

1.1 Background

The Disaster Management Act, 2005 describes disaster as “ *a catastrophe, mishap, calamity or grave occurrence in any area, arising from natural or man made causes, or by accident or negligence which results in substantial loss of life of human, suffering or damage to, and destruction of, property or damage to, or degradation of, environment, and is such a nature or magnitude as to be beyond the coping capacity of the affected area.*”

India has been traditionally vulnerable to natural disasters due to its unique geo-climatic conditions and existing vulnerabilities. Bihar is also one of the state, which is regularly affected with multi-hazards and each year people lose their lives including other losses in terms of private, community and public assets. Disasters are not only subject to losses, it has also adverse effects on social and political structures including developmental indicators like education, health, nutrition, livelihoods etc. In other words, we can say that disasters disrupts the developmental process and this cycle may continue until prompt and effective measures of disaster risk reduction are not mainstreamed and adopted at each level.

Assessing the situations arises from disasters in early decades of the 21th century; Government of India took various initiatives and provisions to strengthen the disaster management systems in India. One of the provision was introduced by central government was Disaster Management Act, 2005, which provides a holistic, multi dimensional, legal, institutional framework to address the disasters in more appropriate manner which includes disaster risk reduction, advanced emergency operation systems, strengthening the disaster governance, trainings, capacity buildings etc.

Muzaffarpur District is one of the thirty-eight districts of Bihar, India. Muzaffarpur district is part of Tirhut Division. Muzaffarpur is one of the largest commercial and educational center in North Bihar. Muzaffarpur, also known as ‘The Land of Litchi’ is said to be created in 1875 for administrative convenience by splitting up the earlier Tirhut district. It was named after Muzaffar Khan, a Revenue Officer under British Dynasty. The place is famous around the world for its Shahi and China Litchi (Administration, 2018).

Muzaffarpur district of Bihar is one of the multi hazard prone district. The district is prone to natural calamities like flood, drought, earthquake, cyclone, lightening, heavy rainfall, heat wave, epidemics like covid 19, cold wave etc and human induced disasters like fire, road accidents, boat accidents, drowning deaths, stampede, communal violence, industrial incidents, rail accidents, terrorist attacks, electricity hazards etc. Due to such portfolios of disasters in the district, private and public properties and infrastructure are very vulnerable and could be affected any kind of the disasters mentioned above. Other threats like air pollution, soil pollution noise pollution are also alarming in the district. The impacts of climate change could also be observed in the district as in recent years unprecedented rainfall happened, it has potentially damaged the infrastructures including human and animal life loss.

The Disaster Management Act, 2005 mandates every department and institution to prepare, review and update disaster management plan. district like Muzaffarpur, which is highly vulnerable to various disasters, there is need of holistic and actionable District Disaster Management Plan. This plan is emphasized on reducing the loss of life, property, infrastructure, environment etc in coordinated way.

This plan outlines the utmost need of strengthening disaster management systems in Muzaffarpur district. The plan is aimed at ensuring disaster resiliency and necessary measures and these are included in the plan through it could be implemented in timeline.

1.2 Scope of the Plan

The disaster management plan aims and emphasizes on reducing the vulnerabilities and mitigates the losses caused by all type of disasters. The document describes the measures for a comprehensive disaster management plan for Muzaffarpur district . The DM plan includes steps to be adopted for mainstreaming disaster risk reduction with developmental planning

The Objective of the District Disaster Management Plan

The objectives of disaster management plan are as follows

- Institutionalization of disaster management
- Promoting culture of preparedness among officials, staff and other stakeholders.
- Better, actionable and effective planning for disaster risk reduction
- Improving disaster response and relief mechanism and enabling all stakeholders to deal with it effectively.
- Providing importance of addressing capacity building and preparedness measures for district authorities and stakeholders.
- Better Coordination with all line departments in disaster management.
- All stakeholder approach
- Regular updating and reviewing disaster management plan.

Approach of the District Disaster Management Plan

- Establishing necessary systems, structures, programs, resources, capabilities and guiding principles for reducing disaster risks and preparing for and responding to disasters and threats of disasters in respective district.
- Protecting lives and property with avoiding disruption of economic activity and damage to environment and to ensure the continuity and sustainability of development.
- A holistic and integrated approach with emphasis on prevention, mitigation and preparedness.
- Strengthening inter-departmental and inter agency coordination.
- Institutional strengthening of officials and stakeholders for taking effective measures for disaster risk reduction.

Tools of Planning

- Collection of primary data
- Analysis of secondary data
- Focus group discussions and consultations
- Transect walk for rapid assessment.
- Hazard, risk, vulnerability and capacity assessment.

1.3 Emergency Support Functionaries (ESFs) and Key Stakeholders of DDMP

Sr. No.	Name of Department	Basic Features
1.	District Disaster Management Authority, Muzaffarpur	<p>The Constitution of District Disaster Management Authority (DDMA) has been notified under Disaster Management Act, 2005 under Chapter-4 (Section-25). In Bihar, DDMA has been constituted by Circular No. 1502, आ०प्र०, पटना-15, दिनांक-13.06.2008.</p> <p>The basic role of DDMA is preparing disaster management plans, coordinating implementation of national and state plan/policy, implementing measures for preventing of disasters, lay down guidelines and overall monitoring of disaster management activities.</p>
2.	District Disaster Management Section, Muzaffarpur	District Disaster Management Section is responsible for disaster response, disaster relief, financial arrangements and disaster procurements. It also deals with complaint redressal systems of the Disaster Management and strengthening of emergency support functionaries (ESFs)
3.	District Emergency Operation Centre, Muzaffarpur	<p>District Emergency Operation Centre (DEOC) has been constituted by Disaster Management Department, Bihar through Circular No.1982, आ०प्र०, पटना-15, Dated-10.07.2017.</p> <p>The DEOC responsible for emergency preparedness, emergency management, inter departmental coordination, disaster database management and situation reporting. DEOC plays important role in strengthening of Incident Response System (IRS).</p>
4.	Police, Muzaffarpur	<p>Police department is basically responsible for ensuring security, enforcing law & orders, investigating crimes and implementing legislation in the district.</p> <p>Police department play significant role in emergency preparedness and management . The department is first responder in case of disaster occurrences. Police department is key department of Incident Response System and Superintendent of Police (SP) acts as operation section head in disaster response.</p> <p>In Bihar, Police has initiated 112 “Toll Free Number” for all type of emergency services. This is a integrated helpline for incident response, ambulance service and fire services.</p>
5.	District Health Society, Muzaafarpur	<p>District Health Society (DHS) is responsible for providing health care facilities. The objective of DHS is to ensure health services with proper medicare and door to door services.</p> <p>DHS operationalize these healthcare services through dedicated medical institute, district hospital (DH), community health centres (CHCs), primary health centres (PHCs) and health sub centre .</p>

6.	District Revenue Section, Muzaffarpur	<p>This section deals with land management, land survey and settlement, land consolidation, land acquisition for different central and state government schemes and agriculture census of national importance.</p> <p>This department has significant role in implementing all disaster management related activities in district as Circle Officers (COs) are designated as nodal officer for disaster management in all blocks/Anchals. COs are also designated as incident responder for dealing with disaster incidents and providing relief to victimized persons and families as per norms of National/State Disaster Response Fund (NDRF/SDRF).</p>
7.	District Supply Office, Muzaffarpur	<p>This office works towards food security for poor people and supply of food grains and other items at subsidized rate to the poor household and Antyodaya families. Their role changes and they distribute free ration during disasters under different schemes like Antyodaya Yojna, Annapurna Yojna etc.</p> <p>This is also a key office in providing food grains and other essential supplies in pre, during and post disaster scenario.</p>
8.	District Statistics Office, Muzaffarpur	<p>In terms of disaster management, this office is responsible for rainfall data collection and prediction of weather forecast and sharing of data and information with District Administration, response agencies and other stakeholders.</p>
9.	District Transport Office, Muzaffarpur	<p>District transport office performs important task i.e. registration of motor vehicles, issuance of fitness certificate of the vehicle, collection of motor vehicle, grant/renewal of permit for passenger/ carrier, grant/renewal of driving license, ensuring motor vehicles pollution control and deputation of vehicle during elections, disaster response and other emergencies.</p> <p>This department has formed District Road Safety Committee (DRSC) to implement measures of road safety and scaling up awareness and sensitization among common people.</p>
10.	District Rural Development Agency, Muzaffarpur	<p>District Rural Development Agency (DRDA) is responsible for designing and implementation of rural developmental programmes.</p> <p>DRDA is in terms of planning for effective implementation of anti-poverty programmes; coordinating with other agencies-governmental, non-governmental, technical and financial for successful programme implementation; enabling the community and the rural poor to participate in the decision making process, overseeing the implementation to ensure adherence to guidelines, quality, equity and efficiently; reporting to the prescribed authorities on the implementation; and promoting transparency in decision making and implementation in rural development sector. 5</p>

11.	District Panchayati Raj Office, Muzaffarpur	<p>This department is responsible for strengthening of decentralized and participatory local self-government through Panchayati Raj Institutions (PRIs).</p> <p>This department has significant role in disaster mitigation as Gram Panchayat Developmental Plans (GPDPs) has been integrated with climate change adaptation and disaster risk reduction. Along with this, PRIs institutions are helpful in spreading awareness on disaster prevention, mitigation measures, early warning systems,. PRIs</p>
12.	District Agriculture Office, Muzaffarpur	<p>This department implements policies and programmes aimed at achieving rapid agricultural growth through optimum utilization of land, water, soil and plant resources. Agriculture department also implement beneficiaries oriented schemes and programmes which includes strengthening of FPOs, SHGs and agri based institutions. This department also educate farmers on soil and water conservation technologies through implementation of watershed project. This department promotes measures to provide agricultural credit, crop insurance and helps the farmers in getting remunerative returns for their produce.</p> <p>In the field of disaster management, Agriculture department is nodal department for agricultural subsidy, diesel subsidy as a measures of relief assistance for damaged crops in natural calamity.</p>
13.	Municipal Corporation, Urban Local Bodies (ULBs), Muzaffarpur Smart City Private Limited and BUDCO of Muzaffarpur	<p>This is nodal Department for ensuring appropriate and planned growth of cities and towns with adequate infrastructure, amenities and services provided to the citizens of Bihar residing in urban areas. The department also ensure community participation in setting development priorities, framing of schemes and delineating development goals, etc. and to provide for matters connected therewith or incidental thereto.</p>
14.	District Fire Services, Muzaffarpur	<p>Role of Fire Service in the district is extinguishing fire and protecting life and property in case of fire incident. The role of fire services is very crucial in any emergency. Apart from fire response, fire brigade also deputed in various administrative activities i.e. law and order, election, disaster response, responding to industrial incidents etc. In peace time, fire brigade conducts various training and mock drill programmes at community locations, schools, colleges, commercial places, shopping malls, industrial units, crowded places, fire cracker market etc. Fire brigade also conducts fire safety audits on above mentioned places. District Fire Services, also issue No Objection Certificate for all type of commercial units, educational institutions, shopping malls, industrial units.</p>

15.	District Education Office, Muzaffarpur	<p>District Education Office play important role in various activities of disaster management. Schools and others facilities of Education Department is used as shelters and disaster relief centre. The operation of community kitchen is also done majorly in school buildings. Officials of education department and teachers are deputed as in-charge of community kitchen and disaster relief centre, they also support in documentation of various relief measures and updating GR list.</p> <p>This department also support in raising awareness and sensitization on disaster risk reduction through implementing Chief Minister School Safety Programme, popularly knows as Safe Saturday Programme. In this programme, various activity based events and sessions are organized for students on risk mitigation of local disasters, promote eco friendly life style, child centered risk governance, school safety including moral education for eradicating social evils.</p>
16.	National Disaster Response Force (NDRF) 9 th Battalion, Bihta Patna	9 th Battalion of National Disaster Response Force (NDRF) is available in Bihta, Patna. 1 team of NDRF is generally deputed in the district during 15 th June to 31 st October annually for flood response. This team also conduct training programmes on water rescue , drowning prevention, basic medical response, safe evacuation, formation of disaster response teams etc. The team is equipped with safety equipments and other resources.
17.	State Disaster Response Force (SDRF), Muzaffarpur	1 team of State Disaster Response Force (SDRF) is deputed in district for disaster response, rescue operation, conducting training and capacity building programme. Currently, the team is residing at Kabir Math, Brahmpura.
18.	District Home Guards Office, Muzaffarpur	Home Guard personnel generally deputed in various work related to disaster management. District Disaster Management Authority has trained Home Guard personnel on deep diving and motor boat driving. Home Guard personnel also help in law and order, security, fire response etc.
19.	Integrated Child Development Programme (ICDS), Muzaffarpur	The basic objective of ICDS is to implement various activities on child development, maternal health care, nutrition services, adolescent girls health care. Under this programme, AWWs are established in each of ward or 1 AWW centre per 1000 population. ICDS plays significant role in disaster management, Aanganwadi workers support in relief and response activities. In peace time, they spread awareness on disaster risk reduction. These workers also support in awareness on nutrition, sanitation, personal hygiene and safe drinking water

20	BSNL and Other Telecommunication Services Providers under Department of Telecommunications (DoT) of District Muzaffarpur	The role of department of telecommunications (dot) is to act as a lead/primary agency for emergency support function related to provision of telecommunication services by telecom service providers and coordination with other government agencies. The roles of telecom services providers in disaster management are strengthening early warning systems using alert services, support in disaster response, restoring of telecommunication services during emergencies, awareness on disaster management through SMS services etc.
21	Water Resources Department And Minor Water Resources Department And Canal Division District-Muzaffarpur	The basic role of Water Resources Department (WRD) is capacity building, research and consultancy services in various fields, such as hydrological modeling, flood risk mapping and zoning, watershed conservation, planning & management, snowmelt runoff modeling, irrigation command area inventory and water management. The department specializes in the areas of flood monitoring and damage assessment, hydrological and hydraulic modeling, impact assessment of climate change in water resources, irrigation water management and drought assessment, soil erosion, sediment yield modeling and reservoir sedimentation, surface and ground water hydrology, and watershed assessment, and management. The department is also responsible for construction of embankments/canal and its management.
22	Indian Railways, Muzaffarpur	The Indian Railways has its disaster management plan, which has been prepared in accordance with Disaster Management Act, 2005. Indian Railways deals with handling serious train accidents, other mishaps, terrorism related crisis and natural calamities etc. Each station of railways has its own disaster management and response teams (DMRT), which is responsible for handling such situations in its territory.
23	Public Health Engineering Department (PHED), Muzaffarpur	PHED is responsible for safe and quality drinking water supply service to the communities. The department is responsible for providing management and technical services while responding to natural calamities for restoration of damaged water supply infrastructure and sanitation requirements, including meeting up emergency drinking water needs to the affected people caused by natural disaster.
24	Animal Husbandry Department Office, Muzaffarpur	Animal Husbandry Department is primarily responsible for animal welfare and increasing animal productivity . The department also act as emergency support functionaries for providing animal protection services such as treatment of animals, provision of vaccination, disposal of dead animals to avoid an outbreak of epidemics and providing ex-gratia relief to animal owners in case of dead animals.

25	Fisheries Resources Department , Mzaffarpur	The Fisheries Resources Department is to increase fish production and quality fish seed production with optimum utilization of resources. Fisheries work is generally practiced in pond, canals, water bodies and rivers, which also gets damaged in flood and heavy rainfall. This department also deals in restoration of damaged water bodies particularly ponds. This department is also responsible for managing disease related emergencies.
26.	District Social Security Cell, Muzaffarpur	Social security department works for upliftment of Women, Children, Divyangjan, Old age people and other deprived section of the society for protection and promotion of the society. This department also supports its target beneficiaries during time of disasters and emergency. This department distributes blankets for preventing cold wave.
27.	District Child Protection Cell (DCPC), Muzaffarpur	DCPC coordinates and implements all child rights and protection activities at district level. During disasters, DCPC ensures that children are provided relief services and child care services with protection of rights of children. DCPC also implement Parwarish Scheme for providing financial support to orphanage children , whose parents died of natural or human induced disasters.
28	District Public Relation Office, Muzaffarpur	The role of District Public Relation Officer (DPRO) is analyzing disaster impacts, monitoring the disaster response and providing press release to electronic, print and social media. In other words, DPRO acts as communication manager to provide reliable and accurate information to media. In Incident Response System, the primary task of DPRO is to ensure that emergency public information and instructions are being broadcast accurately and on time. DPRO also supports Incident Commander (District Magistrate or designated officer).
29	Electricity Department ,	Electricity Department has a vital role in disaster and crisis management through providing power services, without power or electricity, appropriate and efficient disaster response is not possible. This department restores and maintains electricity supply for overall disaster management including search and rescue.
30	Indian Meteorological Department	Indian Meteorological Department provides weather forecast, Nowcast Weather Warning, lightning alert, flood forecast etc. It supports disaster management through its decision making systems. It is also the principal agency responsible for meteorological observations, weather forecasting and seismology.
31	Central Water Commission	Central water commission (CWC) general responsible for the control, conservation and utilization of water resources towards flood management, irrigation, navigation, drinking water facilities. CWC has network of water gauge stations for estimating water level of rivers and forecasting floods. CWC also maps flood hazard areas.

32	Rural Works Department	Rural Works Department (RWD) is responsible for construction and management of rural roads . As per SOP, RWD restores roads damaged in natural calamities or crisis in stipulated time of 24 hours.
33	Road Construction Division and National Highways Authority of India	Road Construction Division and National Highways Authority of India are responsible for construction and management of urban, state roads and national highways. It is mandatory to restore damaged roads in natural calamities or crisis within 24 hours.
34	Forest Department	Forest Department protects and help wildlife in situation of disaster. This department also manage forest fire incidents.
35	District Redcross Society	District Red-cross Society supports in relief operation and life-saving assistance e.g. shelter, water, food and basic health care during time of emergencies as immediate support.
36	Youth Volunteering Organizations	Youth volunteering organizations NYKS, Scoute /Guide, NCC, NSS, Aapda Mitra also support in creating awareness on disaster risk reduction. In incident Response System, these youth organizations are placed at outer carton to support in disaster response.
37	Media	Media has significant role in raising sensitization on disasters and spreading common alerts.
38	Indian Oil Corporation Limited, Bharat Petroleum Corporation Limited, Kanti Vidyut Nirman Nigam Limited (NTPC)	In Muzaffarpur district, there is establishment of Indian Oil Corporation Limited, Bharat Petroleum Corporation Limited, Kanti Vidyut Nirman Nigam Limited (NTPC). These units conduct regular mock exercises for emergency preparedness and smooth functioning of units.
39	Non Governmental Organization and Community /Faith Based Organizations	Non Governmental Organization and Community /Faith Based Organizations support district administration in different ways. These organization scale up awareness on disaster management and implement various innovative projects to showcase models. These organization also support in emergencies with food, dignity kit, shelters, solar products, essential supplies etc.
40	Bihar Renewable Energy Development Agency (BREDA)	Bihar Renewable Energy Development Agency (BREDA), has been established in Bihar to promote development of schemes on non-conventional energy sources including solar energy. Using solar energy to generate electricity provides immediate assistance as well as long-term relief in times of crisis or disaster occurrences. Solar energy also strengthen alert systems in remote and hard to reach areas.

2.1 Geographical Features



Muzaffarpur is located at 25°54'- 26°23'N and 84°53' -85°45'E. It has an average elevation of 170 metres (557 feet). The geographical area of Muzaffarpur is 317591 (H).

Muzaffarpur is surrounded by district Sitamarhi & East Champaran in the North, district Darbhanga & samastipur in the east, district Vaishali & Saran in the south and district Saran & Gopalganj in the west. The population of the district is 48,01,062 (persons) including 25,27,497 (Male) and 22,73,565 (Female)

The primary occupation of the people of the district is agriculture. Muzaffarpur district gives a way to many important rivers like Bagmati, Gandak, Burhi Gandak and Lakhandeyee which leaves a highly fertile land (Alluvial soil). The farmers are taking even three crops in a year. The water for irrigation is available round the year.

Being strategic in situation Muzaffarpur is claimed to be the commercial capital of Bihar. It is the district headquarter and head quarter of the Tirhut Division too. National Highway 28 and 57 passes through city Muzaffarpur. The district headquarters is located at Muzaffarpur.

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2.2 Climate Weather Profile

The district has generally a humid climate except during summer that is rather dry. The winter season starts from November to February and Summer Season from March to May. The rainy season extends from June to September, October being the transitional month. January is the coldest month when the mercury sometimes drops to 4-5°C. Dust storms and westerly wind usher in the hot weather in early April. May is the hottest month when the maximum temperature reaches up to 44°C. The monsoon season begins in the second half of June and lasts until September and maximum annual rainfall falls during the monsoon season. With the cessation of rains, the temperature falls and the climate becomes rather pleasant. The district gets some winter rains also. Forest cover area of Muzaffarpur district is 161.82 sq. km. (2019)

Month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Nov	Oct	Dec	Year
Record high °C (°F)	29.0(84.2)	34.0(93.2)	40.0(104.0)	47.0(116.6)	46.0(114.8)	47.0(116.6)	42.0(107.6)	40.0(104.0)	38.0(100.4)	38.0(100.4)	37.0(98.6)	30.0(86.0)	47.0(116.6)
Average high °C (°F)	24.27(75.69)	27.42(81.36)	33.86(92.95)	38.74(101.73)	40.51(104.92)	39.2(102.56)	34.85(94.73)	35.04(95.07)	33.66(92.59)	32.88(91.18)	31.24(88.23)	26.15(79.07)	33.15(91.67)
Daily mean °C (°F)	20.72(69.3)	23.56(74.41)	30.38(86.68)	35.18(95.32)	37.1(98.78)	36.47(97.65)	32.9(91.22)	33.02(91.44)	31.57(88.83)	30.17(86.31)	28.14(82.65)	23.0(73.4)	30.18(86.32)
Average low °C (°F)	15.33(59.59)	17.11(62.8)	22.4(72.32)	26.79(80.22)	28.67(83.61)	30.33(86.59)	28.74(83.73)	28.69(83.64)	27.39(81.3)	25.14(77.25)	22.18(71.92)	17.61(63.7)	24.2(75.56)
Record low °C (°F)	12.0(53.6)	13.0(55.4)	14.0(57.2)	19.0(66.2)	21.0(69.8)	24.0(75.2)	22.0(71.6)	26.0(78.8)	22.0(71.6)	20.0(68.0)	18.0(64.4)	12.0(53.6)	12.0(53.6)
Average precipitation on mm (inches)	2.28(0.09)	7.87(0.31)	3.49(0.14)	7.95(0.31)	8.98(0.35)	44.22(1.74)	167.27(6.59)	94.13(3.71)	92.49(3.64)	6.71(0.26)	0.0(0)	2.61(0.1)	36.5(1.44)
Average precipitation on days (≥ 1.0 mm)	0.64	1.09	0.36	1.36	2.09	4.73	6.73	5.55	5.82	0.91	0.0	0.18	2.46
Average relative humidity (%)	55.54	53.85	33.7	33.44	40.69	50.14	67.48	67.68	70.91	58.85	43.86	42.88	51.59
Mean monthly sunshine hours	8.43	8.4	10.76	12.77	13.35	12.88	11.62	11.61	9.96	11.23	9.17	8.58	10.73

Source-weather and Climate (<https://tcktcktck.org/india/bihar/muzaffarpur>)

Rainfall

Average rainfall of Muzaffarpur is 1135.8 mm annually .

