response, providing immediate assistance during flood events.
- 7. State Disaster Response Force (SDRF):** State-level force similar to NDRF, focusing on rapid response and rescue operations.
- 8. Home Guards and Civil Defence:** Volunteers and professionals who assist in emergency response, relief operations, and maintaining public order during disasters.

- 9. Other Relevant Authorities:** Includes Public Works Department (PWD), Health Department, Irrigation Department, Urban Development Authorities, and local administrative bodies

CO-ORDINATION MECHANISMS

- **State to District Level:**
 - SDMA issues directives and guidelines to DDMAAs.
 - Regular video conferences and meetings to review preparedness and response measures.
 - Real-time data sharing through integrated communication systems.
- **District to State Level:**
 - DDMAAs report on-ground situations and requirements to SDMA.
 - Submission of periodic progress reports on flood management activities.
- **Inter-Departmental Coordination:**
 - Establishment of an Emergency Operations Centre (EOC) at state and district levels.
 - Regular coordination meetings involving all relevant departments and agencies.
 - Use of integrated communication platforms for real-time information exchange.
- **Community and Stakeholder Engagement:**
 - Engage local communities, NGOs, and civil society in planning and response activities.
 - Conduct awareness campaigns and capacity-building workshops for local stakeholders.
- **Public Information and Communication:**
 - Disseminate early warnings and advisories through multiple channels, including media, social media, and community networks.
 - Establish a 24*7 helpline for public inquiries and assistance.

ROLES AND RESPONSIBILITIES

STATE-LEVEL AUTHORITIES

- **SDMA:**
 - Formulate and update the flood action plan.
 - Coordinating with national agencies like NDRF, IMD, and CWC.
 - Allocating resources and funds for flood management.
 - Monitoring and reviewing the implementation of the plan.
- **IMD:**
 - Providing weather forecasts and early warnings for heavy rains and potential floods.
 - Sharing data with SDMA and DDMA's for timely action.
- **CWC:**
 - Monitoring water levels and issue flood forecasts.
 - Coordinating with state irrigation departments for water release management.
- **GSI:**
 - Assessing and providing data on land and soil conditions.
 - Assisting in planning flood mitigation and infrastructure projects.
- **NDRF:**
 - Deploying specialized teams for search and rescue operations.
 - Conducting training and capacity-building programs for SDRF and local responders.
- **SDRF:**
 - Conducting immediate response and rescue operations.
 - Work closely with NDRF and local authorities during disasters.

DISTRICT-LEVEL AUTHORITIES

- **DDMAs:**
 - Prepare and implement district-level flood action plans.
 - Conduct risk assessments and vulnerability analyses.
 - Coordinate with local departments for disaster preparedness and response.
 - Ensure community participation and awareness programs.
- **District Administration:**
 - Oversee relief and rehabilitation operations.
 - Mobilize resources and ensure efficient distribution of aid.
- **Health Department:**
 - Provide medical aid and ensure health services during and after floods.
 - Conduct public health assessments to prevent disease outbreaks.
- **Public Works Department (PWD):**
 - Maintain and repair infrastructure such as roads and bridges.
 - Implement flood mitigation structures like embankments and drainage systems.

STATE LEVEL CO-ORDINATION AND REVIEW COMMITTEE

The threat of floods can occur any time during the monsoon season. It shall therefore, be the duty of the Relief Commissioner to obtain orders of the Chief Secretary for activating the Standing State level Co-ordination and Review Committee (Disaster Management Group) by first week of April, for coordinating the work of disaster preparedness and disaster relief and rehabilitation. The Committee consists of the following members-

- Chief Secretary to Government (Chairman)
- ACS/Principal Secretary/ Secretary, Water Resource
- ACS/Principal Secretary/ Secretary, Home
- ACS/Principal Secretary/ Secretary, DM&R
- ACS/Principal Secretary/ Secretary, Finance
- ACS/Principal Secretary/ Secretary, Energy
- ACS/Principal Secretary/ Secretary, Public Works Department
- ACS/Principal Secretary/ Secretary, UDH & LSG
- ACS/Principal Secretary/ Secretary, Medical & Health
- ACS/Principal Secretary/ Secretary, PHED & GWD
- ACS/Principal Secretary/ Secretary, Agriculture

- ACS/Principal Secretary/ Secretary, Animal Husbandry
- ACS/Principal Secretary/Secretary, Disaster Management & Relief Member Secretary
- Director General of Police Member
- Director General, Civil Defence
- General Manager, BSNL or his nominee
- General Manager, Northern-Western Railway or his nominee
- Any other member as and when required by the Chairman.

The State level Committee shall meet as frequently as the situation demands during the period the danger of natural disaster exists or till the emergency situation lasts.

It shall be open to the Chairman to call meeting of the full Committee or to call separate meetings of group of members who may be mainly concerned with the particular matter or matters before the Committee if such a course is found to be more conducive to the speedy disposal of the business before the Committee.

Chairman of the Committee shall during a natural calamity, set up a Task Force or a sub-committee under his Chairmanship for taking daily stock of the situation and for issuing necessary, directions for dealing with the situation.

DUTIES OF RELIEF COMMISSIONER

At the State level Relief Commissioner shall be in overall charge of Emergency Relief Operation. He shall ensure that the Collectors have, for their respective districts prepared contingency plans for the intensive (high risk) and non-intensive (low risk) areas; that they are in a State of readiness to meet natural calamity when it strikes and that the contingency plan contain adequate provision in respect of rescue and evacuation operations; if and when found necessary.

The Relief Commissioner shall direct and exercise complete control over all branches of relief and rehabilitation. He shall frequently move about supervising relief operations, giving wherever possible advice and instructions on the spot, communicating freely by telephone, telex, police/W/T, telegram and letter with the Commissioner, Collector and Superior Officers of other concerned Departments with the object of securing promptitude in action, uniformity of procedure, reduction of correspondence by frequent personal conferences and speedy removal of

any misunderstanding of orders.

He shall keep himself thoroughly informed of the whole course of events, watch the progress of relief and rehabilitation operation and the utilization of grants placed at the disposal of the Commissioners, the Collectors and other authorities.

He shall initiate action for convening meetings of Disaster Management Authority and Coordination Committee and the Committee of Ministers, if any, set up for the purpose.

He shall from time to time report to Government all important developments concerning the plans for disaster preparedness, disaster mitigation and the relief and rehabilitation operations and shall carry out the orders of Government in that behalf.

DEPARTMENTAL LIAISON OFFICERS

All Secretaries of the Departments, which are concerned with any branch of Relief and Rehabilitation work, shall nominate liaison officers, who will render all necessary assistance to the Relief Commissioner in co-coordinating Relief and Rehabilitation operations.

All Central Government Departments/Authorities like AIR, TV, Railways, P&T and India Meteorology Department etc. and the local authorities like the Municipal Corporation may, where necessary be requested to appoint Liaison Officers for similar purposes.

Relief Commissioner may convene meetings of liaison Officers of both Central and State Government Departments for thrashing out interdepartmental issue.

SETTING UP OF A CONTROL ROOM AT STATE LEVEL (SEOC)

When according to the Flood warning (first stage) metropolitan area and areas around about the threatened by flood from Control room will be set up at the Relief Department and maintained round the clock which will be in constant touch with

- (i) Meteorological Department and Irrigation Department for getting the latest flood information
- (ii) Various Government Authorities and organizations for passing on the above information to them

(iii) Various Authorities in the threatened areas for conveying instructions for safety operations.

Of floods affecting large tracks of the State are anticipated, Irrigation Department, Relief Department may maintain a similar monitoring room at the State Head Quarters giving up to date position about situation and the areas likely to be affected.

ADMINISTRATIVE SET UP AT THE DISTRICT LEVEL

District level Coordination and Review Committee

The District level Coordination and Review Committee shall consist of the following members:-

1)	The Collector	Chairman
2)	The Superintendent of Police	Member
3)	The Chief Executive Officer, Zilla Parishad	Member
4)	The District Health Officer, Zilla Parishad	Member
5)	The Civil Surgeon	Member
6)	The Executive Engineer, PWD	Member
7)	The Executive Engineer, Irrigation	Member
8)	The Executive Engineer, RSEB(Company)	Member
9)	The Deputy Director of Agriculture	Member
10)	The Deputy Director, Animal Husbandry	Member
11)	The Executive Engineer, PHE &GWD	Member
12)	The Regional Transport Officer/DTO,	Member
13)	The Regional Manager/D.M., RSRTC	Member
14)	The District Publicity Officer	Member
15)	The District Supply Officer	Member
16)	The Local Station Director, AIR	Member
17)	The Local Station Director, Doordarshan	Member
18)	The District Commandant, Home Guards	Member
19)	The Divisional/District Forest Officer	Member
20)	Sub-Divisional Officer concerned	Member
21)	Tehsildars concerned	Member
22)	The Local Divisional Manager, Railways	Member
23)	The Local Asstt. Engineer P&T Dept.	Member

24)	Local Commandant, Army/Air Force	Member
25)	The Local Red Cross Society	Member
26)	The Local Lions Club	Member

The Collector may co-opt additional members as and when found necessary.

It shall be open to the Collector to call a meeting of the full Committee or to call a separate meeting of a group of members who may be mainly concerned with particular matter or matters, if such a course is found to be more conducive to the speedy disposal of the business before the Committee.

During the emergency the Collector may set up a sub-Committee under his Chairmanship consisting of some of the members of the Committee for taking daily stock of the situation and for issuing directions for dealing with the emergency.

ROLE OF THE COLLECTOR

- The Collector shall be responsible for
 - (a) preparation of contingency plan
 - (b) for all rescue evacuation, relief and rehabilitation measures.
- Officers of all State Government Departments/Offices employed on or entrusted with any of the measures for rescue, evacuation, relief and rehabilitation measures shall obey his orders on all points not exclusively professional. In any case in which the Collector's order or decision is questioned by any officer of other department, the Collector's order or decision shall be obeyed or carried out pending a reference which may be made to Government.
- The Collector may in the case of urgency of floods get in touch with the local Army/Air Force Establishment for assistance for rescue, evacuation and emergency relief measures.

Note:- In the case of areas falling within a Municipal Corporation, the Collector shall prepare the Contingency Plan in consultation with the Municipal Commissioner. The LSG Department may also set up a committee for this purpose under the Chairmanship of the Municipal Commissioner.

DISTRICT CONTROL ROOM

- A Central Control Room should be established at the Collectorate which will be in constant touch with
 - Meteorological Department for getting the latest cyclone information
 - (ii) with Irrigation authorities for getting information about water level in the river etc. and up to date position about flood situation and areas likely to be affected etc. The Control Room should be manned round the clock and it should get in touch with various authorities in the threatened areas for conveying instructions about safety operations. The Additional Collector should be placed in charge of this work.
- At the Tehsil headquarters a sub-control room should be established for similar purposes.

FLOOD PREPAREDNESS

Preparedness

Those activities which governments, organizations, communities and individuals develop to minimize loss of life and damage and to organize and facilitate timely and effective rescue, relief and rehabilitation in case of disaster.

Preparedness is the "insurance policy" against disasters; it is undertaken because mitigation activities cannot fully eliminate the occurrence of those events. Preparedness is supported by the necessary legislation and means a readiness to cope with disasters or similar emergencies, which cannot be avoided. Preparedness is concerned with forecasting and warning. The education and training of the population, organization for and management of disasters, including preparation of operational plans, training of relief groups, the stockpiling of supplies and the earmarking of the necessary fund.

Preventive Action

Disaster Preventive Action may be described as measures designed to prevent natural phenomena from causing or resulting in disaster or other related emergency situations.

Preventive Action concerns the formulation and implementation of long range policies and programs to prevent or eliminate the occurrence of disasters. On the basis of vulnerability analysis of all risks, preventive action includes legislation and regulatory principally in the fields of physical and urban planning, public works and building.

Mitigation

The concept of mitigation spans the broad spectrum of disaster prevention and preparedness. Mitigation means reducing the actual or probable effects of extreme disaster or man and his environment. Thus an emergency plan if properly executed can have a mitigating effect on a disaster just as the proper observance of building and land use regulations designed to event disaster. Mitigation is, in fact, prevention to a degree.

Flood control and mitigation action at State Level

Normal Times

i) Emergency operation Control room will keep a constant touch with IMD and Control Room of Irrigation Department and get daily reports on weather forecast. Based on the reports, appropriate feedback should be such to the districts so that necessary precautions are taken.

ii) **Constitution of a weather watch Group:** A weather watch group would be constituted which will review the weather condition every week from the month of June to September. The Group will comprise of Relief Commissioner, Chief Engineer Irrigation, Director IMD and Director Agriculture Department.

iii) **Meeting of the State Flood Advisory Committee :** The meeting of the State Advisory Committee would be convened in the month of May every year and the preparatory action taken by the various departments should be reviewed and concerned departments be directed to take all necessary preventive measures and equip themselves to meet any eventuality. Respective departments will also pass on similar directions to their field outfits.

iv) **Nodal Department:** The government by a separate decision has designated some departments as Nodal Department to deal with all the matters relating to the respective disaster

The responsibilities are:

- a) Take all necessary steps for prevention, preparedness and mitigation of the disaster.
- b) As soon as disaster occurs, inform the Chairman of Disaster Management Group and set the disaster Response Mechanism in motion without any delay.
- c) Co-ordinate various government/ non-government agencies for prevention, preparedness and adequate response to the disaster.
- d) Update Disaster Management and Contingency Plan from time to time and also take necessary steps for its effective implication in the field.

e) To take necessary steps to educate and inform the masses on various issues relating to the disaster.

v) **List of Important Telephone Numbers :** The directory of important telephone numbers should be updated and kept in the Control Room and also circulated to all concerned in the month of May every year by the Relief Department.

vi) **List of NGOs:** A list of NGOs along with the telephone numbers who can assist in relief activities will be kept in the EOC & IDRN website by all Collectors.

vii) Roles and Responsibilities of various departments

The roles and responsibilities of various departments are as follows:

Meteorological Department

1. To keep track of any situation wherein the warning for floods/flash floods is to be issued. The information is conveyed to the Relief Commissioner on phone and EOC in writing without delay.
2. To keep weather stations fully functional.

Local Bodies Department

1. All the local bodies to timely clean, desilt the drainage system before rain.
2. To identify high lying areas nearby the localities likely to be flooded for temporary camps.
3. To make arrangements of pump sets for dewatering of accumulated rain/flood water.
4. Arrangement for disposal of carcass.
5. To ensure that water of gutter lines/rain water do not seep into the drinking water lines. A joint survey of the line along with PHED officers be taken every year in the month of April-May.
6. To remove the garbage, dead animals timely to prevent diseases.
7. To take preventive health measures like food and water safety, anti-malarial measures, ban on sale of cut fruits and vegetables in the open etc.

Medical Department

1. To ensure that sufficient medicines are available in store to prevent and control diseases in the rainy season/disaster.
2. To keep the teams of doctors ready with medical mobile van for dispatch to the affected areas with required medicines, well in time.
3. To strictly enforce food and water safety measures.
4. To take effective preventive steps against occurrence of epidemics.

5. To set up round the clock control room.
6. Disinfection of drinking water sources other than PHED.
7. Accurate and realistic assessment of medical infrastructure and capabilities at Village, Block, District and State level including private medical and health infrastructure.
8. Identification and location of possible camp sites and ensure hygiene facilities are adequate.
9. Availability of adequate medicines and drugs for commonly occurring ailments during and post floods.
10. Formation of adequate number of mobile units with trained personnel, testing facilities, communication systems and emergency treatment facilities.
11. Training of communities, field personnel, Traditional Birth Attendants, community leaders, volunteers and NGOs in basic medical first aid procedures, handling of snake bite kits and administering emergency drugs; such as morphine.
12. Training members of Village Disaster Management Committees and NGOs of the villages.
13. Promoting and strengthening Primary Health Centres and dovetailing into overall plans of medical and health care.
14. Ensure adequate number of ambulances is available for shifting of patients. Listing of available ambulances with civil be maintained for requisition or hiring in emergency.

Police and Wireless Department

1. To keep police force in readiness for rescue and relief operations when the disaster occurs.
2. To provide wireless communication network during emergencies.
3. Law and Order.

Irrigation Department

1. To identify vulnerable areas in each district and formulate a plan of action to face the hazard.
2. To make operational the wireless sets available.
3. To arrange for boats, life jackets, ropes, torches etc.
4. To identify other available resources in each district to be rushed to other districts in case they are required.
5. To identify NGOs and list the resource material available with each of them which can

be put to use in case of disaster like situation.

6. To strengthen embankments of rivers and canals, make necessary repairs on bunds/dams and in case of vulnerability advise district administration to take suitable steps to avoid any impending disaster.
7. To grease the gates of dams and tanks and ensure that they are functional.
8. To maintain constant visits on dams and tanks during rainy season and issue advance warning to the district administration and the areas in the downstream about any impending danger.
9. Regularly update the Disaster Management Plans of the Department.

Fisheries Department

1. To identify the resources like boats, life jackets, expert fishermen and swimmers prepared list thereof etc. to be rushed to the place of disaster when required and send a copy to the EOC also.

P.H.E.D. Department

1. To make control room operational during rainy season.
2. To check any broken pipelines of drinking water and repair them for safe drinking water.
3. Arrangements for quick restoration of water supply in case of floods.

Public Works Department

1. To identify buildings which may collapse during rains they should be repaired or they if found unfit then they should be removed.
2. To identify high level areas for building construction on the basis of flood mapping.
3. To identify high level areas for rehabilitation camps in case of heavy rains, flash flood etc.
4. To identify resources which are essentially required during flood rescue relief operations.
5. Arrangement for quick relief operations for temporary and permanent restoration works.

Power Department

1. To take all necessary steps for no disruption in power supply and all life safety should also be ensured from falling electric lines poles during high winds and floods.
2. To restore power as early as possible during contingencies.
3. To check the loose connections installation before rains begin.
4. To make arrangements of power in rescue camps for the affected people.

Animal Husbandry Department

1. To store required medicines, vaccines etc. and keep them ready for dispatch in case of outbreak of disease.
2. Put in place proper disease surveillance and quick response mechanism.
3. To vaccinate the animals for preventive health care wherever required.
4. Arrangement of fodder and cattle feed in flood affected areas.
5. Advice to Gram Panchayats for safe disposal of dead animals.

