सत्यमेव जयते
GOVERNMENT OF ASSAM

Assam State Disaster Management Authority

Annual Activity Report of ASDMA

2020-21 to 2023-24

Be prepared...
Stay Safe !



Assam State Disaster Management Authority (ASDMA)

সত্যমেব জয়তে



কেশৱ মহন্ত
মন্ত্রী

Keshab Mahanta
MINISTER

ৰাজহ আৰু দুর্যোগ ব্যৱস্থাপনা, তথ্য প্রযুক্তি,
বিজ্ঞান আৰু প্রযুক্তি
অসম চৰকাৰ

Revenue and Disaster Management,
Information Technology, Science and
Technology
Government of Assam
Dispur, Guwahati

Foreword

The Government of Assam has stood firm in its mission to build a resilient and disaster-ready Assam. Even in the face of unprecedented challenges brought by the COVID-19 pandemic, from 2020-21 through 2023-24, our spirit never wavered. These years tested our systems, our strength, and our unity yet they also revealed our capacity to adapt, to innovate, and to emerge stronger together. Through adversity, we have deepened our commitment to community-driven approaches, strengthened our partnerships, and reinforced the foundations of resilience that will guide Assam toward a safer and more secure future.

In keeping with the vision of the Hon'ble Prime Minister's Ten-Point Agenda for Disaster Risk Reduction and the Sendai Framework, the Government of Assam, through the Assam State Disaster Management Authority (ASDMA), has continued to advance a comprehensive and proactive approach to disaster management. The emphasis has been on reducing vulnerabilities, strengthening institutional capacities, and promoting community participation in building a safer and more resilient Assam.

These achievements reflect the Government's unwavering focus on mainstreaming disaster risk reduction into development planning and governance. We are working towards a future where every district, village, and household is better equipped to anticipate, withstand, and recover from disasters-where preparedness becomes a culture, not merely a policy.

I extend my deep appreciation to the officers of ASDMA, the district administrations, line departments, and our development partners for their coordinated and tireless efforts. I also acknowledge the active participation of the people of Assam, whose resilience and cooperation continue to inspire our efforts. Together, we reaffirm our resolve to build “A Disaster Resilient Assam”.

(Keshab Mahanta)
Hon’ble Minister
Revenue and Disaster Management Department,
Government of Assam



Foreword

The Assam State Disaster Management Authority (ASDMA) has remained steadfast in its mission to build a resilient and disaster-ready Assam even facing the challenges of COVID-19 during and after the period from 2020-21 to 2023-24. These years have tested our systems and resolve, yet they also offered us the opportunity to advance our institutional capacity, strengthen our resilience, partnerships and deepen our commitment to community-driven approaches.

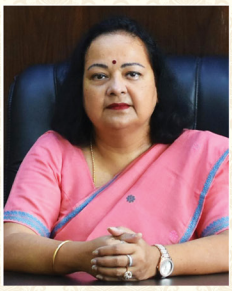
Assam confronted multiple hazard contexts recurrent floods, landslides in vulnerable terrain, and emerging climate-driven risks that challenged our preparedness and response mechanisms. In response, ASDMA undertook a concerted push across three broad fronts: (i) enhanced institutional readiness via the deployment of incident-response protocols and geographic risk-analysis tools; (ii) strengthened field-level infrastructure for hazard mitigation; (iii) promoted inclusive community participation through awareness programmes, stakeholder engagement and aligned communications strategies; and (iv) expediting reporting, coordination, response and recovery.

In context with the Government of Assam, the Government of India and our valued development partners (including the World Bank under the Assam Integrated River Basin Management Programme (AIRBMP), we integrated scientifically-driven risk assessments and geospatial analytics into our planning cycle. Beyond structural measures, we emphasised empowerment: equipping our frontline officers, district administrations and community networks with the tools, training and motivation to act before, during and after disasters.

ASDMA has steadfastly aligned its agenda with the priorities of the Sendai Framework for Disaster Risk Reduction, the national Disaster Management Act 2005, and the broader shift from relief and response to prevention, mitigation and resilience-building. In this respect, the years 2021-22 to 2023-24 mark a transitional era where the foundations laid are now being translated into durable systems and participatory resilience.

On behalf of ASDMA, I extend heartfelt thanks to all our departmental stakeholders, district administrations, civil-society organisations, communities across Assam and each citizen who has embraced the vision of “A Prepared State” and “A Safer Assam”. The path ahead remains demanding, but with sustained collaboration, innovation and commitment, we will continue to progress towards our shared goal of disaster-resilient development in Assam.

L. Sweety Changsan, IAS
Chief Executive Officer
Assam State Disaster Management Authority



Foreword

Since its establishment under the Disaster Management Act, 2005, ASDMA has emerged as one of the fore runners in disaster management in the country and state of Assam - anchoring a coordinated institutional response across preparedness, mitigation, response and recovery. Recognising the unique hazards faced by our State - from COVID-19, recurring floods, erosion, lightning and landslides to seismic risk and emerging climate-driven hazards ASDMA has consistently advanced its role from a reactive response body into a proactive, resilience-building institution.

Over the years, ASDMA has proudly undertaken the formulation of state, district and circle-level disaster management plans, established early-warning dissemination systems, constructed flood shelters in vulnerable zones, and promoted community-owned preparedness networks like Child friendly space in relief camps, FRIMS, DRIMS, Community Response Portal, Manojna Psychosocial platform etc. Partnerships with national and international agencies, especially the Assam Integrated River Basin Management Programme (AIRBMP) supported by the World Bank, have strengthened our scientific risk-assessment capabilities, river-basin management frameworks and multi-hazard resilience planning.

In the period 2020-21 to 2023-24, our focus has been on institutionalizing these efforts: enhancing inter-departmental coordination, deepening community engagement at the grassroots, scaling up technology adoption (GIS, real-time analytics) and ensuring that preparedness becomes a pervasive dimension of governance in Assam. ASDMA remains committed to working with all stakeholders - government departments, district administrations, civil society and citizens - to imbibe a culture of disaster readiness.

I acknowledge with gratitude the guidance of the Hon'ble Minister, Revenue & Disaster Management Department, the leadership of the Chief Executive Officer, and the dedicated efforts of the ASDMA team. Together, we proceed steadfastly towards our vision of “A Prepared State” and “A Safer Assam”.



Meenakshi Das Nath, ACS
Additional Chief Executive Officer
Assam State Disaster Management Authority

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Assam State Disaster Management Authority



EARTHQUAKE SAFETY MESSAGES

- When an Earthquake strikes, drop to the floor and take cover under a strong desk or table.
- When shaking stops, carefully come out from the building and stay at a safe place.
- Don't try to use lift or elevators during and after earthquake, use the staircase instead.
- Keep away from the glass windows and doors during any Earthquake.
- Stay away from power lines, posts, walls, false ceiling, parapet, falling flower pots, tree etc. elements that may fall or collapse.
- If you are in a running vehicle when earthquake comes, then close the windows of the vehicle and park at a safe place.





Introduction

Assam State Disaster Management Authority



FLOOD SAFETY MESSAGES

- Do not try to cross a river or stream during flood.
- Do not try to swim in the inundated or flooded area during flood.
- Do not touch or go near any submerged transformers / inverters / electric poles / live wires during flood.
- Do not let your children get far from your sight and teach them about the safety measures.
- Try not to go near drains / man-hole etc. during flood.

INTRODUCTION

Assam:
A State Beset by Natural Calamities

Geographical and Demographic Overview

The state of Assam, located in the Northeastern region of India, encompasses a geographical expanse of 78,438 square kilometres, constituting approximately 2.4% of the nation's total land area. Comprising 35 administrative districts, Assam is home to a population of 31,169,272 as recorded in the 2011 census. The majority of its populace resides within the fertile valleys of the Brahmaputra and Barak Rivers, regions profoundly shaped by their hydrological dynamics.

The Perennial Flood Crisis

Assam confronts an acute and recurring flood crisis, particularly within the floodplains of the Brahmaputra and Barak Rivers and their associated sub-basins. Historically, the southwest monsoon, spanning June to September, has precipitated floods in Assam's low-lying terrains, earning these areas the designation of 'floodplains.' In times past, these inundations were anticipated, as the nutrient-rich floodwaters rejuvenated agricultural lands. However, in recent decades, the scale and severity of flood-related devastation have escalated markedly.

Assam lies within India's highest rainfall intensity zone, with annual precipitation averaging between 1,750 mm in the plains and 6,400 mm in the hilly regions. The prodigious rainfall frequently overwhelms the capacity of rivers and drainage infrastructure, resulting in riverbank overflows, embankment breaches, and widespread inundation of villages, towns, and agricultural lands. This deluge inflicts severe damage to residential structures, critical infrastructure, transportation networks, and bridges, profoundly disrupting the state's socioeconomic fabric.

Anthropogenic factors, including deforestation, unregulated hill cutting, encroachment upon riverbanks, and the degradation of wetlands, have significantly exacerbated the flood predicament. The construction of embankments, while intended as a mitigative measure, has inadvertently encouraged settlements in precarious proximity to rivers, further intensifying vulnerability.

Compounding these challenges, the interplay of heavy monsoon rainfall and glacial melt from the Himalayas, driven by rising global temperatures, augments riverine water and sediment loads. This

phenomenon, coupled with the swelling of smaller rivers due to incessant precipitation, heightens the risk of flash floods in low-lying areas. The recurrent and catastrophic floods exact a heavy toll on Assam's populace, economy, and delicate ecological balance.

Statistical data from the Central Water Commission (1953–2016) underscore the gravity of the crisis: an average of 2.6 million individuals are affected annually, with 47 human fatalities, 10,961 animal deaths, and economic losses amounting to approximately ₹1.28 billion. For a state with a population exceeding 30 million, these impacts represent a profound economic and humanitarian burden.

Disaster Vulnerability and Climatic Susceptibility

Assam's unique geographical and climatic attributes render it exceptionally susceptible to a spectrum of natural hazards, including floods, landslides, earthquakes, and cyclones. The Brahmaputra River, often hailed as the "lifeline of Assam," paradoxically serves as a perennial source of devastation, with annual floods wreaking havoc on millions of lives, agricultural productivity, and critical infrastructure.

The state's vulnerability to climate change is amplified by several interrelated factors:

1. **Strategic Geographical Positioning:**
   Situated at the confluence of the Himalayas, the Brahmaputra River system, and the Bay of Bengal, Assam is exposed to complex climatic interactions that precipitate extreme weather events, including torrential rains, cyclones, and storms.

2. **Topographical Predisposition:**
   The state's predominantly flat terrain and low-lying plains facilitate rapid inundation during periods of excessive rainfall or heightened river flow, leading to widespread displacement and damage to agriculture and infrastructure.

3. **Monsoon Dependency:**
   Assam's agrarian economy is heavily reliant on the monsoon season for water resources and crop production. Alterations in monsoon patterns—such as changes in timing, intensity, or duration—pose significant risks to food security, water availability, and socioeconomic stability.

4. **Complex Riverine Network:**
   Assam's intricate web of rivers and tributaries, originating in high-gradient upper catchments and converging with the Brahmaputra and Barak Rivers, forms a dynamic and volatile hydrological system. The Brahmaputra, the world's third-largest river by discharge, traverses 640 km through Assam's plains, joined by 64 northern and 38 southern tributaries, with a total embankment length of 2,745 km. The Barak, the second-largest river in the region, spans 225 km within Assam, supported by approximately ten tributaries and five sub-tributaries, with 526 km of embankments. Climate-induced changes in river flow, sedimentation, and channel morphology exacerbate erosion, flooding, and water resource variability.

5. **Ecological Fragility:**
   Assam's rich biodiversity, encompassing forests, wetlands, and wildlife habitats, is acutely sensitive to climatic disruptions. Shifts in temperature and precipitation patterns threaten ecological equilibrium, diminish biodiversity, and alter habitats, undermining the region's resilience.

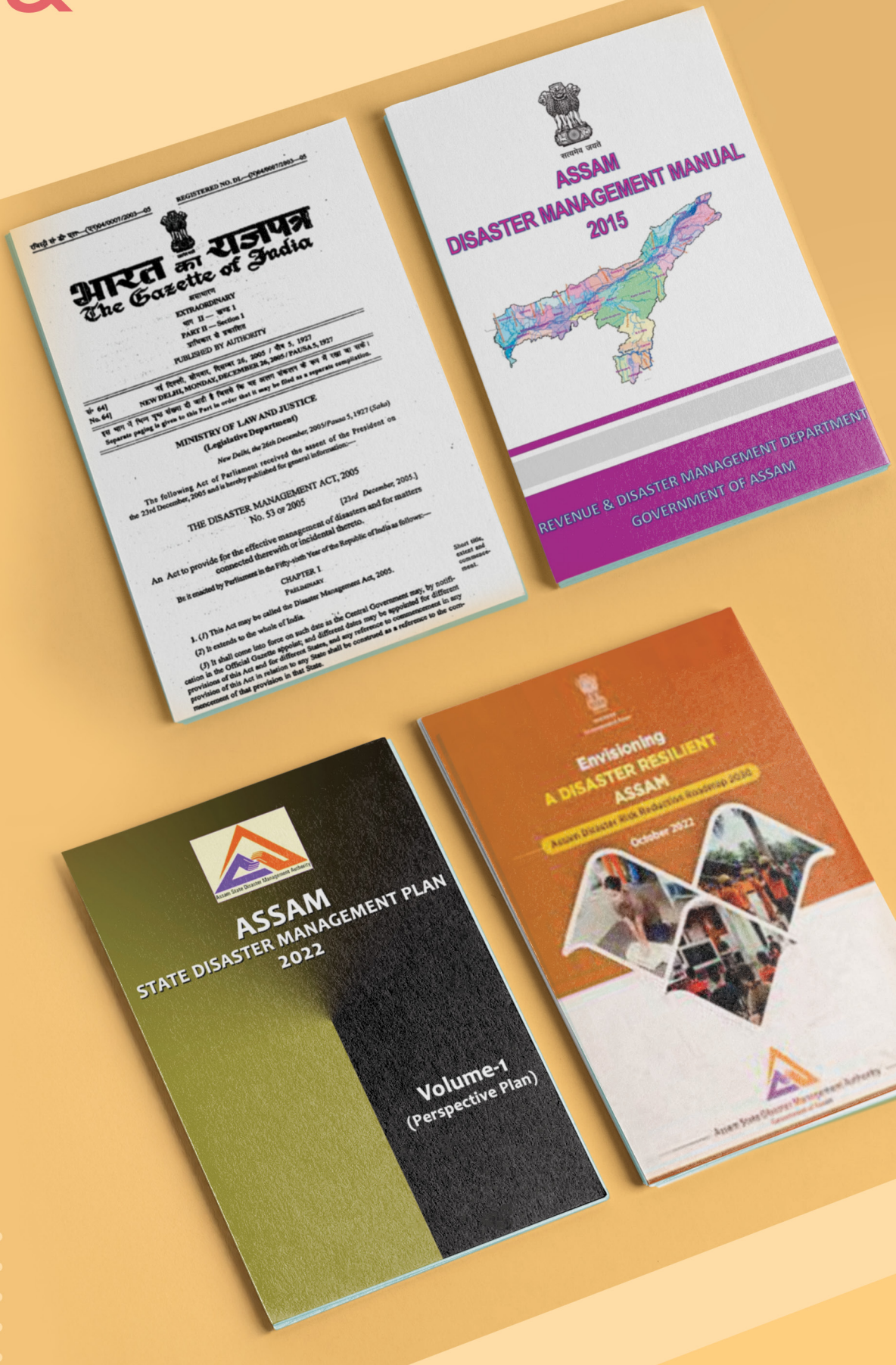
6. **Socioeconomic Vulnerabilities:**
   A significant proportion of Assam's rural population depends on agriculture and natural resources for sustenance. Climatic variability directly undermines agricultural yields, food security, and rural livelihoods, with vulnerable

communities often lacking the resources to adapt effectively.

7. **Infrastructure and Resource Limitations:** Inadequate flood protection measures, drainage systems, and early warning mechanisms, coupled with constrained resources, hinder Assam's capacity to mitigate and adapt to climate-induced challenges.

Moreover, upstream deforestation in neighbouring regions—Arunachal Pradesh, Meghalaya, Nagaland, Mizoram, Manipur, and Bhutan—contributes to excessive siltation and runoff, diminishing the carrying capacity of Assam's rivers and amplifying flood risks. The extreme monsoon regime, combined with the region's unique physiographic configuration, remains the predominant driver of Assam's recurrent and devastating flood events.

INSTITUTIONAL & POLICY FRAMEWORK



Assam State Disaster Management Authority



FLOOD SAFETY MESSAGES

- If anyone accidently falls in flowing water/ river/stream, rescue him or her only if you are trained to do so. Otherwise, seek help from trained personal only.
- After the flood water recedes, boil the water, and milk before drinking, clean the green vegetables, food items and utensils used for food items.
- Disinfect the wells, surroundings and other source of water by pouring bleaching powder and potash into it after the flood water recedes.
- Wash and clean your hands before eating and after defecation during flood and after the flood water recedes.
- Don't wash dirty clothes, stools etc. in riverside or ponds after the flood water recedes.

Chapter 1

INSTITUTIONAL & POLICY FRAMEWORK

Over the past few years the Assam State Disaster Management Authority (ASDMA) has made significant progress made in aligning with key disaster management protocols and frameworks. The following documents and guidelines formed the backbone of our disaster management strategy:

1. **Disaster Management Act (DM Act 2005):**
   The Disaster Management Act (DM Act 2005) served as the legal cornerstone for disaster management in India. It established the National Disaster Management Authority (NDMA), as well as the State and District Disaster Management Authorities (SDMAs and DDMAs). The Act outlined the roles and responsibilities of various stakeholders and mandated the creation of disaster management plans at the national, state, and district levels. Our initiatives aligned with the principles outlined in the DM Act, ensuring that disaster management efforts were compliant and effective.

2. **Disaster Management Rules (DM Rules):**
   The Disaster Management Rules (DM Rules) were developed to operationalize the provisions of the Disaster Management Act (DM Act 2005). The Rules provided procedural guidelines for the implementation of disaster management policies, including classification of disasters, risk assessment, and the roles of various government agencies. The DM Rules guided the disaster response framework, ensuring systematic disaster risk management at all levels of government.

3. **Sendai Framework for Disaster Risk Reduction (SFDRR) 2015:**
   The Sendai Framework for Disaster Risk Reduction 2015-2030 is a global agreement adopted on March 18, 2015, at the Third UN World Conference in Sendai, Japan. It builds upon previous international efforts, including the Hyogo Framework for Action (2005-2015) and earlier disaster risk reduction initiatives. Developed through extensive consultations and negotiations, the framework emphasizes a proactive approach to disaster risk reduction, focusing on understanding risk, strengthening governance, investing in resilience, and enhancing preparedness for recovery. It encourages international cooperation, technological advancements, and inclusive strategies to build disaster-resilient communities worldwide.

4. **State Disaster Management Manual, 2015:**
   The Assam Disaster Management Manual serves as a comprehensive guide outlining policies, plans, and procedures for effective disaster management in Assam. It marks a shift from a reactive approach centered on relief and rehabilitation to a proactive and integrated strategy that includes prevention, mitigation, preparedness, response, and recovery. Revised in alignment with the Disaster Management Act, 2005, the manual establishes a structured institutional framework, clearly defining the roles and responsibilities of state, district, and local authorities

5. **State Disaster Mitigation Fund policy:**
   This discusses financial arrangements for disaster management based on the recommendations of the Finance Commission, particularly the 15th Finance Commission (FC).

6. **PM 10 Points Agenda:**
   The Prime Minister's ten-point agenda was enunciated during the Asian Ministerial Conference on Disaster Risk Reduction (AMCDRR) held in November 2016. It serves as a practical roadmap for advancing the implementation of the Sendai Framework for Disaster Risk Reduction (SFDRR) 2015. Each point in the agenda aligns with one or more of SFDRR's priority actions and necessitates a coordinated effort across all levels of government, extending beyond disaster management agencies. Since its introduction, the ASDMA has undertaken several initiatives to implement and operationalize the agenda.

7. **Disaster Risk Reduction (DRR) Roadmap, 2022:**
   The DRR Roadmap was followed to address and reduce risks related to disasters. The focus was placed on improving early warning systems, enhancing community resilience, and bolstering disaster preparedness at both the state and district levels.

8. **State Disaster Management Plan (SDMP), 2022:**
   The SDMP provides a comprehensive, state-level framework for responding to natural and man-made disasters. Updates and reviews of the SDMP have been carried out to incorporate lessons learned from past disasters, as well as to address emerging risks and vulnerabilities.

9. **District Disaster Management Plans (DDMP) Framework:**
   The DDMP framework was implemented to ensure that districts had tailored disaster management plans in alignment with the SDMP. Capacity building at the district level was strengthened to ensure effective disaster management.

10. **Guidelines & Standard Operating Procedures (SOPs) of ASDMA:**
    ASDMA's guidelines and SOPs were followed to provide clear operational procedures during disaster events. These documents facilitated

standardized response efforts and coordination across various agencies.

11. **Sustainable Development Goals (SDGs):** SDGs adopted by the United Nations in 2015 as part of the 2030 Agenda for Sustainable Development, provide a comprehensive framework for global development. The 17 SDGs address key areas such as poverty alleviation, health, education, economic growth, climate action, and sustainable cities, etc. DRR is intrinsically linked to the SDGs, as disasters can undermine development progress, while sustainable development can reduce disaster risks. Goals such as SDG 11 (Sustainable Cities and Communities), SDG 13 (Climate Action), and SDG 1 (No Poverty) emphasize resilience-building, climate adaptation, and disaster preparedness.

ELABORATION ON KEY DISASTER MANAGEMENT DOCUMENTS

Disaster Management Act (DMA) 2005

The Disaster Management Act (DMA), 2005, is a key legislative framework in India aimed at ensuring effective disaster management. It represents a significant advancement in disaster management practices by establishing dedicated authorities and frameworks. The Act focuses on minimizing the impact of disasters through preparedness, prompt response, and rehabilitation measures, contributing to a safer and more resilient society. It establishes a structured approach for disaster management at national, state, district and circle levels. Key highlights of the Acts are as follows:

Based on the provided excerpts from the Disaster Management Act, 2005, here is an elaborate overview of what the Act talks about and its key features:

Institutional Framework:

The Act establishes a three-tier structure for disaster management in India. It mandates the formation of key authorities, including the National Disaster Management Authority (NDMA), State Disaster Management Authorities (SDMAs), and District Disaster Management Authorities (DDMAs), each tasked with specific responsibilities for disaster preparedness, mitigation, and response:

1. National Disaster Management Authority (NDMA):
   Established by the Central Government. It consists of the Prime Minister of India as the Chairperson and up to nine other nominated members. This apex body is responsible for formulating policies, plans, and guidelines for disaster management at the national level. It coordinates and monitors disaster-related activities among various ministries and

departments.

2. **National Executive Committee (NEC):**
Constituted by the Central Government to assist the NDMA. The Chairperson is the Secretary to the Government of India in charge of the Ministry/Department with administrative control of disaster management. It also includes Secretaries from various relevant Ministries (e.g., Agriculture, Defence, Finance, Health, etc.) as ex officio members. The NEC assists the NDMA in its functions and is responsible for implementing the policies and plans of the NDMA, as well as ensuring compliance with Central Government directions.

3. **State Disaster Management Authority (SDMA):**
Every State Government is required to establish an SDMA. It consists of the Chief Minister of the State as the Chairperson, up to eight nominated members, and the Chairperson of the State Executive Committee (ex officio). Special provisions apply to Union Territories. The SDMA is responsible for laying down policies and plans for disaster management in the State.

4. **State Executive Committee (SEC):**
Constituted by the State Government to assist the SDMA and coordinate action. The Chairperson is the Chief Secretary to the State Government. It includes Secretaries from four relevant state departments. The SEC is responsible for implementing the National Plan and State Plan and acts as the coordinating and monitoring body for disaster management in the State.

5. **District Disaster Management Authority (DDMA):**
Every State Government is required to establish a DDMA for each district. The Chairperson is the Collector or District Magistrate or Deputy Commissioner, and the elected representative of the local authority is the Co-Chairperson (with special provisions for Tribal Areas and districts with Zila Parishads). The DDMA also includes the Superintendent of Police and Chief Medical Officer ex officio, plus up to two other district-level officers. The DDMA acts as the district planning, coordinating, and implementing body.

6. **Local Authorities:**
This include panchayati raj institutions, municipalities, etc.. Subject to the District Authority's directions, they are responsible for training officers/employees, maintaining resources, ensuring construction conforms to standards, and carrying out relief, rehabilitation, and reconstruction activities according to the State and District Plans.

Planning Process:

The Act mandates the preparation of Disaster Management Plans at multiple levels:

1. **National Plan:**
Prepared by the NEC, approved by the NDMA. It includes measures for prevention, mitigation, integration of mitigation in development plans, preparedness, capacity building, and the roles/responsibilities of Central Ministries/ Departments. It is reviewed and updated annually. Central Ministries/Departments must draw up their own plans in accordance with the National Plan.

2. **State Plan:**
Prepared by the SEC based on NDMA guidelines, approved by the SDMA. It assesses vulnerability, outlines prevention/mitigation measures, specifies integration of mitigation in development plans, details capacity-building/ preparedness, and defines roles/responsibilities of State Departments. Reviewed and updated annually. State Departments must draw up their own plans in accordance with the State Plan.

3. **District Plan:**
Prepared by the DDMA after consulting local authorities, approved by the SDMA. It identifies vulnerable areas, details prevention/mitigation

measures by district-level departments and local authorities, specifies capacity-building/ preparedness, and includes response plans/ procedures. Reviewed and updated annually. Departments at the district level and local authorities must also prepare their own plans consistent with the District Plan.

Specialist Bodies:

Two key bodies have been constituted within the act:

1. National Institute of Disaster Management (NIDM):
   Constituted by the Central Government. It functions under NDMA policies/guidelines and is responsible for planning and promoting training and research, documentation, and developing a national information base related to disaster management.
2. National Disaster Response Force (NDRF):
   Constituted for the purpose of specialist response to a threatening disaster situation or disaster. General superintendence, direction, and control are vested in the NDMA.

Financial Provisions:

The Act establishes funds for meeting disaster management expenses.

1. National Disaster Response Fund (NDRF):
   Constituted by the Central Government for meeting expenses for emergency response, relief, and rehabilitation. It is credited with Parliamentary appropriations and grants, and made available to the NEC.
2. National Disaster Mitigation Fund (NDMF):
   Constituted by the Central Government for projects exclusively for mitigation. It is credited with Parliamentary appropriations and applied by the NDMA.
3. State-level Funds:
   State Governments establish State Disaster Response Fund, District Disaster Response Fund, State Disaster Mitigation Fund, District Disaster Mitigation Fund and R&R window under PDNA.
4. Central and State Government Ministries:
   Departments are required to make provisions in their annual budgets for activities in their disaster management plans.

Emergency Powers and Response Measures:

In the event of a threatening disaster situation or disaster, the State Executive Committee and the District Authority are vested with significant powers. These include controlling traffic and movement in affected areas, removing debris, conducting search and rescue, providing shelter, food, water, healthcare, and essential services, directing relevant departments/authorities to take necessary steps, etc. Further, in emergency situations, the NDMA, SDMA, or DDMA can authorize emergency procurement, waiving standard tender procedures.

Offences and Penalties:

The Act also specifies penalties for various offences, such as obstruction of duty, making a false claim for relief, misappropriation of relief funds/materials, making a false warning causing panic, failure of an officer to perform duty, or contravention of a requisition order.

Miscellaneous Provisions:

The miscellaneous provisions Under DMA, 2005 cover general but crucial operational and legal aspects. These include ensuring no discrimination in providing relief to victims, granting the Central Government broad power to issue binding directions to various authorities and personnel involved in disaster management, and mandating the availability of officers and employees for rescue and relief operations upon request. The Act also provides the power to requisition necessary resources, premises, or vehicles during a threatening

disaster situation or disaster, with a requirement for compensation for requisitioned property. Importantly, the Act's provisions have an overriding effect over other inconsistent laws. There is also significant protection from legal action for actions taken in good faith under the Act, including immunity for communicating warnings, and a general bar on court jurisdiction for actions taken under the Act, except for the Supreme Court or High Courts.

Assam Disaster Management Rules, 2010

The Assam Disaster Management Rules, 2010, published in the Assam Gazette on December 9, 2010, provide a structured framework for managing disasters within the state of Assam. These rules were enacted under the authority of the Disaster Management Act, 2005, aimed at enhancing preparedness, response, and recovery processes related to disasters across all levels of government. Below are the salient features of these rules:

1. **The State Disaster Management Authority:**
   The rules establish the State Disaster Management Authority (SDMA), chaired by the Chief Minister, to oversee disaster management processes. This body is responsible for formulating policies and guidelines related to disaster preparedness and response. The powers and functions of the SDMA are outlined in Section 18 of the Disaster Management Act, which includes:
   a. Formulating disaster management policies and plans at the state level.
   b. Coordinating the implementation of disaster management processes with various departments and agencies.
   c. Overseeing the preparedness, response, and recovery measures for disasters in the state.

2. **The State Executive Committee:**
   The State Executive Committee supports the State Authority in its functions and coordinates actions based on the guidelines issued by the State Authority. The Committee is chaired by the Chief Secretary of Assam, with other members appointed by the State Government. The powers and functions of the Committee are outlined in Sections 22(1) and (2) of the DMA, 2005. Key functions include:
   a. The Chairperson may seek guidance from the State Authority for implementing the directions of the State Government.
   b. In emergencies, the Chairperson can exercise all powers of the Committee, subject to subsequent ratification.
   c. The Committee is required to meet at least once every quarter and forward the minutes of the meetings to the State Authority.

3. **State Disaster Management Plan:**
   The State Executive Committee prepares the State Disaster Management Plan, considering guidelines from the National Authority and consulting with government departments, local authorities, and people's representatives. The State Plan includes vulnerability assessments, prevention and mitigation measures, integration with development plans, capacity building, and roles/responsibilities of government departments. This plan is reviewed and updated annually, with appropriate provisions for financing mitigation and response measures.

4. **District Disaster Management Authority:**
   The State Government establishes a District Disaster Management Authority in each district, consisting of the Deputy Commissioner as Chairperson and other notified members. The powers and functions of the District Authority

are defined under Section 30(1) & (2) of the DMA Act, 2005. The District Authority meets as necessary, but at least once every three months.

5. **District Plan:**
   A District Plan for disaster management is created for every district, prepared by the District Authority in consultation with local authorities and line departments, considering the National and State Plans. The District Plan includes hazard assessments, vulnerability analysis, prevention and mitigation measures, capacity-building, and emergency support functions. The District Authority reviews and updates the District Plan annually and sends a copy to the State Authority for approval.

6. **Plans by different Authorities at district level and their implementation:**
   Every government office and local authority at the district level, under the District Authority's supervision, must prepare a disaster management plan. These plans should include prevention, mitigation, capacity-building, preparedness measures, and response plans. The plans must be coordinated with other organizations and regularly reviewed and updated, with a copy submitted to the District Authority.

7. **Annual Report:**
   The State Authority prepares an annual report for the Government, detailing activities and works undertaken during the year. The report and audited accounts are presented at the Annual General Meeting, convened every year with no more than 15 months between meetings. The annual report is certified by the Chief Executive Officer and the Secretary/Convener.

The Sendai Framework for Disaster Risk Reduction 2015-2030 is an international agreement adopted at the Third UN World Conference in Sendai, Japan, on March 18, 2015. It emerged from stakeholder consultations initiated in March 2012 and inter-governmental negotiations from July 2014 to March 2015, with support from the United Nations Office for Disaster Risk Reduction (UNISDR) at the request of the UN General Assembly. The Sendai Framework serves as the successor instrument to the Hyogo Framework for Action (HFA) 2005-2015: Building the Resilience of Nations and Communities to Disasters. The HFA itself built upon previous global efforts in disaster risk reduction, including the International Framework for Action for the International Decade for Natural Disaster Reduction of 1989, the Yokohama Strategy for a Safer World: Guidelines for Natural Disaster Prevention, Preparedness and Mitigation and its Plan of Action adopted in 1994, and the International Strategy for Disaster Reduction of 1999.

The Sendai Framework ensures continuity with the work done under the HFA by States and other stakeholders but also introduces several innovations called for during consultations and negotiations. Key shifts include a strong emphasis on disaster risk management as opposed to disaster management, the definition of seven global targets, the framing of the reduction of disaster risk as an expected outcome, and a goal focused on preventing new risk, reducing existing risk, and strengthening resilience. It also establishes a set of guiding principles, including the primary responsibility of states to prevent and reduce disaster risk, and the engagement of all-of-society and all-of-State institutions. Furthermore, the scope of disaster risk reduction has been significantly broadened to focus on both natural and man-made hazards and related environmental, technological, and biological hazards and risks. Health resilience is strongly promoted throughout the framework.

The Sendai Framework also articulates several crucial aspects, such as:

1. The need for an improved understanding of disaster risk in all its dimensions, including exposure, vulnerability, and hazard characteristics.
2. The strengthening of disaster risk governance, encompassing national platforms and

accountability for disaster risk management.

3. The importance of preparedness to **"Build Back Better"** in recovery.
4. The recognition of stakeholders and their roles in disaster risk reduction.
5. The mobilization of risk-sensitive investment to avoid the creation of new risk.
6. The need for resilience of health infrastructure, cultural heritage, and workplaces.
7. The strengthening of international cooperation and global partnership, including risk-informed donor policies and financial support from international financial institutions.
8. The recognition of the Global Platform for Disaster Risk Reduction and regional platforms as mechanisms for coherence, monitoring, and reviews.

UNISDR has been tasked with supporting the implementation, follow-up, and review of the Sendai Framework.

The framework is structured around the following key components:

1. Preamble:

This section outlines the context for the framework, including the lessons learned from the HFA, the continued impact of disasters, and the urgency of anticipating and reducing disaster risk. It emphasizes the need for enhanced work to reduce exposure and vulnerability and to tackle underlying disaster risk drivers. The preamble also highlights the importance of a broader and more people-centred preventive approach, engaging various stakeholders, and strengthening international cooperation. The framework applies to the risk of small-scale and large-scale, frequent and infrequent, sudden and slow-onset disasters caused by natural or man-made hazards, as well as related environmental, technological, and biological hazards and risks. It aims to guide the multi-hazard management of disaster risk in development at all levels and across all sectors.

2. Expected outcome and goal:

The Sendai Framework aims for the substantial reduction of disaster risk and losses in lives, livelihoods, and health, as well as in the economic, physical, social, cultural, and environmental assets of persons, businesses, communities, and countries over the next 15 years. The goal is to prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, legal, social, health, cultural, educational, environmental, technological, political, and institutional measures. This includes preventing and reducing hazard exposure and vulnerability, increasing preparedness for response and recovery, and thus strengthening resilience.

3. Seven global targets:

To support the assessment of global progress, seven global targets have been agreed upon:

a. Substantially reduce global disaster mortality by 2030, aiming to lower the average per 100,000 global mortality rate in the decade 2020–2030 compared to the period 2005–2015.

b. Substantially reduce the number of affected people globally by 2030, aiming to lower the average global figure per 100,000 in the decade 2020–2030 compared to the period 2005–2015.

c. Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030.

d. Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030.

e. Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020.

f. Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of the present Framework by 2030.

g. Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to people by 2030.

4. Guiding Principles:

The implementation of the Sendai Framework is guided by several principles, drawing from the Yokohama Strategy and the Hyogo Framework for Action. These include:

a. The primary responsibility of each State to prevent and reduce disaster risk.

b. The need for shared responsibility between central governments and relevant national authorities, sectors, and stakeholders.

c. The aim of managing disaster risk to protect persons and their assets, while promoting and protecting all human rights.

d. The requirement for an all-of-society engagement and partnership, with empowerment and inclusive participation, paying attention to disproportionately affected people and integrating gender, age, disability, and cultural perspectives.

e. The dependence of disaster risk reduction and management on coordination mechanisms within and across sectors and with relevant stakeholders.

f. The essential enabling, guiding, and coordinating role of national and federal State Governments, alongside the empowerment of local authorities and communities.

g. The need for a multi-hazard approach and inclusive risk-informed decision-making based on open exchange and dissemination of disaggregated data and science-based risk information, complemented by traditional knowledge.

h. The aim for coherence across sustainable development, food security, health and safety, climate change, environmental management, and disaster risk reduction agendas.

i. The recognition that disaster risks have local and specific characteristics that must be understood.

j. The cost-effectiveness of addressing underlying risk factors through risk-informed investments compared to post-disaster response and recovery.

k. The critical need to "Build Back Better" in the post-disaster phase and increase public education and awareness.

l. The essential role of an effective and meaningful global partnership and the strengthening of international cooperation.

m. The need for adequate, sustainable, and timely support for developing countries through finance, technology transfer, and capacity-building.

5. Priorities for Action:

The Sendai Framework outlines four priority areas for focused action by States at local, national, regional, and global levels:

a. Priority 1,

Understanding disaster risk: This involves collecting, analyzing, and sharing

disaster risk data; strengthening risk assessments; promoting risk awareness through education and public outreach; integrating traditional knowledge and scientific research; and enhancing access to technology and innovation for risk reduction. Globally, it includes improving methodologies for loss recording, fostering scientific collaboration, and enhancing information exchange.

b. Priority 2,

Strengthening disaster risk governance to manage disaster risk: This includes developing national and local disaster strategies, enforcing safety standards, fostering community participation, and strengthening coordination among institutions. At the global level, it emphasizes regional cooperation, cross-border collaboration, and international monitoring mechanisms.

c. Priority 3,

Investing in disaster risk reduction for resilience: Key actions include allocating resources for disaster risk management, promoting insurance and risk transfer mechanisms, strengthening resilient infrastructure and livelihoods, mainstreaming risk reduction into land-use and financial planning, and ensuring the protection of vulnerable communities. Globally, efforts focus on policy coherence, financial cooperation, business resilience, and poverty reduction strategies.

d. Priority 4,

Enhancing disaster preparedness for effective response and to "Build Back Better" in recovery, rehabilitation, and reconstruction: Preparedness measures include updating policies and contingency plans, improving early warning systems, investing in critical infrastructure, training responders, and ensuring continuity of essential services. Post-disaster recovery should integrate disaster risk management, strengthen local governance, and support reconstruction with a focus on resilience. Globally, coordinated response mechanisms, regional early warning systems, and capacity-building initiatives are emphasized.

6. Role of Stakeholders:

While States have the overall responsibility, disaster risk reduction is a shared responsibility between governments and relevant stakeholders, including non-State actors who play an important role as enablers. States should encourage the following actions:

a. Civil society, volunteers, organized voluntary work organizations, and community-based organizations to participate in developing and implementing frameworks and plans, contribute to public awareness and education, and advocate for resilient communities. This includes the critical role of women, children and youth as agents of change, persons with disabilities, older persons, indigenous peoples, and migrants.

b. Academia, scientific and research entities, and networks to focus on disaster risk factors and scenarios, increase research, support local action, and bridge the gap between policy and science.

c. Business, professional associations, and private sector financial institutions to integrate disaster risk management into their practices through risk-informed investments, engage in awareness-raising and training, support research and innovation, share knowledge, and participate in developing normative frameworks.

d. Media to take an active and inclusive role in raising public awareness, disseminating accurate disaster risk information, supporting early warning systems, and stimulating a culture of prevention. Stakeholders are encouraged to publicize their commitments and their fulfilment in support of the framework through the UNISDR website.

7. **International Cooperation and Global Partnership:**
This section emphasizes the need for enhanced provision of means of implementation for developing countries through international cooperation and global partnerships, given their different capacities. It highlights the importance of technology transfer, addressing economic and technological disparities. Particular attention is given to disaster-prone developing countries, especially the least developed countries, small island developing States, landlocked developing countries, and African countries, which require urgent strengthening of international cooperation. The specific vulnerabilities of small island developing States and the challenges faced by African countries are also noted. North-South, South-South, and triangular cooperation are recognized as key. Financing, technology transfer, capacity-building, and enabling policy environments are critical means of reducing disaster risk.

8. **Means of Implementation:**
Developing countries need enhanced, coordinated, sustained, and adequate international support for disaster risk reduction through bilateral and multilateral channels, including technical and financial support and technology transfer on concessional and preferential terms. Enhancing access to finance, environmentally sound technology, science, innovation, knowledge, and information-sharing is crucial. Disaster risk reduction measures should be incorporated into multilateral and bilateral development assistance programmes.

9. **Support from International Organizations:**
The UN and other international entities are urged to enhance coordination and optimize resources to support disaster risk reduction (DRR). UN agencies, particularly UNISDR, play a key role in implementation, follow-up, and review, including developing indicators, fostering a prevention culture, supporting national DRR plans, and convening global platforms. Financial institutions are encouraged to align funding with DRR priorities, while treaty bodies and organizations should aid developing countries. The UN Global Compact should engage the private sector, and the capacity of the UN system must be strengthened with adequate resources. The Inter-Parliamentary Union and local governments are also encouraged to contribute.

10. **Follow-up Actions:**
The Conference invites the General Assembly to consider including the review of the global progress in the implementation of the Sendai Framework as part of its integrated and coordinated follow-up processes to UN conferences and summits. It also recommends the establishment of an open-ended intergovernmental working group for the development of a set of possible indicators to measure global progress and to consider the recommendations on updating the UNISDR Terminology on Disaster Risk Reduction.

Assam Disaster Management Manual 2015

The Assam Disaster Management Manual 2015 is a guide outlining the policies, plans, and procedures for effective disaster management in the state of Assam. It represents a paradigm shift from a primarily reactive approach focused on relief and rehabilitation to a more proactive and holistic approach encompassing prevention, mitigation, preparedness, response, and recovery. This manual is revised in light of the Disaster Management Act

2005. The manual establishes the institutional framework for disaster management in Assam, defining the roles and responsibilities of various state, district, and local authorities. It emphasizes the importance of coordination and collaboration among different government departments, agencies, non-governmental organizations, and communities.

A key focus of the document is to integrate disaster risk reduction into the developmental planning process across all sectors. It underscores the need for preparedness at all levels, from individual communities to government departments, through the development of disaster management plans, capacity building, and regular drills. The manual adopts a multi-hazard approach, addressing the specific risks posed by floods (a recurrent phenomenon in Assam), earthquakes (given Assam's seismic vulnerability), landslides, storms, cyclones, and man-made disasters. It provides detailed guidelines for managing each of these hazards across the disaster management continuum. Furthermore, the manual includes numerous appendices that provide the legal and regulatory framework (Disaster Management Act 2005 and Rules), formats for various procedures (seeking assistance, reporting damage), and specific guidelines for crucial aspects like relief camp management. It explicitly supersedes the earlier Assam Relief Manual 1976. Below are the major highlights:

Disaster management planning at all levels: The manual emphasizes the importance of disaster management planning at all levels.

1. Every department of the State government is required to have a disaster management plan, which must be reviewed and updated annually.
2. Local authorities also need to prepare and submit their plans to the District Authority.
3. The District Authority then forwards the District Plan to the State Authority.
4. The manual advocates for districts and sub-district units to prepare Disaster Management Plans considering local conditions, vulnerable areas, preparedness and mitigation measures, capacity building plans, shelter sites, emergency provisions, and resource utilization. These plans should be carefully studied and resourced, with annual exercises focused on updating them.
5. Departmental plan schemes should address disaster risk reduction issues (structural & non-structural) to minimize potential damage.