2.3 Demography

According to Census 2011, total number of households in the district is 9.46 lakhs. Total population of the district is 48.01 lakhs out of which 25.27 lakhs (52.64%) is male population and 22.74 lakhs (47.36%) is the female population. Population of 0 to 6 years old children in the district Page 12 of 100

is 8.45 lakhs out of which 4.41 lakhs (52.21%) are male and 4.04 lakhs (47.79%) are female children. SC and ST population of the district is 15.66% and 0.125% of the total population respectively. Overall literacy rate of the district is 52.26% with 58.84% male literacy and 44.96% female literacy rates. Muzaffarpur has a sex ratio of 900 of adult population whereas the figure is 915 for population below 6 years of age. (Office of the Registrar General & Census Commissioner, India, 2011)

2.4 Socio-Economic Status

Per capita income of Muzaffarpur district is INR 34800 as per Bihar Economic Survey. Total APL and BPL families are as following in the district.

District	Rural	Urban	PHH Cards	PHH Members	AAY Cards	AAY Members	Total Cards	Total Member
Muzaffarpur	873951	57099	803166	3533501	127884	632852	931050	4166353
Total	873951	57099	803166	3533501	127884	632852	931050	4166353

Source-Supply Department of Bihar

2.5 Education

Total Literacy rate of Muzaffarpur district is 63.43 % (2,509,232 individuals), male literacy rate is 71.28% (1,487,117 male) and female literacy rate is 54.67 % (1,022,115 Female)

Education Facilities in Muzaffarpur

No. of University	01
No. of Higher Institutions/Colleges	87
No. of Secondary schools	113
No. High/Middle School	437
No. of Primary School	1198
No. of Anganwadi Centres	5617 (1223 own building)

2.6 Agriculture and Land Use

In the district, there are five types of soils namely sandy soils (.92 %), Coarse sandy loam soil (23.13%), Fine Sandy loam Soil (16.08%), clayey soil (.93%) and Saline/Calcareous (58.92%). The land of Muzaffarpur is highly fertile and cultivable area of Muzaffarpur district is 219 lakh Hectares. Cropping pattern in the district is traditional farming with high production of wheat and paddy rice. Major crops of the district is wheat, rice, maize, pulses, sugarcane, moong, urad, vegetables etc. Major horticulture crops of the district are Litchi, Mango, Guava, citrus fruit etc. In Muzaffarpur district, farming is practiced in Khariff, Rabi and Jayad season.

2.7 Housing Pattern:

The houses built in the district are of flat roofs as the rains are not heavy, in heavy rainfall areas, slopping roofs are found so as to drain off water. There are also R.C.C. buildings constructed in this area. In rural areas, mostly the houses are masonry structures built of mud, bricks , cement etc. There are also some Burnt Brick houses in the rural areas. According to the **Distribution of houses by predominant materials of roof and wall and level of damage risk, Muzaffarpur comes in EQ Zone IV** which is high damage risk zone. Type of housing construction is Kuccha, Pucca and Hatches houses. Type of material used is RCC, brick, mud, wood and bushes. Flooring in urban areas is G+5 and in rural areas generally G+2 houses.

2.8 Industries

Muzaffarpur district has large number of industrial units as the district is considered as commercial capital of North Bihar. Till now, 10434 industrial units have been registered in Muzaffarpur district. More food processing based industrial units have to be established in Muzaffarpur under Mega Food Park Scheme, this scheme is considered as biggest food park scheme of India. In the district, a leather park and ethanol plant would be also established, which would generate large scale employment. It will also strengthen farmers as they will supply raw material for these industries.

2.9 Road, Railway and Other Transportation

Muzaffarpur Railway Station is one of the important railway junctions of Bihar . Many important national highway and state highways also pass through the region connecting it to nearby districts and other major cities of India.

Railway Stations in Muzaffarpur (Total-18)	
Hajipur-Muzaffarpur to Samastipur	Kurhni-Turki-Ramdyalu-Muzaffarpur JN-Narayanpur Anant-Siho-Silaut-Dholi
Muzaffarpur to Motihari	Karpura- Kanti- Pipraha- Nariyar- Motipur- Mahwal
Muzaffarpur to Sitamarhi	Jubba Sahni- Paramjiwar,-Tara Jiwar- Benipur

Highway Network of Muzaffarpur

- Muzaffarpur – Hajipur Highway (NH – 77)
- Muzaffarpur – Sitamarhi Highway (NH – 77)
- Muzaffarpur – Rewaghat road (NH – 102)
- Muzaffarpur – Darbhanga Highway (NH – 57)
- Muzaffarpur – Samastipur Highway (NH – 28)
- Muzaffarpur – Motihari Highway (NH – 28)

Air Connectivity in Muzaffarpur

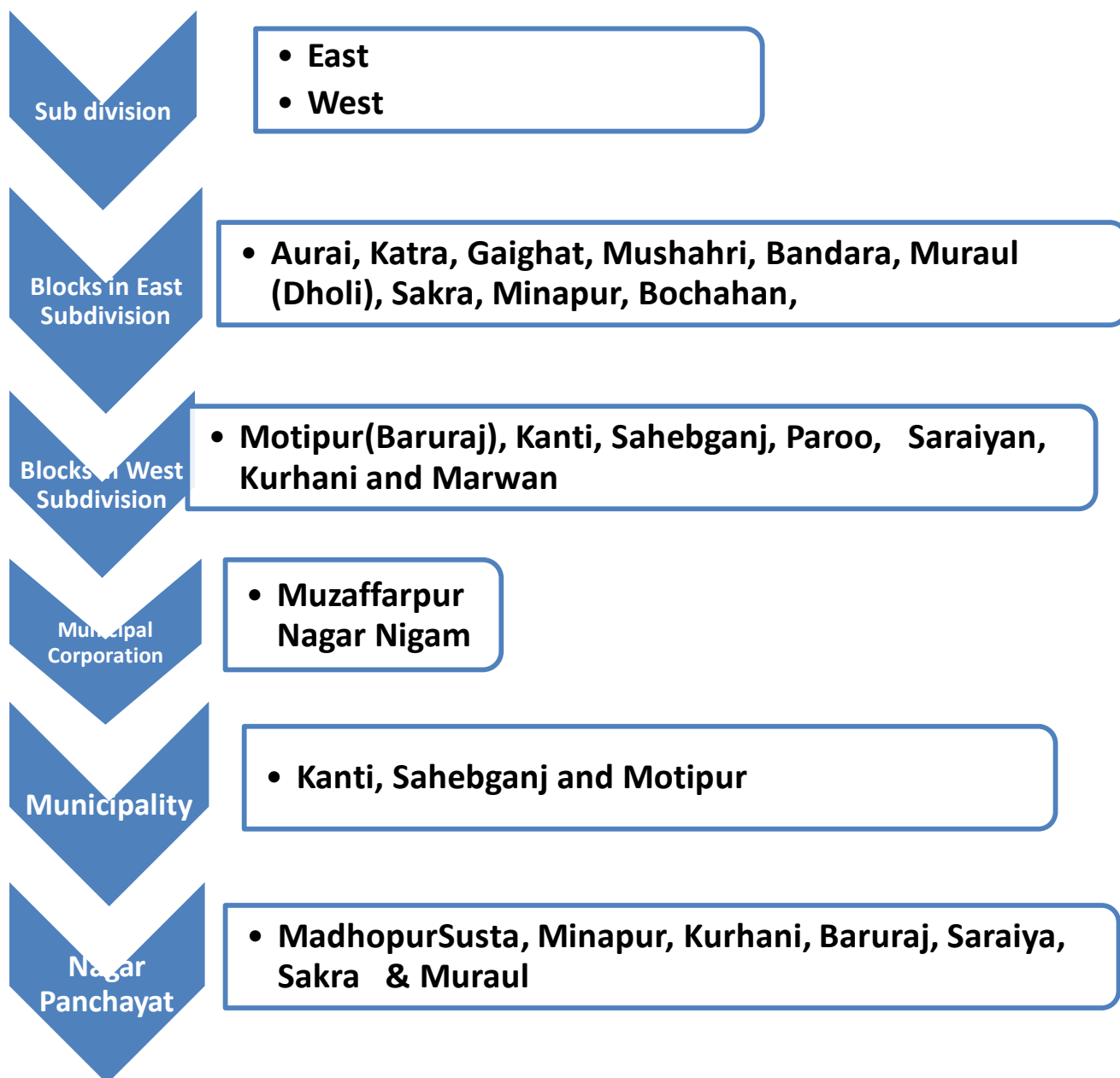
Muzaffarpur does not have an airport (at Patahi of Marwan Block), but it is a non operational airport. Hence it does not serve any commercial or even non commercial flights. The 1st nearest airport is Darbhanga Airport, it is situated on the distance of 60 km from Muzaffarpur.

The 2nd nearest operational airport is Jaiprakash Narayan International Airport (popularly known as Patna airport) in capital city Patna. It is located barely 80 kms away from main city of Muzaffarpur.

2.9 Administrative Structure

Muzaffarpur city is the administrative headquarters of Muzaffarpur district. Muzaffarpur district comprises of **2 sub-divisions, namely East and West which is divided into 16 municipal blocks/anchals**. Total number of Gram Panchayats in Muzaffarpur district is **373** whereas total number of villages in Muzaffarpur district is **1807**.

In Muzaffarpur district, there are **1 municipal corporation, 03 municipalities and 07 Nagar Panchayats**. Please refer to following table



Other Administrative Setup and Facilities at Glance

No. of Gram Panchayat	373
No. of Revenue Villages	1807
No. of Total Ward (Rural)	
No. of Wards in Muzaffarpur Nagar Nigam	49
No. of Wards in Sahebganj Municipality	26
No. of Wards in Motipur Municipality	26
No. of Wards in Kanti Municipality	26
No. of Wards in Madhopur Susta (Nagar Panchayat)	10
No. of Wards in Baruraj (Nagar Panchayat)	18
No. of Wards in Kurhani (Nagar Panchayat)	11
No. of Wards in Minapur (Nagar Panchayat)	18
No. of Wards in Sakra (Nagar Panchayat)	11
No. of Wards in Muraul (Nagar Panchayat)	10
No. of Wards in Saraiyan (Nagar Panchayat)	12
No. of Police Station	58
No. of Post Office	434
No. of District Hospital	01
No. of Medical Colleges	02 (1 private)
No. of Private hospital	107
No. of Primary Health Centres	83
No. of Community Health Centres	16
No. of Health Sub Centres	512
No. of Pathologies	119
No. of AYUSH hospitals/Clinic	101
No. of Ambulances	67

No. of Fire Stations	02
No. Mixed Technology Fire Tender deputed in Blocks	16 (at police stations)
No. of Fire Hydrants	57
District Emergency Operation Centre (0621-2212007)	01
District Control Room (0621-2212376/77)	01
No. VHF Sets/Centres	
Integrated Command and Control Centre (under construction)	01
No. of Electric sub stations	19
No. of Electric Agricultural Feeder	49
Telecommunication Exchange	01 (BSNL)
Railway Station	18 station

Muzaffarpur district is highly vulnerable to the natural and manmade disasters. The district is prone to multi hazards, which is categorized in high, medium and low in the following table-

Type of Hazard	Level of Vulnerability
Flood	High
Drought	Medium
Earthquake	High
Cyclone	Medium
Lightning	High
Heavy Rainfall	High
Heat Wave	High
Cold Wave	High
Covid 19	Medium
Fire	High
Road Accident	High
Communal Violence	Medium
Stampede	High
Rail Accidents	Medium
Terrorist Attacks	Low
Electricity Hazards	Medium
Criminal Acts	High
Naxal Attack	Medium
Snake Bite	Medium
Industrial Accidents	High
Heavy Rainfall	Medium
Air Accidents	Low

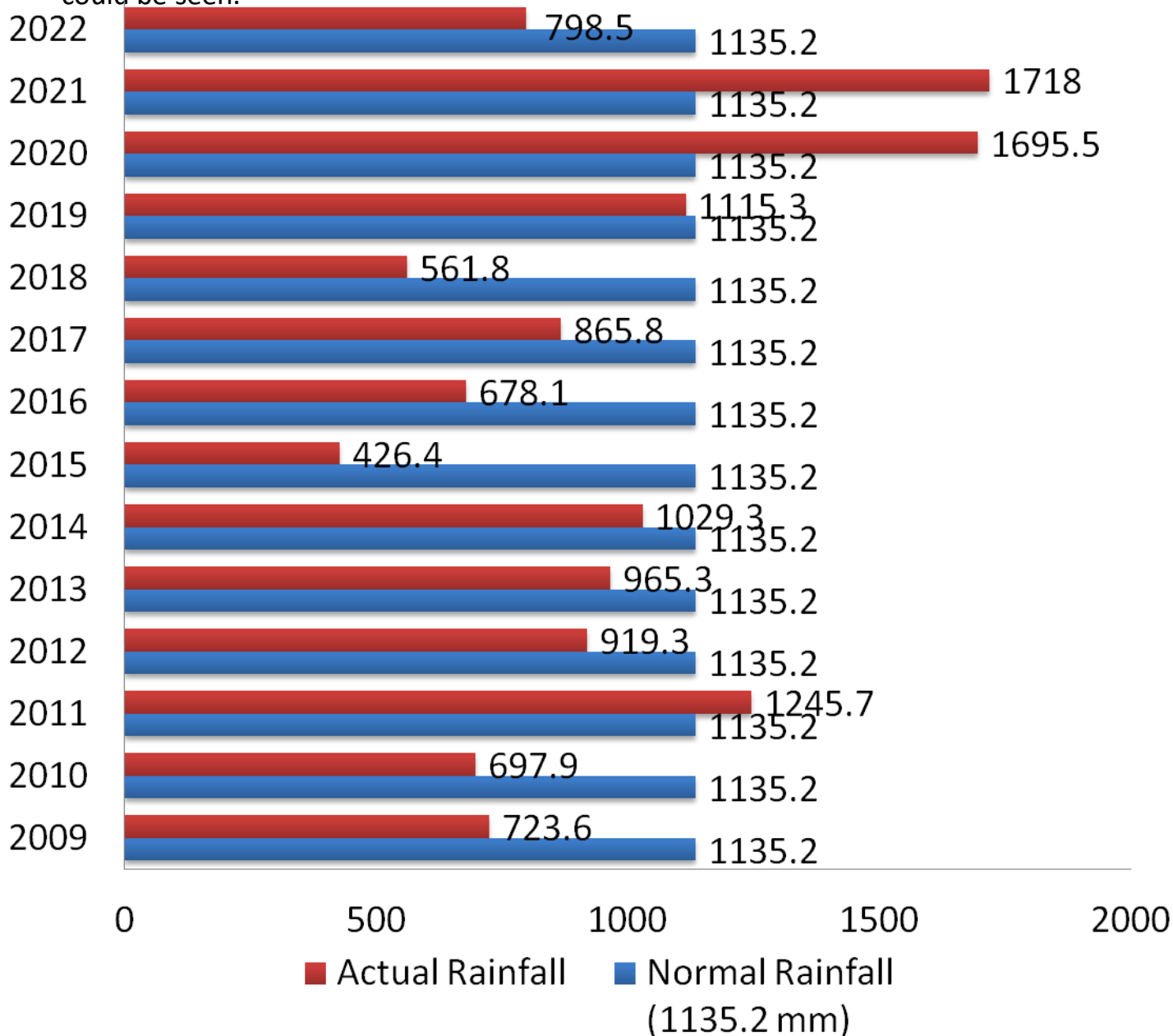
Matrix of Seasonal Hazards

Hazard	January	February	March	April	May	June	July	August	September	October	November	December
Flood												
Drought												
Earthquake												
Cyclone												
Lightning												
Heavy Rainfall												
Heat Wave												
Cold Wave												
Covid 19												
Fire												
Stampede												
Rail Accidents												
Terrorist Attacks												
Electricity Hazards												
Road Accident												
Snake Bite												
Industrial Accidents												
Heavy Rainfall												
Air Accident												

3.1 Natural Disaster

3.1.1 Flood/Heavy Rainfall

Flood has major impact in the district, the district is highly prone to floods due to its geographical features. Through the district major rivers i.e. Bagmati, Gandak, Burhi Gandak and other tributaries rivers i.e. Baya, Kadane, Lakandei, Siyari, Noon are flowing and making trans-boundary with Darbhanga, Vaishali, East Champaran. Flood has been very frequent in the district. Almost each year water gets inundated, which causes flood in the district. In last 2 years, heavy rainfall has increased the severity of the floods. Weather profile of the district has been very crucial and climate change impacts could be seen.



Year wise rainfall data of Muzaffarpur District

Flood Impact data

Flood is major hazard in Muzaffarpur, its frequency is high and its impacts generally occur during monsoon season due to heavy rainfall and increased water level of rivers. The water drained out from Nepali hill areas in major rivers i.e. Gandak, Burhi Gandak and Bagmati also causes flood. The year wise data of flood as follows

<i>Particulars</i>	2019	2020	2021	2022
<i>Rainfall</i>	1115.5 mm	1695.3 mm	1715.4 mm	798.5 mm
<i>No. of Affected Block</i>	10	15	13	0
<i>No. of Affected Panchayats</i>	84	287	162	0
<i>No. of Affected Villages/Wards</i>	216	3156	930	0
<i>No. of Affected Population</i>	486518	2266565	564863	0
<i>No. of Affected Families</i>	110881	610533	120535	0
<i>No. of Affected Animals</i>	16594	53836	12380	
<i>Affected Agricultural Area (H)</i>	25083.1	265834.82	226246.49	0
<i>GR Distribution</i>	665286000	3663198000	723210000	0
<i>Pucca Houses</i>	10	21	03	0
<i>Kuchcha Houses</i>	211	44	224	0
<i>Hut</i>	193	6901	668	0
<i>Animal Shed</i>	62	370	163	0

Causes Of Flooding In Muzaffarpur

Muzaffarpur District is one of the highly vulnerable districts affected due to flood in northern Bihar, as 3 major rivers (Gandak, Burhi Gandak and Bagmati) and Adhwara group of rivers drain water of Himalyan region of Nepal through this District. The tributaries of major rivers also spread flood water. Additionally, Muzaffarpur district received unprecedented rainfall in **2020 (1695.50 mm)** and **2021 (1712.30 mm)**, which is more than **50%** additional rainfall compared to district normal average rainfall (**1135.20 mm**). In 2022 year, the district is not flooded till 26.09.2022. The vulnerable Blocks liable to flooding due to different rivers are given here.

River	Total Distance (km)	Affected Sub Division	Affected Blocks
<i>Bagmati</i>	33.5	East	Aurai, Katra, Bochahan and Gaighat
<i>Gandak</i>	46.4	West	Sahebganj, Paroo & Saraiyan
<i>Burhi Gandak</i>	75	West and East	Motipur, Minapur, Kanti, Mushahri, Sakra, Bochahan and Bandara
<i>Lakhandei</i>		East	Aurai, Katra and Gaighat
<i>Kadane and Noon</i>		West and East	Kurhani, Sakra, Muraul
<i>Baya</i>		West	Paroo and Saraiyan

3.1.2 Drought

Muzaffarpur is less prone to draughts due to its climatic conditions. As we are aware that variations in climatic conditions is being caused by climate change and few blocks of Muaffarpur district is highly vulnerable to drough i.e. Sakra, Muraul, Mushahri, Kurhani and Marwan. In Muzaffarpur, the impact data of drought (FY2018-19) is as follows-

Sr. No.	Block	Total Application	Accepted Application	Distributed Amount (INR)
1.	BOCHAHAN	5918	5504	39464796.27
2.	GAIGHAT	8763	8119	57331105.31
3.	KANTI	7693	7374	52764082.96
4.	KATRA	8749	8261	75478137.02
5.	KURHANI	9927	9207	67997355.17
6.	MARWAN	3106	2971	15525223.57
7.	MINAPUR	8744	8155	55247531.33
8.	MOTIPUR	9438	8492	65416170.32
9.	MURAU	2544	2403	16256140.92
10.	MUSHAHARI	5265	4703	30030817.33
11.	PAROO	13759	12312	75270610.99
12.	SAHEBGANJ	8243	7552	43801693.13
13.	SAKRA	7652	7295	42975235.01
14.	SARAIYA	8276	7385	40130138.42
Total		108077	99733	677689037.75

A total of 108077 applications was received but after scrutiny only 99733 were found genuine and valid, therefore claim was disbursed accordingly and rest of the applications was rejected.