Food Department

1. To ensure sufficient storage of food and other essential commodities in advance in vulnerable areas.
2. To issue instructions to keep essential stocks of commodities for emergency requirements.
3. Arrange relief supplies of food and other necessities during the flood.

Relief Department

1. Co-ordinate the efforts of all the departments.
2. Respond to the demands of the district.
3. To make available funds for relief operations.
4. Co-ordinate with Army and Air force.
5. Timely dissemination of information regarding the disaster to all concerned.
6. Keep the collectors updated on the policy discussion regarding relief to be distributed.
7. Inform the public through DPIR about the situation.
8. Monitor and direct relief activities and put up progress reports to CM, Relief Minister and Chief Secretary.
9. Manage the Emergency Operations Centre.
10. Ensure timely up-dation of the Disaster Management Flood Plan's at State and District Level.
11. Convene the meeting of Disaster Management Group as soon as the information

regarding the disaster to received.

Information and Public Relations Department

1. Maintain a close liaison with EOC and keep the public informed about the situation, relief measures taken by the government through newspapers, TV/Radio etc.
2. Brief the press on the factual situation and maintain close liaison with the media throughout the emergency.

Department of Information and Technology

1. Provide all necessary help to set up reliable modern communication system.
2. To provide necessary wherewithal (Physical and human) to the EOC for computerized monitoring.
3. Develop standardized software package for online monitoring of the relief and rescue operations.
4. Maintain close liaison with NIC and ISRO for obtaining access to their resources /information for emergency control.

Although flood management is a combined responsibility of all concerned departments, still Irrigation Department has a special role to play as it has been made nodal agency of the State for flood management and mitigation.

A State level flood memorandum shall be prepared by the Irrigation Department every year and supplied to all concerned containing the following information:

Address & telephone Nos., of all the coordinating officers at district level.

List of Wireless stations.

List of High frequency Wireless stations.

List of river gauge discharge sites.

Formats to report flood situation.

Model action plan.

Material required for maintenance.

List of flood prone areas.

Index plan of river such as Chambal, Banas, Banganga, Gambhiri, Mahi, Jakham, Som, Wakal, Sei, Sabarmati, West Banas, Sukli, Luni & Ghaggar River showing river gauge discharge sites and wireless stations.

Collection of information at the level of Dy. Director, Hydrology:

The data of rainfall, floods, river gauges and availability of water in different major and medium dams are published daily and circulated among the connected officers at the State level.

Disaster contingent plan shall be prepared at every district level by respective nodal officer i.e.

Executive Engineer in consultation with district authorities and Collector. The district wise contingent plan contains:

1. Location of all dams.
2. Location of vulnerable points with regard to floods and identification of flood prone area and low lying lands and demarcation of Flood affected zones.
3. River high flood marks and likely submergence, alternate routes.
4. Location of wireless and telephones at various Head quarters.
5. Location of officers and officials available at different head quarters.
6. Location and quantity of different types of materials required in case of emergency suchas empty cement bags, stones and grit, empty drums, wooden planks and ballies, wire crates, availability of de-watering pumps, sump pumps and water tankers etc.
7. Location of machinery available at different stations such as tractors, trolleys, dozers, trucks and dumpers, list of swimmers etc.
8. List of NGOs and divers and identification of nearest shelter points e.g. school etc.
9. Above information may put on website of IDR N for future use and it should be updatedby regular intervals of six months.

All nodal agencies at division and sub division level connected with central room at Jaipur as well as control rooms established at district level by the district administration and the police control room. The nodal officer is respective Executive Engineer, Irrigation Department, and Rajasthan.

Regular features observed by Dam Safety Organization

- (A) The State Dam Safety Organization shall inspect all the large dams which are 202 in nos. every year before and after onset of monsoon.
- (B) A health status prepared for the large dams based on pre and post monsoon inspection reports every year and the dams if found under disaster condition, they are reported to the State Government and action is proposed to over come the problem.
- (C) As per guidelines of Central Water Commission regarding hazard assessment and emergency preparedness plans the large dams of Rajasthan have been categorized and prioritization of dams has been done and the dams, which are beyond the permissiblelimits of hazard assessment are given more attention.
- (D) The meetings of State as well as district level flood committees are held regularly before 15th June to discuss the models, contingency plans and to fix responsibilities of all Govt. agencies (including Defence), para military forces, NGOs. The security areas are identified. Central as well as district level control room start functioning w.e.f.,

15th Junetill 30th September.

- (E) Arrangement for vehicles, T&P, manpower, medicines, food grains including essential commodities are established including greasing, maintenance, repairs of gates of dams/canals are undertaken. Similarly gunny bags etc. are kept ready at vulnerable points. P&T department be requested to keep important telephones in working position.
- (F) Pre monsoon detail joint inspection shall be carried out by Railway and Irrigation Departments. This should be ensured by both departments that all necessary repair has been carried out to protect railway tracks as well as irrigation systems should not be disrupted by flood.

Flood Forecasting:-

Flood forecasting is generally the responsibility of the hydrologists and meteorologists while warning the general public about the likely disaster is the responsibility of the District Collector and other civil authorities charged with the emergency operations namely rescues evacuation and relief in the affected areas. For the successful implementation of the flood warning and rescue and relief operations, there should be closest coordination and cooperation between the two.

Services responsible for forecasts - In an organization for disaster prevention and preparedness there are many components, each one of which is essential to the smooth functioning and efficiency of the organization throughout the approach, duration and the aftermath of a natural disaster. The responsibilities or providing forecasts and warning of natural disaster such as heavy rains, floods, etc. fall upon the national services concerned with meteorology, hydrology and hydrography. It is important that the authorities involved in planning and operation of the programme for disaster prevention and preparedness should have a good understanding of the work of the services responsible for the meteorology, hydrology and hydrography should appreciate their capabilities and limitations.

Forecasts of adverse weather - The Meteorological service is however well accustomed to preparing and issuing weather forecasts from day to day and also warnings of adverse weather, whenever appropriate. If sufficient advance warning is possible then the preparations can be made to meet the disaster. These warnings must however reach the responsible authorities in time and directly or indirectly to the general public. This coupled with well- designed management machinery it should be possible to reduce the loss of life by advance evacuation and reduce loss of property to a considerable degree. With

great advances of science and technology e.g. radar and satellite surveillance; computerized technique etc. the range and flexibility of forecasting methods have greatly expanded.

Flood warning

Although Rajasthan State does not have large flood plains, however, a number of areas alongside the important rivers have on occasion suffered from flood ravages during the monsoon. The concerned authorities have already been asked to identify the areas from their respective Districts, which usually get inundated by floodwaters.

In areas where flood control works have been undertaken, the authorities in charge of the works should every year inspect such works before the onset of the monsoon, and carry out repairs or strengthening of the works wherever necessary. The Collectors of the districts concerned should also be cautioned by the authorities in charge of maintenance about any threat of a breach in embankment etc. well in advance so as to give them adequate time to take necessary precautionary measures including evacuation of the people from the threatened area.

The objective of a flood warning service is to give timely warning to the people concerned and to the organizations responsible for flood fighting and rescue and evacuation operations. These organizations may receive flood warning from the forecasting center or from the regional or local warning centers. Various points required to be attended to in deciding the issue of warnings is as follows:

Flood warning stages on all important rivers are to be fixed by Irrigation authorities. The warning stages also need to be periodically reviewed at intervals of five years depending upon the State Rivers and the revised stages published. Such a publication should include the names of the rivers, the tide gauge readings stationed on it, previous highest records of levels/ discharges/years of occurrences, its distance from important towns/villages down stream which are likely to be affected, etc. It should also indicate the levels at which White; Blue and Red signal would be given. The significance of the colours is as under:

White signal should indicate advance approach of floods in the river in the reach concerned. The signal is in the nature of an alert signal for the concerned authorities regarding probability of incoming floods

Blue signal should indicate immediate calling of greater alertness or readiness for evacuation;

Red signal is meant for flood control and district officials, calling their attention to the approach of high flood of such an order as may cause damage to flood protection works, and inundation of more than what is shown in the flood plan. The district authorities must then take action for

dissemination of warning of the impending flood to the public and to the authorities responsible for organising evacuation of persons from the risk areas.

Installation of Police Wireless at Dam site before the commencement of Monsoon Season arrangements should be made by the Irrigation authorities in consultation with the Police to install Police wireless transmission sets on all Dam sites, so that flood warnings could be sent promptly to the Collectors and other authorities concerned.

Flood warning to general public.

- (1) Members of public in the areas which are in danger of inundation by flood waters should be warned through the Regional A.I.R. and T.V. Stations These stations should be requested to broadcast special flood bulletins at frequent intervals.
- (2) Arrangements may also be made for warning the general public in the threatened area through visual signals from towers or any other high-rise buildings in the area. If there is no electric power or if there is a power failure the visual signals may be given by using flags or lanterns.
- (3) Sirens either electric sirens or hand operated sirens can also be used for sounding in predetermined manner both the warning of flood danger and the deworming to indicate all clear situation.
- (4) Local emergency communication system - It is necessary to ensure that the officials in the area, who are in charge of rescue, evacuation and relief operation, receive the flood warnings and other messages in good time. It is possible that the landline communication may break down due to adverse weather situation and the flooding of the area. Therefore apart from the bulletins broadcast by A.I.R. and T.V. Stations, arrangements should be made to establish contact with the local officers through field telephones or through police Wireless.
- (5) Review of flood warning system - Before the monsoon season, a testing exercise should be held by the Collector for the flood warning system not only to ensure that various components of the system are in good working order but also to familiarize all concerned officials and the population in the high rise areas of the working of the system and its importance.

FLASH FLOODS WARNING -

The flood warning system described in above paragraph pertains to the floods for which there are fairly long warning periods. Flash floods, which strike unexpectedly, require prompt detection of flood producing rainfall and timely warnings, if losses are to be reduced and lives saved, forecasting of flash floods is, however, most difficult particularly in hilly terrain. These are caused by intense rainfall with peak stage occurring in a matter of hours after the end of heavy rains. The problem of warning also differs greatly from one locality to another. Special devices are usually installed upstream and these set off an alarm when a selected water level is reached. Installation of such a device is however a highly technical and skilled job and will have to be handled by irrigation authorities on selected streams which pose greatest danger of flash floods.

RESPONSE MECHANISM

This is the most critical phase of the Plan as it would entail execution of plans prepared earlier and the initiation of the Standard Operating Procedure (SOP) set during the Preparatory Phase. In this phase, on receipt of flood warning immediate action will start from lowest to highest level simultaneously.

Flood Disaster Response Action Plan at District Level

The action plan consists of the following activities:-

- a. Declaration of Anticipated Flood Situation/Flood Disaster
- b. Flood Forecasting and Warning
- c. Trigger Mechanism
- d. Activation of SEOC/DEOC as per laid down SOP.
- e. Mechanism of the concerned departments along with the roles and responsibilities as per IRS guidelines.
- f. Relief Arrangements
- g. Declaration of Help Line Number - to be displayed at prominent places, conveyed through social/print/electronic media, radio and cinema.
- h. Every District HQ / Sub Division HQ/Panchayat to have a chart listing the tasks and the responsibilities prepared.

A recommended format is as follows: -

S No	Type of Warning	Task to be performed	Responsibility	Remarks

Authority to Declare Anticipated Flood Situation/Flood Disaster-

The Disaster Management Act 2005 (section) provides for the state government to declare any area affected by flood. Rajasthan State Disaster Management Plan specifies Relief Commissioner as the competent authority for declaration of flood disaster/disaster.

Trigger Mechanism-

The Central Water Commission Issues Daily Flood Bulletins to State Governments/District Administration during the South West Monsoon season for all the major river basins. The nodal agency for Early Warning is State Irrigation Department. The Early Warning is issued in the following categories:-

Category IV: Low Flood (Water level between 'Warning' Level and 'Danger' Level)

Category III: Moderate Flood (Water level below 0.50 m less than HFL and above Danger Level)

Category II: High Flood (Water level still less than Highest Flood Level but within 0.50 m of the HFL)

Category I: Unprecedented Flood (Water level equal and above Highest Flood Level (HFL))

Note:

(a) In case of release of water from the dam: Location specific alert can be given depending on the distance from the dam and quantum of water released.

(b) In case of Flash Floods: local warning mechanism after ascertaining the AWS rainfall report in catchment area.

FLOOD DISASTER RESPONSE AND RELIEF MECHANISM:

A flood response operation should consist of following aspects: -

(a) Warning Dissemination- All announcements including physical announcement should be done well in time for people to move to safer places. Inhabitants of those buildings which have been declared dangerous prior to monsoon should be advised to move to safer places.

(b) **Evacuation**-Once water level starts rising in the water channels, people should be advised to move to pre designated safer place. Help should be available for old infirm, pregnant women and children.

(c) **Essential Services**- Particularly supply of potable water, electricity and sewage disposal are maintained or quickly re-established. Few aspects in this regard which merit attention are as follows:

- Switching off power lines in water logged areas. Once water starts receding the power lines will have to be reenergized. It should be properly notified well in time and no accident be allowed on account of electrocution
- Provision of water sterilizing kits for water purification.
- Ensure avoidance of contamination of potable water with sewage

(d) **Maintaining Access Routes**- In this connection local police to ensure that the access routes are free from flowing / submerged debris and where diversion is required proper marking and traffic control is exercised. Regular patrolling of these routes be done to see if any underwater damaged stretch is noticed and if so, should be addressed immediately. Also, adequate recovery resources are deployed to clear the routes from damaged /stuck vehicles.

(e) **Supply of Relief Material**- Securing areas against vandalism. Plenty of relief material from various sources will be received. Its bulk breaking and supply chain to needy is a very important task. It should be planned well under a dedicated organization.

(f) **Maintaining Communication Lines**- It should either be through PL (if possible), through mobile network or if both are not possible then through a satellite phone.

(g) Protecting, maintaining and repairing existing structural mitigation works.

(h) **Securing Areas against Vandalism**- Police should be deployed to ensure that public/private assets are not damaged by the anti-social elements.

(i) **Conducting Search and Rescue Operations**- Boatmen community should be utilized for this purpose under the guidance of NDRF/SDRF.

(j) **Evacuating Persons and providing for their Immediate Welfare-** Particularly in terms of medical help. Besides, nodal clinics and administration needs to create small vehicle bound teams to visit the affected areas to provide medical relief. Initially, it would be against dehydration and water ingestion slowly as days pass it would be more against water borne diseases.

(k) The relief camps to have charging arrangements for mobile phones, sewage disposal arrangements, potable water for drinking, milk fresh/powder for infants

(l) **Protecting Property and Possessions-** One of the most precious asset would be harvested crop which in the absence of adequate storage space may be lying in open

(m) Coordinating the essential needs of isolated persons and communities

(n) Coordinating the immediate welfare of stranded travelers

(o) Ensuring the Welfare of Flood-Affected Livestock- dairy and poultry etc. Organizing their housing as well as fodder

(p) Community support from NGOs and cultural organizations are highly important to provide relief to affected persons. Their participation in rescue and relief operations should be coordinated by the DDMA.

(q) Depending of severity of floods there may be possibility that teams from NDRF/SDRF or even Armed Forces may get inducted. It is important that the induction of these task forces is smooth and they are facilitated to perform immediately on arrival. Local administration needs to make arrangements well in advance to do that.

(r) Normally many important persons/press/media would be visiting the flood affected areas, many a times such visits may hamper the rescue and relief operations. Therefore, such visitors are taken to a specially rigged up briefing room where the VIP/media is given a detailed briefing on the situation and progress of rescue and relief operations. Visit of VIPs to severely affected area should be minimized.

RESCUE AND RELIEF IN URBAN AREAS

Some of the typical issues in urban areas are as follows: -

- (a) High rise buildings and also a lot of unsafe buildings.
- (b) Poor drainage system which may result into reverse flow in case of floods.
- (c) Excess population putting heavy pressure on rescue and relief operations particularly due to traffic snarls.
- (d) Because of stagnation of water, public health issues assume great importance.
- (e) There will be a number of highly congested areas having less or no storm water disposal arrangements, putting different kind of challenges where encroachments remain quite vulnerable to onslaught of water.
- (f) Logistics and medical support in labyrinths of city pose different kind of challenge.

With the above stated challenges, the task force constitution as well as their equipping be such that rescue and relief operation remain effective. One task for which teams should be formed is to tackle the problem of collapse of buildings and rescue people, who get buried under the debris. Firefighting teams will have to be activated to rescue people from upper floors of the high-rise buildings. Biggest problem in high rise buildings would be periodic charging of mobiles, arrangements for lighting as electricity supply is likely to get switched off once water level raises, provision of water sterilizing kits and first aid to those getting injured and sick. Cities are normally dotted with slums and invariably these are located at lower levels and adjacent to nallahs. Their problems are more in terms of necessity for shelters, provision of safe drinking water, precooked food initially and subsequently provision of fire and rations, medical support initially against injuries later water borne diseases. A well thought plan based on a detailed reconnaissance and interaction with people and in conjunction with NGOs and volunteer group's rescue and relief teams should be planned.