Five mission areas of Disaster Management

It adopts a Disaster Management Continuum approach, outlining five mission areas:

1. **Preparedness:**
   Focuses on stakeholder consultation, emergency response plans, clear roles and responsibilities, Standard Operating Procedures (SOPs), mutual-aid agreements, mock drills, scenario planning, early warning systems, resource inventory, evacuation plans, and training and education.
2. **Prevention & Mitigation:**
   Includes structural and non-structural measures, land use planning regulations, building codes (National Building Code, Indian Standard Code of Practice), general development control regulations, risk transfer mechanisms, infrastructure strengthening, critical infrastructure protection, early warning systems, education, training, and relocation.
3. **Response:**
   Encompasses emergency declaration, activation of emergency response plans and centres, communication plans, issuing advisories and warnings, resource mobilization, liaison between agencies, evacuation, search & rescue, temporary shoring, first-aid, medical assistance, and rapid

damage surveys.

4. Recovery & Rehabilitation:
   Involves preparing detailed damage reports, determining rehabilitation and reconstruction packages, allocating funds, coordinating with supporting agencies, documenting lessons learned, and ensuring reconstruction builds disaster-resilient structures.

Departmental Roles and Responsibilities:

The manual also details the Charter of Activities of various departments in Disaster Management. This section outlines the functional responsibilities of numerous government departments across the different mission areas and stages of the disaster management cycle. For example:

1. The Revenue & Disaster Management Department is responsible for preparedness, prevention & mitigation, alert & warning, response, and recovery & rehabilitation, including establishing warning protocols, monitoring field situations, preparing reports, and coordinating rehabilitation programs.
2. The Health Department focuses on health emergency preparedness, developing preparedness plans, maintaining expert rosters, ensuring functional DM plans in health units, assessing hospital safety, stocking emergency supplies, establishing field hospitals, training medical practitioners and volunteers, and preventing post-disaster diseases. During response, they activate health systems, set up relief camps, mobilize medical teams, provide first aid, manage patient flow, establish field hospitals, manage infectious diseases, and ensure emergency communication.
3. The Home Department is tasked with establishing and training the State Disaster Response Force (SDRF), conducting exercises to test preparedness, ensuring operational readiness, strengthening firefighting capabilities, developing emergency communication plans, and mobilizing response teams during alerts.
4. The Public Works Department (Buildings and Roads) has responsibilities ranging from developing preparedness plans and safe construction guidelines to undertaking emergency repairs, damage assessments, and coordinating reconstruction efforts for buildings and infrastructure.
5. The Public Health & Engineering Department focuses on ensuring safe water supply and sanitation during and after disasters.
6. The Transport Department is responsible for preparedness plans, maintaining vehicle inventories, training drivers, and facilitating the movement of people, personnel, and supplies during disaster response.
7. The Food & Civil Supplies Department ensures the availability and price stability of essential commodities, manages ration cards, and supplies food to relief centers.
8. The Information and Public Relations Department handles education and awareness programs, guides media reporting, disseminates warnings, gathers information, counters rumors, and serves as the focal point for official information release.
9. The Social Welfare Department identifies vulnerable populations, builds community awareness, establishes social safety nets, manages evacuation centers, provides welfare services, and participates in recovery efforts.
10. Various other departments like Agriculture, Water Resources, Power, Education, Urban Development, Animal Husbandry & Veterinary, and Irrigation have specific roles related to their respective domains in preparing for, responding to, and recovering from disasters.

Disaster Response Mechanisms:

The manual also focuses the immediate actions and systems activated during a disaster. It reiterates for a disaster management in Assam that based on a four-tiered structure (L0-L3), recognizing the capabilities at local, district, state, and national levels. Disaster Response mechanisms include:

1. Immediate measures such as search and rescue, mobilization of equipment and services, and operations to protect people and assets. These require swift activation, strategic planning, hazard assessment, information gathering, and coordination of resources.
2. To ensure an organized and efficient response, the manual emphasizes the IRS framework, designed to prevent ad-hoc measures. The IRS comprises composite teams with designated and trained officers, structured into:
    a. Led by the Incident Commander, supported by Information & Media Officer, Safety Officer, and Liaison Officer.
    b. **General Staff:** Divided into Operations, Planning, Logistics, and Finance Sections to handle various response requirements.
3. At both the state and district levels, IRTs are established with designated Responsible Officers- the Chief Secretary at the state level and the Deputy Commissioner at the district level. These officers are responsible for activating the teams upon receiving early warnings or in the event of a sudden disaster.
4. The manual details procedures for requesting assistance from national agencies, including the Government of India, the National Disaster Response Force (NDRF), and the Indian Air Force. It outlines the necessary information and formats required for requisitioning support, ensuring a seamless response mechanism.

Guidelines on managing specific disasters:

The manual provides in-depth guidance on managing specific disasters, ensuring that preventive measures, emergency response, and recovery strategies are clearly outlined for each hazard:

1. **Flood Preparedness and Response:** Given Assam's vulnerability to floods, the manual emphasizes early warning systems, pre-flood preparedness meetings, and the roles of key departments such as Water Resources, Health, Police, Education, and Social Welfare. It also outlines community-based flood management strategies and post-flood rehabilitation efforts.
2. **Earthquake Risk Reduction and Response:** The manual advocates for a comprehensive risk management approach that includes prevention strategies, early warning indicators, and mitigation measures. It details the responsibilities of various agencies before, during, and after an earthquake, including a structured 72-hour emergency response plan.
3. **Landslide Mitigation and Response:** A strong focus is placed on hazard assessment and zonation mapping to identify high-risk areas. The manual also details post-landslide actions, such as search and rescue operations, medical assistance, and debris clearance, led by the disaster management authorities.
4. **Storm and Cyclone Preparedness:** The manual outlines precautionary measures, response strategies, and post-disaster actions, assigning responsibilities to agencies like Inland Water Transport (IWT) and Fire & Emergency Services to minimize the impact of severe weather events.
5. **Managing Man-Made Disasters:** Recognizing the risks posed by industrial accidents, hazardous material spills, and other human-induced disasters, the manual

emphasizes the development of Standard Operating Protocols (SOPs) for different government departments to ensure coordinated prevention, mitigation, and response.

Relief, Recovery, and Community Involvement

Some of the other aspects that the manual focuses on include:

1. **Relief Camp Management:**
   Detailed guidelines are provided on setting up and administering relief camps, covering critical aspects such as sanitation, food distribution, medical and psycho-social support, security, and media engagement. The manual underscores the importance of treating displaced individuals with dignity and ensuring special provisions for vulnerable groups.

2. **Early Warning and Information Dissemination:**
   A major focus is placed on strengthening early warning systems for various hazards, ensuring that alerts reach state and district officials in a timely manner to facilitate proactive disaster response.

3. **Financial Preparedness and Resource Mobilization:**
   The manual provides guidance on accessing state and national disaster relief funds, including the State Disaster Mitigation/Hazard Mitigation Fund and procedures for securing financial assistance from the State Disaster Response Fund (SDRF) and National Disaster Response Fund (NDRF).

4. **Capacity Building and Training:**
   Recognizing that preparedness is key to disaster resilience, the manual highlights training programs for government officials, emergency responders, medical personnel, educators, and community members to enhance disaster readiness at all levels.

5. **Documentation and Continuous Learning:**
   The importance of maintaining records of disaster response actions and lessons learned is emphasized to ensure continuous improvement in disaster management strategies.

Prime Ministers 10 Points Agenda on DRR

The Prime Minister's ten-point agenda serves as a practical roadmap for advancing the implementation of the Sendai Framework for Disaster Risk Reduction (SFDRR) 2015, which was adopted by 187 countries, including India. Each point in the agenda aligns with one or more of SFDRR's priority actions and necessitates a coordinated effort across all levels of government, extending beyond disaster management agencies. Since its introduction, the government has undertaken several initiatives to implement and operationalize the agenda.

1. **All development sectors must imbibe the principles of disaster risk management:**
   Development and disasters are inherently linked-planned development can reduce disaster risks, while unplanned growth can amplify them. It is crucial to integrate disaster risk reduction (DRR) strategies into all development initiatives, ensuring that policies and projects prioritize risk mitigation rather than creating new vulnerabilities.

2. Risk coverage must include all, from poor households to SMEs, multinational corporations, and nation-states. Disasters result in loss of lives, damage to property, and financial setbacks for individuals and businesses alike. Survivors face rehabilitation challenges, making financial inclusion and risk coverage essential. Existing government schemes such as Jan Dhan Yojana, Suraksha Bima Yojana, and Fasal Bima Yojana offer some protection, but further efforts are needed, including

   a. Developing home insurance mechanisms for disaster-prone areas

b. Expanding parametric insurance for weather- and climate-related risks

c. Designing insurance products that safeguard major infrastructure projects

3. **Women's leadership and greater involvement should be central to disaster risk management:**
Women are often portrayed as vulnerable to disasters, but they also play a critical role in disaster preparedness, response, and recovery. Strengthening women's leadership at household, community, and institutional levels can enhance disaster resilience. Efforts should include training women engineers, masons, and artisans for post-disaster reconstruction, empowering women's self-help groups for livelihood recovery, and increasing women's representation in disaster response forces such as NDRF and SDRF.

4. **Invest in risk mapping globally to improve the understanding of nature and disaster risks:**
Disasters transcend national borders, making global risk assessment essential. Comprehensive multi-hazard risk mapping in standardized formats can improve preparedness and mitigation efforts across regions. By enhancing global data-sharing and risk analysis, policymakers and responders can implement more effective disaster risk reduction strategies.

5. **Leverage technology to enhance the efficiency of disaster risk management efforts:**
Technology is a critical enabler of efficient disaster management. Investing in digital tools such as the India Disaster Resources Network (IDRN), e-platforms for resource mapping, and advanced early warning systems can significantly improve disaster response and preparedness. Integrating AI, satellite data, and mobile technology can enhance disaster resilience at all levels.

6. **Develop a network of universities to work on disaster-related issues:**
Creating a network of universities specializing in disaster-related studies can strengthen multi-disciplinary research and innovation in disaster risk reduction. Institutions can focus on specific hazard types relevant to their region, fostering knowledge-sharing and capacity-building at a national and global level.

7. **Utilize the opportunities provided by social media and mobile technologies for disaster risk reduction:**
Social media and mobile technologies provide real-time communication channels for early warnings, awareness campaigns, and crisis coordination. These platforms can bridge gaps in information dissemination, ensuring communities receive timely updates and guidance during emergencies.

8. **Build on local capacity and initiative to enhance disaster risk reduction:**
Disaster management must be rooted in local knowledge and initiatives. While state institutions provide overarching frameworks, community-led efforts are vital for effective risk reduction and response. Encouraging localization ensures the integration of indigenous knowledge, best practices, and sustainable livelihood opportunities within disaster preparedness strategies.

9. **Make use of every opportunity to learn from disasters, ensuring post-disaster studies inform future preparedness:**
Every disaster presents an opportunity for learning and improvement. Conducting post-disaster research helps document best practices, identify gaps, and enhance policy

frameworks for future disaster governance. Regular evaluations can strengthen disaster preparedness and response strategies.

10. **Bring about greater cohesion in international disaster resp onse:**
Large-scale disasters often require multinational collaboration for an effective response. Countries facing similar hazards can benefit from shared protocols, pre-disaster planning, and coordinated relief efforts. Strengthening global disaster response mechanisms through international forums and agreements will lead to more efficient and timely interventions.











DISASTER RISK REDUCTION



LIGHTNING AND STORM SAFETY MESSAGES

Assam State Disaster Management Authority

- During Lightning, unplug all the electrical/ electronic equipments such as television, refrigerator, computer, mobile phone/telephone etc.
- Stay away from water body/ running water, higher place, isolated tall tree, electrical post or metallic object during Lightning.
- Do not take shelter under an open house or a bus stop during lightning.
- Try to stay in your house during storm.
- If you are driving, park the vehicle in a safe place, away from trees or power lines. Stay away from glass panes that may shatter or break.
- If you see a bad weather or possibilities of a storm, do not go fishing in the boat or on the ferry.

Chapter 2

DISASTER RISK REDUCTION (DRR) ROADMAP

This DRR Roadmap emerged from a series of consultations and deliberations, designed with a comprehensive approach to understanding risks in their entirety. It set actionable goals to reduce risks, address vulnerabilities that could trigger them, facilitate disaster recovery, and strengthen the governance structures necessary for maintaining a risk-free environment. The philosophy behind the DRR Roadmap was not an isolated concept; rather, it complemented the objectives of global frameworks such as the Sustainable Development Goals, the Sendai Framework, the Prime Minister's Ten-Point Agenda, and others, all of which aimed to enhance resilience within systems.

The initial concept note for the Assam DRR Roadmap was developed by the Assam State Disaster Management Authority (ASDMA) and approved by the State Executive Committee (SEC) of ASDMA during its 37th meeting on 8th October 2018. A multi-stakeholder consultation, organized in collaboration with UNICEF, brought together participants from various departments, the National Defense Response Team, civil society, and academia, all of whom contributed their insights and inputs to shape the roadmap.

The DRR Roadmap is structured into seven thematic areas: resilience of the social service sector and infrastructure, critical infrastructure, cities and towns, livelihoods, emergency response systems, recovery mechanisms, and the enabling environment to achieve shared results. These thematic areas are aligned with four primary priorities: understanding risks, strengthening risk governance, investing in resilience, and enhancing preparedness for response and recovery. The approach is guided by key principles, such as building on existing governance systems; adopting an integrated all-hazards approach; promoting multi-stakeholder involvement; ensuring coherence and convergence, fostering equity and inclusion; supporting resilient

development; and adhering to the principle of "no harm."

Departmental Roles and Responsibilities

Each thematic action plan outlines a departmental strategy, specifying the nature, scope, and timeline for DRR actions. To support this, resource requirements and coordination mechanisms are also identified. Departments must commit to non-negotiable actions, including the preparation of the Department Disaster Management Plan (DDMP), maintaining necessary databases, conducting hazard analyses and vulnerability assessments, budgeting for DRR, issuing orders for safety audits, promoting awareness, implementing remedial actions, and taking other structural and non-structural measures. All departments are required to integrate DRR and climate change adaptation measures into their planning, design, and implementation of projects and schemes. DRR interventions must be explicitly incorporated into each department's disaster management plan.

The Assam State Disaster Management Authority (ASDMA) will serve as an enabler, facilitator, coordinator, and technical resource hub to support all departments in achieving the DRR Roadmap's objectives. Relevant departments will collaborate to establish state-and district-level joint monitoring teams to assess the integration of disaster preparedness, response, recovery, and mitigation in their projects and schemes. While each department has general responsibilities aligned with the thematic categories, some tasks require specialized departmental expertise and involvement.

Department of Finance and Its Strategic Responsibility

The Department of Finance plays a crucial role in implementing the DRR Roadmap. It will develop detailed guidelines for utilizing flexi funds under centrally sponsored schemes in alignment with the DRR Roadmap. The department will actively support other departments in creating risk-informed budgets and annual plans that align with the roadmap's objectives. It will also conduct feasibility studies on risk pooling and transfer instruments, including disaster insurance, as recommended by the 15th Finance Commission.

Using regular departmental resources, the department will develop and deploy real-time financial monitoring tools to assess recovery and reconstruction interventions implemented by departments, agencies, and districts affected by disasters, following the "Building Back Better" principle. The department will facilitate rapid mobilization of funds to address financial gaps in response and recovery strategies through the SDRF resources and a multi-window funding approach. In consultation with ASDMA, it will develop a system to assess financial losses and damages, analyzing their impact on the state's fiscal position. Additionally, the department will engage in financial projections for relevant stakeholders to drive actions for disaster prevention, mitigation, and preparation to reduce the disaster's impact on the state economy.

Implementing the Assam DRR Roadmap

The DRR roadmap serves as a framework guiding the state towards achieving resilience. To facilitate its smooth implementation, existing and proposed institutional mechanisms are essential. The Assam State Disaster Management Authority (ASDMA) will play a central role in obtaining cabinet approval for the roadmap and overseeing its execution. It reviews the progress against measurable indicators, guide fund utilization, and take proactive actions to ensure the successful implementation of the roadmap.

The State Executive Committee will monitor targets, key milestones, and the effectiveness of the implementation and M&E mechanisms outlined in the roadmap. Departmental apex committees and statutory bodies will approve departmental plans as part of the implementation process and integrate disaster and climate risk analysis into all

departmental programs. For interventions requiring external support, the ASDMA will guide and facilitate access to national and international funding. Several existing institutional mechanisms will be critical to the DRR Roadmap's success.

Proposal for a New Institutional Mechanism

In addition to the existing institutional mechanisms, the DRR Roadmap proposes the establishment of a DRR Roadmap Implementation Support Unit within the ASDMA premises, led by the CEO of ASDMA. This unit will act as a secretariat responsible for coordinating routine activities, capacity building, facilitation, reporting, and monitoring & evaluation (M&E) related to the roadmap's implementation. It will consist of experts from various stakeholder groups, each supported by a thematic consultant for every pillar of the roadmap.

A State Platform for DRR will be created to review the roadmap's implementation, monitor stakeholder performance, address challenges, and expand resource opportunities for DRR financing. The platform will be chaired by the Minister of Revenue and DM and the Vice-Chairperson of ASDMA, with membership including key department ministers, 3-4 selected MLAs, 3-4 municipal corporation chairs, 7-8 Zila Parishad chairs, representatives from UNICEF and other UN agencies, the private sector (FICCI, CII), civil society organizations (IAG and other networks), youth and student associations, trade unions, academic institutions, women's federations, self-help groups, farmers' associations, banks, financial institutions, and selected children and adolescents.

Implementation Modality

The DRR Roadmap for Assam follows a multi-vehicle implementation approach, emphasizing coordinated and interactive stakeholder engagement. To achieve this, several state-level missions are proposed based on the seven thematic groups. Two major state-level missions, the Livelihood Resilience Mission and the Urban Resilience Mission, will be developed, with their structure determined by the DRR Roadmap Implementation Support Unit. In addition to these missions, six outcome-oriented programs will be implemented by relevant departments, each with specific milestones, indicators, and targets. The DRR Roadmap Advisory Committee and the State Platform for DRR will continue consultative discussions to propose additional state-level missions and programs to achieve the goals set in the roadmap.

Measuring Results - Monitoring & Evaluation of the DRR Roadmap

The specific targets within the DRR Roadmap will align with the seven major targets of the sustainable development plans, which focus on reducing (a) disaster mortality, (b) the number of people affected, (c) economic loss, and infrastructure damage, while increasing (a) DRR strategies, (b) stakeholder cooperation, and (c) access to early warning systems and disaster risk information. Each target will be accompanied by milestones and measurable indicators for each thematic pillar. The process will include three key components: reporting through a unified platform, multi-stage verification, and quality control. Real-time analysis of the collected data will enable the assessment of progress against each target, facilitating timely adaptation, correction, and remedial actions as needed.

Online Reporting Process, Platform and Tools

The DRR Roadmap Implementation Unit establishes a single-window platform to enable all stakeholders to report progress on each thematic category in the DRR implementation process. The reporting is both quantitative and qualitative, aligned with targets, milestones, and measurable indicators. The results is continuously displayed on a dashboard, visualizing the progress of implementation. These submissions assist the DRR Roadmap Implementation Unit in preparing an annual report, which will serve as the primary document for strategic decisions

and discussions on future actions. A mandatory bi-annual reporting system will be required from relevant stakeholders, while need-based reporting may also be submitted to meet donor or government compliance requirements.

Quality Assurance Checklist

A quality assurance checklist will be employed to ensure the integrity of processes involved in developing plans, proposals, and reports. This checklist will evaluate whether the plan, proposal, or report aligns with the targets, milestones, and measurable indicators outlined in the DRR Roadmap framework. Additionally, it will assess the transparency, accountability, and capacity of the systems to effectively plan and implement any proposed missions, programs, or projects.

Assam State Disaster Management Plan (ASDMP) 2022

ASDMP 2022, presented in two volumes, serves as the overarching planning framework for disaster management in Assam. Volume 1 is a perspective plan with a long-term vision for 2022-2030, offering a historical, ideological, and technical overview. It incorporates the DRR Roadmap for Assam, spanning 2021-2030. Volume II is a strategic action plan providing a readily accessible guide for initiating necessary actions at various levels within the state. The ASDMP 2022 embodies national policies and priorities for Disaster Risk Reduction (DRR) and aligns with India's commitments to global goals such as the Sustainable Development Goals (SDGs), the Sendai Framework for Disaster Risk Reduction (SFDRR), and the Paris Agreement under the Global Agreement on Climate Change (GACC).

It signifies a shift from a relief-centric approach to a proactive, holistic, and integrated approach focusing on DRR through strengthened preparedness, mitigation, and emergency response. The plan aims to build a resilient state encompassing resilient infrastructure, services, livelihoods, institutions, and cities and villages. It is an agile document intended to evolve with time to address emerging disaster risks stemming from the changing nature of hazards, risks, vulnerabilities, and capacities. The State Government is responsible for its implementation, and all departments are expected to accept the responsibilities outlined within it, even if they extend beyond their normal functioning. The ASDMP is prepared by the State Executive Committee and approved by the State Authority, in line with the Disaster Management Act 2005 and Assam State Disaster Management Rules 2010.

Key focus of the plan:

1. **Mainstreaming Disaster Risk Reduction (DRR):**
   A central theme of the ASDMP is the systematic incorporation of risk reduction measures into the design and implementation of all development plans, policies, and projects across various sectors from the national to the local level. This includes generating risk awareness, conducting risk assessments, integrating DRR costs into project budgets, and setting targets and indicators for monitoring progress.

2. **Building resilience:**
   The plan places a strong emphasis on enhancing the resilience of institutions, society, and communities against disasters. This involves understanding disaster risks, investing in both structural and non-structural DRR measures, capacity development, and strengthening disaster risk governance.

3. **Social inclusion:**
   The ASDMP recognizes social inclusion as a cross-cutting theme relevant to all hazards and disasters, aiming to address the special needs of vulnerable groups such as women, children, Scheduled Castes and Scheduled Tribes, elderly people, Persons with Disabilities (PwDs), and transgender people. It emphasizes making disaster risk management inclusive through specific provisions, risk and impact assessments, psycho-social care, and a defined responsibility framework.

4. **Capacity development:**
   The plan outlines the importance of capacity development at all levels, including government departments, autonomous institutions, communities, and the education sector. This includes training communities as first responders, preparing local-level disaster management plans, familiarizing with escape routes, and conducting mock drills. The establishment of a State Disaster Resource Network (SDRN) is a key aspect of this, providing an inventory of DM-related resources.

5. **Disaster risk governance:**
   Strengthening disaster risk governance at all levels from local to state is a crucial objective. The plan emphasizes inter-agency coordination, clear roles and responsibilities for various stakeholders, and the involvement of non-governmental organizations (NGOs) and community-based organizations (CBOs).

ASDMP Volume I

The plan aims to guide multi-hazard risk reduction and the integration of disaster risk management (DRM) into development processes at all levels and across all sectors in the Government of Assam. Its vision is to build a resilient state encompassing resilient infrastructure, services, livelihoods, institutions, and cities and villages. The plan's main pillars include adherence to:

1. The Disaster Management Act (2005)
2. National Policy on Disaster Management (NPDM 2009)
3. NDMP 2019
4. The Prime Minister's 10-Point Agenda on DRR
5. Social Inclusion as a cross-cutting issue, and
6. Mainstreaming DRR into all streams of development

Further, ASDMP five key objectives are highlighted within the plan, which are:

1. **Improve the understanding of disaster risks, hazards, and vulnerabilities:**
   Conducting multi-hazard risk assessments, climate change impact studies, and safety audits for development projects

2. **Strengthen disaster risk governance at all levels from local to the state level:**
   Establishing clear roles and responsibilities, integrate disaster management into development planning, and ensure social and gender inclusivity.

3. **Invest in disaster risk reduction for resilience:**
   Prioritizing funding for DRR, build resilient infrastructure, empower communities, and integrate risk reduction into key sectors like agriculture, water, and healthcare.

4. Enhance disaster preparedness for effective response:
   Strengthening early warning systems, risk mapping, and the use of technology and traditional knowledge for disaster response.

5. **Promote "Build Back Better" in recovery, rehabilitation and reconstruction:**
   Focus on resilient recovery, rehabilitation, and reconstruction, with strong community participation and leadership, especially by women.

The plan includes an overview of Assam's geography, demography, administrative profile, economy, and major river systems. It identifies hazards, risks, and vulnerabilities, covering both natural, human-induced, and public health hazard. As such, the plan emphasizes micro-level hazard assessment to inform District Disaster Management Plans (DDMPs). The plan also outlines the institutional arrangements, guided by the Disaster Management Act 2005, and includes:

1. **Assam State Disaster Management Authority (ASDMA)**
   a. Chaired by the Chief Minister.

b. Responsible for state-level coordination, policy formulation, and resource allocation.

2. **District Disaster Management Authorities (DDMAs)**

   a. Oversee district-level disaster management.

   b. Ensure coordination between local agencies and response teams.

3. **Local Authorities' Role**

   a. Panchayati Raj Institutions (PRIs) and Urban Local Bodies (ULBs) are crucial in disaster preparedness and response.

The ASDMP highlights social inclusion and the rights of all people to be respected and included, regardless of gender, ability, or social status. To facilitate this, a responsibility framework, spanning both State and District Department/Agencies has been outline outlines ensure equitable inclusion in risk assessment, relief, and recovery efforts. It emphasizes addressing the needs of:

1. **Gender-based vulnerabilities**
2. **Scheduled Castes and Scheduled Tribes (SC&ST)**
3. **Elderly people**
4. **Women**
5. **Children**
6. **Persons with Disabilities (PwDs)**
7. **Transgender people**

Another important focus area of the plan is to integrate DRR into all developmental plans, policies, and projects. It highlights key thematic areas:

1. Generating awareness and understanding of disaster risk among all stakeholders;
2. Adequate legal mandate and better disaster governance strategies
3. Efficient disaster risk management strategy;
4. Social inclusiveness in disaster risk management;
5. Institutional arrangements and capacity development for disaster risk management;
6. Inter and intra government coordination;
7. Budget allocation for mainstreaming DRR concerns into developmental projects/plan
8. within the overall cost of the project in disaster prone areas;
9. Comprehensive project appraisal and scrutiny of development projects and plans to stress on multi-hazard resilient infrastructure; and
10. Set up realistic targets, time frame and monitoring mechanisms to achieve the objective of integrating disaster risk reduction in development.

Further to recognizing the need for mainstreaming DRR in developmental plans, ASDMP also includes the implementation strategy on practically translating the vision on ground. This can be done through:

1. Generating awareness and improving the understanding of risks
2. Allocating sufficient and appropriate budgets allocation for mainstreaming DRR concerns in development
3. Integrating DRR components with appraisal process of projects, and the supportive supervision plan of development projects.
4. Setting measurable targets, timelines and progress indicators
5. Ensuring social inclusion in disaster risk management

Another key priority area within ASDMP is to adopt the principles of Building back Better through:

1. **Recovery:**
   The post-disaster recovery process encompasses three key aspects; physical recovery, which involves restoring and reconstructing damaged community infrastructure, critical facilities, private homes, and cultural heritage buildings; economic recovery, focusing on revitalizing livelihoods, productive activities, and market services; and social recovery, addressing the psychological and social well-being of individuals, families, and communities. This will have three stages:

   a. **Early Recovery (3–18 Months):**
      Focuses on immediate relief, including cash-for-work programs, market resumption, restoration of social services, temporary shelters, and critical infrastructure repairs.

   b. **Mid-Term Recovery (Up to 5 Years):**
      Involves rebuilding assets and livelihoods, permanent housing reconstruction (including owner-driven approaches), and restoration of infrastructure, public buildings, and cultural heritage sites.

   c. **Long-Term Recovery (Within 10 Years):**
      Aligns with broader developmental plans, emphasizing infrastructure strengthening and sustainable rebuilding efforts.

2. **Reconstruction:**
   Reconstruction efforts will mainly include, Re-establishment of adequate housing through ODR etc. to replace the structures, which have been destroyed; Reconstruction of public infrastructures, buildings and social services damaged by disaster. This will be facilitated through multi-stakeholder coordination such as the state government; private sector; voluntary organization and international aid agencies.

3. **Rehabilitation:**
   The rehabilitation is classified into the physical, economic, and psychological rehabilitation

Other key focus areas of the plan include:

1. **Capacity development:**
   Strengthening disaster management by identifying and mobilizing resources, training government personnel and local responders, and implementing community-based disaster preparedness programs.

2. **Science & Technology in disaster management:**
   Leveraging Artificial Intelligence (AI) and Machine Learning for disaster risk reduction (DRR) applications, along with the establishment of the State Disaster Resource Network (SDRN) Portal to manage disaster-related inventories efficiently.

3. **Regional & international cooperation:**
   While disaster response coordination at the international and regional levels is primarily managed by the Government of India, Assam can benefit from external assistance during major disasters. Additionally, NGOs and Community-Based Organizations (CBOs) play a critical role in disaster awareness, relief efforts, and post-disaster reconstruction. The plan recognizes the State Government's primary responsibility for funding disaster management efforts, supported by the Union Government. Key financial mechanisms include:

   a. National Disaster Response Fund

   b. State Disaster Response Fund (SDRF)

   c. State Disaster Mitigation Fund (SDMF)

   d. Alternative funding sources, such as public funded schemes, Flexi Funds as a part of Centrally Sponsored Schemes, externally aided-projects

ASDMP Volume II

ASDMP Volume II, serves as a strategic action plan for disaster management in the state of Assam over the period of 2022-2030. It is designed to be a live and dynamic document, subject to modifications during annual reviews. This volume aims to translate the broader perspectives outlined in Volume I into

concrete strategies and action points.

Volume II is structured into three main chapters

1. **Chapter 1, Long Term Strategy for Combating the Pandemic / Endemic Outbreak (with Special Focus on COVID- 19):**

This chapter addresses the critical challenge of emergency management posed by pandemics, drawing inspiration from Karnataka's State Disaster Management Plan prepared during the COVID-19 pandemic. It presents a long-term strategy to effectively deal with current and future pandemics or endemics. This includes learning from the COVID-19 pandemic experience in Assam, where there were 5,94,846 confirmed cases as of 12th September, 2021. The chapter highlights the proactive measures taken by the Government of Assam, including the formulation of a 'strategic response plan for COVID-19'. Key elements of this long-term strategy include:

a. **Community Protection:**

Empowering communities to adapt aid based on local feedback. The "Assam Community Surveillance Plan (ACSP)" for detecting SARI and ILI cases across all villages/wards is to be institutionalized.

b. Ensuring sufficient availability of Personal Protective Equipment (PPE).

c. Identifying and addressing gaps in health facilities, with Guwahati Medical College and Hospital (GMCH) serving as a dedicated emergency hospital with WHO and UNICEF support. Establishing dedicated facilities at district and sub-district levels is also planned.

d. Participation of Private Health Facilities through partnerships and agreements to manage non-COVID/other pandemic cases and decongest medical colleges.

e. Aiming for 100% coverage of required vaccinations and strict adherence to SOPs in relief camps. Setting up Intensive Care Centres (ICCs) is also a part of preparedness.

f. Training of staff in clinical management of public health emergencies at all levels, potentially utilizing online platforms and involving final year medical and nursing students as backup.

g. Prioritizing the safety and security of public health warriors through measures like rotational work and quarantine.

h. Actively engaging frontline workers (ASHA, ANM, MPW) for awareness generation.

i. Providing psychological management for patients through yoga and counselling initiatives like **"MONON"**.

j. Making arrangements for bringing stranded people from other states on a case-by-case basis.

k. Launching massive IEC campaigns for mass awareness on public health emergencies using various media channels and involving public figures.

l. Maintaining a state's policy of mandatory quarantine with a humane approach based on the experience of COVID-19.

m. Developing a comprehensive, participatory, and multi-stakeholder DRR action plan against Biological and Public Health Emergencies.

n. Following the Strategic Response Plan for COVID-19 formulated by ASDMA in March 2020, which covers non-medical aspects like infrastructure, supplies, law and order, food security, and dead body management.

o. Incorporating a contingency plan with a clear response matrix based on Assam's

COVID-19 response and the Karnataka SDMP 2020-21, emphasizing coordination, monitoring, and protocols at each level. This includes process flows for managing suspected and mild cases.

2. Chapter 2, Preparedness and Response:

This chapter provides a detailed action plan focusing on activities and measures to ensure effective response to disasters. It emphasizes the interconnectedness of preparedness and response. Key areas covered in this chapter include:

a. Preparedness:

This involves a sound analysis of disaster risks, good linkages with early warning systems, and activities such as:

- Community Based Disaster Preparedness (CBDP), including the formation of Ward and Village level Disaster Management Committees (WDMCs and VDMCs), development of seasonality calendars of disasters, mapping exercises using Participatory Rural Appraisal (PRA), and formation of Disaster Management Teams (DMTs).
- Medical Preparedness, focusing on enhancing emergency medical response and mass casualty management through hospital disaster management plans, training of medical teams, and assessment of surge capacity.
- Exclusive Emergency Service in Assam, the 108 Emergency Response Services, which provides integrated medical, police, and fire emergency services.
- Early Warning Systems (EWS) and dissemination of warnings through various channels like websites, emails, TV, radio, police wireless, telegrams, SMS, WhatsApp, press bulletins, postal radio stations, and loudspeakers.
- Voluntary Initiatives, such as the Aapda Mitra scheme for community volunteer training in disaster response, and other local initiatives like Pratirodhi Bandhu.
- Hazard Specific Preparedness Planning, requiring hazard-specific actions by responsible government departments, to be shared and tested with stakeholders.
- Function Specific Preparedness Planning, outlining 19 key functions across different sectors with designated primary and secondary responsible departments.

b. Response:

This section emphasizes the need for a clear vision of potential hazards, action plans, and roles and responsibilities for all stakeholders to ensure a quick response to save lives and manage emergencies. It outlines the following:

- Strengthening and networking the State Emergency Operations Centre (SEOC) with all District Emergency Operations Centres (DEOCs) and connecting with national-level agencies and neighboring EOCs. The organizational setup of SEOC is also illustrated.
- Key components of the State Disaster Response Plan, including the State Disaster Response Force (SDRF).

- The role of Incident Response Teams (IRTs) at state, district, sub-division, and block levels, and the importance of a designated Nodal Officer for air support coordination.
- The crucial role of NGOs and Volunteer Organizations as first responders.
- Establishment of a centralized state-level disaster resource database and procedures for requesting additional resources and coordinating overseas aid.
- Coordination of response at the state level, with the Department of Revenue (mandated with Disaster Management) taking the lead.
- The importance of clearly defined response organizations as per the Incident Response System (IRS) in District Disaster Management Plans (DDMPs).
- A detailed Responsibility Matrix for Preparedness and Response at the State level, outlining Emergency Support Functions (ESFs) and the roles of various state and district agencies in areas like communication, data collection, disposal of animal carcasses, drinking water/sanitation, early warning, evacuation, food and essential supplies, fuel, housing/ relief camps, management of dead persons, media relations, medical care, power, ensuring safety of livestock, employment generation, logistics, and transportation. The organizational setup at the state level is visualized.
- The Incident Response System (IRS) is further elaborated, including its organizational structure, functions of the Command Staff, Planning Section, Operations Section, and Logistics/ Finance Section. The process flow during an incident is also depicted.
- Procedures for Staging Area Management.
- The importance of Inter-Agency Coordination at state and district levels, involving government, NGOs, institutions, and the corporate sector.

c. Relief:

This section focuses on the provision of immediate assistance to meet the basic needs of disaster-affected people. Key aspects include:

- Accountability for relief functions, primarily with the Commissioner& Secretary, Revenue & Disaster Management Department.
- Functions of the State Relief Commissioner.
- Reference to the comprehensive Assam Disaster Management Manual 2015, which supersedes the earlier Assam Relief Manual 1976 and provides guidelines on gratuitous relief, emergency provisions, and norms of assistance.
- Specific Relief Guidelines issued by the State, particularly the Guidelines on Management of Relief Camps in the context of COVID and other emergencies, covering aspects like capacity

earmarking, volunteer deployment, sanitation, medical support, food distribution SOPs, fodder for livestock, and quarantine/isolation facilities.

- Financial Arrangements, with reference to Chapter 12 of Volume I for details on financial support from the Central Government. It also discusses finalizing relief payouts and packages at the state level, funding through the state budget and the State Disaster Response Fund (SDRF), and exploring additional funding sources. Departments providing emergency support will maintain cost records for reimbursement.

3. **Chapter 3,**
Hazard Wise Responsibility Framework for Risk Reduction:

This chapter outlines a multi-hazard, multi-sectoral, and multi-stakeholder approach to building disaster resilience in Assam. It recognizes the cross-cutting nature of disasters and the need for inter-agency coordination and addressing capacity gaps. This chapter provides a detailed hazard-specific action plan and responsibility matrix for various disasters:

a. Earthquake
b. Floods
c. Soil Erosion
d. Urban Floods
e. Landslides
f. Drought
g. Cyclone and Wind
h. Heat Wave
i. Lightning
j. Boat Accidents
k. Forest Fire
l. Biological and Public Health Emergencies
m. Chemical (Industrial Disaster)
n. Nuclear and Radiological Emergencies

For each hazard, the matrix typically includes sub-thematic areas for Disaster Risk Reduction (DRR) and specifies the responsibilities of various state agencies across different phases, such as understanding disaster risk, inter-agency coordination, investing in structural and non-structural measures, capacity development, and climate change risk management.

In essence, ASDMP Volume II provides a comprehensive and actionable framework for disaster management in Assam, addressing both specific hazards and overarching functions like preparedness, response, and relief. It emphasizes a collaborative and coordinated approach involving various government departments, communities, and other stakeholders.

State Disaster Mitigation Fund

Within the ASDMP Volume I, the plan discusses financial arrangements for disaster management based on the recommendations of the Finance Commission, particularly the 15th Finance Commission (FC). Finance Commission's Recommendations on Disaster Risk Management Funding:

1. The 15th FC introduced a new methodology for allocating funds for disaster management to states, moving away from a purely expenditure-based approach. The new methodology considers a combination of:

   a. **Capacity:**
   Reflected through past expenditure.

   b. **Risk Exposure:**
   Area and population of the state.

c. **Hazard and Vulnerability:**
Disaster risk index.

2. This methodology was applied for the five-year award period from 2021-22 to 2025-26.

3. The 15th FC recommended the continuation of mitigation funds at both the Union and State levels: the National Disaster Mitigation Fund (NDMF) and State Disaster Mitigation Funds (SDMF). These funds are intended to aid the implementation of mitigation measures as per the Disaster Management Act, 2005.

4. The share of contribution to the SDRF and SDMF between the Union and the North Eastern and Himalayan (NEH) States, including Assam, is 90:10 (90% Central Government, 10% State Government). For other states, it is 75:25.

5. For the period 2020-21, the total allocation for the Disaster Risk Management Fund for Assam was Rs 858 Crore, and for 2021-26, it is Rs 4,268 Crore. This Disaster Risk Management Fund is comprehensive, covering response, relief, recovery, reconstruction, capacity building, and mitigation.

6. The breakdown of the Disaster Risk Management Fund is recommended as: Response and Relief (40%), Recovery and Reconstruction (30%), Capacity Building (10%), and Mitigation (20%).

7. The Finance Commission emphasized that mitigation funds should be used for local level and community-based interventions that help reduce risks and promote environment-friendly settlements and livelihood practices. Large-scale mitigation interventions (like coastal walls or major flood embankments) should be pursued through regular development schemes and not from the mitigation fund.

8. An indicative list of mitigation activities that can be undertaken from the SDMF is provided in Annexure 8.2 of the XV Finance Commission report. This list includes activities like mock drills, procurement of basic first aid or search and rescue equipment at the community level, community-based DRR training, promoting environment-friendly settlements, mainstreaming DRR at the local level, and social inclusion initiatives.

Translation to Assam's Mitigation Fund

The Assam Mitigation Fund Policy is established in accordance with the recommendations of the 15th Finance Commission and is guided by the following principles:

1. The State Disaster Mitigation Fund (SDMF) is constituted as per the Risk Management Fund recommended by the 15th Finance Commission. Up to 20% of the total State Disaster Risk Management Fund (SDRMF) shall be allocated for mitigation activities, ensuring alignment with the Finance Commission's prescribed framework.

2. The SDMF shall be utilized primarily for local and community-level mitigation interventions that reduce disaster risks and promote environmentally sustainable settlements and livelihoods. Large-scale projects shall be financed through regular development schemes rather than through the SDMF.

3. The policy acknowledges the indicative list of eligible mitigation activities outlined in the XV Finance Commission report but maintains flexibility for additional interventions. If the Assam SDMA identifies mitigation activities beyond this list, approval shall be sought from the SDMA, along with the corresponding financial outlay.

4. The State Disaster Management Authority (SDMA) shall oversee the utilization and implementation of the SDMF in accordance with the provisions of the Disaster Management Act.

5. Mitigation projects under the SDMF shall

primarily target local and community-level resilience-building efforts. Any larger interventions shall be routed through regular development schemes to ensure compliance with legislative requirements.

The policy also allows for the inclusion of mitigation activities for disasters not explicitly listed, such as pandemics, provided they align with the overarching objectives of risk reduction and environmental sustainability.

In the context of the State of Assam being highly prone to multiple natural hazards, various structural mitigation works along with non-structural mitigation measures are either approved or in process for implementation under SDMF. These are targeted towards to reducing the disaster risk, minimizing the losses and disruption in services by the disasters, and offering long term cost effective method as mitigation measures.

Various mitigation measures incorporating new technological interventions, such as slope protection, anti-erosion works, development or construction of link drains, bank protection measures, and installation of Seismic Monitoring Stations, are among the projects approved under SDMF in the state.

Pursuant to the 'Guidelines on Constitution and Administration of the NDMF based on the recommendations of the Fifteen Finance Commission 2021-22 to 2025-26', issued by Ministry of Home Affairs vide No-33-02/2020-NDM-I, Dated: 28.02.2022, and 'Guidelines for project under NDRF / SDMF' issued by NDMA vide No. 5-20/2014-Mit/8082 (E-111264), Dated: 06.03.2023 the following Committees are notified and become functional:

1. Appraisal Committee constituted for implementation of the proposals / projects under SDMF
2. Technical Advisory Committee (TAC) constituted to give overall technical guidance to SDMA for design and development of mitigation project and refining the mitigation strategy
3. Mitigation Project Management Division (MPMD) constituted to coordinate project activities supported under SDMF

Twelve meetings of the Appraisal Committee have been held to date, along with three meetings of the Mitigation Project Management Division, for the screening and in-principle approval of SDMF project proposals before their submission to the State Executive Committee (SEC) for final approval. Additionally, knowledge institutes such as IIT Guwahati and TISS Guwahati have been engaged as knowledge partners for vetting the DPRs under SDMF.

The financial year-wise approval of projects under SDMF to date is as follows:

1. FY 2022-23, three nos of SDMF proposals were approved by SEC amounting to 5532.37 lakhs.
2. FY 2023-24 , forty-three nos of SDMF proposals were approved by SEC amounting to 9348.83 lakhs
3. FY 2024-25, twenty nos of SDMF proposals were approved by SEC amounting to 4630.323 lakhs

District Disaster Management Framework

As per the provisions of the Disaster Management Act, 2005, under Section 30(2), all DDMA are mandated to prepare a District Disaster Management Plan (DDMP). Accordingly, all districts in Assam have developed their plans at different timelines. The DDMPs have been broadly structured around the following key components:

1. **Legal and institutional framework:**
   The plan is established under the authority of the Disaster Management Act 2005 and the Assam State Disaster Management Act of 2005, outlining the roles and responsibilities of the District Disaster Management Authority (DDMA) and other stakeholders.