3.1.3 Earthquake

As Muzaffarpur district is geographically situated near foothills areas of Nepal, the district is highly prone to earthquake. The district is categorized in Zone IV, which is also considered as highly sensitive zone of earthquake. If we analyze history of earthquake, the major earthquake was felt in the district in the year 1934. In this historical earthquake event, many buildings are reported damaged and cracked. Subsequently, in 1988, earthquake tremors felt in district, it also caused moderate infrastructural damages to buildings. In 2015, the tremors of magnificent Nepal earthquake were felt and it lead moderate damages to buildings, which includes minor cracks in buildings and other infrastructures. If we analyze the vulnerability of earthquake in the context of Muzaffarpur, most of traditional, rural and heritage buildings are constructed in non engineering technologies. In urban settings, well structured and earthquake resistant buildings are constructed by house owners in the consultations of civil engineers, architects, municipal corporation and others ULBs.

3.1.4 Heat Wave

Muzaffarpur district gets moderately affected by heat wave. The impact of heat wave is generally observed during month of March, April, May and June. Severe heatwave conditions start in the month of April and exist till the season of monsoon. In Muzaffarpur district, no death reported till date. For management and risk reduction of impacts of heatwave, concerned department arrange drinking water facilities, provision of shelter facilities, installation of Jal Pyau, installation of drinking water station. In the past years, due to high preparedness, zero death has been reported.

3.1.5 Cold Wave

Muzaffarpur district is situated at 200 Feet (60 meter) above sea level. It has a tropical climate with hot summers and cold winters. In winters, temperature drops near 5°C and the cold winters months are between October to February. District Administration distribute blankets and arrange firewoods at pre identified public places as relief to victims.

3.1.6 Lightning

In Muzaffarpur, lightning disaster has emerged as serious area of concerns as human and animal life lost in strikes of lightning disasters. Impacts of climate has caused irregular rainfall, which has lead to a dire situation in the state. As per view of Mr. Anand Shankar, Senior Meteorologist at the Patna centre of IMD, “After studying the current weather patterns, we have found that recent events are occurring due to the Madden-Julian Oscillation (MJO) phenomenon. We have dispatched a study report on it to the met department. MJO is an oceanic and atmospheric phenomenon, which has a major impact on the weather patterns of tropical regions. The oscillation causes a kind of fluctuation in the atmosphere which propagates from 40 to 50-degree north latitude in the northern hemisphere and then oscillates towards India. Due to this phenomenon, Bihar, particularly northern districts are highly prone to lightning events.

Year	No. of incidents Reported	No. of Human Death	No of Injured Persons	No. of Animal affected/ died
2019	09	06	0	01
2020	08	03	03	04
2021	09	06	01	03
2022	10	10	03	02

3.1.7 Cyclone/Storm

As Muzaffarpur district is situated in the foothill areas and has tropical climatic conditions, the district is highly sensitive for cyclonic or storm events. Cyclone generally create situation of havoc and result in infrastructural, agricultural and environmental damages including human and animal life. Many persons get injured in the incidents of cyclone and storms. Sometimes, cyclonic events are multiplied by lightning and heavy rainfall. Generally, cyclone and storms are more frequent in the summers and monsoon. In last few years, few cyclones have strike in winters season also. Few major cyclonic incidents, which has impacts in Muzaffarpur districts are Phailin (2013), Fani (2019), Amphan (2020) and Yaas (2021). In these cyclonic incidents, majorly agricultural damages, human loss, environmental damages, house damages.

3.1.8 Snake Bite

Snake bite has been very common in Muzaffarpur district, snake bite incidents are susceptible in each month of year but snake bite incidents increased in monsoon season (June to october) due to increased water level in human habitations, water logging in agricultural fields and increased level of water bodies. No. of snake bite incident reported are as following-

Year	Snake Bite Incidents	No. of Death
2020 (Flood Period)	08	06
2021 (Flood Period)	01	01
2022	05	05

3.2 Human Induced Disasters

Human induced disasters and incidents are very common in Muzaffarpur district. Human induced are caused by less sensitization, less culture of awareness, inadequate infrastructure, ignorance of traffic rules, rapid urbanization, industrialization, social issues, political unrest, communalization etc. As per vulnerability of the district, fire, road accidents, boat capsizing, drowning incidents, industrial accidents, Japanese/Acute encephalitis syndrome (JES/AES), Covid-19, criminal incidents and communal violence has been considered as human induced disasters.

3.2.1 Fire

Muzaffarpur district is highly vulnerable to fire incidents. Major causes of fire incidents are rapid urbanization, electrical short circuit, industrial accidents, agricultural fire, fire in hatches houses, leakage in LPG cylinder, forest fire, fire incident in shopping etc. The risk of fire incidents has been increasing day by day in district due to rapid industrialization as more than 400 small, medium and large scale industries are registered in District Industries Centre, Muzaffarpur and Bihar Industrial Area Development Authority (BIADA), Bela, Muzaffarpur. Year wise fire data of district is as following

Particulars	2019	2020	2021	2022
No. of Fire Incident	586	199	324	159
No of Affected district	915	240	127	176
Human Loss	03	04	01	02
No. of Persons Injured	14	02	22	10
No. of animal died	305	83	156	11
No. of Animal Injured	21	11	31	10

3.2.2 Road Accident

In Muzaffarpur district, road accident has been very common problem, which is causing huge number of fatalities, injured persons, disability (loss of body parts) etc. Major cause of road accidents are over speed driving, brake failure, overloading, ignorance of traffic rules, lack of awareness, less numbers of cautionary boards/signals, poor health of drivers, drug addiction of drivers, road jam, poor traffic management, inaccessibility of ambulance, less no. trauma centres, poor law and order etc. Scaling up awareness and sensitization on prevention of road accident could reduce its impact. Year wise road accident data is as following

Year	No of Incidents Reported	No of human loss	No of Persons Injured
2019	116	217	106
2020	163	163	206
2021	178	220	215
2022	197	207	235

3.2.3 Boat Capsizing

In Muzaffarpur district, **69** government boats and **405** boats are operational in various rivers and other water bodies for carrying out grass in remote areas and local transport. There is potential risk of boat capsizing incidents in the district. For preventing boat capsizing incidents, boat registration procedures are implemented by District Transport Department, Muzaffarpur. District Disaster Management Authority, Muzaffarpur has organized capacity building training programmes for deep divers, boat men, boat owners for safe operation of boats. In last 05 years, 01 boat capsizing incident has been reported in Bagmati block Aurai in the year of 2021, in this incident no casualties has been reported so far.

3.2.4 Drowning

The drowning incident has been categorized as Local Disaster in Bihar. Muzaffarpur district is highly sensitive for drowning incidents. Many drowning incidents occur in rivers, ponds, ahar pine, canals and other water bodies. Major causes of these incidents are lack of basic swimming skills. Drowning death data of last few years are as follow-

Year	No of Deaths Reported
2020	239
2021	202
2022	56

3.2.5 Industrial Hazards/Incidents

Muzaffarpur district is considered commercial hub of North Bihar region, the district is famous for Lahti industries. The district is famous for Lichi and mango which are supplied to other states as well. All sector industries i.e. primary sector, secondary sector and tertiary sector are existing in the district.

In this district, hand-woven textiles, sugar cane industries, and other commercial products are manufactured. The railway wagon industry is also functional in the district. Motijheel and Sutapatti of district is famous for the cloth wholesale market of Mumbai, Surat and Ahmedabad. It is an important centre for wholesale cloth trade supplying to neighboring districts of North Bihar. There are many agro-based industries, ready-made garments units, embroidery units, food processing units, rice mills, leathers units, paper mill etc, these units are spread in Bela Industrial area and Motipur food park area. There is good number of other trade, hotel and restaurants in the district. All these industries generate large scale employment in northern Bihar.

These industries are also causing industrial accidents, fire incidents, hazardous gas leakage issue, boiler explosion problems, air pollution etc. There is need of ensuring industrial safety, safety of employed personnel, product safety, food safety etc. The data of major industrial accidents are as following -

Year	Name of Unit	Address	Damage/Loss
2019	Tirhut Snacks Factory (Chips Factory)	Bajitpur, Bochahan	07 person died 04 person injured
2021	Anshul Food Snacks and Beverages Private Limited	Bela	07 person died 07 person injured 04 neighboring industries damaged

3.3 Epidemics

An epidemic is defined as the occurrence of an illness or health-related event that is unusually large or unexpected. Epidemics are commonly caused by a disease of infectious or parasitic origin. Infectious diseases such as cholera, meningococcal meningitis, typhoid, viral hemorrhagic fever, covid 19, AES pose considerable threats to a community as it create sudden outbreaks. Epidemic is categorized as biological hazards. An epidemic is then unusual increase in the number of cases of an infectious disease which already exists in a certain region or population. It can also refer to the appearance of a significant number of cases of an infectious disease in a region or population that is usually free from that disease. Epidemics may be the consequence of disasters of another kind, such as tropical storms, floods, earthquakes, droughts, etc. Epidemics may also attack animals, causing local economic disasters

Avian Flu

Avian influenza (AI) is a viral infection primarily affecting birds (chickens, ducks, geese etc., both domestic and migratory species), but also sometimes other species such as pigs and tigers. Rarely, bird flu can cause severe infections in humans. There are many different strains or varieties of AI viruses. They are a sub-group of influenza viruses, which includes the flu virus that causes seasonal outbreaks in humans around the world every year. Due to preventive measures, Avian flu cases have been reported occasionally but these cases prevented.

Cholera

Cholera is mainly spread by drinking water contaminated by faeces. The fatality rate for severe, untreated cases is 50 per cent; when treated this drops to one per cent. The incubation period is 1-12 days and severe cases need hospitalization. Less severe cases can be treated with rehydration therapy on an outpatient basis. Only 10 per cent of those infected present symptoms.

Dengue Fever

Dengue or breakbone fever and dengue haemorrhagic fever are transmitted by "day biter" mosquitoes. Dengue fever is rarely fatal; the haemorrhagic variety, if untreated, can result in a 40-50 per cent mortality rate. With hospital care and fluid therapy, this can be brought to below five per cent. As per data of District Health Society, Muzaffarpur, 38 cases found in 2017, 46 cases in 2018, 202 cases in 2019, 55 cases in 2020, 30 cases in 2021 and 1 case reported in 2022.

Malaria

Malaria is transmitted by the bite of the anopheles mosquito, a dusk to dawn biter. Where the disease is endemic, the local population has some degree of immunity. The people at greatest risk are those from a non-malarial area. As per data of District Health Society, Muzaffarpur, 12 cases found in 2017, 28 cases in 2018, 05 cases in 2019, 03 cases in 2021 and 0 cases reported in 2020 and 2022.

Measles

This is a highly communicable viral infection that can result in a very high mortality rate, especially among children and undernourished populations. A prompt and comprehensive vaccination program at the start of an outbreak can help limit its spread. If vaccine supplies are limited, the first priority is malnourished and hospitalized children, the next priority six-month to two-year-old children. Vaccination is given to children for preventing measles.

Meningococcal Meningitis

Meningococcal Meningitis is an acute bacterial disease. Epidemic waves occur at irregular, unexplained intervals. Chiefly affects children and young adults, especially those in crowded living conditions. The disease is transmitted by direct contact with nose and throat discharges. Infected individuals should be separated from others and their immediate contacts put under close health surveillance.

HIV/AIDS

HIV/AIDS (Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome) will kill more people this decade than all the wars and disasters in the past 50 years. Since the AIDS epidemic began, 25 million people have died and more than 40 million are now living with HIV and AIDS. In 2001 alone, five million people became infected worldwide. Muzaffarpur district has also high rate of migration, which makes district prone to HIV/AIDS.

Tuberculosis

Tuberculosis (TB) is the single most deadly infectious disease and kills two million people each year. Of the eight million new cases annually, 95 per cent are in developing countries. Asia and sub-Saharan Africa are the hardest hit, but Eastern Europe has recently seen a major increase in the incidence and deaths related to TB after many years of steady decline. An estimated 75 per cent of people with TB are between the ages of 15-44, which is seriously damaging socio-economic development. People with low immunity and living in slums/poor living conditions are highly vulnerable to tuberculosis.

Kala Azar

Kala azar is caused by bites from female phlebotomine sandflies—the vector (or transmitter) of the leishmania parasite. The sand flies feed on animals and humans for blood, which they need for developing their eggs. If blood containing leishmania parasites is drawn from an animal or human, the next person to receive a bite will then become infected and develop leishmaniasis.

Months after this initial infection the disease can progress into a more severe form, called visceral leishmaniasis or kala azar. Kala Azar cases in Muzaffarpur care as follwing

YEAR	CASES	DEATH
2010	2573	22
2011	2531	18
2012	1618	6
2013	1061	0
2014	892	0
2015	641	0
2016	615	0
2017	468	0
2018	411	0
2019	258	0
2020	156	0
2021	80	0
2022	24	0

Filaria (Lymphatic filariasis)

Lymphatic filariasis, considered as a neglected tropical disease (NTD), is a parasitic disease caused by microscopic, thread-like worms. The adult worms only live in the human lymph system. The lymph system maintains the body's fluid balance and fights infections. Lymphatic filariasis is spread from person to person by mosquitoes. People with the disease can suffer from lymphedema and elephantiasis and in men, swelling of the scrotum, called hydrocele. Lymphatic filariasis is a leading cause of permanent disability worldwide. Communities frequently shun and reject women and men disfigured by the disease. Muzaffarpur district is also moderately affected by lymphatic filariasis, the data of this disease is not available.

Acute Encephalitis Syndrome

Acute encephalitis syndrome (AES) is characterized by an acute onset of fever and clinical neurological manifestation that includes mental confusion, disorientation, delirium, or coma. Apart from viral encephalitis, severe form of leptospirosis and toxoplasmosis can cause AES. Muzaffarpur district is highly sensitive towards AES disease. Year wise AES data is as following-

YEAR	CASES	DEATH	RECOVERY	UNDER TREATMENT
2010	59	24	35	0
2011	121	45	76	0
2012	336	120	216	0
2013	124	39	85	0
2014	701	90	611	0
2015	72	9	63	0
2016	31	4	27	0
2017	17	11	6	0
2018	15	8	7	0
2019	431	111	320	0
2020	43	7	36	0
2021	39	7	32	0
2022	41	01	40	0

District Administration, Muzaffarpur and District Health Society, Muzaffarpur has initiated several initiatives and developed synergies on preventing of AES. Few initiatives are Adopt-a village initiatives, strengthening of ambulance services and tagging of vehicles, training of concerned stakeholders, House to house visits, IEC activities etc.

The H1N1 flu/Swine Flu

The H1N1 flu, commonly known as swine flu, is primarily caused by the H1N1 strain of the flu (influenza) virus. H1N1 is a type of influenza A virus, and H1N1 is one of several flu virus strains that can cause the seasonal flu in pig. Symptoms of the H1N1 flu are the same as those of the seasonal flu. In the year of 2009 and 2010, this disease was declared global pandemic. In Muzaffarpur district is also prone to this disease as pig farming is done at larger scale in the district.

Covid-19

Corona virus disease (COVID-19) is an infectious disease caused by the SARS -CoV-2 virus. Most people infected with the virus experience mild to moderate respiratory illness and recover without requiring special treatment. However, some will become seriously ill and require medical attention. Older people and those with underlying medical conditions like cardiovascular disease, diabetes, chronic respiratory disease, or cancer are more likely to develop serious illness. Anyone can get sick with COVID-19 and become seriously ill or die at any age. Muzaffarpur district has registered covid 19 cases at large number. The data of covid 19 in Muzaffarpur district is as following-

Covid-19 Death Report	
Total Death Reported	1463
Ex-gratia Payment till date	620
Report Sent to State Health Society, Patna for pending cases	843

3.4 Vulnerability and Risk Analysis

Type of Vulnerability	Impacts of Hazards
Physical vulnerability	Physical vulnerability of Muzaffarpur district is high, as district is situated in foothill of Himalayas and several mountainous rivers are flowing through the district, the topography of the district is low line area, these factors are responsible for frequent flooding in several parts of Muzaffarpur district during monsoon seasons. Due to regular occurrences of flooding in district, infrastructure i.e. embankments, roads, houses, bridges, schools, AWW centres, hospitals etc. Muzaffarpur district is situated in earthquake zone-IV and large number of houses are traditionally and non-engineered constructed, which increases the physical vulnerability.
Social vulnerability	Muzaffarpur district is one of aspirational and multi-hazard prone district of India, the district is backward in the indicator of health, nutrition, education, basic infrastructure and agriculture. It causes social vulnerability and posses potential negative effects on communities. These effects include natural or human-induced disasters, or disease outbreaks. District is prone to communal violence, Naxal activities and criminals acts, which affect larger population and increases the social vulnerability index (SVI) of the district.
Economic vulnerability	Muzaffarpur district is exposed to various disasters and these disasters pose serious socio-economic disruptions and damage private and public infrastructure including facilities. severe disasters have long term economic vulnerability in terms of livelihood, poverty, migration, poverty. If we assess these economic indicator in the district, the economic vulnerability index (EVI) is high.
Environmental vulnerability	The impacts of climate change and global warming could be experienced locally. Mainly, It has led deviations in climatic conditions particularly rainfall. Unplanned development, rapid urbanization, vehicle/industrial emissions has increased deforestation and environmental degradation including air pollution. Illegal excavation and mining has severe impacts on riverine ecology and biodiversity, it has increased sedimentation in the river and decreased water carrying capacity of the rivers
- Attitudinal and Institutional vulnerability	The process of paradigm shift of pro-relief and pro-response approach to disaster management has still not been institutionalized. Inter-departmental coordination, training and incident response system are also area of concern, which needs to be taken in notice.

Hazard Prone Areas of Muzaffarpur District

Type of applicable hazards	Hazards Prone areas in the district
Flood	All blocks of Muzaffarpur except Marwan block.
Earthquake	All area vulnerable to earthquake
Fire	All areas of district but Industrial, commercial, petrol pumps, houses and agricultural fields near electrical wire are more vulnerable.
Industrial Accidents	Mushahri and Motipur block of Muzaffarpur comparatively more vulnerable.
Road Accident	All areas of Muzaffarpur district.
Railway	All railway lines (Hajipur-Muzaffarpur, Muzaffarpur-Samastipur, Muzaffarpur- Motihari, Muzaffarpur-Sitamarhi)
Stampede	Motijheel market, Garib sthan mandir, Rewa Ghat, Durga Mandir.
Drought	Kurhani, Muraul, Sakra, Marwan, Mushahri blocks are highly prone to drought.
Lightning	All areas of Muzaffarpur district.
Drowning	All areas of Muzaffarpur. All water bodies are highly vulnerable to drowning.
Boat Accidents	Rivers and ghats are highly vulnerable to boat accidents.
Communal violence	Aurai, Sahebganj, Motipur and Mushahri block are highly sensitive.
Cyclone	All areas of Muzaffarpur district.
Heat wave	All areas of Muzaffarpur district.
Cold wave	All areas of Muzaffarpur district.
Snake bite	All areas of Muzaffarpur district.
Electric short circuits	All areas of Muzaffarpur district. Urban and industrial areas are more vulnerable.

Block Wise Hazard Vulnerability Analysis of Muzaffarpur District

Name of Block	Hazard and Vulnerability Identification
Aurai	Highly flood affected. Sensitive to earthquake, lightning, snake bite and fire
Bandara	Moderately affected with floods and lightning, prone to road accidents and fire
Bochahan	Moderately affected with floods, prone to road accidents, lightning and fire
Gaighat	Highly flood and lightning affected. Sensitive to earthquake, road accidents , snake bite and fire
Kanti	Highly flood affected. Prone to fire, industrial accidents, lightning and road accidents.
Katra	Highly flood affected. Sensitive to earthquake, lightning and fire
Kurhani	Prone to road accidents, fire and drought.
Marwan	Fire and road accident
Minapur	Highly flood affected. Prone to fire, lightning and road accidents.
Motipur	Prone to fire, industrial accidents, lightning and road accidents.
Muraul	Moderately affected with floods, prone to road accidents, lightning and fire
Mushahri	Highly flood affected. Prone to fire, industrial accidents, lightning and road accidents.
Paroo	Moderately flood affected, prone to fire, lightning, road accidents.
Sahebganj	Moderately flood affected, prone to fire, lightning, road accidents.
Sakra	Moderately flood affected, prone to fire, lightning, road accidents.
Saraiyan	Moderately flood affected, prone to fire, lightning, road accidents.

