District Disaster Management Plan Dhemaji District, Assam

2025-26

District Disaster Management Authority, Dhemaji

PREFACE

The District Disaster Management Plan (DDMP), Dhemaji is a comprehensive and dynamic document that outlines the district's hazard profile, institutional mechanisms, response strategies, and the roles and responsibilities of all key stakeholders involved in disaster risk reduction and emergency management. This plan serves as a strategic blueprint for preparedness, mitigation, response, and recovery, ensuring that the district administration and its partners are equipped to effectively manage any disaster that may arise.

The DDMP has been developed in alignment with the Sendai Framework for Disaster Risk Reduction (SFDRR) 2015–2030, which emphasizes understanding disaster risk, strengthening disaster governance, investing in resilience, and enhancing disaster preparedness for effective response. It also incorporates the Hon'ble Prime Minister's 10-Point Agenda for Disaster Risk Reduction, which advocates for the mainstreaming of DRR in all development sectors, a focus on disaster-resilient infrastructure, and the empowerment of local communities.

Moreover, the plan is framed as per the operational guidance of the National Disaster Management Authority (NDMA) and the Assam State Disaster Management Authority (ASDMA), ensuring coherence with national and state-level policies and frameworks. It highlights department-specific Standard Operating Procedures (SOPs), inter-agency coordination mechanisms, and actionable checklists for first responders and support agencies.

The DDMP particularly outlines the responsibilities of key line departments—such as Revenue, Police, Health, PWD, WRD, Education, Agriculture, and PHED—who are the first responders before, during, and after any disaster. In addition, local urban bodies, panchayati raj institutions, civil society organizations, NGOs, and private agencies are expected to support and supplement government efforts under the direction of the District Disaster Management Authority (DDMA), Dhemaji, as per the evolving needs of the situation.

This Plan is not only a statutory requirement but also a practical and accessible reference document for all officers, institutions, and community members committed to building a disaster-resilient Dhemaji. It is designed to enhance the efficiency and responsiveness of the district's disaster management efforts while fostering a culture of preparedness and community participation.

I express my sincere gratitude to all line departments, field functionaries, technical experts, and development partners whose valuable contributions have shaped the preparation of this plan. Their cooperation and commitment are instrumental in strengthening our collective disaster preparedness and resilience.

Rahul Javir Juvair, IAS
District Commissioner, Dhemaji

INDEX

Section 1

Introduction

1.1 Need for the plan

India in general is one of the most hazard prone countries in the world. 60% of the country is prone to earthquakes of moderate to high intensity, 40 million hectares is prone to floods, 5,700 km long coast is prone to cyclones and tsunamis and the whole of Himalayas are prone to landslides. The district of Dhemaji in particular is one of the 312 Multi-Hazard Prone districts in India. As a result, it was important to develop a plan that improves district's response to disasters while improving its ability to mitigate the disaster risks and increasing community's resilience by implementing the preparedness plan.

State is responsible for responding to disasters through its district level Incident Response Team for the disaster site, while Centre is responsible only in providing extended support or guidance or external resources and additional help as desired, in case of any major disasters on the request of support from the state. Thus, it was deemed important to put a plan in place for dealing with disasters in an organized way with all the stakeholders well aware of their role in responding or preparing for disasters.

1.2 Objectives of the plan

1.) To identify areas in the district those are prone to natural and manmade disasters.
2.) To understand the existing coping mechanisms/capacities and vulnerabilities of the community by conducting panchayat level assessment exercise.
3.) Identify the measures that ought to be taken by line department at the district and block level for prevention and mitigation of disasters.
4.) To build awareness among different stakeholders both at the administrative as well as community level by directly engaging them in the process of district disaster management planning.

5.) Identify various existing development schemes that could be implemented for mainstreaming DRR in development.

6.) Highlight the need and specify key areas for improving disaster resilience by awareness, training and capacity-building of the community.

7.) Highlight the need and specify key areas for capacity building of officials, training of trainers and training of specialists that includes engineers, architects, masons, etc.

8.) Specify the preparedness measures required to be undertaken by the district administration right to the panchayat level so as to be able to better respond to any threatening disaster situation or disaster.

9.) To prepare the response plan for quick and effective response by
    a. Allocation of responsibilities at various levels of administration, i.e., district, sub-division, block and panchayat level.
    b. Timely procurement of essential resources.
    c. Establishing of communication links.
    d. Establishing an Emergency Operation Centre.
    e. Dissemination of information to the public.

10.) To establish the reconstruction, rehabilitation and recovery plan so as to restore the vital life support systems to minimum operating standards while continuing to rehabilitate to atleast the original standards.

1.3 Process and Methodology adopted to develop the DDMP

District Disaster Management Planning has often been criticized to be comprising of guidelines rather than actionable plans. It has also been criticized to be incomplete in its very approach for either non-involvement of communities (the victims of disasters) or completing mere formality by extrapolating the findings of too small a sample size to the entire district.

District Disaster Management Authority Dhemaji in partnership with AIDMI have worked together to make the plan more inclusive. The term 'inclusive' points to a wider community outreach, greater ownership by district's administrative officers and institution based focus to address safety issues.

District Disaster Management Authority, Dhemaji owned the DDMP process thereby bringing legitimacy to the entire process. In consonance with our approach of making the plan inclusive, we

had two major public government institutions – schools and hospitals – covered in depth to address safety issues in a focused manner. It involved conducting school safety audit in government schools and government hospitals spread across the district saw Fire safety audit conductedin Dhemajidistrict. This exercise was followed by a block wise HVCA exercise conducted in 10 panchayats of 5 blocks of the district. The scope of the exercise was the first of its kind with an appropriate sample size to comment on the district's findings. Moreover, it also focused on giving due attention to vulnerable groups. All the reports were reviewed by the Deputy Commissioner, DPO – Disaster Management and officers of respective departments in case of reports on schools and hospitals.

A review meeting was also held with the Deputy Commissionerand all the major officers from different line departments of the district administration, in order to finalize the coverage of the DDMP plan framework. The plan was then written by consulting the Model Framework for the District Disaster Management Plan (DDMP) by NDMA, Assam State Disaster Management Plan and various guidelines giving indepth account of various aspect of the plan put up by the NDMA.

The final draft plan was sent to the DDMA and ASDMA for their critical review and all their suggestions were incorporated before it was accepted by the District Administration. The final plan was then accepted and published by the District Administration.

2

District Profile

2.1. Overview

Situated on the North Bank of the River Brahmaputra, the Dhemaji district is bounded by the Brahmaputra River in the South and Subansiri River in the West. In addition, a number of tributaries from the North join the Brahmaputra in this region one after the other. This region covers one of the heaviest rainfall areas in Assam due to which these areas experience regular annual floods, especially after the Great Earthquake of 1950, which left the entire Riverine system of the area severely disturbed. During the months of May to September with the onset of South East monsoon rains, huge volumes of floodwater starts spilling all along the 720 Km. length of embankments of the River Brahmaputra in Assam, out of which 132 Km. are within the jurisdiction of Dhemaji E & D Division. The intensity of floods can well be imagined during the months when the waters of the Brahmaputra synchronize with that of the other tributaries.

2.2. Demography

As per 2011 census, Dhemaji had population of 686,133 of which male and female were 351,249 and 334,884 respectively. In 2001 census, Dhemaji had a population of 571,944 of which males were 294,643 and remaining 277,301 were females.

2.3. River System

The Dhemaji District exhibits many channels, ditches, swampy land, waterlogged area, Rivers, natural levees, waste land, etc. and their distribution itself speaks about the devastation and extent of the flood problem. The shifting of channels is so abrupt and uncertain that the whole district can be said to be the flood plain area.

2.3.1. The Brahmaputra

The Brahmaputra originates at a place 30°31'N-31°30'N District. Gazetteer, Lakhimpur, 1976) latitude and 80°80'E -82 ° E longitude, near the upper waters of the Indus and Sutlej, and a little to the east of the Mansarovar Lake in Tibet between the Kailash range and the Himalayan range lying at an altitude of 5150m. Then it travels along a trough north of the Himalayas running parallel to the main Himalayan range before it comes out from a glacier called *Chema Yangdung*. In the source region the River is known as *Matsang Tsangpo* or *Tamchok Khambab*. Further downstream, it is known as *Tsangpo* (means purifier). After flowing about 1700 km in Tibet, the River enters into Arunachal Pradesh near Korba; sweeping towards south around the Easternmost Himalayan Ranges at a few kilometers east of Namcha-Barwa by the name of *Siang* in Arunachal through deep gorges, rapids and cascades. The river joined by other tributaries while it flows through the mountainous terrain. It flows about 200 km in the region and appears in the plains near Pasighat taking the name *Dihang*. The *Dihang* then follows a braided pattern for about 35-km before it meets the *Dibang* from the North and the *Lohit* from the East near Kobo. From this tri-junction, the River assumes a gigantic size and takes the name *Brahmaputra*.

2.3.1.1. Tributary

The Brahmaputra receives many tributaries throughout its length. The important right bank tributary from Dhemaji is the Jiadhal-Kumatiya system.The tributary of the Brahmaputra for most of its length drain the steep slope of the Himalayas to the south where rainfall is heavy. Consequently they not only carry heavy runoff, particularly where slopes are denuded of forest, but also very large volume of detritus (remains of something that has been destroyed or loose material like silt scoured away from rocks), that results in increasing river bed size leaving region increasingly prone to flooding. The

major portion of the heavily silt laden floodwaters carried to the Brahmaputra not only aggravates its flood congestion, but also adds to the silt charge of the River Brahmaputra.

2.3.1.2. Drainage basin

The Brahmaputra drainage system covers an area of 1.75 Lakhs km^2 out of the total area of 2.25 Lakhs km^2 of the whole region. It covers the whole of Arunachal Pradesh, the northern part of Meghalaya and even the northwestern part of Nagaland.

2.3.1.3. Cross-section

The dry season channel varies in width from 500 feet to a few thousand feet. Large stretches of sand *chars* extend for several miles at many places, until a bank sufficiently high is formed to limit the width of the channel during the flood season, but not enough to prevent inundation during floods.

2.3.2. Sille River

It is the first tributary in Dhemaji district that debouches into the Dihang River. River Dihang travels only about 2.5 km. through Assam before joining with Sillë River along its right bank. Remi River that originates in West Siang District and Miku Korong that travels from north in Arunachal Pradesh, combine to take the name Sillë and travels downstream along south-east. River Remi has a tributary named Penang. Sillë River travels 28 km. through Arunachal Pradesh and 10 km. through Assam and combines with River Dihang in Assam.

2.3.3. Leku River

River Leku in its upper reach in Arunachal Pradesh is known as Chilëng. Chilëng River originates slightly west of the origin of Sillë River. It first travels eastward for some time, crosses the Pöba Reserve Forest and then takes a southward bend. It takes the name Leku along the way and combines with the Dihang near a ferryghat. The distance between Sillë and the confluence of River Leku and Dihang is almost 6.5km downstream of River Dihang. The length of River Leku is about 30 km. in Arunachal Pradesh and 10 km. in Assam.

2.3.4. Jonai Korong

To the south of the origin of River Chilëng, River Rukshing originates and after flowing for some time in Arunachal Pradesh, enters the plains of Assam near Jonai town and changes its name to Jonai Korong. This River further travels towards south and meets a small stream that bifurcates towards right from Dihang River at a distance 3km. from the confluence of Leku and Dihang. The main Dihang travels further 8km. from this confluence towards south and meets with the River Lohit and joins with the Brahmaputra.

2.3.5. Buri Sut

This is a westerly-bifurcated branch of River Dihang. This branch separated out from River Dihang at a distance 3km. downstream from the confluence of River Jonai Korong and Dihang and after travelling 10 Km. along its western side joins with the Brahmaputra. Streams like Yagalong, Rayang, Je or Rajakhana, Debing or Berne Suti, etc. that originates at the foothills of Arunachal Pradesh travel southward and debouch into the Buri Suti. After some time, River Buri Suti again separates out from the Brahmaputra, travels about 60 km. towards west and again meets the Brahmaputra.

2.3.6. Dikari

This River originates in south West Siang district of Arunachal Pradesh as Sidha Korong River and flows in the southwest direction for about 40 km. It receives the waters of Përë Korog, Tepong , Dogë, Yungpi, Chipkai etc. Rivers along the way and after debouching into the plains area at Nari, assumes the name Dikari. It travels about 12 km. along this plain course along southwest direction and enters into the

Jamjing *Beel*. In this *Beel* the Potë River, which flows west of the River Dikari, merges with Dikari. Dikari River travels through the Jamjing *Beel* for about 2 km. till it meets the Dekapam River on the right side to give rise to Jamjing River. This River further travels about 3 km. before bifurcating into two parts. The first part flows southwards and merges with Buri Suti, while the other part becomes Narod River, which flows further westward.

2.3.7. Simen River

Simen River lies almost in the middle of Dhemaji District. The River originates in the west Siang district of Arunachal Pradesh, where it is joined by Nanyel River in the left side and Jatë, Juri and Igo Rivers along the right side, during its almost 30 km journey downstream due southwest. The River Simen takes a southward turn at a place 2 km north of Dipa Railway station where it combines with Dipa or Sinyen River. Nikbum River then joins it along its right side before it crosses the railway line. The River then bifurcates into two streams - the main channel flows southward and the other part turns towards east and enters a marshy land after being divided into three parts. The main Simen channel combines with Nonarijan after travelling 1.5 km further downstream (i.e., about 1km south of Dipa railway station), and with Mirijan River after further 1km downstream along its right side. Bokajan is a tributary of Miri Noi. About 2.5 km. downstream of this confluence, the Simen River combines with Palë River, which travels along the southern margin of Palë village of Arunachal Pradesh, near its debouching point. From this confluence, Simen River flows further 5 km. downstream and again bifurcates into two branches - one flows WS as Balikur and combines with River Tongani and the other branch travels further southwards and merges with Buri Suti, Southeast of Simenmukh.

2.3.8. Tongani/ Sissi River

At the upstream reach several Rivers combine together to form the Tongani River.

Ghagra–Silasuti– Dimow Rivers:

Jalakiasuti or Ghagra River flows along the west of Baredi peak (701 m) of West Siang district of Arunachal Pradesh and flows southwards 7 km downstream and enters Dhemaji District of Assam. Then it travels along southeast direction for about 7 km before combining with Silasuti Jan near Silasuti center along its left bank. Silasuti has a tributary named Chalangjan. The Jalakiasuti River then travels in the same downstream direction and combines with Dimow River flowing from north.

2.3.9. Dimow River

Dimow River is a combination of some rivulets, e.g., Duin, Jarjee, Lutu, etc. near the north east of Baredi peak. This River travels 12 Km. downstream along southeast direction in Arunachal Pradesh and enters Assam near Sili of Dhemaji District. During this course the River channel is filled up with sands and gets bifurcated into two channels; one channel combines with Jalakiasuti near Silasuti
and flows further left and again combines with the combined flows of Jalakiasuti and Dimow at a place further downstream. The Dimow River and Jalakiasuti River combination is known as Archiyak River in their downstream course .The River then flows through a marshy land during its southward course for about 3km and combines with the left bifurcated branch of Dimow along the left side. Balikur River, the daughter River of River Simen, combines with Archiyak River after flowing another 7 km downstream along its left bank, near south west corner of Muktiyar village. From this point onwards the River is known as Tongani.

2.3.10. ***Tongani–Batua-Sissi Rivers***

The Tongani River bifurcates near Deorighat after flowing about 4 km downstream. One branch is known as Khirmi noi, which travels 2 km south and merges with River Brahmaputra at a place east of Deorighat. The other part remains as Tongani and flows due west, crosses the road to Sonarighat and then turns south west after flowing 3 km west from the road. The River thus flows 12 km downstream and is known as the Batua, which combines with Sissi River. This Sissi River originates near Sissiborgaon in the plain area of Assam. At its point of origin near Kacharipathar it is known by the name of Gelua which crosses the NH 52 in a southwest direction and then is known as Sissi River. It continues downstream in the same direction for further 12 Km. after which it combines with *Batua (Tongani)* near Batua mukh along its right side. This combined River is then known as Sissi River. Near Nahorbari a distributary from this River flows across its Right Bank and merges into *Kapurdhowa* River while the main Sissi River travels downstream for another 7km. towards Borlung and combines with River Brahmaputra at Sissimukh.

2.3.11. Sissi River

There are two Sissi Rivers in Dhemaji district, the one that originates in the plain area of Assam has been described in the previous paragraph. The second one originates at Arunachal Pradesh and assumes different names, viz., *Kapurdhowa, Laipulia, Charikaria or Charikora* etc. in its lower reaches before finally joining the Korha River.

This S*issi River* enters Assam about 1.5 km. north of *Likabali* town of Arunachal Pradesh. This *Sissi* River flows 2.5 km. SW after this entry point in Assam and joins with *Balijan River* along its right side then at further 1.5 km. downstream it combines with *Nigaph River.* After travelling further 1 Km. downstream, it is joined by *Nilokh River* near Nilokh Towani village. At this point the River shows braided nature, wherefrom a distributary, known as *Nilokh Jan* emerges along its right side, joins another River and takes the name *Biamjan.*

The main branch of River Sissi crosses the Railway Bridge after travelling 3 km. further downstream. A kilometre further downstream, it divides its waters into two parallel streams. One part flows as *Gai River* and the other as Sissi River, which after flowing 5 km. downstream joins with Gutong River flowing from north (near Kamchi) and enters the Chumani *Beel*. This Gutung River is the combination of Biamjan and a branch coming from River Kanibil in the west.

Sissi River changes its name to *Kapurdhuwa* after entering the Chumani *Beel*. Then it flows through a marshy area towards SW and joins the Gai River near Kukura *beel* along its right side. It combines with Kanibil River further downstream and continues as *Kapurdhuwa River* along the eastern side of Pavomari *beel* (4 km. east of Dhemaji) towards south and gets branches into two channels. One joins with *Batua* in the east and the other takes the name *Laipulia* and flows further 9 km. towards SW before it is joined by Jorkatajan along its left side near Khajua to give rise to *River Charikaria.*

2.3.12. Gai River

A distributary emerges from Sissi River along southward direction at 2 Km. north of Sissiborgaon near Tokoubari village. This branch that is known as Gai River flows 2 Km. downstream and crosses the NH 52. From this point Gai River continues through Salahani *beel* for another 4 Km. in the same direction. Gai River flows leaving aside Chakamora and Chumani *beel* on its left side. Near Chumani *beel,* River Gai changes its course towards SW and travels 3 km. downstream, merges into Kukura *beel* and combines with Kapurdhowa River after flowing across the *beel*. After 1970, a drastic change in the course of this River is recorded, which requires a detailed scientific study to understand the root cause.

2.3.13. Moridhal River

This is the main River west of Sissi. Though *Kanibil River* looks larger and broader but it is only a tributary to *River Moridhal*. *Jiadhal or Kumatiya* originates almost at the same location in Arunachal Pradesh. These Rivers are, in fact, the triangular configuration of Rivers in a swampy and comparatively flat area at the foothills of Himalayas (alluvial fan). In such geomorphological setting Rivers do not follow the same course for a long time and frequently change their course and the older courses become either misfit, dry or marginalized channels. Moridhal is an example of such phenomenon and the new course that it follows now as the main channel is *Jiadhal*. Flash floods are common features of these Rivers.

Moridhal River is formed by the combination of two *Rivers, Ronganoi*, originating in the Arunachal foothills, and *Huliajan*, originating in the interior of the Arunachal Himalayas near Laipuria village. The former flows 6 km. downstream towards east along the northern boundary of Huliajan village northward of NH-52 at the Assam-Arunachal border, and combines with Baruahjan, that flows from near Rampukhuri in the NW. From this point the River Moridhal flows due SE for 1.5 km. downstream and joins with the northwesterly flowing *Borajan* along its left side. 1.5 km. downstream of this location, *River Moridhal* crosses the Railway Bridge and NH-52. It joins with *Kanibil River* at a point further 2.5 km. downstream called Jamukguri. Then it travels along SW direction for another 1.5 Km. distance where it is joined along its Right Bank by *Goriajan* that flows from north of Lachan village of Rai Chapori in the northwest. From this point Moridhal continues along the eastern side of Goal Chapori for further 3 Km. and joins with Kapurdhowa at Gohain Gaon 5 km. east of Dhemaji.

2.3.13.1. *Tributaries of the Moridhol River*

2.3.13.1.1. *Kanibil River*

The *Rai River* that originates at the foothills of the Arunachal Himalayas and flows along SW direction receives *Huliajan* along its left side. It also receives *Ngopijan* that flows from near Raiting village close to the Assam Arunachal border near Borjan village along its left side and takes the name *Kanibil River.* The River then flows in the same direction for 3 Km. downstream and combines along its left bank with *Kamia River* that comes straight from north near Perabhari village. This *Kamia River* emerges from Arunachal hills and flows beside Gohaingaon towards south. Kamia River has two tributaries - *Kamtë and Kamphae Rivers*. The *Kanibil River* further flows 2 Km. downstream from Perabhari village and combines with another small stream Kanibil jan along its left side. This *Kanibil* is the combination of southward flowing *Haew* and *Rangajan Rivers.* Again two small branches get detached from this *Kanibil River* and merge into Biamjan Rivers in the south. This Biamjan then combines with *Sissi River* as Gutung River in its downstream course. The combined *Kanibil River* then flows along southeast direction for 1 Km. more and crosses the NH 52 and railway line 20 Km. east of Moridhal Centre and then combines with Moridhal River at Jamuguri village at a point 2.5 Km. further downstream.

2.3.13.1.2. Korha River

In the north of Dhemaji town, a pale channel of River Moridhal is found. One branch of this River merges into *Pavomari River*. *Telijan River* is another branch that is found 1 Km. west of the above branch and 3 Km. north of Dhemaji town. This *Telijan River* flows southward for 4 Km. and crosses the NH 52 at Telijan Centre. This River receives Salikuchijan at Kaitang village after flowing 5 Km. downstream along its left bank. This River is known as Korha from Phatiha at further 1.5 Km. downstream. Korha flows southwards for 4 Km. downstream and receives Kaitangjan. Kaitang is also known as Laipulia, Batua and Tongani at different places along its course. From the confluence of Kaitang and Korha, the course becomes westward for 2.5 Km. upto Benganagara Centre and turns towards southwest where it meets with *Borjan* along its left bank. Balijan River that emerges from Batua beeljoins the *Korha River* on its right side at a point 3

Km. further downstream near Madhupur tea estate. From this point, Korha River turns towards west and joins with *Naojan River* just north of Dhenukhana village. After another 1.5 Km., the River becomes wider near Borbil, flows southwest and joins the Kumotiya River near Batomari village after 4 Km. before crossing the Ghilamara-Dhakuakhana road and then flowing 7 Km. through different *beels* or swampy lands. The Korha River then meanders through the next 30 Km. during which Bhathali jan joins it along its right side. After flowing another 0.5 Km., it joins with *Sampara Suti* and changes its name to *Sila River*. It flows as *Sila River* along south direction across Borchapori, Dumachapori, etc. b*eels* through a distance of 3.5 Km. and joins with *Charikaria River* along its left side. Sila joins with Dangdhara River at a point 4 Km. further downstream and travels through Bordol village for 5 Km. before joining with Sungdiya *beel* and finally merges into *Kherkutiya Suti* at a point opposite to Bordeuri village of Majuli.

2.3.14. Jiadhal River

The *River Jiadhal,* a Northern Sub-tributary of the River Brahmaputra originates in the sub-Himalayan Mountains of Arunachal Pradesh at an altitude of 1247m above the M.S.L. After passing through a narrow gorge in Arunachal Pradesh, the River enters the plains of Assam in Dhemaji district where it flows in braided channels. The River is known as *'Kumotiya'* from the Railway line to the Gogamukh – Ghilamara P.W.D. road wherefrom it is known as the River 'Sampara'. The River finally debouches into the River Brahmaputra near *Selamukh*. But after construction of the embankment over the Kherkutiya Suti of the Brahmaputra, the River falls into the Subansiri River.

The total catchment area of the *River Jiadhal* is 1346 sq. km of which 306 sq. km is in Arunachal Pradesh and 1040 sq. km is in Assam. The whole sub-basin experiences heavy rainfall. The average annual rainfall as recorded at Dhemaji is 3,500 mm.

The River Jiadhal carries heavy silt load from the heavy catchment area during the flood season and deposits the silt on its bed in the plains. Due to this fact, the Riverbed has risen up considerably. As a result the River follows a braided pattern and its width is more than 3 km. in some of the reaches. The River is very much aggrading in nature. This is why the River has a tendency to shift its course towards the left bank.

2.4. Climate

The climate of the district is Per-humid characterized by high rainfall, mild summer and winter and falls under cool to warm per-humid thermic-agro-ecological sub zone. The annual rainfall of the district ranges from 2600 mm to 3200 mm with an annual average of around 2595 mm. Rainfall generally begins from April and continues till the end of September. The rainfall generally increases from south east to northeast. July is the rainiest month. On an average there are about 200 days with 3.5 mm or more rain in a year. The relative humidity varies from 90 to 73 per cent. The temperature varies between 39.9 degrees Celsius in summer and 5.9 degrees Celsius in winter.

3. Study Methodology

3.1.1 Selection of Study Area

The study focuses on mapping of hazards in various parts of the district, the identification of vulnerability that enhances risk of disasters or damages from disasters and the capacity or coping mechanisms that alleviates the risk to life or damage to livelihoods and property.

For conducting the study, a sample of 2 Gaon Panchayats (GPs) each were identified across each of the 5 blocks, namely, Bordoloni, Dhemaji, Machkhowa, Sissiborgaon and Murkong Selek. A total of 10 GPs were selected for undertaking the study.

3.1.1.1. Methodology of the Study

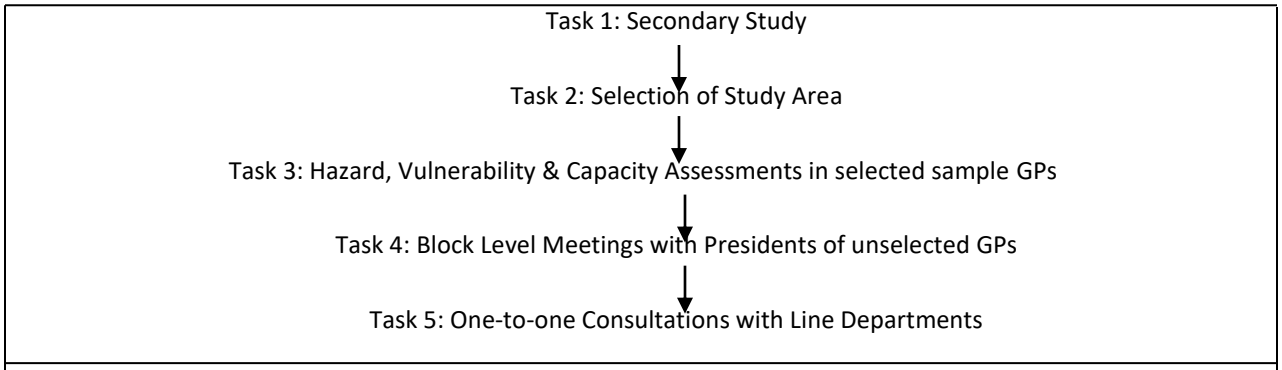


Figure 1 Overview of Methodology

Task 1: **Secondary Study of the District**

A secondary HRVCA report was formulated for the Dhemaji district by researching on various hazards existing in the district. The research utilised all possible sources from the web to put them together so that the team responsible for making assessment can be made well acquainted with the hazards faced by the district. The report formulated also highlighted the profile of the district and made assessments on the level of development in the district.