2. **Evolution and scope:**
The plan's development history, starting from the UNDP Disaster Risk Management Programme in 2004 and its subsequent evolution after the enactment of the National DM Act 2005, is included. The scope of the plan covers vulnerability assessment, risk analysis, preventive measures, mainstreaming disaster management into development plans, preparedness measures, response mechanisms, stakeholder partnerships, financial arrangements, and the roles and responsibilities of various agencies involved.

3. **Aims and objectives:**
The plan clearly defines its goals, such as identifying vulnerable areas, adopting proactive prevention and mitigation measures, enhancing community resilience through capacity building, assigning responsibilities to government departments, establishing standard procedures for disaster response, ensuring stakeholder participation, setting up an emergency operation centre, developing early warning systems, preparing response plans aligned with the state plan, promoting disaster-resilient construction, utilizing media in disaster management, planning for rehabilitation and reconstruction, and ensuring disability inclusion.

4. **Implementation strategies:**
The plan outlines how its objectives will be achieved through activities like conducting vulnerability surveys, assessing and acquiring necessary resources, aligning departmental development plans with the DDMP and State Disaster Management Policy, establishing standard operating procedures, and conducting consultations with government departments and NGOs.

5. **Stakeholder roles and responsibilities:**
The plan identifies key stakeholders such as government agencies, NGOs, the private sector, media, academia, community/citizens, and the immediate environment. It specifies the duties and responsibilities of various entities including the District Commissioner, local authorities, private sector, and community groups in different phases of disaster management.

6. **Approval, review, and updation mechanism:**
The process for the DDMP's preparation by the DDMA in consultation with local authorities, its approval by the Assam State Disaster Management Authority (ASDMA), and the mandatory annual review and updation are detailed. The plan emphasizes the need for review after major incidents, changes in resources, updates in planning guidance, each activation, major exercises, changes in demographics or hazard profiles, and new laws.

7. **Hazard, risk, vulnerability, and capacity analysis:**
The plan includes an analysis of the district's hazard profile, categorizing them into natural (meteorological and geological) and man-made. It defines vulnerability and risk, emphasizing the need for hazard vulnerability and risk assessment to inform mitigation and preparedness efforts.

8. **Hazard mitigation strategies:**
The plan prioritizes hazard mitigation for significant threats like earthquakes, floods, river bank erosion, and landslides. It discusses the integration of disaster management into development programs, the creation of a District Hazard Mitigation Plan, and potential mitigation measures for specific hazards, including structural and non-structural measures.

9. **Preparedness measures:**
This section covers a wide range of activities aimed at enhancing the district's readiness to respond to disasters. It includes establishing control rooms, plan updation, communication system training, forming and training disaster management teams, organizing mock drills, building evacuation plans, community awareness programs, maintaining emergency response equipment, ensuring health preparedness, identifying mass casualty management protocols, establishing early warning systems, coordinating with the armed forces, NGOs,

and other stakeholders, resource mobilization, protocol for VIP visits, community preparedness, media management, maintaining a disaster management database (IDRN), corporate sector involvement, school preparedness, enhancing community and system resilience, and preparedness planning. Hazard-specific preparedness plans are also outlined, assigning primary responsibility to different departments for various hazards.

10. **Response plan:**
The plan outlines the concept of operations for disaster response, including different disaster levels (L0-L3) and response management arrangements covering planning, execution, and coordination. It details key activities before, during, and after a disaster event, such as alert and warning, operational readiness, activation of coordination mechanisms, deployment of emergency teams, search and rescue, relief supplies and logistics, volunteer management, post-disaster needs assessment, and the transition to recovery. The Incident Response System (IRS) and the roles of Emergency Support Functionaries (ESFs) are integral parts of the response plan. Community participation in disaster response is also emphasized.

11. **Recovery and reconstruction plan:**
This component addresses the restoration and improvement of facilities, livelihoods, and living conditions of disaster-affected communities. It outlines the institutional mechanism for recovery, the importance of community participation, and specific activities like restoring damaged houses and critical infrastructure.

12. **Standard Operating Procedures (SOPs):**
The plan includes SOPs for various aspects of disaster management, particularly for the DDMA and relief operations. These procedures define the roles and responsibilities of different departments during preparedness, mitigation, response, and recovery phases. Specific guidelines for setting up and managing relief camps are also provided.

13. **Financial arrangements:**
The plan discusses the creation and utilization of disaster response and mitigation funds at the district level, aligning with the Disaster Management Act 2005. It also outlines the responsibilities of state departments and agencies in preparing financial projections for their DM plans.

14. **GO-NGO coordination:**
The plan emphasizes the importance of collaboration between governmental organizations (GOs) and non-governmental organizations (NGOs) in all phases of disaster management. It outlines actions to be taken by the DDMA to facilitate this coordination, including developing a database of NGOs, building their capacity, and forming an Inter-Agency Group (IAG).

15. **Monitoring and evaluation:**
The plan includes procedures for regularly reviewing its implementation, checking its efficacy after disasters, updating it annually, maintaining the resource inventory, updating contact details, making the plan accessible, conducting mock drills, and ensuring coordination with central agencies.

16. **Coordination with central agencies:**
The importance of coordination between the DDMA and various central government agencies for effective disaster management is highlighted.

17. **Alignment with Prime Minister's 10 point agenda on DRR:**
The plan explicitly details how it aligns with each of the ten points of the Prime Minister's Agenda on Disaster Risk Reduction, ensuring that the district's efforts are in line with national priorities.

Guidelines & SOPs of ASDMA

ASDMA played a crucial role in formulating, issuing and implementing guidelines and standard operating procedures (SOPs) to mitigate the impact of COVID-19 in the state. These directives were designed to ensure a coordinated response,

balancing public health concerns with economic and social imperatives. Some of the key Guidelines and SOPs included:

Containment measures:

1. ASDMA issued directives for micro and macro containment zones based on infection rates.
2. Restrictions on movement, night curfews, and controlled public gatherings were imposed to curb the spread.
3. Periodic assessments were conducted to ease or tighten restrictions based on epidemiological data.

Workplace and institutional guidelines:

1. Offices, industries, and commercial establishments were mandated to follow COVID-19 appropriate behavior, including mask usage, social distancing, and frequent sanitization.
2. Work-from-home protocols were encouraged for non-essential staff.
3. Educational institutions were provided SOPs for phased reopening with health monitoring mechanisms.

Travel and transportation protocols:

1. Interstate and intrastate travel guidelines were introduced, requiring mandatory testing and quarantine protocols for travellers.
2. Public transportation systems were required to operate at reduced capacity, ensuring adherence to safety measures.

Healthcare and isolation facilities:

1. SOPs for hospitals, COVID Care Centres, and home isolation were standardized to ensure efficient case management.
2. Special provisions were made for vulnerable groups, including elderly individuals and persons with comorbidities.
3. Vaccination drives and awareness campaigns were launched to enhance community participation.

Public safety and social Distancing measures:

1. Public places, markets, and religious institutions were required to implement staggered entry, frequent sanitization, and crowd control measures.
2. Events, celebrations, and social functions were regulated with strict participant limits.

Sustainable Development Goals (SDGs)

SDGs stresses on DRR in several ways, recognizing the significant impact of disasters on sustainable development. The Agenda acknowledges that more frequent and intense natural disasters threaten to reverse development progress. Therefore, building resilience and reducing vulnerability to disasters are crucial components of achieving the SDGs. Some of the key inclusion of DRR in the SDGs are as fellows

1. **Overall Recognition of Disaster Impacts:**
   The 2030 Agenda for Sustainable Development acknowledges that the world today faces immense challenges, including "more frequent and intense natural disasters," which can reverse development gains. It emphasizes the need to take bold and transformative steps to shift the world onto a sustainable and resilient path, pledging that "no one will be left behind".
2. **Goal 1, End poverty in all its forms everywhere:**
   Target 1.5 specifically aims to "by 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters". This highlights the critical link between poverty eradication and reducing disaster risk for the most vulnerable populations.

3. **Goal 3, Ensure healthy lives and promote well-being for all at all ages:**
   Target 3.d aims to "strengthen the capacity of all countries, in particular developing countries, for early warning, risk reduction and management of national and global health risks". This recognizes the importance of preparedness and proactive measures in minimizing the health impacts of disasters.

4. **Goal 9, Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation:**
   The very framing of this goal emphasizes the need for "resilient infrastructure", which is essential for withstanding and recovering from disasters and supporting sustainable development.

5. **Goal 11, Make cities and human settlements inclusive, safe, resilient and sustainable:**
   This goal has several targets directly related to DRR:

   a. Target 11.5 aims to "by 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations". This target sets a clear objective for reducing the human and economic costs of disasters.

   b. Target 11.b aims to "by 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015–2030, holistic disaster risk management at all levels". This target explicitly links the SDGs to the Sendai Framework for Disaster Risk Reduction, a key international agreement on DRR. It emphasizes the need for integrated and participatory approaches to disaster risk management at all levels.

6. **Goal 13, Take urgent action to combat climate change and its impacts:**
   While this goal primarily focuses on climate change, it is inherently linked to DRR as climate change is a significant driver of many natural disasters. Target 13.1 aims to "strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries".

7. **Goal 15, Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss:**
   The agenda mentions the determination to strengthen cooperation on desertification, dust storms, land degradation, drought, and to "promote resilience and disaster risk reduction" in the context of sustainable management of natural resources.

The SDGs emphasize the integrated and indivisible nature of the goals and targets. This means that progress in one area, such as DRR, can contribute to progress in other goals, such as poverty reduction and sustainable cities. The Agenda also highlights the importance of partnership and cooperation at all levels to achieve these goals, including in the area of disaster risk reduction. Furthermore, the follow-up and review processes for the SDGs will track progress in implementing these targets, including those related to DRR.

RESPONSE & RECOVERY



Chapter 3

RESPONSE & RECOVERY

Classification of Disasters Handled by ASDMA

The Assam State Disaster Management Authority (ASDMA) has been at the forefront of managing a wide range of disasters, both at the state and national levels. These disasters can be broadly classified into Hydro-Meteorological Disasters, Seismic Activities, Biological Disasters, and Anthropogenic Disasters. Below is a detailed overview of the disasters handled by ASDMA during the period from April 2020 to March 2024

1. Hydro-Meteorological Disasters

Hydro-meteorological disasters are the most frequent and devastating in Assam, driven by the state's unique geographical and climatic conditions. ASDMA has played a critical role in managing these disasters, which include:

a. Floods

Floods are the most significant disaster faced by Assam. Assam experiences a high rainfall. The subtropical climate and adverse climatic conditions lead the state to witness flood every year. The flood-prone area of Assam, as assessed by the National Flood Commission, constitutes 39.58% of the state's total land area. This is about 9.40% of the total flood-prone area of India.

Each year, flood affects an estimated 39.5 lakh people, causing widespread devastation. From 2011 to 2020, floods claimed 811 human lives, and in 2022 alone, 88.5 lakh people were affected, resulting in 181 fatalities.

The years between 2020 to 2023 were no exception, each year witnessing more than a single wave of flood in the months of June to October. 2020 floods brought about in four waves, claiming 125 lives, damaging lives of 57,89,130 people spanning across 5475 villages in 30 of the districts (134 Revenue Circles).

The number of waves of flood was repeated in 2021 inundating 2442 villages in 28 districts (96 Revenue Circles) affecting 9,09,718 people, with a casualty of 8. In the year 2022 the casualty rose to 181 and 2023 floods stopped after claiming 18 lives. Both the years saw three waves of flood,

each year affecting more than 90 lakhs of people displacing thousands of them to relief camps, while more than 30 districts remaining under ominous waves of water.

It seems, each year, as if the entire state reels under water. The following three figures will demonstrate the severity of the calamity at a glance, from 2010 to 2023.

Source of the three figures: https://asdma.assam.gov.in/sites/default/files/swf_utility_folder/departments/asdma_revenue_uneecopscloud_com_oid_70/menu/document/assam_flood_memorandum_2023.pdf

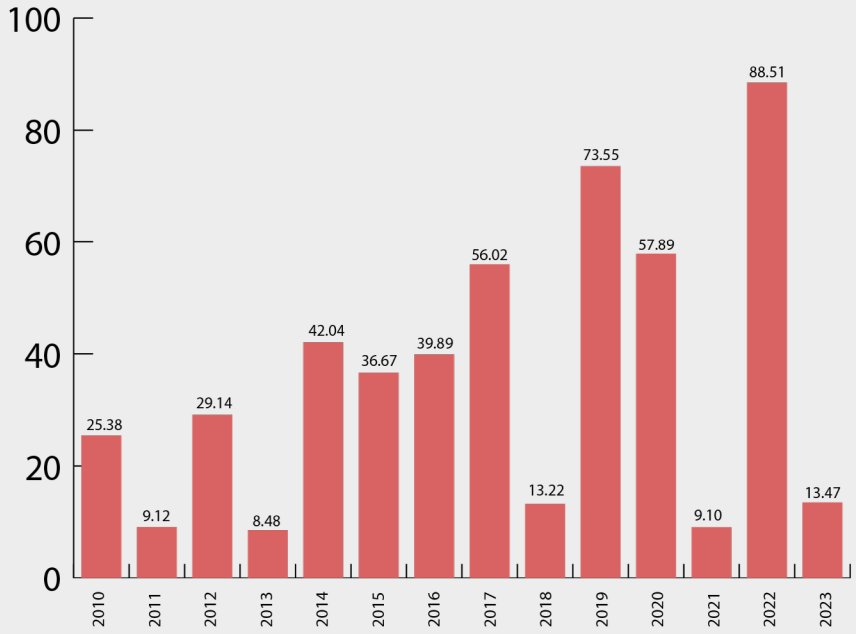


Figure 1: Graph showing Population Affected by Floods from 2010-2023

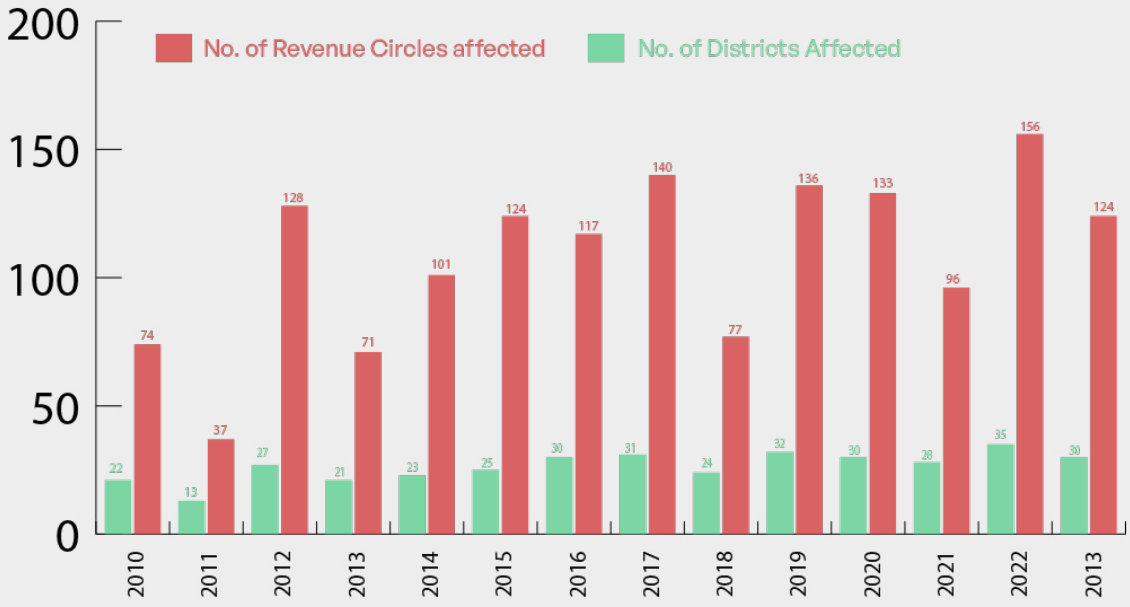


Figure 2: Graph showing Districts and Revenue Circles Affected by Floods from 2010-2023

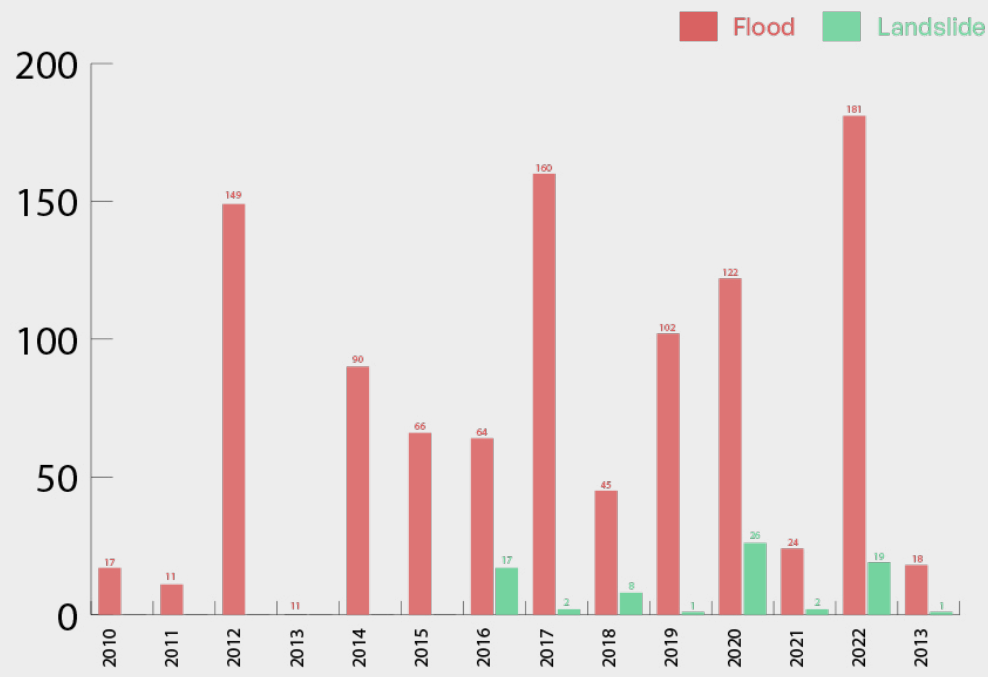


Figure 1: Graph showing Population Affected by Floods from 2010-2023

Response:

ASDMA coordinated rescue operations, relief distribution, and temporary shelter management. The use of technology, such as satellite-based flood mapping and early warning systems, was intensified.

b. Landslides

Landslides have emerged as a significant concern, particularly in the hilly districts. Heavy monsoon rains trigger massive landslides, disrupting road connectivity and isolating several communities. In 2022, landslides caused 32 deaths and damaged critical infrastructure, including roads and bridges, hampering relief and recovery efforts. In 2023 as well, the scenario got repeated. Landslides damaged critical infrastructure, including roads and bridges, hampering relief efforts.

Response:

ASDMA worked with the National Disaster Response Force (NDRF) and local authorities to conduct search and rescue operations and restore connectivity.

c. Cyclones and Storms

Although less frequent, cyclones and storms have also impacted Assam, particularly in the southern and western regions. In 2021, Cyclone Yaas caused heavy rainfall and wind damage in the state, affecting over 1.2 lakh people and damaging 12,000 houses. Such events underscore the need for multi-hazard preparedness.

Response:

ASDMA activated its disaster response mechanisms, including the deployment of relief teams and distribution of essential supplies.

d. Lightning

Lightning strikes have emerged as a major cause of fatalities, particularly in rural

areas. In 2022, lightning claimed 87 lives across the state.

Response:

ASDMA launched awareness campaigns and distributed lightning arresters in vulnerable areas.

2. Seismic Activities

Assam falls in Seismic Zone V, making it highly susceptible to earthquakes and tremors. ASDMA has been actively involved in preparedness and response efforts for seismic disasters.

a. Earthquakes

The 2021 Assam earthquake, with a magnitude of 6.4, caused widespread panic and damage to buildings in the Nalbari and Sonitpur districts. While no major earthquakes were reported in 2023-2024, the state remains on high alert due to its proximity to active fault lines.

Response:

ASDMA conducted damage assessments, provided temporary shelters, and initiated awareness programs on earthquake safety.

b. Tremors

Frequent tremors have been reported across the state, keeping communities on high alert.

Response:

ASDMA has strengthened its early warning systems and conducted regular mock drills to enhance preparedness.

3. Biological Disasters

The COVID-19 pandemic and the threat of zoonotic outbreaks have added a new dimension to disaster management in Assam.

a. COVID-19 Pandemic

The pandemic posed unprecedented challenges, requiring a multi-sectoral response.

Response:

ASDMA played a key role in coordinating relief efforts, including the distribution of medical supplies, setting up quarantine centres, and managing vaccination drives. Over 2.5 crore vaccine doses were administered in Assam by March 2024.

b. Zoonotic Outbreaks

Assam has faced sporadic outbreaks of zoonotic diseases, such as African Swine Fever and Avian Influenza.

Response:

ASDMA collaborated with the Animal Husbandry and Veterinary Department to contain outbreaks and prevent their spread to humans.

4. Anthropogenic Disasters

Anthropogenic disasters, caused by human activities, have also been a focus area for ASDMA.

a. Fires

Urban and rural fires have caused significant damage to property and lives. In 2023, A major fire in Guwahati destroyed several homes and commercial establishments.

Response:

ASDMA worked with the Fire and Emergency Services to conduct rescue operations and provide relief to affected families.

b. Industrial Hazards

Industrial accidents, though rare, have occurred in Assam's oil and gas sector. In 2022, An oil spill in Dibrugarh caused environmental damage and affected local communities.

Response:

ASDMA coordinated with the Pollution Control Board and oil companies to

mitigate the impact and clean up the affected areas.

c. **Oil Spills**

Oil spills in the Brahmaputra River have raised environmental and health concerns.

Response:

ASDMA has been working with environmental agencies to monitor and prevent such incidents.

Climate Change and Disaster Risk

Climate change has exacerbated the frequency and intensity of disasters in Assam. Rising temperatures, erratic rainfall patterns, and glacial melt in the Himalayas have contributed to increased flooding and landslides. A 2023 study by the Indian Meteorological Department (IMD) highlighted that Assam has experienced a 15% increase in extreme rainfall events over the past decade, further compounding the state's vulnerability. According to the State Action Plan for Climate Change (SAPCC), the annual mean temperature in Assam is projected to increase by 1.7-2.2 degrees Celsius by 2050, with extreme rainfall events expected to rise by 38%.

A report titled 'Climate Vulnerability Assessment for the Indian Himalayan Region using a Common Framework' (2018-19), published under the 'Capacity Building on Climate Change Vulnerability Assessment in the States of Indian Himalayan Region' project of the Department of Science and Technology, Government of India, was submitted by IIT, Guwahati, IIT, Madras and Indian Institute of Science, Bangalore. . (Climate Vulnerability Assessment for the Indian Himalayan Region Using a Common Framework by Indian Institute of Technology Guwahati and Indian Institute of Technology Mandi). As per this report, Assam has the least area under irrigation (in percentage terms), least forest area available per 1,000 rural households and the second lowest per capita income among the 12 States/ UTs of the Indian Himalayan Region. The report has assessed Assam as the most vulnerable to climate change among the 10States/ UTs of the Indian Himalayan Region.

Districts	States	VI	Rank	Drivers of vulnerability
Karimganj	Assam	0.753	1	Rainfed agriculture, lack of crop insurance, small area under horticulture, lack of improved drinking water sources
Goalpara	Assam	0.752	2	Yield variability of food grains, small area under horticulture, low forest area, lack of implementation of MGNREGA
Dhubri	Assam	0.734	3	Rainfed agriculture, small area under horticulture, low forest area
Darrang	Assam	0.732	4	Yield variability of food grains, small area under horticulture, low forest area
Katihar	Katihar	0.725	5	Marginal and small operational landholdings, lack of crop insurance, low forest area
Sonitpur	Assam	0.720	6	Rainfed agriculture, yield variability of food grains, lack of crop insurance, low forest area, low road density
Araria	Bihar	0.707	7	Marginal and small operational landholdings, lack of crop insurance, small area under horticulture, low forest area
Kishanganj	Bihar	0.707	8	Marginal and small operational landholdings, lack of crop insurance, low forest area

Districts	States	VI	Rank	Drivers of vulnerability
Golaghat	Assam	0.707	9	Rainfed agriculture, yield variability of food grains, lack of crop insurance, low forest area, lack of implementation of MGNREGA
Cachar	Assam	0.703	10	Rainfed agriculture

7 out of 10 most climate vulnerable districts of India are in Assam

Socio-Economic Impact

The recurring disasters have had a profound socio-economic impact on Assam. Economic loss has become a major concern. Agriculture, infrastructure, and small-scale industries have been heavily affected. The loss of livelihoods, particularly among farmers and daily wage earners, has pushed them to economically vulnerable situations.

ASDMA's Role in Disaster Management

Addressing the vulnerabilities of Assam to climate change requires a multifaceted approach. This includes implementing climate adaptation measures, strengthening infrastructure and disaster management systems, promoting sustainable agriculture practices, and enhancing the resilience of vulnerable communities. International cooperation and support are also crucial in assisting Assam and other climate-vulnerable regions in building resilience and adapting to the changing climate conditions.

In this challenging context, the Assam State Disaster Management Authority (ASDMA) has played a pivotal role in coordinating response and recovery efforts. From strengthening early warning systems to mobilizing resources for relief and rehabilitation, ASDMA has worked tirelessly to mitigate the impact of disasters and build resilience among communities.

From April 2020 to March 2024, ASDMA has demonstrated remarkable resilience and efficiency in managing a diverse range of disasters. Whether responding to the annual floods, mitigating the impact of earthquakes, or tackling the challenges posed by the COVID-19 pandemic, ASDMA has consistently prioritized the safety and well-being of the people of Assam. The authority's multi-hazard approach, coupled with its emphasis on community involvement and technological innovation, has set a benchmark for disaster management in India.

Digitization of Disaster Reporting and Information Management System: A Pioneering Assam

Introduction

In the realm of disaster management, the availability of accurate, timely, and actionable data is critical for effective decision-making. Recognizing this, the Assam State Disaster Management Authority (ASDMA), with technical support from UNICEF, has pioneered the development of the Disaster Reporting and Information Management System (DRIMS). This innovative digital platform, launched in 2024, represents a transformative step in disaster reporting and management, not only for Assam but for India as a whole. DRIMS is a comprehensive, single-window system designed to streamline disaster reporting, enhance real-time decision-making, and improve response and recovery efforts. This initiative underscores Assam's commitment to leveraging technology for better governance and disaster resilience.

The Need for Digitization in Disaster Management

Challenges in Traditional Disaster Reporting

Before the advent of DRIMS, disaster reporting in Assam was a manual and labour-intensive process. Key challenges included:

- **Time-Consuming Processes:**
  Reports were prepared at the revenue circle level and compiled at district and state levels, involving multiple stakeholders. This manual process was slow and inefficient.
- **Prone to Errors:**
  Manual data entry and compilation often led to inaccuracies, affecting the reliability of the information.
- **Lack of Real-Time Data:**
  The absence of real-time data hindered timely decision-making during emergencies.
- **Inadequate Disaggregated Data:**
  Critical details such as sex, age, and gender were often missing, making it difficult to address the needs of vulnerable groups like children, pregnant women, and persons with disabilities.

The Role of Technology in Disaster Management

Digitization addresses these challenges by introducing automation, real-time data analytics, and integrated communication systems. By leveraging digital tools, disaster management authorities can enhance operational efficiency, improve data accuracy, and ensure timely communication during emergencies.

Theoretical Framework:

Benefits of Digitization in Disaster Management

Enhanced Data Accuracy and Timeliness

Digitization eliminates the errors and delays associated with manual data entry. Real-time data collection and reporting ensure that decision-makers have access to accurate and up-to-date information.

Improved Coordination and Communication

Digital platforms facilitate seamless communication and coordination among multiple agencies, reducing duplication of efforts and ensuring a unified response.

Efficient Resource Management

Advanced analytics and GIS tools enable authorities to allocate resources more effectively, ensuring that aid reaches those who need it most.

Increased Public Participation

Mobile apps and public-facing portals empower citizens to contribute to disaster management efforts, fostering a sense of community ownership and resilience.

The Evolution of DRIMS: From FRIMS to a Comprehensive Platform

Phase 1:
Flood Reporting and Information Management System (FRIMS)

The journey toward digitization began in 2020 when UNICEF supported ASDMA in developing the Flood Reporting and Information Management System (FRIMS). FRIMS was designed to improve the timeliness, adequacy, and efficiency of real-time flood reporting in Assam.

Key Features of FRIMS:

- **Web-Based Data Collection:**
  A centralized platform for daily flood situation reporting.
- **Mobile Applications:**
  Android and iOS apps for field officers, supporting both online and offline modes.
- **Real-Time Data Visualization:**
  Dashboards for rapid visualization of flood data.
- **Disaggregated Reporting:**
  Inclusion of sex, age, and gender-specific data to address the needs of vulnerable populations.

Impact of FRIMS:

- Reduced reporting time from days to hours.
- Improved accuracy and reliability of flood data.
- Enhanced coordination among response agencies.
- Enabled faster decision-making during flood emergencies.

Phase 2:
Transition to DRIMS

Building on the success of FRIMS, ASDMA expanded the platform to cover other disaster risks, including urban floods, earthquakes, storms, lightning, fires, and landslides. This led to the development of the Disaster Reporting and Information Management System (DRIMS), a single-window disaster reporting platform.

Key Features of DRIMS:

- **Comprehensive Coverage:**
  Reporting for multiple disaster types on a single platform.
- **User-Friendly Design:**
  Optimized layout for ease of use by field officers.
- **Offline Functionality:**
  Allows data entry in remote areas with limited connectivity.
- **Real-Time Analytics:**
  Advanced dashboards for data visualization and decision-making.

Launch of DRIMS:

- DRIMS was ceremonially launched on 15 May 2024 by the Chief Secretary of Assam.
- The platform is now live, providing a unified disaster reporting system for stakeholders at all levels.

Case Studies: Success Stories of Digitization in Assam

The digitization of disaster reporting and information management in Assam represents a significant leap forward in the state's disaster management capabilities. Two are the following success stories.

Case Study 1:
Real-Time Flood Monitoring in Barpeta District

During the 2022 floods, FRIMS played a critical role in managing the crisis in Barpeta district. Field officers used mobile apps to report water levels and affected areas in real-time. The data was integrated into the system, enabling authorities to:

- Identify the most severely affected areas.
- Deploy rescue teams and relief materials promptly.
- Provide timely updates to the public through the FRIMS portal.

As a result, the response time was significantly reduced, and the district administration was able to minimize loss of life and property.

Case Study 2:
Landslide Early Warning System in Dima Hasao

In 2023, ASDMA implemented a Landslide Early Warning System (LEWS) in Dima Hasao, a district prone to landslides. The system uses satellite data and ground sensors to monitor slope stability and predict landslides. Key outcomes include:

- Early warnings issued to communities at risk.
- Timely evacuation of vulnerable populations.
- Integration of LEWS data into DRIMS for comprehensive risk assessment.

This initiative has significantly enhanced the district's preparedness and response capabilities.

Implementation Challenges and Solutions

The implementation of the digital technology is not without its challenges. ASDMA, however, could identify them and came out with solutions.

Digital Literacy and Training

One of the key challenges in implementing digital systems is the lack of digital literacy among field officers and community volunteers. ASDMA has addressed this issue through:

- Comprehensive training programs on using digital tools.
- User-friendly interfaces and offline functionality in mobile apps.

Connectivity Issues in Remote Areas

Many parts of Assam, particularly in hilly and flood-prone regions, face connectivity issues. ASDMA has overcome this challenge by:

- Developing offline-capable mobile applications.
- Establishing satellite-based communication systems for emergency use.

Data Security and Privacy

The digitization of disaster management involves handling sensitive data, raising concerns about security and privacy. ASDMA has implemented robust cybersecurity measures, including:

- Encryption of data during transmission and storage.
- Regular audits and updates to security protocols.

Future Directions

Information Management System is crucial in effectively handling calamities. The present digital era is a ripe time to reap its benefits. ASDMA is all set to catch up with the time and technology. They move about the room of progress by the following steps.

Expansion of Digital Initiatives

ASDMA plans to expand its digital initiatives to cover other types of disasters, such as earthquakes and cyclones. This includes the development of specialized reporting systems and early warning mechanisms.

Integration with National Systems

Efforts are underway to integrate Assam's digital systems with national platforms, such as the National Disaster Management Authority (NDMA)'s information management systems. This will enhance interoperability and data sharing at the national level.

Leveraging Artificial Intelligence (AI) and Machine Learning (ML)

ASDMA is exploring the use of AI and ML for predictive analytics and risk assessment. These technologies can help identify patterns and trends, enabling proactive disaster management.

By leveraging technology, ASDMA has transformed the way disasters are reported, monitored, and managed. The success of initiatives like FRIMS and DRIMS underscores the potential of digitization to save lives, reduce damage, and build resilience. As Assam continues to innovate and expand its digital infrastructure, it sets an example for other states and regions to follow in the quest for effective and efficient disaster management.

Early Warning and Communication Systems

Introduction

The Assam State Disaster Management Authority (ASDMA) has made significant strides in enhancing early warning and communication systems over the period of 201-2024. These systems are critical for effective disaster response and recovery, enabling timely dissemination of alerts, real-time monitoring, and data-driven decision-making. This section highlights the key initiatives and technological

advancements implemented by ASDMA, including the evolution of AI-based alert systems, to strengthen disaster preparedness and mitigation efforts in Assam.

Integrated Web GIS Platform and SMART AXOM Mobile App

ASDMA, in collaboration with the North Eastern Space Applications Centre (NESAC), Shillong, has developed an Integrated Web GIS Platform for real-time early warning dissemination and spatial analytics. This platform, established at a cost of Rs. 1,81,3000/-, is designed to monitor and manage disaster events effectively. A redundant node has been set up at ASDMA to ensure uninterrupted service, while the primary alert gateway infrastructure is located at NESAC, Umium (Meghalaya).

As part of this initiative, ASDMA launched the SMART AXOM Mobile App (available on Android and iOS) to visualize early warnings issued by various agencies. The app was introduced to District Disaster Management Authorities (DDMAs) through a half-day familiarization exercise conducted in December 2023. Feedback from these sessions has been incorporated into the app, which is currently in the testing phase for DDMA officials. The final release for public use will follow the provisioning of the redundant node at ASDMA.

Jal Tarangini: Automated River Water Level Monitoring System

To address the recurring challenge of floods, ASDMA, in collaboration with the National Informatics Centre (NIC), Assam, has operationalized the Jal Tarangini project. This automated system monitors river water levels at Dibrugarh on the Brahmaputra River. A tri-party Standard Operating Procedure (SOP) involving ASDMA, NIC, and the Water Resources Department (WRD) has been established to ensure the project's operation, maintenance, and scalability.

Emergency Response Support System (ERSS)

ASDMA has signed a Memorandum of Understanding (MoU) with the National Disaster Management Authority (NDMA) to implement the Emergency Response Support System (ERSS). This project aims to integrate the state's disaster management toll-free number (1070) with the national emergency number (112) to respond to disaster-related distress calls.

The State Emergency Operation Centre (SEOC) has been extended to accommodate ERSS infrastructure, including equipment, connectivity, and manpower. ASDMA is in the process of recruiting seven personnel to manage the system, with NDMA providing Rs. 18,26,640/- for their remuneration over three years.

Common Alerting Protocol (CAP) Sachet Platform

ASDMA has adopted the Common Alerting Protocol (CAP) Sachet Platform, introduced by NDMA, for disseminating disaster alerts. Since its implementation in May 2022, the platform has delivered 5.73 crore alert SMSs to citizens, based on 44 alerts issued by agencies such as the India Meteorological Department (IMD), Central Water Commission (CWC), and Forest Survey of India (FSI).

Evolution of AI-Based Alert Systems

The integration of Artificial Intelligence (AI) into early warning systems has revolutionized disaster management. AI-based alert systems leverage machine learning algorithms and predictive analytics to enhance the accuracy and timeliness of warnings. For instance, ASDMA's Lightning Early Warning System utilizes AI to detect and predict lightning strikes, enabling timely alerts to vulnerable areas.

AI-driven systems also facilitate the analysis of historical data to identify patterns and trends, as seen in ASDMA's efforts to correlate lightning strike data with casualty reports. This approach not only improves risk assessment but also aids in the development of targeted preparedness measures.

Lightning Early Warning System

Recognizing the increasing fatalities caused by lightning strikes, ASDMA implemented a Lightning and Severe Weather Early Warning System. This system, integrated with an SMS gateway, provides real-time alerts to government officials and volunteers, enabling swift preparedness measures. Additionally, ASDMA has analysed daily lightning reports and mapped high-risk zones using GIS platforms, further enhancing the system's effectiveness.

Mapping of Critical Utilities and Infrastructures

ASDMA has initiated the mapping of critical utilities and infrastructures across the state. This data repository supports disaster preparedness, risk assessment, and decision-making by enabling quick identification of key facilities during emergencies.

Flood Mapping Initiatives

ASDMA has collaborated with the National Remote Sensing Centre (NRSC) to map flood-affected villages using satellite imagery. By overlaying flood inundation layers with village data, ASDMA has created district-wise flood maps that aid in visualizing the extent of flooding and identifying vulnerable populations.

Additionally, ASDMA has categorized revenue circles based on 12 years of flood data, creating a Flood Vulnerable Revenue Circle Map. This map classifies areas into Very High, High, Moderate, Low, and Very Low vulnerability zones, guiding administrative preparedness efforts.

Unmanned Aerial Vehicles (UAVs) in Disaster Management

ASDMA has procured advanced UAVs, including heavy-duty drones, light-weight quadcopters, and survey-grade drones, to enhance disaster management activities. These UAVs are used for real-time monitoring, high-resolution mapping, and relief operations, significantly improving response efficiency.

Effectiveness and Challenges

Effectiveness:

The initiatives undertaken by ASDMA in the domain of early warning and communication systems have significantly strengthened Assam's disaster management capabilities. From AI-based alert systems to advanced mapping technologies, these efforts underscore ASDMA's commitment to safeguarding lives and property. As climate change intensifies the frequency and severity of disasters, continued innovation and collaboration will be essential to building a resilient Assam.

Challenges:

Limited internet connectivity in remote areas and reluctance to adopt technology hinder its full potential. Efforts are underway to integrate radio-based alerts and AI-driven automated messaging.

Early Warning and Dissemination Systems under Assam Integrated River Basin Management Program

Introduction

Effective early warning and dissemination systems (EWDS) are critical for mitigating flood impacts in Assam, where annual floods disrupt millions of lives. Between 2021 and 2024, ASDMA enhanced its EWDS under the Assam Integrated River Basin Management Program (AIRBMP), leveraging advanced technologies to deliver timely, geotagged alerts. These systems, supported by Component 3.2 of AIRBMP, aim to improve situational awareness, streamline response, and reduce casualties in flood-prone regions.

Key Components

The AIRBMP EWDS comprises four integrated elements:

1. **State and District Emergency Operations Centres (SEOC/DEOC):**

- The State Emergency Operations Centre (SEOC) in Guwahati serves as a command-and-control hub, hosting officials from line departments for real-time monitoring and coordination.
- Ten District Emergency Operations Centres (DEOCs) in districts like Dibrugarh and Sonitpur are being upgraded with state-of-the-art hardware and software for localized response management.
- Upgrades enable alert synthesis, risk visualization, and decision-making during floods.

2. **Cell Broadcast-Based Public Alerting System:**
    - Geo-fenced alerts are disseminated via telecom providers, delivering multilingual messages to targeted populations in flood-prone areas.
    - The system ensures rapid communication, reaching remote communities with actionable warnings.
3. **GIS Lab for Data Processing:**
    - A state-of-the-art GIS lab at the AIRBMP Project Implementation Unit (PIU) office supports advanced data processing, hazard modeling, and impact prediction.
    - The lab serves as a centralized repository for spatial and non-spatial data, syncing with SEOC for real-time decision-making.
4. **Integrated Emergency Management Suite (IEMS):**
    - The IEMS, under development in Phase I, connects EWDS components to maintain real-time situational awareness.
    - It supports initial damage assessments, informs response strategies, and aids elected officials in prompt decision-making.

Progress and Achievements

As of 2024, the GIS lab is operational, processing data for flood risk mapping. The SEOC and selected DEOCs are undergoing upgrades, with completion targeted for 2025. The cell broadcast system has been piloted in high-risk districts, enhancing alert dissemination during the 2023 floods, which saw eight embankment breaches. The IEMS is in the design phase, with software modules being developed to integrate with existing systems like the Flood Early Warning System (FLEWS).

Contribution to Disaster Response

The EWDS strengthens ASDMA's ability to issue timely warnings, enabling communities to evacuate efficiently. In 2023, early warnings reduced response times in districts like Barpeta, supporting initiatives like Child-Friendly Spaces by ensuring safe evacuations. The system's real-time data capabilities also inform recovery efforts, guiding resource allocation under the State Disaster Response Fund (SDRF).

Conclusion

The AIRBMP EWDS represents a leap forward in Assam's disaster preparedness, harnessing technology to deliver precise, timely warnings. By upgrading EOCs, leveraging GIS analytics, and developing integrated software, ASDMA is enhancing its capacity to protect lives and livelihoods, ensuring a resilient response to Assam's recurring floods.

Incident Response System (IRS)

Introduction

The Incident Response System (IRS) is a standardized, all-hazard management framework designed to enhance the efficiency, coordination, and effectiveness of disaster response and recovery efforts. It provides a structured approach to managing emergencies, ensuring that all stakeholders—government agencies, emergency services, NGOs, and community volunteers—can

work together seamlessly during crises. The IRS is particularly critical in regions like Assam, which face frequent and multi-faceted disasters such as floods, landslides, earthquakes, and cyclones.

Why IRS?

Disasters often involve multiple agencies, jurisdictions, and disciplines, each with its own protocols and resources. Without a unified system, coordination can break down, leading to delays, inefficiencies, and increased risks to life and property. The IRS addresses these challenges by:

- Establishing a clear chain of command with defined roles and responsibilities.
- Promoting modular organization, allowing the system to scale up or down based on the complexity of the incident.
- Ensuring integrated communication and information management to facilitate real-time decision-making.
- Emphasizing resource management to optimize the use of available assets.
- Developing Incident Action Plans (IAPs) that outline objectives, strategies, and tactics for effective response.

Key Components of IRS

- **Unified Command:**
  A single, coordinated command structure to avoid confusion and ensure accountability.
- **Modular Organization:**
  Flexible organizational structure that can expand or contract based on incident needs.
- **Comprehensive Resource Management:**
  Efficient tracking, allocation, and utilization of resources.
- **Integrated Communications:**
  Seamless flow of information among all stakeholders.
- **Incident Action Planning:**
  Dynamic planning process to set objectives and guide response efforts.

Importance of IRS in Disaster Management

The IRS transforms the initial chaos of a disaster into a well-organized response process. It answers critical questions such as:

- Who is in charge of response activities?
- How are resources being allocated?
- What are the immediate and long-term objectives?

By providing a clear framework, the IRS minimizes response time, reduces duplication of efforts, and ensures that all actions are aligned with the overarching goal of saving lives and reducing damage.