Note- drowning incidents are common in all blocks of Muaffarpur

3.5 Capacity/Resources Analysis

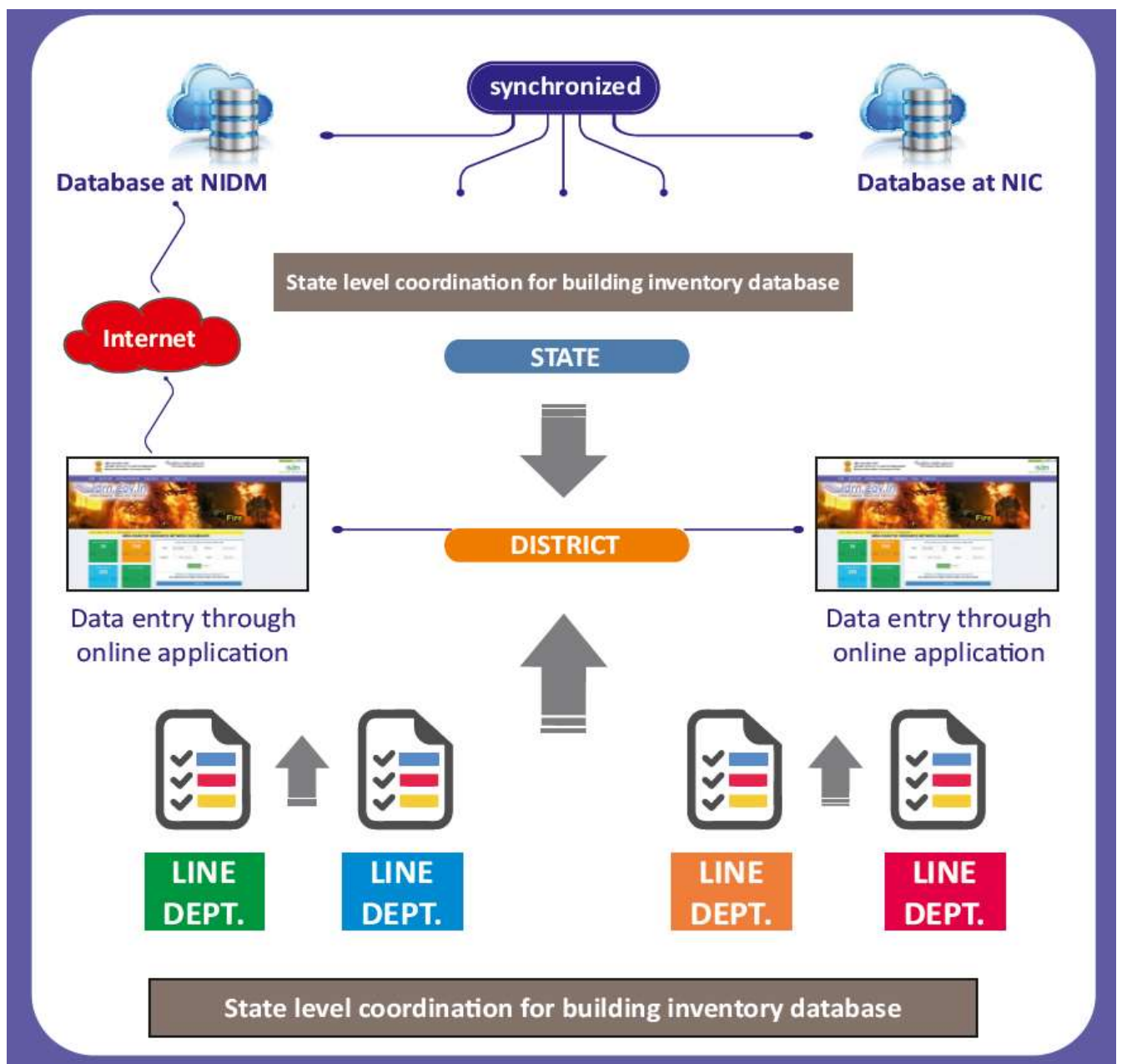
Equipments and Resources in Disaster Response and Emergency Management

Listing of equipment and resources useful in disaster response and emergency management is very significant, this procedure is integral part of incident response system (IRS). It strengthen the disaster response and enable district and local administration in proper mobilizing of these equipment and resources. List of major equipment and other resources available in District Disaster Management Section and Circle Offices, are as following

Sr. No	Resources	Quantity	Sr. No	Resources	Quantity
1	Country Boats	474 (69 Government and 405 private)	11.	Boatmen	348
2	Inflatable Motor Boat	District Ware House -05 SDRF-05	12.	Deep Diver	195
3	Polythene Sheets	24463 (varies time to time)	13	SDRF	1 team
4.	Tent	65	14.	NDRF	1 team
5.	Mahajaal	01	15.	Safe Shelters	383
6.	Life Jacket	District Ware House -65 Blocks-74	16.	Community Kitchen	391
7.	Inflatable Lighting system	01	17.	Trained Youth Volunteer	130
8.	Life Buoy Ring	20	18	District Task Force	01
9.	GPS Set		19.	No. of Search and Rescue teams	416
10.	Satellite Phone		20.		

India Disaster Resources Network

The IDRN (India Disaster Resource Network – www.idrn.gov.in) is a nation-wide electronic inventory of essential and specialist resources for disaster response, covering specialist equipment, specialist manpower resources and critical supplies. IDRN has been initiated by Ministry of Home Affairs (MHA) in collaboration with National Informatics Centre (NIC) to systematically build the disaster resource inventory as an organized information system for collection and transmission of information about specific equipments, human expertise and critical supplies database from District level to State level to provide availability of resources for disaster response, so that disaster managers can mobilize the required resources within least response time. In Muzaffarpur district, 768 equipments are uploaded as on 22.08.2022



List of updated equipment and Resources on IDRN

S.No	ACTIVITY	CATEGORY	ITEM/CODE	ITEM SHELF LIFE	No.of quantity Uploaded on IDRN Portal
1	Fire Fighting	Protective equipments - specialized	Suit fire entry - 166	1 Year	3
2	Fire Fighting	Protective equipments - specialized	Suit fire proximity - 167	1 Year	0
3	Fire Fighting	Protective equipments - specialized	Suit fire approach - 168	1 Year	5
4	Fire Fighting	Protective equipments - specialized	Suit NBC - 169	1 Year	0
5	Fire Fighting	Protective equipments - specialized	Clothing Chemical protective (A, B, C) - 170	1 Year	0
6	Fire Fighting	Breathing apparatus set	Breathing apparatus self contained - 171	1 Year	4
7	Fire Fighting	Breathing apparatus set	Breathing Apparatus Compressor - 172	1 Year	0
8	Fire Fighting	Pumps	Pump high pressure, portable - 173	1 Year	16
9	Fire Fighting	Pumps	Pump floating - 174	1 Year	0
10	Fire Fighting	Ladder	Extension Ladder - 175	1 Year	8
11	Fire Fighting	Fire extinguishers	ABC Type - 176	6 Month	38
12	Fire Fighting	Fire extinguishers	CO2 Type - 177	6 Month	23
13	Fire Fighting	Fire extinguishers	Foam Type - 178	6 Month	0
14	Fire Fighting	Fire extinguishers	DCP Type - 179	6 Month	0
15	Fire Fighting	Fire extinguishers	Halons Type - 180	6 Month	0
16	Fire Fighting	Fire/rescue tenders	Fire Tender - 181	1 Year	0
17	Fire Fighting	Fire/rescue tenders	Foam Tender - 182	1 Year	8
18	Fire Fighting	Fire/rescue tenders	Rescue Tender - 183	1 Year	1
19	Fire Fighting	Fire/rescue tenders	Control Van - 184	1 Year	0
20	Fire Fighting	Fire/rescue tenders	Hydraulic Platform - 185	1 Year	0
21	Fire Fighting	Fire/rescue tenders	Turn Table Ladder - 186	1 Year	0
22	Fire Fighting	Fire/rescue tenders	DCP Tender - 187	1 Year	1
23	Fire Fighting	Fire/rescue tenders	Hazmat Van - 188	1 Year	0
24	Fire Fighting	Fire/rescue tenders	B.A. Van - 189	1 Year	0
25	Fire Fighting	Critical supplies	Fire Fighting Foam - 190	1 Year	9
26	Fire Fighting	Critical supplies	Dry Chemical Powder - 191	6 Month	200 KG
27	Fire Fighting	Critical supplies	Halons - 192	6 Month	0
28	Fire Fighting	Skilled human resource	Oil Installation fire fighting team - 193	1 Year	54 PERSON
29	Fire Fighting	Skilled human resource	High Rise Buildings fire fighting team - 194	1 Year	0
30	Fire Fighting	Skilled human resource	Ports fire fighting team - 195	1 Year	0
31	Fire Fighting	Skilled human resource	Aviation fire fighting team - 196	1 Year	0
32	Fire Fighting	Skilled human resource	Mines fire fighting team - 197	1 Year	0
33	Fire Fighting	Skilled human resource	Thermal Power Plant fire fighting team - 198	1 Year	0
34	Fire Fighting	Skilled human resource	Nuclear Power Plant fire fighting team - 199	1 Year	

Bihar State Disaster Resources Network (BSDRN)

The BSDRN (<http://bsdrn1.bsDMA.org>) is essentially to serve as a state repository of database for emergency/disaster management and to assist the stakeholders/Administration at various levels in preparedness and emergency situation. Data available at appropriate scales to emergency response managers at all levels. Bihar State Disaster Resource Network is a web based platform for managing the inventory of equipment, skilled human resources and critical supplies for emergency response. Primary focus of the portal is to enable the decision makers to find information on availability of equipment and human resources required to combat any emergency situation. This database also enables managers to assess the level of preparedness for specific disasters. Main objective of BSDRN is to build up a systematic inventory of equipment and skilled human resources so that disaster managers easily can find the location and details of the resources for immediate and effective response within Golden hour for minimizing deaths.

Equipment and Resources of Muzaffarpur Updated on BSDRN Portal as on 22.09.2022

Sr. No.	Sector	No. of Equipment and Resources on Portal
01.	Search and Rescue Equipments	73
02.	Skilled Manpower	599
03.	Transportation	194
04.	Food and Water Sources	199
05.	Safety and Shelter	202
06.	Emergency Supplies and Services	39
Total		1306

4.1 District Disaster Management Authority, Muzaffarpur

District Disaster Management Authority, Muzaffarpur, as the apex body, is mandated to lay down the policies, plans and guidelines for Disaster Management to ensure timely and effective response to disasters. Towards this, it has the following responsibilities:-

- Lay down policies on disaster management at district level;
 - Develop guidelines and follow the order of State Authorities.
 - Integrating the measures for prevention of disaster or the mitigation of its effects in their development plans and projects;
 - Coordinate the enforcement and implementation of the policy and plans for disaster management.
 - Capacity building and training of concerned stakeholders.
 - Recommend provision of funds for the purpose of mitigation;
 - Provide such support to other district affected by major disasters as may be determined by the state Government;
 - Take such other measures for the prevention of disaster or the mitigation, or preparedness and capacity building for dealing with threatening disaster situations or disasters as it may consider necessary.
 - To draft District Disaster Management Plan and other sectoral plans for holistic, integrative and participative disaster management systems.
 - Taking all measures and implement provisions given in Disaster Management Acts, 2005
- The District Disaster Management Authority, Muzaffarpur was constituted by District Magistrate for implementation of Circular of Bihar Government (Sr.No-1, प्र०आ०-16/2008-1502, आ०प्र०, Dated-13.06.2008 under Disaster Management Act, Govt. of India, Section-25. The following members of the Authority are designated:

1	District Magistrate	Chairman
2	Chairman, Zila Parishad	Co Chairman
3	Senior Superintendent of Police	Member
4	District Development Commissioner	Member
5	Chief Medical Officer cum Civil Surgeon	Member
6	Additional District Magistrate, Disaster Management	Chief Executive Officer/ Incharge Officer
7	Executive Engineer, Flood Control Division, Burhi Gandak, Muzaffarpur	Member

4.2 District Disaster Management Section, Muzaffarpur

The primary responsibility of District Disaster Management Section, Muzaffarpur is to support the departments and other stakeholders by providing logistical and financial support. On behalf of the Disaster Management Department, this Section coordinates with concerned departments. The section is responsible for prevention, mitigation, response, relief and rehabilitation. Major responsibilities of the District Disaster Management Section are as follows:

- Resource mobilization for relief and response to natural disasters
- Operation of control room and situation reports
- Multi-hazard Early Warning Systems
- Matters related to State Disaster Response Fund
- All matters related to disaster response, preparedness, prevention, mitigation and capacity building
- Inter-agency cooperation in disaster management Post-disaster/long term rehabilitation and reconstruction
- All administrative and budget matters
- Strengthening of fire and emergency services

The following members of the section are designated:

1	District Magistrate
2	Additional District Magistrate, Disaster Management.
3	Senior Deputy Collector/ Incharge Officer
4	Head Clerk
5	Assistant Clerk (03)
6	Computer Operator (01)
7	Peon (02)

4.3 District Emergency Operation Centre, Muzaffarpur

The District Emergency Operation Centre, Muzaffarpur is functioning in the district to coordinate emergency management and disaster response operations. Major role and responsibilities of DEOC is as following-

- To monitor, coordinate and implement the actions for disaster management.
- Activate the ESF (Emergency Support Function) in the event of a disaster and coordinate the actions of various departments and response agencies;
- Ensure that all warning, communication systems and instruments are in working conditions.
- Receive information on a routine basis from the district departments on the vulnerability of the various places and villages
- Receive reports on the preparedness of the district level departments and the resources at their disposal to arrange and meet their requirements.
- Upgrade the Disaster Management Action according to the changing scenario.
- Maintain a web-based inventory of all resources through the India Disaster Resource Network (IDRN) and Bihar State Disaster Resources Network (BSDRN)
- Provide information to Disaster Management Department of the disaster/emergencies/accidents taking place in the district regularly and maintain a data base of disasters and losses caused by them.
- Maintain a data base and communication plan of trained personnel and volunteers who could be contacted at any time.
- Coordination with on-site operation center, State EOC and other emergency services.

The following members of the section are designated:

01	District Magistrate
02	Additional District Magistrate, Disaster Management
03	Incharge Officer
04	Programmer (03)
05	Computer Operator (03)
06	IT Boy (03)

4.4 Youth Volunteers Organizations and NGOs

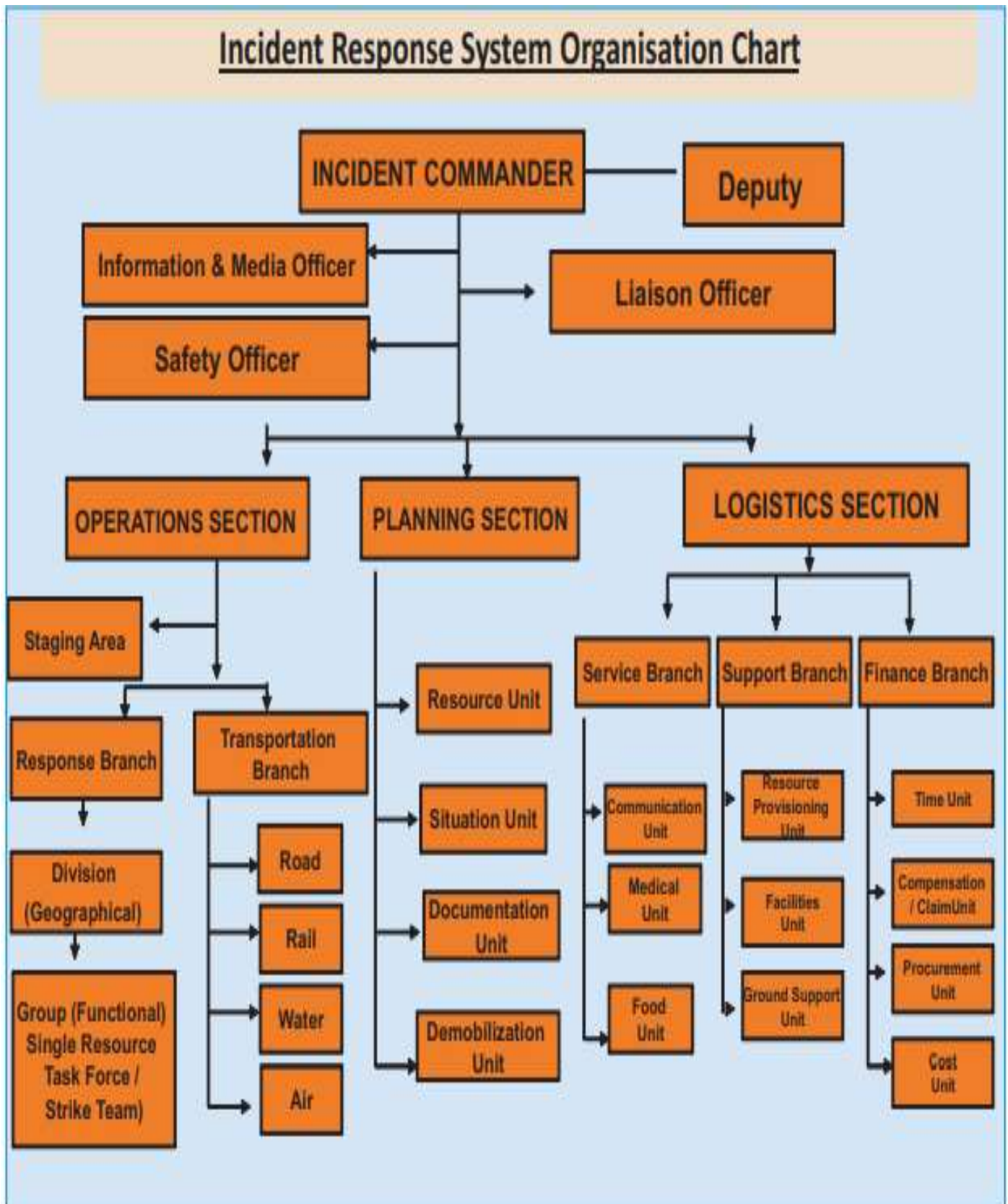
Sr. No	Name of Organization	Key Functionaries	Designation	Mobile/Phone
1	Unicef SM Net	Rajesh Kumar, Md. Sahabuddin.	DMC	7759855208
2	UNDP India	Ajay Kumar	Coordinator	9262895050
3	WHO		Coordinator	9431810437, 9801702378
4	Care India	Saurav Tiwari	District Team Leader	9931319090
5	Plan India	Sanjeev Kumar	Regional Coordinator	9771432599
6	Aga Khan Rural Support Programme	Sunil Kumar Pandey	Regional Coordinator	9934040299
7	Centre for Catalyzing Change	Abhay Kumar	District Coordinator	7903540726
8	Piramal Foundation	Syed Akram	District Lead	8755547790
9	Doctors for you	Ravi kant	Regional Coordinator	9324334359
10	Nehru Yuva Kendra Sangathan	Rashmi Singh	DYO	8804151017
11	National Cadet Corps	Rajesh Negi	Brigadier	9425321967
12	National Social Service Scheme (NSS)	Birendra Chaudhary	Program Officer	7979732658
13	Scout & Guide	Ram Bharose Pandit	Commissioner	7250069605
14	Aga Khan Foundation	Vandana Thakur	Program Manager	9973600600
15	Jan Nirman Kendra, Muzaffarpur	Rakesh Kumar Singh	Secretary	8002111668
16	Jigyasa Samaj Kalyan Kendra	Sumit Kumar	Secretary	9334761542
17	Aakanksha Seva Kendra	Bandana Sharma	Secretary	9334907270
18	Akhil Gramin Yuva Vikas Samiti	Subodh Kumar Pandey	Secretary	9199918786
19	Gramin Jan Kalyan Parishad	Maqbool Ahmad	Secretary	8210850570
20	Manavi Seva Sansthan	Santosh Kumar Singh	Secretary	9835379332
21	Creator	Sanjeev Kumar	Director	9661448036
22	Media for Broader Harmony	Abhiraj Kumar	Director	9097232839
23	Hanuman PD. Garmin Vikas Seva Samiti	Ram Pravesh Kumar	Secretary	9431082520,966172432
24	World Vision	Anshu Mala	Project Manager	8521737360

4.5 Coordination mechanism

For improved inter-departmental coordination in responding disasters, there has been formed District Crisis Management Group (DCMG) as per instructions of Circular No-205, अफाफा, Patna, Dated-22.06.2009 and Disaster Management Act, 2005. Following officials are designated in DCMG.

01	District Magistrate/Collector	Chairman	09	District Panchayati Raj Officer	Member
02	Senior Superintendent of Police	Member	10	District Agriculture Officer	Member
03	Deputy Development Commissioner	Member	11	District Animal Husbandry Officer	Member
04	Municipal Commissioner	Member	12	District Transport Officer	Member
05	Civil Surgeon	Member	13	District Supply Officer	Member
06	Additional District Collector (Revenue)	Member	14	Executive Engineer (Electricity)	Member
07	Additional District Collector (Disaster Management)	Member/In-charge Officer	15	Executive Engineer (RCD & RWD)	Member
08	Chief Engineer, Water Resources	Member	16	Nominated officer as special invitee	Member

4.6 Incident Response System is working in Muzaffarpur District



Main Section		
Particulars	Name & Designation	Role and Responsibilities
Incident Commander	District Magistrate, Muzaffarpur Or Nominated officer (ADM/SDM) by District Magistrate	<p>Overall management of the incident. Determining incident objective, developing strategy and tactical direction.</p> <p>If multi hazard incidents occur, which has multi jurisdiction and multi agency involved , Incident commander will develop unified Command organizational structure based on IRS organization.</p> <p>Establishing an Incident command post, it will be fixed location near incident point and will act as central coordination point (vehicle, tent, an open area or a room).</p> <p>Monitoring of performance of responders and providing needful directions to responders and emergency workers</p> <p>Ensure that adequate safety measures for life safety are in place</p> <p>Coordinate activity for all command and general staff.</p> <p>Organize planning meeting with concerned officials, responders and local representatives if required for speeding up response.</p> <p>Approve and authorize the implementation of an Incident Action Plan (IAP)</p> <p>Emergency approval, if responders request for additional resources.</p> <p>Approve the use of students, volunteers (NSS, NCC, NYKS, Civil Defense, Aapda Mitra, Scout/Guide), and auxiliary personnel</p> <p>Authorization of information for electronic, print and other digital media.</p> <p>Order the demobilization of the incident</p>
Information Coordinator	District Public Relations Officer (DPRO)	<p>Developing and releasing press information about the incident to the news media.</p> <p>Making appeals for peace and stability at the incident points.</p> <p>Reasons the IC to designate an information Officer-</p> <ul style="list-style-type: none"> •High visibility or sensitive incident •Media demands may obstruct IC effectiveness •Media capabilities to acquire their own information are increasing. •Reduces risk of multiple sources of information release •Need to alert/warn public •Press information displays or hand outs may be required.
Liaison Officer	In-charge Officer, District Disaster Management Section, Muzaffarpur	<p>If incidents are multi-jurisdictional or several agencies are involved, Liaison Officer will be positioned on Command Post.</p> <p>Liaison Officer will coordinate with all concerned officials and response agencies for mobilize resources.</p> <p>Liaison officer will also coordinate to state officials for external support if required.</p>
Safety Officer	Deputed/Responsible Team Commander of Response agency	<p>Safety officer, is head of response agency /Disaster response team responding to control and manage disaster or incident.</p> <p>Safety officer will assess and anticipate hazardous and unsafe situations.</p> <p>Safety officer may be head of disaster response team (DRT)</p> <p>Safety Officer may exercise emergency authority to directly stop unsafe acts if DRTs are imminent life-threatening danger.</p>

Operation Section		
Particulars	Name & Designation	Role and Responsibilities
Commander /In-Charge Officer, Operation Section	Senior Superintendent of Police	<p>Commander/In-charge Officer of operation section will assist Incident commander in controlling the incidents. He will lead operation of the disaster or incident response. He will also coordinate with other specialized forces (NDRF/SDRF), armed forces, air force, NAVI, paramilitary forces if required.</p> <p>In-charge of operation section will also work on following component</p> <ul style="list-style-type: none"> •Ground or surface based tactical resources •Aviation (Air) resources-helicopters and fixed wing aircraft •Provision of staging area
In-charge, Staging Area	Concerned Sub Divisional Magistrate	In-charge, staging area will ensure safety of equipment, proper storage of equipment/resources, handing over equipment to response teams.
Air Operation Branch	Commandant, Air Force Station, Bihta, Patna.	If Air Accident occurs, Nodal Officer nominated from Ministry of Civil Aviation will lead air operation branch.
Branches	Fire Officer, Fire Station	To support commander of operation section and responding to control incident or disaster.
Divisions	Local Deputed officer	Co-coordination with response teams, local resources and support in search and rescue operation
Groups	In-charge Police Station	Support in maintaining law and order and cooperate in relief operation. Management of staging area.
Strike Team	Team commandant of Armed Forces and Para Military Forces	If needed, strike team will take accountability of search and rescue or provide external security at the incident site.
Task Force	Cadets/Volunteer from NCC/NYKS /NSS/Civil Defense	Task forces will support in search and rescue operation and will be deputed on outer carton. Strike team can be pre determined or assembled at an incident from available . Task forces will support in maximizing effective use of resources , reducing span of control and reducing traffic .
Single Resource	Additional Superintendent of Police	Single Resources include both personnel and their required equipment.