Flood Response Plan					
Elements at Risk				Response Plan	
Area	People/ Families	Structure	Other	Response and Approach	Responders (Contact details of the teams head)
				<ul style="list-style-type: none"> Early Warning: Early warning will be issued through Sachet, which will be based on the alert and warnings issued by the RSDMA. A 	

				<p>warning will be disseminated to early warning and dissemination team.</p> <ul style="list-style-type: none"> • Dissemination: Messages will be disseminated through narrowcasting i.e. loudspeakers, mouth to mouth message and also mobile, whatsapp group or Wireless. • Early Evacuation: Roads and alternative roads are identified; the evacuation team will take a lead to evacuation. Vehicles for transportation and drivers are identified in the plan. • Search, Rescue and Evacuation: Search, Rescue and Evacuation team will assist the Police, Fire and Emergency and NDRF teams in search, rescue and evacuation. Equipment essential for the search, rescue and evacuations are identified in the village and will be utilized for the same. First aid and Health team will assist and communicate with the respective centers in the health emergency. Special attention will be paid for the women, children, disabled, senior citizens, pregnant mother, chronically ill in the search, rescue and evacuation. 	
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SHELTER CHECKLIST:

Checklist for the shelter management (Relief Homes)

	Particulars	Yes	No	N/A
I	Shelter requirements			
1	Safety of the building			
2	Power supply			
3	Kitchen facility: stove, cooking oil, vegetables, Rice other cooking items etc.			
4	Utensils for Kitchen			
5	Gaslight(alternative lights)			
6	Candles, matchbox, kerosene, torches etc.			
7	Registers, registration and attendance			
II	Water, Sanitation and Hygiene Promotion (WASH)			
1	Drinking-Water			

2	Water Safety			
3	Water for other purposes			
4	Hot water for bathing			
5	Toilet(1: 25)			
6	Sanitation near toilet			
7	Vector control			
8	Solid waste management			
9	MHM–Sanitary Pad			
10	Oils, comb, mirror etc.			
11	Hygiene items :Soaps, toothbrush, toothpaste, sanitary pads			
11	Laundry(optional)			
12	Hygiene Promoters			
13	IEC Materials on WASH			
III	Nutrition			
1	Menu for the food to be followed following Nodal officer's checklist			
2	Special focus on the nutrition of <ul style="list-style-type: none"> • Breast feeding of infants • Under-five children • Children • Pregnant mothers • Postnatal mothers 			
3	Nutritional Supplements (if requires)			
IV	Health/Medical Team–PSC			
1	1 Doctor			
2	1 Staff Nurse			
3	2 ANMs			
4	1 Counselor			
5	Local ASHA's			
6	Emergency Medicine Basic			
7	Laboratory facility			
8	Special focus (Children, Women, Pregnant, Specially abled)			
9	Psychological First aid			
V	Non-Food Items (Based on the need)			
1	Mattress for the floor			
2	Blankets, bed sheets, bath towel			
3	Clothes (if requires)			

The information flow when warning signals available shall be as follows:

1. Central nodal agency(IMD-CWC)
2. NEOC/NDMA/MHA
3. Chief Secy./Pr-Secy/Revenue (DM)/SEOC
4. DEOC/District Magistrates/DDMA
5. All nodal Departments-ESF at State and at Districts Level.

When Disaster occurs without early warning:

1. The response team or any other functionary at the sub division levels informs the DEOC about the incidence.
2. DEOC shall apprise the DDMA and activate the operations of rescue & relief with whatever resources at their command.
3. DDMA shall assess the situation and declare the level of disasters.
4. DDMA shall identify the support requirement and seek assistance if required.
5. SEOC activated and NEOC/NDMA/MHA informed.
6. SDMA shall assess the situation and mobilize external resources if required.
7. DDMA shall constantly assess and review the situation and activate coordination, command and control.
8. DDMA shall deploy teams for rapid assessment of damage.
9. Line department teams shall begin work for restoration of power, water supply telecommunication and road connectivity.

RELIEF AND RESCUE MANAGEMENT

After the occurrence of flood all identified agencies should invariably get into action for facilitating relief and rescue operation in flood affected areas. Priorities will have to be accorded to the marooned areas, villages, towns, boats, vehicles; helicopters are to be pressed into service, not only for transporting the marooned people, cattle as well as for providing food stuff. Relief camps to be started as per guidelines in pre identified locations.

In the event of floods in particular area, the Govt., machinery will not be able to cater to all the problems, hence, the services of NGO's volunteers, home guards, charitable institutions will have to be deployed in flood relief operations.

Health services will also be put into service to cover health aspects i.e., first aid treatment of casualties, burial and cremation of dead, disposal of dead cattle, etc. Soon after the disasters first aid to be given and the casualties to be treated, hospitals, altered, specialists to be brought to attend to the injured. Site medical units play an important role in safeguarding the lives and giving health facilities. Identification and burial/cremation of the dead to be done by the District administration, if there are no claimants. This has to be done in the most hygienic way and with all dignity. The provisions and the speed with which it is done reflect the efficiency of the administration. With scientific development, flood forecasting is made much in advance. Public health measures can be well planned in advance in a systematic and scientific manner. Detailed Guidelines & check list for monitoring arrangement for Public Health & Medical problems in flood prone areas are available.

STAGES IN FLOOD RELIEF

1) The preliminary stage –

In the preliminary stage, the Collector or its representatives of the District in which rivers get flooded generally should attend to the standing preparations in the flood relief scheme. He should check up whether –

- (a) The river gauge stations are in order;
- (b) The wireless stations are in working order;
- (c) The places where relief and evacuation centers are to be set up;

(d) The sum of State & country organizations to be contacted for relief, etc.

The Collector should be completely familiar with the relief scheme and take a review of all the above points. He should hold a meeting of the officials and non-officials to organize relief at a short notice.

2) The first stage –

People and animals should be evacuated from dangerously exposed village to safe villages or to safer predetermined places in the same village as soon as a warning of high floods is received. In any case when the water level is high and may be still rising, saving of human and animal life is the first duty of the administration. In a sudden and very heavy flood, men and cattle may have to be removed to high land, arrangements being subsequently made for food, drinking water, fuel and fodder. Well organised relief centers may have to be opened to deal with the situation. There is scope for collaboration between the non-official voluntary organisations and the official's organisations at this stage.

A great deal about evacuation will, of course, depend on the estimated intensity of the approaching floods.

(a) Evacuation Centre – The Collector in consultation with local departments/public will determine the “safe villages/places, which will serve as Evacuation Centres”. Each Centre should cover a group of dangerously exposed village or parts of the village, the people of which should know beforehand the names of such villages, which will serve as their Evacuation Centre. The Evacuation Centre should be properly selected. It should be closed to its group but safe from the ravages of floods. It should be fairly big place so it can, for a day or two shelter the evacuees and their cattle and their feeding can be possible. In selecting an “Evacuation Centre”, the following considerations may be kept in view.

- (i) Safety.
- (ii) Proximity from its satellites.
- (iii) Availability of good drinking water.
- (iv) Its economic resources;
- (v) Proximity and accessibility to its parent “Relief Centre”;
- (vi) Availability of open space where carts, cattle, etc. of evacuees can be kept till they move to the relief centre.

In, each of these Evacuation Centre a committee of workers having organising ability and the spirit of service should be set up. There should be a panel of messengers. It may also be necessary to select a place for use as a community godown to keep stock of foodstuffs in such villages. These Centres will not be expected to shelter and feed evacuees for more than a few days or as soon as possible these people should, unless the Evacuation Centres in a position to keep them longer, be moved to the parent “Relief Centre”. These “Evacuation Centers” may appropriately be described as the ‘First line of Defence against floods.’

It is necessary to provide for rescuing people from dangerously exposed villages because they may have neither the time nor the inclination to move to their Evacuation Centre before the floods overtake them. Such people with their belongings shall have to be rescued by boats and their animals by rafts, unless the animals can swim alongside the boats.

- (b) Relief Centres – Second line of Defence – Favorably situated big villages or towns or portions of villages/towns should be selected as Relief Centres. At the time of selection, care should be taken to ensure that communications can, as far as possible, be maintained between these Centres and Panchayat headquarters.

Every Relief Centre shall have –

- (i) A local Relief Committee comprising of local officials, if any, and influential non-officials of all parties. These Committees shall be set up before hand and get acquainted with the role they will be required to play in the event of any emergency. The representatives of Collector shall set up such a Committee in consultation with the leading residents of the place -
- (ii) A place for cooking food for distribution among evacuees as they arrive and for sending the same out with relief parties;
- (iii) A place for storing food, tentage etc.
- (iv) Selected sites for pitching tents, herding cattle, parking carts, storing cattle etc. and buildings ear-marked for housing evacuees;
- (v) A panel of active and vigorous workers capable of handling boat in rough or running water and who can punt rafts, swim and endure hardships. These will be the people who will go out as relief parties to rescue stranded people, bring in people from Evacuation Centres, accompany official relief parties etc.
- (vi) To select sites or building for serving as community kitchen;

- (vii) A panel of messengers for carrying messages, running errands so on.

The Sarpanch should maintain the closest possible contact with Relief Centres located in his Panchayat and render all possible help to the Relief Committees. It would be of advantage to maintain at each headquarter a list of all organisations, missions, societies, schools and colleges which are expected to contribute workers, funds, equipments, etc. for dealing with any emergency. A Panchayat Relief Committee of all such bodies should be set up at each headquarter and the task of collecting foodstuffs, clothing materials etc. be entrusted to them. In special circumstances, it may be even necessary to start kitchens at Panchayat headquarters for feeding evacuees, who do not report at the Relief Centres and for those sent with the Relief Parties.

Essential medicines can also be collected through this Committee, if influential members of the local business community are its members.

(3) The Second Stage –

At the intermediate stage, when the rescue work has been completed, the flood level being either stationary or beginning to fall, the main problem is to ensure that food and fuel are available to the destitute and some sort of temporary shelter for the homeless. The second and very important task is to encourage the villages to help one another and to save as much of the crops as possible. The relief work at this stage should be organised methodically, relief centres being opened at pre-determined places. Particular care should be taken to ascertain the stocks of food grains, kerosene, etc. available in the villages. In vulnerable areas, the district officer should arrange building of adequate resources of food grains, kerosene, etc. before the monsoon, in collaboration with the Civil Supplies Department. Here there is scope for non-official agencies functioning in co-operation with official organisations. It may also be necessary to undertake health measures to protect against cholera, gastro-enteritis, etc. Cattle wealth also may need attention.

(4) The Third stage –

At the final stage, when the flood has subsided and conditions are becoming normal, gratuitous relief should be curtailed and detailed reports prepared and submitted to Government estimating the extent of the damage to crops and houses/ huts with a view to rendering necessary relief.

Flood Control and Management

National Water Policy as well as State Water Policy has also accorded special reference for flood control & Drainage Management & is reproduced below:

1. There should be a master plan for flood control and management for each flood prone basin.
2. Adequate flood cushion should be provided in water storage projects, wherever feasible, to facilitate better flood management. In highly flood prone areas, flood control should be given overriding consideration in reservoir regulation policy even at the cost of sacrificing some irrigation or power benefits.
3. While physical flood protection works like embankments and dykes will continue to be necessary, increased emphasis should be laid on non – structural measures such as flood forecasting and warning, flood plain zoning and flood proofing for the minimization of losses and to reduce the recurring expenditure on flood relief.
4. There should be strict regulation of settlements and economic activity in the flood plain zones along with flood proofing, to minimize the losses of life and property on account of floods.
5. The flood forecasting activities should be modernized, value added and extended to other uncovered areas. Inflow forecasting to reservoirs should be instituted for their effective regulation.

Sound watershed management through extensive soil conservation, catchment area treatment, preservation of forests and increasing in forest area and construction of check dams shall be provided in the intensity of floods. Adequate flood cushion shall be provided in water storage projects whenever feasible to facilitate better flood management. An extensive network for flood forecasting shall be established for timely warning to the settlements in the flood plains alongwith the introduction of regulation for settlements in the flood plains and economic activity in the flood – prone zones to minimize loss of life and property caused by floods. Master Plan for flood control and management for each flood prone basin/area shall be got prepared. Due consideration to provide proper drainage shall also be given to build up capabilities to tackle water logging and salinity problems

RESTORATION & RECOVERY

- **Sanctioning and Disbursing authorities -**

- After approval of the Relief Commissioner, the Collector shall be the sanctioning authority under the scheme and he shall be responsible for prompt sanction of relief to eligible Agriculturists under this chapter.
- The Collector shall be responsible for disbursement of the relief. He shall ensure that once the relief is sanctioned by him the same is expeditiously distributed to all eligible agriculturists through the Revenue Agency and Block Development Officers and Gram Sevaks.

- **Submission of preliminary report to Government-**

- On the occurrence of any of the natural calamities (referred to in paragraph-1) causing damage to seeds, seedlings, standing crop or agricultural lands, the Patwari shall send a prompt intimation to the Circle Inspector/Circle Officer indicating the nature of the calamity and his preliminary assessment of the damage caused, etc. A copy of this report shall also be sent to the Tehsildar.
- On receipt of the intimation from the Patwari or on receipt of the information about the occurrence of such a calamity from other sources, the Tehsildar (or in his absence the Naib Tehsildar) shall immediately inform the Sub-Divisional Officer and the Collector about the occurrence of the natural calamity. He shall then, forthwith proceed to the area which is afflicted by the calamity; ascertain the nature of the calamity and particularly make preliminary estimate of the damage, if any, caused to seed, seedling, crops or land by the calamity. He shall then submit his preliminary report to the Sub-Divisional Officer and simultaneously send copies thereof to the Collector and the Chief Executive Officer, Zila Parishad.
- It shall be the responsibility of the Collector to ensure that an immediate report about the occurrence of the natural calamity is sent to Government in Revenue & Relief Department as well as in Agriculture and Cooperation Department within 48 hours of the receipt of the Tehsildar's report by telex or by wireless. A detailed report should then follow within a fortnight.

- **Detailed inquiry by the Tehsildar-**

- Immediately after dispatching his preliminary report, the Tehsildar shall:
 - make inquiries and satisfy himself that the natural calamity answers to the description of any of the calamities mentioned in paragraph-1.
 - With the assistance of Revenue Officers, the Tehsildar shall undertake a detailed spot inquiry and ascertain the details of damage, caused.
 - Get the lists (village wise) of the affected agriculturists prepared through the concerned Patwaris giving
 1. names of Agriculturist in whose case seeds or seedlings are lost or in whose case crop is washed away or damaged qualifying them for assistance and the amount payable in each case names of and
 2. Agriculturist whose lands are damaged qualifying them for assistance and the amount payable in each case.

The Sub-Divisional Officer (and other officers of the rank of Deputy Collector if any, specially deputed by the Collector) shall undertake frequent tours of the affected area and keep close supervision over the work of preparing the lists referred in this chapter. The Sub-Divisional Officer and the Special Officer shall also check at least ten per cent of the entries in the list and verify whether the details of damage etc. given therein are consistent with the actual situation on the field.

- The Tehsildar shall submit a detailed report to the Collector within a month from the date of occurrence of the calamity together for obtaining his sanction to the grant of assistance to the affected agriculturists.
- Sanction of the Collector for distribution of relief-
 - On receipt of the detailed report of the Tehsildar, the Collector shall scrutinise the same on the basis of the reports/information received from the Sub-Divisional Officer, Zila Parishad, Agricultural Development Officer or from other sources, if any, concerning the calamity and the damage caused thereby.
 - The Collector shall thereafter decide in consultation with the Chief Executive Officer, Zila Parishad, whether the proposals made by the Tehsildar satisfy the tests laid down about eligibility for grant of assistance to Agriculturists, approve the proposals made by the Tehsildar about granting assistance to the affected agriculturists, with or without

modifications and accord necessary sanction to the distribution of relief after proper approval of the Relief Commissioner.

- The Collector shall send within 48 hours of the receipt of the Tehsildar's proposals, a detailed report to Government in Relief Department and also the Agricultural and Cooperation Department, in respect of the natural calamity; damaged caused and the assistance if any proposed to be granted to the affected Agriculturists. Collector sends these reports to Relief Commissioner.
- Disbursement of sanctioned assistance - After sanction for grant of assistance is received by the Relief Department, the Collector shall take steps to distribute the assistance to concerned Agriculturists through the Revenue Agency and the Block Development Officers and the Gramsevakhs.
- Powers of Government to make modification in the Scheme- Government may make such modifications in the scheme including increase or reduction in the rate(s) of assistance or deleting any of the items of assistance as it deems it.
- Provision for House Damage Assistance:-

Natural calamity such as floods, landslides and Heavy rains often cause damage to houses and cattle sheds in rural areas (including 'C' class Municipal areas) and in urban areas i.e. Municipal Corporation areas and areas from 'A' and 'B' class, Municipalities. Some times and particularly in the case of floods the houses (including cattle sheds) may get completely destroyed. Persons whose houses are so damaged or destroyed are often not in a position to carry out repairs to damaged houses or to reconstruct them without the assistance of the State. Under the scheme for granting house damage assistance to such persons which is described in subsequent paragraphs; assistance in the form of subsidy is to be granted to such persons having regard to the nature and extent of damage caused to their houses (including cattle sheds). While dealing with cases regarding grant of house damage assistance under this scheme, the Revenue Officers should however bear in mind that in the event of a natural calamity even well-to-do persons are sometimes rendered helpless and they find it difficult to obtain assistance from other sources to repair or reconstruct their house. Therefore, in determining whether a person is or is not in a position to repair or reconstruct in house it may not be correct merely to take into account the fact that the person concerned owns a fairly big house and deny him assistance on that account.

FLOOD MITIGATION

Modifying susceptibility to flood damage and disruption is the floodplain management strategy of avoiding dangerous, uneconomic, undesirable or unwise use of the floodplain. The tools used to implement this strategy are regulations, development and redevelopment policies, flood proofing and elevation.

REGULATIONS

- Not permitting unrestricted new development in the hazard prone areas
- Anchoring and flood proofing structures to be built in known flood prone areas
- Built-in safeguards for new water and sewage systems and utility lines from flooding
- Enforcing risk zone, base flood elevation and floodway requirements
- Prohibition on development in wetlands
- Prescribing standards for different flood zones on flood maps.

To meet these requirements, local governments will have to adopt specific floodplain management or storm water management regulations into zoning and subdivision regulations, housing and building codes and resource protection regulations.

SAFE SITING IN FLOOD HAZARD AREAS

In low-lying areas, close to the coast, and on flat land in river valleys, there may be a potential for coastal or river flooding. In geologically younger river valleys, in mountains and foothills there may be a potential for flash flooding.

It is important to check the history of flooding in the area. wherever possible

- Map the extent of land covered by past floodwaters
- Get an indication of the depth of past floodwaters
- Find out about the severity of past floods; how much damage they have caused, how fast theyflowed and how much debris they left behind and
- Find out how often flooding has happened, over at least the past 20 years.

Land morphology is the main factor in determining how safe a site is against floodwaters.

DEVELOPMENT AND REDEVELOPMENT POLICIES

In some cases, the only way to preclude future uses incompatible with the flood risk is to permanently evacuate a portion of a floodplain and to obtain full title on its development rights. Although this process (called "acquisition") is expensive, the long-term benefits in reduced floodplain losses, protection of natural resources and public use of the land, may make it worthwhile.