Evolution of IRS in India

The IRS was adapted from the Incident Command System (ICS), a model widely used in the United States for emergency management. Recognizing its effectiveness, the Government of India adopted the IRS under the National Disaster Management Authority (NDMA) guidelines in 2010. Since then, states like Assam have institutionalized the IRS to strengthen their disaster response mechanisms.

IRS in Assam:
Incident Response System and Emergency Coordination

Assam, one of India's most disaster-prone states, has embraced the IRS as a cornerstone of its disaster management strategy. The state faces recurring floods, landslides, and seismic activities, which demand a robust and coordinated response system. In Assam, the IRS has been adopted as a critical tool to manage the state's frequent and multi-faceted disasters, including floods, landslides, earthquakes, and cyclones. From April 2020 to March 2024, the Assam State Disaster Management Authority (ASDMA), in collaboration with the National Institute

of Disaster Management (NIDM), has conducted extensive training programs and capacity-building initiatives to operationalize the IRS at both state and district levels.

This section highlights the implementation of IRS, the role of Incident Response Teams (IRTs), the activation of State and District Emergency Operations Centres (SEOCs & DEOCs), and the coordination mechanisms with national and local agencies. It also emphasizes the contributions of NGOs, civil society, and international collaborations in strengthening Assam's disaster response capabilities.

Implementation in Assam:

- The Government of Assam adopted the IRS in 2014 through state and district-level notifications.
- IRS training programs have been conducted for district and sub-district officials, focusing on Basic and Intermediate levels.
- The 2024 IRS Training Programme, held from 15th to 17th May, aimed to build the capacity of district authorities to lead IRS Basic training and establish efficient disaster response systems.

Role of Incident Response Teams (IRTs)

Composition of IRTs:

- **Incident Commander:**
  Oversees the overall response effort.
- **Operations Section:**
  Manages tactical operations, including search and rescue.
- **Planning Section:**
  Develops action plans and tracks resource deployment.
- **Logistics Section:**
  Ensures the availability of equipment, supplies, and personnel.
- **Finance Section:**
  Manages costs and procurement.

Functions of IRTs:

- Conducting search and rescue operations.
- Coordinating relief distribution and medical assistance.
- Assessing damage and providing real-time updates to Emergency Operations Centres (EOCs).
- Ensuring the safety of responders and affected communities.

Training and Capacity Building:

- ASDMA has conducted state-level training programs to build the capacity of IRTs.
- Emphasis is placed on hands-on exercises, such as mock drills and tabletop simulations.
- Activation of State and District Emergency Operations Centres (SEOCs & DEOCs)

Functions of SEOCs and DEOCs:

- **Coordination Hub:**
  Facilitates communication and coordination among all response agencies.
- **Situation Monitoring:**
  Tracks the progress of response efforts and identifies emerging challenges.
- **Resource Management:**
  Allocates resources based on real-time needs.
- **Public Information:**
  Disseminates timely and accurate information to the public.

Activation Process:

- SEOCs and DEOCs are activated as soon as a disaster is anticipated or occurs.
- The activation process involves mobilizing personnel, setting up communication systems, and establishing coordination mechanisms.

Technology Integration:

- SEOCs and DEOCs are equipped with advanced technologies, including GIS, satellite imagery, and real-time data analytics, to enhance decision-making.

Rapid Response Mechanisms and Coordination with NDRF, SDRF, and Local Agencies

National Disaster Response Force (NDRF):

- NDRF teams are deployed during major disasters to conduct search and rescue operations.
- In 2022, NDRF teams rescued over 5,000 people during the Assam floods.

State Disaster Response Force (SDRF):

- SDRF plays a complementary role to NDRF, focusing on state-specific needs.
- SDRF teams are trained in flood rescue, landslide response, and medical first aid.

Coordination with Local Agencies:

- Local authorities, including district administrations and police, work closely with NDRF and SDRF to ensure a coordinated response.
- Community volunteers, such as Aapda Mitras, play a vital role in supporting response efforts at the grassroots level.

Role of NGOs, Civil Society, and International Collaborations in Emergency Response

NGOs and Civil Society:

- NGOs have supported relief and rehabilitation efforts, particularly in remote and vulnerable areas.
- Civil society organizations have facilitated community-based disaster risk reduction (CBDRR) initiatives, empowering local communities to respond effectively.

International Collaborations:

- Partnerships with international agencies, such as the United Nations Development Programme (UNDP) and the World Bank, have provided technical and financial support for disaster management projects.
- For example, the Assam Integrated River Basin Management Program (AIRBMP), supported by the World Bank, has enhanced flood resilience in the state.

Key Contributions:

- Providing emergency relief materials, such as food, water, and shelter.
- Supporting long-term recovery and rehabilitation efforts.
- Building community resilience through training and capacity-building programs.

Future Plans and Recommendations

District-Level IRS Training and Mock Exercises:

- ASDMA plans to conduct district-level IRS training and mock exercises to educate and sensitize governmental response departments and concerned agencies.
- The workshops will include sensitization sessions, tabletop exercises, and mock drills based on IRS principles.

Key Stakeholders:

- All notified IRT members of the district.
- Responding agencies, local administration, and NGOs.
- Youth volunteers and Aapda Mitras.

Proposed Agenda:

- **Day 1:** Sensitization and role clarity on IRS.
- **Day 2:** Tabletop and simulation exercises.

- **Day 3:** Mock exercises involving all stakeholders.

IRS: A Road Ahead

The Incident Response System (IRS), combined with the activation of SEOCs and DEOCs, has significantly enhanced Assam's disaster response capabilities. The coordinated efforts of NDRF, SDRF, local agencies, NGOs, and international partners have ensured a rapid and effective response to disasters. By leveraging technology, community participation, and interagency collaboration, Assam has set a benchmark for disaster management in India. This integrated approach will continue to play a critical role in building resilience and safeguarding lives and livelihoods in the face of future disasters.

Early Preparedness: Strengthening Disaster Response Through Mock Exercises

1. Introduction to Response Preparedness

The Assam State Disaster Management Authority (ASDMA) has progressively built a robust and multi-layered emergency response system aimed at mitigating the impacts of disasters, particularly recurrent floods.

To institutionalize emergency response, ASDMA has consistently undertaken State and District Level Mock Exercises (SMEs) and Emergency Management Exercises (EMExs), in collaboration with the National Disaster Management Authority (NDMA) and respective District Disaster Management Authorities (DDMAs). These initiatives are designed to test readiness, validate disaster management plans, strengthen inter-agency coordination, and ensure community awareness.

2. The 2023 State-Level Flood Mock Exercise

In April 2023, ASDMA organized a State-Level Mock Exercise on Floods covering eight highly vulnerable districts—Cachar, Dhubri, Darrang, Kamrup, Kamrup Metro, Lakhimpur, Nagaon, and Nalbari. This large-scale simulation served as a litmus test for the operational effectiveness of Assam's disaster response ecosystem.

Key Components:

- **Online Orientation (April 11, 2023):**
  A preparatory conference involving stakeholders across the eight districts, with guidance from NDMA.
- **Tabletop Exercise (TTEx) (April 25, 2023):**
  A scenario-based strategic discussion to clarify roles under the Incident Response System (IRS).
- **Field Mock Drill (April 27, 2023):**
  Full-scale simulation of flood disaster scenarios across five sites per district, with activation of staging areas, relief camps, and triage points.

Sl. No	Incident Response Team (Designation)	Name of the Officer	Designation
1	Responsible Officer	Shri Gitimoni Phukan, ACS	Deputy Commissioner cum Chairperson, DDMA
2	Incident Commander	Sri Suswapna Kakoty, ACS	ADC cum CEO, DDMA,
3	Deputy Incident Commander	Sri Sangeeta Devi, ACS	AC, Nalbari,
4	Safety Officer	Sri Chayanika Thakuria, ACS	ADC ,Nalbari,
5	Liaison Officer	Dr.Hemanta Baishya	DPO, DDMA, Nalbari

Sl. No	Incident Response Team (Designation)	Name of the Officer	Designation
6	Information & Media Officer	Sri Chumpi Chutia	DIPRO, Nalbari
7	Operation Section Chief	Sri Shdhakar Singh, APS	SP,Nalbari
a. Staging Area Manager	Sri Simanta Bora		DTO, Nalbari
b. Rescue & Response Branch,	i. Natural Disasters	Sri Albert L Khobang	Sr. Station Officer
ii. Epidemic & Health Hazard	Dr. Subhash Sarma		Joint Director Health Services, Nalbari
iii. Manmade Disasters	Sri Shdhakar Singh, APS		SP, Nalbari
c. Transport (Road, Rail, Water, Air Unit)	Sri Simanta Bora		DTO, Nalbari
8	Planning Section Chief	Sri Mun Gogoi ,ACS	CEO ,ZP,Nalbari
a. Situation Unit	Hemanta Baishya		DPO, DM, Nalbari
b. Resource Unit	Hemanta Baishya		DPO, DM, Nalbari
c. Documentation Unit	Sri Dharitri Sarma		FO, DM
d. Demobilization Unit,	Sri Rajib Chakraborty		FO, DM
9	Logistic Section Chief	Sri Chayanika Thakuria, ACS	ADC cum Nazarat Officer, Nalbari
a. Service Branch	Sri Ajitabh Bhoumik, ACS		AC, Nalbari
i. Communication Unit	Insp. Utpal Sarma		In-Charge, APRO
ii. Medical Unit	Dr. Kameswar Lahkar		Add. CM & HO, MCH
iii. Food Unit	Sri Manoj Goswami		I/C Dy. Director , F&CS,
b. Support Branch	Sri Chayanika Thakuria, ACS		ADC cum Nazarat Officer, Nalbari
i. Resource & Provisioning Unit	Sri Paresh Haloi		EE, PWD (Roads)
ii. Facilities Unit	Sri Pranjal Sarma		EE, PWD (Building)
iii. Ground Support	Sri Parthopratim Barua		EE, PHE

Sl. No	Incident Response Team (Designation)	Name of the Officer	Designation
c. Finance Branch		Sri Chayanika Thakuria, ACS	ADC cum Nazarat Officer, Nalbari
i. Time Unit		Sri Ramen Barman	Nazir, DC's Office, Nalbari
ii. Compensation/Claim Unit		Sri Biva Kanchan Gogoi , ACS	AC, Nalbari,
iii. Procurement Unit		Smt Daisy Nath	Finance Account Officer
iv. Cost Unit		Sri Ganesh Deka	Treasury Officer, Nalbari

Highlights from Cachar and Darrang:

- In Cachar, five flood-prone zones—Rongpur Karatigram, Madhura Ghat, Bethukandi, Simultala, and Berenga—were selected. Multi-agency operations involved SDRF, Indian Army, ONGC, and local health teams. Response included deployment of boats, lifebuoys, GPS tracking, ambulances, and triage support.
- In Darrang, sites like Kabikara village, KN LPG Industry, and an irrigation sluice gate near Janaram Chowka were used. Real-time scenarios included embankment breaches, mass evacuations, and industry-specific rescue efforts. Over 15-line departments and volunteer groups were mobilized.

Systems Activated:

- Incident Command Posts (ICPs)
- Emergency Operations Centres (SEOC/DEOC)
- Alternate Communication Systems (APRO VHF, SATCOM)
- Relief Camps with sanitation, medical, veterinary services

Outcomes and Key Learnings

Observers from NDMA and ASDMA provided constructive insights post-exercise. Common themes included:

- **Gaps in Communication:**
  Need for alternative networks such as satellite phones and community radio.
- **Resource Mobilization:**
  Engineering departments lack earth-moving equipment and often depend on third parties.
- **Health Surge Capacity:**
  Insufficient arrangements for temporary or mobile field hospitals during mass casualty events.
- **Snake Bite Awareness:**
  Identified as a critical, often overlooked health risk during floods.
- **Crowd Control:**
  Untrained community response often leads to chaos, necessitating structured training in crowd and traffic management.
- **Relief Camp Compliance:**
  Need for training in Relief Camp Management Guidelines and psychosocial support mechanisms.

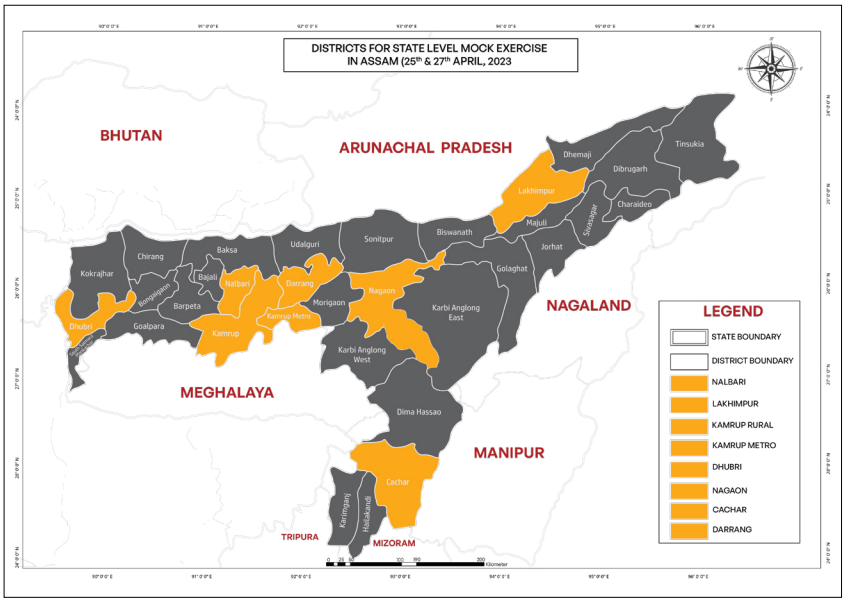
4. Integration of Community-Based Volunteers

ASDMA's strategy has increasingly focused on community empowerment, recognizing that communities are first responders. Over the years, programs like Aapda Mitra and Civil Defence Volunteers have been trained and deployed during simulations. Their role in early warning dissemination, rescue support, and relief camp management has become indispensable.

Sl no	Response Agencies Involved at Incident sites Venue	Response Agencies
1	Pagladia embankment near Moiradonga village (Area for water rescue & evacuation)	SDRF, Fire & ES, Health (108 Ambulances), APRO, Revenue & DM Officials, AAPDA MITRA volunteers.
2	Industrial Estate, Gopal Bazar (Roof top rescue due to inundation of flood water)	SDRF, Fire & ES, Health (108 Ambulances), APRO, Revenue & DM Officials, AAPDA MITRA volunteers.
3	Health & Wellness Centre, Batahghila (Shifting of stranded patients due to entry of water inside the hospital)	SDRF, Fire & ES, Health (108 Ambulances), APRO, Revenue & DM Officials, AAPDA MITRA volunteers.
4	Balbhaban High School, Sarihatoli	Social Welfare, Health, Veterinary, APRO, Revenue & DM Officials, AAPDA MITRA volunteers.
5	Balbhaban High School, Sarihatoli	Health, APRO, Civil Defense, AAPDA MITRA & CD volunteers
6	Nalbari Medical College	Staff from Nalbari Medical College, 108, Field Officer.
7	Staging Area (ASTC Stand, Nalbari)	DTO, SDRF, Fire & ES, Health (108 Ambulances), Suptt. ASTC

5. Technological and Institutional Innovations

- **Wireless Communication Nodes:** In collaboration with APRO, wireless hubs were established at key district HQs.
- **Digital Reporting:** Real-time data capture and reporting during exercises improved post-event analysis.
- **Incident Response Team (IRT) Protocols:** Standardization across districts under IRS increased coordination.



Map showing the districts covered as part of the Mock Exercise in Assam
(Source: Report on State_level_Mock_Exercise_2023_Assam)

Early Preparedness: Emergency Management Exercises (EMEx) – Institutionalizing Resilience at the Grassroots

1. Background and Framework

In 2023, ASDMA extended its capacity-building framework through Revenue Circle Emergency Management Exercises (EMEx). This three-day simulation-based initiative was executed in 11 revenue circles across districts like Sonitpur, Bongaigaon, Dhemaji, Barpeta, Majuli, Lakhimpur, Morigaon, and others.

Why EMEx? Assam's exposure to multi-hazards—floods, erosion, earthquakes, and cyclones—necessitates micro-level interventions. EMEx was developed to address response deficiencies at the revenue circle level—the most operationally significant administrative unit during disasters.

2. Structure of EMEx 2023

Three-Day Model:

- **Day 1:**
  Training Programs (Basic SAR, First Aid, Camp Management, WASH)
- **Day 2:**
  Table Top Exercises (TTEx) with scenario-based planning
- **Day 3:**
  Mock Drill on flood scenarios involving multi-agency coordinated response

Stakeholders Involved:

- ASDMA, NDMA
- NDRF (1st and 12th Battalions)
- SDRF, Civil Defence, Fire Services
- Aapda Mitra Volunteers
- UNICEF, IAG, NGOs and CSOs
- Local Health, Veterinary, Education, PHE, and Revenue Departments

3. Implementation Highlights

In Majuli, the river island district, accessibility emerged as a critical issue. The mock exercise covered flood evacuation from remote islets such as Sadhu Chapori, requiring deployment of country boats and helicopters in simulation.

In Dhemaji, one of India's most flood-prone districts, flash flood rescue operations involved mass evacuation drills from embankment-breached zones. Rescuers focused on vulnerable groups—elderly, children, and the disabled.

Operational Lessons:

- **Decentralized Relief Operations:**
  Revenue circles need localized logistics hubs.
- **Cross-Border Coordination:**
  Many floods stem from upstream rainfall in Bhutan and Arunachal Pradesh. Real-time coordination with weather services and hill districts is crucial.
- **Inter-Agency Command Structures:**
  Incident Response Teams with defined SOPs significantly improve on-ground execution.

4. Impact and Strategic Outcomes

The EMExs achieved several institutional milestones:

- **Improved Preparedness Index:**
  Measured through faster response times, better use of IRS, and streamlined communications.
- **Community Sensitization:**
  Mass outreach programs during the drills educated communities on Do's & Don'ts during floods, first aid, and safe evacuation practices.
- **Relief Camp Innovations:**
  Functional relief camps included breastfeeding corners, livestock shelters, medical kiosks, and segregated sanitation



for men and women—ensuring dignity in disaster recovery.

5. Challenges and Recommendations

- **Inadequate Equipment:**
  Many districts reported lack of SAR tools, drones, and inflatable boats.
- **Weak Veterinary Response:**
  Floods affect not just people but livestock, yet veterinary preparedness remains underdeveloped.
- **Gender-Inclusive Recovery:**
  Special attention needs to be paid to women, lactating mothers, and the disabled in post-disaster shelters.

Recommendations:

- Institutionalize EMEx as an annual event with allocated budget lines.
- Develop district-level Rapid Response Kits including SAR tools, solar lighting, inflatable rafts, and first-aid materials.
- Set up Relief Logistics Warehouses in each revenue circle for quicker response.

Preparedness: Water Resources Department Endeavours

Introduction

The Water Resources Department (WRD) of Assam plays a critical role in flood and erosion management, protecting over 16.5 lakh hectares—more than 50% of the state's 31.05 lakh hectare flood-prone area—through sustained efforts. Between 2021 and 2024, WRD implemented a range of schemes and initiatives, supported by state, central, and international funding, to enhance Assam's preparedness and resilience against recurring floods and riverbank erosion.

Key Schemes and Initiatives

1. Schemes in 2021–22:

- WRD executed 226 schemes worth ₹1,142.51 crore, including 20 schemes under SOPD-G (₹129.22 crore), 83 under SOPD-FDR (₹432.44 crore), 19 under SOPD-ODS (₹188.37 crore), 10 under RIDF-XXVII (₹207.02 crore), 2 under NEC (₹9.46 crore), and 92 under SDRF (₹176 crore).
- These schemes focused on embankment repairs, anti-erosion measures, and infrastructure upgrades in flood-prone districts like Dibrugarh and Barpeta.

2. Schemes in 2023–24:

- WRD initiated 213 schemes totaling ₹730 crore, including 58 under NABARD RIDF-XXIX (₹526.5 crore), 32 under SOPD-G (₹44.35 crore), and 105 under SDRF (₹125 crore).
- Eighteen anti-erosion projects were completed for ₹34.1 crore, protecting vulnerable riverbanks along the Brahmaputra and its tributaries.
- During the 2023 floods, WRD successfully repaired eight embankment breaches, ensuring rapid response to minimize damage.

3. Major Programs:

- **Flood Management and Border Areas Programme (FMBAP):**
  A ₹115.945 crore scheme was approved for erosion protection along the Aie River in Chirang, enhancing local resilience.
- **Assam Integrated River Basin Management Project (AIRBMP):**
  With a $500 million World Bank loan, WRD proposed flood management schemes for the Buridehing and Manas-Beki rivers, alongside a Hydro-Informatics Unit for real-time asset monitoring.
- **Climate Resilient Brahmaputra Project:**
  Funded by a $400 million Asian Development Bank loan, this project targets flood and erosion management in eight districts, including Morigaon and Dhubri, with long-term resilience measures.

4. Capacity Building:

- WRD collaborated with ASDMA to organize training on "SDMF Guidelines" for department officials, enhancing preparedness for flood response and recovery.

Impact on Preparedness

WRD's initiatives have significantly strengthened Assam's flood preparedness. The completion of anti-erosion projects and embankment repairs in 2023 protected thousands of hectares from inundation, while AIRBMP's real-time monitoring systems improved response efficiency. These efforts complement ASDMA's Child-Friendly Spaces by ensuring safer environments for displaced communities during floods.

Conclusion

Through strategic schemes and innovative programs like AIRBMP and the Climate Resilient Brahmaputra Project, the Water Resources Department has bolstered Assam's flood preparedness. By protecting critical areas and enhancing infrastructure, WRD's endeavours ensure effective response and recovery, safeguarding lives and livelihoods in one of India's most flood-prone states.

Preparedness and Capacity Building

1. State-Level Training for Field Officers on Flood Management and Disaster Reporting

- **Date:** 28th - 30th March 2022
- **Venue:** Don Bosco Institute, Kharguli, Guwahati
- **Participants:** Over 150 Field Officers (Disaster Management) from across Assam

Key Objectives:

- Enhance the capacity of Field Officers in flood management, disaster reporting, and early warning systems.
- Strengthen real-time information flow through the Flood Reporting and Information Management System (FRIMS) online portal.
- Improve coordination with the Emergency Operations Center (EOC) during emergencies.

Outcomes:

- Field Officers were trained on flood dynamics, early warning mechanisms, and data collection using the Disaster Reporting and Information Management System (DRIMS).
- Hands-on sessions on FRIMS and early warning tools enabled participants to effectively respond to flood situations.
- Improved accuracy and timeliness of ground-level data reporting, facilitating quicker decision-making and resource allocation.

Contribution to Early Preparedness:

- The training ensured that Field Officers are better equipped to handle flood-related disasters, reducing response time and improving the efficiency of relief operations.
- Enhanced real-time data collection and reporting systems have strengthened the state's ability to issue early warnings and mobilize resources effectively.

Additional Insights:

- According to ASDMA's 2022 flood report, the state experienced flooding in 32 districts, affecting over 5.5 million people. The training program played a critical role in improving the response to these floods, with timely data reporting enabling the evacuation of over 200,000 people to relief camps.

2. **Training on Emergency Water Treatment Units (EWTUs)**
   - Organizers: ASDMA, UNICEF, and Caritas India
   - Participants: Officials from 10 District Disaster Management Authorities (DDMAs) and the Public Health Engineering Department (PHED)
   - Venue: NEDFi Convention Centre, Guwahati

Key Objectives:

- Build the capacity of stakeholders to manage safe drinking water supply during emergencies.
- Familiarize participants with the operational mechanisms of EWTUs, including rapid deployment and water quality monitoring.
- Strengthen inter-agency coordination for effective disaster response.

Outcomes:

- Participants gained practical knowledge of setting up, operating, and maintaining EWTUs in flood-affected areas.
- Improved coordination between DDMAs, PHED, and humanitarian agencies like UNICEF and Caritas India.
- Enhanced ability to provide safe and potable water during emergencies, reducing the risk of water-borne diseases.

Contribution to Early Preparedness:

- The training ensured timely access to safe drinking water in disaster-prone areas, addressing one of the most critical needs during floods.
- By reducing the risk of water-borne diseases, the initiative contributed to public health resilience and community recovery.

Additional Insights:

- During the 2022 floods, over 1,200 EWTUs were deployed across Assam, providing safe drinking water to more than 1.5 million people. This significantly reduced the incidence of water-borne diseases, with reported cases dropping by 30% compared to the previous year.

Circle Disaster Management and Community-Based Flood Preparedness

Introduction

Localized disaster management is essential for Assam, where floods annually affect millions across diverse revenue circles. Between 2021 and 2024, ASDMA bolstered circle-level disaster management and community-based flood preparedness programs, empowering local communities to respond swiftly and effectively. Supported by the Assam Integrated River Basin Management Program (AIRBMP) and community initiatives, these programs enhance resilience, reduce casualties, and ensure inclusive disaster response.

Key Initiatives

1. **Circle Quick Response Teams (CQRTs):**
   - Under AIRBMP Component 3.3, ASDMA established CQRTs in 50 revenue circles, including Barpeta, Majuli, and Dhemaji, to provide immediate, decentralized response.
   - Each CQRT comprises 16 members (8 active, 8 standby), with 5 male, 2 female, and 1 transgender members, ensuring inclusivity.
   - CQRTs are trained in search and rescue, first aid, and flood response, enabling rapid action during disasters like the 2023 floods.

2. **Material Banks:**
   - Eleven revenue circles are developing material banks to store specialized equipment for search and rescue and first aid, enhancing

local response capacity.

- These banks ensure quick access to critical resources, reducing reliance on external aid during floods.

3. **Community Awareness and Mock Drills:**
   - ASDMA, in collaboration with NGOs, conducted over 500 awareness campaigns, reaching 1 million people in flood-prone areas like Barpeta and Golaghat.
   - Regular mock drills in vulnerable districts trained communities on evacuation protocols, achieving over 80% compliance in targeted areas during 2023 floods.
4. **Climate Resilient Villages (CRVs):**
   - Under AIRBMP Component 3.4, 50 villages, including Ag Mandia (Barpeta) and Bengena Kalia (Majuli), are developing Village Disaster Mitigation Plans (VDMPs) using GIS-based risk mapping.
   - CRVs receive emergency response kits, lightning arrestors for schools, and resilient housing technology demonstration units to enhance preparedness.

Impact on Response and Recovery

These programs have significantly improved local preparedness. CQRTs in Dhemaji and Barpeta reduced response times during 2023 floods, while awareness campaigns empowered communities to protect assets and evacuate safely. CRVs integrate with recovery efforts like the MANOJNA Tele-Counselling Service, addressing psychosocial needs in vulnerable villages. The programs' focus on inclusivity ensures marginalized groups, such as women and transgender individuals, are active participants in disaster response.

Conclusion

Circle-level disaster management and community-based programs are pivotal to Assam's flood resilience strategy. By establishing CQRTs, material banks, and CRVs, and scaling awareness efforts, ASDMA empowers local communities to mitigate flood impacts, ensuring effective response and sustainable recovery across Assam's diverse regions.

Flood Preparedness Score Card (FPSC) 2024

Introduction

The Flood Preparedness Score Card (FPSC), introduced by the Assam State Disaster Management Authority (ASDMA) with technical support from UNICEF, is a transformative tool designed to standardize and enhance flood preparedness across Assam's 35 districts and 19-line departments. Launched to address the state's recurring flood challenges, which affected 2.45 million people in 2024, the FPSC establishes Minimum Preparedness Standards (MPS) and fosters a data-driven, accountable approach to disaster governance. By evaluating preparedness through self-reported indicators, the FPSC enables rapid and effective flood responses, promotes systemic improvements, and builds resilience in flood-prone communities. The FPSC 2024, celebrated on September 8, 2024, marked a significant milestone, recognizing exemplary efforts in flood preparedness and reinforcing Assam's shift from reactive to proactive disaster management.

Background

Assam's multi-hazard landscape, characterized by annual floods, necessitates robust preparedness systems. Over the years, ASDMA has invested in hazard risk and vulnerability mapping, early warning systems like the Flood Early Warning System (FLEWS) covering 14 districts, and real-time flood monitoring through the Flood Reporting Information Management System (FRIMS) initiated in 2022. The 2012 Flood Hazard Atlas consolidated historical data to identify flood-prone zones, while daily flood reports leverage satellite data for real-time insights. These efforts reflect Assam's transition toward evidence-based disaster management. The FPSC builds on this foundation, streamlining preparedness by providing a structured framework to assess and

improve district-level readiness, ensuring alignment with the Assam Disaster Management Manual (2015).

Objectives of the FPSC

The FPSC serves as a cornerstone of Assam's flood governance strategy, with the following objectives:

1. **Standardize Preparedness:**
   Establish and enforce Minimum Preparedness Standards (MPS) and actions (MPAs) to ensure consistent flood governance and management.
2. **Track and Measure Progress:**
   Develop an online scoring system to quantitatively assess district preparedness across different time scales.
3. **Foster Knowledge Exchange:**
   Facilitate the sharing of best practices and lessons learned among districts and line departments.
4. **Identify and Address Gaps:**
   Analyze areas for improvement and provide targeted support to enhance flood preparedness and resilience.

Methodology and Operational Framework

The FPSC operates through a self-reporting mechanism, where District Disaster Management Authorities (DDMAs) and line departments submit data via the Assam FPSC Online Portal. Districts have 30 days to report their preparedness against 55 indicators spread across 11 MPS, each carrying equal weight. These indicators, derived from the Assam Disaster Management Manual (2015), cover critical areas such as risk analysis, infrastructure readiness, service continuity, and community engagement. Respondents mark each indicator as "Fully Met" (score: 2), "Partially Met" (score: 1), or "Not Met" (score: 0), with a total possible score of 110. Supporting evidence, such as Excel sheets for specific indicators (e.g., MPS 1.1, 3.1–3.4), is mandatory to validate claims, with final validation by the Deputy Commissioner-cum-Chairperson DDMA.

The 11 MPS include:

1. **Risk Analysis and Monitoring:**
   Maintaining updated databases of vulnerable populations and infrastructure (e.g., village-wise data on children, elderly, and disabled).
2. **Planning for Preparedness and Response:**
   Developing DDMA-endorsed emergency response plans and evacuation strategies.
3. **Infrastructural Preparedness:**
   Identifying and protecting critical infrastructure like bridges and embankments.
4. **Preparedness for Continuity of Services:**
   Ensuring availability of essential commodities, medicines, and social services (e.g., health, education, WASH).
5. **Coordination for Response:**
   Organizing meetings with NDRF/SDRF, NGOs, and military units for coordinated flood response.
6. **Capacity Building and Training:**
   Training frontline workers (e.g., ASHA, teachers) on FRIMS, first aid, and child protection.
7. **Grievance Redressal and Financial Assistance:**
   Preparing for efficient distribution of relief materials and financial aid.
8. **Relief Camp Management:**
   Pre-identifying relief camps with adequate facilities and transportation.
9. **Reporting and Damage Assessment:**
   Ensuring readiness for timely damage assessments within 15 days post-flood.
10. **Risk Communications and Community Engagement:**
    Disseminating early warnings and conducting awareness campaigns.
11. **Accountability and Grievance Redressal:**
    Establishing feedback mechanisms and strategies to counter misinformation.

The FPSC's data-driven approach promotes reflection, identifies bottlenecks, and triggers systemic changes, fostering inclusive and innovative preparedness processes.

Achievements and Recognition

On September 8, 2024, Assam Chief Minister Dr. Himanta Biswa Sarma presented the FPSC 2024 awards at Srimanta Sankardeva Kalakshetra, recognizing outstanding contributions to flood preparedness. The ceremony highlighted the FPSC's role in fostering accountability and excellence. The top-performing districts were:

- **1st Position:**
  DDMAs of Morigaon and Nalbari, lauded for comprehensive preparedness measures.
- **2nd Position:**
  DDMA Cachar, recognized for effective coordination and community engagement.
- **3rd Position:**
  DDMAs of Golaghat and Majuli, noted for robust infrastructure readiness.

Among line departments, the Women and Child Development Department secured first place, reflecting its critical role in initiatives like Child-Friendly Spaces (CFS). The Education, Public Works Department (PWD) Roads, and Water Resources Departments shared second place, while ASDMA itself earned third, underscoring its leadership in disaster governance.

The FPSC's impact extends beyond awards. By collating standardized databases, it has enabled ASDMA to identify high-risk areas and allocate resources efficiently. For instance, 95% of the 2023 flood-related budget was directed to six highly vulnerable districts, benefiting 6.5 million people through infrastructure repairs. The FPSC's online portal has also reduced administrative burdens, requiring only 33 district representatives compared to over 150 previously, allowing for more frequent and precise assessments.

Challenges and Recommendations

Despite its successes, the FPSC faces challenges:

- **Data Standardization:**
  Collating diverse datasets across districts remains complex. Continued collaboration with technical partners like UNICEF is essential to ensure accuracy.
- **Infrastructure Limitations:**
  Aging embankments and inadequate facilities in remote areas hinder preparedness. Investments in modern flood control structures, such as sluice gates, are recommended.
- **Community Engagement:**
  Varying levels of community awareness require expanded door-to-door campaigns and mock drills, as demonstrated in Cachar.
- **Sustained Capacity Building:**
  Continuous training for frontline workers and DDMAs is needed to address evolving flood risks.

To overcome these, ASDMA should leverage FPSC data to secure funding under schemes like the Fifteenth Finance Commission grant, prioritize infrastructure upgrades, and integrate FPSC insights with early warning systems like FLEWS for real-time preparedness.

Synergy with Response and Recovery

The FPSC complements ASDMA's response and recovery initiatives, such as CFS and the MANOJNA Tele-Counselling Service, by identifying high-risk areas for targeted interventions. Districts with lower preparedness scores can be prioritized for CFS deployment, ensuring vulnerable children receive health, education, and psychosocial support. Similarly, MANOJNA's outreach can focus on communities highlighted by FPSC data, addressing mental health needs in flood-affected areas. This synergy enhances the effectiveness of ASDMA's holistic disaster management strategy.

Conclusion

The Flood Preparedness Score Card (FPSC) 2024 has revolutionized flood governance in Assam by standardizing preparedness, fostering accountability, and promoting continuous improvement. Through its rigorous assessment of 55 indicators across 11 MPS, the FPSC empowers districts and line departments to mitigate flood risks, as evidenced by the exemplary performances of Morigaon, Nalbari, and others in 2024. By addressing challenges like data standardization and infrastructure gaps, and integrating with response and recovery efforts, the FPSC paves the way for a more resilient Assam, capable of safeguarding lives and livelihoods against the state's annual flood challenges.

Post Disaster Needs Assessment (PDNA)

Introduction

The Post Disaster Needs Assessment (PDNA) serves as a pivotal instrument for the Assam State Disaster Management Authority (ASDMA) to methodically evaluate the multifaceted impacts of natural disasters and formulate robust recovery strategies. In 2022, Assam endured one of the most catastrophic floods in its history, affecting millions and severely disrupting socioeconomic indicators. Between 2021 and 2024, recurrent floods impacted approximately 2.45 million people in 2024 alone, compounded by additional hazards such as erosion, landslides, and cyclones. The PDNA, supported by the Assam Integrated River Basin Management Program (AIRBMP) and guided by the National Disaster Management Authority (NDMA), provides a structured methodology to assess damages, losses, and recovery needs across critical sectors, including housing, civic amenities, drinking water, sanitation, and local infrastructure. This framework ensures resilient reconstruction aligned with the "Build Back Better" principle, fostering sustainable recovery and mitigating future risks.

Implementation under AIRBMP

Under Component 1 of the Assam Integrated River Basin Management Program (AIRBMP), initiated in 2022 with World Bank funding, ASDMA has undertaken a comprehensive approach to strengthen PDNA capabilities:

- **Development of Standardized Tools:**
  In collaboration with GT Bharat and under NDMA's technical guidance, ASDMA is developing PDNA tools tailored to Assam's multi-hazard context, encompassing floods, erosion, landslides, earthquakes, cyclones, and droughts. These tools are customized to align with Assam's governance structure, incorporating inputs from state stakeholders to ensure contextual relevance.

- **Training and Capacity Building:**
  ASDMA, with support from NDMA and the National Institute of Disaster Management (NIDM), is designing training programs to equip district officials with PDNA methodologies. Multiple virtual and in-person orientation sessions have been conducted, including a joint field visit to Hojai and Nagaon districts for consultations with district authorities and affected communities, fostering consistent and effective assessment practices.

- **Pilot Testing:**
  Pilot tests are planned to validate PDNA tools, focusing on their practical application in flood-affected districts such as Barpeta, Dibrugarh, Hojai, and Nagaon, ensuring real-world applicability.

- **Digital Infrastructure:**
  A web-based portal and mobile application are under development to streamline data collection, analysis, and reporting. This digital platform facilitates rapid, efficient, and accurate assessments, enhancing the timeliness of recovery planning.

Objectives of the PDNA

The PDNA initiative is driven by the following key

objectives:

1. To systematically assess sector-wise damages and losses caused by floods and landslides across Assam.
2. To identify priority recovery and reconstruction needs for affected households and critical sectors, emphasizing resilience.
3. To strengthen institutional mechanisms and policies to support comprehensive recovery, reconstruction, and infrastructure development.
4. To align recovery strategies with the Assam Disaster Risk Reduction (DRR) Roadmap, addressing mitigation and long-term risk reduction needs.

Process and Methodology

The PDNA adopts a lightweight, concise methodology to ensure rapid and effective assessments, guided by NDMA and coordinated by ASDMA. The process includes:

1. **Finalization of Terms of Reference (ToR):**
   A simplified ToR was developed by ASDMA, refined through iterative consultations with NDMA to reflect evolving flood and landslide scenarios.
2. **Sector and Tool Customization:**
   NDMA finalized the assessment sectors—housing and resettlement, civic amenities (health and education), drinking water and sanitation, and local infrastructure. National-level tools were adapted to Assam's governance framework, incorporating stakeholder inputs for contextual relevance.
3. **Formation of Sector Teams:**
   Multi-sectoral teams, comprising representatives from Line Departments, NDMA, and operational UN Agencies, were established under ASDMA's coordination to ensure comprehensive assessments.
4. **Orientation and Capacity Development:**
   Virtual and in-person orientation sessions, led by NDMA/NIDM, trained sector teams and departmental representatives. Field visits to affected districts facilitated consultations with communities and authorities for ground-truthing.
5. **Data Collection:**
   Sector teams collaborated with departments to gather baseline and damage assessment data, verified at district and state levels through field visits, interviews, and Focused Group Discussions (FGDs).
6. **Data Analysis and Reporting:**
   Designated editors and sub-editors within sector teams compiled, cleaned, and analyzed data, drafting sector-specific chapters for the PDNA report.
7. **Review and Revision:**
   Draft reports were reviewed by NDMA experts and local stakeholders, with revisions incorporated to ensure accuracy and relevance.

Current Progress

As of 2024, GT Bharat, in collaboration with ASDMA and NDMA, is finalizing the PDNA methodology, building on an in-depth analysis of existing damage and loss assessment frameworks. The ongoing study is developing a comprehensive framework to quantify impacts across key sectors, including infrastructure, housing, livelihoods, and agriculture. Data collection efforts, supported by field visits and stakeholder consultations, are informing sector-specific recovery strategies and cost estimates. The PDNA's digital platform is in advanced stages of development, promising to enhance the efficiency of future assessments.

Impact and Contribution

The PDNA significantly bolsters ASDMA's disaster response capabilities by providing evidence-based insights for recovery planning. For instance, post-2023 flood assessments identified critical infrastructure losses in eight districts, guiding targeted interventions under the State Disaster

Response Fund (SDRF). By integrating PDNA findings with initiatives such as Child-Friendly Spaces (CFS), ASDMA addresses both physical and psychosocial recovery needs. The emphasis on resilient reconstruction aligns with the Assam DRR Roadmap, reducing vulnerability to future disasters and fostering sustainable development. The PDNA also serves as a learning exercise, institutionalizing internal capacity for rapid and effective assessments, thereby enhancing Assam's preparedness for multi-hazard scenarios.

Conclusion

The PDNA initiative, implemented under AIRBMP and guided by NDMA, represents a transformative step toward structured, resilient, and sustainable disaster recovery in Assam. By standardizing assessment tools, leveraging digital platforms, and fostering institutional capacity, ASDMA is well-positioned to rebuild communities effectively. The PDNA's alignment with the Assam DRR Roadmap ensures that recovery efforts not only address immediate needs but also mitigate future risks, paving the way for a more resilient Assam.

Unmanned Aerial Vehicles (UAVs) in Disaster Management

Introduction

Unmanned Aerial Vehicles (UAVs), or drones, have transformed disaster management in Assam, enabling the Assam State Disaster Management Authority (ASDMA) to respond swiftly and recover effectively from floods and other hazards. Between 2021 and 2024, ASDMA integrated UAVs into its operations, leveraging their capabilities for real-time surveillance, high-resolution mapping, and relief delivery. Procured in 2022 with support from the North Eastern Space Application Centre (NESAC), ASDMA's fleet of five UAVs—comprising a heavy-duty hybrid, three lightweight quadcopters, and a survey-grade drone—has enhanced situational awareness and streamlined disaster response. This section explores UAV applications in response and recovery, highlighting their impact during Assam's 2023–2024 flood seasons, which affected millions across districts like Barpeta and Nalbari.

Real-Time Surveillance and Situational Awareness

UAVs are critical for rapid response during disasters, providing real-time imagery and videos that inform decision-making. ASDMA's lightweight quadcopters, equipped with 20 MP RGB cameras and over 20 minutes of endurance, are ideal for quick deployment. In October 2023, these quadcopters conducted flood surveillance in Guwahati's inundated areas, including Anil Nagar and Hatigaon, capturing aerial views to assess flood extent and infrastructure damage. The high-resolution imagery enabled ASDMA to coordinate with first responders, prioritizing rescue operations in densely populated urban zones. Similarly, during the April 2024 boat capsizing incident in South Salmara, ASDMA's UAV team provided aerial reconnaissance along the Brahmaputra River, capturing high-resolution images and videos to assist NDRF and BSF teams in locating victims' remains, significantly enhancing search efficiency.

Relief Delivery to Inaccessible Areas

ASDMA's heavy-duty hybrid/electric UAV, with a 5 kg payload capacity, plays a pivotal role in delivering relief supplies to marooned communities. During the 2023 floods, which inundated 30 districts, this UAV transported essential items like food, water, and medicines to remote villages cut off by floodwaters. Its ability to navigate challenging terrains ensured timely aid delivery, reducing response times compared to traditional methods. For instance, in Barpeta's Kayakuchi area, UAV surveillance in June 2023 identified stranded populations, enabling targeted relief drops that supported over 80% of affected households, as per ASDMA's coordinated response efforts.

Support for Search and Rescue Operations

UAVs enhance search-and-rescue operations by

providing critical visual data to first responders. In February 2024, ASDMA's UAV team participated in the Aircraft Search and Rescue Exercise (SAREX) mock drill at Barduar Tea Garden, organized by the Airport Authority of India. The team deployed quadcopters to simulate real-life rescue scenarios, testing coordination with NDRF, SDRF, and IAF. The exercise demonstrated UAVs' ability to locate simulated survivors, improving inter-agency communication and response efficiency. This capability was further validated in April 2024, when UAVs supported the South Salmara boat capsizing response, identifying victim locations for ground teams.