Planning Section		
Particulars	Name & Designation	Role and Responsibilities
Commander/In-Charge Officer, Planning Section	Municipal Commissioner for Municipal areas Executive Officer, for Municipalities and Nagar Panchayat Circle Officer for Rural areas	<ul style="list-style-type: none"> •In-Charge Officer, Planning Section will be responsible for managing all internal information relevant to an incident. •He/She will collect, evaluate, process, and disseminate information for use at the incident. •He/She will brief responders about Incident Action Plan, formal briefings, or through map and status board displays. •Some incidents may require personnel with specialized skills to be temporarily assigned to the planning section. These personnel are called technical specialists i.e. meteorologist, epidemiologists, hydrologist, geologist, search & rescue specialists, wildlife specialist, training specialists. •Confirm dispatch and estimated time of arrival of staff and supplies •Maintain unit records, including unit log. •Develop and implement accountability, safety, and security measures for personnel and resources. •Supervise demobilization of unit, including storage of supplies. •Assign specific duties to staff, supervise staff.
Resource unit	District Transport Officer District Supply	<p>Resource unit will assign resources- primary or support at an incident, the unit will function as following</p> <p>Overseeing the check-in of all resources.</p> <p>Maintaining a status-keeping system indicating current location and status of all resources.</p> <p>Maintenance of a master list of all resources i.e. key supervisory personnel, primary and support resources etc.</p>
Demobilization unit	City Manager and Executive Officer (Urban) and Block Development Officer (Rural areas)	Demobilization unit is responsible for developing the Incident Demonization Plan (IDP). On large scale incidents, demobilization can be quite complex, requiring a separate planning activity as per instruction of Incident Commander or In-charge of Planning section. Planning for demobilization should begin at the early stages of an incident, particularly in the development of rosters of personnel
Situation unit	Deputy Land Acquisition Collector (DCLR) or Circle Officer (COs)	Situation unit will collect, process and organize all incident information. This unit may prepare future projection of incident growth, maps and intelligence information. Situation unit will act as display processor, field observer and weather observer.
Documentation	Additional Municipal Commissioner (Urban)/Revenue Officer (Rural areas)	The documentation unit will be responsible for the maintenance of accurate, up-to-date incident files. Incident

Logistic Section		
Particulars	Name & Designation	Role and Responsibilities
Commander/In-Charge Officer, Logistic Section	Additional District Magistrate, Revenue or Disaster Management	<p>The Logistics Section, with the exception of aviation support, provides all incident support needs. The Air Support Group in the Air Operations Branch handles aviation support. The Logistics Section is responsible for the following:</p> <ul style="list-style-type: none"> •Facilities, •Transportation •Communications •Supplies •Equipment maintenance and fuelling •Food services •Medical services <p>The Logistics Section may be divided into three Branches-Service Branch, Support Branch and Finance& Administration Branch.</p>
Service Branch	Overall In-charge Officer will be Sub Divisional Magistrate (SDM) or Nominated Officer by ADM, Revenue or Disaster Management	
Support Branch	District Transport Officer or Senior Deputy Collector, District Najarat Section	<p>Providing transport services and skilled technicians</p> <p>Support in procurement of essential equipment or services</p> <p>Coordination with vendors or suppliers for essential supplies for responding to control incidents.</p>
Communication Unit	District Informatics Officer	The Communications unit is responsible for developing plans for the use of incident communication equipment and facilities, installing and testing of equipment and facilities; installing and testing of communication equipment; supervision of the incident Communication Centre; and the distribution and maintenance of communication equipment.
Medical Unit	DPM (Health) or Incharge Medical Officer	Mostmajor incident requires the establishment of a Medical Unit that is responsible for all medical services for incident assigned personnel. The Unit will develop an IncidentMedical Plan
Food Unit	Circle Officer	The Food Unit is responsible for supplying the food needs for the entire incident, including all remote locations
Supply Unit	District Supply Officer	The Supply Unit is responsible for ordering, receiving, processing, and storing all incident related resources.
Facilities Unit	City Manager for Urban Areas and Circle Officer for Rural Areas	<p>This unit is responsible for set-up, maintenance, and demobilization of all incident support facilities except Staging Areas. These facilities are:</p> <p>Incident Command Post</p> <p>Incident Base</p> <p>Camps</p> <p>Other facilities within the incident area to be used for feeding, sleeping, and sanitation services.</p>
Ground Support Unit	Senior Deputy Collector, General Section	<p>Arrangement of addition human resources as per estimation of planning section</p> <p>Deputation of Officials, staff and other key stakeholders</p>

Finance/ Administration Section		
Particulars	Name & Designation	Role and Responsibilities
Commander/In-Charge Officer, Finance/Administration Section	Additional District Magistrate, Revenue or Disaster Management Supporting Officers Senior Deputy Collector, Najarat District Treasury Officer & District Accounts Officer	The Finance Branch is responsible for managing all financial aspects of an incident. Not all incidents will require a Finance / Administration Branch. Only when the involved agencies have a specific need for Finance / Administration services, the branch will be activated. On some incidents only one Finance / Administration function may be required (e.g., cost analysis). Often, it is more efficient to fill that function through a Technical Specialist •Time Unit •Procurement Unit •Compensation/Claims Unit •Cost Unit
Time Unit	City Manager (for Urban) and Revenue Officer (For Rural)	The Time Unit is responsible for ensuring the accurate recording of daily personnel time, compliance with specific agency time recording policies, and managing commissary operations if established at the incident. As applicable, personnel time records will be collected and processed for each operational period. (The Time Unit Leader may find it helpful to select assistants familiar with the various agency time recording policies.
Compensation /Claims Unit	Sub Divisional Magistrate Supporting Officer Circle Officer In-charge Medical Officer In-charge, SKMCH In-charge, Police Station	In IRS, Compensation-for-Injury and Claims are contained within one Unit. Separate personnel may perform each function, however, given their differing activities. These functions are becoming increasingly important on many kinds of incidents. Compensation-for-Injury oversees the completion of all forms required by workers' compensation and local agencies. A file of injuries and illnesses associated with the incident will also be maintained, and all witness statements will be obtained in writing. Close coordination with the Medical Unit is essential. The Claims is responsible for investigating all claims involving property associated with or involved in the incident. This can be an extremely important function on some incidents. •Two Specialists report to the Compensation/ Claims Unit Leader in more complex incident. •Compensation-for-Injury Specialist – Administers financial matters arising from serious injuries and deaths on an incident. Work is done in close cooperation with the Medical Unit. •Claims Specialist– Manages all claims-related activities (other than injury) for an incident.
Cost Unit	District Accounts Officer	All financial matters pertaining to vendor contracts, leases, and fiscal agreements are managed by the Procurement Unit.
Procurement Unit		The Procurement Unit establishes local sources for equipment and supplies; manages all equipment rental agreements; and processes all rental and supply fiscal document billing invoices. The unit works closely with local fiscal authorities to ensure efficiency.

S. No	Department and Agency	Preparedness	Response	Post Disasters
1	District Disaster Management Authority, Muzaffarpur	<ul style="list-style-type: none"> •To lay down disaster management plan at all level including sectoral plans of all line departments. •To organize training and capacity building programme on DRR for line departments, stakeholders, response agencies, youth organizations and NGOs. •To plan mitigation activities under State Disaster Mitigation Fund. Also ensure that structural and non structural measures are included. •To develop District Disaster Management Plan and need based sectoral plan aligning with state plans, national plans and Sendai Framework. •Ensure that all the Gram Panchayats, Schools, urban bodies and Anchals/Blocks prepare their disaster management plan. 	<ul style="list-style-type: none"> •Depute assessment team to monitor the efficacy of the response and relief operations. •To prepare situation reports, if required. •Coordinate all activities involved with emergency provisions of temporary shelters, emergency mass feeding, and bulk distribution of coordinated relief supplies for victims of disasters. •Dissemination of early warnings and alerts to all concerned departments. •If required, organize emergency meetings of DDMA, District level task force or District Crisis Management Group (DCMG). 	<ul style="list-style-type: none"> •To conduct Post Disaster Needs Assessment (PDNA) •To plan relief, restoration, recovery and rehabilitation programmes. •Coordinate NGOs, INGOs, CSR for crisis response and initiating recovery programmes. •Modify disaster management plans based on learning of previous disasters. •Promote mainstreaming DRR in various flagship schemes •To organize lesson learnt exercises or workshops for new strategies.
2	District Disaster Management Section, Muzaffarpur	<ul style="list-style-type: none"> •To ensure that funds are being allocated under SDRF. •To ensure sub allocation of funds to concerned departments and Circle Officers. •To identify resources and equipments helpful in responding disasters. •Line listing of safe shelters, community kitchen. •Arrange additional resources for disaster preparedness. •Update communication plan. 	<ul style="list-style-type: none"> •Conduct rapid assessment and launch quick response. •Conduct survey in affected areas and assess requirements of relief. •Monitoring of relief operation •Distribute emergency relief material to affected population. •To activate and make control rooms and EOCs functional. •Coordination with line departments (ESFs) for response. •Regular monitoring of search and rescue operation. •Depute officers, personnel, rescue workers and specialists for search and rescue operation. 	<ul style="list-style-type: none"> •To provide relief and ex-gratia relief to families of victims. •Allocate funds for the repair, reconstruction of damaged infrastructure after considering their overall loss and damage. •Plan for recovery and rehabilitation in affected . •Implement innovative programmes and schemes.

S.No	Department and agency	Preparedness	Response	Post Disasters
3	District Emergency Operation Centre, Muzaffarpur	<ul style="list-style-type: none"> •Emergency Preparedness. •Developing communication plan comprising of all line departments, stakeholders and response agency. •To ensure regular response based on Incident Response System. •To ensure coordination with all line of departments, response agencies, stakeholders, local representatives, rescue workers and volunteers. •Regular maintain disaster database. •Handling disaster based web applications, portals and apps i.e. IDRN, BSDRN, EOC Multi hazard Portal, NDMIS, Earth Network, Aapda Sampoorti Portal, NDEM Portal, CWC Hydrograph Portal, Nepal Hydrology Portal, Common Alerting Protocol, BHUVAN app. •To ensure that all disaster response related equipments are functional and inventories are maintained. •Conduct training and simulation exercises regularly. 	<ul style="list-style-type: none"> •To ensure functioning of EOC 24x7 Functional. •Respond quickly. •Inform key official and coordinate with response agencies. •Regular monitor the search and rescue operation. •Co-ordination with other districts for resource mobilization, if needed. •Co-ordination with District Disaster Management Section in search, rescue and relief operations. •To coordinate and facilitate emergency meeting , if required. •To depute officials and personnel for disaster response, if required. •Developing PPTs and rapid damage assessment report. 	<ul style="list-style-type: none"> •Compilation of damage data. •Follow up of relief and rehabilitation measures. •Providing situation report with key officials and DMD/SEOC. •Support in documentation. •Coordinate NGO, INGO and international agencies interventions and support.

4	Police	<ul style="list-style-type: none"> •To identify and mapping of sensitive and disaster prone areas. •To depute police personnel or home guards for patrolling in identified areas. •Support district administration, municipal corporation, sub division office and Fire Office in fire safety and security audits. •Capacity analysis for resource mobilization. •Listing cut off areas during disasters or crisis. Identifying alternative route for safer communication. •Formulation and updation of internal security and disaster management plan. •To conduct mock and simulation exercises to cross verify the level of preparedness. 	<ul style="list-style-type: none"> •Immediate response at disaster/incident site. •Dissemination of warning and information to senior officials about the situation and required support. •Establishing coordination with fire brigade, ambulances, district control room, EOC, NDRF, SDRF for specialized response. •Prepositioning of police force at disaster/incident site. •Support to specialized response teams and make frequent visits to disaster struck areas to cross-check. •Ensure maintaining law and order at disaster/incident site. •Support in barricading of the incident point/site. 	<ul style="list-style-type: none"> •To review and discuss the efficacy of disaster response. •To raise awareness on disaster risk reduction. •Estimating the loss and damage and keep a record. •Continuous aid & proper arrangements till situation is under control. • Examine the performance reports of various departments. •Analysis of law and order, conduct meeting of peace committee and community based organizations. Register FIR, if reported . •Support in the process of postmortem and its record keeping.
5	District Health Society, Muzaffarpur	<ul style="list-style-type: none"> •Demarcation of areas prone to epidemics and disasters. •Formation of Quick Mobile Medical Response (QMRT) team and depute specialized doctors and support staff in the team. •Identify the location for medical camps. •Organize training and review meeting. •Raising awareness on preventive measures •Generators to be made available in all major hospitals. •Prepare a list of inventories required in case of disaster (vehicles/ equipments/medicines. 	<ul style="list-style-type: none"> •Send QMRT with necessary medicines to affected areas. •Emergency procurement of medical equipments & medicines in case they fall short of it. •Ensure that appropriate no. of Doctors and paramedical staff are deputed at the affected areas. •Ensure cleanliness at the medical camps. •Frequent checks on the Staff/Doctors on duty. •Postmortem of dead bodies. •Disinfection of affected areas. 	<ul style="list-style-type: none"> •Monitoring of spreading of diseases •Assessment of medical response in disasters . Take effective measures. •Counseling of injured and handicapped with proper treatment. •Provide healthy rehabilitation to disaster affected people. •Issue death certificate.

S.No	Department	Preparedness	Response	Post Disasters
6	District Revenue Office, Muzaffarpur (Circle Officers)	<ul style="list-style-type: none"> •Identification and mapping of vulnerable area •To develop route plan for all areas. •Deputation of circle officer, revenue officers and employees for disaster response. •Developing Anchal/Block Disaster Management Plan •Requisition of fund by circle officers for implementing disaster management activities. •Support and facilitate meetings of Block Flood Monitoring Committee. 	<ul style="list-style-type: none"> •Incident reporting to senior officials , EOC and Control room. •Disaster response. •Coordination in search and rescue operation. •Deputation of officers and employees in disaster response. •Providing ex-gratia relief to affected families. 	<ul style="list-style-type: none"> •Damage assessment •Revision of existing plans based on previous learning
7	District Supply Office, Muzaffarpur & District Food Corporation, Muzaffarpur	<ul style="list-style-type: none"> •To make food grains available at reasonable prices. •To maintain buffer stock of grain and essential supplies in designated warehouses. •To ensure that the prices of grain and other supplies are stabilized. •Distribution of food grains and other supplies through public distribution system (PDS), particularly before flood season. •To develop contingency plan for food supplies in coordination with DDMA. •Identify vulnerable areas and ensure advance supply. 	<ul style="list-style-type: none"> •Ensuring grain and other food supplies for proper functioning of community kitchen. •To ensure distribution of grain and other essential supplies through PDS •Ensure safety of warehouses and grain during emergency. •Track early warnings continuously • Ensure sufficient availability of supplies to cater to the entire vulnerable population 	<ul style="list-style-type: none"> •Review of supply chain system under PDS •Identification of gaps and issues, addressing it and resolved it. •Evaluation of the emergency response . •Modify contingency plan, as per need. • Ensuring fair price shops are disaster resilient
8	District Statistics Office, Muzaffarpur	<ul style="list-style-type: none"> •To make rain gauge stations functional. •To collect data from weather monitoring stations, analyze it and disseminate to concerned stakeholders and officers. •To maintain comparative statistics related to disaster affected areas. 	<ul style="list-style-type: none"> •To disseminate rainfall and weather information to concerned officials and stakeholders. •Maintenance of rain gauge stations and weather monitoring stations, if required. 	<ul style="list-style-type: none"> •Keep maintenance of rain gauge stations and weather monitoring stations.

S.No	Department	Preparedness	Response	Post Disasters
9	District Transport Office, Muzaffarpur	<ul style="list-style-type: none"> •Designate Nodal Officer as focal person. •Line listing of transporters, vendors and vehicle federations for supply of vehicle during emergencies. •Conduct and facilitate meeting of District Road Safety periodically. •Carry out survey of condition of all highway systems at state and district level. •Identify and inventories transport vehicles available with the department and ensure that they are all in good working condition. •To strengthen coordination with fuel companies and petrol pumps for smooth fuel supplies. •Make department level mitigation plan and ensure its implementation. •Enforce the speed limits •Organize mock drill programme •Organizing meeting of District Road Safety Committee in each month to review the activities and progress of road safety measures. 	<ul style="list-style-type: none"> •Establish communication with the EOC and district control room . •Take steps for transportation of relief personnel and material to affected areas. •Take steps for movement of affected population to safer areas. •Collate and disseminate information regarding operational and safe routes and alternate routes, fuel availability etc. to personnel •operating in the field. •Launch recovery missions for stranded vehicles. 	<ul style="list-style-type: none"> •Assess damage to transportation infrastructure. •Take steps to ensure speedy repair and restoration of transport links.

10	District Rural Development Agency , Muzaffarpur	<ul style="list-style-type: none"> •Identification of existing and arising risks in the rural areas. Act accordingly to minimize its impacts. •To mainstream disaster risk reduction measures in flagship schemes being implemented in rural areas. •To conduct capacity building and training programmes on disaster preparedness or integrating DRR. •To promote disaster resilient techniques in Indira Awas Yojna, Pradhanmantri Awas Yojna, MNREGA etc. •To construct raised toilets and hand pumps in flood affected areas. •To address cross cutting issues as sanitation, hygiene, water logging, spread of disease. 	<ul style="list-style-type: none"> •Spreading early warning, if received from local administration or DEOC. •Support in search and rescue operation. •Co-coordination in distribution of relief materials to affected families. •Depute officials in relief operations, if required. 	<ul style="list-style-type: none"> •Post Disaster Need Assessment (PDNA). •Support in relief and rehabilitation procedures
11.	District Panchayati Raj Office, Muzaffarpur	<ul style="list-style-type: none"> •To develop Village Disaster Management Plan as part of Gram Panchayat Development programme. •To raise awareness on disaster risk reduction at block. •Sensitization of of Panchayati Raj Representatives (PRIs) on DRR. Also briefing them on their role and responsibilities in disaster management. •To form Village disaster management committee and Village Disaster Response Force. •Support in updation and verification of GR list 	<ul style="list-style-type: none"> •Spreading early warning, if received from local administration or DEOC. •Support in search and rescue operation. •Co-coordination in distribution of relief materials to affected families. •Support in functioning of community kitchen and disaster relief centres. •Spreading cautionary messages and alerts for prevention of drowning , road accidents and lightning. 	<ul style="list-style-type: none"> •Post Disaster Need Assessment (PDNA). •Support in relief and rehabilitation procedures •Reformation of Village Disaster Management Committee.

S.No	Department	Preparedness	Response	Post Disasters
12	District Agriculture Office, Muzaffarpur (Drought, cyclone, Flood, High Intensity rainfall, Heatwave, Earthquake, Fire, Cold wave, frost, hailstorm)	<ul style="list-style-type: none"> • To act as nodal department for concerned disasters /hazards. • Preparation of risk and vulnerability assessment of agriculture to disasters and climate change. • Systematic data management of data on disaster damage and loss. • Promotion of disaster and climate resilient cropping options i.e. flood resilient crops, diversified farming, post harvest management, organic farming, mechanical improvements , short term crops for sandy soil, riverbed farming etc. • To promote agricultural insurance programmes and to ensure availability of insurance product. • Developing systems of disseminating weather information, forecast and alerts. • Creating awareness among stakeholders through demonstration and capacity building activities. • Technical support for water conservation structures, integrated water resources management infrastructure needs (surface and ground water). • Strengthen coordination mechanism with departments dealing disasters. 	<ul style="list-style-type: none"> • Survey of disaster affected areas and collection of agricultural damage data. • Line listing of affected farmers, affected area , affected ward, affected panchayat and affected block. • To open the DBT Agriculture Portal for accepting application from affected farmers. • Damage reporting to administrative officers, state level through DBT agriculture Portal. • Mobilize cattle feed and fodder for animals as animal are integral part of agricultural practices. • support in disaster response and depute officials in relief activities. • Counseling of farmers on alternative option of farming. • Issue forecast, early warning and alerts, also spread cautionary messages on drowning prevention, boat incidents, lightning prevention. • Plan contingency plan for alternative crops based on actual agricultural damage. • Conduct research and case studies for knowledge management. • In case of drought and heat wave, plan for strengthening of irrigation systems through repairing of bore well, provision of pump sets, conservation of water bodies etc. 	<ul style="list-style-type: none"> • Providing agricultural subsidy to affected farmers. • Promote alternative farming option. • Incorporate mitigation measures in agriculture sector based on lesson learnt. • Strengthen the alert and early warning system. • Conduct studies for long term solutions, alternative options and other opportunities in affected areas. • Promote agro forestry, Jal Jivan Hariyali Scheme, Zero Budget Natural farming , Integrated farming (ATMA) as a measure of disaster risk reduction. • Strengthen Farmers Producers Organizations for taking appropriate measures for establishing market linkages.