Most redevelopment relating to flood loss reduction occurs after one or more major floods. Usually, a temporary moratorium is imposed to allow evaluation and planning. Unfortunately, legislative and regulatory requirements often encourage a quick return to the preflood status quo, wasting opportunities to mitigate and revitalize the area.

FLOOD PROOFING AND ELEVATION

Flood proofing is the use of permanent, contingent or emergency techniques to either prevent flood waters from entering buildings or to minimize the damages from water that does get in. Some of the techniques involve using water tight seals, closures or barriers, using water resistant materials, and temporarily relocating the contents of a building. Elevating a structure means raising it on fill, piers, or pilings so that it is above expected flood levels.

Most new floodplain structures should be designed to incorporate flood proofing and/or elevation. Flood proofing could be applied retroactively ("retrofitted") to existing structures.

MODIFYING FLOODING

Modifying flooding is a floodplain management strategy of using structural means to divert the flood water. Structural measures dams, reservoirs, dikes, levies, floodwalls, channel alterations, high flow diversions, spillways, land treatment measures, shoreline protection works, and storm water management facilities - permit deliberate changes in the volume of works, and storm water management facilities - permit deliberate changes in the volume of run-off, peak stage of the flood, time of rise and duration of flood waters, location of flooding, extent of area flooded, and velocity and depth of flood waters. The effectiveness of these measures for protecting property and saving lives has been well demonstrated. Flood control projects can save people from anxiety, injury and death and prevent economic losses.

One of the issues that need consideration is how to deal with the ageing inventory of existing flood control structures. Many dams and reservoirs may be nearing or even past their design lives and the flood control capacity of many reservoirs has been reduced by sedimentation. The financial resources are not available to undertake all required remedial actions.

DAMS AND RESERVOIRS

Storing flood water in reservoirs can modify floods by reducing the speed at which the water flows, limiting the area flooded and altering the timing of peak flows. However, misconceptions about or lack of understanding of dams can create an exaggerated sense of security. Reservoir sedimentation can significantly reduce flood control capacity. Competing uses of the reservoir can impair flood control. In addition, most dams are designed for purposes other than flood control, although they do have the temporary effect of flood reduction through storage.

The availability of water or power associated with dams, therefore, often attracts new developments, regardless of the flood risk or the ability of the dam to provide flood protection. Over time, without adequate land use regulations, encroachment into the floodplain downstream of dams can increase exposure to flooding. Once signs of dam failure become visible, breaching often occurs within minutes of a few hours, leaving little or no time for evacuation. The massive volume of water and its high velocity will cause severe damage.

DIKES, LEVEES AND FLOOD WALLS

Dikes including levees and flood walls can be thought of as dams built roughly parallel to a stream rather than across its channel or parallel to the shorelines of lakes and other water bodies. Levees are generally constructed of earth, flood walls of masonry or steel. Although they can be effective in reducing flood losses, they are poorly designed and maintained.

Areas behind levees and flood walls may be at risk of greater than normal flood damage for several reasons. Many floodplain residents in those areas believe that they are protected from floods and do not think it necessary to take proper precautions. Development may also continue or accelerate, based on expected flood protection. A levee breach or flood wall failure, like a dam break, can release a large wave of flood waters with high velocity. After a breach, the downstream portion of the levee system may also act like a dam, catching and prolonging flooding of the once protected area.

CHANNEL ALTERATIONS

Channel alterations increase the flow-carrying capacity of a stream's channel and thereby reduce the height of a flood. The various types of alterations include straightening, deepening or widening the channel, removing debris, paving the channel, raising or enlarging bridges and culverts and removing other obstructions.

Alternative designs now developed include less straightening of channels, employ more gradual slopes and use natural vegetation or riprap rather than concrete lined channels. This minimizes destruction of fish and wildlife habitat, helps maintain water quality and avoids undesirable downstream impacts.

HIGH FLOW DIVERSIONS

Diversions intercept flood waters upstream of a damage prone or constricted area and convey them around it through an artificial channel or a designated flow way. Diversions may either completely reroute a stream or collect and transport only excessive or potentially damaging flows. A negative aspect of such diversions is the false sense of security that may prevail in the protected areas along with a lack of awareness that the floodway actually exists.

STORM WATER MANAGEMENT

Storm water management is the removal of water that falls directly onto properties, as opposed to flood water, that flows onto the property, from upstream sources or an ocean surge. Storm water networks have historically been constructed in urban and agricultural areas to remove these waters. A significant problem occurs when a agricultural zone with an adequate storm water system is urbanized. Large areas are paved with roofs, roads, and parking, contributing to additional run-off. Often, shopping centers and other developments are placed on natural drainage ways. The pre-existing storm water network becomes inadequate for its new urban use. Localized flooding then occurs. In an alternative approach often used in new developments today, run off may be retained on the site, within a regional system, and total run-off within a watershed may be managed, so that discharges from different units reach the main channel, at different times to reduce peak flows downstream. Natural drainage systems may be used, instead of concrete lined channels or enclosed pipes.

WATERSHED MANAGEMENT

Watershed Management measures reduce overland run-off from agricultural lands to streams or other waters by improving infiltration of rainfall into the soil, slowing and minimising run-off, and reducing the sedimentation that can clog stream channels or storage reservoirs. These techniques are most commonly, used in agricultural areas. They include maintaining trees, shrubbery and vegetative cover, terracing, slope stabilisation, using grass waterways, contour plowing, conservation tillage, and strip farming. Some measures involve building structures to retain or redirect run-off. Several land treatment measures involve little additional costs to the farmer and some such as no till or minimum tillage, actually reduce costs. Technical and financial assistance is provided through government and international development organisations. Although the impact of an individual measure is limited, extensive watershed management programs can effectively reduce flooding in small headwater areas.

REVIEW OF PLANS

CONTINGENCY PLAN

The Contingency Plan prepared in the District shall broadly provide for the following:-

- (i) Precautionary Measures:
 - (a) To identify, on the basis of past experience and available data, on floods, very vulnerable and vulnerable areas of the district tehsil wise.
 - (b) To place responsible officers (not below the rank of Naib Tehsildar) in charge of each such zone or vulnerable areas for purposes of rescue evacuation and relief purposes. (such placement of special officers shall not amount to relieving the Tehsildar of his responsibility as in charge of the Tehsil)
 - (c) To select evacuation sites well in advance for evacuating people in the vulnerable areas in the case of emergency, such as schools, colleges, and to prepare list of such sites, etc. The concerned authorities like Municipality, Zila Parishad etc. should issue advance directions to the school/college authorities in this regard of observe full safety.
 - (d) The Public Works Department, Irrigation Department, Zila Parishad, Municipal Authorities etc. to inspect all major water storage systems, buildings, roads and bridges etc. in the vulnerable areas; to carry out all necessary repairs and to take precaution against breaching due to floods.
 - (e) Tehsildar to be provided with vehicles fitted with microphones and amplifiers for advising people from the vulnerable areas to evacuate to safer sites; to avoid panic, hand bills containing instructions giving details of evacuation centers and other relief arrangements should be distributed and these details announced in the localities by beat of drum.
 - (f) The Zonal Officer to ensure that the following steps are taken by them and the villagers, when a warning for floods is received:
 - (i) Keep the radio on (open) and listen to the latest weather warnings/warnings of flood and pass on the information to all concerned.
 - (ii) Do not get misled by rumors and pass on only the weather/flood warning issued by Meteorological Department/AIR.
 - (iii) Get evacuated from low-lying areas or other locations which may be wet by flood waters. Leave sufficiently early, before the way to safer site gets flooded and don't delay and run the risk of getting marooned;

- (vi) Get extra food, especially things which can be eaten without cooking or with very little preparation and store extra drinking water.
- (v) Move the valuable articles on the upper floors to minimize flood damage;
- (vi) Have Haricane lanterns (petromax); flash lights and/or other emergency lights in working condition and keep them handy;
- (vii) Remove cattle to safe places as far as possible.
- (g) Irrigation sources and rivers in charge of Irrigation Department and Zila Parishads should be patrolled by department officers and information about water level condition of tank etc. should be passed on to the control room of the Collectorate and sub-control room at the Tehsil.
- (h) Public Works Department, High ways and Zila Parishad, Irrigation Department to store sufficient stock of gunny bags, sand etc. for emergency.
- (i) At Tehsil level storm warnings, water level of the tank, rivers and breaches of roads etc. to be communicated to the Electricity Department to enable it to take appropriate action.
- (j) Regional Transport Officer/Regional Manager, RSRTC to earmark and to arrange to provide vehicles to Zonal Officer/Tehsildar for evacuation purposes. The RSRTC to redirect its routes without touching the danger zones.
- (k) Station Masters of the nearby Railway Stations to be apprised of weather warnings water level of tanks, rivers etc. to enable them to take appropriate action.
- (l) The CM&HO shall ensure that adequate buffer stock of essential medicines like intravenous fluids, dressing materials, splints, oxygen cylinders, suction apparatus etc. is available in the area to meet the emergency, by procuring them from nearby hospitals where necessary. He shall also maintain upto date list of the man-power of various categories that would be available in the district at short notice from various sources. He should also see that every Rural Hospital and Primary Health Centre has a post-mortem room.
- (m) Civil Supplies Department should see that sufficient quantities of rice, wheat, bazra, kerosene, matches, candles and fuel besides clothing are stocked at suitable places so as to meet the demand for these articles from the vulnerable areas.
- (ii) Rescue and Relief Operation:
- (n) Zonal Officer to draw up list of persons who are experts or trained persons in swimming and rescue operations from IDRN website. Such lists should also be drawn up with the assistance of the Police specialised equipment such as country boats, steamboats, Manila ropes etc. should also be located and earmarked for rescue operations. Fisheries

Department, Fire Services, Police, Home Guards personnel would provide necessary support in this regard. Assistance from Military/Navy/AIR Force could be called for rescue operations in extraordinary circumstances;

- (o) School, College buildings etc. already selected and earmarked should be utilized as camps for accommodating the evacuated persons. Adequate water supply, lightening and sanitation arrangements shall be provided at the camps; team of sanitary and health works should be in attendance round the clock.
- (p) Water supplies at the camps should be regularly disinfected.
- (q) Immediately after the storm/floods it would not be possible to distribute rice, wheat, kerosene etc. to the destitute persons. Hence cooked food should be distributed for two-three days initially. For this purpose control kitchens should be organized.
- (r) The camps will be under the direct control of the Zonal Officer. A proper record of inmates (under the heads men, women and children) should be maintained. For maintaining proper discipline at the camp sites police guards should be provided at the camp.
- (iii) Rehabilitation:
 - (s) Normally, those who take shelter in the camps will themselves move to their homes once the flood subsides or the water level recedes and their houses become habitable. Where the houses are damaged or destroyed steps will have to be taken to repair/reconstruct houses as per the provision of Relief Department.
- (iv) Distribution of Gratuitous Relief:
 - (t) It is also the responsibility of the Zonal Officer to make payment of gratuitous relief to the sufferers of natural calamity in accordance with the provision of Relief Department.
- (v) Village Level Committee:
 - (u) Since men have to be rescued and properly salvaged simultaneously immediately after the calamity it would be necessary to appoint a village level committee for assisting the official machinery in the above task.

MODEL ACTION PLAN FOR DISASTER PREPAREDNESS FOR FLOODS

In order to ensure timely preparedness, an illustrative check lists. The Collector should see that before the monsoon season (in case of floods) these check lists are distributed to all nodal officers in the district and that necessary action in accordance with those check lists is taken and the whole machinery for disaster prevention and preparedness is energized.

Collector must always use computer website of IDRN and Relief Department. Both the websites

are useful to get list of all the resources, which are required for Flood Disaster Manageme

The Collector who has flood prone areas or areas vulnerable to flooding should therefore, that to the extent possible the following type of equipment is procured or its local availability is explored.

- (i) Water tanks
- (ii) Water trucks/bowsers
- (iii) Boats of various types
- (iv) Bulky/equipment bridges
- (v) Radio signal system

POST DISASTER MANAGEMENT

Revival of Education System:

The educational institutions are closed as a part of the mitigation measures and holidays are declared. These resources like educational buildings are used as shelters. Soon after the disaster is over at the earliest the educational institutions should be opened.

Revival of Livelihood and Employment

Once relief centers started, people are brought into the relief camps. The disasters like, Flood, cyclone, the moment subsided immediately the employment should be generated so that people could earn their livelihood. According to the disasters, employment schemes to be planned and implemented. Shelf of Project for employment creation to be kept ready. Wages could be given in kind. People who are not able to earn their livelihood alternative systems, if any, also to be examined and implemented, (could be Employed in relief operation).

Emotional and Socio-psychological Rehabilitations

The people who have been affected by disasters due to the loss of property, the near and dear ones and injured, suffer from psychological stress. People who have been orphaned, counseling and

adoption to be arranged. Psychological counseling and rehabilitation are very essential. Sociologists and psychologists services could be used for counseling. Examine the possibilities in the Districts.

EPISODE DOCUMENTATION

Documentation is very essential for the future

History

How the disasters started, the trauma and the suffering people have undergone, remedial action taken in the District to be recorded for future. This is very crucial for future disaster managers.

Success Stories

Despite the disasters, successful interventions are always there by the District administration, public private personnel, philanthropists, social welfare organizations, religious institutions etc. People venture to save others life, their contributions and success in rescuing to be publicity honored. They are the heroes for our community as well as for the District. Any other success stories in different parts of the Districts in handling disasters to be recorded and publicity recognized, rewarded and replicated.

Immediate Preceding disaster episodes

Public memory is very short and they remember only the present incidents. Hence, the episodes of the recent one to be recorded which are fresh in the memory of the people. Gradually updating according to the disasters will help the future handling of such situations.

PUBLIC AWARENESS BUILDING

Public Awareness building should be the strategy in disaster management both for long term and short Term. Schools and colleges are the best institutions and through children and students awareness could be - created fast. Model buildings, mock exercises and drills should be made part of the educational curriculum in the vulnerable areas. The do's and don'ts for each disasters could be prepared and through these institutions should reach the people.

LESSONS FOR FUTURE

Each disaster brings its own Lessons Each disaster is unique in its intensity areas, damages etc. The media persons who are the eyes and ears of these incidents, their knowledge and experience

having seen the reality they could contribute a lot in terms of highlighting deficiencies in the disaster management. Public debate to be arranged in places where disaster has struck for learning and reviewing (social audit).

BUILDING CODES

Public awareness and regulatory aspects

As many Districts are multi disaster Prone like earthquake, cyclone, Flood etc., building codes are a must. The public to be made aware of the building safety codes. A comparison to be drawn between the one which has followed and the one that failed to follow and its impact. The public buildings should be a example of introducing the building codes. Model demonstration building to be constructed in various places for awareness creation. Free advice to be envisaged for those who go for new construction. With 5-6% more expenditure structural stability could be increased.

HEALTH ASPECTS

Health aspects cover, first aid, treatment of casualties, burial and cremation of dead, disposal of dead cattle, etc. Soon after the disasters, first aid to be given and the casualties to be treated, hospitals alerted, specialists to be brought to attend to the injured. Site medical units play an important role in safeguarding the lives and giving health facilities; Identification and burial/cremation of the dead to be done by the disaster management Committee, if there are no claimants. This has to be done in the most hygienic -way and with all dignity. The provisions and the speed with which done reflects the efficiency of the Administration.

FOOD, WATER AND CIVIL SUPPLIES LOGISTICS

During the disasters, continuous drinking water supply is very essential and non- availability of water will add to the suffering and will cause diseases and spread epidemics and casualties. Supplying safe drinking water or resuming safe drinking water should be done on a war footing basis. Whatever methods adopted, water to be supplied and people to be educated how to make, potable water. Supply of water in polythene sachets will be easy to reach the people. Food and civil supplies logistics to be maintained both to the relief centers, and to the people. The storage capacity to be assessed and supply to be maintained without any break. The railways, the road transport, transport through water or any sources through which water to be reached to the people. In case of

massive disasters free ration or subsidized ration to be supplied to the people. Kerosene, Salt, Groins should be given top priority. Anticipating the disasters, food storages should be at least for a fortnight. For remote areas the storage could be for a longer period.

TRAINING AND EDUCATION AS A PEACE TIME ACTIVITY

For Government and public personnel involved in relief and rescue. Public volunteers/ school and college children revival of the traditional knowledge base

Training to be made as part of the job requirements for Government servants to handle the relief and rescue operations. This is most relevant in a vulnerable Districts. Volunteers to be sought and they should also be trained in relief, rescue, first aid etc. Swimming to be taught to everyone in Flood are cyclone vulnerable areas. At all level right from ward, Panchayat, block training to be imparted. The Anganwadi teachers, school and college staff, also to be trained. The traditional wisdom and knowledge of people in handling disasters to be recorded, demonstrated and disseminated. Training schedule, to be drawn as done in elections. All Police / Forest personnel should have knowledge the First Aid and Security etc.