High-Resolution Mapping for Damage Assessment

UAVs are instrumental in post-disaster recovery, providing detailed assessments of damage to infrastructure and agricultural land. ASDMA's survey-grade drone, equipped with Post-Processed Kinematic (PPK) technology and a high-resolution camera, delivers centimetre-level precision over 2–3 square kilometers per flight. In August 2024, the UAV team, in collaboration with the Assam Survey and Settlement Training Centre (ASSAC), conducted a 26 km aerial survey of Jaha Jaan in Nalbari district, producing a 5 cm/px Ground Sampling Distance (GSD) ortho-mosaic image and a Digital Terrain Model (DTM). These outputs enabled ASDMA to assess flood-induced erosion, map elevation variations, and generate 0.5-meter contour lines, informing recovery planning for affected communities. Similarly, in June 2023, UAV imagery from Barpeta's Kayakuchi area quantified agricultural losses, guiding compensation under the State Disaster Response Fund (SDRF).

Embankment Breach Inspections

UAVs support recovery by verifying the status of critical infrastructure, such as embankments, which are vital for flood mitigation. In March–April 2023, ASDMA's UAV team inspected embankment breaches across 10 districts, including Nalbari, Barpeta, and Nagaon, validating breach closure reports from the Water Resources Department (WRD) and NESAC. The team produced detailed aerial reports and images, identifying erosion-prone areas and assessing repair efficacy. This data informed WRD's 2023–24 schemes, which repaired eight breaches, protecting 16.5 lakh hectares of flood-prone land. By ensuring infrastructure resilience, UAV inspections facilitated community recovery, reducing vulnerability to future floods.

Capacity Building and Knowledge Transfer

ASDMA leverages UAVs to build long-term recovery capacity through training and academic collaborations. In June–August 2023, the GIS Wing supported Ms. Jina Mahanta's M.Sc. internship, focusing on mapping open spaces in Guwahati for disaster management. Using UAV-derived data, the project identified evacuation zones and resource allocation sites, enhancing urban recovery strategies. Additionally, the Geo Wizard Unite 2023 event on GIS Day, themed "Mapping Assam for a Better Tomorrow," showcased UAV applications in flood management. Workshops trained officials on integrating UAV data with GIS platforms, fostering data-driven recovery planning across districts like Dhemaji and Barpeta.

Conclusion

Unmanned Aerial Vehicles have revolutionized ASDMA's disaster management framework, enabling agile response and robust recovery in Assam's flood-prone landscape. In response, UAVs deliver real-time surveillance, relief supplies, and search-and-rescue support, as demonstrated in Guwahati's 2023 floods and South Salmara's 2024 incident. In recovery, high-resolution mapping, embankment inspections, and capacity-building initiatives, such as the Nalbari Jaha Jaan survey and GIS Day 2023, ensure accurate damage assessments and resilient reconstruction. Despite challenges like battery life and weather constraints, ASDMA's UAV fleet—comprising heavy-duty, quadcopter, and survey-grade drones—has become indispensable. By integrating advanced

technologies like thermal imaging and AI in the future, ASDMA will further enhance its ability to safeguard lives and livelihoods, building a resilient Assam against recurring disasters.

- **Post-Flood Vaccination:**
  Vaccinated 88,308 animals in flood-affected areas.

Recovery Efforts of ASDMA

The recovery phase of disaster management is critical to restoring normalcy, rebuilding infrastructure, and ensuring the resilience of communities affected by disasters. Over the period of 2021-2024, the Assam State Disaster Management Authority (ASDMA) has implemented a range of recovery activities in collaboration with various departments to address the aftermath of floods, landslides, and other disasters. This section highlights the major recovery initiatives undertaken during the financial year 2022-23, focusing on infrastructure restoration, community rehabilitation, and long-term resilience-building measures.

Infrastructure:
Restoration of National Highways

The 2022 floods caused significant damage to several National Highways (NHs) in Assam, disrupting connectivity and hampering relief operations. The Public Works Department (PWD), NH Assam, acted as the first responder, temporarily restoring critical NHs under the Flood Damage Restoration (FDR) fund. Key achievements include:

- **Temporary Restoration:**
  Immediate restoration of NH-15, NH-154, and NH-44 to ensure the movement of emergency vehicles, logistics, and commuters.
- **Permanent Restoration:**
  Permanent restoration works were initiated after securing funds from the Ministry of Road Transport and Highways (MoRT&H).

Flood Damage and Restoration on National Highways (2022)

NH Number	Location	Damage Description	Restoration Status
NH-44	Karimganj Bypass	Severe erosion and road damage	Temporarily restored
NH-15	Bogibeel Approach	Flood-induced damage	Temporarily restored
NH-154	Multiple locations	Road washouts and erosion	Temporarily restored

Infrastructure:
Landslide Mitigation at Raj Bhawan, Guwahati

A major landslide at Kharghuli Hills endangered critical infrastructure, including the Raj Bhawan, roads, and hospitals. The PWD (Buildings & Roads) initiated a landslide mitigation project under the State Disaster Mitigation Fund (SDMF) 2022-23. The project, awarded to Geo Spar Infra Pvt. Ltd., focuses on stabilizing the hill slopes and preventing future landslides.

Community Rehabilitation and Flood Mitigation:
Construction of Multi-Purpose Flood Shelters

To enhance community resilience, ASDMA, in collaboration with the PWD (Building), constructed three model multi-purpose flood shelters in Lakhimpur (Bihpuria), Majuli, and Barpeta districts. These G+2 RCC structures, each with a floor area of 5,000 sq. ft., serve as flood shelters during the monsoon and community halls during other seasons.

Multi-Purpose Flood Shelters Constructed (2022-23)

District	Location	Capacity	Usage During Non-Flood Season
Lakhimpur	Bihpuria	5000 sq. ft.	Community hall
Majuli	Majuli	5000 sq. ft.	Community hall
Barpeta	Barpeta	5000 sq. ft.	Community hall

Water Resources Management and Erosion Control

The Water Resources Department (WRD) played a pivotal role in flood and erosion management during 2022-23. Key initiatives include:

- **Embankment Construction and Strengthening:**
  - » Constructed 26 km of new embankments.
  - » Raised and strengthened 33.11 km of existing embankments.
- **Anti-Erosion Works:**
  Completed 42 anti-erosion projects to protect vulnerable areas.
- **Breach Closure:**
  Closed 42 out of 44 embankment breaches caused by the 2022 floods.

Water Resources Department Achievements (2022-23)

Activity	Achievement
New embankment construction	26 km
Embankment strengthening	33.11 km
Anti-erosion works completed	42 nos.
Breaches closed	42 out of 44

Integrated River Basin Management

The WRD initiated the Assam Integrated River Basin Management Programme (AIRBMP) to address flood and erosion challenges in the Buridehing and Manas-Beki river basins. Additionally, the Climate Resilient Brahmaputra Integrated Flood and Riverbank Erosion Risk Management Project (CRBIFRERMP) was proposed with the Asian Development Bank (ADB) to enhance flood resilience in the Brahmaputra basin.

Animal Husbandry and Veterinary Support

The Animal Husbandry and Veterinary Department undertook extensive measures to protect livestock during and after the 2022 floods:

- **Pre-Flood Vaccination:**
  Vaccinated 3,18,411 animals in flood-prone districts.
- **Animal Treatment Camps:**
  Organized 413 camps, treating 1,69,555 animals.
- **Feed and Fodder Distribution:**
  Distributed 1,73,787.94 quintals of feed and 737 quintals of fodder.
- **Post-Flood Vaccination:**
  Vaccinated 88,308 animals in flood-affected areas.

Animal Husbandry and Veterinary Department Activities (2022-23)

Activity	Achievement
Pre-flood vaccination	3,18,411 animals
Animal treatment camps	413 camps
Animals treated	1,69,555 animals
Feed and fodder distributed	1,73,787.94 quintals
Post-flood vaccination	88,308 animals

Road Safety Measures

The PWD, NH Assam, implemented several road safety measures to reduce fatalities and improve safety on National Highways. These included:

- Installation of speed calming measures, road signages, and safety barriers.
- Use of raised pavement markers and road studs for better night visibility.

Conclusion

The recovery efforts of ASDMA and its collaborating departments during 2021-2024 have significantly contributed to rebuilding infrastructure, rehabilitating communities, and enhancing resilience against future disasters. From restoring critical highways to constructing multi-purpose flood shelters and implementing integrated river basin management, these initiatives underscore Assam's commitment to sustainable recovery and disaster risk reduction. As the state continues to face the challenges of climate change and recurring disasters, these efforts will serve as a foundation for building a safer and more resilient Assam.

Child-Friendly Spaces and Psychosocial Support

Introduction

Assam, situated in a multi-hazard-prone region, faces recurring floods, earthquakes, landslides, and storms, which severely impact the well-being of its population, particularly children. The compounded effects of these disasters, alongside the COVID-19 pandemic, have exacerbated mental health challenges and disrupted essential services such as health, nutrition, and education. To address these issues, the Assam State Disaster Management Authority (ASDMA), in collaboration with UNICEF and other partners, has implemented Child-Friendly Spaces (CFS) and the MANOJNA Tele-Counselling Service. These initiatives aim to ensure the continuity of critical services for children and provide psychosocial support to disaster-affected communities, fostering resilience and recovery.

Child-Friendly Spaces: A Holistic Approach to Child Protection and Recovery

Child-Friendly Spaces (CFS) are safe, participatory environments designed to support children affected by disasters through integrated services, including health, nutrition, education, water, sanitation, and hygiene (WASH), and psychosocial support. Established in flood relief camps across Assam, CFS addresses the unique vulnerabilities of children, who face increased risks of trauma, violence, and service disruptions during disasters. Between 2015 and 2022, floods in Assam affected an average of 4.3 million people annually, including 1.72 million children, with damages amounting to USD 336.47 million. The evolving nature of flooding, coupled with the

challenges of the COVID-19 pandemic, underscored the need for child-responsive interventions like CFS.

Key Services Provided in CFS

1. **Health Services:**
   Led by Auxiliary Nurse Midwives (ANM), Accredited Social Health Activists (ASHA), and Anganwadi workers, CFS ensures the continuation of routine health services, such as immunizations and health education, in line with Village Health, Sanitation, and Nutrition Day protocols. Special measures, including adherence to COVID-19 guidelines, ensure safe delivery of these services.

2. **Nutrition Services:**
   CFS includes breastfeeding corners for lactating mothers, offering privacy and counseling on infant and young child feeding. Food safety guidance, particularly in the context of COVID-19, is provided to children and caregivers.

3. **WASH Services:**
   Children, pregnant women, and lactating mothers receive hygiene education, with adolescent girls provided menstrual hygiene management guidance and dignity kits containing sanitary pads.

4. **Education and Recreational Activities:**
   Anganwadi workers and teachers engage children in contextual learning activities, such as painting, storytelling, and quizzes, maintaining social distancing. These activities reduce stress and create a supportive environment for children in relief camps.

5. **Child Protection Services:**
   CFS raises awareness about risks such as trafficking, sexual abuse, and violence, while providing psychosocial and mental health support to children exhibiting distress. Adolescents often serve as peer leaders, facilitating activities and promoting safety.

Implementation Journey

The development of CFS in Assam began in 2018 with UNICEF's collaboration with ASDMA, culminating in the approval of a conceptual framework by the State School Safety Advisory Committee (SSAC). A basic advisory was issued in July 2018, followed by pilots in Majuli and Dhemaji during the 2019 floods, enrolling 189 children across four CFS sites. These pilots demonstrated the feasibility of CFS, receiving positive feedback and media coverage. By 2020, 141 CFS were operationalized statewide, integrating COVID-19-specific guidelines to ensure safety. In 2024, ASDMA, with UNICEF's technical support, rolled out a state-wide capacity development initiative, including pre-positioning CFS kits in relief camps to enhance service delivery.

MANOJNA Tele-Counselling Service: Addressing Psychosocial Needs

Launched in June 2021, the MANOJNA Tele-Counselling Service, in partnership with UNICEF, the Department of Psychiatry at Guwahati Medical College & Hospital (GMCH), the National Health Mission (NHM), BSNL, and Step One, provides accessible psychosocial support to disaster-affected individuals across Assam's 35 districts. With a toll-free helpline (14410), the service addresses mental health challenges, including anxiety, depression, and grief, exacerbated by disasters and the pandemic. The National Mental Health Survey indicates that 5.85% of Assam's adult population faces mental health issues, a figure projected to rise to 15%, highlighting the urgency of such interventions.

Key Features of MANOJNA

1. **Accessibility:**
   The toll-free helpline ensures that even remote and rural communities can access counselling without travel, benefiting individuals with disabilities or financial constraints.

2. **Affordability:**
   Free services eliminate financial barriers, making mental health support sustainable for both clients and counsellors.

3. **Flexibility:**
   Phone-based counselling offers scheduling flexibility, reducing wait times and accommodating busy lifestyles.

4. **Anonymity:**
   The service ensures privacy, encouraging open discussions without fear of stigma, a critical factor in a society where mental health issues are often stigmatized.

5. **Comprehensive Support:**
   Counsellors address a range of issues, including emotional and behavioral challenges, and provide referrals for advanced psychiatric care when needed.

Achievements (June 2021 - September 2022)

- Reached remote communities across all five regions of Assam (Upper Assam, Lower Assam, Barak Valley, Central Assam, and North Assam).
- Provided free counselling, reducing financial barriers.
- Minimized wait times through flexible phone-based sessions.
- Ensured anonymity, fostering trust and stigma reduction.
- Addressed diverse issues, including anxiety, depression, and substance abuse, with referrals for advanced care.

Community Engagement and Inclusivity

CFS operations are deeply rooted in community mobilization, with local stakeholders, including village heads, Apda Mitra volunteers, and NGOs, playing key roles in site selection and implementation. For example, in Dhemaji's Boruah Block, community input led to relocating a CFS to a nearby lower primary school to accommodate more children safely. The involvement of adolescent leaders, such as a 14-year-old girl in Jonai who facilitated hygiene sessions, enhances peer engagement and builds leadership skills. CFS maintains inclusivity, ensuring non-discriminatory access for children regardless of ethnicity, religion, or gender, with 189 children benefiting in 2019 alone.

Challenges and Recommendations

Despite successes, challenges persist:

- **Resource Constraints:**
  Limited funding for educational and recreational kits hinders CFS operations. Separate budgetary provisions are needed to procure child-friendly materials.
- **Infrastructure Limitations:**
  Remote areas lack adequate space, water supply, and functional toilets, particularly during COVID-19. Strengthening infrastructure using funds like the Fifteenth Finance Commission grant is essential.
- **Capacity Building:**
  Continuous training for Anganwadi workers, teachers, and volunteers is needed to address diverse child needs effectively.
- **Outreach Gaps:**
  Vulnerable children in alternative shelters (e.g., embankments) often lack access to CFS. Targeted outreach programs involving local teams (PRI, SMC, ASHA, and NGOs) are recommended.
- **Monitoring and Feedback:**
  Monitoring is challenging due to time constraints and limited staff. Strengthening feedback mechanisms, including bi-weekly reports and participatory evaluations with children and communities, is critical.

Key Learnings

- **Community-Driven Approach:**
  Community involvement in planning and site selection enhances CFS effectiveness and fosters ownership.
- **Integrated Service Delivery:**
  CFS serves as a platform for converging health, nutrition, education, and protection services,

reducing service disruptions.

- **Resilience Building:**
  Activities like games and life skills training create a resilient generation capable of coping with disasters.
- **Psychosocial Benefits:**
  Safe play and peer interactions in CFS alleviate psychological trauma, supporting emotional recovery for children and caregivers.
- **Stakeholder Collaboration:**
  Convergent action by departments like Women and Child Development (WCD) and Education ensures robust implementation.

Conclusion

The CFS initiative and MANOJNA Tele-Counselling Service represent ASDMA's commitment to addressing the multifaceted needs of disaster-affected populations, particularly children. By providing safe spaces, integrated services, and accessible mental health support, these initiatives mitigate the impacts of disasters and foster resilience. Continued investment in capacity building, infrastructure, and outreach will ensure that these programs evolve to meet the dynamic needs of Assam's vulnerable communities.

Epilogue

Summary of Key Response Achievements

Between 2021 and 2024, ASDMA has made significant strides in disaster response and recovery, particularly in tackling Assam's recurrent floods, landslides, and other hazards. Notable achievements include:

- **Early Warning Systems:**
  The implementation of AI-driven forecasting and SMS-based alert systems significantly improved disaster preparedness, reducing casualties.
- **Rescue and Relief Operations:**
  Over 5,000 trained community volunteers, along with NDRF, SDRF, and DDMA teams, conducted large-scale evacuation and relief efforts, saving thousands of lives.
- **Psychosocial Support Initiatives:**
  The MANOJNA Tele-Counselling Service provided mental health support to over 10,000 individuals, particularly focusing on women, children, and frontline workers.
- **Infrastructure Rehabilitation:**
  Major highways and roads damaged by floods were restored, with over 42 anti-erosion projects completed to prevent future disasters.
- **Use of UAVs:**
  Drones played a crucial role in real-time disaster assessment and relief distribution, reducing response time in affected areas.

Lessons Learned and Policy Recommendations

Despite these achievements, key lessons have emerged, leading to the following recommendations:

1. **Expand Technology-Driven Early Warning Systems:**
   Further investment in AI, IoT-based sensors, and GIS mapping is essential to enhance forecasting and prevent loss of life.
2. **Strengthen Local Capacity for Rapid Response:**
   More district-level training programs and community engagement initiatives should be institutionalized.
3. **Improve Coordination Among Stakeholders:**
   Stronger partnerships between ASDMA, local governments, NGOs, and private entities will ensure a more effective disaster response.
4. **Enhance Mental Health Support in Disaster Recovery:**
   Expanding the MANOJNA Tele-Counselling Service and integrating psychosocial support in all disaster response plans is necessary.

Gaps Identified in Past Response Strategies

While ASDMA's initiatives have been impactful, gaps in disaster response have been observed:

- **Limited Communication in Remote Areas:** Many interior villages still lack mobile and internet connectivity, delaying evacuation alerts.
- **Inadequate Infrastructure for Disaster-Resilient Housing:** Rehabilitation efforts should prioritize flood-resistant housing solutions to prevent repeated damage.
- **Challenges in Animal Rescue and Veterinary Services:** More livestock protection programs should be integrated into relief measures to safeguard rural livelihoods.
- **Gender-Sensitive Disaster Response Needed:** More gender-inclusive policies should be developed, ensuring safe spaces for women and children in relief camps.

Strengthening Community Participation in Disaster Response

Community involvement remains central to an effective disaster response. Key recommendations include:

- Training More Local Volunteers (Aapda Mitra and Civil Defence) to ensure grassroots-level preparedness.
- Strengthening Local Governance Mechanisms by integrating disaster response into panchayat and municipal bodies.
- Enhancing Awareness Programs using radio, local TV, and social media to educate citizens on early warning alerts and evacuation protocols.

Vision for ASDMA's Future Role in Disaster Response and Resilience-Building

ASDMA aims to adopt a holistic, technology-driven, and community-centric approach to disaster management. The future vision includes:

- Integrating AI and Big Data for Disaster Forecasting to achieve near-real-time risk assessment.
- Expanding UAV and Satellite-Based Surveillance to enhance disaster mapping and response speed.
- Developing a Climate-Resilient Assam through flood-resistant housing, embankment strengthening, and eco-friendly water management.
- Institutionalizing Psychosocial Support and Mental Health in Disaster Recovery as a standard response mechanism.
- Strengthening International Collaborations with UN agencies, the World Bank, and disaster management institutes to adopt global best practices.

While challenges remain—especially in infrastructure, logistics, and climate unpredictability—the foundations for a more resilient Assam are being laid through proactive, inclusive, and decentralized emergency management.

By prioritizing technology, grassroots participation, and policy-driven resilience-building, ASDMA will continue leading Assam towards a more disaster-resilient future, ensuring minimal disruption to lives, livelihoods, and infrastructure.

















TRAINING & CAPACITY BUILDING

Chapter 4

ASDMA TRAINING & CAPACITY BUILDING REPORT (2021–2024)

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- Impact and Broader Implications
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Part 4: Key Outcomes, Challenges & Takeaways

- Key Outcomes

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- Conclusion
- Measures for Future Capacity Building

Part 1: Overview

Introduction

The Assam State Disaster Management Authority (ASDMA) has demonstrated remarkable commitment to strengthening disaster preparedness and response capabilities across Assam through large-scale training and capacity-building initiatives between 2021 and 2024. Recognizing Assam's unique vulnerability to natural hazards such as floods, earthquakes, and erosion, ASDMA has implemented a decentralized training approach that covers a wide spectrum of stakeholders—ranging from community volunteers to departmental personnel, technical experts, engineers, and frontline responders.

The purpose of this report is to capture the scope, diversity, and impact of ASDMA's training initiatives over the reporting period, while highlighting district-level engagement. The activities have been structured around thematic categories that contribute directly to national and global disaster risk reduction frameworks such as the Sendai Framework for Disaster Risk Reduction (SFDRR), Sustainable Development Goals (SDGs)—particularly SDG 11 and 13—and the National Disaster Management Plan (NDMP).

The training and capacity-building initiatives implemented during the period 2021–2024 reflect ASDMA's inclusive, strategic, and evidence-based approach to disaster risk reduction (DRR). These efforts align with national frameworks such as the National Disaster Management Plan (NDMP) and global agreements like the Sendai Framework for Disaster Risk Reduction (SFDRR) and the Sustainable Development Goals (SDGs). The training programs were designed to ensure that both frontline responders and technical experts possess the knowledge and tools necessary to mitigate disaster impacts, respond effectively, and promote recovery.

The training categories spanned across Search & Rescue, resilient construction, psychosocial support, and specialized departmental trainings. By investing in people—community volunteers, masons, engineers, women, uniformed personnel, and administrative officials—ASDMA continues to cultivate a culture of preparedness, inclusion, and resilience across Assam's diverse geography.

With over 15,000 individuals trained across 27 districts, the initiative represents a concerted state-wide effort to embed resilience into the institutional, community, and infrastructural fabric of Assam.

Overview of Training Categories (2021–2024)

Between 2021 and 2024, ASDMA implemented trainings across six major categories:

1. Search and Rescue – First Responders
2. Search and Rescue – Uniformed Agencies
3. Search and Rescue – Departmental Officials
4. Search and Rescue
5. Resilient Construction Practices
6. Psychosocial Support

Training Categories undertaken by ASDMA

Sl No	Categories	Name of the training	Participants Trained	Year
1	Search & Rescue for first Responders	AAPDA MITRA	4069	2022-23
		CQRT Training	176	2021-22
		Women Cadre	53	2023-24
		Boat Management Training	89	2023-24
		NGO Personnel	96	2021-23
		Forest Guards of KNP and Manas NP	50	2022-23
		ASHA Workers	70	2021-23
2	Search & Rescue for Uniform Agency	Deep Diving Training	100	2024-25
		Motorized Boat Repairing Training	20	2024-25
3	Search & Rescue for Departmental Officials	Training for Inland Water Transport Department Officials and Boat Operator	350	2022-23
		Training Programme on Integrating Disaster Management Plan with GPDP	Executive Engineer of ZP/ DRDAs and Principals/ FMs of ETCs & DPRCs	2023-24
		Soil Department Training Programmes on Disaster Mitigation and EMP	50	2022-23
4	Search & Rescue	DDRF	48	2024-25
5	Resilient construction Practices	Earthquake Resistance Technology for Engineers	125	2022-23
		RVS	735	2023-2024
		Mason Training	1700	2022-23
		Mason Training	3948	2024-25
6	Psychosocial Support	Training for AAPDA MITRAs and Departments	25	2024-25

The following sections provide a detailed overview of each category, key activities, and their significance in enhancing Assam's disaster preparedness and response mechanisms.

1. Search & Rescue – First Responders

The training of first responders at the community level remains one of the core pillars of ASDMA's strategy. These responders are the first point of contact during emergencies and are integral in saving lives, reducing damage, and facilitating organized evacuation.

Key Trainings:

- **AAPDA MITRA Training (2022–23):**
  A total of 4069 volunteers were trained under the AAPDA MITRA scheme. Training was across multiple districts including Dibrugarh, Kamrup, South Salmara Mankachar, Nalbari, Barpeta, Bongaigaon, and Karbi Anglong. These community-based volunteers were equipped with practical skills in basic rescue, emergency response, and early warning dissemination. The program emphasized community-led disaster response and has created a decentralized pool of trained citizens in flood-prone and remote regions. They received comprehensive instruction in basic SAR techniques, first aid, flood response, early warning dissemination, and coordination with government agencies.
- **CQRT Training (2021–22):**
  A total of 176 members from districts like South Salmara, Nalbari, Kamrup, and Cachar were trained to operate as Circle-level Quick Response Teams, tasked with immediate field deployment during incidents such as flash floods, storm damage, and localised disasters.
- **Women Cadre SAR Training (2023–24):**
  A path-breaking initiative, 53 women were trained in SAR operations across districts including Kamrup, Cachar, and Karbi Anglong. Gender inclusivity in disaster management has remained a key concern globally, and this initiative positions ASDMA as a progressive force. It empowers women to lead in emergency response, improves household-level preparedness, and addresses gender-specific vulnerabilities. This program enhances household-level preparedness and aligns with the gender empowerment objectives of SFDRR.
- **Boat Management Training (2023–24):**
  In flood-prone districts such as Barpeta, South Salmara, Karbi Anglong, and Cachar, 89 local volunteers and boatmen were trained in flood navigation, boat rescue operations, managing evacuation operations during high flood levels, and water safety protocols. Thus, equipping them with the skills necessary to operate boats during flood rescue missions. With Assam being highly prone to floods, this training is a crucial addition to community-based response mechanisms.
- **NGO Personnel Training (2021–23):**
  In collaboration with Civil Defence, Assam, and Fire & Emergency Services (SDRF), ASDMA trained 96 personnel from 30 NGOs across 18 districts in search and rescue (SAR) operations and first aid. The training focused on equipping NGO personnel with skills for effective disaster response, including rescue techniques, trauma management, and coordination with government agencies.
- **Forest Guards of Kaziranga and Manas National Parks (2022–23):**
  Recognizing the unique role played by forest guards in protecting wildlife during natural calamities, especially in flood-prone national parks. 50 forest guards were trained in SAR with an emphasis on animal rescue, ranger safety, and coordination with park management during floods at Kaziranga (Golaghat/Nagaon) and Manas (Baksa/Barpeta) National Parks. This initiative ensures the safety of both personnel and

wildlife during calamities.

- **ASHA Workers Training (2021–23):**
  In collaboration with UNICEF, Assam, and the Health & Family Welfare Department, ASDMA trained 70 ASHA Supervisors and Block Community Mobilizers from 35 districts. The training focused on disaster preparedness, healthcare delivery during floods and landslides, and health risk management in relief camps, enabling ASHA workers to provide critical healthcare services to affected populations.

Strategic Value:

- √ Decentralizes SAR capacity to village levels
- √ Builds local trust and early response
- √ Promotes gender-sensitive disaster response
- √ Strengthens grassroots-level disaster response capacity.
- √ Enhances synergy between NGOs and government for efficient disaster management.
- √ Builds a network of trained responders for rapid, community-based interventions.
- √ Enhances healthcare access in disaster-affected areas.
- √ Strengthens community-driven health interventions.
- √ Builds capacity for managing post-disaster health risks, such as water-borne diseases.

Search & Rescue – First Responders

Training Name	Participants	Trained Year
AAPDA MITRA	4069	2022–23
CQRT Training	176	2021–22
Women Cadre	53	2023–24
Boat Management Training	89	2023–24
NGO Personnel	91	2021–23
Forest Guards (KNP & Manas NP)	50	2022–23
ASHA Workers	70	201-23

2. Search & Rescue – Uniformed Agencies

Uniformed personnel are often the frontline during large-scale disasters. ASDMA designed specialized modules for personnel in operational roles in Dibrugarh, Kamrup, Goalpara, South Salmara, and Barpeta districts.

- **Deep Diving Training (2024–25):**
  Conducted for 100 personnel from riverine districts such as Kamrup, Barpeta, Nalbari, and Dibrugarh, this training focused on submersion rescues, dam breach response, and riverbed search operations—critical for regions along the Brahmaputra and its tributaries.
- **Motorized Boat Repair Training (2024–25):**
  20 personnel were trained in boat maintenance and repair at technical hubs like Kamrup and Barpeta. Ensuring the operational readiness of rescue equipment is a significant aspect of effective disaster response, especially during prolonged flood operations.

Strategic Value:

- √ Enhances capability for advanced operations
- √ Reduces equipment downtime
- √ Supports complex search missions in submerged areas

Search & Rescue – Uniformed Agencies

Training Name	Participants	Trained Year
Deep Diving Training	100	2024–25
Motorized Boat Repairing	20	2024–25

3. Search & Rescue – Departmental Officials

- Inter-departmental coordination is vital during disasters. ASDMA collaborated with departments such as Inland Water Transport (IWT), Public Works, Education, and Revenue to professionalize departmental disaster response roles.

IWT Officials & Boat Operators Training (2022–23):

350 departmental officials from flood-impacted districts such as Goalpara, South Salmara, Barpeta, and Cachar were trained in water navigation, vessel safety, and passenger rescue—especially relevant for boat-assisted evacuation during monsoon floods. This program aimed to professionalize flood-time rescue and ensured that all government boat operators had the necessary SAR proficiency.

Strategic Value:

- √ Improves institutional readiness
- √ Standardizes safety protocols
- √ Integrates waterway logistics in disaster response

Search & Rescue – Departmental Officials

Training Name	Participants	Trained Year
IWT Department & Boat Operators Training	350	2022–23

- **Training Programme on Integrating Disaster Management Plan with GPDP**

  P&RD department has conducted three days ToT on Integrating Disaster management Plan with Gaon Panchayat development Plan at SIPRD, Khanapara on dated 11- Sep- 2023 coordination with ASDMA.

- **Soil Department Training Programmes on Disaster Mitigation and EMP (2022-23):**

  The Soil Conservation Department conducted two key programs: a Training cum Capacity Building Programme on Disaster Mitigation using Geo-Textile Materials and Disaster Risk Reduction (DRR) for civil structures, and a Field Visit for Method Demonstration on Erosion Management Practices (EMP) to protect against soil erosion. These initiatives targeted Soil Conservation Demonstrators, Field Workers, and local communities, enhancing their capacity to mitigate soil-related disaster risks in Assam.

Strategic Value:

- √ Strengthens soil conservation practices to reduce disaster risks like landslides and erosion.
- √ Enhances community-level awareness and participation in erosion control measures.
- √ Builds technical capacity for sustainable land management in disaster-prone areas.

4. Search & Rescue – General

- **Disaster Response Force (DDRF) Training (2024–25):**
  ASDMA's 48 DDRF personnel were trained to form a specialized rapid response unit capable of immediate deployment across multiple hazards. DDRF acts as the technical wing of the state's response mechanism and ensures professional management of medium to large-scale disasters.

Search & Rescue – General

Training Name	Participants	Trained Year
DDRF	48	2024–25

Strategic Value:

- √ Forming elite teams with capability in SAR
- √ Camp management
- √ First responder coordination.

5. Resilient Construction Practices

Given Assam's location in Seismic Zone V, resilient infrastructure is a vital priority. The 2021–2024 period witnessed significant expansion in ASDMA's focus on disaster-resilient construction. This shift is rooted in the understanding that most disaster losses—especially from earthquakes and floods—are due to unsafe infrastructure. ASDMA's training on both technical professionals and skilled labour has improved long-term resilience at the grassroots and institutional levels.

- **Earthquake Resistance Technology for Engineers (2022–23):**
  125 engineers from departments such as PWD, PHED, SSA, and Urban Local Bodies were trained across Kamrup, Cachar, Barpeta, and Goalpara. They were trained on designing earthquake-resilient structures, retrofitting techniques, and compliance with disaster-resilient building codes. These engineers represent public works, housing, and rural development departments.
- **Rapid Visual Screening (RVS) (2023–24):**
  A total of 735 engineers and planners from Karbi Anglong, South Salmara, Kamrup, and Dibrugarh were trained in RVS techniques to quickly assess structural vulnerabilities. This methodology allows quick evaluation of buildings post-disaster, facilitating timely decision-making regarding evacuation, repair, or demolition.
- **Mason Training (2022–23 & 2024–25):**
  Masons are at the forefront of construction activities, and training them in resilient construction practices yields long-term community safety. Being the most expansive training under ASDMA, with 5648 masons trained across Goalpara, Karbi Anglong, Cachar, Bongaigaon, and Kamrup. Trained for flood-resistant plinth design, earthquake-safe reinforcement, and brick alignment. This upskilling effort not only improved safety but also increased employment prospects for rural youth.

  2022–23:
  1,700 masons received hands-on training in hazard-resilient construction, focusing on best practices in earthquake- and flood-resistant building techniques.

  2024–25:
  The scope of this initiative expanded to include 3,948 masons, making it one of the most extensive training interventions by ASDMA. These trained masons are now equipped to implement disaster-resilient techniques in both new and existing structures.

Strategic Value:

- √ Reduces future disaster risk at the grassroots
- √ Mainstreams resilience into daily construction
- √ Empowers informal labour force with certified skills 6. Psychosocial Support

Resilient Construction Practices

Training Name	Participants	Trained Year
Earthquake Resistance for Engineers	125	2022–23
Rapid Visual Screening (RVS)	735	2023-24
Mason Training	1700	2022–23
Mason Training	3948	2024–25

6. Psychosocial Support

Disasters often result in significant psychological distress. Recognizing this, ASDMA included mental health preparedness in its training portfolio. The 2021–2024 training phase marked ASDMA's foray into the mental health dimension of disaster response.

- **Psychosocial First Aid Training (2024–25):**
  Conducted in Kamrup and South Salmara, this training equipped 25 personnel (including AAPDA MITRAs and government staff). They were trained to provide psychosocial first aid, community counseling, and emotional support during disasters. The training also focused on identifying trauma symptoms, managing post-disaster stress, and supporting vulnerable groups such as children, women, and the elderly.

Volunteers were trained to counsel children in relief camps, support grieving families, and assist individuals facing emotional breakdowns. This aspect of disaster relief remains underdeveloped in many Indian states, making ASDMA's initiative pioneering.

Strategic Value:

- √ Promotes holistic disaster response
- √ Strengthens community recovery mechanisms
- √ Addresses often-overlooked mental health needs

Psychosocial Support

Training Name	Participants	Trained Year
Training for AAPDA MITRAs & Departments	25	2024–25

District-Level Integration and Examples

Below are a few district-specific highlights that underline how training programs were customized based on local risks:

- **Barpeta:**
  Flood Mock Drills at Bagodi and Bamuntari. Specialized training for school teachers on evacuation and psychosocial care. Mason training focused on elevated structures in floodplains.
- **Karbi Anglong:**
  Community awareness campaigns were merged with school-based drills. Equipment kits were distributed post-training. A focused session on Child & Women Safety in Relief Camps was held in Phuloni Revenue Circle.
- **Nalbari:**
  Hosted the State-Level Multi-Location Mock Drill (April 2023). Also conducted FAMEX exercises with NDRF and a DRR Roadmap Workshop with multiple line departments.
- **South Salmara Mankachar:**
  Grassroots training via AAPDA MITRA and CDMC flood meetings. Psychosocial outreach was strengthened via mask awareness drives and miking campaigns during COVID-19.
- **Kamrup:**
  One of the most active districts, Kamrup led trainings in deep diving, SAR for women, school teacher capacity-building, and community-based DRR models like the banana raft-making initiative in flood-prone belts.
- **Dibrugarh:**
  Emphasis was placed on flood preparedness through mock drills at Brahmaputra riverbanks, first aid awareness during Deepawali, and engagement of SHGs and ASHA workers.
- **Goalpara & Cachar:**
  Focused on school safety, first responder training, and mason workshops. Community engagement was extended through NGO collaboration.
- Apart from the above-mentioned districts, more six districts have been covered in detail later in this report. The six districts are Baksa, Chirang, Dhubri, Dhemji, Dima Hasao, and Kokrajhar.

Impact and Broader Implications

ASDMA's multifaceted training programs reflect a commitment to integrated and inclusive disaster risk reduction (DRR). These initiatives have had several far-reaching impacts:

1. **Community Empowerment**
   The training of grassroots responders such as AAPDA MITRA volunteers, women cadres, and NGO personnel significantly enhances community-based disaster preparedness. By decentralizing response capacities, ASDMA ensures quicker and more localized responses to emergencies.
2. **Gender Inclusion**
   The inclusion of women in SAR training and psychosocial support initiatives reflects a progressive, gender-sensitive approach to disaster management. Women, often the first responders within families and communities, are now empowered with technical skills to save lives and support recovery efforts.
3. **Inter-Departmental Collaboration**
   Training of personnel from the Inland Water Transport Department and Forest Departments indicates ASDMA's collaborative strategy, integrating various sectors into a cohesive disaster management framework.
4. **Skill Enhancement and Employment**
   Mason training not only promotes safer construction practices but also enhances livelihood opportunities. Trained masons are more likely to secure employment in reconstruction and housing projects, thereby contributing to economic resilience.

5. **Institutional Capacity Building**
   Programs targeted at engineers, DDRF personnel, and uniformed agencies help strengthen institutional frameworks for disaster response. This ensures that trained individuals are embedded within existing government structures, ready for deployment at short notice.

6. **Focus on Mental Health**
   The psychosocial support training introduces an essential but often overlooked dimension of disaster recovery—mental well-being. This capacity ensures that communities receive not just physical but emotional and psychological support during crises.

Inference/Deduction

The period 2021–2024 represents a transformative phase in ASDMA's training and capacity-building journey. The programs covered 27 districts with a total of over 15,000 individuals trained across diverse disciplines, ASDMA has laid a robust foundation for a people-centred and institutionally ready disaster response framework.

The approach has been both inclusive—covering women, forest guards, NGO personnel, and community volunteers—and technical, with specialized programs for engineers, IWT staff, uniformed forces, and masons. By promoting resilience at every level, from households to departments, ASDMA has established a dynamic and distributed response capability across Assam.

Key takeaways include:

- Community-based preparedness through AAPDA MITRA and CQRTs has empowered locals to respond before official aid arrives.
- Gender-inclusive training has ensured that women are not only protected but also actively leading disaster response.
- Inter-departmental collaboration, especially with IWT, Forest, PHED, Education, and PWD, has enhanced system-wide responsiveness.
- Technical upskilling, including for masons and engineers, has improved the safety of Assam's built environment.
- Psychosocial readiness is now being integrated into mainstream emergency response protocols.

Moving forward, the challenge will be to sustain this momentum, institutionalize these trainings, and create district-specific training cells. Periodic refresher courses, digital integration (e.g., mobile-based learning apps), and multilingual training modules can further enhance effectiveness.

ASDMA's approach sets a benchmark for how disaster preparedness can be both top-down and bottom-up, blending policy with participation. Through continued investment in human capacity, Assam is not just preparing for disasters—it is building resilience into its very foundation.

Moreover, ASDMA's training programs reflect a deep alignment with national and international best practices. The large-scale AAPDA MITRA deployment contributes to grassroots resilience. The integration of psychosocial support and gender inclusion signals a forward-thinking and compassionate model of disaster governance. Technical capacity-building for infrastructure safety through RVS and engineering training directly addresses the root causes of physical vulnerability.

In conclusion, the training initiatives carried out between 2021 and 2024 are not standalone events but integrated efforts that contribute to a resilient Assam. These efforts must be institutionalized further, scaled up in districts with recurring hazard profiles, and continuously updated to reflect evolving challenges such as climate change, urbanization, and pandemics. With its people trained and institutions primed, Assam is better prepared than ever to respond, recover, and build back safer.

Part 2: Backgrounds & Methodology of Category-wise Training by ASDMA (2021–2024)

Executive Summary

The Assam State Disaster Management Authority (ASDMA) has emerged as a pioneering institution in India's disaster risk reduction landscape. Positioned in a state highly vulnerable to both natural and man-made hazards, ASDMA plays a vital role in enhancing the resilience of communities across Assam. From the floodplains of the Brahmaputra to the earthquake-prone hills and landslide zones, the challenges are multifaceted and require continuous capacity building of responders, officials, and the general population.

Over the last four years (April 2020 to March 2024), the Assam State Disaster Management Authority (ASDMA) has transformed the disaster preparedness landscape of the state through its robust training and capacity-building initiatives. Recognizing that effective disaster response requires not just infrastructure, but also human resource readiness, ASDMA has trained over 15,000 individuals across 27 districts, targeting community volunteers, government officials, engineers, teachers, masons, tea garden workers, boat operators, and uniformed personnel.

Through innovative programs such as AAPDA MITRA, CQRT, Mason Training on Earthquake-Resilient Construction, and Psychosocial First Aid, ASDMA has built a network of trained responders. In partnership with stakeholders such as DDMAs, World Bank, NDRF, SDRF, UNICEF, Civil Defence, and various line departments, ASDMA successfully delivered tailored trainings aligned with national (NDMP) and international frameworks (Sendai Framework for DRR).

Special emphasis was placed on gender inclusion, child and women safety, community-based resilience, and district-level coordination. Amidst challenges like floods, earthquakes, and even the COVID-19 pandemic, ASDMA's training efforts ensured that preparedness became an embedded practice across Assam's social and institutional fabric.

Overview of ASDMA's Training Philosophy

ASDMA's training philosophy is grounded in four key pillars:

- **Inclusivity:**
  Engaging diverse groups including women, children, tea garden workers, engineers, and uniformed forces.
- **Contextualization:**
  Customizing trainings for flood, earthquake, and other region-specific hazards.
- **Collaboration:**
  Partnering with District Disaster Management Authorities (DDMAs), Civil Defence, NDRF, and international agencies like UNICEF and the World Bank.
- **Sustainability:**
  Building local capacity through Training of Trainers (ToT) models and master volunteer programs.