3.1.1.2. Task 2: Selection of Study Area

The criteria and the process followed for the selection of Study Area which is the Gaon Panchayats is mentioned below:

1. Analysing detailed map of Dhemaji along with District Project Officer, DDMA to locate Panchayats by focusing on various factors in their proximity that included
    i. Vulnerability to floods due to proximity to major rivers on the map
    ii. Any major industries
    iii. Heritage Sites
    iv. Wider geographical coverage of the District
    v. Remoteness of the village
    vi. Inter-state border
    vii. Forest Areas or Encroached Forests

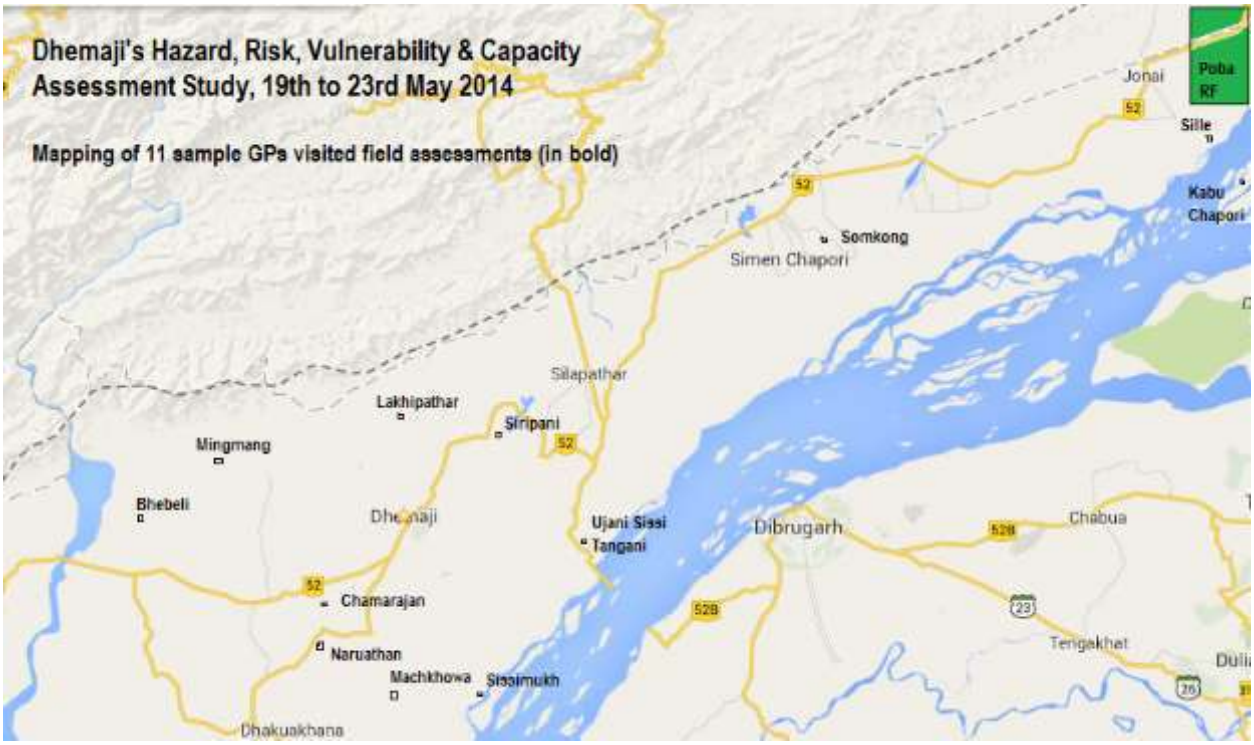
2. Identification and selection of relevant Panchayats by taking required inputs from Circle Officers or their reports.
3. Finalisation of Panchayats considering all factors.
4. Selection of 2 sample panchayats per block for conducting detailed analysis through a one day field study was done.
   (a) Panchayats were chosen so as to have better geographical coverage of the block, proximity to the river and distance from the river.
   (b) In most cases, one-to-two panchayats chosen always had a major river flowing through it. Two GPs were chosen keeping forests in focus.
   (c) The entire district lies in seismic zone V. Thus, it didn't become the basis of selection of GPs.

S. No	Block Name	Name of the GPs	Geographic Location	Proximity to River	Forests	Heritage Site	Inter-State Border	Remoteness
1.	Bordoloni	Bhebeli	West	Nanadi Upstream				
		Mingmang	North-West	Upstream				
2.	Dhemaji	Naruathan	South-West	Jiadhal Downstream				
		Lakhipathar	North	Upstream				
		Chamarajan	South-West	Jiadhal Downstream				
3.	Machkhowa	Sissimukh	South-West	B'putra Downstream				
		Machkhowa	South-West	Laipulia Downstream				
4.	Sissiborgaon	Siripani	North	Gai Upstream				
		Ujani Sissi Tongani	South	B'putra Downstream				

5.	Murkong Selek	Somkong	South-East	Simen Upstream				
		Sille	South-East	Lalli, Siang, B'putra Upstream				

Table 1 Showing the Study Area selected against Criteria Applied

Mapping of 11 Sample GPs visited for conducting field assessments



Task 3: **Hazard, Vulnerability & Capacity Assessments in selected sample GPs**

The assessments made at the GPs required spending 2 days. The following approach was followed:

Day 01

1. Holding a meeting with Panchayat Presidents to build understanding of the GP and the hazards to which they are vulnerable.
2. Conducting of Participatory Rural Appraisal (PRA) or holding an interaction to establish affect of various hazards and to establish existing vulnerabilities and capacities using various especially formulated tools.
3. Establishing various places within the GP that are to be visited in person and assessed.
4. Making field assessments by visiting flood, sedimentation or erosion affected areas.

5. Conducting household assessments in villages with people from different communities to gauge developmental issues.

Day 02

1. Conducting institutional assessments of institutions such as Health Sub Centres, CHCs, MPHCs, Schools, Anganwadis, Veterinary centres in the villages of the GP.
2. Conducting household assessments in villages with people from different communities to gauge developmental issues.

Task 4: **Block Level Meetings with Presidents of unselected GPs**

Since field level consultations with selected sample Gaon Panchayats was done, a meeting was organized at the block level that involved participation of Presidents from all GPs. This exercise was done for each of the 5 blocks and separate meetings were held in all the blocks. This meeting was organized with objective of gathering information from all presidents so as to build a better enhanced perspective on disaster profile and development issues faced in the district. These meetings were held once each of the 5 teams had completed assessment of one Gaon Panchayat.

Task 5: **One-to-one Consultations with Line Departments**

The consultations were held with various line departments that included Agriculture Dept, Animal Husbandry & Veterinary Dept, District Industries Centre, Education Dept, Police Dept, Power Dept, Fire Services, Fishery Dept, Food & Civil Supplies Dept, Forest Dept, Health Dept, Irrigation Dept, District Rural Development Agency, Public Health Engineering Dept, Public Works – Building, Public Works – Roads & Bridges, Sericulture Dept, Social Welfare Dept, Town Committee, Transport Dept and Water Resources Dept.

These consultations allowed discussion with the Heads of Departments and the subordinates to gauge the extent of disaster risk mitigation in implementation of projects at the district level, besides challenges faced in the implementation of projects. The assessments were conducted to assess departments on the following parameters:

1. Human Resources – Shortfalls and skill gaps.
2. Physical Resources – Procurement Challenges.
3. Physical Infrastructure – Issues that concern infrastructure established by the departments or its vulnerability to various forms of hazards.
4. Financial Resources – Budgets and issues with receipt of funds that delay or hampers projects.
5. Intra and Inter-departmental linkages – Establishing level of convergence between departments, where required, or issues faced in the communication or convergence.

3.1.2 Tools & Techniques

The study was conducted by making use of multiple tools and a combination of methods depending on the kind of information that was to be sought.

The tools used for making assessments on various parameters while conducting field assessments at village level are as follows:

1. **Social assessment**
   Social vulnerability & capacity assessment tool was made to gauge the level of trust of communities in public institutions and to assess the reciprocity and trust of individuals in people of same or other ethnic groups to understand the stability and prospects of community coming together to enhance their growth prospects on the whole.
2. **Economic assessment**
   Economic vulnerability & capacity assessment tool was made to gauge existing vulnerabilities & capacities of the communities with respect to various dimensions, each of which has a set of indicators and sub-indicators. The assessment shall be done by looking at existing levels of development, community practices and knowledge, besides other factors that has an effect on economic capacity of the people.
3. **Environmental assessment**
   Environmental vulnerability assessment tool was the assessment of the extent of vulnerability of environment with respect to various natural and man-made factors. Several indicators & sub-indicators are identified to assess the impact of these factors. Besides this, a separate column enlists coping strategies for each of these factors. This would be used to assess the existing capacity levels and the scope of scaling them up.

4. **Institutional assessment**
   Institutional assessment tools were made to gauge the extent of disaster risk mitigation in implementation of projects at the district level, besides challenges usually faced in the implementation of projects.

The techniques used included the following:

1. Transect Walks
2. Household Surveys
3. Focused Group Discussions
4. One-to-one Stakeholder Consultations

3.1.2.1. Defining the indicators for vulnerability and capacity assessment

Category	Indicators
Social	1. Civic Participation – Trust in Public Institutions 1.1. Gram Sabhas 1.2. PRIs and Gaonburahs 1.3. Police 1.4. Village Level Committees 1.5. Public Administration 2. Trust and Reciprocity 2.1. Relationships with people of intra-group & extra-group 2.2. Commercial Institutions and Individuals Therein 2.2.1. SHGs 2.2.2. Cooperatives / Producer Organizations 3. Social Participation 3.1. Cultural Groups 3.2. Anti-Social Groups

Economic	1. Access to Finance– Banks, SHG-Bank Linkages, MFIs, Business Correspondents, Money Lenders 2. Insurance – Crop, Livestock, Health, Life 3. Industries – MSMEs 4. Access to Markets & Market Linkages 5. Homelessness due to displacement from floods or human conflicts 6. Livelihoods Diversification 7. Vulnerability of Livelihoods to hazards 8. Wage Employment Program – MGNREGS 9. Health Sub-indicators 10. Access to Government sponsored Pension schemes
Environmental	1. Forests & Biodiversity 1.1. Status of Reserved & Proposed Forests 1.2. Earthquakes 1.3. Floods 1.4. Expanding Human Settlements and Encroachment 1.4.1. Population Density 1.4.2. Habitation in vulnerable areas 1.4.3. Permanent Displacement 1.5. Illegal cutting of trees 1.6. Forest Fires 1.7. Social Forestry 1.8. Loss of Animal Habitat & Migration 1.9. Poaching 1.10. Endangered or extinction of plants and animals 2. Soil & Agriculture 2.1. Flooding and Sedimentation 2.1.1. Period of Inundation 2.1.2. Levels of Inundation 2.1.3. Impact on Habitation 2.1.4. Erosion 2.1.5. River course changes 2.2. Agricultural Practices 2.2.1. Use of chemical fertilizers & pesticides 2.2.2. Proximity to aquatic ecosystems 3. Land Use Pattern 4. Waste Management 4.1. Household / Municipal Waste 4.2. Biomedical Waste 4.3. Solid Waste 5. Aquifers – Excess minerals or harmful substances 6. Industries 6.1. Hazardous waste management 6.2. Leaks or Spills 6.3. Air Pollution
Institutional & Physical	1. Human Resources – Shortfalls and Skill gaps. 2. Physical Resources – Procurement Challenges. 3. Physical Infrastructure – Issues that concern infrastructure established by the departments or its vulnerability to various forms of hazards. 4. Financial Resources – Budgets and issues with receipt of funds that delay or

	hampers projects. 5. Intra and Inter-departmental linkages – Establishing level of convergence between departments, where required, or issues faced in the communication or convergence.
Heritage	1. Geographic and Topographic conditions - Soil Type, Ground Water Level, Land Type & Location, Weather 2. Monument Assessment 2.1. Management Body 2.2. Management Plan 2.3. Enclosure Walls 2.4. Emergency Medical Unit 3. Risk from Hazards 3.1. Floods 3.2. Earthquake 3.3. Human Induced Risks 3.3.1. Violence 3.3.2. Urbanization 3.3.3. Encroachment 3.3.4. Air Pollution 4. Capacity Built against Floods

Table 2 Indicators used for vulnerability and capacity assessment using tools falling under 5 different categories.

3.2. Hazard, Risk, Vulnerability and Capacity

3.2.1. Hazard Assessment

This section of the report identifies the major hazards affecting the district while providing information on the frequency and the intensity with which they disrupt normal life. Based on this assessment, such hazards are listed for which the district administration needs to undertake measures on priority to reduce the vulnerability of the local population and infrastructure.

3.2.1.1. Major Hazards

The Table below identifies all the hazards in the district, the category of hazard, their causes and period (if any) at which they generally strike.

Hazard Category	Hazard Type	Causes	Period
Geophysical	**Earthquakes**	Slippage of crustal rock along a fault line or area of strain and rebounding to a new alignment, thereby creating tremors of varying intensity. The region being in Seismic Zone V, the highest possible intensity zone makes it more vulnerable.	Anytime during the year.
Hydrological	**Floods**	1) High precipitation in higher mountain reaches coupled with steep slopes and low carrying capacity of river course. 2) Increased incidences of rainfall concentrated in a limited period.	June to October
Hydrological	**Sedimentation**	1) Extensive deforestation in higher reaches of mountains of Arunachal Pradesh increases sediment load in the river. 2) Water becoming shallower with increase in sediment load. 3) River overflows its banks, depositing material on the flood plain.	June to October
Hydrological	**Erosion**	1) Abrasion / Corrasion: Extensive deforestation in higher reaches of Himalayan Mountains of Arunachal Pradesh increases sediment load which scours the bed and banks. 2) Hydraulic action: The force of water that hits river banks, and then pushes water into cracks. Air becomes compressed, pressure increases and the riverbank may collapse as a result.	June to October
Man-Made	**Water Logging**	Water logging is reported in Dhemaji, Silapathar and Jonai towns during monsoon season due to poor drainage systems in place.	May to October
Transport	**Boat Capsizing**	Villages that get flooded for longer periods, i.e., days, weeks or months, have all their links severed. Thus, boats are the only means of communication. High current in river course sometimes lead to boat capsizing.	June to October
Climatological or Geographical	**Drinking Water Crisis (DWC)**	1) Surface water run-off in river upstream areas due to high gradient or slope. This prevents recharge of ground water. 2) Rocky surface beneath the ground increases seeping down of water to what is found to be as deep as 400 feet. 3) Insufficient impetus on Ring Wells for areas affected by DWC.	January to May
Meteorological	**Storms**	Strong winds due to severe weather condition.	February to April
Meteorological	**Hailstorms**	Change in weather conditions.	June to October

Biological	**Animal Depredation**	Increases in man-animal conflicts are due to severe destruction of animal habitat, i.e., forests, which has been observed to be happening in Dhemaji at a very high level.	Right through the year. However, more during June to Oct
Biological	**Epidemics / Outbreak of Diseases**	People in the district face health issues mainly during monsoon season with the outbreak of diseases such as Diarrhea, Dysentery, Fever and Japanese Encephalitis, while domestic animals are affected by diseases that include Foot and Mouth, Brucella, Black Quarter, Haemorrhagic Septicaemia, Diarrhea and Skin infections.	Predominantly June to October
Man-Made	**Fire**	Human negligence is often the cause of fire in rural areas. In towns, it is generally associated to electric short circuits.	February to May
Transport	**Road Accidents**	Development of national highway (NH 52) has increased the vehicular speed which often becomes the cause of rising number of road accidents.	Right through the year.

Table 3 identifies all the hazards in the district, the category of hazard, their causes and period (if any) at which they generally strike.

3.2.1.2. Priority Listing of Hazards

While there are several hazards that find their presence in the district, as noted above, there are some which needs to be dealt with greater sense of urgency. Such hazards for Dhemaji district are listed below.

1. *Floods*
2. *Erosion*
3. *Road Accidents (Along the National Highway, NH-52)*
4. *Drinking Water Crisis (Especially along the northern parts of the district bordering Arunachal Pradesh)*
5. *Epidemics / Outbreak of Diseases*

3.2.1.3. Disaster History

S. No.	Year	Villages Affected	Population Affected	Area Affected (In Ha.)	Agriculture Land Affected	Household Damage	Relief Camps Opened
1.	2007	454	2,00,000	25,080	34410	21,000	13
2.	2008	140	50,800	6,976	NA	3,339	13
3.	2009	333	1,42,350	33,120	18,804	NA	10
4.	2010	423	1,48,732	5,463	2,060	1,882	NA
5.	2011*	351	1,95,617	37,795	8,300 (Gogamukh Circle only)	2,500	02

***** Data for 2011 is cumulative of Dhemaji and Gogamukh revenue circle only.

Table 4Provides the official records on the history of floods and damages in the District.

Name of the Circle	Family Affected	Area Eroded
Dhemaji	1115 Nos	910 Hectares
Jonai	160 Nos	60 Hectares

Sissiborgaon	216 Nos	173.3 Hect
Gogamukh	Nil	Nil
Dhemaji District's Total	***1491 Nos***	***1143.3 Hectares***

Table 5 Table provides the official records on impact of Erosion since 2011.

3.2.1.4. Hazard Mapping

Block Name	GP Sr. No.	Names of the Gaon Panchayats	Floods	Sand Casting	Soil Erosion	Animal Depredation
Bordoloni	1.	Bhebeli	Medium	Yes		
	2.	Borbam	No			
	3.	Bordoloni	Low			
	4.	Gogamukh	No			
	5.	Joyrampur	No			
	6.	Kachutali	High		Yes	High
	7.	Lotak	Medium			
	8.	Madhya Mingmang	Low to Medium			
	9.	Michamari	High			
	10.	Mingmang	High		Yes	
	11.	Naharbari	Low			
	12.	Nalbari	High			
	13.	Ukhamati	Low			
Dhemaji	14.	Ajuha	Medium to High			
	15.	Aradhal	No			
	16.	Batgharia	Low			
	17.	Bishnupur	No			
	18.	Chamarajan	High	Yes	Yes	
	19.	Dakhin Dhemaji	Low to Medium			Medium
	20.	Ghuguha	Low			
	21.	Gohain Gaon	Low			Medium
	22.	Hatigarh	No			
	23.	Jiadhal	High	Yes		
	24.	Khubalia	No			Medium
	25.	Lakhi Pathar	Low			
	26.	Moridhal	Low to Medium			
	27.	Naruathan	Medium to High			
	28.	Uttar Dhemaji	No			
Machkhowa	29.	Bengenagarh	Low			
	30.	Jorkata	High			
	31.	Machkhowa	High			
	32.	Pub-Machkhowa	Medium			
	33.	Sissimukh	High	Yes	Yes	High
Murkong Selek	34.	Bahir Jonai	High			
	35.	Dekapam	High		Yes	
	36.	Gali Sikari	High	Yes	Yes	Medium
	37.	Jonai	No			
	38.	Kemi Jelem	High		Yes	High

	39.	Laimekuri	High			
	40.	Misamara	High		Yes	
	41.	Rajakhana	High		Yes	
	42.	Ramdhan Dikhari	High	Yes	Yes	
	43.	Rayang Bijoypur	High	Yes		
	44.	Siga	Medium			
	45.	Sille	High		Yes	High
	46.	Simen Chapori	High	Yes	Yes	Medium
	47.	Somkong	High	Yes	Yes	Medium
	48.	Telam	High	Yes	Yes	
Sissiborgaon	49.	Akajan	No			
	50.	Amguri	High	Yes		Low
	51.	Betanipam	Low			
	52.	Borlung	Low			
	53.	Dimow	Medium		Yes	
	54.	Kulajan	High	Yes	Yes	
	55.	Madhya Sissi Tangani	High	Yes		
	56.	Malinipur	Low			
	57.	Muktiar	Medium	Yes	Yes	Low
	58.	Namoni Sissi Tangani	High	Yes		
	59.	Nilakh	High	Yes		
	60.	Silapathar	No			
	61.	Silasuti	High	Yes	Yes	
	62.	Simenmukh	Low to Medium	Yes	Yes	
	63.	Sissiborgaon	Low			
	64.	Sripani	High	Yes		Medium
	65.	Ujani Sissi Tangani	High			Medium

Table 6The table showing hazard mapping of the district.

Town	Floods	Water Logging	Fire	Road Accidents	Waste Mismanagement
Dhemaji	No	Yes	Yes	Yes	Yes
Silapathar	No	Yes	Yes	Yes	Yes
Jonai	No	Yes	Yes	Yes	Yes

Table 7The table provides impact of major hazards in Town areas.

3.3. Vulnerability & Capacity Assessment

Vulnerability Assessment has been seen as the critical understanding of interrelated and interplaying factors that helps in magnifying volume of destruction due to any hazard. Dhemaji has been a district of multiple vulnerabilities leading to escalating losses in the previous decades mainly resulting from floods. This assessment looks into the pros and cons of already contributing and probable factors that are essential to be studied and understood for strengthening preparedness, mitigation and response to hazards.

Capacity Assessment is the existing state of preparedness by the communities and institutions in place to deal with hazards or potential disasters so as to enhance the resilience of communities.

3.3.1. Economic Assessment

Agriculture and allied activities, i.e., Agriculture, Forestry & logging and Fishing, constitutes 64.51 % of the Gross District Domestic Product of Dhemaji (as in 2009-10) with agriculture in itself comprising of 56.8 %. It can be made out from this that agriculture is the mainstay of this district with large percentage of households having small to medium land holdings. A large proportion also works as agricultural laborer. However, the most dominant occupation is vulnerable to various hazards that include floods, sedimentation, erosion and animal depredation, besides being majorly rainfed with poor access to irrigation facilities.

Fishing is a seasonal occupation that is active during monsoon season. However, it still largely limited to domestic consumption. Its Gross Domestic Product is 44.32 crores, much lesser when compared to adjoining Lakhimpur district that is lesser in area and whose GDP is 102.18 crores.

Sericulture is another occupation which is usually undertaken as a secondary livelihood activity. The district occupy a unique place in the production of the three different kinds of silks - Pat, Muga and Eri - which have a very high demand in the national and international markets. Muga silk (Antheraea assamensis) and Eri silk worm rearing (Samia cynthia ricini) and the production of silk yarn and fabric is wide spread amongst the people of Dhemaji. However, even though the returns are good, but large efforts along with risk from various hazards hasn't made it attractive enough even though there is great potential.

Handlooms are another occupation which is very limited in scale since it has not been promoted with commercial perspective.

Daily and weekly wage labour in menial occupations such as earthworks, construction of roads, boulder lifting, agricultural labour, etc., is done by good proportion of people.

Manufacturing sector is among the least developed in the state which is apparent from low GDP in the sector. The number of registered factories as in 2010 was lowest at 3 in Dhemaji with mere 71 workers. The number of small scale industries is also among the lowest.

Individual businesses such as petty shops or Kirana stores in town areas are the other forms of occupation. Entrepreneurship and businesses are the least established in the state (at par with Dima Haso) as apparent from GDP which 9.52 crores in Ownership of Real Estate, dwellings and Businesses.

Banking & Insurance are the 3rd least established in the state with mere 35.55 crores GDP. As a result, the number of financial institutions is few and large distances are required to be travelled to access banks.

3.3.1.1. Access to Financial Institutions & Services

For the Economic development of the region, financial institutions such as Banks, Micro Insurance and Micro Finance institutions are necessary, that helps add assets possessed by local population at household level.

Sr. No.	1	2	3	4	5
		Loan		Risk Transfer	
Category	Accessibility of Banks	Access to Credit for Agriculture	Access to Credit for Livestock	Access to Crop Insurance	Access to Livestock Insurance
Rating	*Very Poor*	*Very Poor*	*Average*	*Very Poor*	*Very Poor*
Vulnerability	*Very High*	*Very High*	*Medium*	*V High*	*Very High*
Remarks	Musts GPs assessed are found to be at more than 10 Kms distance from Banks since banks are concentrated	No. of farmers with KCC are very limited and those	Few have availed loan through SHGs	It is found to be non-existent.	It is found to be non-existent.

	in town areas.Accessibility is better in town areas.	availing even less so.	formed by NRLM.		

Table 8Gives a snapshot of the existing status in Dhemaji district.

3.3.1.1.1. Access to Banks

As per the Census 2011, only 35.65 % of the households avail banking services in which banking services availed by Rural HHs are 32.72 % and Urban HHs at 69 %. This is owing to the limited number of bank branches, limited awareness and knowledge of facilities and perception of rural population who find the processes tedious.

Total Rural Urban	No. of HHs	No. of HHs availing Banking Services
Total	1,29,559	46,196
Rural	1,19,112	38,985
Urban	10,447	7,211

Table 9 Showing Access to Banks

3.3.1.1.2. Risk Transfer

Risk associated with economic assets such as Crops and Livestock can enhance resilience of communities to deal with disasters. However, it is found that there is poor access to crop insurance in the district as a whole. Also, the level of awareness is also poor. Given the fact that the district is prone to hazards such as floods, hailstorms, etc and that agriculture is the primary occupation for majority population, it makes most households in the district highly vulnerable to disasters. The access to insurance for livestock is non-existent. However, some beneficiaries are covered through privately made available insurance.

3.3.1.1.3. Access to Credit

The access to financial institutions is poor with low density of banks in the district. Gaon Panchayats are on an average several Kilometers away from the banks which makes it difficult for people to interface with banks. NABARD provides loan at the rate of 12-14 % and KCS at the rate of 5 %.

For instance, Lakhipathar GP is 25 - 30 Kms from the nearest bank in Dhemaji block HQ, Chamarajan GP is 5 Km from a bank in Bordoloni HQ, Sissimukh GP is about 8 Kms from Gramin Vikash Bank banch at Manchkhowa Chariali.