ANNEXURES-I

LIST OF DISASTER MANAGEMENT OFFICIALS

S.N	Name	Designation	Office	Mobile
1.	Sh. Anand Kumar	Additional Chief Secretary	0141- 2227568	---
2.	Sh. Bhagwat Singh	Joint secretary	0141- 2227084	968002067 7
3.	Dr. Brij Bhushan Sharma	F.A.	0141- 2227102	941406774 7
4.	Dr. Rakesh Kumar Meena	Assistant Secretary	0141- 2227084	958734333 3
5.	Sh. Makkhan Lal Khateek	OSD-I	0141- 2227084	979907567 4
6.	Sh. Birbal Meena	OSD-II	0141- 2227403	852926587 4
7.	Smt. Jyoti Nagar	Sr. AO	--	889064596 9
8.	Sh. Shivendra Varshneya	Programmer	0141- 2227084	900163270 7
9.	Sh. Ghansyam Meena	E. O.	0141- 2227084	941341796 1
10.	Dr. Harish Samaria	Senior Consultant	0141- 2927394	800563629 9
11.	Sh. Kunwar Rajal Arora	Consultant	0141- 2927394	790691563 0
12.	Dr. Narendra Kumar Sankhala	Consultant	----	988703506 2
13.	Ms. Himadri Bhatnagar	Consultant	-----	723100922 2
14.	Sh. Jitendra Vyas	Consultant	-----	773731663 6

ANNEXURES-II

LIST OF DISTRICT MAGISTRATES

S.No.	District	Name	Telephone No.	Mobile No.
1	Ajmer	Dr. Bharti Dixit	0145-2627421	9968291498
2	Alwar	Mr. Ashish Gupta	0144-2337565	9899737259
3	Banswara	Dr. Inderjeet Yadav	02962-240002,242968	8743080729
4	Barmer	Mr. Nishant Jain	02982-220003, 222444	9412700922
5	Baran	Mr. Rohitashi Singh Tomar	07453-237001	9810524888
6	Bharatpur	Mr. Amit Yadav	05644-223086	9996237788
7	Bhilwara	Mr. Namit Mehta	01482-232601	9414132812
8	Bikaner	Namrata Vrishni	0151-2226000, 2520314	8696887733
9	Bundi	Mr. Akshay Godara	0747-244300, 2445200	7073329899
10	Chittorgarh	Mr. Alok Ranjan	01472-240001	9414676635
11	Churu	Mr. Pushpa Satyani	01562-250806	9829062471
12	Dausa	Mr. Devendra Kumar	01427-224666	9717180139
13	Dholpur	Mr. Srinidhi Bt.	05642-220871	9449725585
14	Dungarpur	Mr. Ankit Kumar Singh	02964-231002	9725136544
15	Hanumangarh	Mr. Kana Ram	01552-266156,260001	9950525303
16	Jaipur	Mr. Prakash Rajpurohit	0141-2209001	9983934283
17	Jaisalmer	Mr. Pratap Singh	02992-252201	8447370171
18	Jalore	Mr. S. Pooja Kumari Partha	02973-222207	8079061914
19	Jhalawar	Mr. Ajay Singh Rathod	07432-230403, 07432-230404	9414350377
20	Jhunjhunu	Mr. Chinamay Gopal	01592-232040	9818883864
21	Jodhpur	Mr. Gorav Aggarwal	0291-2650322	7568597500
22	Karauli	Mr. Neelabh Saxena	07464-250100	8090651676
23	Quota	Dr. Ravindra Goswami	0744-2451200	9971141943
24	Nagaur	Mr. Arun Kumar Purohit	01582-241444,241786	9828251345
25	Pali	Mr. Lakshminarayan Minister	02932-252801	9414201828
26	Rajsamand	Dr. Bhanwar Lal	02952-220536, 221036	8890463322
27	Sawai Madhopur	Dr. Khushal Yadav	07462-220444	9414616333

28	Sikar	Mr. Qamar Ul Zaman Chaudhary	01572-250005	7409812252
29	Sirohi	Mr. S. Shubham Chaudhary	02972-220497,221187	7073877727
30	Shri Ganga Nagar	Mr. Lok Bandhu	0154-2445001	9582433213
31	Tonk	Dr. Soumya Jha	01432-246377	8882821038
32	Udaipur	Mr. Arvind Kumar Poswal	0294-2410834	9660422065
33	Pratapgarh	Dr. Ajanli Rajoria	01478-222266	9711320451
34	Anupgarh	Mr. Avadhesh Meena	58121, 58122	9582852336
35	Balotra	Mr. Sushil Kumar Yadav	02988-294610	9711088480
36	Beawar	Mr. Utsav Kaushal	01462-257336	9024297734
37	Deeg	Mr.S. Shruti Bhardwaj	05641-294000	9829051174
38	Didwana-Kuchaman	Mr. Balmukund Asawa	01580-222000	9413357125
39	Dudu	Mr. Prakash Rajpurohit	01428-294651	9983934283
40	Gangapur City	Dr. Gaurav Saini	07463-236136	7879147898
41	Jaipur Rural	Mr. Prakash Rajpurohit	0141-2209001	9983934283
42	Jodhpur Rural	Mr. Gourav Aggarwal	0291-2650322	7568597500
43	Cucumber	Mr.S. Sweta Chauhan	01467-220001	7080600108
44	Kotputli-Behror	Smt. Kalpana Agarwal	01421-299177	9413318811
45	Khairthal-Tijara	Mr.S. Artika Shukla	01460-298200	7311130030
46	Neem Ka Thana	Mr. Sharad Mehra	01574-230045	9968432960
47	Phalodi	Mr. Harji Lal Atal	02925-222323	9414890094
48	Salumbar	Mr. Jasmeet Singh Sandhu	02906-294900	9079313972
49	Sanchore	Mr. Shakti Singh Rathod	02979-294900	9414002900
50	Shahpura	Mr. Rajendra Singh Shekhawat	01484-299055	9413315936

ANNEXURES-III**CHIEF MEDICAL HEALTH OFFICER (CMHO)**

Sno	District	Name	Mobile No.	Office No.
1	Ajmer	Dr. Jyotsna Ranga	9413851400	01452631111
2	Alwar	Dr. Yogendra Kumar Sharma	9414231765	01442340145
3	Anupgarh	Dr Girdhari Lal	9414205187	-
4	Balotra	Dr Vakaram Chodhari	9610378000	-
5	Banswara	Dr. H.L.Tabiyar	7742120111	7742120333
6	Baran	Dr Sampath Raj Nagar	8432111933	07453230451
7	Barmer	Dr C.S.Gajraj	9828879733	2982230462
8	Beawar	Dr Sanjay Gahlod	9772656856	
9	Bharatpur	Dr Gaurav Kapoor	9414694056	05644223660
10	Bhilwara	Dr. Chetendra Puri Goshwami	8696947181	01482232643
11	Bikaner	Dr. Mohit Singh Tanwar	8875336971	01512226341
12	Bundi	Dr. O.P.Samar	9950430545	07472442895
13	Chittorgarh	Dr. Tara Chand Gupta	8003411264	01472245813
14	Churu	Dr Manoj Kumar Sharma	7014470590	01567222038
15	Dausa	Dr Seeta Ram Meena	7891510002	07891510014
16	Deeg	Dr Vijay Kumar Singhal	9414202929	
17	Dholpur	Dr. Jayanit Lal Meena	9414710128	05642220733
18	Didwana	Dr Narendra Singh Choudhary	7014107070	
19	Dudu	Dr Sunil Sivodiya	9602099289	
20	Dungarpur	Dr Alankar Gupta	9929806187	02964232486
21	Gangapur City	Dr Batti lal Meena	9664474779	
22	Hanumangarh	Dr. Naveet Sharma	7597222000	01552261190
23	Jaipur I	Dr Ravi Shekawat	9166476778	01412605859
24	Jaipur II	Dr Hansraj Bandoliya	73740004410	01412603426
25	Jaisalmer	Dr Rajendra Kumar Paliwal	9460106454	02992251792
26	Jalore	Dr. R.S. Bharti	9672478797	02973222246
27	Jhalawar	Dr. Moh. Sajid Khan	9929289426	07432230009
28	Jhunjhunu	Dr. Chotelal Gujar	9460371010	01592232415
29	Jodhpur	Dr Surendar Singh Shekawat	9414464281	02912511085
30	Jodhpur west	Dr Partap Singh Rathor	9414703357	

31	Karauli	Dr. Dinesh Chand Meena	9116649112,	07464297031
32	Kekri	Dr Udaram Balotia	8302281706	
33	Khairthal-Tijara	Dr Arvind Gar	8930552020	-
34	Kota	Dr. Jagdish Soni	9414231183	07442329259
35	Kotputli-Bharoad	Dr Ashis Singh Shekawat	9828261988	
36	Nagaur	Dr Rakesh Kumawat	9887024841	01582240844
37	Neem ka Thana	Dr Vinay Gahlot	9414466790	
38	Pali	Dr. Vikash Marwal	9784859777	02932257555
39	Phalodi	Dr. Abhishek Agarwal	9460054029	
40	Pratapgarh	Dr. Jeevraj Meena	6375674532	01478222564
41	Rajsamand	Dr Hemant Bindal	9829487992	02952221716
42	S. Madhopur	Dr. Dharm Singh Meena	9414459342	07462235011
43	Salumber	Dr Jagdish Prasad Bunkar	9413954545	
44	Sanchoe	Dr B.L.Bishnoi	9414373721	
45	Shahpura	Dr Ghanshayam chawla	9829508745	
46	Sikar	Dr Nirmal Singh	9414527300	01572248216
47	Sirohi	Dr. Narayan Gaur	9414128100	02972222259
48	Sri Ganganagar	Dr. Ajay Sighla	9414873243	01542445071
49	Tonk	Dr Ashok Kumar Yadav	9679378969	01432244099
50	Udaipur	Dr Ashok Aditya	9829065941	06367304312

ANNEXURES-IV

VULNERABLE LOCATIONS WHERE MONSOON PATROLLING ENFORCED

A: Ajmer Division

S.No.	Division	Bridge no.	Location	Section	Reasons
1	Ajmer		304-306	Daurai- Palanpur	Flood in 1975
2	Ajmer	396, 397, 398	324/8-325/15	Daurai- Palanpur	Flood in 1979
3	Ajmer	472	362/6-7	Daurai- Palanpur	Major Bridge
4	Ajmer		362/15-363/2	Daurai- Palanpur	high cutting
5	Ajmer		364/4-14	Daurai- Palanpur	high cutting
6	Ajmer		366/4	Daurai- Palanpur	high cutting
7	Ajmer		366/10-367/5	Daurai- Palanpur	high cutting
8	Ajmer		367/16-368/6	Daurai- Palanpur	high bank
9	Ajmer		372/6-7	Daurai- Palanpur	high bank
10	Ajmer		544/0-546/15	Daurai- Palanpur	high bank & cutting
11	Ajmer	490	368/10-11	Daurai- Palanpur	Major Bridge
12	Ajmer	509	376/12-377/2	Daurai- Palanpur	Major Bridge
13	Ajmer	563	411/2-6	Daurai- Palanpur	Major Bridge
14	Ajmer	594	440/9-12	Daurai- Palanpur	Major Bridge
15	Ajmer	609	461/3-7	Daurai- Palanpur	Major Bridge
16	Ajmer	635	485/2-5	Daurai- Palanpur	Major Bridge
17	Ajmer	649	498/6-9	Daurai- Palanpur	Major Bridge
18	Ajmer	676	519/0-4	Daurai- Palanpur	Major Bridge
19	Ajmer	750	564/12-13	Daurai- Palanpur	Major Bridge
20	Ajmer	792	597/1-2	Daurai- Palanpur	Major Bridge
21	Ajmer	803	606/15-607/1	Daurai- Palanpur	Major Bridge
22	Ajmer	804	607/18-608/1	Daurai- Palanpur	Major Bridge
23	Ajmer	94	66/8-13	Ajmer- Chittorgarh	Major Bridge
24	Ajmer	100	75/2-3	Ajmer- Chittorgarh	Major Bridge
25	Ajmer	107	82/12-13	Ajmer- Chittorgarh	Major Bridge
26	Ajmer	140	122/9-12	Ajmer- Chittorgarh	Major Bridge
27	Ajmer	178	146/15-147/8	Ajmer- Chittorgarh	Major Bridge
28	Ajmer	100	33/12-13	Marwar Jn.- Mavali Jn.	Major Bridge
29	Ajmer		28/10-29/11	Marwar Jn.- Mavali Jn.	high cutting
30	Ajmer		30/10-32/1	Marwar Jn.- Mavali Jn.	high cutting
31	Ajmer		33/15-35/5	Marwar Jn.- Mavali Jn.	high cutting
32	Ajmer		36/12-37/5	Marwar Jn.- Mavali Jn.	high cutting
33	Ajmer	Tunnel	37/5-8	Marwar Jn.- Mavali Jn.	

34	Ajmer		37/5-38/12	Marwar Jn.- Mavali Jn.	high cutting
35	Ajmer		41/4-43/6	Marwar Jn.- Mavali Jn.	high cutting
36	Ajmer		60-62	Marwar Jn.- Mavali Jn.	high cutting
37	Ajmer	140	81/3-8	Marwar Jn.- Mavali Jn.	Major Bridge
38	Ajmer	158	125/8-16	Marwar Jn.- Mavali Jn.	Major Bridge
39	Ajmer	Tunnel	98/0-7	Chittrogarh- Udaipur Jn.	
40	Ajmer		122-123	Udaipur Jn.- Himmatnagar	high cutting
41	Ajmer		126/11-127/1	Udaipur Jn.- Himmatnagar	high cutting
42	Ajmer	243	128/12-13	Udaipur Jn.- Himmatnagar	RCC slab bridge
43	Ajmer	251	130/2-5	Udaipur Jn.- Himmatnagar	Major Bridge
44	Ajmer		130/13-14	Udaipur Jn.- Himmatnagar	cutting (guard of Br. be No. 251 to watched)
45	Ajmer	269	133/12-13	Udaipur Jn.- Himmatnagar	Major Bridge
46	Ajmer		133/13-14	Udaipur Jn.- Himmatnagar	cutting (guard of Br. be No.269 to watched)
47	Ajmer		134/2-7	Udaipur Jn.- Himmatnagar	high cutting
48	Ajmer		136/8-137/8	Udaipur Jn.- Himmatnagar	high cutting
49	Ajmer		138/10-12	Udaipur Jn.- Himmatnagar	high cutting
50	Ajmer		138/13-14	Udaipur Jn.- Himmatnagar	bank & tunnel
51	Ajmer		139/3-4	Udaipur Jn.- Himmatnagar	bank & tunnel
52	Ajmer		140/4-8	Udaipur Jn.- Himmatnagar	bank & tunnel
53	Ajmer	Tunnel	140/13-141/1	Udaipur Jn.- Himmatnagar	bank & tunnel
54	Ajmer		147/6-149/13	Udaipur Jn.- Himmatnagar	high cutting
55	Ajmer		153/5-6	Udaipur Jn.- Himmatnagar	high cutting
56	Ajmer		156/2-3	Udaipur Jn.- Himmatnagar	high cutting
57	Ajmer		157/3-4	Udaipur Jn.- Himmatnagar	high cutting
58	Ajmer		162/0-178/12	Udaipur Jn.- Himmatnagar	dangerous bank
59	Ajmer	433	178/12-15	Udaipur Jn.- Himmatnagar	Major Bridge
60	Ajmer	457	187/10-11	Udaipur Jn.- Himmatnagar	Major Bridge
61	Ajmer		190/11-14	Udaipur Jn.- Himmatnagar	high cutting
62	Ajmer		192/10-15	Udaipur Jn.- Himmatnagar	high cutting
63	Ajmer		198/11-12	Udaipur Jn.- Himmatnagar	high cutting
64	Ajmer		199/8-14	Udaipur Jn.- Himmatnagar	high bank
65	Ajmer		200/11-12	Udaipur Jn.- Himmatnagar	high bank
66	Ajmer		201/13-202/5	Udaipur Jn.- Himmatnagar	high cutting
67	Ajmer		207-209	Udaipur Jn.- Himmatnagar	high cutting

68	Ajmer	558	214/10-11	Udaipur Jn.- Himmatnagar	Major Bridge
69	Ajmer		227/2-3	Udaipur Jn.- Himmatnagar	high cutting
70	Ajmer	594	229/6-7	Udaipur Jn.- Himmatnagar	Major Bridge
71	Ajmer		238-243	Udaipur Jn.- Himmatnagar	high bank
72	Ajmer		243-248	Udaipur Jn.- Himmatnagar	high bank
73	Ajmer		252/11- 252/13	Udaipur Jn.- Himmatnagar	high bank
74	Ajmer		254/1-9	Udaipur Jn.- Himmatnagar	high bank
75	Ajmer		260/1-264/-	Udaipur Jn.- Himmatnagar	high cutting
76	Ajmer		264-268	Udaipur Jn.- Himmatnagar	high bank
77	Ajmer	786	284/13-14	Udaipur Jn.- Himmatnagar	Major Bridge
78	Ajmer		287/10- 288/10	Udaipur Jn.- Himmatnagar	high cutting

B: Bikaner Division

1	Bikaner	142	Km 231/5-6	Sirsa- Bathinda	vulnerable
2.	Bikaner	21	Km 63/3-4	Lalgarh-Kolayat- Phalodi (BG)	vulnerable

C: Jaipur Division

1	Jaipur	Maj Br. 100	96/7-8	Alwar-Bandikui	High bank
2	Jaipur	Maj Br. 102	98/7-8	Alwar-Bandikui	High bank
3	Jaipur	Maj br 138	153/0- 154/0	Bandikui-Jaipur	High bank & Bridge
4	Jaipur	New LHS at LC 175	173/7-8	Bandikui-Jaipur	
5	Jaipur		178/2-3	Bandikui-Jaipur	Rain Cut
6	Jaipur	Bai yard	207/0/209/0	Bandikui-Jaipur	Prone to water logging
7	Jaipur	Maj br. 197	214/2- 215/9	Bandikui-Jaipur	High bank
8	Jaipur		218/5-8	Bandikui-Jaipur	High bank
9	Jaipur		230/0- 232/1	Bandikui-Jaipur	High bank
10	Jaipur		234/0- 236/1	Bandikui-Jaipur	
11	Jaipur		237/8- 238/3	Bandikui-Jaipur	High bank
12	Jaipur		240/0-6	Bandikui-Jaipur	
13	Jaipur		241/9- 242/4	Bandikui-Jaipur	
14	Jaipur		270/6-7	Phulera-Madar	Soil settlement
15	Jaipur	152	215/5-6	Phulera yard	Water Enter Directly
16	Jaipur	12	235/4-5	Phulera-Madar	Water Enter Directly
17	Jaipur	Maj br 6	6/6-8	Sawai Madhopur-	