Summary Table: Year-wise Training Statistics (2021–2024)

Year	No. of Trainings	Participants Trained	Key Focus Areas
2020–2021	5+	~250+	AAPDA Mitra (S&R), RVS for Engineers
2021–2022	20+	~1,200+	First Aid, Trauma Management, School Safety, Factory Workers

Year	No. of Trainings	Participants Trained	Key Focus Areas
2022–2023	30+	~3,500+	IRB Training, Women & Child Care, Forest Guards
2023–2024	50+	~5,000+	Mason Training, Child-Friendly Spaces, CQRT Refresher
Total	**100+**	**~10,000+**	**Diverse categories across state departments and communities**

Category-Wise Depiction of Trainings Conducted (Cumulative 2021–2024)

Category	Participants	No. of Programs	Notable Beneficiaries
Search & Rescue (First Responders)	4,000+	20+	AAPDA MITRA, CQRT, NGO Personnel, Forest Guards, ASHA Workers
Search & Rescue (Uniform/Dept. Staff)	500+	6	Police, IWT, Motorboat Operators, Govt. Employees
Resilient Construction Practices	6,500+	15+	Engineers, Masons, Tea Garden Workers
Psychosocial Support	300+	5+	Health Workers, Counsellors, ICDS Staff
Women & Child Care in Emergencies	800+	12+	Anganwadi Workers, ASHA, AWW Supervisors
School Safety & Awareness	1,000+	10+	Teachers, Students, Education Officers
Volunteer Cadre (Community-Level)	1,000+	8+	AAPDA MITRA, CQRT, DDRF, Women Cadre

Table: Broad Categories of Disaster Management Training under ASDMA

Sl. No.	Broad Category	Description	Example Training Titles
1	Incident Response & Management Training	Focuses on immediate disaster response mechanisms and coordination frameworks.	• Incident Response System (IRS) Training • Search & Rescue • EOC Management
2	Community-Based Disaster Risk Reduction (CBDRR)	Empowers local communities in risk assessment, planning, and early action.	• Community Volunteer Training • Village DM Plan Preparation • Awareness Camps

Sl. No.	Broad Category	Description	Example Training Titles
3	Capacity Building for Government Officials & Stakeholders	Strengthens institutional capacities of line departments, DDMA officials, etc.	• Training for DDMA Officials • Departmental Orientation • ToT on DM Basics
4	School & Educational Institution-Based Training	Promotes disaster preparedness and safety in educational institutions.	• School Safety Program • Evacuation Drill in Schools • Training of Teachers
5	Specialized Thematic Training	Addresses emerging and cross-cutting issues in disaster risk management.	• Urban Risk Reduction • Gender & Disability Inclusive DM • GIS in Disaster Mgmt
6	Mock Drills & Simulation Exercises	Evaluates and enhances preparedness through practical drills and exercises.	• Flood Mock Drill • Multi-Hazard Simulation • Tabletop Exercises (TTX)
7	Health & Emergency Medical Response	Enhances response capacity for mass casualty and health emergencies.	• First Aid & BLS • Psychological First Aid • Training for ASHAs/ANMs
8	Livelihood & Post-Disaster Recovery Training	Supports recovery planning, sustainable livelihoods, and financial resilience.	• SHG Resilience Building • Post-Flood Livelihood Training • Risk Insurance Awareness
9	Media, Communication & Public Awareness	Builds capacity in communication, risk messaging, and media partnership.	• Media Sensitization Workshop • Risk Communication Training • IEC Orientation
10	Disaster Risk Governance & Policy	Orientation on laws, plans, and frameworks guiding disaster management.	• DM Act 2005 Orientation • SDMP/DDMP Training • Governance in Disaster Contexts

Context

Assam is one of the most disaster-prone states in India. Situated in Seismic Zone V, crisscrossed by the Brahmaputra and Barak River systems, and prone to annual floods, landslides, lightning, and cyclones, the state requires a highly responsive and resilient disaster management framework.

The COVID-19 pandemic, occurring during this

period, posed an additional layer of complexity. ASDMA, in coordination with District Disaster Management Authorities (DDMAs), adapted swiftly by launching innovative training strategies — blending field-based activities with safety protocols, engaging frontline workers in health and nutrition, and preparing communities for multiple hazards in tandem.

Training and capacity-building form the backbone of such a framework. As stated in the Sendai Framework for Disaster Risk Reduction (2015–2030), "Investing in disaster risk reduction for resilience and enhancing disaster preparedness for effective response" is crucial. ASDMA's capacity-building agenda reflects this vision and focuses on:

- **Building local response capacity** through trained community volunteers (e.g., Aapda Mitras, CQRTs, SHGs, youth)
- **Strengthening institutional readiness** among line departments (e.g., health, transport, fire, IWT, education)
- **Promoting disaster-resilient infrastructures** through specialized training for engineers, masons, architects
- **Ensuring safety of vulnerable groups** including children, women, elderly, and persons with disabilities (PwDs)
- **Encouraging cross-sectoral coordination** and practical response exercises (e.g., mock drills, workshops)
- **Fostering knowledge-sharing platforms** like conventions and inter-agency sessions across departments and states

Between 2020 and 2024, ASDMA institutionalized a state-wide, district-driven approach, adapting training modules based on ground realities, hazard profiles, and stakeholder needs.

Objectives of the Report

This report documents and analyses the various training and capacity-building programs undertaken by ASDMA from April 2020 to March 2024. It aims to:

Catalogue key training programs conducted under ASDMA across the four years

- Organize the programs thematically and district-wise
- Assess the outcomes and impact of these programs
- Identify challenges and gaps in implementation
- Provide actionable recommendations for scaling and institutionalization

Strategic Approach

ASDMA adopted a multi-tiered strategy that ensured trainings reached the state, district, revenue circle, and even village level, focusing on both preventive and responsive mechanisms.

- **Community-Centric Model:**
  Aapda Mitras, CQRTs, boatmen, and grassroots volunteers trained to act as first responders.
- **Institutional Capacity Building:**
  Targeted trainings for engineers, IWT personnel, police, forest guards, and health workers.
- **Inclusion and Resilience:**
  Focused programs on women and child care in relief camps, school safety, and psychosocial support.
- **Thematic Integration:**
  Introduced modules on resilient construction, climate adaptation, IRB/OBM operations, and DRR Roadmap 2030.
- **Monitoring & Evaluation:**
  Pre-and post-training assessments, district-level reporting, and lesson-learned documentation.

Methodology

This report draws upon a wide range of primary and secondary sources, including:

- Annual Reports submitted by individual District Disaster Management Authorities (DDMAs)
- ASDMA's internal documentation on training statistics and strategies
- Workshop reports, training manuals, and participant feedback
- Field-level case studies and event-specific documentation (e.g., mock drills, state conventions)
- Official data from Government of Assam, World Bank, NDMA, and UNICEF

From 2020 to 2024, ASDMA conducted over 100 training programs, reaching more than 10,000 participants across Assam. Starting with limited activities in 2020–2021 due to the pandemic, the training volume steadily increased each year. Key focus areas included disaster response (AAPDA Mitra), first aid, trauma care, school and factory safety, IRB and forest guard training, mason skills, child-friendly spaces, and refresher courses for CQRTs. The programs targeted diverse stakeholders across government departments and communities.

District-Wise Tagging

Each training was tagged by district, enabling district-specific analysis. Key active districts included Kamrup, Karbi Anglong, Barpeta, Nalbari, South Salmara Mankachar, Dibrugarh, Cachar, Goalpara, Baksa, Chirang, Dhubri, Dhemaji, Dima Hasao, and Kokrajhar among others.

Timeline Coverage

Time Period	Focus Areas
2020–21	Pandemic response, AAPDA MITRA, Embankment inspection, SAR
2021–22	CQRT formation, School focal point training, Fire drills
2022–23	Training expansion, Forest guards SAR, Child & Women camp safety
2023–24	DRR Roadmap integration, IRB training, Psychosocial support, Mason mega-drive

Districts Actively Reporting Trainings

District	Key Trainings Conducted
Kamrup	Deep diving, Women SAR, Lifesaving swimming, IRB, CQRT
Barpeta	Mock drills, DRR workshops, Teagarden training, RVS
Karbi Anglong	Equipment handling, SAR, school safety, DRR roadmap
South Salmara	AAPDA MitRA, CDMC meetings, mask awareness, relief camp safety
Nalbari	DRR roadmap, IDDR event, multi-location state mock drill
Dibrugarh	Fire and flood drills, school safety training

District	Key Trainings Conducted
Cachar	NGO engagement, hospital drills, CQRT practicals
Goalpara	Earthquake mock drills, Women & Child training, DDRF support
Baksa	Mason training, Flood mock drills, AAPDA Mitra training, FAMEX, Har Ghar Tiranga
Chirang	Jal Rahat, DRR workshops, Women & Child care, Fire mock drills, Community awareness
Dhubri	DDMP review, School safety, Flood/earthquake/fire mock drills, AAPDA Mitra, DRR roadmap
Dhemaji	First aid & trauma, COVID-19 awareness
Dema Hasao	Child-friendly spaces, Landslide/earthquake risk reduction, FE-MEX, DRR roadmap, COVID-19 awareness
Kokrajhar	Flood mock exercise, School safety, First aid & life-saving skills, Non-structural RVS

Outcome Mapping

Training outcomes were categorized into:

» Knowledge and skill enhancement

» Deployment readiness

» Inter-agency coordination

» Reduction in human/animal casualties

» Community empowerment

Inclusion and Gender Sensitivity

ASDMA made a conscious effort to include marginalized and at-risk groups in its training and outreach. This included:

» Women cadre training in SAR

» Child & Women Care trainings in relief camps (with DWCD & ICDS)

» Awareness campaigns in Tea Garden areas, impacting over 800 tea estates across 25 districts

» Psychosocial first aid modules with gender-sensitive content

» School-level DRR activities reaching over 1,500 students in Nalbari and Kamrup

Category-wise Analysis of Trainings Conducted by ASDMA (2021–2024)

This section presents a comprehensive analysis of ASDMA's training initiatives organized under specific thematic categories. Each training category includes subcategories, district-level examples, participants reached, training partners, and measurable outcomes.

Search and Rescue (SAR) Training

Search and Rescue (SAR) forms the backbone of ASDMA's training portfolio. Given Assam's vulnerability to floods, landslides, and seismic activity, SAR preparedness at both the community and institutional levels has been crucial.

1. **SAR for First Responders (AAPDA MITRA, CQRT, NGO Personnel, Boatmen, ASHA Workers)**
   ASDMA, through the AAPDA MITRA scheme, built one of the most significant grassroots SAR capacities in India. Volunteers were identified and trained in basic rescue, evacuation, first aid, flood response, and early warning dissemination.

Key Programs:

- **AAPDA MITRA Training (2022–23):**
  - » **Participants Trained:** 4069
  - » **Districts Covered:** Kamrup, Barpeta, South Salmara, Dibrugarh, Goalpara, Karbi Anglong
  - » **Partners:** NDMA, DDMA, SDRF, Civil Defence
  - » **Significance:**
    - √ Rapid community-based response during floods
    - √ Reduction in loss of lives during local incidents
    - √ Enhanced credibility and trust in government response systems
- **Circle Quick Response Teams (CQRTs) (2021–24):**
  - » **Total CQRT Members Trained:** 488 across 50 vulnerable locations
  - » **Focus:** Equipping volunteers with triage, CPR, IRB operation, and evacuation techniques
  - » **Notable Districts:** Kamrup, Cachar, South Salmara, Nalbari
  - » **Special Feature:** District-level coordination and mapping for deployment in flood zones

June 15, 2023: Basic Search & Rescue training for Circle Quick Response Team Members

Context

Assam is a sister state in the North-Eastern region of India, known as the gateway to other states in that area. Its unique environment, characterized by the Eastern Himalayas, heavy rainfall, and high seismic activity, makes the region different from the rest of the country.

Assam faces many natural disasters, including floods, cyclones, and earthquakes, as well as man-made and health-related issues. Flooding in the Brahmaputra and Barak plains occurs every year, affecting nearly 0. 9 million hectares and more than 1. 5 million people during the monsoon months from June to September.

To improve disaster response, the Assam State Disaster Management Authority (ASDMA), in partnership with the District Disaster Management Authority (DDMA) and the World Bank, has formed Circle Quick Response Teams (CQRTs) in 50 vulnerable areas. Each team consisted of eight community volunteers selected based on specific criteria. They were trained in basic rescue skills to respond effectively during emergencies.

Salient Features

- Assam is vulnerable to disasters such as floods. Most rainfall occurs in June to September resulting in annual flooding of about 0. 9 million hectares and impacting over 1. 5 million people.
- The Assam State Disaster Management Authority (ASDMA), along with the District Disaster Management Authority (DDMA) and the World Bank, has formed Circle Quick Response Teams (CQRT) in 50 vulnerable areas.
- These teams consist of 8 members, including community volunteers and civil defense personnel, who will be trained for disaster responses.
- Basic Search & Rescue training will be provided to CQRT members to enhance their emergency response skills and knowledge of rescue equipment.
- The training, organized by the DDMA, was completed by June 15, 2024, to prepare for the ongoing flood season.

Outcomes

- √ Being able to respond to the emergency situation with knowledge and capacity
- √ Enhanced knowledge of CPR and utilization of the expertise during emergency
- √ Developed knowledge on uses of rescue equipment's during emergency
- √ Minimum human death due to flood or any other disaster
- √ Minimum secondary disasters occurring during disaster response
- √ Developed better grass root coordination during disaster
- √ Knowledge of triage and referral mechanism
- √ Optimal utilization of resources available at the community level during any emergencies
- √ Minimum life risk of CQRT members on field
- √ Minimum Animal death
- √ Better departmental coordination during disaster

Women Cadre SAR Training (2023–24):

» **Participants Trained:** 53

» **Objective:**
Empowering women in high-risk regions to act as first responders

» **Districts:**
Kamrup, Karbi Anglong, Nalbari

» **Significance:**
Gender-sensitive disaster response ecosystem created

Boat Management Training (2023–24):

» **Participants Trained:** 89

» **Focus:**
Community boat operators in flood-prone areas

» **Location Highlights:**
Barpeta, South Salmara, Dhemaji

» **Content:**
Water navigation, life jacket use, capsizing drills

NGO Personnel SAR Training (2021–23):

» **Participants Trained:** 96

» **Partner NGOs:**
Local disaster volunteer organizations

» **Districts:** 18 districts

» **Impact:** Strengthened government-NGO collaboration in emergencies

Search & Rescue Training for NGO Personnel on Disaster Management (2021–23)

Context

Disasters, both natural and man-made, pose significant threats to life and property in Assam, with recurring floods, earthquakes, and landslides being particularly devastating. NGOs play a critical role as first responders, often working closely with communities to provide relief, organize health camps, and conduct rescue operations. However, many NGOs lack formal training in search and rescue (SAR) and disaster response, limiting their effectiveness. To address this gap, the Assam State Disaster Management Authority (ASDMA), in collaboration with Civil Defence, Assam, and Fire & Emergency Services (SDRF), conducted a comprehensive training program for NGO personnel to enhance their capacity for disaster response and coordination with government agencies.

Salient Features

- **Participants:**
96 personnel from 30 NGOs across 18 districts of Assam.
- **Training Duration:**
5 days per batch, with 2 batches conducted.

- **Training Venues:**
  Day 1 at Assam Administrative Staff College, Khanapara, for theoretical sessions on disaster management and response mechanisms; Days 2–5 at Central Training Institute (CTI), Civil Defence, Assam, for practical SAR demonstrations.

Curriculum:

- ¤ Theoretical sessions on basics of disaster management, role of NGOs, and response mechanisms.
- ¤ Practical training in search and rescue techniques, including hands-on sessions.
- ¤ Modules on basic trauma management, immediate referral systems, and understanding disaster impacts.
- ¤ Distribution of 20 emergency equipment kits to each participating NGO upon completion.

√ **Partners:**
Civil Defence, Assam, and Fire & Emergency Services (SDRF).

- **Eligibility Criteria:**
  Participants were required to be Indian citizens, under 35 years of age, physically and mentally fit, with no legal obligations, and possess a fearless approach.

Outcomes

√ **Enhanced Disaster Response Capacity:**
Trained NGO personnel are now equipped to conduct effective SAR operations at the grassroots level, improving response times and saving lives.

√ **Community-Level Resources:**
Creation of a pool of trained responders to support ASDMA in disaster awareness, response, and school-level mock drills.

√ **Improved Coordination:**
Strengthened collaboration between government agencies and NGOs, fostering better synergy and reducing duplication of efforts.

√ **Emergency Response Force:**
Development of a network of trained NGO personnel alongside AAPDA MITRAs, enhancing community-level disaster preparedness.

√ **Equipped NGOs:**
Distribution of emergency equipment kits has enabled NGOs to respond more effectively during crises.

Training for ASHA Workers (2021–23):

» **Participants Trained:** 70

» **Partner:**
UNICEF, Assam, and Health & Family Welfare Department.

» **Districts:** 35 districts

» **Impact:**
Enhanced Healthcare Delivery, Community Health Resilience

Training for ASHA Workers on Disaster Preparedness & Healthcare during Natural Calamities (2021–23)

Context

Assam's vulnerability to floods and landslides, as evidenced by the devastating 2022 floods impacting all 32 districts, has highlighted the critical need for robust healthcare interventions during disasters. ASHA Supervisors and Community Mobilizers are pivotal in delivering healthcare services in rural and underserved areas, particularly in relief camps. However, their capacity to address disaster-related health challenges, such as water-borne diseases and psychosocial impacts, requires enhancement. To address this, ASDMA, in collaboration with UNICEF, Assam, and the Health & Family Welfare Department,

conducted a Training of Trainers (ToT) program to equip ASHA workers with skills for disaster preparedness and healthcare delivery.

Salient Features

- **Participants:**
  70 ASHA Supervisors and Block Community Mobilizers from 35 districts of Assam.
- **Training Duration:**
  2 days for state-level ToT and 2 days for district-level training.
- **Training Venues:**
  State-level training at a designated venue with hall booking; district-level training at local facilities.
- **Curriculum:**
  - **Disaster Management Cycle & Community Health:**
    Understanding the role of ASHA workers in epidemic control, immunization, and health monitoring during disasters.
  - **Health Preparedness and Planning:**
    Exercises on health planning and continuity of health services during emergencies.
  - **Risk Identification:**
    Identifying health issues faced by infants, children, pregnant and lactating mothers, and creating health risk profiles for effective governance.
  - **Relief Camp Management:**
    Training on health monitoring in notified and un-notified relief camps, addressing challenges faced by ASHA workers during floods.
- **Partners:**
  UNICEF, Assam, and Health & Family Welfare Department.

Outcomes

√ **Trained Master Trainers:**
Created a cadre of master trainers to further train ASHA workers across districts, ensuring sustainable capacity building.

√ **Enhanced Healthcare Delivery:**
ASHA workers are better equipped to manage health hazards, provide immunizations, and monitor health in relief camps during disasters.

√ **Community Health Resilience:**
Strengthened community-driven health interventions, particularly for vulnerable groups like women, children, and pregnant mothers.

√ **Improved Disaster Preparedness:**
ASHA workers can now identify and mitigate health risks, reducing the spread of water-borne and vector-borne diseases post-disaster.

√ **Better Coordination:**
‘‘Enhanced collaboration between ASDMA, NHM, and ASHA workers, ensuring efficient healthcare delivery in crisis situations.

SAR for Uniformed Agencies (Advanced SAR, Deep Diving, Motorboat Handling)

Uniformed personnel such as police, SDRF, and fire services often engage in complex operations that demand advanced skills.

Key Trainings:

- **Deep Diving Training (2024–25):**
  - **Participants Trained:** 100
  - **Districts:**
    Kamrup, Goalpara, Barpeta
  - **Modules:**
    Underwater SAR, scuba gear handling, breath control
  - **Partners:**
    SDRF, Fire & Emergency Services

- **Motorized Boat Repair Training (2024–25):**
  - **Participants Trained:** 20
  - **Location:** Kamrup
  - **Objective:** Ensure that rescue equipment remains functional during monsoon operations

23 February-02 March, 2023: Inflatable Rubber Boat Training for Active Volunteers

Context

The training program on IRB and Out Board Motors (OBM) was organised with an objective to strengthen the capacities of active Aapda Mitra volunteers, so that they can engage as support staff with uniform people and rescue agencies to assist them at the time of emergency situations.

Salient Features

- Eight days' advanced training program for active volunteers on the management of IRB
- Training done in collaboration with Civil Defence, Assam and DDMA, Kamrup
- One day theoretical session and Seven days practical hands-on training
- 78 volunteers from sixteen districts of Assam participated in the training program
- Volunteers learnt to operate the IRBs and OBMs
- They got equipped with the standard protocol and SoP developed for handling IRBs

Outcomes

√ Volunteers will be ready to act as frontline workers

√ Better service delivery in disaster management

√ Better response in disaster management

SAR for Departmental Officials (Inland Water Transport & DDRF)

These trainings focus on operational departments that have direct responsibilities during disasters.

- IWT Department SAR Training (2022–23):

» Participants Trained: 350

» Districts: Cachar, South Salmara, Jorhat, Majuli

» Focus: Safety of ferry passengers, boat handling, mass evacuation

March, 2023: Basic Search & Rescue training for Inland Water Transport Officials

Context

The state witnesses major boat mishaps and other drowning incidents in the river Brahmaputra, Barak, and other small and big tributaries. Plus, The Inland water Transport department plays a key role in commuting thousands of people in the Brahmaputra and Barak rivers., involving a perennial risk factor for commuters on the banks of both the major rivers.

The State government took immense precautionary measures under section 41 of DM Act 2005 to handle disaster related mishaps and smooth running of boats under IWT Ghats across the state. The capacity building of IWT officials is coordinated according to the mandate of section 34, Disaster management Act 2005. The Inland Water Transport department, Govt. of Assam presently takes care of 50 Ferry Ghats across the state.

Salient Features

- Training conducted in collaboration with NDRF, SDRF and Civil Defence
- Trained AAPDA MITRA people
- The training was a part of the expansion of activities which took place in 1968 when six ferry services operating in the river Brahmaputra were taken over from the State PWD Department

Outcomes

- √ Enhanced knowledge of CPR
- √ Minimum human casualty in case of boat mishap
- √ Minimum secondary disasters occurring during disaster response
- √ Development of knowledge on uses of rescue equipment to safe human lives
- √ Better departmental coordination during disaster
- √ Knowledge of triage and referral mechanism

- **Panchayat and Rural Development Department Training (2023–24):**
  - » **Participants Trained:** Executive Engineer of ZP/ DRDAs and Principals/ FMs of ETCs & DPRCs
  - » **Districts:** Kamrup
  - » **Focus:** Integrating Disaster Management Plan with GPDP

Training Programme on Integrating Disaster Management Plan with GPDP

P&RD department has conducted three days ToT on Integrating Disaster management Plan with Gaon Panchayat development Plan at SIPRD, Khanapara on dated 11-sep- 2023 coordination with ASDMA.

Resource Person: Respected Shri Pabitra Kalita Sir, Joint Director (Training), SIPRD, Assam.

Topic: Preparation of GPDP, BPDP and DPDP planning in all 3 tiers of PRIs

Training: Training Programme on Integrating Disaster Management Plan with GPDP.

Date: 12th to 14th September, 2023.

Venue: SIPRD, HQ Khanapara.

Level of participants: Executive Engineer of ZP/ DRDAs and Principals/ FMs of ETCs & DPRCs.

Course Team:

Respected Shri Anupam Dutta Sir, Deputy Director (Admin), SIPRD, Assam.

Smti. Pallabi Goswami Mahanta, Faculty Member, SIPRD, Assam

Smti. Arundhati Mishra, Sr. Administrative officer, SIPRD, Assam

- **Soil Department Initiatives on Disaster Mitigation and Erosion Management (2022–23):**
  - » **Participants Trained:** 50
  - » **Focus:** Sustainable Land Management

Soil Department Initiatives on Disaster Mitigation and Erosion Management (2022–23)

Context

Assam's topography, characterized by hilly terrains and riverine areas, makes it highly susceptible to soil erosion and landslides, particularly during monsoons. These natural disasters threaten lives, livelihoods, and infrastructure, necessitating robust soil conservation strategies. The Soil Conservation Department, recognizing the critical role of soil management in disaster risk reduction, conducted two targeted programs in 2022–23 to build capacity among its workforce and local communities. The first was a training program focusing on disaster mitigation through geo-textile materials and DRR for civil structures, and the second was a field demonstration of Erosion Management Practices (EMP) to address soil erosion at Kahilipara.

Salient Features

- **Participants:**
  - ¤ **Training Programme:** 50 participants, including Soil Conservation Demonstrators (Senior and Junior) and Soil Conservation Field Workers.

- **Field Visit:**
  Soil Conservation Demonstrators (Senior and Junior), Soil Conservation Field Workers, and local people from Kahilipara hill.

- **Training Duration and Dates:**
  - **Training cum Capacity Building Programme:**
    1 day, conducted on 30th January 2023.
  - **Field Visit for Method Demonstration:**
    1 day, conducted on 1st February 2023.
- **Training Venue and Project Site:**
  - **Training Programme:**
    Venue not specified, conducted by the Soil Conservation Department.
  - **Field Visit:**
    Project site at Kahilipara hill for hands-on demonstration of EMP.
- **Curriculum and Activities:**
  - **Training Programme:**
    Focused on disaster mitigation using geo-textile materials and DRR techniques for civil structures. Covered theoretical and practical aspects of applying geo-textiles to stabilize soil and protect infrastructure.
  - **Field Visit:**
    Demonstrated Erosion Management Practices (EMP) to prevent soil erosion, including methods for slope stabilization and soil conservation techniques suitable for hilly terrains like Kahilipara.
- **Target Groups:**
  Soil Conservation Demonstrators (Senior and Junior), Soil Conservation Field Workers, and local community members (for the field visit).

Outcomes

- √ **Enhanced Technical Capacity:**
  Soil Conservation Demonstrators and Field Workers gained expertise in using geo-textile materials and DRR techniques, improving their ability to mitigate soil-related disaster risks.
- √ **Community Engagement:**
  The field visit engaged local people from Kahilipara, raising awareness about soil erosion prevention and fostering community participation in conservation efforts.
- √ **Practical Application:**
  Hands-on demonstration of EMP equipped participants with actionable skills to implement soil stabilization measures in disaster-prone areas.
- √ **Disaster Risk Reduction:**
  Strengthened capacity to protect infrastructure and land from erosion and landslides, contributing to safer communities in Assam's hilly regions.
- √ **Sustainable Land Management:**
  Promoted environmentally sustainable practices for soil conservation, aligning with broader disaster resilience goals.

Search and Rescue -Disaster Response Force (DDRF) Training (2024–25):

- **Participants Trained:** 48
- **Districts:**
  Nalbari, Kamrup, Bongaigaon
- **Significance:**
  Strengthened district-level force ready for rapid deployment

Resilient Construction Practices

Resilient infrastructure is one of the most effective long-term risk reduction strategies. ASDMA invested significantly in enhancing technical knowledge of

masons and engineers.

- Earthquake Resistance Training for Engineers
  - » **Participants Trained:** 125
  - » **Years:** 2022–23
  - » **Institutions:** NIT Silchar, Assam Engineering College (Kamrup), Tezpur University
  - » **Curriculum Highlights:**
    - √ Seismic-resistant design
    - √ BIS codes, ductile detailing
    - √ Retrofitting methods
  - » **Significance:**
    - √ Improved safety compliance in public construction
    - √ Enhanced in-house technical capability across departments

December, 2023: State convention for "Empowering the Next Generation for a Resilient Future"

Context

Climate change-induced disasters pose a significant threat to children and youth, with UNICEF estimating around one billion children globally at high risk. Flooding in Chad, Gambia, Pakistan, and Bangladesh in 2022 affected children more than in 30 years. Addressing these issues requires integrating youth into disaster risk reduction strategies and empowering them.

The convention aims to leverage the education sector and young volunteers such as AAPDA MITRA, CQRT, DDRF, and Women Cadre, to reduce disaster risks for school-aged youth by creating safe schools, developing life-saving skills, and providing age-appropriate education to prepare them for early action and build resilient communities.

Objectives of the Convention

Assam's State Disaster Management Authority (ASDMA) organized a two-day convention in December, 2023 to empower youth volunteers and enhance disaster risk education. With an aim to discuss school children and youth's participation in disaster risk reduction. Below are the highlights of the objectives of the convention.

- Encourage disaster preparedness at the community level.
- Enhance youth volunteers' capacities through training.
- Learn from successful practices of SDMAs in community disaster management.
- Promote leadership among youth in disaster preparedness.
- Inspire innovative ideas for disaster risk reduction.

The event showcased disaster preparedness strategies, artificial intelligence tools, and achievements in volunteer management. The event was attended by states including Arunachal Pradesh, Manipur, Mizoram, Nagaland, Meghalaya, Sikkim, Tripura, Orissa, Kerala, and Karnataka. ASDMA trained 5,600 MITRAs, 488 CQRT members, 53 Women Cadre, and 24 DDRF members to enhance community responses, with a convention featuring volunteer management achievements.

Modalities of the Convention

- ASDMA invited representatives from seven northeastern states and three top-performing states in disaster management to share their successes and best practices in community response.
- The convention featured topics from various states, such as Assam's CQRT, Odisha's ODRAF, and Kerala's Sannadha Sena.
- All states were encouraged to share their best

practices in disaster management. Some representatives joined online.

- ASDMA invited key officials as special guests at the inaugural session, including the Chief Minister, the Hon'ble Revenue Minister, and representatives from NDMA and other disaster management authorities.

Outcomes

√ Young people gained skills and knowledge to influence a resilient future

√ Increased Social Media Campaign for the Convention along with outreach through videos

√ Success stories and endorsements of youth involvement in disaster management

√ Educational initiatives and engaging learning materials for children

√ Encouragement of demonstrations of life-saving skills led by youth

- **Rapid Visual Screening (RVS)**
  - » **Participants Trained:** 735
  - » **Year:** 2023–24
  - » **Districts:** South Salmara, Barpeta, Kamrup, Dibrugarh
  - » **Purpose:** Assess buildings post-earthquake/flood for usability
  - » **Impact:** Enabled faster decisions about evacuation, demolition, and repair
- **Mason Training on Earthquake-Resistant Construction**
  - » **Participants Trained:** 5648 (1700 in 2022–23 and 3948 in 2024–25)
  - » **Training Duration:** 3 days per batch
  - » **Key Districts:** Goalpara, Barpeta, Cachar, Karbi Anglong, Nalbari
  - » **Curriculum:** Brickwork, RCC, proper use of mortar, vertical reinforcements
  - » **Significance:**
    - √ Massive upskilling of rural construction labor
    - √ Safer housing stock in seismic zones
    - √ Trained masons engaged in post-disaster rebuilding efforts

February, 2024: Three-day Mason's Training on Earthquake–Resistant Construction Practices across the State (up to Block Level)

Context

Assam being a high-risk seismic zone, thus it is important to ensure that buildings are safe from earthquakes. While there are available designs and technologies for earthquake-resistant structures, many masons lacked the necessary training and certification to be implemented the designs effectively. Most masons in Assam have learned their skills through hands-on experience, often passed down through generations. There is a pressing need to train a large number of masons in earthquake-resistant construction techniques throughout the State. ASDMA has begun training programs, but the number of trained masons remains small compared to the total working in the field.

The training sessions covered various topics including an introduction to masonry, health and safety measures, tool identification, material handling, preparation of cement mortar, and construction of special structures.

Salient Features

- Knowledge to reduce disaster risk, which is vital

for developing resilient structures

- Professional training for masons who are often unskilled
- Training offered quality education to 24,720 masons across the State
- Effectively translate building designs into actual construction
- Necessitating the creation of a mechanism for skill development in earthquake-resistant practices

Outcomes

√ Provided the training for earthquake-resistant structures

√ Imparted quality training for practicing masons (In Brick Masonry, RCC Structures, etc.)

√ Equipped participants with necessary masonry skills and safety practices

√ Trained engineers will lead these sessions at the Revenue Circle Level

2. Psychosocial Support Training

Disasters create invisible trauma. ASDMA's pilot initiative targeted emotional first aid and mental resilience.

» **Participants Trained:** 25

» **Year:** 2024–25

» **Districts:**
Kamrup, South Salmara

» **Modules:**
Community counseling, stress management, grief support

» **Significance:**

√ First-of-its-kind training in Assam

√ Integrated into AAPDA MitRA role cards for field response

3. Child and Women-Centric Safety Trainings

Recognizing the vulnerabilities of children and women during disasters, ASDMA partnered with DWCD, UNICEF, and ICDS for capacity-building.

Key Interventions:

» **ToT on Child and Women Care in Relief Camps (Feb 2023):**

» **Participants Trained:**
Multiple trainers from every district

» **Location:**
State-level workshop, followed by district rollouts

» Significance:

√ Trained Anganwadi Workers in all districts

√ Established SOPs for Child-Friendly Spaces and breastfeeding corners

√ Reduced risk of malnutrition and gender-based violence in camps

February 14-15, 2023: ToT on Child and Women Care in Relief Camps & Temporary Shelters during Emergencies

Context

The training program emerges from the necessity that children and women are more vulnerable, especially during emergencies.

Salient Features

- Two days residential training of trainers
- Aimed to equip the Integrated Child Development Services (ICDS) functionaries under Directorate of Women and Child Development (DWCD), Assam
- Included module on nutrition-specific

interventions during a disaster

Outcomes

- √ Better care for children and women during emergencies
- √ Reduced mortality rate and morbidity associated with malnutrition

4. Special Capacity-Building Modules

These included cross-sectoral and innovative programs unique to Assam's risk landscape.

IRB and OBM Training for Volunteers (Feb–Mar 2023)

- » **Participants:** 78 volunteers from 16 districts
- » **Focus:** Inflatable Rubber Boats & Outboard Motors
- » **Location:** Kamrup
- » **Significance:** Volunteers became deployment-ready during riverine emergencies

5. Lifesaving Swimming Training (March 2024)

- » **Audience:** Government employees
- » **Pilot Location:** Kamrup Metro
- » **Significance:**
  Enhanced resilience and self-rescue skills of field officers

March 23, 2024: Lifesaving Swimming Training for Government Employees

Context

This initiative aimed to prepare employees for disasters in Kamrup Metro and would expand to other districts of Assam as approved by SEC.

Salient Features

- Strengthen the resilience of the Govt. employees during disasters
- Lifesaving Swimming Training of government employees of Assam through all the DDMAs
- Launched the swimming training programme with the employees working under Revenue and DM, Kamrup Metro

Outcomes

- √ Reduced disasters risk and human life loss
- √ Strengthen the resilience of the Govt. employees
- √ Better response in disaster management

6. Training for Forest Guards – Animal Rescue (Jan 2023)

- » **Participants:**
  Forest staff from Kaziranga, Manas, and forest divisions
- » **Modules:**
  Rope rescue, translocation, carcass management
- » **Partners:**
  Civil Defence, NDRF

January, 2023: Search and Rescue Training for Forest Guards and Management of Animals in Disaster

Context

Disaster harm animals. Plus, at the time of operation secondary disaster takes place in the form of animal attacks, self-injuries or road accidents. Lack of knowledge in forest guards in this regard lead to higher number of animal deaths, thus further damaging the livelihood of already affected people. The training fills the lacuna in search and rescue of animals.

Salient features

- Training in collaboration with Civil Defence and NDRF
- Six days training module at Guwahati

- Training covers theoretical aspects of Basic of Disaster Management and role of Government
- Modules include Rope Rescue Techniques, Traditional Practices Practical and Seven Steps in Animal Handling
- Other learnt objectives include Rescue & Translocation, Strategy for Carcass Disposal, Basic of IRB and OBM, and Satellite Communication.

Outcomes

√ Enhanced knowledge of CPR

√ Minimum Animal death

√ Minimum secondary disasters during disaster response.

√ Better departmental coordination during disaster

√ Knowledge of triage and referral mechanism

7. Awareness in Tea Garden Areas (Jan–Apr 2023)

- Coverage: 800 tea gardens in 25 districts
- Topics: Fire, flood, earthquake preparedness, first aid
- Impact:
    - √ Awareness rose from 2% to 25% in some areas
    - √ Reduced man-animal conflict
    - √ Garden workers became DRR resource persons

5th January 2023 - 30th April 2023: Awareness and Training Programme on Various Disasters which Affect Tea Garden Areas of Assam

Context

The training and awareness program ran from January 5 to April 30, 2023, covering 800 tea gardens across 25 districts and 81 revenue circles in Assam. It began at Tharwra Tea Estate in Sivasagar district and concluded at Khamlung Tea Estate in Charaideo district. The program was organized by the Tea and Ex-Tea Garden Labourers Development Association in collaboration with the Assam State Disaster Management Authority.

Salient Features

- Awareness was conducted by the Tea and Ex-Tea Garden Labourers Development Association with the Assam State Disaster Management Authority
- Explanation of the importance of Community Based Disaster Preparedness in Tea Gardens of Assam
- Supervision was provided by State Project Officer, along with district-level monitoring by the CEO of DDMA and District Project Officers
- Inclusion of the practical session in the training session
- Participation included various officials such as Assistant Labour Commissioners and mock drills by Fire and Emergency services

Outcomes

√ Before training only 2-3% provided fully correct answers, after the training, 25% answered fully correct and 40% partially correct

√ Participants completed a survey about topics such as what disaster is, dos and don'ts during floods and earthquakes, fire extinguishers and safety measures, mitigation and preparedness for hazards, government relief schemes, and first aid

√ Decrease in Man Animal Conflict which many gardens in several districts face

√ Awareness to the public on various disasters and relief measures taken by Govt.

Part 3: District-Wise Training Highlights (2020–2024)

While the thematic training categories reflect the breadth of ASDMA's vision, the true depth and impact lie in how these trainings were implemented across Assam's districts. Each district adapted its capacity-building programs based on hazard exposure, terrain, community needs, and institutional readiness.

This section highlights the training and capacity-building initiatives undertaken at the district level, using a structured format for each: key programs, target groups, partners, outcomes, and special features.

1. Kamrup

Key Programs:

- Deep Diving Training (100 uniformed personnel)
- Lifesaving Swimming for Govt. Employees (Revenue & Disaster Management staff)
- AAPDA MITRA SAR Training
- IRB and OBM Training for Volunteers (State-level)
- School Safety and First Aid
- Women Cadre Training (SAR)
- DRR Roadmap Workshop & Mock Drill

Target Groups:

AAPDA MITRA, Revenue Department staff, Circle-level officers, Teachers, Women Responders

Special Features:

√ Hub district for state-level advanced training (e.g., deep diving, IRB handling)

√ Led innovations like banana raft DRR demonstrations

√ Organized SAREX 2024 (airplane crash drill with SDRF, NDRF, Army)

Outcomes:

√ Strengthened core disaster response infrastructure

√ Initiated urban resilience frameworks in Guwahati

2. Barpeta

Key Programs:

- Mason Training for Earthquake-Resistant Construction
- Flood Mock Drills in Schools (e.g., Bagodi, Bamuntari HS)
- Training for Teachers, SFPTs, and CRVs
- Awareness Drives in Tea Garden areas
- RVS Training for Engineers
- DRR Roadmap Workshop

Target Groups:

School students, Teachers, Engineers, Masons, Tea Garden Workers, Women

Special Features:

√ Tea garden outreach program covered multiple revenue circles

√ School safety integrated into curriculum in collaboration with SSA

Outcomes:

√ Risk awareness increased among vulnerable worker populations

√ Improved structural safety through trained masons

3. Karbi Anglong

Key Programs:

- Equipment Handling for CQRT
- DRR Roadmap Workshop

- School-Based Mock Drills & Training
- Child & Women Care Training
- Flood Preparedness Coordination Meetings

Target Groups:

Community volunteers, school teachers, Circle Officers, NGOs, Women

Special Features:

» Engagement with remote tribal belts

» Flood and landslide drills conducted with multi-departmental coordination

Outcomes:

√ Created local champions for DRR in high-altitude vulnerable areas

√ Improved Circle-level SAR coordination

4. Nalbari

Key Programs:

- State-Level Multi-Location Mock Drill (April 2023)
- FAMEX Exercises with NDRF (3 locations)
- IDDR 2023 Awareness Program
- DRR Roadmap District Workshop
- AAPDA MITRA Deployment

Target Groups:

Govt. officials, school students, line departments, Anganwadi Workers

Special Features:

» District emerged as a model for mass-scale simulation-based preparedness

» Training linked with IEC and appreciation certificates

Outcomes:

√ Enhanced readiness in schools and medical facilities

√ Coordination frameworks between health, PWD, and social welfare strengthened

5. South Salmara Mankachar

Key Programs:

- Flood Preparedness Meeting with CDMC
- AAPDA MITRA Training (at Dhubri)
- Awareness Campaigns during COVID-19
- Psychosocial Support Training
- Boat Management for Rescue

Target Groups:

AAPDA MITRA, ICDS workers, NGO personnel, volunteers

Special Features:

» Challenging terrain along river border areas addressed through boat and flood rescue training

» Focus on women-led preparedness and relief camp safety

Outcomes:

√ Early warning and evacuation drill increased coverage

√ Strengthened linkages with forest and revenue departments

6. Dibrugarh

Key Programs:

- Fire and Flood Mock Drills
- School Safety and Teacher Training
- NGO Coordination on SAR
- Mask Distribution and COVID Awareness

- RVS Training for Engineers

Target Groups:

Students, Factory Workers, Teachers, AAPDA MITRA Volunteers

Special Features:

» Focused on Brahmaputra belt riverbank villages

» Engaged Fire & Emergency Services for community demonstrations

Outcomes:

√ Improved flood response in urban-industrial zones

√ Integration of safety messages in school functions and local fairs

7. Cachar

Key Programs:

- CQRT SAR Training for Volunteers
- Community Training on Water Rescue
- School Awareness Campaigns
- Relief Camp Management Training
- NGO SAR Partnership Building

Target Groups:

Boatmen, Students, Teachers, Volunteers

Special Features:

» Focus on IRB training and search-and-rescue drills in wetland areas

» Drills conducted in multiple languages including Bengali and Manipuri

Outcomes:

√ Enhanced flood preparedness in Barak Valley

√ Boosted engagement with Panchayat-level committees

8. Goalpara

Key Programs:

- DDRF Orientation
- Earthquake Mock Drill in Schools
- Tea Garden Disaster Awareness Drive
- Child & Women Relief Camp Safety Training

Target Groups:

Teachers, Line departments, Community responders

Special Features:

» Emphasis on seismic response and structural safety

» Collaborated with Forest, Health & Education Departments

Outcomes:

√ Multisectoral coordination for response drills

√ Increased resilience in forest-fringe and tribal communities

9. Bongaigaon

Key Programs:

- School Safety Training
- Fire Mock Drills
- RVS for Technical Officials
- Child & Women Camp Management

Target Groups:

Students, Engineers, Govt. officials, Women

Special Features:

» Integrated training with ASDMA's DRR Roadmap 2030 rollout

» Included Police, Fire, SDRF, and PWD in multi-agency drills

10. Dhubri

Key Programs:

- Flood Mock Drills (Zilla Parishad Ghat, Mela Ground Ghat)
- Women and Child Care Training at Relief Camps
- AAPDA Mitra Volunteer Training with Rescue Kit Distribution
- NDMIS Online Training for DDMA and DRR officials
- Fire Mock Drill at Dhubri Medical College Hospital
- DRR Roadmap 2030 District Workshop
- Earthquake and Fire Mock Drill at Dhubri BN College
- FAMEX Awareness Programs in Schools

Target Groups:

AAPDA Mitra volunteers, School teachers, ASHA and ICDS workers, Engineers, Community members

Special Features:

» District-wide coverage with 7 flood mock drills during District Day celebrations

» Strong focus on community engagement and awareness drives

» Online and offline capacity-building on disaster preparedness

Outcomes:

√ Enhanced readiness of emergency responders and community volunteers

√ Improved disaster resilience in educational institutions and relief camps

11. Dhemaji

Key Programs:

- Non-Structural Retrofitting & Rapid Visual Screening Training for Engineers
- Disaster Management, First-Aid & Trauma Training for Police Personnel
- Awareness and Sanitation Drives during COVID-19
- Flood Preparedness Meeting with Line Departments
- Covid-19 Awareness Hoardings Installation

Target Groups:

Engineers, Police personnel, General public, Healthcare workers, Line departments

Special Features:

» Collaborative training with NDRF and ASDMA master trainers

» COVID-19 response integration with disaster preparedness

Outcomes:

√ Strengthened technical capacity in building safety and rapid screening

√ Heightened awareness of health, safety, and hygiene during emergencies

12. Dima Hasao

Key Programs:

- Field Damage Assessments (hailstorms, windstorms, landslides)
- Training on Child-Friendly Spaces during Emergencies for ASHA and Anganwadi workers
- Landslide and Earthquake Risk Reduction Workshops
- FE-MEX Disaster Preparedness & Response Exercises in five blocks
- Community Awareness Campaigns across 93 villages

- DRR Roadmap Workshop for Line Departments
- COVID-19 Response Activities (quarantine centres, control rooms, awareness drives)

Target Groups:

Teachers, Students, ASHA and Anganwadi workers, Local communities, Volunteers

Special Features:

» Extensive field engagement even in remote, inaccessible areas

» Multi-hazard preparedness with focus on landslides, earthquakes, and pandemics

Outcomes:

√ Strengthened grassroots disaster resilience

√ Improved emergency response coordination and community capacity

13. Baksa

Key Programs:

- Flood Mock Drills across revenue circles and tea gardens
- Mason Training on Earthquake-Resistant Construction Practices
- AAPDA Mitra Training (multiple batches)
- Awareness Generation through Drawing Competitions, Meetings, and Score Card Assessments
- Post-flood Rescue Operations with Army, SDRF, and Fire Services
- GR Distribution (essential supplies) during floods
- Familiarization Exercises with NDRF

Target Groups:

Tea-garden workers, School teachers, Masons, Medical staff, NGOs, Paramilitary forces

Special Features:

» Strong collaboration with local NGOs and Army for flood response

» 8Earthquake-resistant construction training scaled up to community masons

Outcomes:

√ Enhanced disaster response infrastructure and community engagement

√ Improved structural resilience in vulnerable areas

14. Chirang

Key Programs:

- Jal Rahat Flood Relief Exercise with Indian Army
- DRR Proposal Preparation Workshop for Line Departments
- Women and Child Care Training in Relief Camps
- Community Awareness Programs and Fire Mock Drills
- Chemical Disaster Mock Drill with Bongaigaon Refinery
- Flood Preparedness and NGO Coordination Meetings
- Relief Camp Management Training for Camp In-charges

Target Groups:

AAPDA Mitra, Camp In-charges, NGOs, Community members, Teachers, Students

Special Features:

» Integrated disaster preparedness across agencies including Army, SDRF, NGOs

» Industrial disaster preparedness with full-scale chemical disaster drill

Outcomes:

√ Strengthened inter-agency coordination and

technical capacity

√ Enhanced safety measures in relief camps and chemical industries

15. Kokrajhar

Key Programs:

- Flood Mock Exercise with NDRF, Fire & ESS, CDMC
- School Focal Point Teachers (Phase II) Training under NSSP
- Block-level Master Trainer Programs on First Aid & Life Saving Skills
- Non-Structural Retrofitting and Rapid Visual Screening Training for Engineer

Target Groups:

Teachers, Engineers, MPWs, CDMC members, Local communities

Special Features:

» Comprehensive training combining table-top exercises and field drills

» Multiple block-level interventions covering entire district

Outcomes:

√ Improved flood and first aid preparedness in schools and communities

√ Enhanced technical capacity to assess and retrofit critical structures

Other Districts Reporting Noteworthy Trainings

District	Notable Activities
CFR Districts	IRB and OBM handling, CQRT formations across 50 circles
Sivasagar	First tea garden DRR training initiated at Thowra Tea Estate
Charaideo	DRR outreach ended at Khamlung Tea Estate, marking 800+ tea estates covered
Lakhimpur	Flood-prone zone targeted for SAR volunteer training
Majuli	Boat rescue drills and floating relief point exercises

Summary of District-Wise Reach

Districts Actively Engaged	Key Training Focus
Kamrup, Barpeta, Karbi Anglong	Multi-sectoral, state-level training hubs
Nalbari, Goalpara	School safety, inter-departmental drills
South Salmara, Cachar	Border and riverine SAR + flood preparedness
Dibrugarh, Bongaigaon	Urban and industrial safety with focus on fire and infrastructure
Sivasagar, Charaideo	Tea garden outreach and DRR awareness
Others (Majuli, Dhemaji)	Remote & floodplain-specific interventions

Part 4: Key Outcomes, Challenges, and Takeaways

Key Outcomes

Over the period from April 2020 to March 2024, ASDMA's systematic and decentralized training initiatives led to significant outcomes across Assam. The impact spanned **institutional readiness, community preparedness, volunteer mobilization, resilient construction, health integration, and inclusive planning** — even as the COVID-19 pandemic and recurring flood emergencies tested the system's agility.