Due to large distances of GPs from the bank branches, the number of beneficiaries automatically reduces. The number of defaulters of Kisan Credit Card (KCC) loan is also high. Due to poor access to banks or any other financial channels like BCs or MFIs, people are forced to take money from money lenders who charge high interest rates of 7 % to 10 %.

SHG-Bank linkages exists, however, group member(s) are unable to visit banks during heavy rains as their communication gets cut-off. The group uses the fund to build assets and pay interest on the loan received by any member.

3.3.1.2. Displacement

Relief camps/ shelters were found to be opened due to floods and sand casting. The type of displacement is permanent in some cases where original habitations have been completely left ravaged. This fact was seen in the villages near the banks of the river Simen under Somkong and Simen chapori panchayats. Moreover, people residing in the village Sengajan Gowala near the Majorbari ghaat under Somkong GP have faced these issues very frequently because of erosions from Lali, Siang and Brahmaputra. They have been cut off from the mainland totally.

3.3.1.3. Livestock

Livestock & Poultry is a major non-farm occupation in terms of scale with a total livestock population of 712725, and total poultry population of 199356, as per Animal Husbandry & Veterinary Department. Rearing livestock includes cows, buffalos, goats and pigs, apart from ducks and chicks that are done by large majority. However, the sector is not well established with poor productivity in dairy and high vulnerability to hazards and underdeveloped veterinary services.

3.3.1.3.1. Shortage of Fodder

In times of flood, the biggest vulnerability for the livestock is the availability of fodder. The lack of quality fodder during prolonged periods of inundation affects the health of the domestic animals. Though people tend to be prepared for flood season, repeated flood inundations make it difficult to access fodder as fields get covered with water and dry fodder stocks gets eaten up with every increasing duration of inundation.

Insufficiency of fodder to feed animals during inundation or flooding is seen as the most significant vulnerability by the livestock owners, usually between during June to October. The department provides rice bran and grains as fodder in times of calamity. However, it is found that it falls well short of the requirement in those times as large numbers reported not receiving them.

3.3.1.3.2. Lack of Safe Sheds

Culturally 'Mishing' houses are raised houses where animals are sheltered beneath the plinth of the house. Domestic animals are most vulnerable to floods and hailstorms and with no proper sheds, bigger animals such as Cows, Buffalos and Pigs can't be accommodated inside homes. Thereby it becomes the cause of a high number of animal deaths making communities even more economically weaker.

3.3.1.3.3. Increased Risk of Diseases

The susceptibility of the region to floods make domestic animals prone to diseases like Foot and Mouth, Brucella, Black Quarter, Haemorrhagic Septicaemia, Swine flu fever, Skin diseases, Stomach related ailments such as Diarrhea and related deaths. There is found to be a high risk of animal deaths in the post flood periods in almost all severely affected areas of the district.

3.3.1.3.4. Possibility of Epidemics

In case of large scale animal deaths during floods, it becomes the cause of health hazard not just for animals but also for human habitations.

3.3.1.3.5. Low Milk Productivity

The milk productivity (milk yield per day) per animal throughout the district is a mere 1 to 1.5 Liters. This owes to inferior livestock prevalent with low productivity levels. Moreover, the first such state run initiative in Dhemaji for enhancing productivity through 'artificial insemination' began in February 2014.

3.3.1.4. Fisheries

3.3.1.4.1. Floods and Sedimentation

Floods often affect fisheries a lot. The seeds get washed away during floods as the bamboo fencings covered by net are not enough to protect them. Moreover, sedimentation in the ponds is also one huge cause of concern. Renovating ponds after each flood also costs a lot. Hence a whole lot of fisheries get abandoned every year.

3.3.1.4.2. Seasonal Occupation

The water in the ponds doesn't remain for the whole year. Once the monsoon gets over, the ponds start drying up and from the months of November / December to April / May, there is almost no water is the ponds. Thus, fisheries out here are not perennial which invariably affects the production rate.

3.3.1.4.3. Non-commercial Occupation

Large numbers of people don't cultivate fishes for commercial purposes. They often do it for self-consumption only. So, to bring in this behavioral change in the people and to motivate them to take up it as a profession is one big challenge for the department.

3.3.1.5. Sericulture

In 4 centers of the department, Muga cocoon plantation, Muga rearing, Eri rearing and Mulberry rearing is done. The major focus is paid to the Muga plantation and rearing. The production is done only during particular months of September /October, December /January and March / April due to the different hazards in the rest of the months.

Picture below depicts a farmer indulging in Sericulture activity.

3.3.1.5.1. Floods/Flash Floods

Sand casting in the 'Som' and other silkworm feeding tree planted areas prevents growth of the trees which in turn affects breeding of silkworms. Thus, sand casting due to flood inundation is the major vulnerability which has affected the production of silkworms and reduced the profitability so far.

3.3.1.5.2. Hailstorms

This is a potential hazard to 'Muga silkworm breeding' in the months of March-April. These two months are one amongst three productive seasons for silkworm breeding that usually experiences occasional hailstorms in this period of time. Even a single spell of hailstorm instance is enough to destroy worms.

3.3.1.5.3. Air Pollution

The silkworm breeding is also highly affected due to air pollution. Dhemaji also harbors a few tea estates and private tea plantations owned by individuals where chemical pesticides are used. The plantation where pesticide spray is done in the month of March-April also adversely affects the breeding of silk worms. Particular affects are found in their size and quality of silk produced.

These factors affect the motivation and association of communities with this occupation which is still in the nature of secondary rather supplementary nature. Muga silk products in particular which are unique to Assam are costly commodities and have higher demands in the national market too. Dhemaji harbors the potential of escalating this industry as a measure to increase environment friendly and sustainable livelihood supplementing community resilience to different hazards with proper preventive measures, risk transfer mechanism and promotion.

3.3.2. Environmental and Geological Assessment

Environmental assessment is done to establish the vulnerability and capacity to environment due to human interventions and to establish vulnerability & capacity to deal with environmental and geological hazards.

Sr. No.	1	2	3	4	5	6
Category	**Status of Reserved, Unreserved & Open Forests**	**Welands**	**Drinking Water**	**Afforestation Interventions**	**Waste Management – Municipal, Biomedical & Human Waste**	**Climate Change**
Rating	*Poor*	*Good*	*Average*	*Very Poor*	*Poor*	*High*
Vulnerability	*High*	*Very Low*	*Medium*	*Very High*	*High*	*Very High*
Remarks	There is high degree of damage to forests from encroachment, timber trade and erosion. Few intervention to prevent damage have been made.	Absence of any hazardous waste producing industries and no use of chemical fertilizers make water bodies not at risk.	Medium to high iron contamination in most habitations, arsenic contamination in some. Lack of access to water in northern parts of district bordering Arunachal Pradesh.	With high level of deforestation due to several factors and limited afforestation interventions observed, vulnerability is very high.	Waste management systems are not in place. Use of non-biodegradable plastic has increased, IHHL are still limited.	As per Arunachal Pradesh SAPCC, a change in forest type is projected in Upper Siang & Southern W Siang, bordering Dhemaji. Increase in temperature leading to melting of ice caps is increasing floods.

Table 10Gives a snapshot on vulnerability to environment due to human interventions.

3.3.2.1. Floods

Dhemaji is the most severely flood affected district of Assam. Heavy rainfall in the hills and mountains of Arunchal Pradesh leads to surge in water levels of rivers flowing down the plains. Brahmaputra River and its tributaries flowing down South from hills of Arunchal Pradesh affect several villages by flash floods.

Floods are known to cause massive damage to or washing away of houses, roads, culverts and bridges, embankments, bunds, earthen canal and agricultural lands. Several human lives and large numbers of animal lives are lost as they get drowned in fast current river waters that splash human habitation areas. In flash flood affected areas, people often lose their belongings and documents.

Picture below depicts beginning of flood season (Mid-May) in Naruathan GP of Dhemaji block with the inflow of Jiadhal River water in the villages.

3.3.2.2. Erosion

Erosion is one of the most severe and hazardous in the district affecting Bridges, Roads & Culverts, Earthen Canal, Agricultural lands, Rural Habitations, Embankments and Bunds. Several hectares of agricultural land and human habitations have faced from erosion along Brahmaputra River and its tributaries flowing down South from hills of Arunchal Pradesh.

Picture below depicts Gully Erosion in Naruathan GP of Dhemaji Block from the River Jiadhal

3.3.2.3. Storms

High speed winds or storms affect the region with damage to property, livelihoods and loss of lives. A lot of times tin roofs are known to be blown away by storms, damage to houses and tree falls on people taking their lives or increasing debris on travel routes / roads. Damage to electric poles or power lines are reported, thereby requiring restoration by electricity department.

3.3.2.4. Forests and Biodiversity

Botanically the forest of Dhemaji district is either deciduous or mixed evergreen seen scattered in the foothill areas. There are 9 reserve forests in the district, namely, Jiadhal, Subansiri, Sissi, Simen, Archiac, Jamjing, Senga, Gali and Poba. As per official records, they cover an area of 53,224.11 hectares which works out to be just 16% of the total area of the district, as against the national average of 22 %. These forests are rich in biodiversity with flora and fauna, some of which is endemic to the region. For instance, Poba RF, the most important of all is an important Elephant corridor However due to several factors these reserve forests have faced vast destruction. It has been found

that while all the RFs have been affected encroachment or illegal cutting, some RFs don't exist anymore. These RFs include Jamjing, Gali and Senga. The factors leading to this vulnerability are elucidated below.

3.3.2.4.1. Earthquakes

Like any other part of Assam, Dhemaji falls under the Zone V of earthquake seismology. Though big earthquakes have not been reported for quite some time, there is a great possibility of it happening again, especially given the fact that it has been 64 years since the last major earthquake. The great earthquake of 1950 had caused widespread damage to the forest and Riverine ecosystem. The rivers bed rose which also became the cause of river course changes which has also lead to erosion of forests in the area.

3.3.2.4.2. Floods

The region is heavily affected by floods. Climate change is causing a major impact with the increase in melting of ice caps increasing the intensity of floods. Events such as cloud burst in Tibet also has tremendous bearing on Dhemaji plains which get flooded that cause destruction of forests through erosion. The erosion of forests is majorly happening in Poba RF and proposed RF Kobu Chapori. Several hundred hectares of land have been eroded by Siang and Lali River since China Flash Floods in 2001 which lead to creation of additional river channel of Lali through the Kobu Chapori river island. This has lead to erosion of over 200 ha out of a total of 9400 ha. Besides erosion, inundation during monsoon floods also has a damaging impact on biodiversity of these forests. Small plants and animals are washed away with these floods. The Lower Subansiri Hydroelectric Power plant coming up at Gerakamukh has submerged 842 .76 Ha of forest land.

3.3.2.4.3. Risk Indicator: Expanding Human Settlements

It has been observed during the assessment that deforestation for human habitation and expanding area under agriculture has vastly reduced forests (both RF and Unreserved Forests) over the last 20-25 years. Areas in the foothills in the Assam side of the Assam-Arunchal Pradesh border is found to be affected by encroachment. An approximate 600-700 bighas of forest land has been converted into farmland and human habitation, as per the community in Lakhipathar GP (Dhemaji Devlopment Block) alone in the last 10 years (Source: Community Meeting). A village affected by heavy sedimentation in Somkong village has cleaned forests and settled illegally in Simen Chapori GP (close to the NH). In Mingmang GP (Bordoloni Development Block) 16 villages which were on reserved forest land as have now been deforested completely for human habitat expansion and conversion of forest land into agricultural lands. Large scale illegal cutting of trees was seen during field visit to this GP. This was observed in other GPs too.

All these aspects are leading to biodiversity loss, increased vulnerability to floods, erosion and environmental damages.

3.3.2.4.4. Risk Indicator: Illegal Cutting of Trees

Illegal felling of trees is done at different scale for three different purposes. Firstly, it is commonly used as fuel wood by almost every household making the overall impact quite huge. Secondly, it is done as a basic livelihood by individuals from poor households. And thirdly, it is done for large scale commercial benefit through timber trade.

In Dhemaji, while the illegal cutting down of trees for fuel wood is wide spread, the illegal felling of trees for commercial purposes was found to be rampant in Ming Mang GP of Bordolini block and proposed Kobu forest under Sille GP of Murkongselek Block. Timber logging in Ming Mang GP was one of the primary income generators for the families. In Jonai bazaar, people who were found selling wood belonged to Kemi Jelem GP. These people on interrogation were found to be not having any other source of income.

Illegal timber trade was also reported by communities and GP Presidents during meetings to be happening in the hilly terrains of Arunachal Pradesh. Control and regulation over such trade is very limited considering the vast geographical spread and chain of smugglers.

The primary reason for it is the deforestation in the upper reaches of the mountains in Arunachal Pradesh and also the deforestation at the foothills in the Assam side of the forests.

3.3.2.4.5. Afforestation

A few of afforestation interventions has happened in the past by the formation of JFMCs by forest department or through Soil Conservation department. However, they are very limited and JFMCs today are largely defunct committees.

3.3.2.4.6. Risk Indicator: Forest Fires

Forest Fires though limited in scale and occurrence leads the wild animals vulnerable of losing their lives and habitat. This also leads to migration of animals out of their natural habitats. This hazard particularly has historical presence in the Jonai forest division. Cases of forest fires, irrespective of its scale, were reported in Simen Chapori, Somkong & Telam and 2 each in Laimekuri, Ramdhan Dikhari and Kemi Jelem.

3.3.2.4.7. Risk Indicator: Loss of Animal Habitat & Migration

Given the fact that a great deal of deforestation has happened in the region and large territory of animal habitat has been taken over by humans. This has lead to a large scale migration of animals to newer territories. It is found in Lakhipathar GP (Dhemaji block) that wild elephants who had their habitat in the forest around have been forced to migrate as no forest exist at present (Source: Community Meetings).

But they are not always able to migrate in areas far from human settlements and with decreased density of their habitat, it is but obvious to find an increasing trend of man-animal conflicts. Elephants enter villages and depredate banana plantation, crops, houses and traditional domestic paddy storages. It is important to note that there have been some instances of loss of human lives too. Such incidents resulting in loss of lives have been recorded every year in Gali Borbali village of GaliSikari GP under Murkong Selek Block. Recently, elephants killed 02 people in Somkong and 01 person in Simen Chapori GP of Murkong Selek block. 1 Bear that had ventured into the human settlement was also killed by the villagers in March 2014. The conflict is also highlighted by the damage to the crops in Sille GP and Galiborballi GP.

It is also found that these conflicts escalate during floods when forests get inundated and elephants are forced to rush out into villages. Thus, the monsoon months of July to October see a surge in Man-animal conflicts.

The areas that are found to be vulnerable to animal depredation are listed below.

S. No.	Block Name	Name of the GPs
1.	Bordoloni	Kachutali
2.	Dhemaji	Dakhin Dhemaji
		Gohain Gaon
		Khubalia
3.	Machkhowa	Sissimukh
4.	Sissiborgaon	Amguri
		Muktiar
		Sripani
		Ujani Sissi Tongani
5.	Murkongselek	Kemi Jelem
		Sille
		Gali
		Somkong
		Simen Chapori

Table 11Showing the areas that are found to be vulnerable to animal depredation.

3.3.2.4.8. Risk Indicator: Poaching

In the Jonai sub-division, poaching has been rampant in parts of Kemi Jelem for Tortoise, Wild Bear and Deer. However, there haven't been any cases as per the Jonai forest division.

3.3.2.5. Soil & Agriculture

3.3.2.5.1. Flooding & Sedimentation

The agricultural land has over the last few years been severely affected by sedimentation deposited by Himalayan tributaries of the Brahmaputra River. Floods in the year 2000 affected about 330,000 people in 810 villages, damaging 11,331 hectares of standing crop. The floods of 2011 affected a population of 160,000 and an area of 28,300 hectares in 291 villages in the district. The floods have over the years ravaged agriculture production in large parts. Between 1992 and 2004–5, net sown area in the district decreased by about 11%. Furthermore, waste land as per records stand at 30%. Average paddy productivity in Dhemaji District is now much lower than the state average.

Several GPs in the district have been affected by heavy sediment load that has been carried by rivers and dumped on to agricultural fields. Of some of the GPs assessed, Somkong GP in Murkongselek was found to be the most severely affected with 7-8 feet of sand deposits in 2013 only by Simen River. Chamarajan and Jiadhal GPs of Dhemaji Block are also heavily affected by sand casting from Jiadhal and Kumotia River. In Bordoloni Block, two wards (No 3 & 7) of Mingmang GP suffer heavily from sedimentation. In Machkhowa Block, Sissimukh is affected while in Sissiborgaon Block, Madhya Sissi Tongani, Amguri and Muktiar GP are also heavily affected among a few others.

Another aspect affecting soil is its erosion which has been happening

In Dhemaji district, since there are no industries, soil quality is not affected by any hazardous waste.

3.3.2.5.2. Agricultural Practices

Dhemaji district as a whole has traditionally followed organic farming practice and there is little or no dependence on pesticides or fertilizers. As a result, the quality of soil is intact and there is no environmental damage either particular to aquatic ecosystems which are vulnerable to use of chemicals in agricultural fields.

3.3.2.5.3. Land Use Pattern

As per official records, only 16 % of land is forested which is much less than the required percentage of forest cover, i.e., 33 %. Moreover, almost 1/3rd portion (30 %) of land is a wasteland or grassland.

3.3.2.6. Waste Management

Improper or absence of waste management interventions makes communities vulnerable to health hazards and can lead to outbreak of diseases. This puts more pressure on local health institutions also which already suffer from limited availability of doctors and resources.

3.3.2.6.1. Household / Municipal Waste Management

The type of waste produced by households is dependent on what is produced or consumed. Unlike earlier times when both production and consumption was local, today a lot of products are made available from different parts of the country in plastic pouches, plastic bottles and polythene. With no waste management system in place in both villages and towns, it is having substantial negative impact on the environment. However, situation is not alarming as yet in rural areas. In urban areas such as Dhemaji Town, there is no household waste collection system in place. The dumping of waste is being done in a landfill which is already full. There is no

segregation of organic waste from plastic waste. A new waste dumping site in Moridhal GP of Dhemaji block was identified that is spread over an area of 23 bighas. However, it hit a road block with the objection of local villages who seek formation of boundary wall before that is started to be used for dumping purposes. The demand is right and it is necessary that a boundary wall of a minimum of 5 feet be constructed given the fact that it is close to a river flowing through the area.

3.3.2.6.2. Biomedical waste management

Since there is no system in place for household waste management, a biomedical waste management system can't be expected. However, a provision has been made in all the PHCs, CHCs and HSCs for waste segregation at source. The waste is segregated into four categories - Sharps, Plastics or tubes, infected waste and municipal waste. In the back side of these centres, three different closed dumps or landfills are created which is a good practice within the given resources available. All categories of health centers are also provided with mutilator for disposing of used syringes. In some cases, the waste management practices are not being strictly followed such as in Block PHC of Jonai.

3.3.2.6.3. Solid waste management

In Dhemaji, Silapathar and Jonai towns, there are no sewerage management systems in place. There is a dire need of setting up of a proper sewerage system. In rural areas, those households that have toilets are fitted with a pipe that releases excreta into small landfills that are covered. In a lot of cases, however, there are no toilets particularly in rural settlements. Villagers are forced to do open defecation which is hazardous especially to areas that get inundated during monsoon or through floods.

3.3.2.7. Aquifers

Most habitations in the district are found to have aquifers that are high on Iron content. It was found to be so in Schools & Hospitals as well. Also, as per the 2007 report of CPCB, the arsenic concentration is higher in Dhemaji, Bordoloni and Sissiborgaon blocks and lesser in Murkongselek block. According to the report, highest Arsenic content is found in Moridhal GP, while highest Iron is found in Jiadhal GP.

The figure on the next page

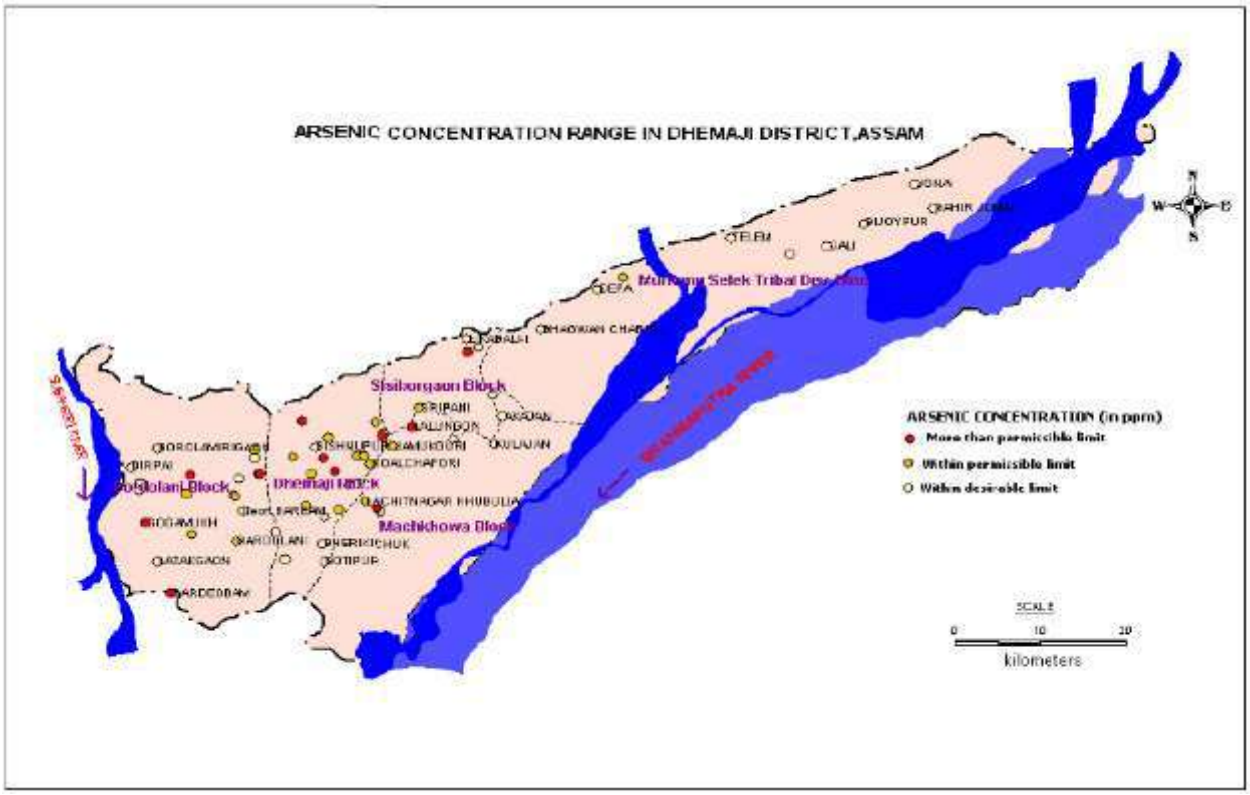


Figure 2Showing the mapping of Arsenic contamination in the district.

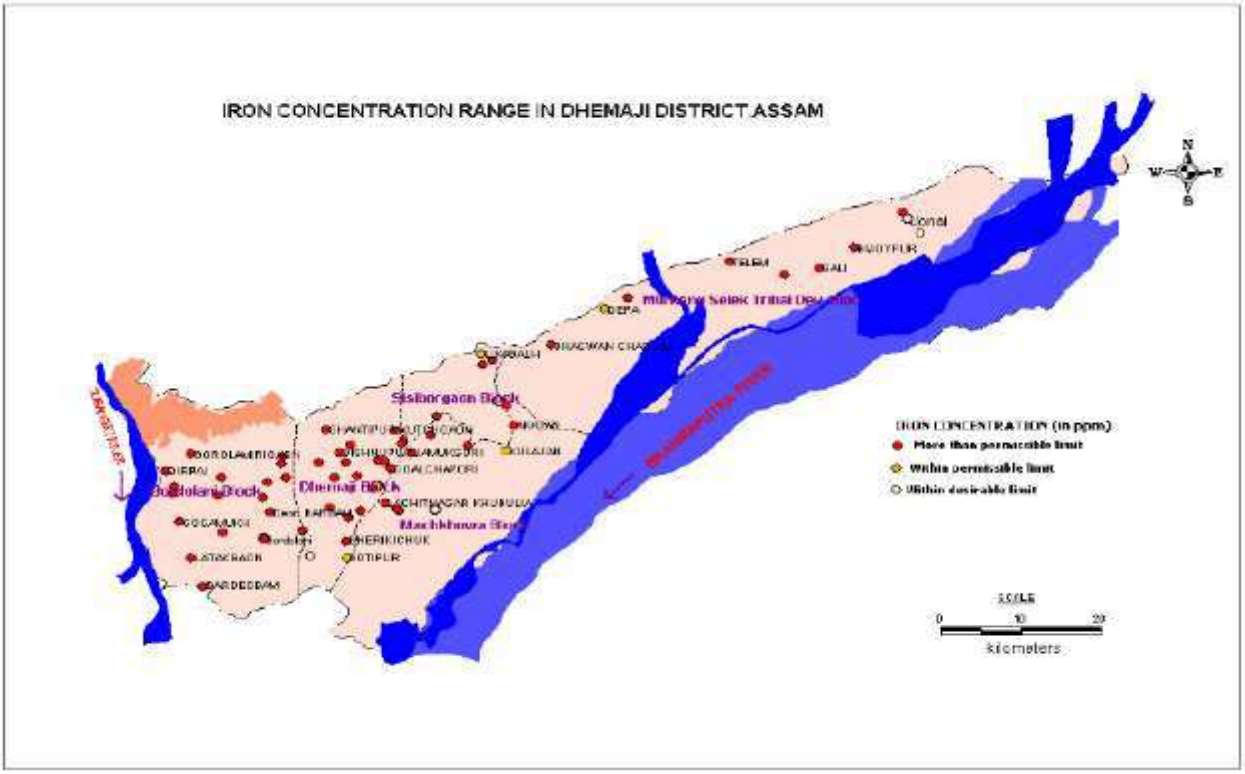


Figure 3Showing the mapping of Iron contamination in the district.

3.3.3. Institutional Assessment

Institutional assessment is done to gauge the extent of development in service delivery by various line departments on the ground and at departmental level, factors inhibiting smooth functioning to assess vulnerabilities and to take an account existing capacity and resources available with departments to deliver on services.