				Jaipur	
18	Jaipur	Maj br 19	25/6-8	Sawai Madhopur-Jaipur	
19	Jaipur	Maj br 23	33/6-34/3	Sawai Madhopur-Jaipur	
20	Jaipur		92/5-97/0	Sawai Madhopur-Jaipur	
21	Jaipur		124/8-126/1	Sawai Madhopur-Jaipur	
22	Jaipur	13	19/0-1	Sawai Madhopur-Jaipur	Water Enter Directly
23	Jaipur		34/8-35/0	Sawai Madhopur-Jaipur	High Bank
24	Jaipur		56/4-58/4	Sawai Madhopur-Jaipur	Cutting
25	Jaipur	38	64/0-1	Sawai Madhopur-Jaipur	Water Enter Directly
26	Jaipur	40	65/9-66/0 (Sawai Madhopur-Jaipur	Water Enter Directly
27	Jaipur	49	78/9-79/0	Sawai Madhopur-Jaipur	Water Enter Directly
28	Jaipur	53	85/3-4	Sawai Madhopur-Jaipur	Water Enter Directly
29	Jaipur		95/7-96/7	Sawai Madhopur-Jaipur	High bank
30	Jaipur	82	125/8-9	Sawai Madhopur-Jaipur	Water Enter Directly
31	Jaipur	83	127/1-2	Sawai Madhopur-Jaipur	Water Enter Directly
32	Jaipur	Rub 10	13/0-1	RE-RGS	
33	Jaipur		42/1-5	RE-RGS	Derailment site
34	Jaipur	Rub 47	56/5-8	RE-RGS	
35	Jaipur		106/1-5	RE-RGS	DFC Side bank
36	Jaipur	RUB 86	121/4-5	RE-RGS	
37	Jaipur		125/1-5	RE-RGS	DFC Side bank
38	Jaipur		16/0-21/0	RPC	Cutting
39	Jaipur	15	19/9-20/0	RPC	Water Enter Directly
40	Jaipur	21	28/8-9	RPC	Water Enter Directly
41	Jaipur	22	29/9 to 30/0	RPC	Water Enter Directly
42	Jaipur	26	34/3-4	RPC	Water Enter Directly
43	Jaipur	33	39/8-9	RPC	Water Enter Directly
44	Jaipur	45	54/4-5	RPC	Water Enter Directly
45	Jaipur	51	63/2-3	RPC	Water Enter Directly
46	Jaipur	55	67/5-6	RPC	Water Enter Directly
47	Jaipur	56	68/6-7	RPC	Water Enter Directly
48	Jaipur	. 57	70/5-7)	RPC	Water Enter Directly
49	Jaipur		78/0-5	RPC	Cutting
50	Jaipur	70	91/1-2	RPC	Water Enter Directly
51	Jaipur		142/1-7	JP-RGS	City area bank
52	Jaipur	106	147/1-2	RPC	Water Enter Directly
53	Jaipur	114	158/7-8	RPC ⁷⁰	Water Enter Directly
54	Jaipur	115	161/0-1	RPC	Water Enter Directly
55	Jaipur	121	168/7-8	RPC	Water Enter Directly

56	Jaipur	124	171/3-4	RPC	Water Enter Directly
57	Jaipur		170/2-3	JP-RGS	Bank on jp approach
58	Jaipur	Maj br 220	182/5-6	RGS-FL	Bank on jp approach
59	Jaipur	132	183/6-7	RPC	Water Enter Directly
60	Jaipur	134	186/0-1	RPC	Water Enter Directly
61	Jaipur	135	187/1-2	RPC	Water Enter Directly
62	Jaipur	136	188/4-5	RPC	Water Enter Directly
63	Jaipur	137	190/1-2	RPC	Water Enter Directly
64	Jaipur	139	193/0-1	RPC	Water Enter Directly
65	Jaipur	Maj br 221/B	KM 205/2-206/3	RPC	High bank, rain cut prone area.
66	Jaipur		219/3-4	RGS-SIKR	Cutting area
67	Jaipur	MAJ BR 151	221/8-222/2	RGS-SIKR	High bank
68	Jaipur		13/2-3	RGS-SIKR	High bank
69	Jaipur		55/3-5	RGS-SIKR	High bank
70	Jaipur		70/2-7	RGS-SIKR	Cutting area
71	Jaipur	3	3/7-8	Sikar-Churu	Water Enter Directly
72	Jaipur	4	4/5-6	Sikar-Churu	Water Enter Directly
73	Jaipur	5	5/3-4	Sikar-Churu	Water Enter Directly
74	Jaipur	7	6/9-7/0	Sikar-Churu	Water Enter Directly
75	Jaipur	9	8/6-7	Sikar-Churu	Water Enter Directly
76	Jaipur	11	11/7-8	Sikar-Churu	Water Enter Directly
77	Jaipur	12	12/5-6	Sikar-Churu	Water Enter Directly
78	Jaipur	13	13/5-6	Sikar-Churu	Water Enter Directly
79	Jaipur	14	15/4-5	Sikar-Churu	Water Enter Directly
80	Jaipur	15	16/1-2	Sikar-Churu	Water Enter Directly
81	Jaipur	16	17/6-7	Sikar-Churu	Water Enter Directly
82	Jaipur	18	20/0-1	Sikar-Churu	Water Enter Directly
83	Jaipur	19	21/5-6	Sikar-Churu	Water Enter Directly
84	Jaipur	20	22/6-7	Sikar-Churu	Water Enter Directly
85	Jaipur	21	23/4-5	Sikar-Churu	Water Enter Directly
86	Jaipur	23	25/6-7	Sikar-Churu	Water Enter Directly
87	Jaipur	24	26/3-4	Sikar-Churu	Water Enter Directly
88	Jaipur	28	28/5-6	Sikar-Churu	Water Enter Directly
89	Jaipur	29	30/3-4	Sikar-Churu	Water Enter Directly
90	Jaipur	30	31/8-9	Sikar-Churu	Water Enter Directly
91	Jaipur	33	37/3-4	Sikar-Churu	Water Enter Directly

D: Jodhpur Division

1.	Jodhpur	Br. No 32	33/8-9	Phulera- Merta Road	Important bridge & heavy erosion of embankment slopes during rainfall
2.	Jodhpur		575/7-8	Merta Road- ⁷¹ Jodhpur	
3.	Jodhpur	Br. No 73	611/0-1	Merta Road- Jodhpur	submergence & water topping

4.	Jodhpur	Br. No.34A	371/9-382/0	Degana- Ratangarh	Submergence during heavy rainfall due to low laying area & washed away during last successive years.
5.	Jodhpur		19/6-7	Pipar Road- Bilara	
6.	Jodhpur	-	672/.04	LuniMarwar Jn.	Breached due to heavy rainfall in 2008-09.
7.	Jodhpur	Br. No 85	658/0	Marwar Jn.- Jodhpur	Important bridge & earthen dam at upstream side.
8.	Jodhpur	Br. No 88 & 89	665/9-666/6	Marwar Jn.- Jodhpur	Doodly village bund U/S side. The overflow may affect the track.
9.	Jodhpur	Br. No 92	671/0-3	Marwar Jn.- Jodhpur	Important bridge & earthen dam at upstream side.
10.	Jodhpur	Br. No 126A	108/8-9	Rai ka Bagh- Jaisalmer	Previous history of slope being washed away.
11.	Jodhpur	Br. No 188A	279/3-4	Rai ka Bagh- Jaisalmer	Submergence during heavy rainfall & heavy erosion
12.	Jodhpur	Br. No 188B	279/5-6	Rai ka Bagh- Jaisalmer	
13.	Jodhpur		221/1-4	Rai Ka bagh- Jaisalmer	Breached due to heavy rainfall in 2010-11.
14.	Jodhpur		49/4-5	Rai ka Bagh- Jaisalmer	
15.	Jodhpur		87/9-88/0	Rai ka Bagh- Jaisalmer	
16.	Jodhpur		93/9-94/0	Rai ka Bagh- Jaisalmer	
17.	Jodhpur		94/2-3	Rai ka Bagh- Jaisalmer	
18.	Jodhpur		95/8-9	Rai ka Bagh- Jaisalmer	
19.	Jodhpur		102/2-3	Rai ka Bagh- Jaisalmer	
20.	Jodhpur		114/8-9	Rai ka Bagh- Jaisalmer	
21.	Jodhpur		148/6-7	Rai ka Bagh- Jaisalmer	
22.	Jodhpur		187/0-1	Rai ka Bagh- Jaisalmer	
23.	Jodhpur	Br. No 3	662/1-2	Luni- Samdari	Submergence during heavy rainfall & heavy erosion
24.	Jodhpur	Br. No 5A	678/4-5	Luni- Samdari	Submergence during heavy rainfall & heavy erosion
25.	Jodhpur	Br. No 5B	678/4-5	Luni- Samdari	Submergence during heavy rainfall & heavy erosion
26.	Jodhpur	Br. No 5D	679/5-6	Luni- Samdari	
27.	Jodhpur	Br. No 6	681/7-8	Luni- Samdari	
28.	Jodhpur	Br. No 6A	687/9-688/0	Luni- Samdari	
29.	Jodhpur	Br. No 6B	688/0-1	Luni- Samdari	Overflow from two water reservoirs may affect the track
30.	Jodhpur	Br. No 6C	688/1-2	Luni- Samdari	
31.	Jodhpur	Br. No 9	689/1-3	Luni- Samdari	
32.	Jodhpur	Br. No 10 A	690/1-2	Luni- Samdari	
33.	Jodhpur	Br. No 11A	690/3-4	Luni- Samdari	
34.	Jodhpur	Br. No 11B	690/4-5	Luni- Samdari	
35.	Jodhpur	Br. No 17	695/6-7	Luni- Samdari	Submergence during heavy rainfall & heavy erosion and washout in 2017
36.	Jodhpur		746/6-8	Samdari- Munabao	
37.	Jodhpur	Br. No 33A	748/5-6	Samdari- M/u ² nabao	Submergence during heavy rainfall in 2017
38.	Jodhpur		750/8-751/5	Samdari- Munabao	

39.	Jodhpur	Br. No 35A	759/2-3	Samdari- Munabao	Submergence during heavy rainfall & heavy erosion
40.	Jodhpur		751/2-7		
41.	Jodhpur		758/5-759/5		
42.	Jodhpur	Br. No.52	843/2-3	Samdari- Munabao	
43.	Jodhpur	Br. No 3	3/5-8/9	Samdari- Bhildi	Important bridge & affect structure at upstream sid
44.	Jodhpur	Br. No 5	8/9-11/8	Samdari- Bhildi	Submergence during heavy rainfall & heavy erosion
45.	Jodhpur		16/3-4	Samdari- Bhildi	Breaches in years 1990,1992,1993,2003 & in August 2013
46.	Jodhpur		17/7-8	Samdari- Bhildi	Breaches in years 1990,1992,1993,2003 & in August 2013
47.	Jodhpur		32/8-33/0	Samdari- Bhildi	Causeway, during submerge heavy rainfall
48.	Jodhpur		33/2-34/2	Samdari- Bhildi	
49.	Jodhpur	Br. No28A	34/6-7	Samdari- Bhildi	Submergence during heavy rainfall & heavy erosion
50.	Jodhpur	Br. No.29A	36/1-2	Samdari- Bhildi	Causeway, during submerge heavy rainfall
51.	Jodhpur		36/8-38/2	Samdari- Bhildi	
52.	Jodhpur	Br. No30	51/3-6	Samdari- Bhildi	Leta village bund located U/S side. The overflow may affect the track.
53.	Jodhpur	Br. No 31	53/6-7	Samdari- Bhildi	
54.	Jodhpur		56/6-7	Samdari- Bhildi	Breaches due to wash out in years 2017
55.	Jodhpur	Jalor yard Line No. 1	58/6-7	Samdari- Bhildi	Breaches due to wash out in years 2017
56.	Jodhpur	Jaganath ji Yard Line No. 1	68/7-69/0	Samdari- Bhildi	Breaches due to 20 mtr wash out in years 2017
57.	Jodhpur	Br. No 44A	72/3-4	Samdari- Bhildi	Submergence during heavy rainfall & heavy erosion
58.	Jodhpur	Br. No 54	91/6-7	Samdari- Bhildi	Importan bridge, earthendam(Somta) at upstream side. Overflow and bursting may affect the track.
59.	Jodhpur		126/2-3	Samdari- Bhildi	Breaches in years 2017
60.	Jodhpur		130/4-5	Samdari- Bhildi	Breaches in years 2017
61.	Jodhpur		138/9-139/0	Samdari- Bhildi	Breaches in years 2017
62.	Jodhpur		146/7-8	Samdari- Bhildi	Breaches in years 2017
63.	Jodhpur		146/9-147/0	Samdari- Bhildi	Breaches in years 2017
64.	Jodhpur		148/5-6	Samdari- Bhildi	Breaches in years 2017
65.	Jodhpur		149/5-6	Samdari- Bhildi	Breaches in years 2017
66.	Jodhpur		150/0-1	Samdari- Bhildi	Breaches in years 2017
67.	Jodhpur		155/0-1	Samdari- Bhildi	Breaches in years 2017
68.	Jodhpur		157/0-2	Samdari- Bhildi	Breaches in years 2017

69.	Jodhpur	Br. No 127	162/2-9	Samdari- Bhildi	important bridge, submergence during heavy rainfall & heavy erosion
70.	Jodhpur		164/2-4	Samdari- Bhildi	High bank and heavy rain cut loop line wash away 2-3 times in past.
71.	Jodhpur		165/8-166/1	Samdari- Bhildi	Heavy water collection due to catchment area and sand deposited on track and Breaches in years 2017.
72.	Jodhpur		175/4-176/2	Samdari- Bhildi	
73.	Jodhpur		185/3-5	Samdari- Bhildi	
74.	Jodhpur	Br. No 147	185/4-188/9	Samdari- Bhildi	Breaches due to 1000mtr wash out in 2017 and sand on track 80mtr.
75.	Jodhpur	Br. No 147	189/1-9	Samdari- Bhildi	Breaches due to wash out in 2017 and sand on track 50mtr.
76.	Jodhpur	Br. No 150 & 151	191/0-193/0	Samdari- Bhildi	Submergence during heavy rainfall & heavy erosion and Breaches due to 200mtr wash out in 2017
77.	Jodhpur	RUB No. 141	193/8-9	Samdari- Bhildi	Breaches due to wash out in 2017
78.	Jodhpur		194/7-195/0	Samdari- Bhildi	Sand on track 100Mtr and cutting in 2017.
79.	Jodhpur		120/4-5	Samdari- Bhildi	
80.	Jodhpur		121/5-7	Samdari- Bhildi	
81.	Jodhpur		139/4-8	Samdari- Bhildi	
82.	Jodhpur		147/3-8	Samdari- Bhildi	
83.	Jodhpur		153/6-8	Samdari- Bhildi	Sand on track
84.	Jodhpur		190/9-191/2	Samdari- Bhildi	
85.	Jodhpur		197/1-3	Samdari- Bhildi	Sand on track and cutting in 2017
86.	Jodhpur		197/3-5	Samdari- Bhildi	Breaches due to wash out in 2015
87.	Jodhpur		197/5-6	Ramson yard (samdari end)	Breaches due to wash out in Ramsan yard line no.1 in 2017
88.	Jodhpur		197/6-8	Samdari- Bhildi	Line no 1,2,3 wash out in RXN yard in 2015 and past.
89.	Jodhpur		198-6-8	Samdari- Bhildi	Cess totally wash out in 2015 Breaches due to 200 Mtr. wash out in 2017
90.	Jodhpur		203/1-2	Samdari- Bhildi 74	Breaches due to wash out in 2015
91.	Jodhpur		204/7-9	Samdari- Bhildi	Breaches due to wash out in 2015

92.	Jodhpur		207/1-3	Samdari- Bhildi	Breaches due to wash out in 2015 and 2017
93.	Jodhpur	LC 156	209/9-210/0	Samdari- Bhildi	Breaches due to wash out (25x3m) in 2017
94.	Jodhpur		210/2-4	Samdari- Bhildi	Breaches due to wash out in 2015 and 2017
95.	Jodhpur		210/9 - 211/0	Samdari- Bhildi	Breaches due to wash out in 2015 & 2017.
96.	Jodhpur		212/0-8	Samdari- Bhildi	Breaches due to wash out in 2015 & 2017
97.	Jodhpur		213/3-218/3	Samdari- Bhildi	Breaches due to wash out in 2017.
98.	Jodhpur		218/3-218/8	Samdari- Bhildi	Breaches due to wash out in 2017.
99.	Jodhpur		218/8-222/0	Samdari- Bhildi	Breaches due to wash out in 2017.
100.	Jodhpur		26 to 35 Km	Phulera-Merta Road	High Bank and deep cutting
101.	Jodhpur		854.42, km 855.058 & km 856.298	Barmer- Munabao	Breaches due to heavy rain in 2010-11
102.	Jodhpur	46 Arch	835.7	Barmer- Munabao	
103.	Jodhpur	53 Arch	840.4	Barmer- Munabao	
104.	Jodhpur	54 Arch	841.3	Barmer- Munabao	
105.	Jodhpur	60	856.1	Barmer- Munabao	
106.	Jodhpur	62	857.7	Barmer- Munabao	
107.	Jodhpur	64A	869.02	Barmer- Munabao	
108.	Jodhpur	65	869.365	Barmer- Munabao	
109.	Jodhpur	66	869.686	Barmer- Munabao	
110.	Jodhpur	67	871.1	Barmer- Munabao	
111.	Jodhpur	68	874.03	Barmer- Munabao	
112.	Jodhpur	73	879.4	Barmer- Munabao	
113.	Jodhpur	74	880.9	Barmer- Munabao	
114.	Jodhpur	75	881.5	Barmer- Munabao	
115.	Jodhpur	76	881.52	Barmer- Munabao	
116.	Jodhpur	77	882.01	Barmer- Munabao	
117.	Jodhpur	78	882.4	Barmer- Munabao	
118.	Jodhpur	79	882.7	Barmer- Munabao	