This chapter outlines the key results achieved under the training categories and analyses broader trends observed across the training ecosystem.

1. **Strengthened Community Preparedness and First Response**

- Over 4000+ AAPDA MITRA volunteers were trained across 27 districts, enabling swift and community-based response to disasters—particularly floods and earthquakes.
- Community-level Search & Rescue (SAR) teams were deployed in flood-prone and high-risk zones such as Barpeta, South Salmara, Dibrugarh, Karbi Anglong, Cachar, and Majuli.
- CQRTs were established in 50 critical circles with 8 trained members each, improving localized coordination and first-contact emergency handling.

Impact:

- √ Communities reported faster evacuation during floods (e.g., Goalpara, Nalbari).
- √ Reduced casualty and property damage due to better early action in vulnerable locations.

2. **Institutional and Interdepartmental Capacity Enhancement**

- Government departments such as Inland Water Transport (IWT), Public Works (PWD), Social Welfare, and Health participated in customized trainings.
- DDRF teams were created and trained in disaster hotspots like Kamrup and Nalbari.
- Line departments began integrating disaster preparedness into their annual action plans and schemes.

Impact:

- √ IWT-trained boat operators enhanced safety of ferry passengers across Brahmaputra and Barak.
- √ Health departments conducted joint mock drills with SDRF and Fire Services (e.g., Silchar Civil Hospital drill).
- √ Police and Forest Departments now actively contribute to SAR and relief operations (e.g., Forest Guard SAR Training in Kaziranga and Manas).

3. **Infrastructure Safety and Skill Development**

- 5648 masons trained in earthquake-resistant construction techniques, particularly in Goalpara, Barpeta, Cachar, and Kamrup.
- 125 engineers received training on BIS codes, ductile detailing, and seismic retrofitting.
- RVS (Rapid Visual Screening) trainings enabled 735 engineers and officials to assess buildings post-disaster quickly.

Impact:

- √ Safe housing designs promoted across floodplains and seismic zones.
- √ Construction quality improved in rural areas, especially where trained masons were employed.
- √ RVS helped prioritize retrofitting decisions in educational and health infrastructure.

4. Inclusive and Gender-Sensitive Disaster Management

- 53 women were trained as first responders under the Women Cadre SAR Program in Kamrup and Karbi Anglong.
- Trainings for Anganwadi Workers and DWCD officials focused on child nutrition, safety, and trauma care in relief camps.
- Community-based outreach programs in tea garden areas addressed the unique vulnerabilities of women and children.

Impact:

- √ Gender inclusion improved resilience at the household and local levels.
- √ Nutrition and maternal health protocols were introduced in temporary shelters.
- √ Reduced incidence of gender-based violence in shelters due to better-trained staff and safer environments.

5. Psychosocial Support Integration

- For the first time, ASDMA included psychosocial support training for 25 AAPDA MITRA volunteers and officials in 2024.
- Counselling, emotional first aid, and trauma mitigation were introduced in community response models.

Impact:

- √ Greater acknowledgment of emotional and mental health needs during and after disasters.
- √ A pool of mental health-sensitive volunteers now active in flood-prone districts.

6. Risk Awareness in Marginalized and Occupational Communities

- 800 tea gardens across 25 districts were covered through awareness programs.
- Topics covered included: flood safety, fire prevention, earthquake awareness, relief entitlements, and first aid.
- Awareness rose significantly — from 2–3% baseline knowledge to over 25% full understanding among participants post-training.

Impact:

- √ Empowered tea garden workers to act as safety focal points.
- √ Created a resilient workforce, especially for estate-based women and youth.

7. Innovation in Preparedness Drills and Simulations

- Assam pioneered multi-location mock drills (e.g., 5-location drill in Nalbari, SAREX in Kamrup).
- FAMEX (Familiarization Exercises) were introduced in schools and colleges in Nalbari.
- Lifesaving Swimming Training for Govt. Employees launched as a long-term vision for resilience.

Impact:

- √ Created district-level models for mock drill SOPs.
- √ Integrated DRR learning into mainstream government systems.

Impact at the Community Level

- Improved Volunteer Response Capability
  - √ More than 5,000 active community volunteers (Aapda Mitra, CQRT, SHG members) trained and engaged.
  - √ Demonstrated capacity during real-time flood responses in Cachar, Goalpara, South Salmara.
- Disaster Awareness & Literacy

- √ Significant increase in disaster awareness in rural and vulnerable pockets (tea gardens, riverine villages).
- √ Pre- and post-training assessments in tea gardens show 25% improvement in disaster literacy.

- Women-Led Preparedness
  - √ Inclusion of Anganwadi Workers and ICDS staff ensured maternal/child safety in floods.
  - √ Women's involvement in preparedness translated into better record-keeping and CFS implementation.
- Child Safety Initiatives in Schools
  - √ Evacuation drills, SDMPs, and training in 85+ schools
  - √ Integration of safety planning into classroom discussions
- Localized Relief Camp Management
  - √ Better relief camp documentation and coordination at GP and ward levels.
  - √ Standard operating procedures followed during 2022–2023 flood relief operations in multiple districts.

Key Outcomes by Category

Training Category	Key Outcomes Achieved
Search & Rescue (SAR)	4,000+ trained volunteers (Aapda Mitra, CQRTs); increased use of IRBs & OBMs; effective SAR in flood zones.
CBDRR	Grassroots capacity built across 1,000+ GPs; better record-keeping in relief camps; youth volunteerism rise.
Institutional Capacity	Departmental SOPs updated; flood zone scorecards institutionalized; district-level DRR planning strengthened.
School Safety	>850 teachers/students trained; mock drills institutionalized; safer school environments promoted.
Specialized Thematic Training	>800 engineers trained on RVS and earthquake-resilient design; DRR integration in infra-audits initiated.
Health & Emergency Medical Response	Improved golden-hour response; trained ASHA/paramedics in CPR and triage; trauma support integrated.
Psychosocial & Gender-Sensitive Training	Safer relief spaces for women/children; inclusion of breastfeeding corners, psychosocial first aid, etc.
Livelihood & Recovery Training	800 tea gardens covered; increased DRR awareness among marginalized workers; focus on post-disaster recovery.
Mock Drills & Simulations	20+ full-scale drills; improved coordination among SDRF, F&ES, police, volunteers.
Governance & Policy Training	DRR Roadmap rolled out in 8+ districts; district proposals developed with risk-benefit matrices.

Outcome of Training Activities under Each Category (2020–2024)

Search & Rescue (SAR) and Emergency Response Training

Training Title	Date	Location	Participants	Organized by
Aapda Mitra SAR Training (Batch 1–7)	Feb–Mar 2022	Cachar, BOSCOTECH, Silchar	50 × 3 batches	DDMA Cachar, ASDMA, NYK
SAR for Forest Guards & Animal Handling	Jan 2023	Guwahati	Forest Guards	ASDMA, NDRF, Civil Defence
IRB/OBM Training for Volunteers	Feb–Mar 2023	Kamrup	78 from 16 districts	ASDMA, DDMA Kamrup
CQRT Basic SAR Training	June 2023	Across 50 vulnerable circles	CQRT Members	ASDMA, DDMAs
Boatman SAR (IWT Depts)	Sept–Oct 2023	Bongaigaon	Boat Operators	DDMA Bongaigaon, ASDMA
CQRT Equipment Handling	July 2023	Cachar	CQRT	DDMA Cachar, NDRF

Key Outcomes:

- Trained over 4,000 Aapda Mitra & CQRT volunteers
- SAR protocols standardized at district level
- Enhanced coordination with Fire Services, SDRF, IWT

Community-Based Disaster Risk Reduction (CBDRR)

Training Title	Date	Location	Participants	Organized by
Flood Preparedness for ICDS Workers	2023	South Salmara	AWWs and Supervisors	DDMA South Salmara, SW Dept
Community Volunteers (GP-level, Ward-wise)	Dec 2023	Cachar	Youth & Villagers	DDMA Cachar, Reliance, IAG
Livelihood & Resilience Workshop	July 2023	Silchar	Aapda Mitra, CFRC Volunteers	DDMA, Boscotech, IAG
GP-Level Awareness: Disaster & Preventive Measures	Aug 2023	Goalpara	30 Village Residents	DDMA, SDRF, Civil Defence

Key Outcomes:

- Trained over 4,000 Aapda Mitra & CQRT volunteers
- SAR protocols standardized at district level
- Enhanced coordination with Fire Services, SDRF, IWT

Capacity Building of Government Officials & Stakeholders

Training Title	Date	Location	Participants	Organized by
Relief Camp Mgmt for Zonal/ Sector Officers	Apr–May 2023	Statewide	Relief Camp In-charges	DDMAs
Training on DRR Roadmap 2030	Nov–Dec 2023	Morigaon, Nalbari	Line Dept. Officers, DDMAs	ASDMA, TSU
Multi-Sector Workshop (Pre-Flood)	March 2022	Cachar	Heads of Departments, NGOs	DDMA, Humedica, 4RSD

Key Outcomes:

- Departmental roles clarified under DM Act
- DRR integrated into planning at district level
- Improved inter-department coordination during floods

School & Education-Based Training

Training Title	Date	Location	Participants	Organized by
SFPT Training on School Safety (Batch 1 & 2)	March 2022	Nalbari, Kokrajhar	97 School Focal Teachers	DDMA, Fire Dept, DIET
Mock Drills in 77 Schools	10 Aug 2023	Cachar District	Teachers & Students (750)	DDMA Cachar, SDRF, NDRF
School Safety Week in 8 Schools	Sept 2023	Goalpara	Teachers & Students	DDMA, NDRF
Emergency RM Workshop for University	9 Aug 2023	Assam University	Faculty, Students	DDMA, ONGC, Dept of Social Work

Key Outcomes:

- Improved school evacuation planning
- Children as DRR messengers
- Compliance with SC safety directives

Specialized Thematic Training

Training Title	Date	Location	Participants	Organized by
RVS & Non-Structural Retrofitting for Engineers	2021–2022	Bongaigaon, Kokrajhar	Engineers (Civil, PWD, PHED)	DDMAs, Polytechnic Institutes
Earthquake-Resistant Design	2022–23 & 2023–24	Silchar, Kamrup, Tezpur	Engineers, Planners	ASDMA, NITs, AEC
DRR Budget Planning Workshop	Nov–Dec 2023	Kamrup, Morigaon	Govt officials, ASDMA consultants	ASDMA, TSU

Key Outcomes:

- Safer public infrastructure
- Retrofitting audits underway
- Inclusion of DRR in departmental budgets

Health & Emergency Medical Response

Training Title	Date	Location	Participants	Organized by
Pre-Hospital Trauma & Emergency Care	10–11 March 2022	Silchar Medical Coll.	Doctors, Paramedics	DDMA, SMCH, CMC Vellore
First Aid and Rural Health (FA-R) for Trainers	Aug–Sep 2021	Silchar	NYK, Aapda Mitra, Teachers	DDMA, Humedica
Psychosocial First Aid Workshop	March 2022	Silchar	Health Workers, Counselors	DDMA, NIMHANS, Humedica

Key Outcomes:

- Improved triage systems
- Health staff now integrated into DM plans
- Faster CPR and BLS response in field

Gender-Sensitive Training & Psychosocial Support

Training Title	Date	Location	Participants	Organized by
ToT: Women & Child Care in Emergencies	Feb 2023	Guwahati	DWCD/ICDS Master Trainers	ASDMA
District Trainings for AWW/ICDS	2023–24	Goalpara, Bongaigaon, Karbi Anglong	Anganwadi Workers	DDMAs

Key Outcomes:

- Inclusion of child-friendly spaces in camp planning
- Safer shelters for vulnerable groups
- Nutrition continuity during floods

Gender-Sensitive Training & Psychosocial Support

Training Title	Date	Location	Participants	Organized by
Awareness & Training in Tea Gardens (800 Gardens)	Jan–Apr 2023	25 Districts	Tea Garden Workers	ASDMA, Labour Assoc.
Livelihood Training & Recovery Planning	July 2023	Aapda Mitra, Youth	Anganwadi Workers	DDMA, IAG, Boscotech

Key Outcomes:

- Reduction in man-animal conflict
- Awareness on relief schemes
- Trained youth for response + recovery

Mock Drills and Simulation Exercises

Training Title	Date	Location	Participants	Organized by
State-Level Multi-Hazard Mock Drill	27 Apr 2023	Nalbari	150+ from SDRF, Police, Health, NDRF	ASDMA, DDMA, NDMA
Earthquake Simulation Drill	22 Sep 2023	Silchar	All Line Depts, Govt Offices	DDMA, NDRF
Stampede Scenario at Civil Hospital	28 Feb 2024	Goalpara	350+ Hospital Staff, SDRF, NCC	DDMA, F&ES

Key Outcomes:

- Evaluated readiness
- Identified procedural gaps
- Improved agency coordination

Mock Drills and Simulation Exercises

Training Title	Date	Location	Participants	Organized by
Governance & Policy Training	Nov–Dec 2023	Kamrup, Nalbari	All Line Dept Officials	ASDMA, TSU
District DRR Proposal Workshops	Nov–Dec 2023	Morigaon, Hatsingimari	5 departmental groups	ASDMA, TSU

Key Outcomes:

- Proposals prepared against 5 risk scenarios
- Integration of DRR into department plans
- DRR monitoring & budget planning introduced

Challenges Faced During Implementation

While the training programs achieved significant milestones, ASDMA encountered several challenges that impacted the scale, speed, and depth of implementation:

1. COVID-19 Pandemic Disruption

- Training schedules in 2020–21 and early 2021–22 was delayed or adapted to virtual formats.
- Field simulations, in-person interactions, and community gatherings were limited due to health protocols.
- Many trainers and personnel were reassigned to COVID response duties, reducing availability.

Takeaway:
Future training planning must incorporate contingency formats (e.g., hybrid models, e-learning modules).

2. Geographic and Infrastructure Constraints

- Remoteness of districts like Karbi Anglong, Dima Hasao, Dhemaji, and Majuli posed logistical issues for mobilization and training.
- Language diversity and poor road networks delayed equipment and trainer deployment.

Takeaway:
Training models should be decentralized further, with local trainers and mobile teams.

3. Limited Training Infrastructure and Trainers

- Lack of standardized training infrastructure in rural districts.
- Shortage of certified trainers in niche subjects like deep diving, OBM repair, and psychosocial care.

Takeaway:
State-level Training of Trainers (ToT) models should be scaled up for all districts with a certification process.

4. Tracking & Monitoring Gaps

- Variability in reporting quality across DDMAs.
- Absence of centralized MIS (Management Information System) for training data.

Takeaway:
ASDMA should establish a live dashboard for training data (per district, per category, per target group).

5. Inclusion Still in Progress

- Though efforts were made to train women and marginalized communities, participation in technical modules (e.g., engineering, IRB operation) still skewed male.
- Limited sessions adapted for children with disabilities or the elderly.

Takeaway:
Training modules must be inclusive in design (language, accessibility) and implementation.

Takeaways

Key Takeaways through four years of learning and adapting, ASDMA has developed a set of best practices that can guide future capacity-building strategies:

- **Localization is Key**
  Programs like AAPDA MITRA, CQRT, and Tea Garden DRR show that local ownership increases success. Engaging Panchayats, school authorities, and local NGOs made training more relevant and sustainable.
- **Integration with Line Departments Enhances Effectiveness**
  SAR, fire safety, and relief camp trainings achieved better outcomes when integrated into departmental SOPs (e.g., Health, IWT, Education, DWCD).
- **Multilingual, Visual-Based IEC Works Best**

In districts like Cachar and South Salmara, using multilingual materials (Assamese, Bengali, Bodo) and visual demonstrations improved community engagement.

- **Hands-on, Practical Modules More Impactful** Training models that included drills, live equipment handling (e.g., IRBs, first aid), and role-play simulations led to better retention and deployment readiness.
- **School-Based DRR Creates Future Resilience** The involvement of youth in mock drills, the State Youth Convention (2023), and teacher ToTs created a multiplier effect for awareness and preparedness.
- **Conventi on Model Drives Inter-State Learning** The State Convention on "Empowering the Next Generation for a Resilient Future" in December 2023 enabled knowledge-sharing with states like Kerala, Odisha, Tripura, and Meghalaya.

Emerging Best Practices

- Tea Garden Disaster Preparedness Campaigns as a model for integrating industry & community.
- CQRT deployment & training model replicable in other states with similar flood vulnerabilities.
- Relief Camp Management Training institutionalized across most districts by Circle Officers.
- District-level DRR proposal writing workshops show cross-sectoral engagement with real outputs.

Transformative Impact

ASDMA's training programs over four years reflect a shift from reactive disaster response to proactive risk reduction, aligning state strategy with global frameworks like Sendai and localized realities of Assam.

The transformation includes:

- A trained volunteer force embedded in communities
- Districts empowered with technical knowledge and planning tools
- A growing culture of preparedness, inclusion, and resilience
- Stronger coordination among departments and civil society

Part 5: Conclusion and Measures for Future

Conclusion

Over the course of four years—from April 2021 to March 2024—the Assam State Disaster Management Authority (ASDMA) has established a robust, people-centered, and district-driven training ecosystem across the state. Through strategic collaborations, thematic focus, and inclusive methodologies, ASDMA has trained over 15,000 individuals across 27 districts in multiple domains of disaster risk reduction and emergency response.

From community-based SAR training to resilient construction for engineers and masons, and from school safety awareness to psychosocial support for frontline volunteers—capacity building has been made central to disaster preparedness in Assam. Each district implemented programs tailored to its own hazard profile, geography, and demographic needs.

ASDMA's approach was both top-down and bottom-up—anchored in national disaster policies and supported by grassroots volunteers, self-help groups, teachers, boatmen, and tea garden workers. This dual strategy created a well-knit disaster response ecosystem that is quick to respond, well-informed, and increasingly self-sustaining.

Integrated Capacity Building

By organizing capacity-building activities under six

strategic categories:

1. Search & Rescue for First Responders
2. SAR for Uniformed & Departmental Agencies
3. Resilient Construction Practices
4. Psychosocial Support
5. Women & Child Safety
6. Community-Based Disaster Risk Reduction (CBDRR)

ASDMA has ensured that preparedness is not isolated, but interwoven into community, institutional, and sectoral systems.

Learning from the Ground

The experience of 2021–2024 reveals that disaster resilience is not only about better infrastructure—but about better-informed and better-equipped people. Districts that saw regular mock drills, field simulations, and interdisciplinary coordination (e.g., Kamrup, Nalbari, Barpeta, Karbi Anglong) demonstrated significantly improved response capabilities.

The report also highlighted how non-traditional actors—such as tea garden workers, boatmen, women volunteers, and school teachers—have become frontline disaster responders in their local contexts.

Impact Summary (2020–2024)

Training Area	Total Participants Trained	Key Districts Engaged
AAPDA MITRA SAR Training	4069	Kamrup, Barpeta, Dibrugarh, South Salmara, Karbi Anglong
CQRT Training	488	Kamrup, Cachar, Goalpara, Karbi Anglong
Mason Training	5648	Goalpara, Barpeta, Cachar, Nalbari
Engineer Training (RVS, EQ)	860	Kamrup, South Salmara, Dibrugarh, Barpeta
Psychosocial Support	25	Kamrup, South Salmara
Forest/Animal SAR	50+	Kaziranga, Manas (Golaghat, Baksa, Barpeta)
Women Cadre SAR	53	Kamrup, Karbi Anglong, Nalbari
IRB & OBM Handling	78	State-level (Volunteers from 16 districts)
School Safety & DRR Awareness	3000+	Nalbari, Karbi Anglong, Cachar, Dibrugarh, Barpeta

Measures for Future Capacity Building (2024–2029)

Based on the field experience, feedback, and strategic priorities, the following recommendations are proposed to strengthen and scale ASDMA's training initiatives:

1. Institutionalize Training Across Departments

- Integrate disaster training into SOPs of key departments (PWD, Health, Education, Forest, IWT).
- Include DRR modules in induction programs of civil servants and public service commission training.
- Make training mandatory for school teachers, engineers, and Gram Panchayat Secretaries.

2. District Disaster Training Centres (DDTCs)

- Establish permanent training and simulation centres in 5–6 regional hubs (e.g., Guwahati, Silchar, Jorhat, Dibrugarh, Barpeta).
- Each DDTC can offer courses on SAR, psychosocial support, resilient construction, animal rescue, and climate resilience.

3. Digital Training Platforms

- Develop an ASDMA e-learning platform with multilingual video content, certification tests, and real-time updates.
- Enable refresher training through apps or WhatsApp-based micro-learning.

4. Strengthen Training Monitoring & MIS

- Create a centralized Training Management Dashboard tracking:
- Trainer pool
- Participants by district/gender/category
- Outcomes and refresher schedules
- Link MIS to DDMA portals for accountability.

5. Advance Psychosocial Support Framework

- Expand the psychosocial support program to train at least 200 responders across all districts.
- Create a mobile counselling unit model for relief camps.
- Partner with universities for developing trauma-sensitive modules.

6. Scale Gender-Inclusive DRR Programs

- Formalize the Women First Responders Network across Assam.
- Tailor technical trainings (e.g., boat navigation, CPR, fire safety) for women participants.
- Collaborate with SHGs, Mahila Samitis, and DWCD.

7. Child-Centered Resilience Education

- Introduce age-appropriate DRR content in school textbooks.
- Create children's mock drill toolkits and safety clubs at school levels.
- Roll out annual "DRR Olympiad" or competition for schools.

8. Refresh Training for Specialized Personnel

- Update skill sets every 2 years for:
- AAPDA MITRA
- CQRTs
- DDRF
- SDRF

- » Conduct state refresher workshops to ensure operational readiness.

9. Deepen Sectoral DRR Training

- » Target emerging areas such as:
- » Climate-smart agriculture (with Agriculture Dept)
- » Veterinary emergency care (in flood zones)
- » Cyber disaster awareness (targeting revenue, health, and education sectors)

10. Mainstream Training into Development Schemes

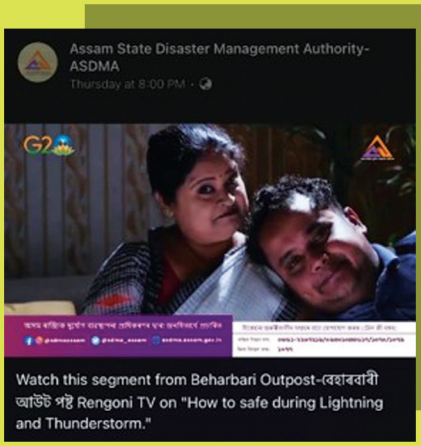
- » Embed DRR training into:
- » MGNREGA (through skill development)
- » PMAY-G (for mason training)
- » Jal Jeevan Mission (resilient tank design)

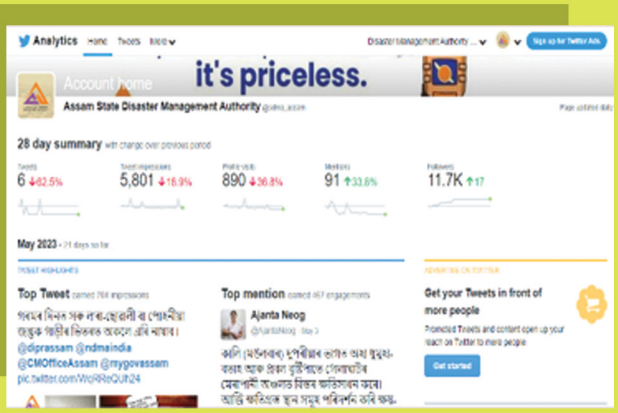
Closing Statement

ASDMA's training journey from 2021 to 2024 has laid a powerful foundation—one built not just with strategy, but with empathy, innovation, and community ownership. With these recommendations and learnings, Assam is well-positioned to build forward better—transforming every risk into an opportunity to train, empower, and strengthen the resilience of its people.

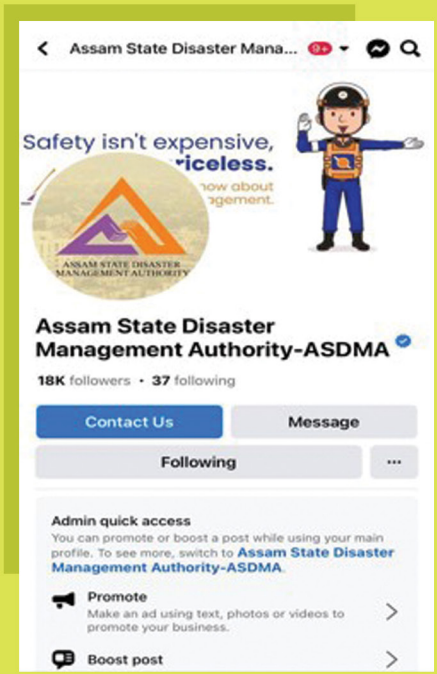
As the state moves into its next strategic cycle (2024–2029), ASDMA must lead with agility, inclusion, and vision—ensuring that every home, school, institution, and village is disaster-ready.

AWARENESS & SENSITIZATION













Chapter 5

AWARENESS AND SENSITIZATION

Overview

The Sendai Framework for Disaster Risk Reduction 2015-2030[1] emphasizes the critical role of awareness and sensitization in mitigating disaster risks and building resilience. It advocates for a broad, inclusive approach where governments, civil society, communities, volunteers, and the private sector all play a pivotal role in enhancing disaster risk knowledge. The framework emphasizes the need for education, peer learning, and sharing of best practices to ensure that all stakeholders, especially government officials and local communities, are equipped with the knowledge to address disaster risks. It highlights the importance of using various communication channels, such as social media, campaigns, and community mobilization, to reach diverse audiences while tailoring messages to the specific needs of each group. Additionally, the framework encourages collaboration at the local level, particularly through community-based organizations (CBOs) and non-governmental organizations (NGOs), to effectively disseminate disaster risk information and foster a culture of prevention.

ASDMA has embraced the principles outlined in the Sendai Framework by incorporating them into its disaster risk reduction efforts across Assam. Recognizing the need to reach as many people as possible, ASDMA has implemented a multi-channel strategy that leverages print, electronic, and social media, as well as outdoor advertising, to disseminate vital information on flood and lightning preparedness. This approach aligns with the Sendai Framework's emphasis on utilizing a variety of communication platforms to ensure that all segments of the population are informed. Moreover, ASDMA has gone beyond just spreading information by actively engaging communities through public meetings, miking, posters, street plays, and partnerships with the private sector. These efforts help foster a shared responsibility for disaster preparedness and demonstrate the framework's call for local-level collaboration in raising awareness.

In response to the Sendai Framework's emphasis on targeting specific groups, ASDMA has developed outreach initiatives tailored to children, vulnerable

[1] https://www.undrr.org/publication/sendai-framework-disaster-risk-reduction-2015-2030

populations, and relief camp residents. For example, the authority has hosted interactive activities such as quizzes, drawing contests, and training programs for frontline workers. These efforts ensure that disaster risk reduction messages are not only shared but also resonate with the unique needs of these groups. The participation of various stakeholders is also crucial to the success of these initiatives, and ASDMA has fostered multi-stakeholder collaboration by working with government departments, NGOs, community volunteers, and educational institutions. By doing so, ASDMA has ensured that its disaster awareness campaigns are both broad in scope and deep in impact, fully embracing the framework's emphasis on engaging multiple stakeholders.

ASDMA's flexibility in adapting its awareness strategies to different hazards further reflects its alignment with the Sendai Framework. During the COVID-19 pandemic, for example, ASDMA shifted its focus to health safety, promoting preventive measures such as mask-wearing and hygiene practices through both community engagement and digital platforms. This ability to pivot according to the changing risk landscape demonstrates ASDMA's commitment to keeping disaster preparedness efforts relevant and timely, in line with the framework's guidance. In addition, ASDMA has launched digital platforms such as the River Atlas Portal, which provides river data for better flood management, and a web portal for families to submit financial assistance applications. These technological innovations are in direct response to the Sendai Framework's recommendation to use digital tools for improving access to disaster information and services.

Capacity building remains a core principle in the Sendai Framework, and ASDMA has put this into practice through its Training of Trainers (ToT) programs, which focus on the care of children and women in relief camps. By equipping frontline workers with the necessary skills and knowledge, ASDMA strengthens its disaster management efforts, directly addressing the framework's call for enhanced governance and risk management capacities. Through these combined efforts, ASDMA has developed a comprehensive disaster risk reduction strategy that aligns with the Sendai Framework. The organization has gone beyond raising awareness to foster a culture of resilience, collaboration, and proactive engagement, enabling the people of Assam to better prepare for and respond to disaster risks.

Landscape of Awareness and Sensitization Initiatives

Multi-Channel Awareness & Communication

To improve public awareness of disasters and preparedness, ASDMA made efforts to use an array of communication platforms for more effective reach.

Approaches used:

1. **Print Media:**
   Published safety measures, dos and don'ts in local newspapers (Assamese, English, Bengali, Hindi, Bodo, etc.).

2. **Electronic Media:**
   Broadcasted audio and audio-visual safety messages on local radio stations, FM channels, community radios, and TV news channels in regional languages.

3. **Social media:**
   Regularly updated and disseminated safety information through ASDMA's social media platforms (Facebook, Instagram, Twitter, YouTube, and official website).

4. **Outdoor Media:**
   Conducted on-ground awareness programs at the state, district, and revenue circle levels before, during, and after flood and lightning seasons, utilizing miking, public meetings, hoardings, posters, and interpersonal communication.

Community Engagement & Outreach

ASDMA also implemented targeted community outreach initiatives to enhance flood and lightning preparedness. The campaigns aimed to drive behavioural change through direct engagement, leveraging mobile awareness units, door-to-door campaigns, and public sensitization drives. Despite extensive efforts, awareness gaps persist, necessitating sustained outreach.

Approaches used:

1. **Outdoor Engagement:**
   Conducted awareness campaigns through public meetings, miking, posters, and hoardings in various locations to ensure widespread information dissemination.
2. **Mobile Awareness Units:**
   Equipped vehicles travelled through communities, broadcasting safety messages, playing informational jingles, and distributing awareness materials.
3. **Street Theatre & Cultural Outreach:**
   Used performances, storytelling, and visual campaigns are to convey safety messages in an engaging and culturally relevant manner.
4. **Door-to-Door Awareness:**
   Trained volunteers visited households to share safety information, distribute materials, and address community concerns through direct interaction.
5. **Public-Private Collaboration:**
   Government agencies, community organizations, and volunteer networks collaborated to maximize outreach and ensure comprehensive engagement.
6. **Public Health & Safety Integration:**
   Integrated awareness campaigns with public health initiatives, focusing on behavioural adaptation and community resilience during crises.

Targeted Demographic Intervention

Targeted initiatives were designed to build awareness and enhance the capacity of specific groups, such as children, the general public, and vulnerable populations. These initiatives used interactive and participatory approaches to foster knowledge retention and behavioural change in disaster preparedness.

Approaches used:

1. **Children:**
   Organized interactive events like quiz competitions, essay writing, and drawing contests to engage children in disaster preparedness. These activities not only encourage learning but also create an environment where children can reflect on safety measures in an enjoyable, creative way.
2. **General Public in Public Spaces:**
   Various mobile checkpoints were set up in public spaces such as market areas and commercial locations. It focused on raising awareness through direct interaction, distributing materials like facemasks, and broadcasting audio jingles with essential safety messages to ensure public participation and compliance.
3. **Vulnerable Populations in Relief Camps:**
   Conducted targeted training programs for officials and frontline workers, emphasizing care and support for children, women, and other vulnerable groups in relief camps. These sessions were designed to ensure that caregivers are equipped to handle the specific needs of these groups during emergencies, improving their overall well-being in temporary shelters.

Collaborations & Stakeholder Involvement

ASDMA has consistently partnered with a wide array of stakeholders to effectively reach and engage various communities through its disaster

awareness and capacity-building initiatives. These collaborative efforts have been aimed at promoting disaster preparedness, health and safety measures, and fostering community engagement in risk reduction strategies. The methodology employed by ASDMA involves a multi-faceted approach, utilizing government departments, non-governmental organizations (NGOs), and community volunteers to maximize outreach.

Approaches used:

1. **Government Departments:**
   Collaborated with various government departments, including Police, Revenue Circle Offices, Health and Family Welfare, Social Welfare, Education, and Public Works Department (PWD), to amplify the impact of its awareness campaigns. These partnerships ensured that the campaigns benefited from the expertise and resources of multiple agencies, enabling a broader reach and more effective implementation of disaster preparedness initiatives. Local authorities played a crucial role in organizing and executing the campaigns within their jurisdictions.

2. **Non-Governmental Organizations (NGOs):**
   Partnered with local NGOs and other community organizations to carry out ground-level activities. These NGOs contributed by providing volunteer support, organizing events, and facilitating outreach efforts in areas where government reach may have been limited. The involvement of NGOs ensured that the campaigns were more personalized and could effectively address the specific needs of different communities, including marginalized or hard-to-reach populations.

3. **Community Volunteer:**
   A vital aspect of ASDMA's outreach efforts was the engagement of community volunteers. This included AAPDA Mitra volunteers, ASHA workers, Anganwadi workers, Gaonburhas, and other local community representatives. These volunteers played a pivotal role in spreading disaster preparedness messages at the grassroots level. They engaged directly with community members, conducted door-to-door awareness drives, and educated people about safety measures and disaster response actions. Their local knowledge and established trust within the community made them invaluable assets in ensuring the success of awareness campaigns.

4. **Educational Institutions:**
   Engaged with students and teachers in educational institutions by organizing organized exhibitions, quiz competitions, and other creative activities to raise awareness about disaster preparedness.

5. **Technical Institutions:**
   Coordinated with technical organizations for specialized support. These collaborations often involved the use of advanced technologies, such as drones for conducting mock drills and simulations.

Leveraging Technology

Technology was effectively leveraged to enhance the reach and accessibility of awareness campaigns and support initiatives.

Approaches used:

1. **Online portals and platforms:**
   Developed online to provide quick, streamlined assistance for various needs, such as financial aid to families of COVID-19 victims. These platforms ensured a more efficient, user-friendly process for the public. Additionally, mobile-friendly platforms were introduced, ensuring that vital information and services were accessible across different devices.

2. **Digital Tools:**

   Technological tools, like the River Atlas Portal, were introduced to facilitate easy access to detailed maps and information related to critical infrastructure and natural features. These were useful for scientific studies and planning, providing key stakeholders with valuable insights for flood management and other disaster-related activities

2020: Promoting Safety and Behavioural Change amidst the COVID-19 Pandemic

Awareness Campaign on COVID-19 in Assam

The COVID-19 pandemic significantly impacted various sectors in Assam, including socio-economic and cultural dimensions. Despite gradual relaxation of restrictions, a portion of the population continued to violate face mask mandates in public spaces. To address this, the Assam State Disaster Management Authority (ASDMA) launched an extensive awareness campaign aimed at promoting psycho-social behavioural changes, particularly focusing on mask-wearing and COVID-19 appropriate behaviors. This helped to ensure widespread adoption of face masks as a preventive measure and encourage the population to adopt necessary health and safety practices in response to the pandemic.

Key Highlights

1. The campaign was launched in the Urban Local Bodies/Town Committees/Municipal Boards of five districts Barpeta, Jorhat, Kamrup (Metro), Dibrugarh, and Cachar.
2. A total of 15,000 masks were distributed across these districts to promote adherence to safety protocols.
3. Increased public awareness and adherence to COVID-19 guidelines, contributing to safer public spaces.
4. Direct outreach to thousands of individuals through community interactions.

Approach & Implementation:

1. **Community Engagement & Outreach:**
   a. The campaign actively involved local communities through collaboration with the Police Department, Revenue Circle functionaries, and volunteers
   b. Volunteers conducted door-to-door outreach, distributing reusable face masks and raising awareness about COVID-19 appropriate behaviour.
   c. Miking announcements and posters were used to communicate the importance of wearing face masks and following safety protocols.
2. **Targeted Demographic Intervention:**
   a. The awareness drive specifically targeted individuals who were not adhering to mask-wearing guidelines in public spaces.
   b. Face masks were distributed to both underprivileged individuals free of charge and those who could afford them for a minimal fee.
   c. Mobile vans and police checkpoints were strategically placed in high-traffic public areas, such as markets and commercial zones, to reach the target demographic.
3. **Collaborations & Stakeholder Involvement:**
   a. Key stakeholders, including the District Disaster Management Authorities (DDMA), Police, Revenue Circle Officers, and local NGOs, collaborated to execute the drive.
   b. The initiative was jointly monitored by DDMA and the Police Department, ensuring effective coordination and

implementation.

4. Leveraging Technology:

   a. Audio jingles, continuously played in the mobile vans, were used to spread messages on the dos and don'ts of wearing face masks, reinforcing the campaign's message.

   b. Mobile vans, rented by NGOs, were used to reach rural and urban populations, extending the campaign's reach beyond municipal areas.

2021: Harnessing Technology for Enhanced Disaster Response and Preparedness

Strengthening Knowledge Through Technological Integration

On March 23, ASDMA marked its Foundation Day with two key initiatives aimed at enhancing disaster management strategies and fostering knowledge-sharing. A Knowledge Sharing Session on Flood Early Warning System (FLEWS) was held at the Assam Secretariat, Dispur, bringing together senior state officials, defense personnel, and scientific experts. Additionally, the River Atlas Portal was launched as a digital platform providing comprehensive river data, including roads, railway lines, bridges, and embankments. Designed as a critical resource for agencies such as the Water Resources Department, FREMA, and Brahmaputra Board, the portal supports planning, engineering studies, and flood management efforts. These initiatives reinforce ASDMA's commitment to leveraging technology and knowledge-sharing for improved disaster preparedness and policy planning.

Key Highlights

1. Engaged senior officials, defence personnel, and experts in discussions on flood early warning systems.
2. Launched the River Atlas Portal which will provide a digital, interactive platform with extensive river-related data.
3. The initiative received high-level endorsement, with Shri Jishnu Barua, IAS, Chief Secretary to the Government of Assam, officially releasing the River Atlas in the presence of key stakeholders.

Approach & Implementation

1. Collaborations & Stakeholder Involvement

   a. Participation of senior government officials, defense personnel (Army, Air Force, NDRF), and experts from various institutions.

   b. Interdepartmental engagement to facilitate the integration of river data into disaster management planning.

2. Leveraging Technology

   a. Digital River Atlas Portal launched for real-time access to Assam's river system data.

   b. Interactive mapping tools allowing users to explore river infrastructure and geographical features.

Launch of Web Portal for Financial Assistance under SDRF to COVID-19 Deceased Families in Assam

On December 22, the Revenue & Disaster Management Department, Government of Assam, launched a **mobile-friendly online portal** to facilitate financial assistance of **Rs. 50,000/- under the State Disaster Response Fund (SDRF)** for the next of kin of individuals who died due to COVID-19. The portal allows family members to submit online applications by filling in the required details. The initiative was inaugurated through a virtual event at the **National Informatics Centre (NIC)-Video Conference Room, Assam Secretariat, Dispur,** with the participation of all Deputy Commissioners (DCs) across the state.

Key Highlights

1. A user-friendly web portal launched for seamless submission of financial assistance applications.
2. Shri Avinash P. Joshi, IAS, Principal Secretary, Revenue & DM Dept., launched the portal and instructed DCs to process applications within 30 days per NDMA guidelines and Supreme Court orders.
3. The launch event was attended by senior officials from ASDMA, Revenue & DM Dept., Health & FW Dept., and the Finance Department.