Sr. No.	1	2	3	4	5	6	7
Category	**Access to Crop Insurance**	**Access to Livestock Insurance**	**Access to Fire & Emergency Services**	**Access to Health Services**	**Access to Veterinary Services**	**Industrialization**	**Livelihoods Diversification**
Rating	*Poor*	*Very Poor*	*Average*	*Average*	Poor	*Very Poor*	*Poor*
Vulnerability	*High*	*Very High*	*Medium*	*Medium*	High	*Very High*	*High*
Remarks	No. of farmers with KCC is average, but insurance availed is very poor.	Insurance availed is almost non-existent.	Time required for fire fighters to reach Bordoloni and Sissiborgaon is high. Shortfall in manpower prevalent.	Number of institutions is average to good, while the number of doctors deployed is poor. Mostly retired doctors of NHM are serving.	High risk of diseases & injuries due to floods and poor penetration of vet services. No of high breed cattle is poor. AI recently introduced.	No large scale industry. Few MSMEs are operational in the district. Manufacturing sector's contribution to GDDP is low even compared to other districts.	Mainly dependent on agriculture with low level of occupation on other sources of income.

Table 12Gives a snapshot of some of the important aspects dependent on institutions functioning in the district.

Several critical line departments are assessed below to understand the services delivery, vulnerabilities / challenges in delivery of services and existing resources or capacity to deliver in normal times and disaster scenarios.

3.3.3.1. Animal Husbandry & Veterinary Department

3.3.3.1.1. Institutions

The first dairy cooperative of the district was opened very recently in April 2014. Each year around 15 SHGs are created, but the tracking of progress or their functioning is not done. Apart from this, the table below indicates the type and the number of centres set-up in the district.

Table below

S. No.	Centres	Total Number
1.	Veterinary Hospital	0
2.	Dispensary	12
3.	Sub center / First Aid Center	3
4.	Block Veterinary Center	3
5.	Key Village center	1
6.	Pig farm	1
7.	Artificial Insemination center	8
8.	Fodder Farm	3

Table 13 Provides data on the number and type of centres of AH & V department.

3.3.3.1.2. Milk Pasteurization Unit

There is just 01 milk pasteurization unit in the district which was recently opened in March, 2014 at Silapathar. For milk chilling, there are no chilling units. Liquid Nitrogen containers are used for this purpose.

3.3.3.1.3. Awareness, Training and Capacity Building

Some awareness initiatives are undertaken by field assistants to make livestock owners aware about Dos and Don'ts during floods by distributing Pamphlets. As per the department, 5000 farmers have been covered in last 3 years.

Some training interventions are undertaken for farmers for livestock and poultry, although no data is maintained by the department.

Capacity Building for AH & V departmental personnel are provided for Artificial Insemination, Vaccination, Brucella disease and large scale cutting of Birds in case of Bird Flu.

3.3.3.1.4. Programs and Schemes

Piggery and Goatery are promoted in the district under the *Tribal Sub-Plan* and Poultry through *Assam Agricultural Competitiveness Project (*AACP).

3.3.3.1.5. Availability of Veterinary Services

Vaccination is provided to treat all major diseases in the region, as mentioned previously. Pre-flood vaccination is done to mitigate the risk of diseases arising from floods.

Artificial insemination service has begun only this year and 100 cows were inseminated with 80 beneficiaries from Simen Chapori and Somkong GPs of Jonai sub-division. AI being used is of Jersey and Holcen.

Castrators are not available with the department due to no funds being available for their procurement.

In Jonai Sub-division, there are three dispensaries, one each in Kemi Jelem, Jonai and Simen Chapori. Of these, the branch at Kemi Jelem is in a dismal state with poor status of its building. Also, it has only 1 field assistant instead of 3 required as per the norm.

The dispensary at Simen Chapori panchayat looks after those in Dekapam, Liemekuri and Telam sub-centres.

3.3.3.1.6. High Breed Varieties

The department received high breed variety of cows and chicken from Krishi Vigyan Kendra (KVK) which were distributed to dispensaries. 10 high yielding milch animals were received by Simen Chapori dispensary of Jonai sub-division which were distributed to farmers. They also received 10 hen of high breed, namely, Vanaraja that grows at brisk pace.

3.3.3.1.7. Disease Surveillance

Monthly collection of samples for PRS, Brucella, Bird Flu and Swine Fever is being done by the department. Two field assistants are appointed in each dispensary to undertake the task of collection of samples.

3.3.3.1.8. Communication Means

Absence of any provision for movement of staff such as field assistants to the field is reported to be one of the major hurdles inhibiting progress.

3.3.3.2. Agriculture Department

3.3.3.2.1. Manpower

S/N	Post	Total
1	District Agriculture Officer	1
2	District Coordinator (NFSM)	1
3	District Coordinator (RKVY)	1
4	Agriculture Development Officer	11
5	Village Level Extension Worker	61
	Total	**75**

Table 14 Provides data on existing manpower in Agriculture department.

Block 1 – Dhemaji; Block 2 – Sissiborgaon; Block 3 – Bordoloni; Block 4 – Machkhowa; Block 5 – Murkong Selek

3.3.3.2.2. Awareness, Training and Capacity Building

SMS (Subject Matter Specialists) of KVK provide training to ATMA (Agricultural Technology Management Agency). SMS also participate in trainings and demonstration given by ATMA to farmers. The department organizes training programs for farmers for a variety of food crops like paddy, maize, groundnut, banana, etc. However, trainings provided could not be confirmed since no documents were surfaced. Awareness among the farmers about government schemes is done at the field level by Village Level Extension workers.

3.3.3.2.3. Non-localization of District Plan

Local factors like agro-climatic conditions, availability of technology and natural resources are not taken into account for the preparation of the district plan. It is prepared simply by coping of state plans.

3.3.3.2.4. Loan & Crop Insurance

As per the department, 50 % beneficiaries are covered under Kisan Credit Card scheme for availing of loans by farmers at low interest rate. Besides, low density of banks makes it difficult to avail the facility.

National Agricultural Insurance Scheme (NAIS) is not under implementation in the district. No crop insurance is provided while its need is increasing by the year with damages from floods, hailstorms and animal depredation, besides rainfall variability from possible climate change induced factors.

3.3.3.2.5. Agricultural Export

In 2012, 300 tonnes of red rice (organic rice) was exported to USA. Also, after Dhemaji was declared a Lemon district under Horticulture mission and large scale plantation under MGNREGS was undertaken, export to Japan was planned for the year 2013.

3.3.3.2.6. Cold Storage

District's first cold storage facility is under construction.

3.3.3.2.7. Chemical Fertilizers and Pesticides

The district is known for purely indulging in organic farming for production of outputs like Red Rice which is high on demand and costlier. However, with the introduction of NFSM, some areas have started turning to chemical fertilizers and pesticides which can be detrimental to image of the district and quantity of organic production.

3.3.3.2.8. Horticulture Mission

The department has promoted production of Banana, Assam Lemon, Ginger, Pineapple and Water Melon in the district. Plantation of Assam Lemon has proved to be very successful given the quantum of production.

Picture below depicts plantation of Assam Lemon done with the support of MGNREGS

3.3.3.2.9. Communication Means

Lack of communication means to travel to the sites in GPs acts as a deterrent to the field staff and impedes performance.

3.3.3.3. Irrigation Department

3.3.3.3.1. Manpower and Vacancy

The work of the department in the district is divided into two sub-divisional offices placed at Dhemaji and Silapathar. The one at Dhemaji looks after the blocks of Machkhowa, Dhemaji, Bordoloni and some parts of Sisiborgaon and the other one with its head office in Silapathar looks after Murkong Selek block and the remaining parts of Sisiborgaon block. The office looking after Dhemaji sub-division is situated in Dhemaji only and looks after Dhakuakhana Irrigational Sub-division under Lakhimpur district.

The department has three wings: Civil, Mechanical and Electrical. However, the civil wing heads the department.

There is one Executive engineer who heads the department in the district level. He is followed by Assistant Executive Engineer and the Assistant engineer. There are Junior Engineers and Sectional Assistants too. The number of engineerat different levels in the department is a total of 8 compared to sanctioned strength of 21. The total staff strength is 431 (including non-technical staff) and the department has 56 vacancies at present.

S/N	Staff Position	Number Employed	Vacancies
1	Executive Engineer	1	0
2	Assistant Executive Engineer	1	2
3	Assistant Engineer	3	2
4	Junior Engineer	3	9
5	Sectional Assistant	51	14
6	P.P.O.	71	14
7	Mechanical Grade-II	20	5
8	Mechanical Grade-1	1	10
	Total	**151**	**56**

Table 15 Provides data on existing manpower and posts vacant in Irrigation department.

3.3.3.3.2. Irrigation area against its potential

Presently the district has a total of 463 Shallow tube wells under minor irrigation, each one irrigating an average of 2 hectares of land. Moreover, there is one Lift Irrigation Scheme under the Sille panchayat which irrigates 125 hectares of land and has a canal length of 20.84 Kms. However, respondents at Sille GP did not report existence of any canal irrigation. The department is expecting another two lift irrigation schemes Karha and Laipulia, to start functioning soon which is not functional due to no access to electricity as yet in these areas.

Thus at best, a total of only 1051 hectares throughout the entire district have access to irrigation facilities against total cultivable land area of 124,819 hectares. This refers to just 0.84 % area irrigated in the district. Farmers reported need of irrigation facilities so as to undertake farming during Rabi and Zaid (autumn crop) season to exploit full potential of the district.

3.3.3.3.3. Irregularities in receipt of funds

Irregularities or delays in sanctioning and releasing funds often lead to non-completion of projects. The contractors when fail to get their money on time, stops working even if the project is incomplete. Contractors even have started losing interest in taking contracts of the department these days.

3.3.3.3.4. Non-availability/insufficiency of power supply

Lack of sufficient power supply is the most challenging aspect the department is currently facing. Lot of its projects has failed to start delivering just because of unavailability of power supply. Lift irrigation schemes (requires 65 KVA transformer) of Karha and Laipulia has not taken off yet just because of shortage of power.

Deep tube well schemes (requires 25 KVA transformers) of Telijan and Bangalmari are examples of schemes which are defunct because of unavailability of power.

3.3.3.3.5. Training

None of the departmental personnel has undergone any training in a long time. However it was said that the employees are not that aware of the latest techniques or technologies.

3.3.3.3.6. Repairing of Tube wells

Repairing of tube wells is done by the department, but this gets halted due to delays in clearance of funds.

Public Health Engineering Department

The district's 79.05 % of population is supplied water by PHED. The modes of providing access to drinking water are Ring well, Piped Water Supply and Sport Water Sources, i.e., Hand pumps. Besides this, rain water harvesting is the most recent approach followed for drinking water.

Department also provides community toilets and toilets for IAY.

3.3.3.3.7. Manpower and Vacancy

S. No.	Post	Total Posts	Post filled up	Post Vacant
1.	Executive Engineer	1	1	0
2.	Assistant Executive Engineer	2	2	0
3.	Assistant Executive Engineer (Technical)	1	0	1
4.	Assistant Engineer	5	4	1
5.	Junior Engineer	12	10	2
6.	Well Driller	1	0	1
7.	Assistant Driller	1	0	1
8..	Accounts Officer	1	0	1
9.	Dy. Accounts Officer	2	2	0
10.	Junior Accounts Officer	2	0	2
11.	Mechanic	1	1	0
12.	Architecture Assistant	1	0	1
13.	Tracer	1	1	0
14.	Sectional Assistant	16	16	0
15.	Head Assistant	1	1	0
16.	U.D.A.	4	3	1
17.	L.D.A.	10	9	1
18.	Driver	6	5	1
19.	Khalasi	106	106	0
20.	Peon	6	6	0
21.	Chowkidar	4	3	1
22.	Blue Painter	1	1	0
23.	Pump Operator	21	21	0
	Total	206	192	14

Table 16 Provides data on existing manpower and posts vacant in PHE department.

3.3.3.3.8. Funds

Often projects are not initiated or delayed or left in the middle due to delays in receipt of funds. Funds received are insufficient and even more importantly, untimely, when the time of the year when implementation is undertaken and completed are critical factors. Thus, untimely reception of funds is a major deterrent since projects such as Hand Pumps on raised platforms are required to be completed before the on-set of monsoon season. Another factor that has substantial negative affect is non-receipt of budget for repairing of existing facilities.

3.3.3.3.9. Sanitation

About 09 community toilet projects have been implemented but they have failed due to poor commitment at the community level from the Users committee entrusted with the responsibility of maintenance of projects. A beneficiary member, President and a field staff of P.H.E. are part of this committee.

Under IAYs IHHL, 8383 against a target of 9297, i.e., 90.16 % target households were covered. For BPL category, 53944 against targeted 54471 have been covered.

3.3.3.3.10. Access to Drinking Water

80 % of the drinking water sources made available in the district has been through Spot Water Source Scheme. So far, only about 55 % habitation has been covered for providing drinking water by the PHE department. It is found that the norm of providing drinking water within facility for

habitations within the radius of 1.6 Kilometers in plains has not been achieved as yet. However, all the schools have been covered.

As per the department, water table in the district has reduced by the situation is not alarming.

3.3.3.3.11. Drinking Water Quality

As per the department, water sources at 34.72 % habitations are at medium to high levels of Iron contamination as per the water testing facility of the department. However, as per CPCB 2007 report, some habitations are high on Arsenic content as well.

There is a greater need of attaching Iron Removal Plants (IRPs) to Hand Pumps. So far, 488 IRPs have been implanted on Hand Pumps in the district.

3.3.3.3.12. Raised Hand Pumps for Disaster Mainstreaming

It has been implemented in a very small measure with only 190 raised hand pumps which is only 0.15 % of raised hand pumps as against hand pumps installed in the district. However, a proposal to raise 100 hand pumps was made during 2012-13 to which no approval was received.

3.3.3.3.13. Rainwater Harvesting

Rainwater Harvesting projects have been implemented in 10 Institutional buildings, 118 Schools and 32 Piped Water Supply Schemes. There is a greater need for the implementation of rain water harvesting projects in high slope gradient habitations in villages bordering Arunachal Pradesh. Also, in such places, there is a need to implement Ring Wells.

3.3.3.3.14. Piped Water Supply Schemes

A total of 330 habitations have been covered under the scheme with 29 & of the population coverage. However, lack of reliable access to power in the district is a major issue limiting in its success. Due to non-reliable access to power, often water is not made available during the fixed period set during the morning and evening hours. Also, there is wastage of water when drinking water is made available during non-regular hours due to availability of power, while there are no taps to turn off access to water.

3.3.3.3.15. Material Procurement

Delays in projects from contractors happen sometimes due to unavailability of raw materials in Dhemaji. Rods and cement required are sometimes not available in local market. As a result, the costs are much higher when procured from Lakhimpur or Guwahati while delaying projects.

3.3.3.3.16. Nirmal Gram Puraskar

Gaon Panchayats are awarded and recently, Simen Chapori GP of Jonai subdivision was selected for Nirmal Gram Puraskar. However, it was reported by the Panchayat President of Simen Chapori that toilets are already turning dysfunctional due to improper maintenance.

3.3.3.3.17. Response to Floods

In some cases, communities are also required to manage with drinking flood waters. For these circumstances, they are provided with chemical packets (alum, bleaching powder and lime) for domestic water purification. In some of the flood affected areas, raising of hand pumps has also been done. However, these are extremely small in number. In relief shelters, new spot sources are installed, if required. Temporary toilets are also installed in relief shelters.

3.3.3.3.18. Repairing of facilities

Average estimated time of repair is usually high due to non-receipt of funds against proposed restoration of drinking water sources, as a result of which damages often do not get repaired. At per official records, currently, 321 hand pumps are dysfunctional. However, disinfection of spot water sources affected from flood water is treated.

3.3.3.3.19. Awareness, Training and Capacity Building

Community awareness building campaigns are done to deal with floods better. For this, distribution of leaflets containing instruction regarding various 'dos and don'ts' to be followed during and after flood are distributed.

As per the department, no training on minor repairs of spot water sources is given to local villagers, though it could be undertaken. Also, no capacity building program has been undertaken by existing staff.

3.3.3.4. Panchayat & Rural Development Department

The projects of P & RD department are implemented by DRDA department. The centrally sponsored schemes implemented include MGNREGS, IAY, IGNOAPS, IGNDPS, IGNWPS and NFBS. The beneficiaries of these schemes are the BPL families.

3.3.3.4.1. Manpower

Sr. No.	Staff Position	Number Employed
1	Project Director	1
2	Executive Engineer	1
3	Assistant Project Technical Officer	2
4	Assistant Project Monitoring Officer	1
5	Assistant Project Officer (Credit)	1
6	Accounts Officer	1
7	Accountant	1
8	Head Assistant	1
9	Senior Assistant	2
10	Junior Assistant	3
11	Grade 4 Staff	3

Table 17Showing the stats on working staff in Panchayat and Rural Development.

Monitoring of construction under IAY is managed by:

At Block Level: 03 Junior Engineers

At District Level: Executive Engineer, Assistant Project Monitoring Officer, 2 Junior Engineers

3.3.3.4.2. Disbursal of Funds

There are delays in receipt of funds from the state department which in turn delays disbursal of funds to the beneficiaries. A time gap of 4 to 6 months in receipt of fund from the state for pension schemes has been recorded.

3.3.3.4.3. Awareness and Training

As per the department, awareness camps, training of beneficiaries, group discussions are organized for enhancing awareness and information about programs like IAY, SGSY, MGNREGS, etc. which are attended by BDOs, JEs and Gram Sevaks (Secretaries).

3.3.3.4.4. Data Maintenance

Data is not available for a lot of programmes or schemes. For information regarding beneficiaries to be uploaded on Awaasoft software from time-to-time was last uploaded on it in 2009-10.

3.3.3.5. Sericulture Department

3.3.3.5.1. Institutions

The department has set up 4 centres (2 at Gogamukh and 1 each in Dhemaji and Machkhowa block) for the purpose of carrying out activities of Muga cocoon plantation, Muga rearing, Eri rearing and Mulberry rearing.

3.3.3.5.2. Manpower and Vacancy

The department works at the sub-division level with the total staff of 48 people, out of which 3 posts are vacant.

3.3.3.5.3. Programme Implementation

CDP (Cluster Development Programme) is implemented by the department. This programme is carried out in the centres for enhancing the productivity as well as for capacity building of the sericulture business. The CDP focuses on the following:

1. **Supporting the sustainability and growth of sericulture** by addressing issues like access to funds, markets, technology, etc. The department looks into the market linkages, village distribution and markets for the produce. Additionally, the cocoon production is also sent to Lakhimpur, where the further production is also carried out.
2. **Building capacity** for common supportive action through formation of self help groups, etc. Around 100 families in the village are the beneficiaries of this programme. But, most workers are part-time.
3. **Establishing / Up-grading the infrastructural facilities.** For instance, there is a grazing reserve of 18 bigha provided in Gogamukh centre. Before choosing the sites of the centre, factors like low/high lands and the environment around the area were considered.

3.3.3.6. Fisheries

The department is currently focusing upon bringing in scientific fish farming techniques in the district. According to this, integrated fish farming is being promoted. The department is promoting six species of fishes:

- Mirika and Grass Curb at the bottom,
- Rohu and common curb in the middle of the pond, and
- Katla and silver curb at the top.

This can lead to a production of 4000 Kg per hectare per year. As of now, production rate is 2300 Kg per hectare per year and the district is able to locally meet 60 % of fish demand, while rest is imported from Andhra Pradesh. Around 70 % of total cultivable water is used for fish production. The department advises the cultivators to go for paddy-cum-fish culture too. But in such cases, grass curbs must be avoided as they damage crops. In the Missing villages, piggery-cum-fisheries have been promoted.

3.3.3.6.1. Manpower and Vacancy

The department pointed out that the strength of field staff is not enough to engage and support cultivators. However, to counter this to a small extent, 'Matsya Mitra' has been introduced for

helping out the cultivators. There is only 1 Fishery Demonstration Officer in each block. However, according to the department, there should be one such officer in each panchayat considering the fact that the district is so very rich in terms of its fish production potential.

S. No.	Staff Position	Number Employed	Vacancies
1	DFDO	-	1
2	FDO	4	0
3	FEO	2	-
4	AFO	2	-
5	FD	5	1
6	FA	1	-
7	UDA	2	-
8	LDA	4	-
9	Grade-IV	3	1
10	CL	2	-
	Total	**22**	**4**

Table 18 Provides data on existing manpower and posts vacant in Fisheries department.

3.3.3.6.2. Awareness, Training and Capacity Building

Awareness campaigns are held in block level once or twice a year where PRRs and Progressive farmers are invited.

The cultivator's training is of two types: Non-beneficiary training (for interested farmers and entrepreneurs) and beneficiary training (for the beneficiaries). Moreover, last year a total of 30 trainings were conducted by ATMA for the upcoming fishery entrepreneurs.

The employees whereas go for "in service training". Trainings are normally provided in National Institute of Rural development (Guwahati), State Institute of Rural Development (Guwahati) and the department head office (Guwahati).

3.3.3.6.2.1. Loans and Subsidies

The department provides loans & subsidies for new pond construction (known as bank link) and for renovation of damaged ponds (known as de-links) under FFDA (development of fresh water aquaculture).

3.3.3.6.2.2. Village Level Committees

The village level fish committees which were existent until 2010 in the form of Common Interest Groups and Beel Development Committees are now defunct.

3.3.3.6.2.3. Funds

Funds allotted to the department are said to be insufficient and often released late which diminishes the outputs garnered since fishing farming can be done only 6 to 7 months a year. As a result, there is virtually a loss of productivity of 1 year for all the projects.

3.3.3.6.2.4. Convergence with MGNREGS

Several Ponds have been dug out with the help of wage employment program, MGNREGS.

A pond dug out through MGNREGS in Bhebeli GP of Bordoloni block

3.3.3.6.2.5. Damages from floods

Damages to fish nets and boats are also reported in the district with an approximate figure of 100 over the last 5 years.

3.3.3.7. Water Resources Department

The Dhemaji District reels under devastating and continuous annual floods. Floods occurred due to breaches on the embankment of Brahmaputra in the years 1996, 1998, 2000, 2002, 2003, and 2004. Apart from the embankments breaches, the situation reflects that intensive water logging/inundation has also been the major cause of floods. The whole situation is the result of intensive interventions on the upper reaches of the rivers and huge construction of structures (roads, bridges etc) on the drive-off water system. The huge extraction of boulders from the upper reaches of the rivers has increased the current of the rivers due to intensive erosion. Moreover, there are very little openings to maintain the natural flow/drainage of water which has led to inundation of huge areas of the Dhemaji district.

The department only indulges in reconstructing embankment breaches or other forms of bank protection measures and river channelization. No projects for drainage improvement are implemented.

3.3.3.7.1. Manpower and Vacancy

In total, there are 224 sanctioned posts, wherein 100 posts are vacant currently. The major vacancies could be observed in the field level staff (Khalashi). The vacancies create problems to deal with the structural measures especially.

S. No.	Post	Total Posts	Post filled up	Post Vacant
1.	Executive Engineer	1	1	0
2.	Assistant Executive Engineer	2	2	0
3.	Assistant Executive Engineer (Technical)	1	0	1
4.	Assistant Engineer	6	4	2
5.	Accounts Officer	1	1	0
6.	Dy. Accounts Officer	2	2	0
7.	Asst. Accounts Officer	2	2	0
8.	Junior Engineer	11	11	0
9.	Sub. Eng. Gd-II	15	10	5
10.	Sub. Eng. Gd-I	1	1	0
11.	Tracer	2	1	1
12.	Section Assistant	55	37	18
13.	Head Assistant	1	1	0
14.	U.D.A.	7	7	0
15.	L.D.A.	15	9	6
16.	Driver	4	2	2
17.	Khalashi	83	23	60
18.	Peon	6	5	1
19.	Chowkidar	3	2	1
20.	Blue Painter	1	0	1
21.	Electrician	1	1	0
22.	O.B.E.D.	1	0	1
23.	O.B.E.H.	1	1	0
24.	Draftary	1	0	1
	Total	223	123	100

Table 19 Provides data on existing manpower and posts vacant in Water Resources department.

3.3.3.7.2. Embankment Breaches

The embankment of 161 km has been built. *Maintenance and Repairing* (M & R) to protect embankments and avoid breaches are decided through field level inspection in which RVS (Rapid Visual Screening) is done every year in March or April. Mainly, the cement bags, the geo bags and tubes are used for this purpose and the embankment's height is raised, if needed.

The field workers (Khalashis) ensure that the weak areas such as piping or rat holes in embankments are fixed. However, a major shortfall in the number of field workers makes embankments even more vulnerable to breaches.

3.3.3.7.3. Shortage of Funds

Delays in sanctioning of funds in turn delay a lot of work. Previously received funds have been fully utilised which have been insufficient to complete the work of the constructions needed.

3.3.3.7.4. Drainage Improvement

Drainage system improvement measures, which are one of the most critical measures to deal with water logging and inundation, have not even been initiated by the department.

3.3.3.7.5. Construction of Reservoir

There are no reservoirs in the district for storing of water from rivulets and tributaries. There has been a meeting conducted with the administration of East Siang district of Arunachal Pradesh regarding the construction of reservoir (as the silt flows downstream from the river there), but it wasn't successful.

3.3.3.7.6. River Water Level Readings

Gauge chart is prepared in which the danger mark of the water and the daily updated reading is taken twice everyday during starting from 15th May till the end of monsoon season.

3.3.3.8. Food and Civil Supplies

3.3.3.8.1. Manpower and Vacancy

S/N	Staff Position	Posts Occupied	Posts Vacant
1	Assistant Director	1	-
2	Inspector	2	1
3	Sub Inspector	4	3
	Total	**7**	**4**

Table 20 Provides data on existing manpower and posts vacant in Food & Civil Supplies department.

3.3.3.9. Education Department

3.3.3.9.1. Student-Classroom Ratio

The student-classroom ratio (SCR) in schools of the district is not found to be high and lie within the range of 1:40.

3.3.3.9.2. Health Check-ups

Health camps are regularly organized which are monitored by NRHM.

3.3.3.10. Power Department

3.3.3.10.1. Manpower and Vacancies

The manpower employed in the department is well short of the requirement which impacts the delivery of the functions of the department.

S. No.	Staff Position	Total Posts	Posts Occupied	Posts Vacant
1	Assistance General Manager	1	1	0
2	Sub division Engineer	3	3	0
3	Assistant Manager	2	2	0
4	Feeder Maintenance Engineer	7	7	0
5	Line men	35	10	25
6	Sahayak	68	56	12
7	Switch Board Operator	20	20	0
	Total	**128**	**99**	**37**

Table 21 Provides data on existing manpower and posts vacant in Power department.

3.3.3.10.2. Maintenance & Post-Disaster Restoration

Delays in procurement of material such as electric poles, wires etc., and shortage of man power are the main challenges in maintenance of infrastructure & quick repairs in post-disaster restoration phase.

Besides, poor road connectivity and debris on the way during/after floods or any disaster restoration of power supply in affected areas becomes difficult and takes a lot of time.

3.3.3.11. Public Works – Building Department

Recently the department has constructed a PHC in Borola village in Mingmang GP and also in Sisiborgaon and Bogibeel. Further it has constructed a MCH in the Civil Hospital in Gogamukh. It has also constructed a school in Machkhowa for Rashtriya Madhyamik Shiksha Abhayan.