**STATEMENT SHOWING MAXIMUM & MINIMUM RAINFALL
DATA**

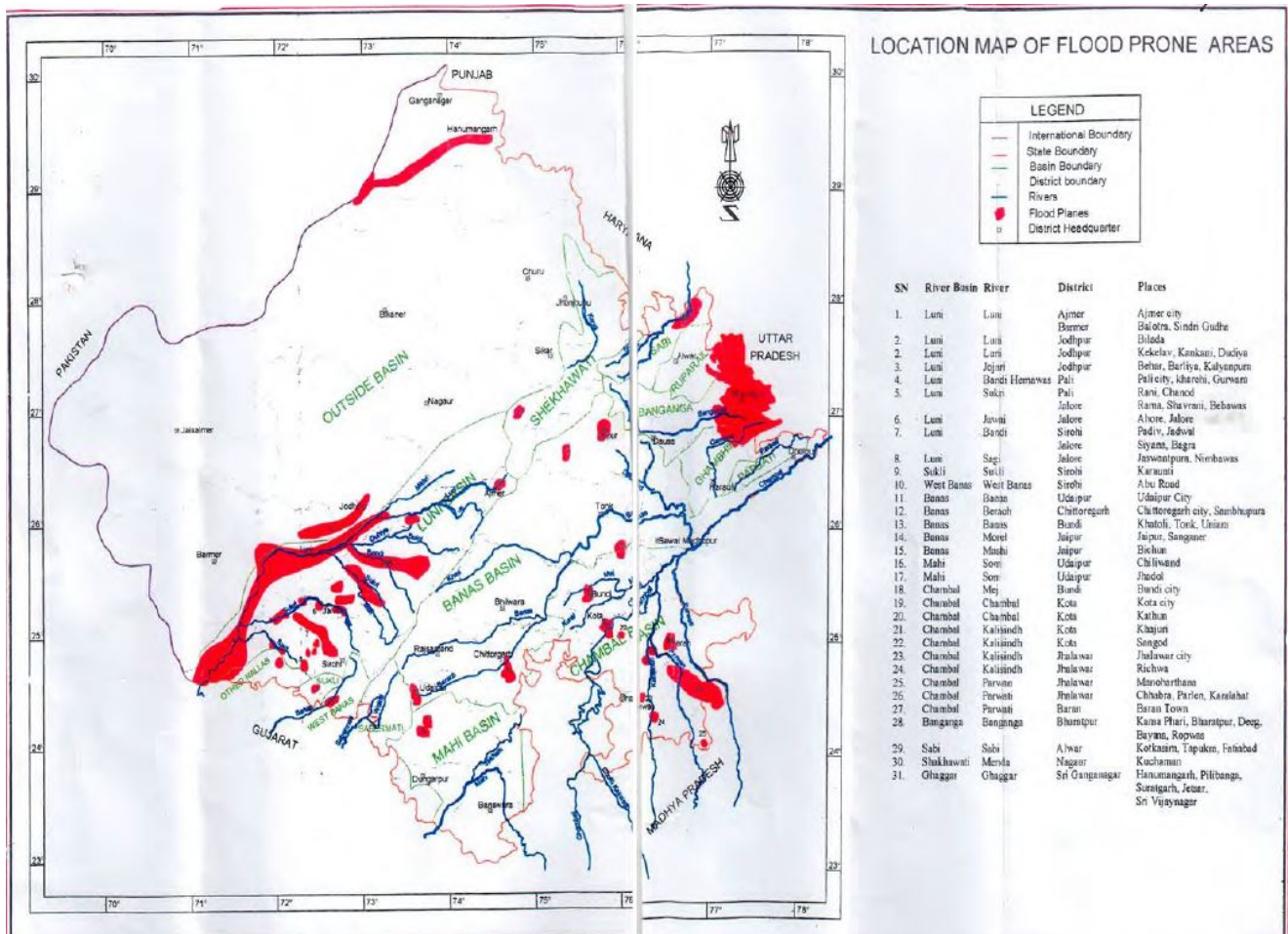
FROM YEAR 1901 TO 2023

S.No.	Name of Station	Normal Rainfall (mm)	Maximum Rainfall (mm)	Minimum Rainfall (mm)	Actual Rainfall 2023
1	Ajmer	498.5	1226.8	149.3	701.09
2	Alwar	627.8	1444.5	198.6	605.63
3	Banswara	933.4	1997.0	454.7	1030.86
4	Baran	892.9	1739.0	251.2	605.13
5	Barmer	308.0	940.0	28.7	582.95
6	Bharatpur	609.9	1383.0	211.8	718.23
7	Bhilwara	656.0	1303.8	317.0	658.69
8	Bikaner	309.6	771.0	32.0	459.89
9	Bundi	691.6	1533.1	275.5	621.42
10	Chittorgarh	780.0	1533.7	286.7	721.92
11	Churu	400.3	1072.5	77.2	513.27
12	Dausa	657.3	1363.2	134.9	644.30
13	Dholpur	649.1	1371.7	292.6	761.14
14	Dungarpur	750.2	1800.5	269.4	662.18
15	Hanumangarh	314.6	844.0	59.5	344.35
16	Jaipur	588.0	1317.2	120.1	664.53
17	Jaisalmer	206.6	578.4	26.4	282.26
18	Jalore	455.0	1047.4	27.3	873.49
19	Jhalawar	956.8	1698.3	375.0	782.38
20	Jhunjhunu	486.7	766.3	92.7	619.95
21	Jodhpur	332.2	1176.0	37.9	488.31
22	Karauli	657.8	1326.4	181.7	754.44
23	Kota	794.6	1593.1	171.7	706.40
24	Nagaur	421.6	1269.0	63.0	625.66
25	Pali	533.1	1022.4	78.8	910.70

26	Pratapgarh	969.6	1616.3	359.7	1022.07
27	Rajsamand	588.6	1039.0	214.0	947.35
28	Sawai Madhopur	726.9	2410.2	199.9	733.56
29	Sikar	474.2	1095.8	152.0	622.85
30	Sirohi	922.9	1577.6	139.9	1370.16
31	Sri Ganganagar	258.7	666.0	71.8	416.75
32	Tonk	617.4	1507.5	168.7	714.78
33	Udaipur	663.5	1222.8	206.0	779.82
From Year 1901 To 2023		Average 598.0	Maximum 2410.2	Minimum 26.4	Average 695.35

ANNEXURES-VI

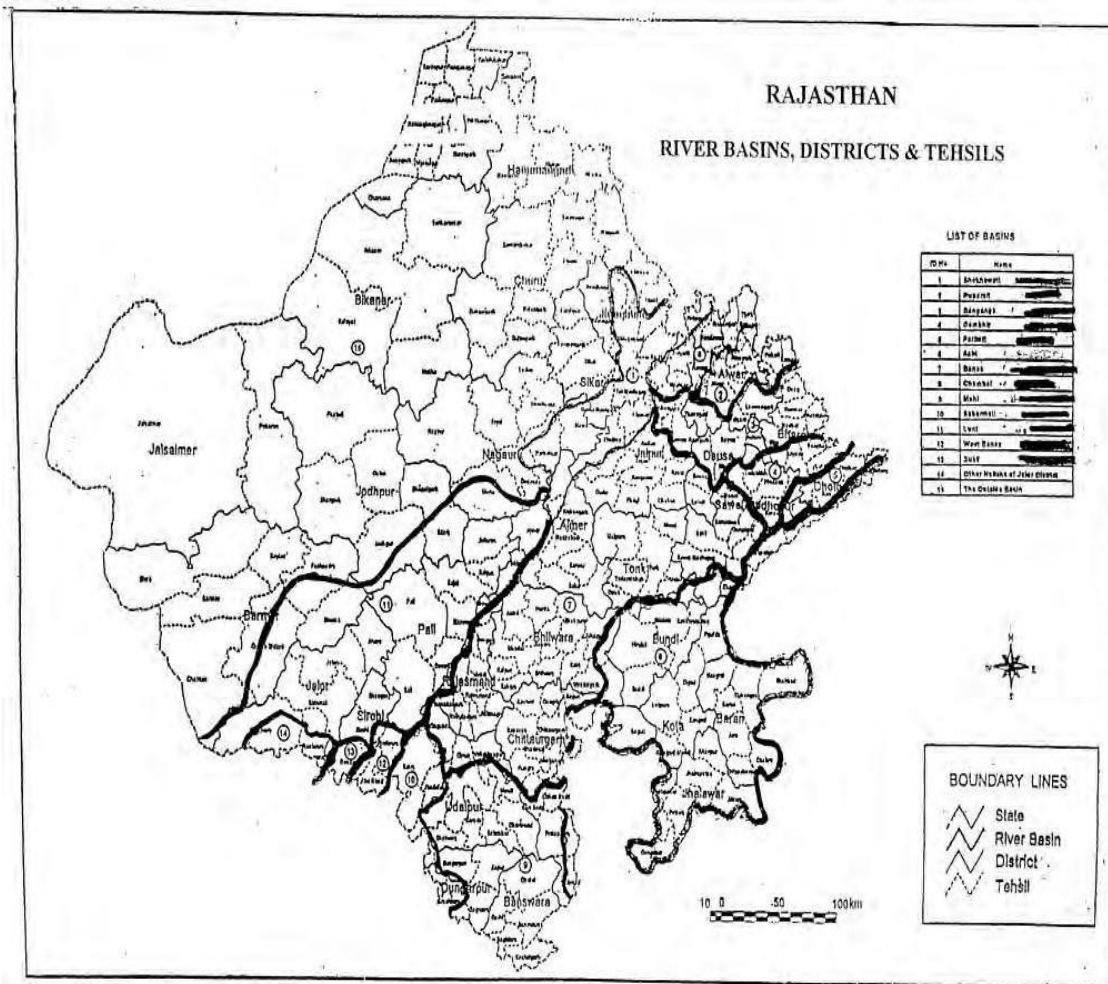
LOCATION MAP OF FLOOD PRONE AREAS IN RAJASTHAN



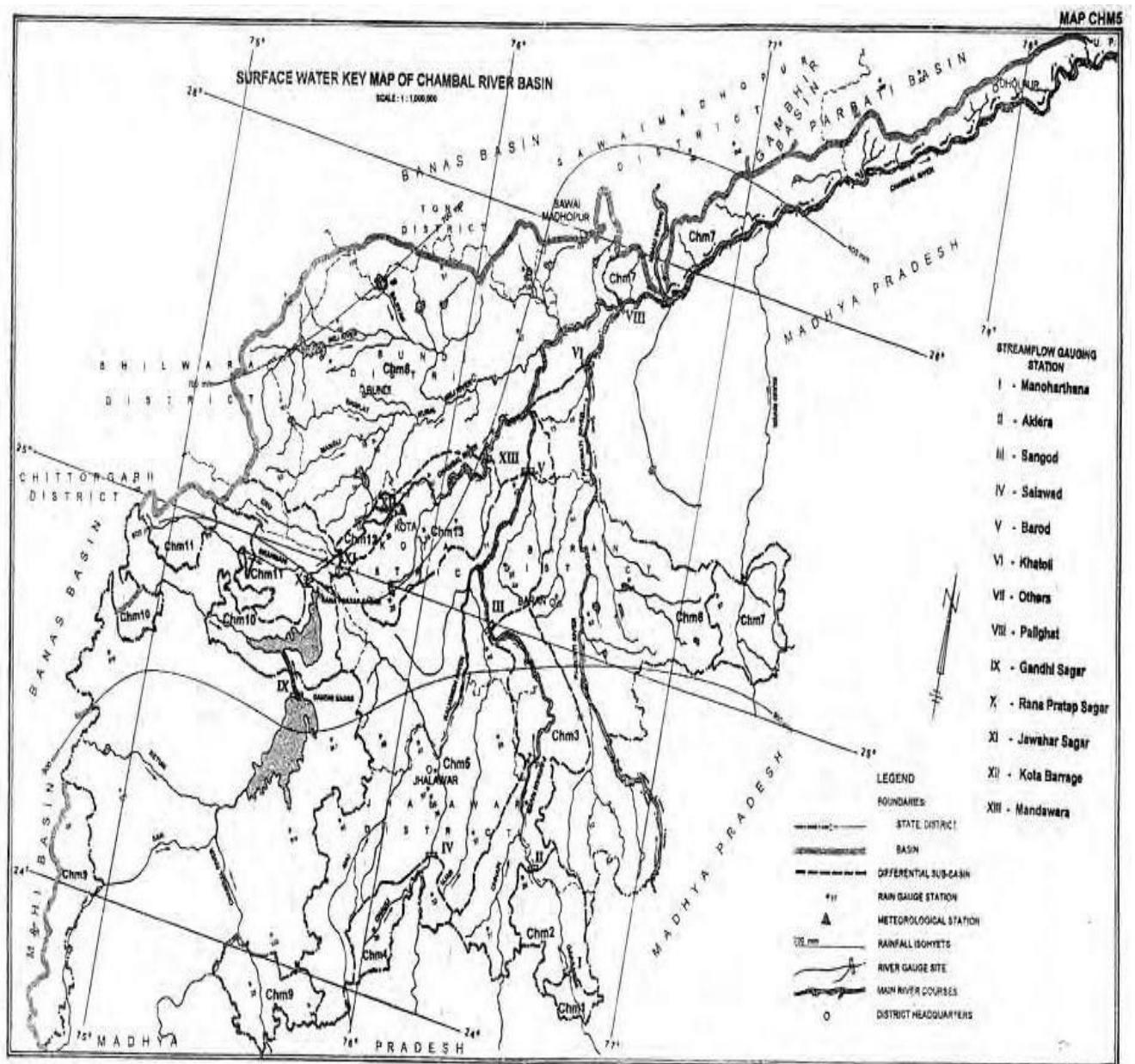
SOURCE: WRD

ANNEXURES-VII

RAJASTHAN RIVER BASIN DISTRICTSWISE AND TEHSILS WISE



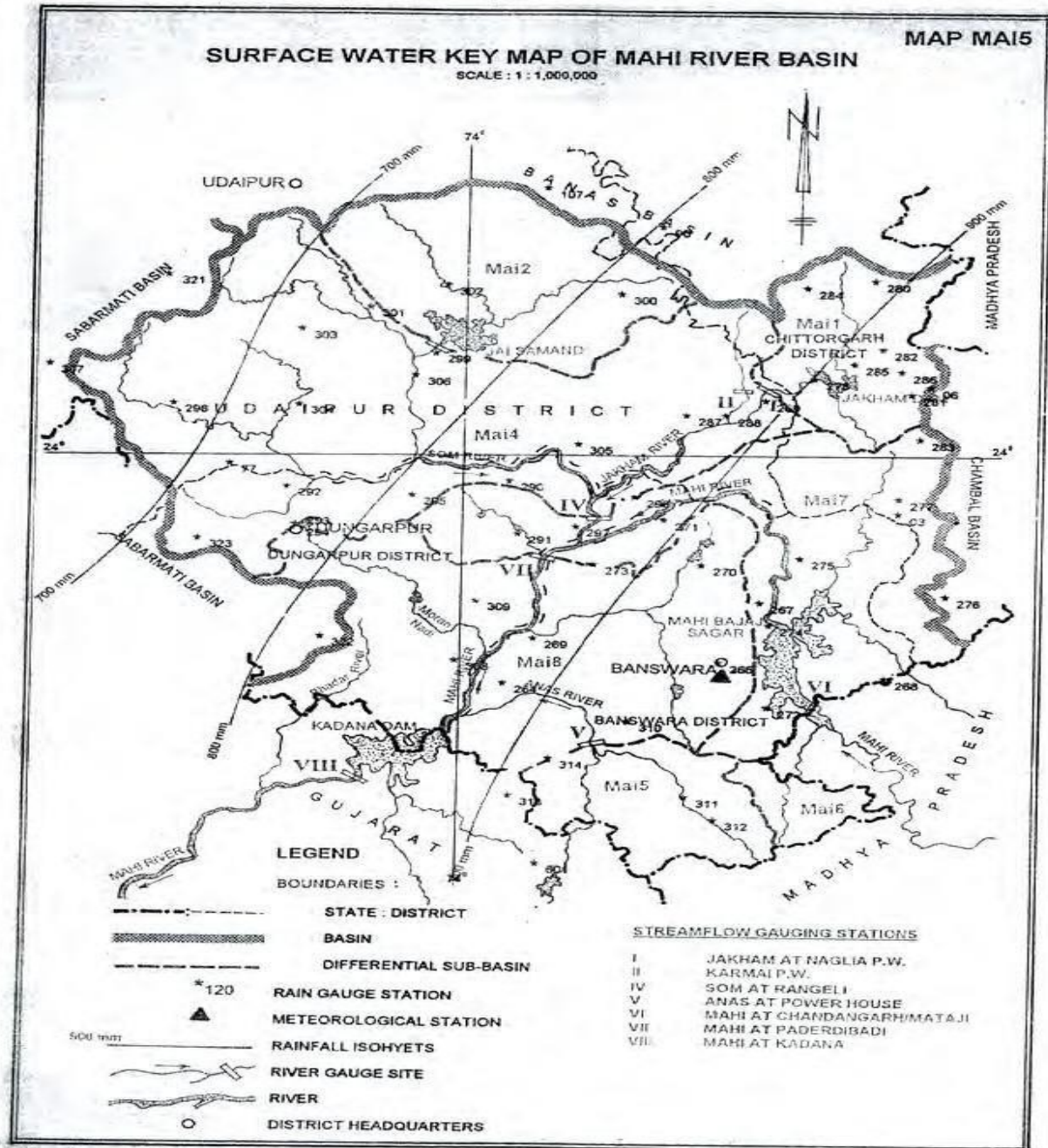
ANNEXURES-VIII **RAJASTHAN CHAMBAL RIVER BASIN**



SOURCE: WRD

ANNEXURES-IX


RAJASTHAN MAHI RIVER BASIN



SOURCE: WRD

ANNEXURES-X

"बचाव एवं राहत"


कार्यालय कमाण्डेंट,
राज्य आपदा प्रतिसाद बल, राजस्थान पुलिस, जयपुर।
 टेलीफोन नं. 0141-2759903 ईमेल-comdt.sdrf@rajpolice.gov.in / comdt.sdrf.raj.jpr@gmail.com
 क्रमांक :-एसडीआरएफ / सामान्य / 2024 / 381 दिनांक 18/6/2024

कार्यालय आदेश

आगामी मानसून वर्ष 2024 के दौरान राज्य में संभावित भारी वर्षा/बाढ़ से होने वाली आपदा की स्थिति में आपदा राहत एवं बचाव कार्य हेतु राज्य आपदा प्रतिसाद बल (एसडीआरएफ) राजस्थान की संभाग मुख्यालयों पर स्थित आठ कम्पनियों की रेस्क्यू टीमों को इस कार्यालय के आदेश क्रमांक 373 दिनांक 14.06.2024 के द्वारा दिनांक 25.06.2024 से निम्नानुसार जिला मुख्यालयों पर आगामी आदेश तक नियोजित किया गया है। मानसून के दौरान नियोजित उक्त रेस्क्यू टीमों के निम्नानुसार प्रभाषी एवं लिंक प्रभाषी नियुक्त किये जाते हैं :-