Approach & Implementation

1. Collaborations & Stakeholder Involvement:
    a. The initiative involved key government departments, including Revenue & DM Dept., Health & FW Dept., Finance Dept., and ASDMA, as well as technical support from NIC for the portal's development and implementation.
    b. The **web portal** was developed with the support of the National Informatics Centre (NIC), ensuring easy access for users and a streamlined process for financial assistance applications.
2. Targeted Demographic Intervention
    a. The portal directly targeted the families of individuals who died due to COVID-19, ensuring that the assistance reached those most in need.
3. Leveraging Technology
    a. The platform allows real-time tracking of applications and provides direct access to financial assistance for affected families.

2022: Enhancing Community-Level Preparedness and Safety for Various Disasters and Health Emergencies

Training of Trainers on Child and Women Care in Relief Camps & Temporary Shelters during Emergencies

In response to Assam's recurrent floods, which affect around 40 per cent of the state annually, ASDMA, in collaboration with the **Department of Women & Child Development (DWCD)** and **UNICEF Assam,** conducted a **Training of Trainers (ToT)** program to equip officials with the knowledge and skills needed to address child and women-specific vulnerabilities during disasters. The training aimed at strengthening emergency preparedness and continuity of essential nutrition and health services in relief camps.

Key Highlights

1. **The two-day training program** comprised of five session covering critical topics on child and women-centric risks, nutritional services, menstrual hygiene, emotional support, and protection issues during emergencies.
2. **The training was organized to** improve capacities for disaster response, strengthen maternal and child health care in relief camps, and ensure continuity of nutrition services.
3. Officials that undertook the training were expected to serve as trainers for **frontline workers** (AWs) in their respective districts.
4. **62 district officials** (2 per district) including **Women Welfare Officers** and **District Social Welfare Officers** from **31 districts participated in the training**

Approach & Implementation

1. Multi-Channel Awareness & Communication
    a. The training structure included interactive

sessions, expert talks, and practical exercises to ensure comprehensive knowledge-sharing.

b. Officials were trained to use multiple communication methods to disseminate disaster response strategies effectively at the district and community levels.

c. A cascade training model was implemented, where trained district officials would further train frontline workers (AWs) in their respective regions, ensuring wider awareness and impact.

2. Community Engagement & Outreach

a. Participants were selected from **hard-to-reach areas** (char areas, border regions, tea gardens, tribal areas, and urban slums) to ensure equitable outreach.

b. The training emphasized **local-level preparedness and response**, equipping district officials to develop **community-centered action plans**.

c. The officials were trained to raise awareness on **gender-sensitive disaster risk reduction (DRR)** strategies at the grassroots level.

3. Targeted Demographic Intervention

a. The training specifically addressed vulnerabilities of children, adolescents, pregnant and lactating women in relief camps, ensuring that interventions were tailored to their needs.

b. Focus was placed on maternal care, child protection, and psycho-social well-being, recognizing that displaced women and children are at greater risk during disasters.

c. The training aligned with SDG 2 (Zero Hunger) and SDG 6 (Clean Water & Sanitation) by integrating nutrition and hygiene considerations into disaster response planning. The portal directly targeted the families of individuals who died due to COVID-19, ensuring that the assistance reached those most in need.

4. Collaborations & Stakeholder Involvement

a. The program was a joint effort between ASDMA, DWCD, and UNICEF, ensuring expertise from disaster management, child welfare, and health sectors.

b. Senior officials, disaster management experts, and child welfare specialists led interactive sessions, fostering cross-sectoral collaboration.

c. The initiative was designed to integrate Disaster Risk Reduction (DRR) strategies with ICDS (Integrated Child Development Services), ensuring that frontline ICDS workers were prepared to provide services during crises.

5. Leveraging Technology

a. While the training itself was conducted in a physical setting, participants were introduced to digital tools and data management techniques for tracking and supporting vulnerable populations in relief camps.

b. Officials were encouraged to use mobile-based data collection and reporting mechanisms to streamline relief efforts and monitor the status of women and children during disasters.he platform allows real-time tracking of applications and provides direct access to financial assistance for affected families.

Participation in the 49th National Science Exhibition
The Government of Assam, in collaboration with NCERT, New Delhi, organized the 49th National Science Exhibition – 2022 at Srimanta Sankardeva

Kalakshetra, Panjabari, Guwahati, from November 22 to 26, 2022. ASDMA was invited to participate in it, to create awareness on disaster preparedness, safety measures and general emergency response protocols, particularly for the students attending the event. To engage students and teachers attending the exhibition, ASDMA set up a display stall featuring standees, informational materials, and interactive activities on various disaster preparedness themes.

Key Highlights

1. Display Stall were installed featuring standees, leaflets, and visual materials on natural disasters such as earthquakes, lightning, fire hazards, and climate change to engage with the participant attending the exhibition.

2. A quiz competition on "Disaster Preparedness During Emergencies" was also conducted for students aged 12 to 16 years to foster awareness and enhance their understanding of safety measures.

3. Around 700 students and teachers attended the exhibition.

Approach & Implementation

1. **Multi-Channel Awareness & Communication**

    a. Visual displays (standees, leaflets, and banners) were utilized to convey disaster preparedness messages to students and teachers.

    b. The quiz competition served as an interactive knowledge-sharing platform, reinforcing safety measures through gamification.

2. **Targeted Demographic Intervention**

    a. The content was tailored to help children develop psycho-social behavioral changes in emergency situations.

    b. Awareness materials were customized for students and teachers to ensure practical takeaways from the event.

3. **Collaborations & Stakeholder Involvement**

    a. The event was organized in collaboration with NCERT and the Government of Assam, with ASDMA playing a key role in disaster awareness.

    b. A team of disaster management professionals and sectoral experts from ASDMA coordinated the activities and managed the display stall

A Door-to-Door Awareness Campaign to Save Lives from Floods and COVID-19 Pandemic

Floods are a recurring natural disaster in Assam, significantly impacting lives, livelihoods, and infrastructure. One of the most critical concerns is the increasing loss of human lives due to floods, exacerbated by a lack of awareness and preparedness. The situation, further complicated by the COVID-19 pandemic, required a dual approach to disaster response and public health safety. To address this, ASDMA launched **a** targeted door-to-door awareness campaign in 11 highly vulnerable Revenue Circles across six districts: Barpeta, Biswanath, Golaghat, Lakhimpur, Majuli, and Sonitpur. This initiative aimed to foster behavioral changes through direct community engagement and information dissemination.

Key Highlights

1. The campaign was designed to target 11 highly flood-prone Revenue Circles, covering 557 villages and approximately 50,000 households, reaching around 2,00,000 individuals.

2. Kicking off on July 14, 2022, the awareness campaign ran for 14 days.

3. 10 teams (4 members each) were assigned to every Revenue Circle for the door-to-door awareness campaign. The teams divided equally to cover vulnerable villages, gathering family details such as the head of the family and number of members.

Approach and Implementation

1. **Multi-Channel Awareness & Communication**

    a. Vans equipped with loudspeakers and banners disseminated information on flood safety and COVID-19 information through audio jingles, miking across villages.

    b. Leaflets and checklists were distributed during the door to door visits to provide information on flood safety measures.

2. **Community Engagement & Outreach**

    a. Teams of four visited each household, discuss safety measures, distribute printed checklists, and ensure comprehension through interpersonal dialogue.

    b. Community meetings were organized to simulate safety measures, with trained divers/swimmers demonstrating rescue techniques.

3. **Collaborations & Stakeholder Involvement**

    a. The campaign was organized in collaboration with the Health and Family Welfare Department, Social Welfare Department and other local bodies.

    b. The 4-member task teams consisted of members from local Self-Help Groups (SHGs), local NGOs/societies, AAPDA Mitra Volunteers/Pratirodhi Bondhu Volunteers, representatives from the local Panchayat, ASHA workers, Anganwadi workers, Gaonburhas, Gram Sevak/ Sevika, and trained divers/swimmers.

Creative competitions commemorating Har Ghar Tiranga

Overview

The “Har Ghar Tiranga” campaign, under the aegis of Azadi Ka Amrit Mahotsav, aimed to encourage citizens to bring home and hoist the Indian national flag to mark 75 years of independence. Joining this initiative, ASDMA conducted creative competitions across districts in Assam from August 9 to 12, 2022, targeting children aged 10 to 16 years. These competitions were designed to foster patriotism and awareness about the national flag.

Key highlights

1. A formal ‘Flag-off Ceremony’ of the competitions were initiated in presence of the noted citizen of the locality.

2. Competitions included a host of different activities such as, drawing, essay writing, slogan writing, debate competition etc.

3. Three awardees from each districts were publicly felicitated before their respective district Deputy Commissioner after completion of the competitions

Approach and Implementation

1. **Multi-Channel Awareness & Communication**

    a. Publicity of the competition were done through print, electronic, and social media.

    b. Social media engagements were initiated via official pages of ASDMA and DDMAs where regular updates and media posts to ensure maximum reach and visibility.

c. High-quality documentation, including photographs and videos, for record-keeping and promotion.

2. **Community Engagement & Outreach**

a. Participation of local citizens were ensured across the cycle of the competition, starting from the for flag-off ceremony to the felicitation of the competition winners.

3. **Targeted Demographic Intervention**

a. Children aged 10-16 years were encouraged to engage through creative mediums to instill early-stage national pride.

4. **Collaborations & Stakeholder Involvement**

a. The CEO, DDMA, DPO, and field officers along with the district Deputy Commissioners, were onboarded from successful and smooth execution of the competitions.

Awareness Campaign on Flood and Lightning Safety through Street Play in the Vulnerable Districts of Assam Commemorating the IDDR 2022

Assam faces frequent disasters, with flood and lightning being two of the most life-threatening hazards. Despite various awareness initiatives across multiple media platforms, a significant gap in public awareness and behavioral change remains. To address this, ASDMA launched an awareness campaign using street plays to enhance engagement and foster safety practices among vulnerable communities. The awareness campaign focused on the safety measures during floods and lightning events; Do's and don'ts for disaster preparedness; Early warning messages and how to act on them and; Behavioral changes needed to minimize risk and loss of lives.

Key Highlights

1. The campaign was executed in 56 revenue circles across 24 districts from October 13, 2022, for four weeks, commemorating the International Day for Disaster Risk Reduction (IDDR).

2. One local drama team were selected from every revenue circle to perform the street plays on flood and lightning safety around the vulnerable areas/villages in their respective revenue circles.

3. The drama team were accompanied by a mobile van with miking facilities, banners/posters on flood and lightning safety measures in pictorial forms and in local language (Assamese/Bengali/Bodo/English).

4. The audio jingles in Assamese/Bengali/Bodo/English, pre-approved by the respective DDMAs, were also used in the moving van to spread the awareness better.

Approach and Implementation

1. **Multi-Channel Awareness & Communication**

a. Information on the campaign along with the dissemination of safety measures were done through print, electronic, and social media page of the DDMAs.

b. Along with the street plays, efforts were put into amplifying the awareness and sensitization initiatives through banners, posters, and audio jingles in local languages.

2. **Community Engagement & Outreach**

a. The street plays were performed in revenue circles that were considered to be high-risk areas as per ASDMA's flood report data from 2011 to 2021 and Lightning data from 2019 to 2021).

b. Public spaces such as the weekly market areas, bazar areas, community centre areas etc. were selected as venues for the street play performances to maximize the reach among audience.

3. Targeted Demographic Intervention

a. Special focus on children, who are highly vulnerable during floods and lightning strikes were given, with the street plays providing special sensitization on taking good care of their children during flood and lightning period and teach their children about the general safety measures.

4. Collaborations & Stakeholder Involvement

a. Along with involvement of key government officials, AAPDA MITRA and Pratirodhi Bandhu volunteers supported crowd management and awareness activities.

2023: Strengthening Capacities and Promoting Environmentally Sustainable Practices

Training of Trainers (ToT) on Child and Women Care in Relief Camps & Temporary Shelters during Emergencies

ASDMA organized a two-day residential Training of Trainers (ToT) program on "Child and Women Care in Relief Camps & Temporary Shelters during Emergencies" from February 14-15, 2023, at Assam Administrative Staff College (AASC), Khanapara, Guwahati. The training aimed to enhance the capacity of Integrated Child Development Services (ICDS) functionaries under the Directorate of Women and Child Development (DWCD), Assam, to implement nutrition-focused interventions during disasters. By addressing malnutrition-related risks, the initiative sought to improve emergency response mechanisms and safeguard vulnerable populations.

Key Highlights

1. Sessions emphasized practical strategies for nutrition intervention and emergency response to reduce malnutrition-related mortality and morbidity.

5. After the state-level Training of Trainers (ToT), district-level orientation programs were conducted across all districts to equip first responders, including Anganwadi Workers, ensuring extensive outreach.

6. Anganwadi Workers were actively engaged as frontline responders in disaster situations, strengthening community-based emergency preparedness.

Approach and Implementation

1. Multi-Channel Awareness & Communication:

a. Training modules tailored to disaster-related child and women care were developed.

b. Knowledge and learnings were disseminated in the workshops through the formats of presentations, and interactive sessions.

2. Community Engagement & Outreach:

a. Direct engagement with Anganwadi Workers and ICDS functionaries were done to build localized capacities.

2. Collaborations & Stakeholder Involvement:

a. Coordination with DWCD, Assam was done for effective for program implementation.

Cycle Rally on the Occasion of ASDMA's Foundation Day

On the occasion of the ASDMA Foundation Day, a Cycle Rally titled "Stop Polluting, Start Pedalling" was

organized with DDMA, Kamrup Metro. The rally aimed to raise public awareness about climate change, emphasizing the importance of environmentally sustainable practices such as cycling. The initiative aligned with the G20 theme and DRR objectives, highlighting cycling as a step towards reducing air pollution and promoting healthy living.

Key Highlights

1. The rally commenced from Janata Bhawan, proceeded to IIT Guwahati, and returned to Khanapara Veterinary Field, covering key locations in Guwahati to maximize public visibility.

2. It was organized under the overarching foundation day theme, "Living Sustainably in Harmony with Nature."

3. Participants included members of the Assam Cycling Community, government departments, NDRF, SDRF, Civil Defence Volunteers, NGOs, educational institutions, and Aapada Mitra Volunteers.

Approach and Implementation

1. Community Engagement & Outreach

a. Citizens, students, and cycling enthusiasts participated to foster a community-driven approach.

b. A street awareness campaign format was implemented during the rally to engage with the general public.

2. Targeted Demographic Intervention

a. The initiative focused on urban populations, educational institutions, and youth group to drive behavioral change.

Highlights from the districts

The section provides a comprehensive overview of the various initiatives carried out across different districts, aimed at addressing the most pressing disaster-related challenges. This section categorizes the actions taken by local governments, community organizations, and other stakeholders based on the disaster themes that affected each district, including COVID-19 response, flood preparedness, and general disaster risk management. Here, each district's unique approach is highlighted, showcasing the specific measures implemented to mitigate the effects of both health and natural disasters. From organizing awareness programs to conducting training sessions and mock drills, these efforts reflect the diverse strategies employed in urban, semi-urban, and rural settings, all tailored to the particular needs and vulnerabilities of the local populations.

Thematic Area	Districts	Key Initiatives
COVID-19 Awareness and Safety Measures	Baksa	Protirodhi Bondhu Initiative – Awareness rallies, enforcement of social distancing protocols.
	Barpeta	Awareness camps, mock drills for COVID-19 response.

Thematic Area	Districts	Key Initiatives
COVID-19 Awareness and Safety Measures	Bongaigaon	District-wide campaigns promoting COVID-19 safety behavior; distribution of IEC materials.
	Cachar	COVID-19 awareness, fire safety drills, disaster preparedness programs.
	Charaideo	Public announcements in local languages to spread COVID-19 safety messages.
	Chirang	Sensitization programs for government officials, teachers, and students.
	Darrang	Miking, leaflet distribution, and volunteer engagement for COVID-19 awareness.
	Dhemaji	Village-level awareness programs on COVID-19 protocols and flood preparedness.
	Dhubri	IEC campaigns using posters, handbills, and pamphlets.
	Goalpara	Mosque loudspeakers used to enhance COVID-19 awareness.
	Golaghat	Street plays and leaflet distribution for community sensitization.
	Hojai	Awareness drives on psychological impacts of COVID-19 and mental health.
	Jorhat	Deployment of Protirodhi Bondhu volunteers and Civil Defence teams.
	Kamrup	Volunteer efforts to distribute IEC materials and promote COVID-19 protocols.
	Lakhimpur	"Mask on Lakhimpur" campaign promoting mask-wearing habits.
	Majuli	Awareness campaigns on COVID-19 lockdown protocols.
Flood Preparedness and Management	Barpeta	Mock drills in collaboration with Fire & Emergency Services and DDMA.
	Bongaigaon	Flood awareness programs in relief camps, flood rescue training.
	Cachar	Fire drills, flood preparedness workshops, district-wide disaster management programs.
	Dibrugarh	Community-level training for SHGs, village defense parties, and Anganwadi workers.
	Goalpara	Loudspeaker-based community outreach on flood safety.
	Karbi Anglong	Mock drills on flood rescue operations and first aid training.

Thematic Area	Districts	Key Initiatives
Flood Preparedness and Management	Kokrajhar	Flood preparedness awareness programs in relief camps.
	Majuli	Emergency preparedness training for children, ferry operations safety.
	Morigaon	Mock drills and relief camp management training.
	Nagaon	Training on safe construction and earthquake-resistant buildings for masons and residents.
	Sonitpur	Community education on flood safety measures.
	South Salmara	Public awareness campaigns on flood safety and disaster management strategies.
Other Emergency Response (Fire, Earthquake, and Other Risks)	Bongaigaon	Fire safety drills and community disaster response training.
	Dibrugarh	Fire safety and disaster preparedness training.
	Kamrup	Earthquake-induced fire mock drills in schools and hospitals.
	Majuli	Relief camp monitoring and community response drills.
	Nagaon	Disaster preparedness training for masons and workers.
	Sonitpur	Safety training for communities on fire, floods, and earthquake preparedness.
Integrated Multi-Disaster Awareness	Charaideo	Awareness programs covering both COVID-19 and flood preparedness.
	Chirang	Comprehensive awareness campaigns addressing both COVID-19 and disaster management.
Integrated Multi-Disaster Awareness	Dhemaji	Village-level awareness programs on flood preparedness and COVID-19 protocols.
	Golaghat	Integrated awareness strategies for COVID-19 safety and general disaster preparedness.
	Lakhimpur	Dual-focus campaigns on disaster preparedness and COVID-19 safety measures.
	Morigaon	Disaster awareness combining flood safety programs with COVID-19 sensitization.
	Nalbari	Multi-disaster response strategies for both flood safety and COVID-19 protection.

Sustained Awareness and Sensitization: ASDMA's Efforts on Continuous Engagement

Disaster preparedness is not a one-time effort but an ongoing process that requires consistent engagement, reinforcement, and adaptation. The Assam State Disaster Management Authority (ASDMA) has institutionalized a continuous awareness and sensitization strategy to ensure that disaster-related information is regularly disseminated, easily accessible, and widely understood. Through recurring communication efforts via its website, social media pages, videos, SMS alerts, mascots, and IEC materials etc, ASDMA strengthens community resilience, ensuring that people remain prepared not just during disasters but throughout the year.

ASDMA Official Website

ASDMA's official website serves as a centralized information hub for disaster management, offering real-time updates, educational resources, and emergency response details to empower citizens with the knowledge required to mitigate risks and respond effectively to disasters. The website is designed to be user friendly and is accessible in English, Hindi, and Assamese, ensuring inclusivity and widespread reach across diverse linguistic groups in the state. Some of the key features supporting awareness and sensitization are highlighted below:

1. **Tip of the month:**
   The website features a dedicated "Tip of the Month" section that provides seasonal and situational disaster preparedness advice. These tips cover a range of issues, such as monsoon preparedness, fire safety measures, earthquake drills, and health precautions during pandemics. By regularly updating this section, ASDMA ensures that disaster awareness remains a continuous conversation rather than a reactive measure.

2. **Information and services:**
   Detailed guidelines on safety protocols for various hazards, are hosted on the website such as: COVID-19 safety measures and health advisories; Earthquake preparedness and emergency response actions; Fire hazard prevention strategies; Flood, landslide, and storm preparedness etc. These protocols act as educational tools for individuals, communities, and institutions, equipping them with practical knowledge to reduce disaster risks.

3. **Current and upcoming events:**
   The website also features a regularly updated calendar of events that informs the public about: Disaster preparedness workshops; Community training programs on emergency response; Simulated drills conducted in collaboration with local authorities etc. This ensures that individuals and institutions remain actively involved in disaster awareness and preparedness initiatives.

4. **Highlights of ASDMA's initiatives:**
   This section showcases key programs undertaken by ASDMA, such as: Capacity-building programs for disaster response teams; Community awareness campaigns on climate change and disaster resilience; Technological innovations in disaster forecasting and management etc. By documenting these efforts, the website serves as a transparent platform, ensuring that citizens are aware of the state's ongoing initiatives and contributions toward disaster mitigation.

5. **Details of quick response team details:**
   The website includes contact details of Quick Response Teams across all districts in Assam. In case of emergencies, citizens, local authorities, and organizations can quickly reach the appropriate response units. Additionally, the platform provides:

   a. Toll free number of State Emergency Operation Centre

b. Contact details for district-level disaster management officers

c. Information on trained Village Defence Parties (VDPs) who assist in disaster response

d. Emergency numbers for hospital, ambulance, fire, and police services

Beyond its core features, the ASDMA website integrates additional digital tools that amplify awareness efforts:

1. **GIS utility portal:**
   A geospatial data portal that allows citizens, planners, and researchers to analyze disaster-prone areas and plan accordingly.

2. **Disaster reporting and information management system (DRIMS):**
   A newly launched digital platform for reporting and assessing disaster-related damages, ensuring faster response and aid disbursal.

3. **Mobile application, Disaster Ready Assam (DRA):**
   The official ASDMA mobile app enables users to access disaster safety information and send distress signals with real-time location tracking.

ASDMA's Social Media Handles

Social media has become an important tool in strengthening disaster awareness and sensitization efforts, enabling the Assam State Disaster Management Authority (ASDMA) to reach a large and diverse audience. Through its platforms like Twitter, Instagram, and Facebook, ASDMA ensures that crucial disaster-related information is communicated effectively, fostering a culture of preparedness and collective responsibility.

1. **Spreading awareness through safety protocols and advisories:**
   One of ASDMA's key strategies for sensitization is the continuous dissemination of safety protocols and public advisories. These posts provide clear, actionable steps on disaster preparedness and response for hazards such as earthquakes, floods, landslides, and storms. The organization also plays a crucial role in public health sensitization, as seen during the COVID-19 pandemic, when it shared preventive measures, lockdown guidelines, and safety advisories. By making this information easily accessible and engaging, ASDMA ensures that people understand the importance of risk mitigation and preparedness.

2. **Emergency alerts and real-time updates:**
   Timely dissemination of emergency alerts and warnings is essential for disaster management. ASDMA uses its social media platforms to provide real-time updates on flood warnings, cyclones, and other extreme weather events. These alerts guide citizens on necessary precautionary actions, such as moving to safer locations or following government-issued directives. This proactive approach not only minimizes panic but also helps in reducing the impact of disasters through early action.

3. **Sensitizing the public on government response efforts:**
   Raising awareness about the government's ongoing disaster response and relief efforts is another crucial aspect of ASDMA's social media engagement. Updates on evacuation measures, relief distribution, and rehabilitation initiatives help the public stay informed about the support systems in place. By highlighting the efforts of disaster response teams, volunteers, and local authorities, ASDMA seeks to foster public trust and reassures communities that structured assistance is available. This also encourages more people to participate in relief efforts and community resilience programs.

4. **Public awareness campaigns for disaster preparedness:**
   ASDMA actively conducts campaigns focused on long-term disaster awareness. These

campaigns cover topics such as climate change adaptation, fire safety, monsoon preparedness, and emergency first aid training. Infographics, short videos, and interactive content are designed to engage audiences of different literacy levels, ensuring that even vulnerable populations receive essential information. Regular campaigns help normalize discussions around disaster preparedness, making it a shared community responsibility rather than a government-driven effort alone.

5. **Engaging citizens in capacity-building initiatives:**
   Beyond passive awareness, ASDMA also encourages active public participation in disaster preparedness. Through social media announcements, citizens are invited to participate in training workshops, enroll in mock drills, and join community volunteer groups. These programs empower individuals with the skills needed to respond effectively during emergencies, fostering a culture of self-reliance and collective preparedness.

Awareness Videos

A key strategy adopted by the Assam State Disaster Management Authority (ASDMA) to promote disaster preparedness is the continuous engagement of citizens through awareness videos. These videos are designed to provide crucial safety information in an engaging and accessible manner, ensuring that disaster preparedness becomes an integral part of public consciousness. ASDMA has effectively utilized multiple media platforms, including national and regional news channels, daily soaps, and its official website, to disseminate these awareness videos.

1. **Television Broadcast:**
   News Channels and Popular Media
   To maximize reach, ASDMA has collaborated with major national and regional news channels, including Aaj Tak TV and leading Assamese news channels. These platforms have been instrumental in broadcasting short awareness videos that educate citizens on disaster response, mitigation strategies, and emergency protocols. To enhance viewer engagement, ASDMA has explored various formats to deliver these messages more effectively. One particularly impactful initiative involved leveraging the popularity of the Assamese daily soap Beharbari Outpost by featuring a special episode focused on COVID-19 safety measures. This helped to ensure that vital safety information reach a broad audience, including those who may not actively seek disaster-related content but are regular television viewers. By embedding disaster awareness themes within the storyline, the program subtly influenced public perception and encouraged safety preparedness.

2. **Advocacy by the leadership**
   A special video featuring the Hon'ble Chief Minister of Assam was broadcasted across all news channels in the state. This initiative, specially promoted by the HCM, addressed critical issues such as floods and subsequent landslides during the monsoon season. The message elaborated on the government's relief efforts, including food distribution and routine health check-ups for affected communities. Specific interventions, such as the establishment of temporary healthcare centers for mothers with newborns, were highlighted. The CM also emphasized the extensive relief and rescue operations conducted in Dima Hasao, where the Air Force was deployed to assist landslide victims. Additionally, the video provided important safety precautions for people in disaster-prone areas and concluded with three emergency helpline numbers- 1077, 1070, and 1079, ensuring that affected individuals could access immediate assistance.

3. **A Repository of Disaster Awareness Videos**
   ASDMA has also made various awareness videos available on its official website, ensuring that disaster preparedness information remains

accessible to the public at all times. These videos cover a range of disaster scenarios, providing insights on response strategies, precautionary measures, and emergency protocols. Some of the broad themes covered include:

- Floods and artificial flooding
- Earthquakes
- Storms, Thunder, and Lightning
- Landslides and Erosion

Real-Time Alerts through SMS

One of the most direct and immediate ways ASDMA disseminates disaster-related information is through SMS alerts. Recognizing that mobile phone penetration is widespread across Assam, the authority utilizes SMS-based notifications to send early warnings and emergency advisories. These alerts cover:

Weather warnings (floods, cyclones, thunderstorms, landslides etc.)

1. Safety directives (evacuations, curfews, emergency helpline numbers etc.)
2. Public health updates (pandemic-related advisories, heatwave precautions, etc.)

By delivering information directly to individuals, SMS alerts ensures that even those without internet access can receive critical updates in real-time. These messages are often brief and action-oriented, enabling people to respond swiftly to potential threats.

Use of Mascots

In 2022, ASDMA introduced mascots as an innovative communication tool to enhance disaster preparedness messaging. These mascots serve as engaging, visual representations of disaster preparedness, helping to:

1. Simplify complex safety messages, making them more accessible to children and those with limited literacy.
2. Increase engagement in awareness campaigns by providing a familiar and friendly character that resonates with communities.
3. Reinforce key preparedness behaviors through storytelling, public appearances, and digital media.

The mascots Moina and Jadu, along with their parents, were introduced as part of IEC campaigns to make disaster awareness more interactive and relatable. Moina and Jadu specifically address disaster-related issues, while their parents are included when discussing family-oriented preparedness themes.

Information, Education, and Communication (IEC)

IEC materials form the backbone of ASDMA's awareness campaigns, ensuring that disaster preparedness messages reach a broad audience. These materials are designed to be inclusive, visually appealing, and accessible, catering to people across different literacy levels and language preferences. Key features of ASDMA's IEC materials include:

1. Bilingual content in English and Assamese, ensuring regional accessibility.
2. Pictorial and graphic representations to make information understandable for those with limited literacy.
3. Posters, leaflets, and digital infographics that highlight key safety protocols during disasters.
4. Audio-Visual media that demonstrate disaster preparedness steps in an engaging format.

These materials are distributed through community centres, schools, government offices, and public spaces, ensuring that disaster awareness is integrated into everyday life. Additionally, digital versions are shared via social media and ASDMA's official website, broadening their reach.

Lessons Learned

ASDMA's implementation of various awareness and sensitization programs provides several key insights:

1. **Adapting Communication Channels is Critical:**
   A variety of communication channels, including print, electronic, social media, and outdoor media, have been used to engage diverse audiences. However, awareness gaps persist, indicating that using multiple channels alone is insufficient. The effectiveness of outreach depends on tailoring the message and medium to the specific needs of different groups, considering local context and audience preferences.

2. **Community Engagement Drives Behavioral Change:**
   Initiatives like door-to-door campaigns, street theatre, public meetings, and volunteer involvement have proven to be more effective than mass media alone in engaging communities. These direct, culturally relevant methods address community concerns and promote behavior change. Local-level engagement remains crucial for achieving long-term impact.

3. **Collaboration Enhances Reach and Effectiveness:**
   Partnerships with other relevamt government departments, NGOs, educational institutions, community volunteers, and the media have proven essential in expanding outreach efforts. Collaboration allows for the leveraging of resources, expertise, and networks, leading to more effective program implementation. Strengthening these partnerships will remain a priority moving forward.

4. **Technology Improves Accessibility and Information Sharing:**
   The use of technology, such as social media, online portals, and mobile apps, has enhanced the accessibility of information and streamlined aid distribution. Tools like the River Atlas Portal have facilitated better disaster risk transparency and provided timely access to resources. Continued exploration of digital tools will be key to improving community engagement and program delivery.

5. **Sustained, Adaptive Awareness Efforts Are Necessary:**
   Despite ongoing efforts, awareness gaps continue, emphasizing the need for sustained and adaptive engagement. Given Assam's vulnerability to floods and other disasters, awareness should be an ongoing process rather than a one-time initiative. Strategies must be regularly reassessed and updated based on emerging risks and community feedback.

ANNEXURE

1	COVID GUIDELINES	14.02.2022
2	Detailed Guidelines for International Travellers coming to Assam	24.01.2022
3	Relaxation of Night Curfew for Uruka	2022
4	Relaxation for Pregnant Women and Women Employees having children to work from home	-
5	COVID-19 Guidelines for Chath Puja and Raas Festival	-
6	COVID-19 Guidelines for Durga Puja and other festivals	27th Oct, 2021
7	COVID-19 Guidelines for Puja and Festivals	25.10.2025
8	SOP for Containment Zone	25th Oct, 2021
9	COVID-19 SOP for Mobile Theatre	-
10	COVID-19 Guidelines for Durga Puja, Kali Puja and Dipavali	2021
11	Rajya Sabha Elections	2021
12	General Guidelines for Puja and Upcoming Festivals	2021
13	Advisory on Disposal of Non-COVID-19 Dead Bodies during COVID-19 Pandemic Period	-
14	COVID-19 order on the containment zones within the state	1st September
15	COVID-19 order on the containment zones within the state	17th August
16	COVID-19 Guidelines for the celebration of Independence Day	15th August, 2021
17	COVID-19 Guidelines for the Conduct of recruitment and Entrance Examination for Higher Education	-
18	COVID-19 Identification of Containment Zones	-
19	COVID-19 Identification of Containment Zones	27/07/2021
20	COVID 19 Exemption of employees of NRL relation to project execution works of ASDMA	-
21	Permission Letter to conduct Chartered Accountancy Examination	2nd July 2021
22	COVID-19 Containment Guidelines	01/07/2021
23	COVID-19 SOP for Containment Zone	26th June, 2021
24	COVID-19 SOP for Containment Zone	21st June, 2021
25	SOP for Opening of religious establishments	19/06/2021
26	SOP for relaxation of Night Curfew	16th June, 2021
27	SOP for Containment Zones and Night Curfew	15th June, 2021
28	ORDER Rapid Safety Audit of COVID Hospital	-

29	COVID-19 Guidelines on Gatherings	-
30	COVID-19 Guidelines on Gatherings	25th May, 2021
31	Order for medical Oxygen	20/05/2021
32	ORDER Interdistrict Movement Restriction	-
33	COVID 19 Order New Directives	-
34	COVID 19 Order for Poster Pasting	-
35	Restriction of Movement	-
36	Notifications to shops and Business Establishments	-
37	Advisory for employees	-
38	Advisory for Factory workers	-
39	Advisory for Hotels	-
40	Advisory for Restaurants	-
41	Advisory for Warehouses	-
42	Advisory for Banks	-
43	Child-friendly spaces guidelines	-
44	Guidelines for community kitchens	-
45	Order for Vaccination	23/06/2021
46	SOP COVID-19 for International Travellers coming to Assam	2021
47	SOP-COVID 19	24/03/2021
48	SOP COVID 19 Republic Day	2022
49	COVID-19 Entrance examination for higher education	-
50	SOP AIW River Disaster Management	-
51	SOP on Relief Camp Management in Assam	-
52	SOP Emergency Support to Persons with Disabilities(PWD)	-
53	COVID-19 Advisory for flood-affected people in temporary shelters other than relief camps	-
54	SOP for Vaccination	2021

You can refer to the detailed SOPs and guidelines available on our website https://asdma.gov.in/

AIRBMP
ASDMA











WAY TO PREVENT CLIMATE CHANGE



Assam State Disaster Management Authority

- Try to make the Community and the area you live in green and natural.
- Be More Conservative with Energy Usage like electricity, fuel etc.
- Invest in recycling of the materials you use.
- Try to conserve every drop of water and recommend more for rainwater harvesting.
- Reduce food waste and try to produce alternative ways of conserving food items.
- Bring your own shopping bags to reduce pollution and contribute for a green world.

Chapter 6

ADMINISTRATION

Content

» Introduction
» Major Administrative Initiatives (2023-2024)
» Collaboration with ASDMA (2023-2024)
» Awareness and Outreach Programs
» Environmental and Sustainability Initiatives
» Conclusion

Introduction

The Department of Housing & Urban Affairs (DoHUA), Government of Assam, plays a pivotal role in fostering resilient urban governance and disaster management across the state's Urban Local Bodies (ULBs). In the period from 2021 to 2024, the department has undertaken significant administrative measures to enhance urban infrastructure, mitigate disaster risks, and promote sustainable urban development. These efforts align with the objectives of the Assam State Disaster Management Authority (ASDMA) to create safer and more resilient urban communities. This chapter outlines the key administrative initiatives implemented by DoHUA, with a focus on urban flood mitigation, waste management, urban planning, and collaborative efforts with ASDMA during the 2023-2024 financial year.

Major Administrative Initiatives (2023-2024)

Urban Flood Mitigation

Rapid urbanization in Assam, particularly in Guwahati, has exacerbated urban flooding due to increased impervious surfaces and clogged drainage systems. To address this, DoHUA launched Mission Flood Free Guwahati, a coordinated effort involving the Guwahati Municipal Corporation (GMC), Guwahati Metropolitan Development Authority (GMDA), and other stakeholders. Key activities included:

- **De-siltation and Maintenance:**
  De-siltation of major channels such as Bhar- alu, Mora Bharalu, Basistha, Bahini, and Lakhimijan to maintain their cross- sectional capacity.
- **Infrastructure Development:**
  Construction of new drains, roads with side drains, and culverts to ensure flow connectivity

to natural drainage channels.

- **Rainwater Harvesting:**
  Enforcement of building bye-laws mandating rain- water harvesting structures in new constructions.
- **Technological Interventions:**
  Procurement of de-silting machinery, auto-mounted and trolley-mounted dewatering pumps, and installation of Automatic Weather Stations and Auto-priming MF pumps to manage water- logging.

Additionally, GMDA is developing a GIS-based Comprehensive Stormwater Drainage Master Plan for Guwahati, alongside a Detailed Project Report (DPR). A Rs. 166 crore project under the Asian Development Bank (ADB) aims to enhance the carrying capacity of the Bahini basin and divert excess water from Meghalaya Hills

to reduce flooding in areas like Rukminigaon. An Urban Flood Risk Management Programme (UFRMP) worth Rs. 200 crores have been proposed under the National Disaster Mitigation Fund (NDMF) to further address urban flooding.

Across other ULBs, the Directorate of Town & Country Planning conducted LIDAR surveys in towns such as Sibsagar, Nagaon, Bongaigaon, and Silchar to identify flood-prone areas and develop accurate flood models. The Directorate of Municipal Administration allocated Rs. 1,378,201,613 for constructing and maintaining

137.82 km of drains across ULBs, enhancing public health and reducing flood risks.

Municipal Solid, Liquid, and Legacy Waste Management

Effective waste management is critical for disaster resilience and public health. DoHUA implemented several administrative measures to address municipal waste:

- **Solid Waste Management:**
  A 150 TPD Compost cum RDF Plant at Belortol, Guwahati, operates in two shifts to process 300 TPD of mixed municipal solid waste. Four waste-to-compost cum Material Recovery Facility (MRF) plants with a total capacity of 170 TPD were established in Nalbari, North Lakhimpur, Chapar, and Silapathar.
- **Compressed Bio-Gas (CBG) Plants:**
  Memoranda of Understanding (MoUs) were signed with Oil India Limited for CBG plants in Guwahati, Sibsagar, Tinsukia, Jorhat, and Silchar.
- **Sewage and Faecal Sludge Management:**
  Assam's first Sewage Treatment Plant (STP) was implemented in Nagaon. Under AMRUT 2, STPs with capacities of 6 MLD in Dibrugarh and 2 MLD in Silchar are at the tendering stage. Additionally, 32 Faecal Sludge Treatment Plants (FSTPs) with a total capacity of 337 KLD were initiated across ULBs, with 10 completed and operational.
- **Legacy Waste Management:**
  Bio-mining of legacy waste at Boragaon Dump-site, Guwahati, was undertaken to reclaim land and reduce environmental hazards.

Urban Planning and Infrastructure Development

DoHUA strengthened urban planning through the Directorate of Town & Country Planning, notifying 73 Final Master Plans and preparing 26 Draft Master Plans for Assam's 102 notified towns (excluding Guwahati and North Guwahati). A GIS- based Geo Hub was established to facilitate modern, technology-driven urban planning.

The Assam Urban Knowledge Hub (AUKH) was created as a think-tank to drive urban reforms, drafting a Design Policy focusing on architecture, urban mobility, urban design, landscape, branding, tourism, and utilities. Tactical urbanism initiatives, such as the pilot project at Ganeshguri junction in March 2024, optimized road geometry and pedestrian facilities, with permanent designs now approved.

To enhance urban infrastructure, Guwahati Utility Company Limited (GUCL) installed 20,000 smart and LED street lights, with plans for 12,000 additional

smart lights and 60 high-mast lights. The Directorate of Municipal Administration in- stalled 5,853 solar-powered LED street lights, improving safety and aesthetics.

Water Body Rejuvenation

Rejuvenation of water bodies is critical for flood mitigation and ecological balance. Silsako Beel is being restored under the Guwahati Waterbodies (Preservation & Conservation) Act, 2008, with a revised DPR submitted for Rs. 237 crore funding under the Repair, Renovation, and Restoration scheme. GMDA initiated projects for Borsola Beel (Rs. 5.5 crore), Gauhati University Pond (Rs. 4.82 crore), and Sarusola Beel (Rs. 1.49 crore). Under AMRUT, 31 water bodies were ear- marked for rejuvenation, with 15 completed.

Strengthening Municipal Administration

To enhance municipal governance, DoHUA created 319 new posts under the Assam Urban Administrative Service, Assam Urban Engineering Service, and Assam Urban Financial Service, appointing 96 Executive Officers, 98 Urban Technical Officers, and 100 Financial Management Officers. The Dibrugarh and Silchar Municipal Boards were upgraded to Municipal Corporations on March 6, 2024, and November 28, 2024, respectively, strengthening local governance.

Collaboration with ASDMA (2023-2024)

DoHUA worked closely with ASDMA to integrate disaster management into ur- ban administration:

- **Disaster Management Plans:**
  ULB-level Disaster Management Plans were prepared in collaboration with District Disaster Management Authorities (DDMAs).
- **Ward-Level Committees:**
  Ward-level Disaster Management Committees were constituted with DDMA support to enhance localized disaster preparedness.
- **Flood Preparedness:**
  ULBs, in coordination with DDMAs, conducted flood preparatory meetings, undertaking actions such as drain cleaning, de-siltation, and fogging to mitigate flood risks.
- **Relief Camps:**
  Temporary relief camps were identified across all ULBs to support disaster-affected populations.

Awareness and Outreach Programs

DoHUA implemented extensive awareness campaigns to promote disaster resilience and sustainable practices:

Table 1: Key Collaborative Activities with ASDMA (2023-2024)

Activity	Description
ULB-level DM Plans	Developed with DDMAs to address local disaster risks.
Ward-level DM Committees	Established to enhance community-level preparedness.
Flood Preparatory Meetings	Coordinated drain cleaning, de-siltation, and fogging.
Temporary Relief Camps	Identified to provide shelter during disaster

- **Single-Use Plastic Reduction:**
  Campaigns including meetings, school and college awareness camps, ward sabhas, leaflet distribution, and mike announcements encouraged reduced use of single-use plastics.
- **Swachh School Swachh Shehar:**

Launched with Akshar Foundation in Guwahati to promote source segregation and sanitation among school children.

- **Safai Apnao Bimari Bhagao:** Conducted under Swachh Bharat Mission (Urban) across all ULBs to promote cleanliness.
- **Model Ward Initiative:** Implemented in 103 ULBs, creating 6,800 backyard compost pits with participation from 82 NGOs, 308 Self-Help Groups (SHGs), and 677 informal waste workers.
- **Health and Hygiene Campaigns:** Health checkup camps for sanitation workers, awareness events on hand-washing, and cleanliness drives targeting garbage-vulnerable points and stagnant water areas.

Environmental and Sustainability Initiatives

To combat air pollution under the National Clean Air Program, GMC procured 60 electric vehicles, 129 e-tricycles, 6 backhoe loaders, 6 water sprinklers, and 4 self-propelled road sweeping machines for dust suppression and street cleaning. GMDA's urban forest project at Borbari Hillock (Rs. 3.25 crore) and park developments at Tarun Ram Phookan Park, Silpukhuri Park, Geeta Mandir, and Dr. Bhupen Hazarika Memorial Park provide green lungs to counter urban heat island effects.

Conclusion

The administrative efforts of the Department of Housing & Urban Affairs in 2023- 2024 demonstrate a comprehensive approach to urban resilience and disaster management. Through initiatives like Mission Flood Free Guwahati, advanced

Waste management systems, and strategic urban planning, DoHUA has strengthened Assam's urban infrastructure. Collaborative efforts with ASDMA, including disaster management plans and flood preparedness, have enhanced local resilience. Awareness campaigns and sustainability initiatives further underscore the department's commitment to creating safer, healthier, and more sustainable urban environments. Moving forward, continued investment in infrastructure, technology, and community engagement will be crucial to sustaining these advancements and addressing emerging u



Assam State Disaster Management Authority

Assam State Disaster Management Authority(ASDMA)

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Contact us for any emergency

State Control Room: **03612237219, 09401044617** | Toll Free: **1070/1079/112** | District Control Room: **1077**

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