3.3.3.11.1. Manpower and Vacancy

Position	Appointed Staff	Sanctioned Strength	Vacancy		
			Dhemaji	Jonai	Total
Assistant Executive Engineer	1	1	-	-	0
Assistant Engineer	0	3	2	1	3
Sub Engineer	2	2	0	0	0
Junior Engineer	4	7	1	2	3

Table 22 Provides data on existing manpower and posts vacant in PWD - Building.

3.3.3.11.2. Training Needs

Assistant Executive Engineer and Junior Engineer have received training on Earthquake Resistant Construction through ASDMA.

The staff further seeks trainings on Rapid Visual Screening, Construction Design and Structural Assessment, besides the procedure for conducting post-disaster damage assessment.

3.3.3.11.3. Training of Masons

Masons are appointed by contractors in the construction of building. They are not skilled in earthquake resistant construction approach in masonry.

3.3.3.11.4. Linkage with District Emergency Operation Centre

The department has no linkage with the DEOC for coordination of response to disaster or post-disaster damage assessment.

3.3.3.11.5. Funds

The department generates invoices in favour of contractors as soon as the work is completed but they have to wait on an average for around 6 months to receive funds from higher authorities.

3.3.3.11.6. Implementation Challenges

The department faces issues in execution of projects due to:

1. Unavailability of necessary materials locally as specific materials has to be sourced from Guwahati.
2. Project delays due to heavy rains.

3. Shortage of skilled manpower.
4. Communication disruptions during disasters like floods, earthquake, cyclone and others from Guwahati.

3.3.3.12. Public Works – Roads & Bridges Department

3.3.3.12.1. Manpower & Vacancy

Position	Posts Occupied	Posts Vacant
Assistant Executive Engineer	1	0
Assistant Engineer	4	0
Sub Engineer	1	0
Junior Engineer	6	2
Total	**12**	**2**

Table 23 Provides data on existing manpower and posts vacant in PWD – Roads & Bridges.

3.3.3.12.2. Current Projects

The current ongoing projects under PMGSY are:

1. Silapathar to Yedut Gaon
2. Baligaon to Tingri
3. Uriumguri to Sissimukh
4. Gogamukh to Ghilmara Road and to Subansiri Dyke (Funded by World Bank)
5. Rcc Bridge number 9/2 and 14/1 on Chaudhowa Bali to Chutiyakari via Daudubi Koibarta Gaon Road

3.3.3.12.3. Protection of Infrastructure from Floods

The flood prevention measures undertaken by the department are both temporary and permanent. Temporary work involves protecting roads and bridges by placing sand bags next to it and bamboo fencing. The permanent work done involves *boulder pitching* and reconstruction of damaged roads and bridges.

In case of wooden bridges the department deploys labours equipped with long handle spades to clear off the debris after floods, which if not done it may collapse the bridge. Further small boats are used to remove debris from the pillars which is essential to prevent scouring and resultantly, weakening of the structure. The debris from the roads is cleared by the local residents.

Picture below depicts boulder pitching in Mingmang GP of Bordoloni Block.

3.3.3.13. Transport Department

3.3.3.13.1. Manpower & Vacancy

According to the District Transport Officer, there is not sufficient staff to effectively render services.

S/N	Staff Position	Total Posts	Posts Occupied	Positions Vacant
1	District Transport Officer	1	1	-
2	Motor Vehicle Inspector	1	1	-
3	Enforcement Inspector	3	2	1
4	Head assistant Inspector	1	1	-
5	Senior Assistant Inspector	3	2	1
6	Junior assistant Inspector	6	6	-
7	Grade IV	4	4	-
	Total	**19**	**17**	**2**

Table 24 Provides data on existing manpower and posts vacant in Transport department.

3.3.3.13.2. Unavailability of Testing Track

While issuing of licenses is the primarfy activity of the transport department for which applicant has to pass through a practical driving exam. But the department doesn't have a testing track for the same.

3.3.3.13.3. Training on Road Safety

Department selects an institute and provide necessary training on road safety through a resource person. However, the department is running short of fund to undertake such trainings.

3.3.3.14. Fire and Emergency Services Department

There are two fire service stations within Dhemaji District. One is located at the District headquarter, Dhemaji while the other at Jonai.

3.3.3.14.1. Manpower and Vacancy

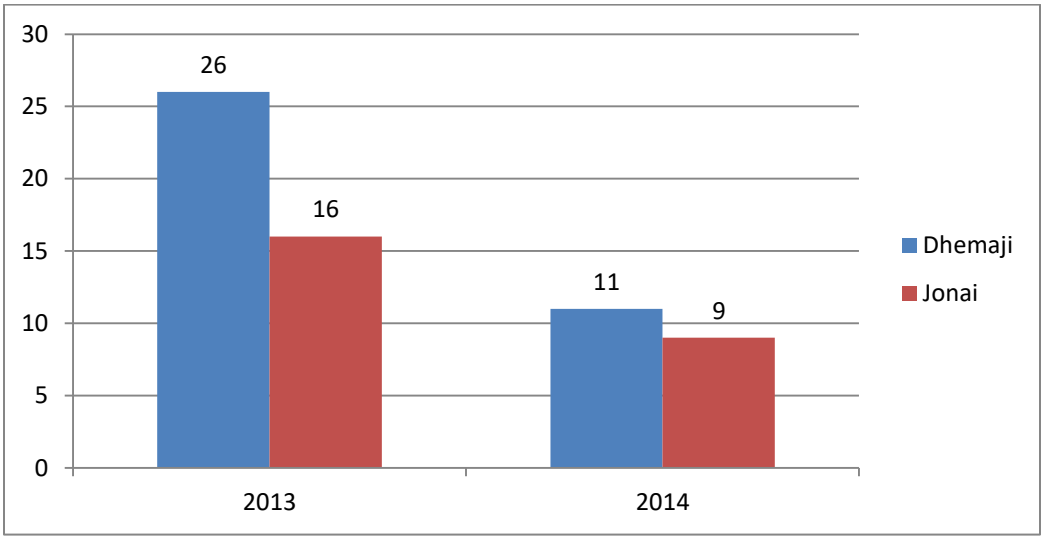
Both the fire service stations in the district are running short of staff considering the needs, resources and functions. There is dearth of sufficient fire personnel considering the numbers Water Tender Pumps. The HO has been informed many a times but vacancies exist.

Position	Actual Working		Vacant Positions	
	Dhemaji	Jonai	Dhemaji	Jonai
Station officer	0	1	2	Data not Available
Sub-Officer	1	1	1	Data not Available
Leading Fire Man	3	2	1	Data not Available
Fire Men	13	9	12	Data not Available
Emergency Rescuer/Driver	8	3	2	Data not Available
Total	**25**	**16**	**18**	**DNA**

Table 25 Provides data on existing manpower and posts vacant in FES department.

3.3.3.14.2. Fire History

Fire incidents within the district are equally reported from both rural and urban areas. There are different reasons/causes of fire breakout of which electrical short circuit, LPG cylinder burst, open kitchen fire, fire in public vehicles etc are the prominent ones. One incident of forest fire has been reported in the year 2014 under Jonai Fire Service Station. As per the data available with Jonai Fire Service Station a total volume of Rs. 113, 89000.00 of property has been destroyed between 2012-2014(till May) in Jonai sub-division alone. Total number of calls received by respective Fire Service Stations in 2013 and 2014 has been mentioned in the graph below:



3.3.3.14.3. Equipment Available

The Fire Service Stations in Dhemaji have availability of Water Tender Pumps - both mini and large - with varying water carrying capacities. The vehicles available are as follows:

Dhemaji	Jonai
Water Tender Pumps-3	Water Tender Pumps-3
Mini Water Tender Pumps-1	Mini Water Tender Pumps-1
Trailer pump-1	1
Portable Pump-2	1

Table 26Showing the list vehicles available with fire department.

Other Resources available with Dhemaji Fire Service Station has been enlisted in the following table:

Instrument / Tool / Equipment	Quantity
IRB Boat	6
FRB Boat	-
Life bay	24
Life Jacket	4
Bolt Cutter	3
Congeries cutter	3
Fire entry shut	6
Jacket	6
Wooden Cutter	3
Rescue Line	6
Main Rope	3
Hook cutter	6

Table 27 Showing resources available with Dhemaji Fire Service Station.

3.3.3.14.4. Equipments Shortfall

There is obvious dearth of resources and equipments in both the stations as reflected during the discussion with the Fire Personnel. The required resources for both the stations are being enlisted in the following table:

Dhemaji Fire Service Station	Jonai Fire Service Station
✓ **Hydraulic Bolt Cutters** ✓ **Hydraulic cutter** ✓ **Inflammable Light and Tower** ✓ **Chain Saw (for cutting wood)** ✓ **Tent** ✓ **Cutting Axe**	✓ Emergency light/flash light/torch light ✓ Delivery Hose Pipe ✓ Portable Pump ✓ Foam drum ✓ Fire axe ✓ Bolt Cutter ✓ First aid box ✓ DCP ✓ CO2 ✓ Helmet ✓ O2 gas with musk ✓ Fire Safety suits ✓ Rope (Nylon+Manila) ✓ Tool Box ✓ Hand Globes ✓ Metal Strainer ✓ Basket ✓ Pick Axe ✓ Section Hose etc

Table 28 Showing required resources for the stations

3.3.3.14.5. .Defunct Telephone connection

Mostof the times the lifeline fire service communication-telephone remains defunct. For the last twelve months, the land line connection of Jonai Fire Service Station has been defunct which has been raised to the concerned SDO several times. But no action has been taken. This prevents timely communication and accessibility by and with public. In Dhemaji station, the number is not reachable a lot of time. Thus, people in case of need take alternative routes such as dialing 1800 (ambulance services) for contacting fire station.

3.3.3.14.6. Time Required for Reaching Incidence Site

3.3.3.14.6.1. Mechanical Defects

Due to mechanical defects at times, the vehicles fail to pick up the desired speed which affects timely arrival to the place of occurrence.

3.3.3.14.6.2. Delay in receipt of information

On the onset of fires, people are seen to be in panic and start local attempts for controlling and dowsing fire. Thus there is an obvious delay in informing the concerned fire department. Naturally late information combined with other factors leads to late reach out which again has to encounter peoples' anger and agony.

3.3.3.14.6.3. Poor road conditions

Due to prevalent road conditions, it becomes difficult to reach the distant rural areas in particular. Moreover, the unavailability of local personnel, it also becomes difficult to identify the location of the incident which also becomes the reason for delayed arrival or even non-arrival at times.

3.3.3.14.7. Awareness Camps

Though the fire personnel conduct awareness camps at schools and public places, the response from the public is very poor.

3.3.3.14.8. Protection of Fire Personnel

During fire emergencies, protection of public property and fire personnel are generally at stake. It is generally looked after by Police and protection force within the department is not available for which the fire personnel face the menace of public violence.

3.3.3.15. Town Committee

3.3.3.15.1. Staff Vacancy

The position of Assistant Engineer under Technical Branch has been vacant for a number of years in the absence of which no projects such as Drainages or Sewerage management, etc. are being implemented. Junior Engineer is not skilled enough undertake these tasks on its own. Total staff strength is 45 apart from 23 manual scavengers.

3.3.3.15.2. Waste Management

Land filling is currently being done in a location identified inside the town which is completely full. On making a field visit, it was also found that there is no segregation of waste being done as a result plastic and organic waste is found intermingled. A site identified (government land) outside of the town in Moridhal GP is close to a river and the decision to use this as a dumping site need to be reassessed. However, in case of using the space as a landfill, a boundary wall has to be formed to prevent damage to the environment and affects on the health of animals and humans.

Also as reported by the committee, the vehicle deployed for lifting of garbage doesn't have a hydraulic system which makes it difficult for lifting and dropping of garbage. As of now, a tractor is being used for this work.

3.3.3.15.3. Sewerage Management

There is no sewerage system in place which is potentially hazardous to the environment and people. The dependency still exists on manual scavengers which are employed by the department.

3.3.3.15.4. Drainage System

There is no proper drainage system in place and water logging problem during monsoon season is observed in several areas.

3.3.3.16. Social Welfare Department

3.3.3.16.1. Immunisation

Vaccination for children is done on every Wednesday at each AWC by ASHAs and ANMs. In February 2014, a camp was organized by health departments for children at Anganwadis.

3.3.3.16.2. Life Insurance

As per official records, under *Mukhya Mantri Jiban Jyoti Bima Asoni* Yojana, 346 beneficiaries were supported in the year 2013-14.

3.3.3.16.3. Credit Facility

Under *Mukhya Mantiri Samridhi Yojana*, loans are provided not only for weaving but also for other sectors like dairy farming.

3.3.3.16.4. Access to drinking water

No specialized drinking water sources are made available by the department.

3.3.3.16.5. Malnutrition

Due to malnutrition, diseases such as Kwashiorkar, Marasmus, Protien Enery Malnutrition and Rickets are reported.

3.3.3.16.6. Swadhar Greh & Children Observation Homes

There are no Swadhar Greh for rehabilitation of women who are affected by domestic violence or widows of ethnic violence of natural disasters. Also, there is no provision of supporting children in observation homes.

3.3.3.16.7. Life Insurance

Under *Mukhya Mantiri Jiban Jyoti Bima Asoni*for death 50000 rupees are dispersed for the family wherein for the cancer or kidney Patient 25,000 rupees are provided as a one-time grant. The registration for the same is done in the circle office. During the year 2013-14, as per official records, 225 beneficiaries only 346 got the fund.

3.3.3.16.8. Anganwadis

The district has a total of 1,413 Anganwadi centres. One Anganwadi is made available for a minimum population of 300 and a maximum population of 600. There are no such laws, the structural design is uniform for all the centers. There are fund constraints, only Rs.1,75,000 is allocated for building a centre. None of the centre is built on an appropriate plinth height to prevent them from inundation

Their assessment is done in depth as below.

3.3.3.16.8.1. Risk from Floods

1. **Location and construction**

All the AWC's in different panchayats had a vulnerable construction even when it is in a close proximity of river or are very much in the buffer zone. All the blocks are vulnerable to floods and every year many panchayats are inundated still no changes have been included in the infrastructure or retrofitting done to create capacity to fight against inevitable floods.

2. **Infrastructure**

As per the ICDS scheme every AWC is sanctioned a fixed amount of Rs.1, 75,000 and every centre is supposed to have the same architectural design: A room with an attached kitchen and a toilet, but since there is no toilet in most of the AWC, ODF is prevalent. With ODF vulnerability to diseases like Diarrhoea, Typhoid, Cholera etc increases as there are regular period of inundation and stagnant water leading to several water transmissible diseases, which while interacting with the ASHAs and ANMs during the PRA was reported to be the maximum in the GP.

The level of inundation was upto 2-3 meters last year in the Naruathan GP, which had left its impression on the wall and could be visibly seen. As there is no plinth height maintained and being in the buffer zone the centre has to be closed in the period of inundation for an approximate period of 3 months and also is subjected to severe sedimentation.

Many of the AWC have no concrete structure but are running under a thatched roof wherein the vulnerability to disasters is two folds then mentioned above. During rainy seasons the centre is closed due to seepage of water from the roof. The structure is surrounded by stagnated water which affects the children and people disguised in the form of epidemics.

As mentioned above the centre is closed for a period of 3months on an average, the beneficiaries of the ICDS centre i.e. children aged 0-6 years, pregnant mothers and lactating mothers are by default neglected which are the most vulnerable group of the society in the time of distress. In places of low accessibility even for a population of 200-300 HH an ICDS centre has been set up.

At Mackhowa GP, Sissimukh GP & MingMang GP no permanent infrastructure is available, AWC have been set up either in the Panchayat Verandha, Naam greh or under a temporary Bamboo Structure.

3. **Earthquake**

Though they are single storied and are in the open space still the structure is so much susceptible to earthquakes due to improper maintenance. In an interaction with the officials of SWD they are waiting for a big disaster to happen to take action in this context. There has been no retrofitting done since the inception. The area around is clayey and would be a hindrance in case of immediate evacuation.

3.3.3.17. Health Department

3.3.3.17.1. Manpower and Vacancy

There is a severe shortage of doctors in the district. In Dhemaji Civil Hospital, against a sanctioned strength of 25 doctors, there are 10 posts that are vacant. This shortfall is currently being made up somewhat by deputing 4 doctors from PHCs or through contractual doctors from NHM. However, this leaves PHCs with even more shortfall of doctors. In Telam MPHC, only one retired doctor is working that is attached through NHM who as spoken by the doctor himself is

unable to withstand the pressure. The district being malaria prone district, 3 Malaria Technical Supervisors are deployed in BPHCs – Jonai, Sissiborgaon and Gogamukh.

3.3.3.17.2. Ambulance Facility

Ambulance services are provided via *102* and *108* dial services. A total of 5 ambulances are available through *102* and a total of 7 are available through *108*. However, it was found that in Telam MPHC, their ambulance facility was unavailable since vehicle was non-functional since meeting an accident over a month ago even as it was in state where it could be repaired.

3.3.3.17.3. Major Diseases

Malaria, Diarrhea, Dysentery, Acute Respiratory Infection, Fever and Japanese Encephalitis are the major diseases reported in the district. Data on number of instances (as per Census 2011) of these can be found in *Annexure 2*.

Vaccination camps are undertaken for dealing with deadly *JE.* The first phase of immunisation was organized in February 2014.

3.3.3.17.4. Rapid Diagnostic Kits

All the health centres are reported to have Rapid Diagnostic Kit for conducting Blood, Urine, Hepatitis B tests, among others. All ASHAs are trained on conducting these.

3.3.3.17.5. Blood Banks

While there is a blood bank in Dhemaji, there is a need of setting up another blood bank at Jonai sub-division, especially to save lives of people who die on way to Dhemaji due to profuse bleeding from road accidents.

3.3.3.17.6. Credible Non-governmental Organisation

Three NGOs were reported by the department to be making a good and legible contribution in the district. These are: *Kalpabriksha* for free cataract operation, *Gyan Vigyan Samiti* for conducting X-Ray, ECG, Ultrasound and free cataract operation, and *Karpumpuli* for HIV/AIDS.

3.3.3.17.7. Mutilators

Mutilators are provided to all the health centers to ensure needles are destroyed so as to prevent their reuse. However, in a few cases, it was found that mutilator needs to be repaired or are not being used.

3.3.3.17.8. Institutions

S. No.	Type	No. of Beds	Numbers
1.	Civil Hospital	100	1
2.	CHCs	30	3
3.	PHCs (including MPHCs)	6-8	18
4.	Sub Centers	NA	NA
5.	Mobile Medical Units	Not applicable	2
6.	Boat Clinics	Not applicable	1
7.	Blood Banks	Not applicable	1
8.	Clinical laboratories	Not applicable	18

Table 29Provides the number of health institutions in the district.

3.3.3.17.8.1. Health Sub Centres

The district has a number of Health Sub Centres functional at village via health department. Their assessment is done in depth as below.

3.3.3.17.8.1.1. Risk from Floods/Flash Floods

4. **Construction and Location**

   The health sub-centre at Siripani GP was located in the middle of the Mesamari River which was severely inundated during the three months. Though the centre has been built at a plinth height of approx. two metres still it was very much vulnerable to the floods and to the consequences of it i.e. sedimentation and erosion. Last year the centre was inundated.

   At Bhebeli GP and Ujoni Sissi Tongani GP the sub-centres were built at high lands securing them from floods, a positive sight to look at. The area around the sub-centre area subjected to sedimentation which over the period has resulted in the reduction of the plinth height. To prevent erosion measures like agro-forestry has been taken which could be visibly observed at almost all the sub-centres during the assessment.

5. **Infrastructure**

   The infrastructure at sub-centre Machkhowa GP was not pleasing, since there was a CHC in the GP the structure of the sub-centre has been completely neglected and was set-up in a bamboo house. The infrastructure was quite disheartening as most of the sub-centres had a dysfunctional toilet with no running water facility. Every sub-centre had raised Hand Pumps which was a positive aspect.

6. **Epidemics**

   Bio-waste disposal was a matter of concern. There was no segregation of different type of wastes at the centre. All the waste was burnt in an open space without an incinerator .There was no proper sterilization technique employed but the surgical tools were boiled in water for sterilization. The hygiene was proper and also there was a Hand wash kept for washing the hands. During the assessment generally there was a problem of stagnated water at most of the sights which would lead to water borne diseases. The medicines were well within the expiry date and also the stock of all essential medicines, contraceptives and vaccinations were available at the centres.

3.3.3.17.8.1.2. Risk from Hazard: Earthquake

There has been no retrofitting done since the inception. The negligence was quite reflected in the damaged roofs which were about to fall in Siripani GP.

3.3.3.17.8.2. PHCs and CHCs

3.3.3.17.8.2.1. Risk from Floods or Flash Floods

1. **Location and Construction**

   Generally they are located on the main road nearby the block office. Thus they are not generally in the buffer zone and as per the historical data they have rarely been inundated. A certain plinth height has been maintained was observed during our assessment.

2. **Capacity**

   During the floods the sub-centres are closed while the PHC and Civil Hospitals are there to handle mass casualty. Generally PHC is 6-8 bedded with 3 MO, the capacity of the PHC is generally exhausted at the time of floods.

3. **Infrastructure**

They have running water facilities and also power supply 24 hours. Sanitation is taken care of quite well and there is a sweeper deployed for its maintenance at the PHC.

3.3.3.17.8.2.2. Risk from Epidemics

Bio-waste disposal was a matter of concern. There was no segregation of different type of wastes at the centre. All the waste was burnt in an open space without an incinerator. There was proper equipment for the sterilization of the surgical tools. There were refrigeration units in the laboratory. The hygiene was proper and also there was a Hand wash kept for washing the hands. The medicines were well within the expiry date and also the stock of all essential medicines, contraceptives and vaccinations were available at the centres.

The rooms were clean and properly cleaned on the regular basis. Phenyl and surgical alcohol were used as the disinfectant.

3.3.3.17.8.2.3. Risk from Earthquake

No retrofitting done in the Centre. The buildings are generally old and need repair but are neglected. As per the assessment with different line departments there is a meeting organised annually where the different departments amongst make consensual decisions on the matter of convergence between them, but still no action has been taken by PWD in this regard.

3.3.3.17.8.2.4. Risk from Fire

The buildings of PHC are generally large enough to be susceptible to fire. There have been fire extinguisher mounted in place but have not been inspected and changed for a very long duration. No fire assessments have been done to make a proper plan and also the staff is unaware as they have never had a training given. The electrical wiring were in a decent condition.

3.3.3.17.8.3. Civil Hospital

3.3.3.17.8.3.1. Risk from Floods or Flash Floods

1. **Construction and location**

   The Location of the civil hospital is in the interiors which do questions its accessibility but at the same time it is at a very low risk to inundation due to its seclusion from the river bank. Road connectivity is there to the hospital which connects it to NH 52. The building was constructed in 1987 and is made in a planned way. It is the life-line of the district not only in the times of flood but also on daily basis. The construction requires repairing as cracks on the walls and uneven floor surface is quite visible. The drainage system is proper though there were some visible issues of stagnant water.

2. **Infrastructure**

   It is a 100 bedded hospital with Teleradiology, a Blood Bank and a Laboratory. It has proper sanitation facility and running water supply. There is a new two floored building built dedicated for maternal and neo-natal care. It has no lift but a ramp to carry the patients on a wheelchair or a stretcher. Though there is a single wheel chair and three chairs in the working condition.

3.3.3.17.8.3.2. Risk from Earthquake

The main issue is lack of retrofitting in any of the old buildings as it has become old and need strengthening to withstand structure during a severe earthquake.

3.3.3.17.8.3.3. Risk from Fire

There are fire extinguisher mounted at all accessible location but have never been replaced since they were installed. They are dated way back of 1988 and still there is no clue of replacement. There have been trainings when the fire assessment was done for the new building. There is no evacuation route marked in case if there is ever to be an emergency evacuation to make though it has a very open construction free from any obstructions.

3.3.4. Social Assessment

3.3.4.1. Civic Participation

Civic participation is an individual's involvement in local affairs and perceptions of ability to influence them. It is the show of trust in public institutions that are in place that prevents communities from indulging in left wing extremism and focus towards growth and prosperity.

3.3.4.1.1. Gram Sabhas & PRIs

Gram Sabhas are organized three to four times in a year, particularly on 26th January, 15th August and 2nd October when development plans for the next year are proposed. The communication of Gram Sabha is done through loudspeakers 3 days beforehand but its reach is limited as this is not done in every village to make the announcement. For instance, village inhabited by Mising in Sisimukh reported that they generally are not made aware as to when the meetings are held. Furthermore, families that are attached with governing body come to know about it from the family members. As a result, people who attend are generally those that are closer to the governing members further it is male dominated and participation from the common people is negligible.

Average Gram Sabha witnesses an attendance of 200-300 people in actual and issues are debated. Scarce resources and vast needs create confusions/conflicts at times. It can be said that there is low to average level of faith among the people in the usefulness of this institution.

3.3.4.1.2. PRIs and Other Community Leaders

GP Presidents, the elected representatives at Panchayat level were regarded as approachable by majority of people interviewed. However, complaints of taking bribe from beneficiaries have also been received from a couple of scheme beneficiaries interviewed.

Respondents expressed faith and respected Gaonburahs, in general, though there were few complaints of being biased specially in case of flood relief allocation. Villagers also expressed faith in their ward representatives and generally approached them with their grievances.

3.3.4.1.3. Police

They are not approached by the villagers in case of minor offences. However they are approachable and quick in response. The villagers avoid getting entangled in their lengthy procedures. For this some of the GPs have a Village Defence Party (VDP) that tries to solve the issue through mutual consensus. Moreover the Gaonburah plays a vital role in solving problems within the different communities and individuals in the village. In some cases the police outpost is located farther away from the GP due to which they cannot access it when required.

3.3.4.1.4. Village Level Committees

Few GPs reported to have committees like Village Health Sanitation Nutrition Committee (VHSNC), Village Disaster Management Committee (VDMC), Plantation Committee, etc to be set-up. However, even in those, it was found that these are not properly functional. In some GPs where VHSNC, SDMC was found are Chamarajan, Lakhipathar, Sissimukh. The activity of VHSNC is majorly limited to spreading awareness regarding hygiene and sanitation. It is generally done by the ASHA workers. In some GPs, toilets constructed by VHSNC were reported.

3.3.4.1.5. Public Administration

It is found that communities have limited views on *PA* due to limited involvement of administration and department personnel in selection and implementation of projects. In the eyes of public, the Grievance Redressal faces delays. The voice of the general public has remained unheard and their grievances are not addressed to a larger extent.