क्र.सं.	कम्पनी/संभाग मुख्यालय	भेजी जाने वाली रेस्क्यू टीम का क्रमांक	रेस्क्यू टीम का तैनाती स्थल/जिला	रेस्क्यू टीम प्रभाषी /लिंक प्रभाषी	मोबाईल नम्बर
1.	ए कम्पनी-जयपुर	A-1	जिला जयपुर ग्रामीण (मुख्यालय जयपुर ग्रामीण पुलिस लाइन)	श्री इम्तियाज हैड कानि0 63 श्री ओमप्रकाश कानि0 206	9929709686 9785718629
		A-2	जिला जयपुर ग्रामीण (मुख्यालय जयपुर ग्रामीण पुलिस लाइन)	श्री बनवारी लाल कानि0 537 श्री विजय कुमार कानि0 859	9414554730 9887012966
		A-3	जिला अलवर	श्री राजेन्द्र सिंह हैड कानि0 33 श्री लीलाराम कानि0 772	9785132832 9694216965
2.	बी कम्पनी-कोटा	B-1	कोटा शहर (कम्पनी मुख्यालय कोटा)	श्री करण सिंह हैड कानि0 02 श्री देवराज कानि0 233	7727811214 9214658731
		B-2	जिला कोटा ग्रामीण (कम्पनी मुख्यालय कोटा)	श्री मुकेश कुमार हैड कानि0 09 श्री भरत सिंह कानि0 339	8107730104 9982789474
		B-3	जिला बांरा	श्री रमेश चन्द हैड कानि0 39 श्री पुष्कराज कानि0 231	9079897792 9680288854
		B-4	जिला बांरा	श्री रामनिवास हैड कानि0 41 श्री रेश कानि0 622	9413011534 9001074043
		B-5	जिला झालावाड	श्री रामकुमार हैड कानि0 44	9887689157

3.	सी कम्पनी-भरतपुर	B-6	जिला झालावाड	श्री जगदीश कानि0 250 श्री अम्मीलाल हैड कानि0 25 श्री रामलखन कानि0 584	6377987846 9480150415 9672457259
		B-7	रिजर्व	श्री जितेन्द्र सिंह कानि0 498 श्री रामअवतार कानि0 542	9667246981 9799756769
		C-1	जिला भरतपुर (कम्पनी मुख्यालय भरतपुर)	श्री राजेन्द्र हैड कानि0 08 श्री कुलदीप कानि0 226	9509823674 8078615987
		C-2	जिला भरतपुर (कम्पनी मुख्यालय भरतपुर)	श्री सीयाराम हैड कानि0 30 श्री उदयवीर सिंह कानि0 246	9680806746 9667551864
		C-3	जिला धौलपुर	श्री उदयल सिंह हैड कानि0 47 श्री हरीओम कानि0 220	9461643032 8104648960
		C-4	जिला धौलपुर	श्री हरप्रसाद हैड कानि0 25 श्री जितेन्द्र सिंह कानि0 372	9610076642 8561013623
		C-5	जिला करौली	श्री चारासिंह हैड कानि0 08 श्री राजवीर सिंह कानि0 317	9929767688 7742144763
		C-6	जिला करौली	श्री कुलसिंह हैड कानि0 08 श्री पुनित कानि0 285	9785869671 9549148662
		C-7	जिला सवाई माधोपुर	श्री कंवर पाल सिंह हैड कानि0 03 श्री जनक सिंह कानि0 379	9414707408 9785481110
		C-8	जिला सवाई माधोपुर	श्री अशोक कुमार हैड कानि0 62 श्री रामसिंह कानि0 264	8112210174 9950532330
4.	डी कम्पनी-उदयपुर	C-9	कम्पनी मुख्यालय रिजर्व	श्री केशव सिंह हैड कानि0 07 श्रीमती जजवीरी म. कानि0 708	8764289103 8104284950
		D-1	कोटडा जिला उदयपुर	श्री लोकम खॉन हैड कानि0 27 श्री मनोज कुमार कानि0 326	9660415270 8869088340
		D-2	सलुम्बर जिला उदयपुर	श्री रंभ सिंह हैड कानि0 61	6375940157

5.	ई कम्पनी— अजमेर	D-3	जिला डुंगरपुर	श्री ओमप्रकाश कानि0 325	8783142662
				श्री हुकमसिंह हैड कानि0 73	9460872713
				श्री संजय कुमार कानि0 312	9587398383
		D-4	जिला उदयपुर कम्पनी मुख्यालय	श्री रोशन लाल हैड कानि0 38	9571603725
				श्री भीमसिंह कानि0 305	7374965125
		E-1	जिला अजमेर (कम्पनी मुख्यालय अजमेर)	श्री राजेश कुमार हैड कानि0 19	8104519544
				श्री शिवराज कानि0 204	9828705411
		E-2	जिला नागौर	श्री बजरंग लाल हैड कानि0 12	7597556439
				श्री कैलाश कानि0 423	8432349255
		E-3	जिला भीलवाड़ा	श्री संजय कुमार कानि0 223	9694501372
				श्री सुरजाराम कानि0 455	8696958502
		E-4	जिला कोटा	श्री नरेन्द्र कानि0 222	9269024270
				श्री किशन लाल कानि0 260	9828498246
		E-5	जिला टोंक	श्री सीताराम कानि0 352	9079602854
				श्री हनुमान सहाय कानि0 358	8058356979
		E-6	जिला टोंक	श्री रसिराम कानि0 277	8104515533
				श्री भरतलाल कानि0 300	8432838022
		E-7	जिला भीलवाड़ा	श्री रवि कुमार कानि0 333	9413283556
				श्री दीपेन्द्र कुमार कानि0 526	9462222910
		E-8	जिला बूंदी	श्री गोपाल सिंह कानि0 334	9649980623
				श्री अजयसुराम कानि0 343	9799906646
6.	एफ कम्पनी— जोधपुर	F-1	जिला प्रतापगढ़	श्री राजूराम कानि0 331	7690071453
				श्री रामरतन कानि0 276	9636455474
		F-2	जिला सिराही	श्री सुनील कुमार हैड कानि0 28	7982702490
				श्री हरन्द जाखड कानि0 210	9613117000
				श्री भागचन्द हैड कानि0 10	9414593590

7.	जी कम्पनी— बीकानेर	F-3	जिला जालौर	श्री महेंद्र कानि0 269	7568642882
				श्री ओमसिंह हैड कानि0 07	8104353900
				श्री भूपतराम कानि0 202	8769965196
		F-4	जिला जालौर	श्री मोतीसिंह हैड कानि0 64	9829303436
				श्री सुमान चन्द कानि0 257	9667548959
		F-5	जिला जोधपुर (कम्पनी मुख्यालय)	श्री रोशन लाल हैड कानि0 17	6377707742
				श्री श्रवणराम कानि0 247	9928289360
		F-6	जिला सिराही	श्री बीरबल राम हैड कानि0 22	9888737127
				श्री ओमप्रकाश कानि0 381	8890727265
		F-7	जिला प्रतापगढ़	श्री लालचन्द कानि0 394	9829377029
				श्री कन्हैया लाल कानि0 384	9667487084
		F-8	जिला जोधपुर (कम्पनी मुख्यालय)	श्री मनचतराम कानि0 740	8385019186
				श्री जयवीर कानि0 696	9860255482
		F-9	सिराही	श्री इय्यमलाल कानि0 238	9784295091
				श्री सुनील कुमार कानि0 534	9694745853
		G-1	जिला भुव	श्री जगदीश प्रसाद हैड कानि0 68	9460434882
		G-2	जिला बीकानेर (कम्पनी मुख्यालय बीकानेर)	श्री सुनील कानि0 410	9461374286
				श्री बलवीर सिंह हैड कानि0 53	9461309151
		G-3	जिला बीकानेर	श्री हर्मेय कुमार कानि0 406	9413838334
				श्री बनियास हैड कानि0 57	9968252315
		G-4	जिला बीकानेर (कम्पनी मुख्यालय बीकानेर)	श्री रतनाराम कानि0 552	9001328924
				श्री इन्द्रजीत सिंह हैड कानि 49	9896910541
		G-5	जिला भीमगानगर	श्री प्रदीप दान कानि0 464	9649486287
				श्रीमती मीना शोखावत हैड कानि0 34	9968252315
				श्री नरेन्द्रराम कानि0 446	8769350298

8.	एच कम्पनी- जयपुर	G-6	जिला बांसवाडा	श्री महेश कुमार हैड कानि0 59	9680283533
		G-7	रिजर्व	श्री सुनील कुमार कानि0 554	9828713280
				श्री मूलसिंह कानि0 229	9521469757
				श्री महेन्द्र कानि0 207	8209857529
		H-1	एसडीआरएफ कन्ट्रोल रूम घाटगेट जयपुर (पुलिस आयुक्तालय जयपुर हेतु)	श्री राजेन्द्र सिंह हैड कानि0 51	7627001481
				श्री महेन्द्र कानि0 561	9166959022
		H-2	एसडीआरएफ कन्ट्रोल रूम घाटगेट जयपुर (पुलिस आयुक्तालय जयपुर हेतु)	श्री मोहनलाल हैड कानि0 76	8290538048
				श्री मुकेश कानि0 908	9602673598
		H-3	बटालियन मुख्यालय गाडोता जयपुर	श्री मुनेश कुमार कानि0 471	7014637232
				श्री प्रकाश कानि0 803	9785564873


 (राजेन्द्र सिंह सिसोदिया)
 कमाण्डेंट
 राज्य आपदा प्रतिसाद बल
 राजस्थान जयपुर।

प्रतिलिपि :- निम्नलिखित को सादर सूचनार्थ प्रेषित है :-

1. सचिव आपदा प्रबन्धन, सहायता एवं नागरिक सुरक्षा विभाग, राजस्थान जयपुर।
2. अतिरिक्त महानिदेशक पुलिस, राज्य आपदा प्रतिसाद बल राजस्थान, जयपुर।
3. उप महानिरीक्षक पुलिस, राज्य आपदा प्रतिसाद बल राजस्थान, जयपुर।
4. जिला कलेक्टर जयपुर/अलवर/कोटा/बांरा/झालावाड/भरतपुर/धौलपुर/करोली/सवाई माधोपुर/उदयपुर/बांसवाडा/झुंजरपुर/प्रतापगढ/अजमेर/टोंक/भीलवाडा/जोधपुर/सिरोही/जालौर/बीकानेर/चूरू/केकडी/बूंदी/श्रीगंगानगर/नागौर।
5. पुलिस उपायुक्त मुख्यालय, आयुक्तालय जयपुर/जोधपुर।
6. जिला पुलिस अधीक्षक जयपुर ग्रामीण /अलवर /कोटा/बांरा/झालावाड/ भरतपुर/ धौलपुर/करोली/सवाई माधोपुर/उदयपुर/बांसवाडा/झुंजरपुर/प्रतापगढ/अजमेर/टोंक /केकडी/भीलवाडा/जोधपुर /सिरोही/जालौर/बीकानेर/चूरू/बूंदी /श्रीगंगानगर/नागौर।

प्रतिलिपि :- निम्नलिखित को सूचनार्थ एवं पालनार्थ प्रेषित है :-

1. समस्त डिप्टी कमाण्डेंट राज्य आपदा प्रतिसाद बल, राजस्थान जयपुर।
2. समस्त सहायक कमाण्डेंट राज्य आपदा प्रतिसाद बल, राजस्थान जयपुर।
3. चिकित्साधिकारी, राज्य आपदा प्रतिसाद बल, राजस्थान जयपुर।
4. समस्त कम्पनी कमाण्डर, राज्य आपदा प्रतिसाद बल, राजस्थान जयपुर।
5. सूबेदार एडजूडेन्ट/सूबेदार क्वार्टर मास्टर, राज्य आपदा प्रतिसाद बल, राजस्थान जयपुर।
6. परिवहन अधिकारी, राज्य आपदा प्रतिसाद बल राजस्थान जयपुर।
7. प्रभारी कंट्रोल रूम, राज्य आपदा प्रतिसाद बल, घाटगेट जयपुर।


 कमाण्डेंट
 राज्य आपदा प्रतिसाद बल
 राजस्थान जयपुर।



जयपुर-दूधू भास्कर 24-06-2024

खुडियाला सार्वजनिक तालाब में एसडीआरएफ ने बाढ़ से बचाव व तैयारियों के लिए मॉक ड्रिल किया

भास्कर न्यूज़ | दूधू

जिले के खुडियाला सार्वजनिक तालाब में एसडीआरएफ की तरफ से उद्भव को मॉक ड्रिल का आयोजन किया गया। मौजमाबाद एसडीआरएफ बलबीर सिंह मील और एसडीआरएफ के कमांडेंट स्तर के अधिकारी मौजूद रहे।

जिला प्रशासन के कॉल के बाद सूचना मिली दूधू में भारी बारिश होने से जगह-जगह टपक बन गई है और 10-15 ग्रामीण जो नैबड में सवार होकर खेत पर कर रहे थे। नैबड परतने के बाद लोग लपका है, सूचना पर तुरंत नागरिक सुरक्षा बचाव डल को बचाव हेतु घटनास्थल पर खाना किया गया। रेस्क्यू के विभिन्न माध्यमों के द्वारा जंच लोगों को खूबने से बचाया। लगातार बारिश और विस्तृत कार्य क्षेत्र होने से सहायक एसडीआरएफ टीम द्वारा स्क्वाड सेट की मदद से दो रिकवरी तुरुत कर ली गई, दो अन्य लोग अभी भी लापता थे। बारिश तेज होने से रिकवरी में परेशानी आ रही थी, कंट्रोल रूम को एसडीआरएफ टीम भेजने हेतु सूचना भेजी गई। सूचना पर एनडीआरएफ टीम को बुलाया गया। घटनास्थल पर एनडीआरएफ द्वारा



दूधू : खुडियाला तालाब में मॉक ड्रिल के दौरान बचाव कर्मी का जखला लेते अधिकारी।

ऑडरगटर कैमरा एवं स्क्वाड ड्राइविंग सेट के माध्यम से अंतिम दो लापता व्यक्तियों को डेड बॉडी रिकवरी कर प्रशासन को सौंप दी। लगातार बारिश अत्यधिक जल प्लवन होने से करीब 100 डेड सी व्यक्तियों जिनमें महिलाएं, बूढ़े पुरुष बच्चे इत्यादि तीन-चार टपक पर फंसे हुए थे, सहायक से संपर्क न होने के कारण और अन्य कोई विवरण नहीं होने के कारण आर्मी को भेजने हेतु कंट्रोल रूम को सूचना दी गई। सूचना पर आर्मी द्वारा घटनास्थल पर रैली की तथा टपक पर फंसे लोगों को सफुलत बहार निकालने के लिए फ्लोटिंग ब्रिज का निर्माण मौके पर किया गया और सभी ग्रामीणों को सिविल डिफेंस एसडीआरएफ एनडीआरएफ एवं आर्मी के द्वारा सुशिक्षित निष्कासक प्रशासन द्वारा निर्दिष्ट आश्रय स्थलों में शिफ्ट कर उनका मनसिक एवं शारीरिक संकलन प्रदान किया गया। प्राथमिक चिकित्सा भोजन एवं पानी

की व्यवस्था की गई इस प्रकार यह खोज एवं बचाव कार्य सफुलत चारों टीमों के सहज प्रयासों से सम्पन्न हुआ। प्रशासन एवं आम जन रहता की सात ली। दरअसल ये एक मॉक ड्रिल थी जो आपदा प्रबंधन सहस्रता एवं नागरिक सुरक्षा विभाग द्वारा अतिरिक्त बहाव या अन्य आपदाओं के दौरान विभिन्न एजेंसीयों के कोऑर्डिनेशन एवं क्षमता का आवलन करने तथा स्टैक रिस्पोस सिस्टम विवरित करने के लिए आयोजित की गई थी। इस दौरान सिविल डिफेंस के उप निदेशक अमिता शर्मा, प्रशिक्षक अमर अहमद एवं भीरुसिंह मीणा, एसडीआरएफ टीम से एडिटेशनल एसपी राजेश पाल सिंह एवं सुरेन्द्र सिंह, डिप्टी एसपी रामधन एवं चित्रकूट महावर, एनडीआरएफ टीम से अडिस्टेंट कमांडेंट योगेश मीणा एवं कम्पनी कमांडर प्रमोद के एल स्वामी एवं कृष्ण कुमार, आर्मी से कैप्टन सुमित शर्मा एवं सुबेदार हरमल सिंह मौजूद थे। जिला कलक्टर जयपुर के प्रतिनिधि के तौर पर सैफली कुशावहार अतिरिक्त जिला कलक्टर शहर-दक्षिण उत्तरांचल थी। कार्यक्रम का सफल संवाहन एवं सम्पन्न अंतिम शर्मा, उप निदेशक नागरिक सुरक्षा जयपुर द्वारा किया गया।



पत्रिका

कम कदम

300 ग्रामीणों को रेस्क्यू किया

मॉकड्रिल : एसडीआरएफ तैयार, पानी में फंसे लोगों को बचाने का किया प्रयास

पत्रिका न्यूज़ नेटवर्क
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जयपुर, राजधानी स्थित आम-पास के जिले में वर्षाजनित हादसों को रोकने के लिए स्टेट डिजास्टर रिस्पॉन्स फोर्स (एसडीआरएफ) भी तैयारियों में जुट गई है। दूधू के पास खुडियाला गांव के तालाब में रिकवरी की पानी में फंसे लोगों को बचाने के लिए मॉकड्रिल की गई।

यहां करीब 300 ग्रामीणों को रेस्क्यू कर सुरक्षित जगह पहुंचाया और अचल हुए पांच लोगों को कमाण्ड पोस्ट पर भेजा गया। कमांडेंट राजेन्द्र सिंह सिंगीरिया ने बताया कि स्थानीय प्रशासन एवं नागरिक सुरक्षा विभाग से सूचना मिली कि अतिरिक्त के कारण खुडियाला गांव में बाढ़ की स्थिति



रेस्क्यू के लिए मॉकड्रिल करती टीम।



बन गई। गांव के चारों तरफ दस-दस एसडीआरएफ, एनडीआरएफ, फुंथे। पता चलता कि गांव के तालाब कीट पानी भर गया। इस पर सिविल डिफेंस के जवान मौके पर में बचाव कार्य की मॉकड्रिल की गई।