13	<p>District Municipal Corporation, Muzaffarpur Smart City Limited, BUDCO & Urban Local Bodies of District Muzaffarpur</p> <p>(Flood, drought, earthquake, fire, industrial accidents, cyclone, heat wave, cold wave, epidemic)</p>	<ul style="list-style-type: none"> •To ensure safety audits of residential buildings, shopping malls, industrial units, schools and government buildings. •Issuance of NOC as per standards of National Building Code, 2005 and Bihar Building Bye-Laws, 2014. •Identification of hazards and vulnerabilities existing and emerging in urban areas. • identify, mobilize and allocate critical resources and equipments. •Allocate appropriate budget for disaster risk management at city level. •Conducting mock drills and training programme for institutional and capacity building of officials. •Organizing meetings with ward members to resolve problems of vulnerable areas. •Reviewing emergency plans and guidelines of Central Govt. and Bihar Govt. •Hazard risk and vulnerability profile of the city: mapping communities and infrastructure at risk . •Prepare a plan outlining the solid-waste management system for the city. •Prepare drainage maps and ensure proper drainage cover within the city 	<ul style="list-style-type: none"> •Provision of Integrated Response System or EOC. •Ensure overall coordination of response, relief and other activities. •Support District Administration in responding disasters. •Disinfection and clean drive in disaster affected areas. •Establishing adequate interdepartmental coordination on issues related to disaster management . •Feedback and coordination with ward officials and citizens. •Maintain a list of private and public transport resources which can be used during emergency response. • Distribute and disseminate the helpline and resource lists. Publish it in local news paper. •Depute additional human resources . •Prepare and maintain a list of requisitioned premises, services, resources and vehicles. 	<ul style="list-style-type: none"> •Assist in Post Disaster Needs Assessment (PDNA) • Ensuring relief distribution of post-disaster relief to the most affected populations as per SDRF and NDRF norms •Relief distribution of post-disaster relief to the most affected populations •Reconstruction and rehabilitation plan by building back better. •Managing the bills, and clearing bills . • Review of gaps and challenges and improve on emergency planning • Making provision of disaster finance plan for recovery and reconstruction phase.
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SN.No	Department	Preparedness	Response	Post Disasters
14	District Fire Office, Muzaffarpur (Fire, industrial incidents, road accident, rail accident, heat wave)	<ul style="list-style-type: none"> •Conducting fire safety awareness programme, mock-drills, training and workshops at schools, institutions, industrial units, •Fire audits and issuance of NOCs of schools, fire cracker shops, industrial units, shops, hotels, government buildings, commercial units. • Maintenance of fire tenders and other relevant equipments. •Line listing of fire hydrant, water reservoirs, rivers etc for refilling of water. •Formation of fire booth and fire safety teams at community locations. •Identify high risk areas and vulnerable points in terms of fire incidents. 	<ul style="list-style-type: none"> •Immediate movement of fire tenders, after receiving information of incident. •Search and rescue operation with additional fire tenders. •Support to specialized response teams as NDRF and SDRF. • First aid of victims at triage area. •Shifting victim on ambulance for admitting in hospital. •Hand over of dead bodies to police or families as per procedures. •Rapid damage assessment of fire incident. 	<ul style="list-style-type: none"> • Evaluation of fire response •Post Disaster Need Assessment (PDNA). •Advocacy with district administration or DDMA on the measures of fire risk reductions. •Conducting simulation and joint mock exercises with ESF departments , police, NDRF, SDRF, Home Guards, volunteers.
15	District Education Office, Muzaffarpur (Fire, Earthquake, Cyclone, road accidents, lightning, flood, cold wave, heat wave)	<ul style="list-style-type: none"> • Identification of educational institutes that can be used as temporary shelters • Ensuring availability and implementation of the educational institutes disaster management plans • Ensure conduction of regular mock drills. •Support in updation of GR list at ward/panchayat level. •Raising community level awareness on disaster risk reduction and climate change adaptation 	<ul style="list-style-type: none"> •Ensuring safety of educational institutes staff and students • Support in implementation of emergency management activities. •Depute staff in relief activities and supporting disaster response measures. 	<ul style="list-style-type: none"> •Evaluation of educational institutes disaster management plans and their implementation procedures to ensure educational institutes of students and staff • Collecting feedback from school authorities and ensuring requisite changes to the educational institutes disaster management plans • Reconstruction and rehabilitation of affected educational institutes.

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16	National Disaster Response Force/ State Disaster Response Force	<ul style="list-style-type: none"> • In peace time, conducting training programmes, mock-exercises preferably joint drills. • Initiate Community Awareness Programme (CAP) for communities and volunteers. • Repairing of equipment and procurement of resources and equipment, if required. • Train other forces on specialized trainings on deep diving, special search and rescue, collapsed structure search and rescue, chemical biological Nuclear emergencies and psycho-social intervention. • Developing communication plan • Identification of vulnerable areas • Route mapping with alternate route. 	<ul style="list-style-type: none"> • Prepositioning of NDRF/SDRF teams for disaster response after receiving alert and early warning • Area Reece in prone areas and estimation of vulnerabilities and risk. • Establish joint collaboration with district administration. • Conducting relief, rescue, evacuation operations during all the major natural or man-made disasters. 	<ul style="list-style-type: none"> • Evaluation of disaster response. • Post Disaster Needs Assessment. • Conducting regular training programme and mock-exercises. • Awareness generation on mitigating measures in terms of different disasters.
17	Building Construction Department	<ul style="list-style-type: none"> • To construct fire, cyclone, earthquake resistant buildings. • Storage of building material at vulnerable locations. • Conducting training on earthquake resistant building construction for mason, contractors, distributors of building materials. • To develop evacuation plan and safe route mapping for major public events and festivals. 	<ul style="list-style-type: none"> • Rapid damage assessment. • Support district administration in responding disasters/ hazards. • Restore electricity, water supplies in government buildings and critical infrastructures. • Briefing response agencies about existing risks and hazards before search and rescue operations. 	<ul style="list-style-type: none"> • Post disaster needs assessment. • Plan for earthquake resistant buildings. • Monitoring of quality of building construction and ensure quality standards as per provisions made in National building Code 2005 and Bihar Building Bye Laws, 2014.

SN.No	Department	Preparedness	Response	Post Disasters
18	Integrated Child Development Services (ICDS), Muzaffarpur	<ul style="list-style-type: none"> •Regular functioning of Aanganwadi Centre. •Raising awareness on mitigation of disasters in group meetings. •Counseling of adolescents girls , pregnant ladies and lactating female on nutrition and health aspects. •Promoting Indra Vajra App for weather alert. •Support in line listing of children, pregnant ladies and lactating ladies before floods. 	<ul style="list-style-type: none"> •Spread early warning and common alert at community level. •Support in line listing of disaster affected communities. •Raise sensitization on prevention of drowning incidents, boat accidents, lightning incidents and •Support district administration in relief activities. •Distribution of nutritious hot cook meal to children. 	<ul style="list-style-type: none"> •Support in rehabilitation activities •Functioning of Aanganwadi centre. •Coordinate with concerned officials and PRIs for repairing of Aanganwadi centre, if damaged. •Support in immunization, ante natal check ups, distribution of ORS/ medicine.
19	BSNL and Other Tele Communication Service Providers of DoT.	<ul style="list-style-type: none"> •Dissemination of early warning messages and alerts to subscribers •Repairing of communication towers, stations, network, telecommunications equipments. •Identify vulnerable location. •Conduct simulation exercises time to time. 	<ul style="list-style-type: none"> •Restore connectivity at disaster sites •Help in locating the affected people •Integrate information across platforms for quick relief. •Support district administration in search and rescue operation. 	<ul style="list-style-type: none"> •Restoration of damaged telecommunication equipments. •Strengthening of telecommunication systems. •Research and innovation.
20	Water Resources Department And Minor Water Resources Department And Canal Division	<ul style="list-style-type: none"> •Identification of vulnerable points of embankment. •Depute local youth volunteers and engineers for protection and restoration of embankment. •Completion of major embankment projects before commencement of monsoon season. •Store flood fighting materials at vulnerable points. 	<ul style="list-style-type: none"> •Setup control rooms for strengthening emergency coordination. •Coordination with district and local administration •Dissemination of water level information and weather forecast with concerned stakeholders and local administration. •If embankment gets damaged or overtopping, immediate response for restoration. 	<ul style="list-style-type: none"> •Damage assessment and estimate cost of damage. •Support in visit of central team or project management monitoring team for damage assessment. •Plan mitigation project for flood risk reduction. •Conduct review meetings for gap analysis.

S.No	Department	Preparedness	Response	Post Disasters
21	Indian Railways, Muzaffarpur	<ul style="list-style-type: none"> •To prepare zonal and divisional level disaster management plan comprising of possible hazards (natural and human induced) in local context. •Depute safety officers for institutional building and capacity strengthening. •Management of railway line and high-tension wire from natural disasters i.e floods, fire, cyclone, landslide, earthquake etc. •Ensure provision of hospital and security arrangements. • Organize training and mock-drill programme for personnel and cross check the response efficiency. •Equip trains and railway stations with safety equipments and fire extinguishers. •Store fire and flood fighting materials •Conducting safety audits. 	<ul style="list-style-type: none"> •Functioning of 24x7 Control rooms. •Receiving information and disseminate it to concerned zones, departments and local administration. •Immediate response for incident control. •Inform police, Fire brigade, NDRF and SDRF for specialized response. •Provision of safety coaches with the facility of medical and disaster response teams, rush it to the incident point. 	<ul style="list-style-type: none"> •Damage assessment. •Restoration of damaged infrastructure and transportation facilities. •Gap assessment. •Plan new projects.
22	Public Health Engineering Department (PHED)	<ul style="list-style-type: none"> •Procurement of emergency toilets and hand-pumps. •Monitoring of ground water level, inform district administration the status. •Repairing of fire hydrants, water tankers, water jar, santex , Jalkal etc. •Depute repairing teams for toilets and hand-pumps with disinfection materials. •To ensure distribution of safe drinking water. •Proper storage of equipments and material. 	<ul style="list-style-type: none"> •Immediate response after receiving information from DDMA or district administration •Installation of hand-pump and emergency toilets at shelters and disaster relief centres. •Distribution of safe drinking water •Disinfection in water logged areas. •Support district administration for sanitation and safe drinking related response. 	<ul style="list-style-type: none"> •Review the response.

23	Animal Husbandry Office, Muzaffarpur	<ul style="list-style-type: none"> •Pre-identify vulnerable locations and line listing of shelters for animal. •Reviewing the impacts of natural hazards, human induced hazards and epidemics •Formation of Mobile medical teams for veterinary services. •Tender process for procurement of fodder supplies. •Procurement and proper storage of medicine. Distribution of medicine for ensuring its availability at each hospital. •To ensure vaccination of cattle particularly before monsoon season. •To organize awareness programme on “Do's and Don't” for owners of cattle and farmers. 	<ul style="list-style-type: none"> •To organize medical camp for affected animals. •To distribute fodder, medicine and other food supplies to affected owners. •To organize special drive for vaccination as a measure of prevention, if disease is spreading. •Postmortem of dead animal and its record keeping. •Measures for disinfections of animal shed. Counseling of owners of cattle and farmers for animal care. •Safe disposal of dead body of animals. 	<ul style="list-style-type: none"> •Review of response. •To ensure disinfection of affected area. •To provide ex-gratia relief to owners of cattle.
24	District Fisheries Resources, Muzaffarpur	<ul style="list-style-type: none"> •To conduct training for fishermen on • Line listing of ponds , fish farms, boats and other resources. •To prepare list of beneficiaries and fish farmers. •To spread alert and weather information for fish farmers. 	<ul style="list-style-type: none"> •Damage assessment of ponds and pisciculture resources. •Provide relief as per norms of assistance. 	<ul style="list-style-type: none"> •Relief assistance •Promotion of welfare schemes and integrated farming of productions of fish resources.

S.No	Department	Preparedness	Response	Post Disasters
25	District Social Security Cell, Muzaffarpur	<ul style="list-style-type: none"> •To update list of widows, old aged, handicapped, helpless persons, as vulnerable. •To provide financial assistance under scheme of social welfare department of Govt. of Bihar. •To make rehabilitation centre functional. •To develop specific plans for vulnerable sections of the society i.e. widows, old aged, handicapped, helpless persons, 	<ul style="list-style-type: none"> •Monitoring, the impacts of disasters on poorer section, particularly to underserved, old aged and handicapped. •Updation of list, if new beneficiaries are found. 	<ul style="list-style-type: none"> •Study the impacts of disasters
26	District Child Protection Cell (DCPC), Muzaffarpur	<ul style="list-style-type: none"> •To raise sensitization for concerned stakeholders on child centered issues in the view of disasters. •To identify vulnerable areas in the perspective of child trafficking. •To make aware stakeholders on child rights through CWC meetings. 	<ul style="list-style-type: none"> •To assess the impact of disasters on children. •To include orphaned children under Parvarish Scheme of DCPC. •Keeping vigilance at public places i.e. railway stations, bus stations, markets for preventing child trafficking. •Coordination with labour enforcement department, if child labour case found. 	<ul style="list-style-type: none"> •To initiate rehabilitation programme for children.
27	District Public Relation Officer, Muzaffarpur	<ul style="list-style-type: none"> •To organize orientation meeting on role of media in disaster risk reduction. •To prepare list of media person, correspondences , ensure registration. 	<ul style="list-style-type: none"> •To coordinate disaster response and support to incident commander and response team. •To provide media briefing •To maintain internal communication for improved disaster response. 	<ul style="list-style-type: none"> •Collection of disaster damage information. •Media briefing
28	District Electricity Department, Muzaffarpur	<ul style="list-style-type: none"> •To repair damage infrastructure and equipments of electricity. •To identify vulnerable power sub stations 	<ul style="list-style-type: none"> •Restoration of damaged equipments and infrastructure, and restore electricity supplies. 	<ul style="list-style-type: none"> •Damage assessment and restoration.

S.No	Department	Preparedness	Response	Post Disasters
29	Indian Meteorological Department	<ul style="list-style-type: none"> •Meteorological observations, weather forecasting and seismology. •Support in decision making process through innovative measures i.e. hazard analysis, vulnerability analysis, early warning, preparedness and planning, dissemination, public awareness, monitoring of weather and prediction. •Suggest preventive measures to departments and stakeholders. •Strengthening coordination for emergency response. 	<ul style="list-style-type: none"> •Observation of weather events and cyclonic pressure. •Issuance of the highest level of warning— indicating authorities should “take action”. •Monitoring of situation and suggest departments to take needful measures. •Dissemination of alert and warning through print, electronic and social media. •Taking feedback from departments and local administration about efficacy of the alerts and warnings. 	<ul style="list-style-type: none"> •Providing statistical information and other meteorological information. •Organizing training and capacity building for integrating IMD services. •Promoting research and innovation.
30	Central Water Commission	<ul style="list-style-type: none"> •Identification of prone areas to floods. •To conduct surveys and investigation to prepare design and scheme on flood risk reduction measures and irrigation facilities. •To advise and assist state government, departments and concerned stakeholders on river basin and water management. •To advise and resolve all matters relating to the Inter-state water disputes as a measure of DRR. •To strengthen river monitoring systems and its dissemination. 	<ul style="list-style-type: none"> •Monitoring of rivers and dissemination of water level information to state and district authorities including concerned departments. •Observation of meteorological events and providing alerts and forecast to concerned authorities. Also flood providing, flood hazard mapping. •To initiate morphological studies on river behaviour, bank erosion and other cross cutting issues related to floods. 	<ul style="list-style-type: none"> • Damage assessment of meteorological related disasters. • To collect, maintain and publish statistical data relating to floods. •To initiate flood risk reduction schemes and conduct trainings. •To conduct studies on dam and barrage safety •To conduct experiments, research and to carry out other activities related floods and irrigation. •Promote and create mass awareness on the aspects of flood mitigation and its management.

31	<p>Rural Works Department, East-1, East-2 and West, Muzaffarpur</p> <p>&</p> <p>Road Construction Department, Muzaffarpur</p> <p>&</p> <p>NH Divisions</p>	<ul style="list-style-type: none"> •Identification of highly vulnerable areas and roads. •Hazard assessment in terms of impact of disasters on roads, bridges and associate infrastructure. •To approve projects and schemes for construction of roads. •Repairing •Regular cleaning of vent of the bridges and ensuring that natural flow of water is maintained. 	<ul style="list-style-type: none"> •Setup 24x7 control room for monitoring of roads and emergency response for repairing of damaged roads. •Restore damage roads within 24 hours. •Ensuring all roads are motorable. •Establish coordination with DDMA and district administration, support in disaster response and relief through mobilizing resources. •Rapid damage assessment, to ensure that DDMA or district administration is informed. 	<ul style="list-style-type: none"> •Damage assessment. •Restoration and repairing of damaged roads, bridges and other associated infrastructures. •Designing and planning new project and schemes for reduced impacts of disasters on road infrastructure.
32	District Forest Department, Muzaffarpur	<ul style="list-style-type: none"> •Assessment of risk of disasters, taking measures for mitigation of existing risk of disasters. •Undertake preparedness measures, particularly for fire, cyclone, floods hailstorm & earthquake. •Hazard mapping •To organize training and mock-drill programmes for building capacity of officials and stakeholders. •To procure the equipment necessary for search and rescue operation and basic medical response. •Develop contingency plan based on impact of disasters in local context. •To ensure availability of funds for contingency expenses. 	<ul style="list-style-type: none"> •Responding disasters and support DDMA or district administration in management of disasters. •To prepare the status report •Mobilize resources for disaster response activities. If it is needed by other line departments, providing it. 	<ul style="list-style-type: none"> •Damage assessment. •Review of efficacy of contingency plan. •Organize regular awareness programmes.

S.No	Department	Preparedness	Response	Post Disasters
33	District Red-cross Society, Muzaffarpur	<ul style="list-style-type: none"> •To organize review meeting for implementation of disaster focused schemes and initiatives. •Developing plan for disaster response, relief measures including strategies. •Raising funds to meet expenses of relief and disaster response. •Formation of disaster response team. •To procure equipments, resources and relief materials. •To organize training and awareness programmes for volunteers, PRIs and officials on first aid, disaster mitigation and community based disaster management planning. 	<ul style="list-style-type: none"> •Dissemination of alerts early warnings and forecast for •Support in responding disasters and distribution of relief materials in disaster affected areas. •Mobilize youth volunteers in supporting relief activities. •Raise awareness on water, sanitation and hygiene 	<ul style="list-style-type: none"> •Review of response and relief activities. •Updation of plan. •Fund raising for relief and restoration activities. •
34	Youth Volunteering Organization	<ul style="list-style-type: none"> •Development of disaster management plan of youth organizations. •To organize training and mock-drill programme. •Formation of different disaster response team or search and rescue (need based). •Observe important days to raise awareness on different aspects of disaster risk reduction and environment conservation. 	<ul style="list-style-type: none"> •Dissemination of disaster alerts at community level. •Support in disaster response and relief activities. •Support specialized response forces (NDRF, SDRF, Fire Brigade, Police etc) in terms of providing local information. • Coordination with local authorities. 	<ul style="list-style-type: none"> •Support in post disaster relief need assessment. •Review and update the plan. •Organize training and capacity building programme. •Awareness activities.

SN.No	Department	Preparedness	Response	Post Disasters
35	Media	<ul style="list-style-type: none"> •To help in raising sensitization and awareness on measures of disaster risk reduction. •Publishing and advertisements of safety and preventive measures. •Dissemination and educating local citizen on weather forecast, early warnings, alerts, hazard warning, cautionary messages. •Publication of articles, analytical news, editorials, do's and don't covering cross cutting issues of disasters, disaster management planning, DRR models •To organize workshops and review meeting to promote diagnostic discussions on strengthening DRR systems in local context. •Advocacy of disaster related issues through strengthening inter agency cooperation with concerned departments and stakeholders. •Designate and train journalists on disaster journalism 	<ul style="list-style-type: none"> •Dissemination of warnings and alert with cautionary messages and advising alternative evacuation routes. •Establish coordination with SEOC, DEOC, DDMA, Police and Nodal officers for authenticated information. •Monitoring of disaster response and relief operation through deputing correspondents and reporters. •Raising awareness on taking shelters at safe places. •Providing accurate and reliable information on the situation of disaster and its response. •Preventing rumors and false information about disaster and its impacts. •Support district administration, local administration and response agencies in responding disasters. •Scaling awareness on norms of relief assistance of disaster management department though injured persons and next kin of died persons may avail the benefits. 	<ul style="list-style-type: none"> •Support in post disaster need assessment •Support in collaborative problem solving and decision making for restoration of damages caused by disasters. •Raise cross cutting issues related to disaster risk reduction with district administration. •Organize institutional building, capacity building training and workshops for media persons and concerned .

SN. No	Department	Preparedness	Response	Post Disasters
36	District General Section, District Industries Centre and BIADA	<ul style="list-style-type: none"> •Line listing of registered industries and commercial buildings with categorization i.e. hazardous and non hazardous. •Verification of industrial units as per norms and standards mentioned in Industries (Development and Regulation) Act, 1951, Factories Act, 1948, Air (Prevention & Control Of Pollution Act 1981, Indian Electricity Act 2003, Building & Other Construction Workers' Act 1996, Employees Compensation Act 1923, Bihar Industrial Investment Promotion Rules, 2016 etc •Providing directions to owners and governing body of industries for conducting training, simulation exercises and mock-drill programme in order to personnel and industrial safety. •Also providing directions to industries on procurement of safety equipment, material and resources. •Support in fire safety audit and industrial security audits. •Awareness generation on industrial safety and protection of employees. 	<ul style="list-style-type: none"> •Immediate report and communicate with senior officials and district administration stating the situation and damages for external help and specialized response. •Inform fire brigade, ambulance, police, district control room and DEOC for emergency management. •To support specialized response agencies with equipments, resources and human resources. •Rapid damage assessment and documentation of damages. •Coordinate with local administration (Circle officer and labor resources department) for ex-gratia relief assistance (in case of applicable disasters only) and compensation under labour department. 	<ul style="list-style-type: none"> •Post Disaster Needs Assessment. •Coordinate with concerned department for relief assistance and compensation. •Cooperate in district hearings, if cases gets registered in districts. •Fire safety audit and industrial safety audit .