3.3.4.1.6. Self Help Groups

People do not hesitate to form SHG groups of the sizes of 10-20 members irrespective of the community other members belong to so as to engage in economic profitability of all. There are a large number of SHGs created that have interest in diverse activities like Sericulture, Piggery, Pisciculture and Cultivation. Most of the SHGs formed are linked with banks through which they receive subsidy from the government. However, due to poor bank density the access is limited. In some GPs the SHGs formed are functioning well where as in some GPs they have stopped functioning due to scarcity of funds. Some have market linkages while some don't. The SHGs which had market linkages had them mainly through agents who visited the SHGs to source the finished products like Mekhla Chadar and Gamcha and Jhapi(Traditional Headgear). Mismanagement of the resources is a serious limiting factor for the SHGs. ASRLM has boosted weekly meetings of SHGs under the GP. People own the groups they belong to and are interlinked very closely by shared interests.

3.3.4.2. Reciprocity & Trust

There is a good deal of reciprocity and trust among community members, in general. People in the district live in harmony. Though there is a social hierarchy in place, the people in the GPs have no hard feelings against any section of the society. Hinduism followed by Christianity is the major religion followed by the people at large. Most of the GPs have a mixed demographic composition (Ahom, Chetri, Chutiya, Mising, Nepali, Bengali, Bihari, Muslims and others). Very few are inhabited by people belonging to the same race and tribe. Though the social and cultural fabric is strongly woven in the GPs, when it comes to sharing of financial resources people are less willing to part with theirs for the larger benefit of the society.

3.3.4.2.1. Cooperatives / Producer Organisations

Public distribution shops in all villages are members of cooperatives in which government has a majority share (90%). The shop owners are agents of the cooperatives distributing food articles as per the different schemes implemented by the government.

3.3.4.2.2. Cultural Groups

The villagers have their own groups that are active in celebration of local festivals, drama and Bhavauna. Most of the members and participants are the rural youth. Moreover every village in the GP has specific interest groups that are focused on traditional dance, Jatra (drama) sports and other activites. The village sports committee participates and compete against each at Block level competitions from time to time. The villagers have specific Bihu groups that perform during Bihu. They perform the traditional Bihu dance at the block level and also perform in their village community halls and Namghar.

3.3.4.3. Non-Governmental Organisations

The NGOs active are: Sreejan in Jonai, Sarba Gram Seva Sangh in Machkhowa, and World Vision and Rural Voluntary Centre in Ujani Sisitongani.

*Srijan*is linked with the USHA group. It provides training in stitching to 10 adolescent girls and women in the GP. Further they provide them an assistance of Rs. 500 for the procurement of Sewing

machine. The principle upon which it works is of mutual help. The trainees have to train others after successfully completing their own training.

*Sarba Gram Seva Sangh*provides basic training to women regarding day to day operations of the SHG. They are trained in maintenance of office documents and are further provided basic information and knowledge regarding steps and precautions to be taken in case of Piggery and Sericulture.

*World Vision and Rural Voluntary Centre***:** They provide training to children in disaster management. Further it provides scholarship to deserving marginalised children and also provides livestock free of cost to poor and marginalised farmers as an alternative source of livelihood.

3.3.5. Heritage Sites

There are two heritage sites in the district both of which are in very close proximity to each other. One is Maa Manipuri Than and the other one is Ghuguha Dol.

Maa Manipuri Than: It lies in the south-west direction of Dhemaji town and is a popular ancient temple established by the Ahom rulers. Surrounded by lush green surroundings and thick forests, the site was established by Gaurinath Singha, an Ahom King. Constructed with the aim to help natives to control the Mua-Mariah renaissance, the site is frequented by a large number of devotees and pilgrims throughout the year.

Ghuguha Dol: Popularly known as Ghuguha, it is located about 15 kms away on the south western side of Dhemaji. It is a historical tourist spot of Dhemaji district. Historical evidence states this place as the birthplace of Bamuni Konwar, the son of Tyao Khamati who was an Ahom king. Furthermore, it is believed that the shrine was constructed in memory of Ghuguhi, mother of Bamuni Konwar and queen of Tyao Khamti.

3.3.5.1. Geographic and Topographic conditions

S. No.	Heritage Site	Soil Type	Ground Water Level	Land Type & Location	Climate
1.	Maa Manipuri Than	Clayey	10-15 feet	Plains; Not on the edge of the river or in close proximity.	Rainy and humid. Temperature ranges from 40 degree Celsius in summers to a low of 6 degrees in winters.
2.	Ghuguha Dol	Clayey	10-15 feet	Plains and formerly on river edge. The river has now changed its course.	Rainy and humid. Temperature ranges from 40 degree Celsius in summers to a low of 6 degrees in winters.

Table 30 Showing Geographic and Topographic conditions of Heritage Sites

3.3.5.2. Monument Assessment

3.3.5.2.1. Management Body

Maa Manipuri Than site is managed by a Trust formed by locals belonging to the Panchayat. All works such as management, retrofitting of heritage building and restoration of deep depressions (pokhras) through MGNREGS are funded or coordinated by the trust. No information was available for *Ghuguha Dol*.

3.3.5.2.2. Management Plan

There is no site management plans in place for the management of large number of crowd. However, the site is not visited by a large crowd. There is no emergency response plan that has been made because of low number of visitors to the site on any given day.

3.3.5.2.3. Enclosure Walls

The enclosure walls were built for both the monuments.

3.3.5.2.4. Emergency Medical Unit

No emergency medical units in place. However, there is no need identified.

3.3.5.3. Risk from Hazards

3.3.5.3.1. Floods

Floods are the major hazard in the region.

Maa Manipuri Than is however placed at a safe position at about 4 Kms from the river Jiadhal.

Ghuguha Dol is however not reported to be affected by floods. Although, the site is at a much lower height than the main road and is susceptible to water logging for long periods.

3.3.5.3.2. Earthquake

The region is in Seismic V zone. However, the structure was recently renovated and has also stood up to major earthquake of 1950.

3.3.5.3.3. Human Induced Risks

3.3.5.3.3.1. Violence

The region is known for communities' peaceful coexistence and the risk from human conflicts to the heritage site doesn't exist.

3.3.5.3.3.2. Urbanisation

Both the sites are in rural areas and the surrounding areas are not densely populated.

3.3.5.3.3.3. Encroachment

To ensure there is no encroachment into the site, a protective boundary wall has been constructed.

3.3.5.3.3.4. Air Pollution

There are no industries around the site and it is located in green pastures with decent level of forestation. The site is also several Kilometers from the national highway. The vehicular movement is very low around this site.

3.3.5.4. Capacity Built against floods

Maa Manipuri Than

1. A number of deep land depressions (pokhras) have been made, some as old as the time of construction of the structure that it will be protected even against extremely situations when floods may be a risk to it. Recently, these pokhras were also renovated through renovation projects under MGNREGS.
2. The site has protective boundary walls that are 4 feet in height that would prevent it from flooding.

Ghuguha Dol

The site has protective boundary walls that are 4 feet in height that would prevent it from flooding.

Annexes

Annexure 1: Occupational Involvement of District's Population

Population	Persons	Males	Females
Total	686,133	351,249	334,884
In the age group 0-6 years	104,247	53,457	50,790
Scheduled Castes (SC)	44,225	23,006	21,219
Scheduled Tribes (ST)	325,560	165,449	160,111
Literates	423,028	237,761	185,267
Illiterate	263,105	113,488	149,617
Total Worker	316,800	186,577	130,223
Main Worker	201,364	145,683	55,681
Main Worker - Cultivator	145,889	102,532	43,357
Main Worker - Agricultural Labourers	4,791	2,983	1,808
Main Worker - Household Industries	3,109	1,932	1,177
Main Worker - Other	47,575	38,236	9,339
Marginal Worker	115,436	40,894	74,542
Marginal Worker - Cultivator	86,048	28,891	57,157
Marginal Worker - Agriculture Labourers	14,390	5,001	9,389
Marginal Worker - Household Industries	4,115	985	3,130
Marginal Workers - Other	10,883	6,017	4,866
Marginal Worker (3-6 Months)	94,472	32,852	61,620
Marginal Worker - Cultivator (3-6 Months)	69,823	22,787	47,036
Marginal Worker - Agriculture Labourers (3-6 Months)	12,111	4,200	7,911
Marginal Worker - Household Industries (3-6 Months)	3,194	692	2,502
Marginal Worker - Other (3-6 Months)	9,344	5,173	4,171
Marginal Worker (0-3 Months)	20,964	8,042	12,922
Marginal Worker - Cultivator (0-3 Months)	16,225	6,104	10,121
Marginal Worker - Agriculture Labourers (0-3 Months)	2,279	801	1,478
Marginal Worker - Household Industries (0-3 Months)	921	293	628
Marginal Worker - Other Workers (0-3 Months)	1,539	844	695
Non Worker	369,333	164,672	204,661

Annexure 2: Households by Main Source of Drinking Water and Location of Dhemaji District

	Total number of HHs	Tap water from treated source	Tap water from un-treated source	Covered well	Un-covered well	Hand pump	Tube well/ Borehole	Spring	River/Canal	Tank/ Pond/ Lake	Other sources
Total											
Total	1,29,559	2,374	591	755	9,430	65,838	36,334	409	7,501	3,574	2,753
Within the premises	71,165	1,817	270	417	5,250	41,382	22,029	0	0	0	0
Near the premises	38,063	384	222	200	2,366	17,421	10,042	111	3,573	3,047	697
Away	20,331	173	99	138	1,814	7,035	4,263	298	3,928	527	2,056
Rural											
Total	1,19,112	1,732	506	681	9,046	61,260	31,688	408	7,493	3,571	2,727
Within the premises	62,344	1,204	192	348	37,443	18,201	0	0	0	0	0
Near the premises	36,592	358	218	198	2,288	16,851	9,276	110	3,565	3,046	682
Away	20,176	170	96	135	1,802	6,966	4,211	298	3,928	525	2,045
Total	10,447	642	85	74	384	4,578	4,646	1	8	3	26
Within the premises	8,821	613	78	69	294	3,939	3,828	0	0	0	0
Near the premises	1,471	26	4	2	78	570	766	1	8	1	15
Away	155	3	3	3	12	69	52	0	0	2	11

Annexure 3: Health Scenario in the District (as per 2011 census)

Persons suffering from Acute Illness (Per 100,000 Population) of Dhemaji District

ACUTE ILLNESS									
Persons suffering from Acute Illness (Per 100,000 Population)									
Diarrhoea/Dysentery									
	Person			Male			Female		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Assam	1386	1448	1101	1377	1445	1067	1395	1451	1137
Dhemaji	872	874	856	858	853	917	887	896	790

ACUTE ILLNESS									
Persons suffering from Acute Illness (Per 100,000 Population)									
Acute Respiratory Infection (ARI)									
	Person			Male			Female		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Assam	4877	4836	5064	4635	4616	4723	5129	5064	5427
Dhemaji	1838	1858	1630	1705	1718	1566	1979	2005	1699

ACUTE ILLNESS									
Persons suffering from Acute Illness (Per 100,000 Population)									
Fever (All Types)									
	Person			Male			Female		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Assam	3831	4014	2999	3698	3887	2846	3970	4145	3163
Dhemaji	3212	3232	2995	3042	3087	2550	3393	3386	3471

ACUTE ILLNESS									
Persons suffering from Acute Illness (Per 100,000 Population)									
Any type of Acute Illness									
	Person			Male			Female		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Assam	11180	11434	10021	10656	10942	9371	11726	11945	10715
Dhemaji	7022	7061	6603	6635	6690	6040	7432	7453	7204

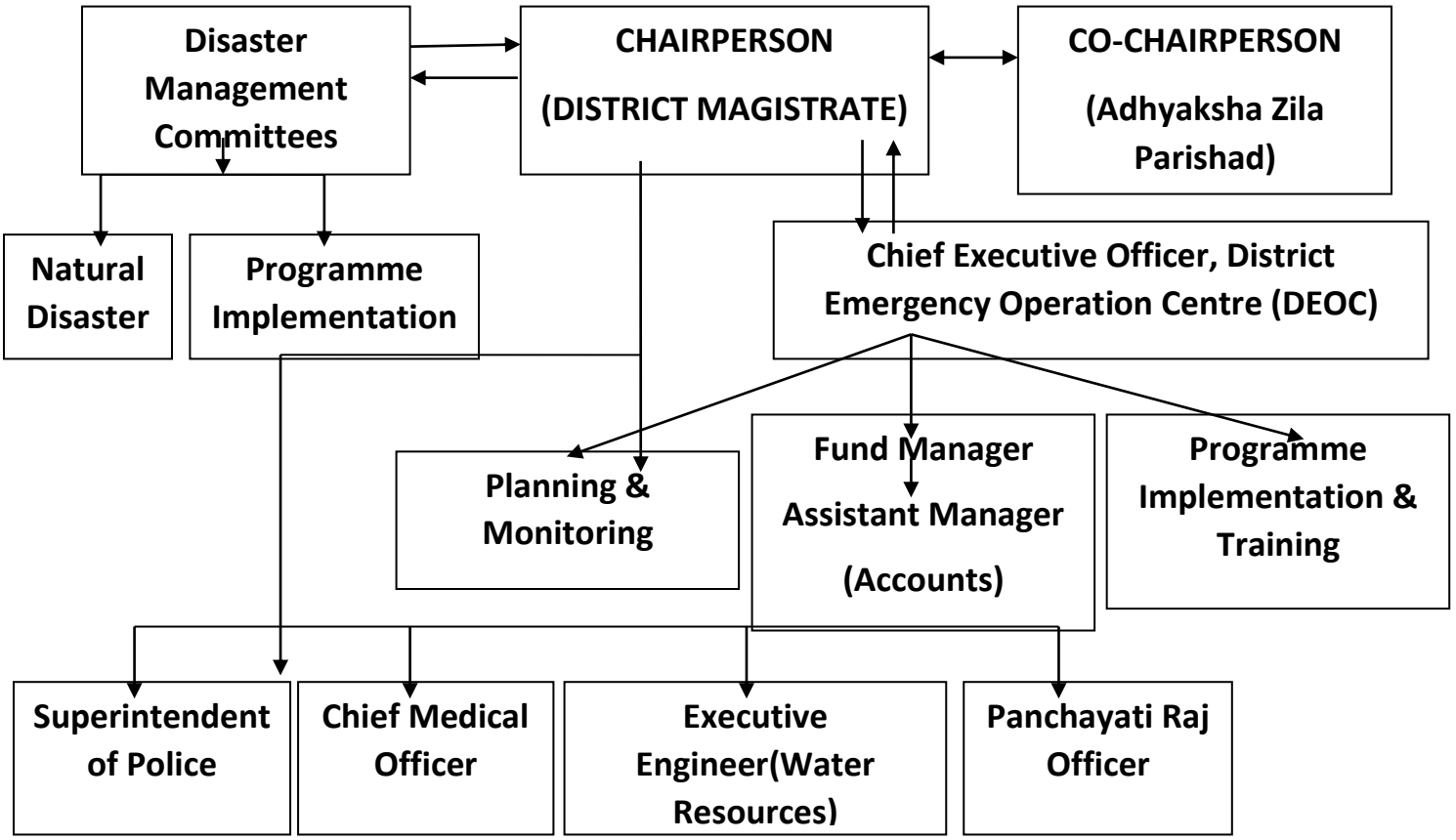
ACUTE ILLNESS									
Persons suffering from Acute Illness and taking treatment from Any Source (%)									
	Person			Male			Female		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Assam	87.8	87.3	90.4	88.5	88.1	90.7	87.1	86.5	90.1
Dhemaji	90.1	89.8	93.5	91.0	90.7	94.4	89.3	89.1	92.7

ACUTE ILLNESS									
Persons suffering from Acute Illness and taking treatment from Government Source (%)									
	Person			Male			Female		
	Total	Rural	Urban	Total	Rural	Urban	Total	Rural	Urban
Assam	33.8	34.7	29.5	33.4	33.4	28.3	34.2	35.0	30.6
Dhemaji	48.7	49.5	39.1	48.2	49.0	38.4	49.2	50.0	39.8

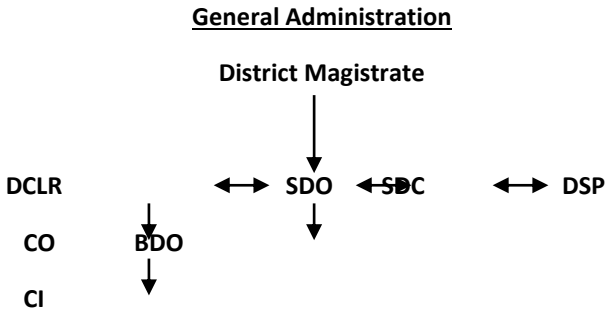
Section 4

Institutional Mechanism for Disaster Management

4.1 Organisation Structure: District Disaster Management Authority (DDMA)



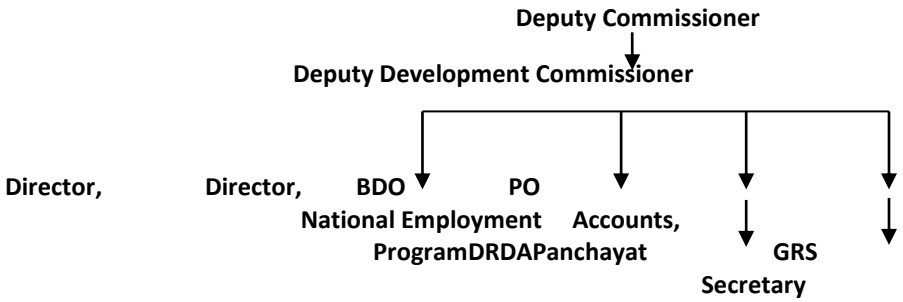
4.2 Coordination Structure: From District level to Gram Panchayat level



Abbreviations:

1. **DCLR: Deputy Commissioner of Land Revenue**
2. **SDO: Sub Divisional Officer**
3. **SDC: Senior Deputy Collector**
4. **DSP: Deputy Superintendent of Police**
5. **CO: Circle Officer**
6. **CI: Circle Inspector**

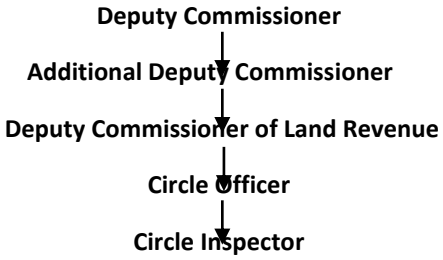
Rural Development



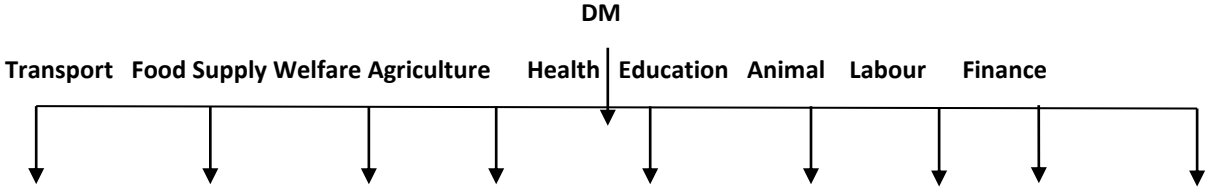
Abbreviations:

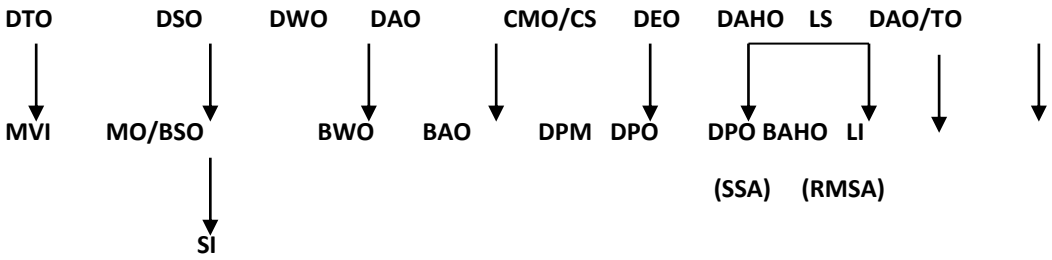
1. **PO: Panchayat Officer**
2. **GRS: Gaon Rozgar Sevak**
2. **BDO: Block Development Officer**

Revenue



Line Departments





Abbreviations:

1. **DTO: District Transport Officer**
2. **MVI: Motor Vehicle Inspector**
3. **DSO: District Supply Officer**
4. **BSO: Block Supply Officer**
5. **DWO: District Welfare Officer**
6. **BWO: Block Welfare Officer**
7. **DAO: District Agriculture Officer**
8. **BAO: Block Agriculture Officer**
12. **CMO/CO: Chief Medical Officer / Civil Surgeon**
13. **DPM: District Programme Manager**
14. **DEO: District Education Officer**
15. **DPO (SSA): District Programme Officer, Sarva Shiksha Abhiyan**
16. **DPO (RMSA); District Programme Officer, Rashtriya Madhyamik Shiksha Abhiyan**
17. **LS: Labour Superintendent**
18. **LI: Labour Inspector**
19. **DAO / TO: District Accounts Officer / Treasury Officer**

Engineering Departments

Departments

The departments listed below follow the same hierarchical structure as below.

1. **Public Works Building**
2. **Public Works Roads & Bridges**
3. **Assam State Electricity Board, Dhemaji**
4. **Public Health Engineering**

District Magistrate

↓

Executive Engineer

↓

Assistant Engineer

↓

Junior Engineer

<u>Panchayati Raj</u>

District Magistrate

↓

District Panchayati Raj Officer

↓

Block Panchayati Raj Officer

↓

Panchayat Secretary

<u>Law & Order</u>

District Magistrate

↓

Superintendent of Police

↓

Additional Superintendent of Police

↓

Deputy Superintendent of Police

↓

Inspector of Police

↓

Sub-Inspector of Police

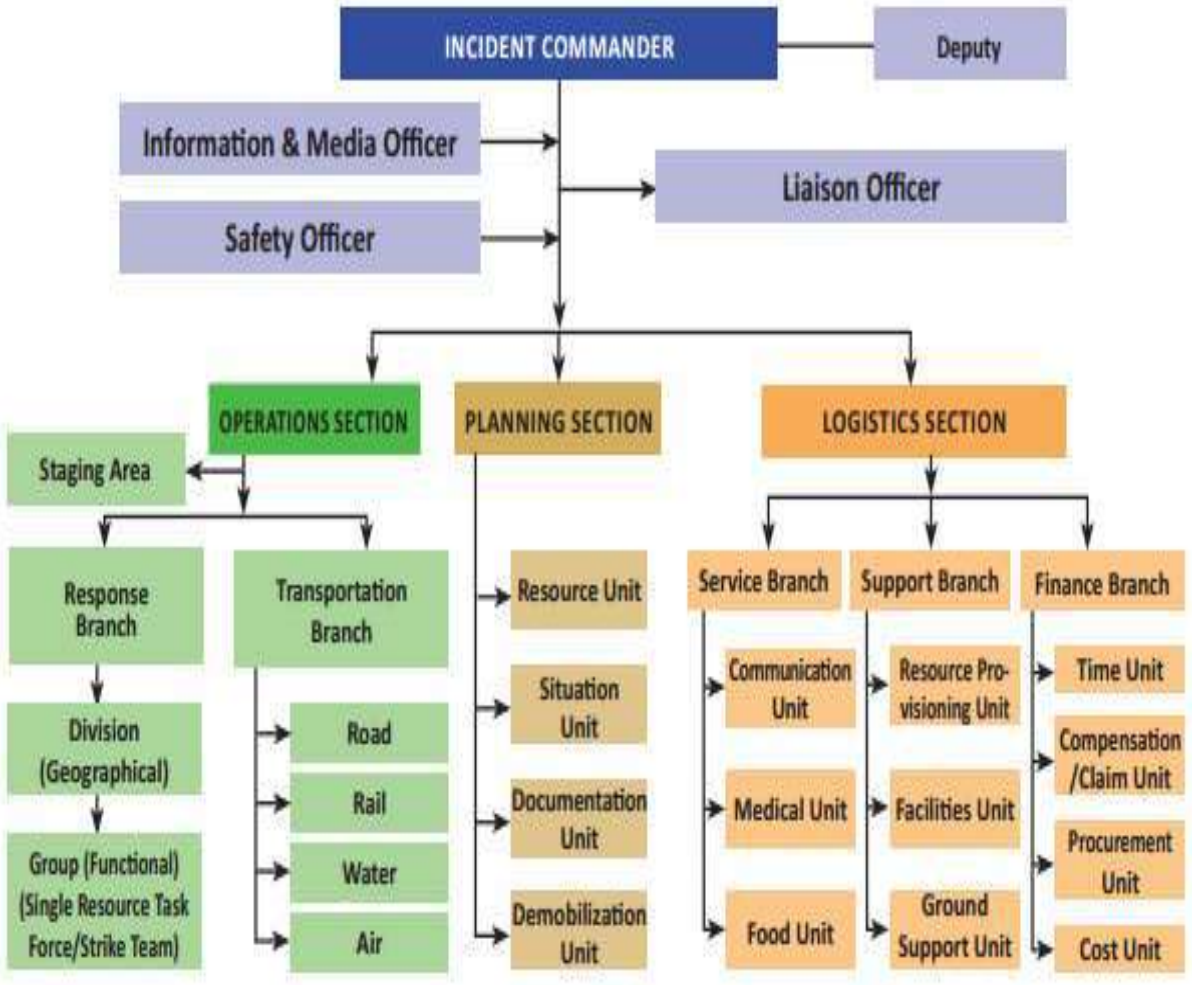
↓

Assistant Sub-Inspector of Police

↓

Police Head Constable

4.3 Structure: Incident Response System / Crisis Management Group



4.4 Disaster Response Teams – Civil Defence, Home Guards, NSS, NCC, NYKS, Red Cross Society

S. No.	Name of the Institution	Name of the Chief Coordinator of the Organisation	Designation of the Organisation Head	Contact Number	Alternate Contact Number	Number of Volunteers
1.	Civil Defence					
2.	Home Guards					
3.	National Service Scheme (NSS)					
4.	National Cadet Corps (NCC)					

5.	**Nehru Yuva Kendra Sansthan (NYKS)**					
6.	**Red Cross Society**					

4.5. District Disaster Management Advisory Committee

S. No.	Designation	Position
1.	Deputy Commissioner	Chairperson
2.	Chairperson, Zila Parishad	Co-Chairperson
3.	Additional Deputy Commissioner (Disaster Management)	Member Secretary
4.	Superintendent of Police	Member
5.	Chief Medical Officer	Member
6.	Executive Engineer, Water Resources	Member
7.	Executive Engineer, PWD (Rural & State Roads)	Member
8.	Project Director, DRDA	Special Invitee
9.	Circle Officers	Special Invitee
10.	District Food & Civil Supplies Officer	Special Invitee
11.	District Agriculture Officer	Special Invitee
12.	Executive Engineer, ASEB	Special Invitee
13.	Executive Engineer, Irrigation	Special Invitee
14.	Executive Engineer, PHE	Special Invitee
15.	District Animal Husbandry & Veterinary Officer	Special Invitee
16.	District Project Officer, ASDMA	Special Invitee
17.	Coordinator, Civil Defence	Special Invitee
18.	District Sports Officer	Special Invitee

Section 5

Financial Resources for implementation of DDMP

5. Government Programmes & Schemes

Disaster Management mainstreaming in development planning is the most critical component to mitigate disaster risks. That's why it's important to make note of financial resources which are used in the implementation of such programmes and schemes which can lessen the risk from disasters by reducing vulnerability, while also are crucial to build communities resilience to deal with them. Moreover, as mandated by Ministry of Finance & Ministry of Home Affairs on 01st and 03rd June, 2014 respectively, 10 % flexi-fund within the centrally sponsored schemes (CSS) be utilised, inter0alia for mitigation / restoration activities in the event of natural calamities in the sector covered by CSS. Thus, relevant Central Government and State Government funded schemes are identified which are crucial to build over resilience of communities in the context of the district.

5.1. Central Government's Programmes & Schemes

5.1.1. Risk Insurance Schemes

1. Crop Insurance Scheme

Scheme: National Agricultural Insurance Scheme (NAIS) / Rashtriya Krishi Bima Yojana (RKBY)

Nodal Department: Agriculture Insurance Company of India (AICIL)

Objective: To protect the farmers against the losses suffered by them due to crop failures on account of natural calamities, such as droughts, floods, hailstorm, storms, animal depredation, etc.

2. Life Insurance Scheme

Scheme: Janashree Bima Yojana

Implementing Agency: Life Insurance Corporation of India

Objective: The objective of the scheme is to provide life insurance protection to the rural and urban poor persons below poverty line and marginally above the poverty line.

3. Health Insurance Scheme

Scheme: Rashtriya Swasthya Bima Yojana (RSBY)

Nodal Agency: National Rural Health Mission

Objective: To provide health insurance cover to BPL population and informal sector workers of India. This is to protect these families from shocks related to catastrophic expenditures on health by improving access to health and reducing out of pocket expenditure.

4. Health & Personal Accident Insurance

Scheme: Mukhya Mantri Jibon Jyoti Bima Achoni

Nodal Department: Social Welfare

Objective: It is to provide health insurance as well as personal accident insurance scheme for all citizens of the state.

5. Medical cum Life Insurance

Scheme: Universal Health Insurance Scheme (UHIS)

NodalAgency: Public Sector General Insurance Companies

Objective: It is to provide health care access to poor BPL families by reimbursement of medical expenses up to Rs. 30,000 towards hospitalization. In case of death due to accident, it provides a cover of Rs. 25,000.

5.1.2. Health Sector Schemes

1. **Maternal & Neo-natal Mortality Reduction**

   Scheme: Janani Suraksha Yojana (JSY)

   Nodal Agency: National Health Mission

   Objective: JSY is implemented with the objective of reducing maternal and neo-natal mortality by promoting institutional delivery among the poor pregnant women. It integrates cash assistance with delivery and post-delivery care.

2. **School Health Check-ups**

   Scheme: School Health Programme (SHP)

   Nodal Agency: District Health Society

   Objective: SHP is especially focused on conducting health check-ups in schools. It provides for immunization, micronutrient management, de-worming, health promoting schools, capacity building and screening, health care and referral.

5.1.3. Education Sector Schemes

1. **Sarva Shiksha Abhiyaan (SSA)**

   Nodal Agency: Education Department

   Objective: To better prepare schools to deal with hazards such as Storms, Floods, Earthquake, Droughts, Fire, etc.

2. **Rashtriya Madhyamik Shiksha Abhiyan (RMSA)**

   Nodal Agency: Education Department

   Objective: To better prepare schools to deal with hazards such as Storms, Floods, Earthquake, Droughts, Fire, etc.

5.1.4. Employment Generation Programs

1. **Mahatama Gandhi National Rural Employment Guarantee Scheme (MGNREGS)**

   Nodal Agency: DistrictRural Development Department

   Objective: To provide livelihood security to people while creating assets. It shall be utilised to mitigate disaster risks.

2. **Prime Minister's Employment Generation Programme (PMEGP)**

   Nodal Agency: District Industries Centre (DIC)

   Objectives: To increase resilience of people to better deal with disaster by generating employment opportunities in rural as well as urban areas for traditional and prospective artisans,

rural and urban unemployed youth through setting up of new self employment ventures / micro enterprises.

3. **Prime Minister Rozgar Yojana (PMRY)**

   Nodal Agency: District Industries Centre

   Objective: To provide self employment opportunity to unemployed educated youth by supporting setting up of ventures. The impetus needs to be given on the programme to improve GDDP, average income, increasing employment and resilience of communities in the district.

4. **Swarna Jayanti Shahri Rozgar Yojana (SJSRY)**

   Objective: To build resilience of the urban poor to better deal with any disasters by assisting them (with loans or subsidy) in setting up of self-employment ventures. It is also to provide skill training to increase employability for the urban poor.

5. **National Rural Livelihood Mission (NRLM) / Assam State Rural Livelihood Mission (ASRLM)**

   Objective: To improve the income generation capacity of poor communities' by building their asset base through SHG model.

6. **Skill Development Initiative (SDI)**

   Nodal Ministry: Directorate of Employment & Training, Ministry of Labour

   Objective: To provide vocational training to school leavers, existing workers, ITI graduates and unemployed to improve employability while also testing and certifying existing skills of the persons.

5.1.5. Women & Child Development

1. **State Home for Women**

   Nodal Agency: Social Welfare Department

   Objective: To provide holistic and integrated services and stay arrangements to destitute women in difficult circumstances such as those affected from disasters or ethnic violence, to help them regain emotional and economic strength.

2. **Home for Orphan and Destitute Children**

   Nodal Agency: Social Welfare Department

   Objective: This is to support rehabilitation of orphan and destitute Children of disasters and violence, while preventing them from abuse, neglect and exploitation.

3. **Rashtriya Mahila Kosh (RMK)**

   Nodal Ministry: Women & Child Development

   Objective: The objective is to reach out to the women beneficiaries with easy access of micro credit for income generating activities such as dairy, agriculture, shop-keeping, vending, handicrafts, etc. via intermediary organisations that on-lend to SHGs.

4. **Integrated Child Development Services (ICDS)**

Nodal Agency: Social Welfare Department

Objective: To address malnutrition, morbidity and mortality through Anganwadi centers.

5.1.6. Housing Schemes

1. **Rajiv Awas Yojana (RAY)**

   Nodal Agency: Town & Planning Committee

   Objective: To provide basic urban amenities that include housing, water supply, sewerage, drainage, approach roads, street lighting and social infrastructure facilities in slums and low income settlements.

2. **Indira Awas Yojana (IAY)**

   Nodal Agency: District Rural Development Agency

   Convergence: With PHED for Individual Household Latrines & ASEB for rural electrification under *Rajiv Gandhi Grameen Vidyutikaran Yojana.*

   Objective: To provide financial assistance on priority to those that are affected by disasters to upgrade or construct a house of respectable quality.

3. Integrated Housing and Slum Development Programme (IHSDP)

4. **Pradhan Mantri Gramodaya Yojana (Gramin Awaas)**

   Implementing Agency: District Rural Development Agency

   Objective: To provide drinking water & sanitation facilities for those provided with house as per IAY.

5.1.7. Food Security

1. **Village Grain Bank Scheme**:

   Nodal Agency: Food & Civil Supplies Department

   Objective: To provide safeguard against starvation during the natural calamity or during lean season when the marginalized food insecure households do not have sufficient resources to purchase rations.

2. **Antodaya Anna Yojana Scheme**

   Nodal Agency: Food & Civil Supplies Department

   Objective: To provide food security to poorest of the poor that improves their resilience to deal with everyday life and losses from disasters.

3. **Annapurna Scheme**

   Nodal Ministry: Rural Development

   Objective: To provide food security to those indigent senior citizens who are not covered under the targeted PDS and who have no income of their own.

5.1.8. Family Welfare Schemes

1. **Family Planning Scheme**

Implementing Agency: District Health Society

Objective: To provide family planning services to prevent unsustainable increase of pressure on land.

2. **Menstrual Hygiene Scheme (MHS)**

Nodal Agency: District Health Society

Objective: Promotion of menstrual hygiene among adolescent girls between 10-19 years in rural areas.

The pilot has been implemented in 152 districts in 20 states. The scheme is currently not applicable to the district. However, it may become available in the next phase.

5.1.9. Drinking Water & Sanitation

1. **National Rural Drinking Water Programme (NRDWP)**

Nodal Agency: Public Health Engineering Department

Objective: To ensure access to drinking water in areas with limited access and to address water quality concerns in affected habitations..

2. **Total Sanitation Campaign (TSC) under Nirmal Bharat Abhiyaan (NBA)**

Nodal Agency: Public Health Engineering Department

Objective: To accelerate sanitation coverage in households and schools in rural areas those are not covered under SSA.

5.1.10. Social Assistance Schemes

1. **National Old Age Pension Scheme (NOAPS)**

Nodal Agency: Social Welfare Department

Objective: To make old people better resilient to deal with disasters by providing financial assistance.

2. **National Family Benefit Scheme (NFBS)**

Nodal Agency: Social Welfare Department

Objective: To make poor households cope financially for a period after the death of their bread winner due to natural causes, disasters or accidents, by providing one-time financial assistance.

3. **Indira Gandhi National Widow Pension Scheme**

Nodal Agency: Social Welfare Department

Objective: To make widows better resilient to deal with everyday life and disasters by providing financial assistance.

4. **Indira Gandhi National Disability Pension Scheme**

Nodal Agency: Social Welfare Department

Objective: To make disabled better resilient to deal with everyday life and disasters by providing financial assistance.

5.1.11. Communication

1. **Pradhan Mantri Gram Sadak Yojana (PMGSY)**

   Nodal Agency: Rural Works Department

   Objective: To provide better road connectivity so as to improve reach to rural produce to markets and to enhance the capacity to provide relief and evacuation.

5.1.12. Backward Regions Grant Fund (BRGF)

Nodal Agency: District Rural Development Agency

Objective: To provide financial resources for supplementing and converging existing developmental inflows. It is to be used for reflecting any locally felt needs such as boats requirement by people during floods.

5.1.13. Agriculture Development Schemes

1. **Accelerated Irrigation Benefits Programme (AIBP)**

   Nodal Agency: Minor Water Resources Department

   Objective: To provide major and medium irrigation projects with poor irrigation scenario.

2. **Rashtriya Krishi Vikas Yojana (RKVY)**

   Nodal Agency: Agriculture Department

   Objective: To promote scientific and region specific agriculture approaches and hazard resistant crop varieties, besides supporting fisheries and livestock development.

5.1.14. MPs Local Areas Development Scheme

Objective: To fund projects those are a priority for risk mitigation from disasters.

5.1.15. Border Area Development Programme

Objective: To meet special developmental / basic needs such as Drinking Water supply, Construction / maintenance of roads, livelihoods enhancement, electrification, etc. for the people living in remote and inaccessible areas situated near the International border.

5.2. State Government's Programmes &Schemes

5.2.1. Insurance Sector Scheme

1. **Mukhya Mantri Jiban Jyoti Bima Achoni**

   Nodal Agency: Social Welfare Departmet

   Objective: To make poor households cope financially for a period after the death of their bread winner due to natural causes, disasters or accidents, by providing financial assistance.

5.2.2. Employment & Income Generation Schemes

1. **Mukhya Mantrir Karmajyoti Achani**

Nodal Agency: District Industries Centre with support from P & RD

Objective: To augment rural employment by providing skills training and financial assistance to traditional artisans, weavers, blacksmith, potters, etc. and small cottage and khadi industrial units employing local youth.

2. **Chief Minister's Jeevan Jyoti Swaniyojan Yojana**

   Nodal Agency: Directorate of Industries & Commerce

   Objective: To promote self-employment by providing necessary bank loan and subsidy through Joint Liability Groups (JLGs).

3. **Chief Minister's Special Scheme**

   Nodal Agency: District Industries Centre

   Objective: To increase income of skillful individuals by providing yarns, looms, or other accessories to handloom workers shall help make them resilient in dealing with affect of disasters.

4. **Assam Agricultural Competitiveness Project**

   Nodal Agency: Agriculture Department, and Animal Husbandry & Veterinary Department, as applicable.

   Objective: To increase productivity and access to market, while increasing yields of crops, fish and livestock products. The objective is also to promote animal health through disease control and fodder development.

5.2.3. Disaster Management

1. **Assam Arogya Nidhi (AAN)**

   Nodal Agency: NRHM

   Objective: To provide financial assistance for general and specialized treatment for injuries caused by natural disasters and man-made disasters such as Bomb Blasts, Road, Rail, Industrial and Agricultural accidents.

2. **Assam Victim Compensation Scheme**

   Objective: To provide financial assistance to families of those who are killed in terror attacks and ethnic violence.

3. **State Plan Scheme**

   a. **Nodal Agency:** Soil Conservation Department

      Objective: To fast track erosion control and promote land development by implementing various projects under the scheme that include Gully Control Project, Land Development Project, Protective Afforestation and Integrated Wasteland Development Project.

   b. **Nodal Agency**: Fisheries Department

Objective: To promote reclamation of derelict water bodies, fish seed farming and providing training in fisheries to expand the income generation potential of fish cultivators in the district.

5.2.4. Health Sector Schemes

1. **Majoni Scheme**

   Nodal Agency: NRHM

   Objective: To promote institutional delivery while incentivizing Centre's 2-child policy.

2. **Mamoni Scheme**

   Nodal Agency: NRHM

   Objective: To reduce Maternal Mortality Rate by providing nutritional support.

3. **Chief Minister's Special Scheme**

   Nodal Agency: Health Department

   Objective: To prevent vector borne diseases to people by providing bed nets in infested areas.

5.2.5. Infrastructure Development Scheme

1. **Assam Bikash Yojana**

   Objective: To provide access to drinking water in priority habitations and road infrastructure to areas that get cut-off due to floods or those that are vulnerable to violence.

5.3. State Disaster Response Fund (SDRF)

The SDRF shall be used for providing immediate relief to the victims of Floods, Hailstorm, Cyclone / Storm, Drought, Earthquake and loss of agriculture due to Pest Attacks. The budget fund under SDRF for the current financial year 2014-15 is **320.62 crores**.

Section 6

Prevention, Risk Mitigation & Resilience Building Plan

The damages due to flooding, infrastructure destruction, severing of communication to remote regions, loss of lives of humans & animals and reduction in economic output are the risks faced by the district. Under these circumstances, it is the greatest priority of the district to mainstream disaster risk mitigation or its prevention through implementation of projects that are funded by several programmes and schemes. This shall be done by soil erosion control, river bank stabilization, roads and highway stabilization, bridge abutment stabilization, and the building sites, besides implementing measures to reduce incidence of disease outbreaks, road accidents and improving livelihoods to pull communities out of poverty and make them resilient to deal with disasters.

Prevention, Risk Mitigation and Resilience Building Plan is formulated to prevent, minimize or contain the impact of natural or manmade disaster incidents. The risk mitigation measures taken to reduce the impact of a hazard on people, infrastructure and the environment can include both structural and non-structural measures.

1. Infrastructural measures to prevent or mitigate risks from Earthquakes& Floods

1.1. Construction of Flood Safety Shelters

Several parts of the district are affected by floods that remain for a number of days. Under these circumstances, schools are used as temporary relief shelters. The construction of flood relief shelters will be undertaken in areas where schools are used as relief shelters which are also indicative of areas in need of flood shelters. The construction of these shelters will follow criteria for Earthquake resistant design of structures that follow standards **IS 1893:1984** and **IS 1893 (Part 1):2002** and Code of practice for earthquake resistant design and construction of buildings (3rd Revision) as per **IS 4326:2013.**

1.2. Construction of New Buildings

The construction of any new buildings will follow criteria for Earthquake resistant design of structures that follow standards **IS 1893:1984** and **IS 1893 (Part 1):2002** and Code of practice for earthquake resistant design and construction of buildings (3rd Revision) as per **IS 4326:2013.**

1.3. Structural Assessments and Retrofitting

Departments Concerned: Public Works – Building department and Civil Construction divisions of Sarva Shiksha Abhiyan and Rashtriya Madhyamik Shikhsha Abhiyan falling under Education department, and Private Parties.

1.3.1. Vulnerable Government Building Infrastructure

Preventing disruption of services by minimizing damage and thereby ensuring continuity of operations for all critical and lifeline buildings that include Hospitals, Health Centres, Schools, Concrete Anganwadi centres, Offices of Line Departments and District administration shall be ensured. Also, places where large crowds throng such as Places of Worship, Cinema Halls and Meeting Halls (Naam Ghar) must be assessed and retrofitted by private individuals within a set timeframe.

To ensure all existing lifeline buildings and critical infrastructure is safe, evaluation, repair and seismic strengthening of masonry buildings as per **IS 13935:2009** & Seismic Evaluation and Strengthening of Existing Reinforced Concrete Buildings as per **IS 15988:2013** need to be ensured**.** For the identification and prioritization of buildings that shall be assessed and retrofitted, old and visually weak structures will be given priority. Besides, Civil Hospital, Community Health Centres, Primary Health Centres and office of administration will be undertaken. After retrofitting, these structures will be able to withstand the convulsions caused by Earthquake.

Retrofitting in places of worship, Cinema Halls, Meeting Galls and shopping complexes shall be undertaken by private parties.

1.3.2. Bridges

Departments: National Highway Authority of India and Public Works – B & R.

Structural assessments of Bridges will be undertaken as part of monitoring & evaluation responsibility of the PWD – B & R of work completed by contractors.

1.4. Enforcement of Earthquake Resistant Design of Bridge Structures

Departments: National Highway Authority of India and Public Works – Rural Roads.

All the new bridges being constructed will be obliged to follow Draft Indian Standards Criteria for earthquake resistant design of structures: Part 3 Bridges and retaining walls as per **DOC.CED 39 (7739).**

1.5. Protection of Roads, Culverts & Bridges against Floods

Departments: National Highway Authority of India and Public Works – Rural Roads.

All parts of NH 52 and all critical roads and culverts in rural areas that cuts off villages due to erosion or damage from floods will have two rows of Vetiver Grasss planted on the side from which flood waters enter the road. This may also be done on the opposite side of the road.

The NH 52 road along the Chamarajan area is damaged by Jiadhal River and areas of intersection of Gainadi and the highway.

All RCC bridges also need to be protected by densely hedging of bridge pillars with Vetiver grass. In recent years, an RCC bridge on the Gogamukh-Dhakuakhana-Machkhowa-Dhemaji State Highway was washed away at Butikor.

Figure below demonstrates plantation of Vetiver rather than Boulders to protect bridges against floods as a low cost and environmentally friendly solution

1.6. Embankments

Department Concerned: Water Resources

1.6.1. Construction: No new construction of embankments in rural areas will be undertaken. Only maintenance of existing embankments shall be done to prevent flooding and crucially, erosion. These steps will benefit the ecosystem including wetlands.

1.6.2. Regular maintenance of existing embankments:

Existing embankments will be regularly checked well before monsoon season and any vulnerable spots will be retrofitted to prevent any embankment breaches.

1.7. Construction of Waterways

Departments Concerned: PWD – B & R and NHAI in convergence with WRD

Construction of causeways and culverts will be undertaken with cross sectional area that is sufficient for carrying water more than the historical records of high flood level volume of water. These waterways are essential to prevent flash floods like damaging effect in downstream villages.

2. Drinking Water Security

Departments Concerned: Public Health Engineering

2.1. Locating habitations not covered for drinking water: In Dhemaji district, about 55 % habitation has been covered for providing drinking water by the PHE department. As a result of this, the norm of providing drinking water within facility for habitations within the radius of 1.6 Kilometers in plains has not been achieved as yet. Identification and listing of habitations that have not been covered for

drinking water with non-access to water due to deep levels of water table will be identified and placed on priority to be covered.

2.2. **Water Quality Testing & Improvement:** In Dhemaji district, water sources at 34.72 % habitations are at medium to high levels of Iron contamination as per the water testing facility of the department. However, as per CPCB 2007 report, some habitations are high on Arsenic content as well.

Testing of water quality of these habitations will be conducted and plantation of Vetiver, in convergence with Agriculture department, will be done around drinking water sources in areas contaminated by Arsenic. In habitations with highest levels of Iron contamination, Iron Removal Plants (IRPs) will be fitted.

In areas that have poor quality of raw water that needs treatment, undertaking of Piped Water Supply projects in areas having no or limited access to electricity shall be undertaken only after ascertaining possibility of placement of power lines and availability of power in these locations in convergence with Assam State Electricity Board (ASEB). This will also be done to draw the focus of ASEB to place areas around these habitations on priority in providing access to electricity.

2.3. **Water Supply in Water Scarce Regions**: The northern parts of the district are water scarce almost right through the year due to high gradient that leads to surface water run-off. Options will be explored that include digging of Recharge wells (also known as Ring wells) or deep bore wells using ODEX machines, or otherwise construction of low capacity water reservoirs to meet drinking water needs. In case of construction of water reservoir, the reduction in natural flow of downstream river water is limited, which can otherwise affect biodiversity in downstream areas. In case of construction of Ring / Recharge wells, the department will ensure that the path through which there is surface water run-off, chemical pesticides are not used and the surface path is clean of sediments and leaves.

2.4. **Rainwater Harvesting**: The rainwater harvesting projects such as those undertaken in schools will be undertaken on priority in those habitations that are yet to be covered or reeling under water crisis due to percolation of water to deep levels leading to low water tables.

2.5. **Raising of Hand-pumps**:

In Dhemaji, it has been implemented in a very small measure with only 190 raised hand pumps which is only 0.15 % of raised hand pumps as against hand pumps installed in the district. However, a proposal to raise 100 hand pumps was made during 2012-13 to which no approval was received. It will have to be taken up in big measure in the district in areas that every year gets inundated and as a result are required to be disinfected.

2.6. **Repair or Replacement of non-functional Hand-pumps:** It will be undertaken on priority with special focus. An option of skill building of locals in different GPs to be able to self-repair any minor repairs in hand pumps will also be explored in order to prevent delays and reduce dependency on the department.

3. Environmental and Biodiversity Management

The objective is to deploy an effective strategy for environmental conservation and restoration for the flood plains of the district. This shall be done by preventing soil erosion, improving soil quality & its water content and biodiversity conservation – afforestation & anti-poaching measures. The district suffers from floods, sedimentation and erosion all around the district. Jonai block is the most affected, besides parts of the district along Brahmaputra, Jiadhal, Gainadi and Sille rivers.

Departments Concerned: Soil Conservation Department (SCD), Forest Department (FD) and District Rural Development Agency (DRDA), Panchayat & Rural Development Department (P & RD).

3.1. **Agroforestry:** Plantation of rows of trees to protect against heavy winds or storms need to be done that acts as *Shelter Belts*. These will shelter any direct damage to crops from storms,improve soil quality, improves moisture retention in soil**,** produce tree products for self consumption and sale, provides shade for farmers to rest and improves the agricultural productivity.

Departments: SCD in convergence with DRDA to implement projects using MGNREGS funds while providing technical support. Also, SCD shall implement projects with its own funds received on proposals made.

3.2. **River Bank Plantation:** Plantation of India's indigenous plant, Vetiver Grass, across the complete stretch of the Rivers in the district on both its banks, planting 5 plants in every 1 metre. This will effectively prevents river bank erosion and sedimentation. In case of Rivers Brahmaputra, Lali and Siang, two rows of vetiver shall be planted. The plantation needs to be undertaken immediately at the end of the monsoon season to make it possible for its roots to grow as deep as it can before the next flood season.

Departments: SCD and MGNREGS under DRDA.

Figure below depicts plantation of Vetiver for River Bank Erosion Control

3.3. **Hill Slope Plantation:** Intra-district coordination of Forest departments between Dhemaji Forest Division and Forest Divisions of West Siang and East Siang districts of Arunachal Pradesh, plantation of trees, shrubs, and even Pasture (in case of existence of local habitations) in degraded land along the river banks particularly need to be planned, especially which are no more being used for agriculture. This shall be useful in improving forest cover of the hill districts, while reducing sediment discharge.

Departments: Dhemaji Forest Division

3.4. **Social Forestry:** Afforestation interventions will be undertaken on all Fallow land, Wasteland, Degraded Forests and Government Lands to improve forest cover of the district while also being a source of income for local communities. This is also to reduce dependency of fuelwood on Reserved Forests or regenerating forests, thereby preventing loss of biodiversity and damage to environment.

Departments: Soil Conservation Department and Forest Department shall undertake projects with independent funds for plantation. The proposals shall be made to the respective State Departments.

Soil Conservation department will focus on plantation in Wastelands, Fallow lands and Open Forests.

Forest department will focus on restoration of completely degraded forests that include Senga, Jamjing, Gali, Simen and Kobu. Restoration of degraded areas of Poba RF along the Kemi Jelem GP will also be undertaken.

Both Soil Conservation & Forest departments shall also converge with District Rural Development Agency (DRDA) of P & RD to implement projects using MGNREGS funds while providing technical support.

3.5. **Anti-Poaching Measures**

3.5.1. **Community Sensitization**: IEC measures need to be adopted to sensitize communities to live in harmony with wild animals and promote community retaliation against outside poachers by acknowledging their efforts through organisation of ceremonies.

3.5.2. **Strengthening Patrolling Operations**: Patrolling operations will be boosted by recruitment of manpower shortfall of foresters and providing them with working firearms to fight and scare poaching parties. This shall be done in Poba Reserve Forest and Kobu Reserve Forest.

3.6. **Flood Control**:

Department Concerned: Water Resources

Drainage channel improvement works will have to be undertaken on priority in villages that are low-lying and gets severely flooded. However, the WRD has never implemented any of the drainage channel development works.

3.7. **Erosion Control**:

3.7.1. **Gully Control Projects**: Gully erosion occurs on unconsolidated subsoil. These are generally deep and generate a lot of sediment, which often feeds into rivers.

Department: Soil Conservation.

3.7.2. **Mulching**: At the end of the Rabi season, agricultural lands have to be left covered with crop residues to avoid erosion of top soil from heavy winds or storms which prominently hits the region during harvesting or post-harvesting period of Rabi crops. Awareness camps need to be organized for farmers to convince them and begin implementing this simple intervention.
Department: Agriculture department.