SN. No	Department	Preparedness	Response	Post Disasters
37	Non Governmental Organization and Community/ Faith Based Organizations	<ul style="list-style-type: none"> •Organizing awareness, training programmes and mock-drill event in intervened areas. •Promote community based disaster risk reduction planning and formation of disaster response teams. •Support in developing disaster risk reduction models through intervention of various initiatives and projects. •Promote research and innovation in the field of disaster risk reduction. •Training and capacity building of youth volunteer and project staff on measures of disaster management. •Support DDMA in strengthening the disaster management systems. •Promote and mainstream disaster risk reduction measures in local development process including flagship schemes. •Develop list of equipments and resources including volunteers. 	<ul style="list-style-type: none"> •Developing mechanism for disseminating early warning and alerts. •Support district administration and local authorities in responding disasters . •Humanitarian support and distribution of relief assistance in disaster affected areas. •Inter agency coordination with funding organization, CSR, departments , response teams and other donor agencies. •Depute project staff and volunteers in responding disaster. •Raise awareness on WASH related issues •Support in resolving conflicts and dispute, if any. 	<ul style="list-style-type: none"> •Advocacy and support in distribution of relief assistance. •Organize learning and sharing workshops and meetings. •Initiate projects and innovative ideas •Promote community based solutions. •Strengthen relationship with local department and institutions for research and innovation
38	Bihar Renewable Energy Development Agency (BREDA)	<ul style="list-style-type: none"> •Install solar equipments as a measure of renewable energy and power option in terms of emergencies. •Raising awareness on solar products 	<ul style="list-style-type: none"> •Promote awareness on using solar products for receiving alerts and warnings. 	<ul style="list-style-type: none"> •Damage assessment, if any. •Promote solar products.

6.1 Training Plan

Disaster Management Act, 2005 provides directions for training in its chapter IV Section-(XII)- *“Organize and coordinate specialised training programme for different level of Officers, employees and voluntary rescue workers in district. ”*

In this respective, Training are integral part of building capacities and strengthening the disaster governance systems. District Disaster Management Authority (DDMA), Muzaffarpur has identified the focus areas for conducting training programmes as a measure of promoting mitigation strategy. DDMA conducts training programmes in joint collaboration with concerned departments, NGOs and government training/research institutions. DDMA has identified focused areas for conducting, which is as following

Sr. No.	Department	Focused areas for training/topic	Target Participants
1	DDMA	Prevention of Cold wave, relief measures and SOP (January)	All ESFs
2	DDMA	Earthquake Safety-preparedness, prevention and mitigation under Earthquake Safety Week. (January)	All ESFs
3	DDMA	Orientation training on road safety under Road Safety Week (February)	All ESFs
4	DDMA	Prevention of Heat wave, relief measures and SOP (March)	All ESFs
5	DDMA	Fire Prevention (Fire Risk Reduction Plan), relief measures (March)	All ESFs
6	DDMA	Fire Safety Week (April)	All ESFs
7	DDMA	Orientation on Flood Preparedness , Flood management plan and Flood response Plan (April)	All ESFs
8	DDMA	Block level training of deep divers, boatmen, stakeholders, officials and youth volunteers on Flood Preparedness, Lightning preparedness and Flood SOP (May)	All ESFs in joint collaboration with NDRF and SDRF.

9	DDMA	Orientation Training on cyclone and lightning prevention (June)	All ESFs
10	DDMA	Training and Review Meeting Urban Flood Risk Reduction (July)	All ESFs
11	DDMA	Training workshop on drowning prevention (July)	All ESFs
12	DDMA	Orientation Training on prevention of boat accidents (July)	All ESFs
13	DDMA	Orientation Training on Drought Prevention and Management (August)	All ESFs
14	DDMA	Prevention and management of epidemics (August)	All ESFs
15	DDMA	Prevention and Management of snake bite (August)	All ESFs
16	DDMA	Orientation training on Stampede prevention in festivals (October)	All ESFs
17	DDMA	Training cum Review Meeting on management of Chhath Puja	All ESFs
18	DDMA and General Section	Workshop on impact of climate change and mitigation of its impacts (Need Based)	All ESFs
19	DDMA and General Section	Workshop on Air pollution, its impact in Muzaffarpur city and Mitigation Measures. (Need Based)	All ESFs
20	DDMA and Municipal Corporation	Training and Orientation Programme on Urban Disaster Risk Reduction or Urban Disaster Resiliency (Need Based)	All ESFs
21	JEEVIKA	Training of SHGs and Officials on Multi Hazards prevention and management (Need Based) Training on Fire Safety (Need Based)	Concerned Departments and Stakeholders
22	ICDS	Training of AWWs and Officials on Multi Hazards prevention and management (Need Based)	Concerned Departments and Stakeholders

23	Health	Role of Health Department in Prevention and management of multi-hazards (various disasters) (Need Based)	Concerned Departments and Stakeholders
24	Health	Epidemic prevention and management-key concerns (Need Based)	Concerned Departments and Stakeholders
25	Health	Training of ASHAs, ANMs and Officials on Multi Hazards prevention and management (Need Based)	Concerned Departments and Stakeholders
26	Panchayati Raj, DRDA & DPRC	3 Days Training of Elected Representatives and Officials on Multi Hazards prevention , its management and Integrating DRR in GPDP (Need Based)	Concerned Departments and Stakeholders
27	Panchayati Raj, DRDA & DPRC	Orientation Programme on Total sanitation and Personal Hygiene for concerned stakeholders (Need Based)	Concerned Departments and Stakeholders
28	Water Resources, Flood Control Division	Preventing Floods with Protection and Management of Embankments (Need Based)	Concerned Departments and Stakeholders
29	Electrical Department	Training Programme on Electrical Conservation, Electrical Safety and Responding to various disasters (Need Based)	Concerned Departments and Stakeholders
30	Education Department	Review Training on Implementation of Safe Saturday Programme (Need Based)	Concerned Departments and Stakeholders

31	Public Health Engineering Department	1. Water Conservation, management and disinfection of hand pumps (Need based) 2. Training of masons and others officials on raised platforms of handpumps and toilets for flood protection. (Need based)	Concerned Departments and Stakeholders
32	Fire Department	Capacity Building of Fire fighters/drivers and maintenance of Fire Tenders (Need based)	Officials, Fire Fighters and Drivers
33	Agriculture Department	3 days training programme on Climate resilient farming and flood resilient farming practices. (1 training in each month)	Concerned Departments and Stakeholders
34	Horticulture Department	2 days orientation training on rooftop vegetable farming, hydroponics techniques of farming as a measures of preventing air pollution and promoting organic farming. (1 training in each month)	Concerned Departments and Stakeholders
35	Fisheries Resources	Training on pisciculture, integrated farming and river fish farming (Need based)	Concerned Departments and Stakeholders
36	Building Construction Division	5 days training on construction of earthquake resistant building (need based)	Concerned Departments and Stakeholders
37	Fire Department and Municipal Corporation	Implementation of National Building Code and Prevention of Fire Incidents in Urban Areas (Need based)	Concerned Departments and Stakeholders
38	Education Department	Training on Basic Medical Response /Basic Search and Rescue and School Safety (Need based)	Officials, teachers and stakeholders
39	Animal Husbandry	Training on Animal Husbandry and Maintenance of Animal Sheds (Need based)	Concerned Departments and Stakeholders
40	DDMA, Response Agencies and ESFs	Joint Mega Mock Drill Programme on any local disaster	All ESFs

6.2 Chief Minister School Safety Programme

“Chief Minister School Safety Programme” is flagship programme being implemented in schools of Bihar. This programme is popularly known as “Safe Saturday Programme” (*सुरक्षित शनिवार कार्यक्रम*). This programme is being implemented by is being implemented along with Bihar Education Project Council (BEPC) and Department of Education (DoE), Govt. of Bihar with technical support from Bihar State Disaster Management Authority, Patna, Bihar and Disaster Management Department, Govt. of Bihar. At district level, this programme is monitored by District Disaster Management Authority.

The vision of the programme

- To promote a culture of **“prevention”** in school keeping children in the center of disaster preparedness and make schools safer places for the children.
- All children, teachers and others in the **school community** are safe from any kind of disasters that may threaten their **well-being during the pursuit of education”**.
- the program also aims to create **safe environments** for children starting from their homes to their schools and back.

Features of the programmes

- Strengthening **child focused risk governance** and **child friendly school systems**.
- Identifying, strengthening and capacity building of Nodal Teachers.
- Conducting school level training programme and sessions.
- Raising common awareness for better understanding of disasters, preparedness, mitigation measures.
- Developing understanding about socio-psycho impacts and concerns of disasters on students.
- Adopting and promoting measures of school safety mentioned in Disaster Management Act, 2005, Right to free and compulsory Education Act (2009), National Policy on Children (2013), Sendai Framework for Disaster Risk Reduction (2015), Bihar Disaster Risk Reduction Roadmap, 2015-2030 (2016), National School Safety Policy (2016), National Building Code, 2005 and Bihar Building Bye Laws, 2014.
- Modifications in the functional and pedagogical aspects of the education system. Each of the components has a vital role to play, to reduce the risk of children and teachers from natural disasters as well as sowing the seeds of the ‘culture of safety’

Objectives of the programmes

1. Build capacity, knowledge and awareness of school community (children, teachers and their parents) to identify and address risks/ hazards.
2. Integrate disaster management in education so as to create a culture of disaster management.
3. Making school premises a safe place from all hazards through Structural and Non-structural measures.
4. To develop Bihar a resilient state through children as change agent.

Hon'ble Supreme Court on School Safety

Hon'ble Supreme Court verdict on a petition (483/2004) by Avinash Mehrotra vs Union of India, the Supreme Courts' judgement addressed the following points to the Central and State government:

1. Children must get safe environment for education across the country.
2. District Education Officer of each district be declared a "Nodal Officer" with responsibility, liability and obligation as well as powers and functions to ensure strict compliance with the NDMA Guidelines (School Safety Policy).
3. It is assured to strictly follow all the rules of National School Safety Policy Guidelines.
4. A manual should be developed for safety measure of children and must be followed.
5. A management program must be developed for different natural and man-made disasters in which teachers, students and community should be a part of it.
6. National building construction manual must be followed to build new schools.

Coverage:

Chief Minister School Safety Programme covers all the schools in the state:

1. Government Schools
2. Government aided schools
3. Residential schools i.e. KGBV
4. Madrassa and Sanskrit schools
5. Private schools
6. Schools in rural and urban areas

Guiding Principles:

1. **Child centered approach- programme** has been planned keeping child in the centre.
2. **All hazard approach: include natural** hazards such as floods and earthquakes as well as manmade hazards.
3. **Infrastructure resilience: structural and** non- structural.
4. **School Safety is not a onetime effort but** a continuous process.

Key Programme Components of Chief Minister School Safety Programme (MSSP):

- It is important to make the children aware how to save themselves during disasters
- which is a part of school safety programme.
- They should also be given proper knowledge about the hazards and its safety measures.
- They should also be aware of certain natural and man- made disasters. In simpler words, they should know how to protect themselves starting from their homes to their schools and back.

Status of Chief Minister School Safety Programme (MSSP) in Muzaffarpur District:

- More than 3000 nodal teachers have been trained.
- On each Saturday, sessions related to disaster risk reduction is being conducted.
- Activity based training and mock-drill programmes are being done in intervened schools.
- Information, Education and Communication activities on disaster risk reduction are being organized on each Saturday.
- Competitions and extempore events are organized in schools on disaster risk reduction

Monitoring of Chief Minister School Safety Programme

For the monitoring of the Chief Minister School Safety Programme at district level, District level Monitoring Committee has been constituted, in the committee following members are designated-

1	District Magistrate/Additional District Magistrate (Disaster Management)	Chairman
2	Senior Deputy Collector (Disaster Management)	Member
3	Civil Surgeon/Additonal Chief Medical Officer	Member
4	District Welfare Officer	Member
5	District Education Officer	Member Secretary
6	District Programme Officer, Primary and SSA	Member
7	District Programme Officer, Madhyamik	Member
8	Additional Director, Child Security Cell	Member
9	District Commandant/District Fire Officer	Member
10	Executive Engineer, Bihar Education Project	Member
11	District Coordinator, BIAG/Unicef	Member
12	Other officials may be nominated with the prior approval of District Magistrate	Member

This committee will quarterly review the implementation of the Chief Minister School Safety Programme “Safe Saturday” and develop strategies for effective implementation of the scheme.

6.3 Community Youth /Aapda Mitra Programme

Community is the first responder in case of any disaster. To train and raise community volunteers in disaster response, NDMA launched a country-wide project titled 'Aapda Mitra'. Under this programme, 12 days training on disaster risk reduction conducted for community youth volunteers at SDRF, NDRF, Civil Defense, State Institute of Fire Services and State Institute of Home Guards. At state level this programme is implemented by Bihar State Disaster Management Authority, Patna and Disaster Management Department, Govt. of Bihar in joint collaboration with District Disaster Management Authorities.

Under this programme, 130 Community youth volunteers have been trained, the list of trained volunteers is attached in annexure section.

6.4 Earthquake Resistant Building Construction Training Programme for Mason

Muzaffarpur district is situated in earthquake zone-4, which is highly sensitive earthquake zone. As earthquake cause serious damage to houses, public infrastructure, life, non structural properties, environment etc. it causes serious disruptions in long term. For mitigation of earthquake, Bihar State Disaster Management Authority (BSDMA) has initiated Earthquake Resistant Building Construction Training Programme for Mason. Under this programme, 5 days skill enhancement training on earthquake resistant building construction was conducted for masons. Under this programme, 420 masons of Muzaffarpur district are trained.

The list of trained mason could be accessed on district website and in annexes of this document.

6.5 Chief Minister Safe Swim Programme

As Muzaffarpur district is highly district for boat accidents and drowning deaths. for preventions of drowning incidents, Bihar State Disaster Management Authority (BSDMA), Disaster Management Department, Govt. of Bihar and National Inland Navigation Institute (NINI) has initiated Chief Minister Safe Swim Programme to train youth swimmers on specialized methods of swimming skills, diving proficiencies, safe boating, water rescue, first aid, search and rescue etc. This programme is popularly known as Surakshit Tairaki Karyakarm.

Features of the Programme

- Under this flagship programme, students (adolescents) residing near 5 km of rivers will be trained on life saving skill and promoting culture of safe swimming.
- This programme will be implemented by District Disaster Management Authority, Muzaffarpur. Need based funding will be done by BSDMA.
- Young swimmers (Age group-20-35 years) will be trained by NINI in joint collaboration of SDRF. It will be 9 days training. Before training, line listed participants will undergo swimming skill test.
- Expenses of 9 days training will be borne by BSDMA. Participants will get daily subsistence amount and safety kit along with fooding and lodging facilities.

Eligibility Criteria of Youth Swimmers

For male participants

- 100 meter non stop swimming skill under 5 meters surface of water.
- Education qualification should be minimum 8th class
- Physically fit.
- Age group 20-35 age

For Female Participants

- 50 meter non stop swimming skill under 5 meters surface of water.
- Education qualification should be minimum 5th class
- Physically fit.
- Age group

In Muzaffarpur district, eligible youth swimmers are being line listed by Circle Officers. For more information, eligible youth swimmers can contact District Emergency Operation Centre, Muzaffarpur for participating in the programme.

6.6 Mock-drill Programme

In Disaster Management Act, 2005, provisions have been made in Section-XXVIII

“Ensure Communication system in order, and disaster management drills are carried out periodically.”

District Disaster Management Authority, Muzaffarpur organizes mock drill programmes for strengthening of response efficiency, these programmes are organized in joint collaboration with emergency support functionaries e.g. police, SDRF, NDRF, fire brigade, ambulance services, home guards, BMP, BPCL Depot, BPCL Bottling plant, IOCL, NTPC etc. Need based mock drill programmes are also organized in industrial units in Bela, industrial units in Motipur, shopping malls, commercial buildings, schools, government buildings. For prevention of drowning incidents, SDRF and NRDF teams conducted water rescue mock drill for strengthening of deep divers, boatmen, youth volunteers and officials. As mock drill programmes are integral part of the community based disaster risk reduction, as it is a preparedness drill to keep the community alert. Mock drills are organized in panchayats of the district to activate panchayat level representatives and integrating it in Gram Panchayat Development Plan (GPDP).

Level	Nodal Officer	Stakeholders
District	District Magistrate	All ESFs and Response agencies including youth organizations, CBOs, NGOs and local representatives
Sub Division Level	Sub Divisional Magistrate	
Block Level	Circle Officer	
Panchayat Level	Mukhiya	

6.7 Action Plan for other need based training programme

disasters, the focus will essentially be on community capacity building. Special focused will be given to local contractors and masons, who are the prime responsible for construction work. Training programmes will target the informal construction sector by building their capacities on safe construction practices and retrofitting of existing structures. An institutional arrangement is required to ensure that in the long term, contractors and mason ensure safe construction

practices. Primary agencies for community level training and public awareness are:

- Environment, scientific & technology department
- Technical Education Department
- NGO
- Private sectors

The NGOs, private sector organisations and other government training institutions will, in turn, organise training and simulation exercises at the district and community level, in order to ensure preparedness from the grass-roots.

6.8 Training Facilities

In Muzaffarpur district, various training and capacity building programme are organized in different training centres, list of few training centres are as following-

Sr. No.	Name of Training Centre	Facilities and Capacity	Residential training facilities (Yes/NO)
1	Rural Self Employment Training Institutes (RSETIs), Sikandarpur, Muzaffarpur	Training hall for 50 Participants	Yes
2	District Institute for Education and Training (DIET), Rambag Muzaffarpur	Training hall and class rooms for 100 participants	Yes
3	Patahi Teacher Training School, Patahi, Muzaffarpur	Training hall for 60 participants	NO
4	National Research Centre on Litchi, Mushahri, Muzaffarpur	Training hall for 40 participants	Yes
5	ATMA Training Centre, Mushahri	Training hall for 50 participants	NO

In the district, there is no dedicated training centre for conducting training programme on disaster management. A Disaster Management Training Centre cum SDRF Residence is proposed near Sangamghat, Block-Kanti, Muzaffarpur. This project is approved and in upcoming years, there will be dedicated facility for conducting disaster management trainings and mock drill programmes. Currently specialized disaster management trainings are conducted at BSDMA, DMD, BIPARD and CoE in Disaster Management in Patna. Few training programmes are conducted through Unicef-BSDMA Training Academy on Disaster Risk Reduction in online mode. As part of DDMA, few sectoral and need based training programmes are conducted for basic orientation and awareness on disaster risk reduction and mainstreaming it into various flagship schemes.

Meeting/Conference Hall

Sr. No.	Name of Meeting Hall	Address	Capacity	Controlling and Coordinating Officer
1.	Collectrote Meeting Hall	Collectrote, Muzaffarpur	60 Participants in 1 st Floor 60 Participants in 2 nd Floor	Senior Deputy Collector, District Najarat, Muzaffarpur.
2.	Zila Parishad Meeting Hall	Zila Parishad in-front of Railway Station	100 Participants	Deputy Development Commissioner, Muzaffarpur
3.	DRDA Meeting Hall	DRDA Office, Muzaffarpur	50 Participants	Director, DRDA, Muzaffarpur
4.	Circuit House Hall	Circuit House, Near Power House Chowk	30 participants	Senior Deputy Collector, District Najarat, Muzaffarpur.
5.	Women Helpline Meeting Hall	Near NIC Building	25 Participants	Additional Director, District Child Protection Cell, Muzaffarpur
6.	Nagar Nigam Meeting Hall	Nagar Nigam Campus	25 Participants	Municipal Commissioner, Nagar Nigam, Muzaffarpur
7.	Town Hall	Near Tresury Office, Muzaffarpur	75 Participants	Municipal Commissioner, Nagar Nigam, Muzaffarpur
8.	Town Hall	Near Zubba Sahni Park, Mithanpura	200 Participants	Municipal Commissioner, Nagar Nigam, Muzaffarpur
9.	District Registration cum Counseling Center (DRCC)	Near Nehru Stadium, Sikandarpur	250 Participants	District Planning Officer, Muzaffarpur
10.	Conference/Meeting Hall in Each Block	Each Block HQ	50-60 Participants	Block Development Officer/Circle Officer

6. 9 Awareness Generation

In Disaster Management Act, 2005, provisions have been made for awareness generation on disaster management in Section (XIII) of Chapter IV-

“Facilitate community training and awareness programmes for prevention of disaster or mitigation with the support of local authorities, governmental and non governmental organizations.”

As part of the raising awareness on the measures of disaster risk reduction and effectively dealing with disasters, District Disaster Management Authority, Muzaffarpur conduct awareness based IEC activities in joint collaboration with line department and concerned stakeholders i.e. youth organizations, NGOs, art based institutions, sport associations, private school associations, transporters associations, auto rickshaw association etc. DDMA promotes following activities to raise awareness on disaster risk reduction and climate change adaptation-

- *Organizing preparedness , review and sensitization meetings and events for institutional strengthening and improving inter departmental coordination.*
- *Display of hoardings, banners and wall writing at public, hotspots and sensitive locations.*
- *Organizing trainings and joint mock-drill programme to raise awareness through NDRF, SDRF, Police, Traffic Police, Home Guards, Fire Brigade, Ambulance team, institutions, Community Youth volunteer, NYKS, NCC, Scout & Guide, NGOs, CBOs etc.*
- *School level events and competitions i.e. training programme, mock-drill event, observing important days, speech competitions, painting competitions, wall writing competitions, poster making competitions, street role plays, cultural competitions etc.*
- *Promotion of Mithila painting and art in joint collaboration with art based institutes.*
- *Organizing cultural programmes, street role plays at public places and community locations in joint collaboration with District Public Relations Office, Muzaffarpur through registered cultural teams*
- *Observing important days and weeks to scale up awareness on disaster risk reduction.*
- *Promotion of special drives on cross cuttings issues on disaster risk reduction.*

Aspects covered in Awareness Generation Programmes

In order to scaling up awareness on disaster mitigation measures, following aspects are covered

- a) Types of natural and human induced disasters and its impacts, frequency, response time, early warning, resource mobilization, role of volunteers and communities.
- b) The vulnerabilities of the area in local context of disasters. Alternate options and measures for reducing vulnerabilities.
- c) The types of risks and elements at risk due to the disasters
- d) Based on vulnerability and risk assessment, a local preparedness plan should be prepared in consultation with the people and local administration.
- e) Dissemination of helpline numbers, email id, portals, apps and website
- f) Strengthening of inter agency coordination

7.1 Early Warning System and Alert System

Early warning contribute significant role in alerting communities about hazards, mitigation of disaster impacts, minimizing exposure to disasters, strengthened disaster response, timely activation of response agencies, shifting vulnerable groups in safe shelters, evacuating stranded people, relief measures.

In dissemination of early warning and alerts, State Emergency Operation Centre, District Emergency Operation Centre (DEOC) and District Public Relation Office play major role. Following agencies are responsible for providing hazard wise early warning and alerts -

Hazard	Department and Agencies
Flood/Rainfall	<ul style="list-style-type: none"> •Indian Meteorological Department (IMD) •Central Water Commission (CWC) •Flood Management and Information System (FMIS)
Drought	<ul style="list-style-type: none"> •Indian Meteorological Department (IMD) •Agriculture Department •Public Health Engineering Department (PHED)
Industrial accident	•Police, DIC/BIADA and Fire
Fire	•Fire Brigade and police
Road Accident	•Ambulance and Police
Human Epidemics and Health Emergencies	•World Health Organization and Health Department
Animal Epidemic	•Animal Husbandry Department
Wildlife Human conflict	•Forest Department
Cyclone	•Indian Meteorological Department (IMD)
Air Pollution	•Bihar Pollution Control Board
Stampede	•Police and Fire
Earthquake	•National Center for Seismology (NCS)
Road Accidents	•NHAI, Police, Fire and Ambulance Services
Rail Accident	•Indian Railways
Air Accident	•Directorate General of Civil Aviation (India) and The Aircraft Accident Investigation Bureau (AAIB)

7.2 Evacuation Plan for Emergency Management

Developing evacuation plan for emergency management is integral part of dealing with emergency situations occurred due to disaster events. Following measures would be taken for safe evacuation in scenario of different disasters.

Type of Hazards	Actions to be taken for safe evacuation
Flood, Heavy Rainfall and Water Logging	<ul style="list-style-type: none"> •Flood hazard mapping and identification of highly vulnerable areas(block, panchayat & ward). •Line listing of main roads, alternate route. •Line listing boats (Government and Private) with contact details of owner, boatmen, deep divers. •Line listing of safe shelters with physical verification of basic amenities. • Update list of drivers, vehicles, carpenter,
Earthquake	<ul style="list-style-type: none"> •Identification of safe and critical infrastructure •Line listing of safer roads and routes. •Mapping of slums and weak settlements.
Fire	<ul style="list-style-type: none"> •Mapping of high risk areas, slums and industrial areas. •Line listing of fire hydrants and water bodies. •Route mapping with transport management system. •Development of fire risk reduction and fire response plan. •Deputation of fire teams in vulnerable blocks or police stations. •Maintenance of fire tenders and fire equipment.
Cyclone	<ul style="list-style-type: none"> •Early warning and alerts. •Information dissemination and appeal for accommodating in safe shelters . Preparedness of family kit. •Line listing of main and alternate routes. • Response plan with resource mobilization
Industrial Accidents and Gas Leakage	<ul style="list-style-type: none"> •Safe route planning with contingency management plan. •Awareness generation on preventive measures in case of gas leakage
Bomb Explosions and Criminal acts	<ul style="list-style-type: none"> •Provision of safe evacuation and security plan for public places. •Training on personal safety and security. •Taking shelters at safe places. •Information to police and local administration for emergency help.
Stampede	<ul style="list-style-type: none"> •Provision of safe evacuation plan for critical infrastructure, public places, religious places and archeological sites. •Deputation of police and home guard personnel.

7.3 District Emergency Operation Centre

District Emergency Operation Centre (DEOC) has significant role in emergency management and responding to disasters. It coordinates with concerned officials, emergency support functionaries departments and response agencies for prompt response and management of disasters and emergencies. Detailed discussions on the role of DEOC has been discussed in previous chapters.

7.4 District Control Room

District Control Room is responsible for handling emergency situations during emergencies, disasters, communal disharmony, law and order etc. This control is 24x7 functional and the contact number of District Control room is 0621-2212376/77. The major role of the District Control Room is to inform and coordinate with response agencies and key officials.

7.5 Helpline

Police	100
Fire	101
Emergency	112
Ambulance	102/108
Child line	1098
SEOC	0612-2294204/05
Women helpline	181
SSP Office	0621-2217797
Control Room	0621-2212377
District Election Help Line	1950

Electricity Helpline	1912
ROAD CONSTRUCTION DEPARTMENT	18003456161
Health Department	1911
VIGILANCE	1800110180
KRISHI (FARMER CALL CENTRE)	1551 and 18001801551
RIGHT TO INFORMATION	155311 and 18003456777
Covid Helpline	18003456629
Control Room (Covid)	0621-2266050, 51

7.6 Law & order in Emergencies and Disasters

In disasters and emergencies, maintaining law and order is highly challenging . It is majorly managed by police and concerned sub division officers with support of local representatives, influential personalities, youth volunteers and local community. It provides favorable conditions for response agencies to operationalize the search and rescue activities more efficiently. Following measures should be taken at incident point for maintaining law and order-

- Deputation of police personnel and magistrate in as per need.

The team should have safety and security equipments and resources in adequate quantity. The personnel should help to affected people in shifting to safer places or shelters.

- Deputed personnel's should ensure that response agencies could be able to carry out search and rescue work without any encumbrance or hindrance at incident point.

- Police and security personnel's should safeguard the property of the victims.

- Police also maintains law and order in such a panic struck situation and safeguards the people (especially women and old) from theft, teasing or molestation in the disaster struck and the relief camp area.

- Personnel should also co-ordinate the search and rescue operation through youth organizations like NCC/Scout/Guide/NSS including disaster task force.

- It will also arrange for security at the relief camps/relief material storages.

- It is also responsible to maintain law and order at the time of distribution of relief material. It assists the authorities for evacuation of people to the safe places and makes due arrangements for post mortem of dead bodies, and hastens legal procedure for speedy disposal. It specially protects the children, women, old and the physically challenged at the shelter places.

7.7 Media Management

The media is responsible for collecting reliable information on the status of disaster and disaster victims and broadcasting it for effective coordination of relief work at every level. District Public Relation Officer will be nodal officer for media management. Following measures needs-

- A strategy needs to be formulated for managing mass media such as newspapers and television for disseminating reliable information.

- Dissemination of information at the wake of disasters. Clear guidelines would help the administration in avoiding communication of wrong information and creating panic.

- District Public Relations Officer will coordinate with the local media to publicize the right information with maintaining coordination with Emergency Support Functionaries departments and stakeholders.

- District Public Relations Officer will also assist District Magistrate or nominated incident commander.

7.8 District level Task Forces (District Crisis Management Group), Roles and Responsibilities

District Level Task Force or Crisis Management Group has been constituted in the chairmanship of District Magistrate, Muzaffarpur. In the task force/group, key officials from all emergency support functionaries department have been designated, the task force or group is as following

1	District Magistrate, Muzaffarpur	Chairman
2	Deputy Development Commissioner, Muzaffarpur	Member
3	Municipal Commissioner, Muzaffarpur Nagar Nigam, Muzaffarpur	Member
4	Additional District Magistrate, Revenue, Muzaffarpur	Member
5	Additional District Magistrate, Disaster Management, Muzaffarpur	Member
6	Civil Surgeon, Muzaffarpur	Member
7	Executive Engineer, Public Health Engineering Department, Muzaffarpur	Member
8	District Supply Officer, Muzaffarpur	Member
9	District Panchayati Raj Officer, Muzaffarpur	Member
10	Executive Engineer, All Flood Control Divisions, Muzaffarpur	Member
11	Executive Engineer, Rural Work Departement, East-1, East-2 and West, Muzaffarpur	Member
12	Executive Engineer, Road Construction Division, 1 and 2, Muzaffarpur	Member
13	District Education Officer, Muzaffarpur	Member
14	District Agriculture Officer, Muzaffarpur	Member
15	District Cooperative Officer, Muzaffarpur	Member
16	District Animal Husbandry Officer, Muzaffarpur	Member
17	Assistant Director, Child Security Cell, Muzaffarpur	Member
18	District Programme Officer (ICDS), Muzaffarpur	Member

In district level Task force or crisis management group, there is provision of designating relevant officers as per need or disaster situation. The major role of District Task Force (DTF) is to review the emergency preparedness, search and rescue operation, relief activities, mobilization of resources and equipment, human resource management etc. DTF also provide emergency approval of funds required for search and rescue operation . It also approve procurement of equipment and resources . As per need, DTF also make request for deputation of specialized response forces, i.e. NAVY, Indian Army etc

8.1 Relief Measures

“The disaster affected have the first right on the state's treasury.”, Shri Nitish Kumar, Honorable Chief Minister of Bihar and Chairman, Bihar State Disaster Management Authority.

During occurrences of disasters and emergencies, relief should be provided to victims immediately or simultaneously with carrying out search and rescue operations as per norms of assistance (**Sr.N.-32-7/2014/ NDM-1 Dated- 08.04.2015**) for listed disasters (Government of India and Govt. of Bihar) and standard operating procedures of National Disaster Management Authority, Bihar State Disaster Management Authority, Disaster Management Department (Circular No-1973 आ० प्र०, Dated-26.05.2015. Circulars for carrying out relief activities may be accessed on websites of NDMA, BSDMA, DMD and NIC website of Muzaffarpur district.

District Disaster Management Section, Muzaffarpur would be nodal office for handling all the relief measures, while District Emergency Operation Centre, Muzaffarpur will co-ordinate the relief operation. District Disaster Management Authority, Muzaffarpur and District Crisis Management Group, Muzaffarpur will be responsible for constant monitoring of the relief operation and taking preventive measures to ensure that there is no multiplication of hazards.

8.2 Post Disaster Needs Assessment for reconstruction and rehabilitation

Post Disaster Needs Assessment for reconstruction and rehabilitation should pay attention to the following activities for speedy recovery in disaster hit areas. The contribution of both governments as well as affected people is significant to deal with all the issues properly.

1. Damage assessment
2. Disposal of debris
3. Disbursement of assistance for houses
4. Formulation of assistance packages
5. Monitoring and review
6. Cases of non-starters, rejected cases, non-occupancy of houses
7. Relocation
8. Town planning and development plans
9. Reconstruction as Housing Replacement Policy
10. Awareness and capacity building
11. Housing insurance
12. Grievance redressal

Sr. No.	Affected Sectors/Damages	Nodal Department and Officials responsible for Post Disaster Needs Assessment (PDNA)
1	Human death and injured	Circle Officer (Revenue Employee), Health Department, Police and Labour Department
2	Houses and public buildings	Circle Officer (Revenue Employee), Block Development Officer
3	Animal/Injured animal	Block Veterinary Officer and Circle Officer
4	Embankment, sluice gate and other related infrastructure	Executive Engineer, Flood Control Division-Burhi Gandak, Gandak & Bagmati and Executive Engineer, Drainage Division, Muzaffarpur
5	Road, bridges and culverts	Executive Engineer, Road Construction/NH & Rural Works Division, Muzaffarpur
6	Agriculture	District Agriculture Officer, Muzaffarpur
7	Horticulture	District Horticulture Officer, Muzaffarpur
8	Sub-Health Centre, Referral Hospitals, PHCs, CHSs and DH	District Health Society, Muzaffarpur and SKMCH
9	Electricity facilities, sub stations, HT and LT transmission lines	Executive Engineer, Electricity Division-City-1, City-2, East & West.
10	Schools	District Education Officer, Muzaffarpur
11	Aanganwadi Centre	District Programme Officer, ICDS, Muzaffarpur
12	Sanitation and water supplies related infrastructure and facilities	Executive Engineer, Public Health Engineering Department for Rural areas and Municipal Corporation/ Executive Officer for ULBs.
13	Communication	General Manager, BSNL and Service Providers
14	Panchayati Raj Offices and buildings	Block Development Officer, District Panchayati Raj Officer and Director, DRDA, Muzaffarpur
15	Industrial units	General Manager, District Industries Centre and Development Officer, BIADA including Director, Factories
16	Fish Resources , boats, fishing net and Pond including other small water bodies	District Fisheries Resources Officer, Muzaffarpur and Executive Engineer, Minor Irrigation , Muzaffarpur
17	Bore wells and Pumping houses	Executive Engineer, Minor Irrigation , Muzaffarpur
18	Vehicle	District Transport Officer, Muzaffarpur and Police.

8.3 Rehabilitation and Recovery Programmes

Rehabilitation and Recovery Programmes generally restore normalcy to the lives and livelihoods of the affected population, by short and long term measures. Short-term recovery will return the vital life support systems to minimum operating standards while long term rehabilitation will continue till complete redevelopment of the area takes place. Rehabilitation and reconstruction comes under recovery phase immediately after relief and rescue operation of the disaster. This post disaster phase continues until the life of the affected people comes to normal. This phase mainly covers damage assessment, disposal of debris, disbursement of assistance for houses, formulation of assist packages, monitoring and review, cases of non-starters, rejected cases, non-occupancy of houses, relocation, town planning and development plans, awareness and capacity building, housing insurance, grievance redressal and social rehabilitation etc.

8.4 Social Security and Livelihood

In disaster affected areas, **Disasters almost always affect livelihoods and reduce people's ability to support themselves in the future.** In some cases, the disruption to livelihoods can take years to recover from, particularly in areas that experience a greater frequency of recurring disasters. Muzaffarpur district is highly vulnerable to multi hazards and people lose livelihood opportunities due to impacts of disasters. Following programmes are being implemented as measure of livelihood restoration and social security-

Name of Department/Agencies	Major Programmes	Target Groups
District Rural Development Agency, Muzaffarpur and District Panchayati Raj Office, Muzaffarpur	MNREGA, Jal Jiwan Hariyali Yojna, Pradhan Mantri Awas Yojna – Gramin, Ghar tak Pakki Gali-Naliyan Scheme, Har Ghar Nal Ka Jal Scheme and Shauchalay Nirman Ghar ka Samman Scheme., Chief Minister Solar Light Scheme	Rural laborers, youth, women and Community
District Planning Office, Muzaffarpur	Mukhyamantri Saat Nishchay Yojna, Arthik Hal,Yuvaon ka Bal, Kushal Yuva Programme, Bihar Credit Card , Mukhyamantri Nischay Swayam Sahayata Bhatta Yojana, Mega Skill Development Centre and Bihar Skill Development Mission	Students and youth
Health	Janani Baal Suraksha Yojana	Women
District Animal Husbandry officer	Integrated Poultry Development Scheme, Gaupalan Yojna, Door Step Vetinary Services	Animal Farmers

<i>Name of Department/Agencies</i>	<i>Major Programmes</i>	<i>Target Groups</i>
District Agriculture Office, Muzaffarpur	Bihar Diesel Grant Scheme, Krishi Input Subsidy Scheme and Mukhyamantri Harit Krishi Sanyantra Yojana, Har Khet Tak, Climate Resilient and Organic Farming, Seed subsidy scheme	Farmers, FPO and Rural communities
District Social Security Cell, Muzaffarpur	Bihar Mukhyamantri Vridhajan Pension Yojana (MVPY), Operation of Shelter Home,	Senior citizen, person's with disability, widows
District Cooperative Office, Muzaffarpur	Bihar Rajya Fasal Sahayata Yojana	Farmers
District Industries Office, Muzaffarpur	Bihar Udyamai Yojana and Prime Minister Self-employment Scheme,	Youth groups, farmers, SHGs and women
District Forest Office, Muzaffarpur	Krishi Vaniki Yojana Scheme	Farmers, youth,
District Minority Welfare Office, Muzaffarpur	Mukhayamantri Alpasankheyak Rozgar Rin Yojana	Youth and women from
District Transport Office, Muzaffarpur	Mukhyamantri Gram Transport Scheme	SHG, Rural youth and women
Rural Works Department	Prime Minister Rural Road Scheme	Rural Community
JEEVIKA	SHG strengthening, Financial inclusion schemes, rural start up/ self employment related projects	SHGs and Women
Fisheries Resources	Integrated Fisheries farming scheme and riverbed farming scheme.	SHGs, fishermen and women.
Minor Irrigation	Bihar Shatabdi Niji Nalkoop Yojna	Farmers, youth and women.
Revenue	Bihar Mukhyamantri Vaas Sthal Kray Sahayata Yojana	Displaced communities

Disaster Management Act of 2005 in its section 48(1) defined financial resources for Disaster Response for states and districts in terms of State Disaster Response Fund and District Disaster Response fund. The respective funds were set-up and made available to the State Executive Committee and District committees to utilize for mobilizing disaster response. There are provisions within the act, which under special circumstances make it possible for the state to borrow money from the center. The corpus for state level disaster response fund has been set-up by contribution from Centre and State with 75:25 ratio. The provision for respective state and district mitigation fund has also been established.

Apart from these, fund has also allocated under 15th Finance Commission to meet out expenditure of disaster risk reduction. DDMA may also arrange finance through imposing fee. As per notification of Ministry of Corporate Affairs, Government of India, DDMA may raise funds through Corporate Social Responsibility for implementing disaster risk reduction related innovative projects.

Name	Objective	Financial Arrangement	Activities	Nodal Agency
NDRF	Relief assistance	100% Central Government	Relief, Response & Capacity building	MHA & NDMA
SDRF	Relief assistance	75% Centre, 25% State	Relief, Response, Planning, Capacity building & Infrastructure	BSDMA and DMD, Govt. of Bihar
15 th Finance Commission	Mitigation	100% Central Government	Training, Awareness Generation, IEC Material, Mock drills	BSDMA and DMD, Govt. of Bihar
State Fund	Mitigation	100% State	Assistance to line departments, Projects, Restoration, Recovery, and infrastructure	BSDMA and DMD, Govt. of Bihar
Corporate Social Responsibility	Capacity building	2.5% of Net profit	Research, Innovation, Project, Planning, Training and Mock-drill	BSDMA and DDMA
Appeal (PMNRF, PMCares and CMRF)	Relief	Donation by	Relief and Restoration	Central and State Government

10.1 Maintaining, Monitoring and Reviewing the DDMP

Maintaining, monitoring and reviewing The District Disaster Management Plan (DDMP), Muzaffarpur on regular intervals is significant to deal with disasters and emerging new challenges and threats in the field of disaster management. The DDMP will be maintained and reviewed by constituting a sub committee by Chairman of District Disaster Management Authority, Muzaffarpur. In the sub committee, following officials are suggested to be included-

- Additional District Magistrate, Disaster Management, Muzaffarpur
- Incharge Officer, Disaster Management Section, Muzaffarpur.
- Nominated Officer from each Emergency Support Functionaries/Department
- Consultant/DM Professional, District Disaster Management

Authority, Muzaffarpur (If available)

- Programmer, District Emergency Operation Centre, Muzaffarpur
- Any other relevant expert in the field of disaster management.

As per provisions made in Disaster Management Act, 2005, The DDMP will be maintained and reviewed annually. The sub committee will review specific provisions made in DDMP and will consider various elements of disaster impacts, risk, vulnerability, capacity, resources and efficacy of DDMP and therefore the sub committee will suggest new opportunities, appropriate strategies and institutional arrangements for strengthening the disaster governance and emergency management. The sub committee will also make need based provisions and measures to manage and mitigate disasters. The sub committee will try to improve efficiency of the DDMP through including best practices and learnings of previous disasters. The committee will also review goals, objectives, actions and training plan of the DDMP.

10.2 Schedule for updation of DDMP

As defined in the National Disaster Management Plan (2019), DM plan should be revised annually and under specific conditions, including

- *Major review and revisions after each major incident.*
- *After significant changes in operational resources (e.g., policy, personnel, organizational structures, management processes, facilities, and equipment)*
- *Subsequent to any notification or formal update on planning guidance and suggestions from state & district authority.*
- *After every case of plan activation and emergency.*
- *After the completion of major exercises, by integrating lessons and suggestions from experiences.*
- *In case of changes in the district profile, hazard risks, inclusion of emerging threats.*
- *Enactment of new or amended laws or ordinances.*
- *Capacity building initiatives or launching of new projects or programmes.*
- *Changes in hazard profile of the district or restructuring of the district profile.*
- *Mainstreaming of new research or innovation or tools.*

Monitoring and Evaluation also helps us in assessing the effectiveness of technical inputs applied and scope of new research and innovations. DDMP will also be updated on an annual basis considering the circumstances and learnings recognised while evaluating the objectives, actions and tasks under the plan; including mock-drills, trainings and technical expertise.

Major updates will be shared with the following authorities:

- *The Legislatures*
- *Functionaries of EOCs, SDRF, BSIDM, DDMA, and*
- *Other stakeholders (NGOs, CBOs and the community)*

The plan will be aligned with National Disaster Management Plan, 2016, National Disaster Management Policy, 2009, State Disaster Management Plan, Bihar, Bihar Disaster Risk Reduction Roadmap, 2015-30 and Standard Operating Procedures (SOPs)/Circulars issued by National Disaster Management Authority, MHA, Bihar State Disaster Management Authority and Disaster Management Department, Bihar.

The updation of DDMP would be exercised annually, the process of updating DDMP will be commence on 1st January of each year and would be ended by 29th January of each year.

10.3 Uploading of updated plans of DDMA/SDMA Websites

District Disaster Management Plan, Muzaffarpur will be uploaded on <https://muzaffarpur.nic.in/> after prior approval of District Disaster Management Authority, Muzaffarpur and Bihar State Disaster Management Authority, Pant Bhawan, Patna. The plan will be also shared to Disaster Management Department, Bihar and Finance Department, Bihar for further and needful actions. Disaster Management Department, Bihar and Bihar State Disaster Management Authority, Pant Bhawan may also upload the plan on their respective websites for convenience of departments, officials and stakeholders.

Contact Us

District Emergency Operation Centre, Muzaffarpur

Phone-0621-2212007

Email-deoc.muz@gmail.com