4. Protection and Enhancement of Domestic Animals
Department: Animal Husbandry & Veterinary

4.1. **Fodder**: Plantation of *Vetiver Grass* will be promoted by AH & V department through its field assistants to improve access to fodder with good calorific value that is available in the plant's leaves. Yearly assessments will be made by D.A.H.O. to see the extent of adaptation of this measure as a result of promotion by the department.

4.2. **Artificial Insemination**: Increase in high breed cattle will be registered by up scaling access to Semen of high breed cows and increasing milk yield.

4.3. **Immunisation**: Access to immunisation of domestic animals against diseases is currently poor. This will be bolstered by conducting camps in at least 2 strategic locations in every GP so as to reduce the distance required to be travelled by cattle owner.

5. Protection against Vector Borne Diseases

Departments: Horticulture Division, Agriculture Department and Health Department.

Most areas that are remain inundated for longer periods are breeding grounds for mosquitoes that make people vulnerable to vector borne diseases. While interventions are made to reduce long duration inundation, there is a need to control or repel mosquitoes from human habitations. Some of the following plants will be pilot tested in areas close to human habitations. The plants that can be tested include Pyrethrum, Marigold, Ageratum, Vetiver grass and Lemon grass. Communities will have to be encouraged to grow these plants on their self initiative in their backyards and in their fronts. However, availability and demonstrative plantation in a few households of each village will be ensured undertaken by Horticulture division of Agriculture department. Health department can also undertake pilot test Pyrethrum spray in mosquito infested areas that could become alternative means that is not chemical and doesn't have negative effects on soil quality and human health.

6. Prevention of Road Accidents

Departments Concerned: NHAI, PWD – B & R

A lot of road accidents are reported along the NH 52. National Highway Authority of India will undertake following measures to reduce accidents along the stretch of the district. PWD – State & Rural Roads will also undertake the same in all vulnerable spots.

1. Putting up of signages along the road in accident prone zones.
2. Time-to-time repair of potholes on the roads.

3. Constructions of speed breakers with light reflectors close to all accident prone spots.
4. Diversions boards with light reflectors will be provided for Roads & Bridges under repair or construction and on turns to guide motorists who will be able to see diversions even at night.

7. Protection from Health hazards

Department Concerned: Public Health Engineering

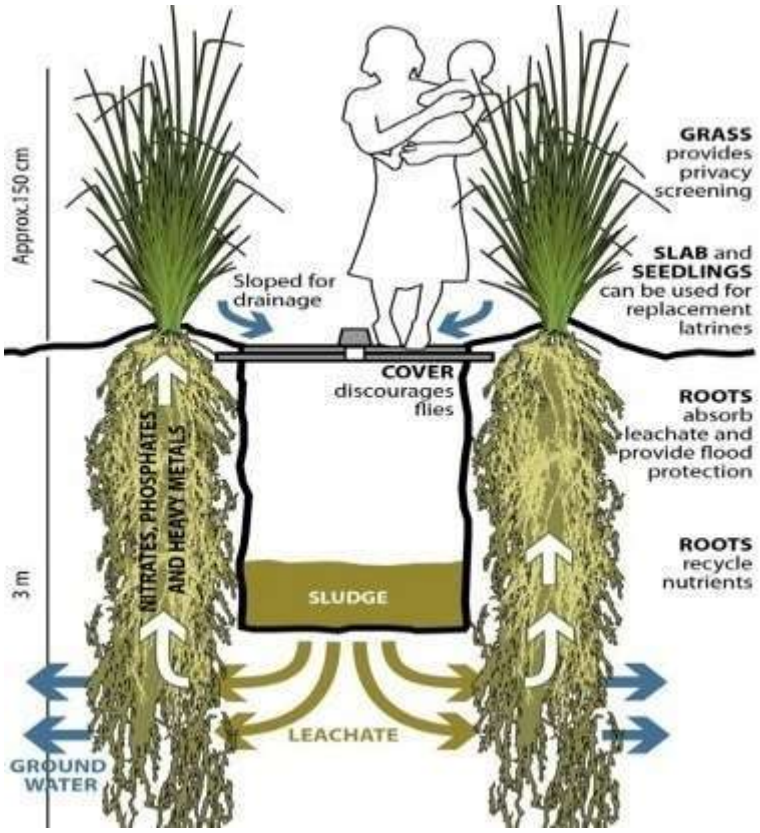
7.1. Putting Sanitation Systems in Place

Open Defecation is rampant in Dhemaji which is the source of various health hazards which only grows multifold during inundation period due to floods. It is imperative to treat this menace on priority.

7.1.1. Community Mobilisation: Conduct of community sensitization programs in mission mode in all villages to increase the acceptance of communities on the importance of toilets. This is the leading and the only factor which can change the status of sanitation in the district. *Nirmal Gram Puraskar* will be awarded to such GPs on periodic basis.

7.1.2. Construction of Toilets: Independent Household Latrines (IHHL) will be constructed in the district. Also, communities encouraged by community mobilisation intervention will be sold the idea to construct Vetiver Latrines. These latrines cost less than IHHLs. These require one bag of cement, two steel reinforcement bars and a pit covering plate (or concrete slab), no other material is required (not even a toilet seat). A pit needs to be dug out and Vetiver seeding need to be planted which grows tall around the latrine pit and acts as a privacy screen that is storm proof. The Vetiver absorbs Nitrates, Phosphates and other heavy metals which then leaks into the groundwater.

The design of the structure is as depicted in the picture below.



7.2. Waste Management

Department Concerned: Town Committee

7.2.1. Hospital Waste Management:

There are 4 main types of waste generated in hospitals. These components are, first, common wastes such as administrative office waste and kitchen waste. Second are infectious wastes such as infected cloth, etc., third are plastic wastes like tubes and bags, and forth are sharps such as injections, broken glass, etc. A strict segregation of waste at collection has to be ensured which are required to be ensured to be placed in special pits within hospital premises. Objects like infected syringes need to be incinerated before being put in waste collection baskets, before they proceed to pits. These interventions are already in place in a lot of facilities, however, not being followed strictly in some health centres and some do not have incineration devices required to destroy syringes.

7.2.2. Municipal Waste Management

Household waste collection systems have to be put in place in Dhemaji Town, Silapathar Town and Jonai Bazar. Landfill sites have to be away from the river and areas that get inundated. These sites have to be provided with boundary walls to ensure they are affected even in case of inundation.

8. Risk Transfer

The risk of economic losses from any loss in productive assets or outputs is too big for people from poor households. Thus risk transfer through insurance of crops and livestock can make households resilient to disasters. However, the access to bank institutions is very limited (Rural 32.7 %, Urban – 69 %) due to low

density of banks which are majorly concentrated in town areas. New bank branches need to be opened in a planned manner to reduce distances required to be travelled by people from various GPs.

8.1. Crop Insurance

Access to crop insurance is virtually non-existent in the GPs. National Agriculture Insurance Scheme (NAIS) will be implemented to cover farmers, including those that do not avail agricultural credit using KCCs. The information dissemination about the scheme will be undertaken.

8.2. Livestock Insurance

Access to livestock insurance is not found. This needs to be provided to atleast all those that have high breed varieties.

9. Irrigation System

Department Concerned: Minor Irrigation Department, Canal Sub-division, and Agriculture Department.

9.1. Provision of irrigation facilities through bore wells and construction of canals to support Rabi crop and autumn (zaid) crop.

9.2. Supply of drip sprinklers for irrigation purposes on priority to areas that has access to irrigation facilities so as to prevent over extraction of water that could lead to reduction in water table in years to follow. This will be procured under National Micro Irrigation Mission Scheme falling under Agriculture department.

10. Prevention of Major Urban Risks

Departments Concerned: Town Committee and Traffic Police

10.1. **Storms Water Drains**: A major project for the installation of Storms water drains to prevent urban flooding need to be undertaken to prevent severe 'Urban Flooding' in town areas of Dhemaji, Silapathar and Jonai Bazar during monsoon season.

10.2. **Sewerage Systems:** Sewerage system need to be planned in town areas which is non-existent in all of them. This is the source of major environmental hazard and cause of diseases especially during monsoon season when sewerage mixes with urban floods to give birth to vector borne diseases besides skin diseases. These projects will be undertaken on priority.

Urban Infrastructure Development Scheme for Small & Medium Towns (UIDSSMT) will be used to retrieve financial resources.

10.3. **Community Toilets for Town Markets**: Community pay toilets and latrines on pay and use model will be set-up and connected to the sewerage systems to prevent spread of diseases due to environmental damages.

10.4. **Prevention of Road Accidents**: Wearing of helmets while driving 2-wheelers will be ensured by the Traffic Police to prevent loss of lives. Besides, traffic police will converge with NHAI authorities and PWD – Roads to ensure construction of speed breakers, placement of Signages and light reflector diversions in accident prone areas.

11. Measures against Animal Depredation

Department Concerned: Forest Department

11.1. **Trench fencing:** It shall be done for villages that are close to the forest areas or those affected by elephant depredation.

11.2. **Compensation**: Payment of damages to crops and injury or death of people or domestic animals by wild elephants.

12. Prevention of Fire

12.1. **Fire Extinguishers**: To prevent expansion of fire in major buildings and properties, fire extinguishers shall be made available in all major government institutions that includes schools, District Hospital and PHCs, Offices of District's administration, Petrol Pumps and Warehouses. However, it is felt that a fire extinguisher in all schools is not a priority especially in lieu of non-electrification of all schools and limited financial resources. In such cases, ensuring availability of buckets and sand for dousing fire shall be used as a cheaper alternative.

12.2. **Refilling of Fire Extinguishers**: In most institutions, fire extinguishers are not refilled within the expiry period of one and a half year. Records for procurement and next refilling date will have to be maintained by the procuring departments and their timely refilling will have to be ensured or else they turn useless due to release of gas from the cylinder.

12.3. **Training on use of Fire Extinguishers**: Providing training to employees such as school teachers, doctors, staff, officers, etc. on operating fire extinguishers is essential to ensure benefitting from spending and maintenance of fire extinguishers. Mostly, fire extinguishers are available while nobody is trained on how to operate these.

12.4. **Emergency Exits**: In all high rise buildings or apartments that may come up, it will be made mandatory to construct an emergency exit to make evacuation possible in case of a fire.

12.5. **Fire Stations**: Fulfillment of shortfall of equipments in both Dhemaji and Jonai fire stations shall be done (as given in Fire & Emergency Services component of Section 3).

13. Early Warning System and Information Dissemination for Floods

Department Concerned: DEOC, DDMA

The Flood Early Warning System (FLEWS) by North Easter Space Applications Centre (NESAC) has been undertaken which provides early warning at the district and revenue level with best possible lead time in order to enable the district administration to take well in advance actions for relief, rescue and flood response measures. However, it is equally important to disseminate this information to the general population in parts of the district that is at risk to floods.

In order to do so, the communication will be done to targeted audience in specific blocks and GPs where there is greater risk, as applicable. One of the multiple means of communication can be adopted. Use of local television channels, state news channel, communication through community radios or radios and newspaper. However, there is a definite need of targeted communication of quick warning and for that the following has to be done which leverages communities for spreading messages across the panchayats:

1. Creation of mobile number database of all the important stakeholders, as given below in the information dissemination format, at the Panchayat level in rural areas and Nagar Parishad and Nagar Panchayat level in urban areas for early warning communication.

2. Identifying the fastest means of communicating the message in the most lucid manner so as to prevent spread of rumour and panic among the masses.

Bulk Voice SMS S*ervice* is the best means of communication to large masses without any effort and within no time. A voice recorded message from the District Magistrate from his/her official number shall be sent to the database of numbers identified for information dissemination. A number of private parties deliver Bulk Voice SMS service at very low cost that will have to be identified in pre-disaster stage.

3. All the members identified for information dissemination must be formally appointed for the task of spreading warning information irrespective of the time of the day and their availability. In case of change of their number, they must communicate this to the EOC coordinator and have the number updated in the database immediately.

14. Livelihoods Enhancement

Department Concerned: District Industries Centre, Rural Self Employment Training Institute, District Industries and Commerce, Fisheries Department, Agriculture Department, Sericulture Department and Animal Husbandry & Veterinary Department

Improving livelihoods improves income levels of communities in their own backyard that enhances their coping strength in dealing with disasters while helping lead a more stable life. Apart from generating new livelihoods for poverty reduction and development, safeguarding existing livelihood options by focusing on development schemes that mitigates disaster risks is important. To address this, mitigation actions that can be undertaken by various departments are discussed in the next section. In this section, we have

discussed conducting of various skill building trainings that could lead to livelihoods diversification and expansion of existing livelihoods.

The set of vocational courses that shall be undertaken are listed below. These can be conducted by:

i) Various line departments by seeking listed trainings from the state government

ii) Central Bank of India at *Rural Self Employment Training Institute* (RSETI) with the support of District Rural Development Agency (DRDA). The focus is on rural BPL youth.

iii) National Rural Livelihood Promotion Scheme by identifying trainees from its SHGs formed.

These initiatives shall be supported by providing loan facilities to the trainees to start up their entrepreneurial ventures. This shall be done by:

i) District Industrial Center (DIC) via Prime Minister's Employment Generation Programme (PMEGP) scheme.

ii) All banks for trainees that submit certificates issued by RSETI.

iii) Assam State Rural Livelihood Promotion Scheme by identifying beneficiaries via SHGs formed.

These livelihood opportunities shall also be explored under various Central and State sponsored schemes (as mentioned in section 5).

Establishment of new industries is desired and must be undertaken by the district administration in collaboration with Assam government. However, that is beyond the scope of our plan.

Vocational and Educational Training

The below mentioned trainings shall be conducted by Rural Self Employment Training Institutes (RSETIs) in collaboration with Department of Rural Development.

S. No.	Category	Vocational Courses
1.	**Agriculture**	• Floriculture • Plant Protection • Plantation Crops and Management • Vegetable Seed production, Medicinal and Aromatic Plant Industry • Repair and Maintenance of Power Driven Farm Machinery • Agro Based Food Industry (Crop based) • Post Harvest Technology • Horticulture • Soil Conservation • Crop Cultivation/ Production
2.	**Animal Husbandry**	• Poultry Production • Dairying • Apiculture (Honey Bee Farming) • Pig Farming • Sheep and Goat Husbandry • Veterinary Pharmacist-cum-Artificial Insemination Assistant • Agro Based Food Industry (Animal based)
3.	**Fisheries**	• Fisheries/Fish Processing

		• Inland Fisheries • Fish Seed Production • Fishing Technology
4.	**Business & Commerce**	• Banking • Marketing and Salesmanship • Office Secretaryship/ Stenography • Insurance • Office Management
5.	**Engineering and Technology**	• Civil Construction/Maintenance • Mechanical Servicing • Audio Visual Technician • Maintenance and Repair of Electrical Domestic Appliances • Building and Road Construction • Building Maintenance • Rural Engineering Technology • Materials Management Technology

7. Preparedness for Effective Response

7.1. Identification of Stakeholders for Disaster Response

7.1.1. Early Warning

Major Stakeholders: North Easter Space Applications Centre (NESAC) and District Emergency Operations Centre, District Disaster Management Authority (DEOC, DDMA).

The Flood Early Warning System (FLEWS) by North Easter Space Applications Centre (NESAC) will continue to provide early warnings to the district with the best possible lead time in order to enable the district administration to take well in advance actions for relief, rescue and flood response measures.

7.1.2. Search, Rescue and Evacuation

Major Stakeholders: Village Disaster Response Party, Civil Defence, Police, Forest Protection Force, Home Guards, Youth Volunteer Groups (National Cadet Corps, Nehru Yuva Shiksha Sansthan, National Service Scheme, Volunteers of NGOs & CBOs), State Disaster Response Force, National Disaster Response Force, Central Reserve Police Force, Indian Army and Indian Air Force.

DEOC is required to maintain the contact information of all the POCs for the district level organisations along with their number of volunteers.

1. **Village Disaster Response Party**: The selected members of the locally affected villages will be the first responders to any disaster, particularly in case of rapid onset disaster. In the first phase, teams will be formed in all most vulnerable revenue villages that are prone to flash floods and floods in all GPs with the initiative of GP President and the list with names, address and numbers submitted to the DEOC via Zila Parishad. These selected people in VDRPs will be in turns trained on Search and Rescue operations and provided with protective gears since they are at greater risk than any other general public.
2. **Civil Defence**: Civil Defence trained volunteers will be the first institutional support line for disaster response that will help in quick evacuation, search, rescue and salvage service to save communities items from being robbed while villagers are posted in relief camp.
3. **Police:** Police staff at field level in Police Stations & Outposts plays a crucial role by becoming first responders in times of disasters. Identification of staff like Chowkidars, SHOs, Constable, Head Constable, Thandars, etc. has to be done to be provided necessary training in diving, motor boats, search & rescue, etc. This is a very important arm for effective disaster response.
4. **Forest Protection Force:** Forest Guards will play an active role in Search and Rescue operations after being trained by nodal agencies in Guwahati.
5. **Home Guards:** Their key role is to communicate to the GPEOC and DEOC in case of any possibility of breach in embankment.
6. **Youth volunteer groups (VYG)**: The following will be deployed and function under the direction of Civil Defence for any such functions that Civil Defence also performs. The groups are:-

1. National Service Scheme (NSS)
2. National Cadet Corps (NCC)
3. Nehru Yuva Kendra Sansthan (NYKS)
4. Volunteers from NGOs and CBOs

7. **State Disaster Response Force (SDRF)**: When the above responders are unable to respond effectively owing to lack of resources and lesser skills, the state government's SDRF shall be deployed.
8. **Central Reserve Police Force (CRPF):** The state government of Assam may decide to deploy CRPF if need be.
9. **National Disaster Response Force (NDRF)**: When the above responders are unable to respond effectively owing to lack of resources and lesser skills, the centre government's NDRF shall be deployed.
10. **Army / Indian Air Force**: These may be deployed by NDMA on the demand of BSDMA if the situation is grave and their support is required for quick and effective response.

7.1.3. Damage and Needs Arrangement

Major Stakeholders: ADC or DPO, District Disaster Management Authority; CMO, Health Department; District Food & Civil Supply Officer, Project Director, DRDA; Executive Engineer or Assistant Executive Engineer, Public Health Engineering, Executive Engineer, Public Works – Building & Roads, Town Committee and S.P. or A.S.P. or D.S.P.

7.2. Activation of Incident Response System

As of today, there is no protocol in place in the district which follows a well coordinated approach to respond to disasters. Incident Response System (IRS) is one such system which has written protocols that make response to disasters accountable by stating clear roles and responsibilities. IRS is the soul of the on field management of the disaster at the disaster site where the operations are headed by the Incident Commander (IC).Activation of IRS in the district is important to prepare the entire district administration to respond in a coordinated manner to disasters. Thus, the action shall be done by appointing people to take up various positions, each of which has different roles and responsibilities. The people identified shall undergo trainings to prepare them to respond as per IRS.

ii) <u>Coordination of response at the District Level</u>

1. District Magistrate is designated as the Responsible Officer (RO) in the district.
2. The selection of the OSC will however depend on the nature of the disaster.

In case of **flood and earthquakes** reaching the affected area, rescuing the affected people and providing relief to them is the main task of the responders. People have to leave their home in a hurry and they are not able to take away their valuables. These abandoned houses become vulnerable. The relief materials while being transported also become prone to loot. In such cases, Police and the Armed Forces are the best suited to handle and lead the operations. In case of **fire** at District level, it will be the District Fire Officer who will be appropriate officer to handle the situation. In case of **health related disaster**, it would be the District Chief Medical Officer and so on.

3. In case of Sub-Division, Tehsil or Block, the respective heads, i.e. SDO, BDO will function as the IC in their respective IRTs and the OSC will be selected as per nature of the disaster.

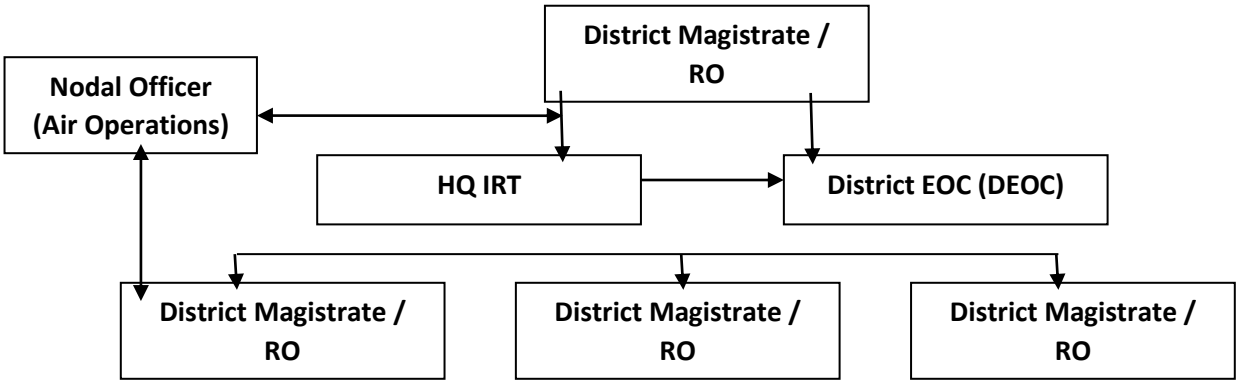
The list of suitable officers at different levels has been given in Annexure section for reference.

4. For monitoring and support of the incident response, the RO will involve all required ESF and headquarter IRT to support the on-scene IC.

5. In case when central teams (NDRF, Armed Forces) are deployed, the RO will ensure resolution of all conflicts. For this purpose he may attach a representative of such agencies in the EOC where all conflicts can easily be resolved at the highest level.

6. The IC will work in close coordination with DEOC and report to RO. The RO will ensure that the strategic goals are achieved through the implementation of the IAP by the IRTs working in the field.

IRTs at the District-Level



iii) Roles & Responsibilities of District Magistrate as RO

The District Magistrate / RO will:

i. ensure that IRTs are formed at District, Sub-Division, Tehsil/Block levels and IRS is integrated in the District DM Plan as per Section 31 of the DM Act, 2005. This may be achieved by issuing a Standing Order by the RO to all SDOs, SDMs and BDOs;

ii.ensure web based / on line Decision Support System (DSS) is in place in EOC and connected with Sub-Division and Tehsil / Block level IRTs for support;

iii.ensure that toll free emergency numbers existing for Police, Fire and Medical support etc. are linked to the EOC for response, command and control. For e.g., if there is any fire incident, the information should not only reach the fire station but also the EOC and the nearest hospital to gear up the emergency medical service;

iv.obtain funds from State Government as recommended by the 13th FC (Annexure – XVI) and ensure that a training calendar for IRTs of District is prepared and members of IRTs are trained through ATIs and other training institutions of the District;

v. delegate authorities to the IC;

vi. activate IRTs at District headquarter, Sub-Division, Tehsil / Block levels, as and when required;

vii. appoint / deploy, terminate and demobilise IC and IRT(s) as and when required;

viii. decide overall incident objectives, priorities and ensure that various objectives do not conflict with each other;

ix. ensure that IAP is prepared by the IC and implemented;

x. remain fully briefed on the IAP and its implementation ;

xi. coordinate all response activities;

xii. give directions for the release and use of resources available with any department of the Government, Local Authority, private sector etc. in the District;

xiii. ensure that local Armed Forces Commanders are involved in the planning process and their resources are appropriately dovetailed, if required;

xiv. ensure that when Armed Forces arrive in support for disaster response, their logistic requirements like camping grounds, potable water, electricity and requirement of vehicles etc. are sorted out;

xv. appoint a NO at the District level to organise Air Operations in coordination with the State and Central Government NO. Also ensure that all ICs of IRTs of the District are aware of it;

xvi. ensure that the NGOs carry out their activities in an equitable and non-discriminatory manner;

xvii. deploy the District Headquarter IRTs at the incident site, in case of need;

xviii. ensure that effective communications are in place;

xix. ensure that telephone directory of all ESF is prepared and available with EOC and members of IRTs;

xx. ensure provision for accountability of personnel and a safe operating environment;

xxi. in case the situation deteriorates, the RO may assume the role of the IC and may seek support from the State level RO;

xxii. mobilise experts and consultants in the relevant fields to advise and assist as he may deem necessary;

xxiii. procure exclusive or preferential use of amenities from any authority or person;

xxiv. conduct post response review on performance of IRTs and take appropriate steps to improve performance; and

xxv. take other necessary action as the situation demands.

iv) Incidence Response System (IRS)

IRS is the management of the respond closer to the disaster site. The Incident Commander (IC) is the overall in-charge for the management of onsite response to any incident. He is appointed by RO (District Magistrate). He may have a deputy with him depending upon the magnitude and nature of the incident. For his assistance and management of the incident there are two sets of staff that forms core part of IRTs:

1. **Command Staff** that comprises IC, Information & Media Officer (IMO), Safety Officer (SO), and the Liaison Officer (LO).
2. **General Staff**. The General Staff consists of Operations Section (OS), Planning Section (PS) and Logistics Section (LS).

a) Incident Response Team (IRT)

The RO of the District will constitute IRT from among Senior Officers of key departments at the District level. The headquarters IRT will provide continuous support to the on-scene IRT(s) and if required join them or take over response on the directions of the RO.

b) Facilities Required for Incidence Response System (IRS)

For effective response the following facilities may be required to be established depending on the needs of the incidents, the length and time the facilities are needed to be used, the cost to establish it and prevailing weather conditions etc.

1. Incident Command Post (ICP)

The ICP is the location at which the primary command functions are performed. The IC will be located at the ICP. There will only be one ICP for each incident. This also applies to situations with multi-agencies or multi jurisdictional incidents operating under a single or Unified command. The ICP may be located at Headquarters of various levels of administration of State (State, District, Sub-Division and Block). It may be at the State Headquarters in case of an incident spread across several districts. District Magistrate will be the IC if it functions within the district.

General guidelines for Establishing the ICP:

a) Position away from the general noise and confusion associated with the incident;

b) Position outside the present and potential hazard zone;

c) Position within view of the incident, when appropriate;

d) Have the ability to expand as the incident grows;

e) Have the ability to provide security and to control access to the ICP as necessary;

f) Should have distinctive banner or sign to identify location; and

g) Activation of ICP and its location should be announced via radio or other communications so that all concerned personnel are notified.

2. **Staging Area**

The SA is an area where resources are collected and kept ready for deployment for field operations. These may include things like food, vehicles and other materials and equipment. The SA will be established at a suitable area near the affected site for immediate, effective and quick deployment of resources.

Block Disaster Management Support Centre (BESC) will be the standard Staging Area (SA) and equipped with relief and shelter materials. School and college playgrounds, community halls, cyclone shelters and Panchayat Offices, stadia etc. may also be used as SA.

The overall in-charge of the SA is known as Staging Area Manager (SAM) and he needs to work in close liaison with both the LS and PS through the Operation Section Chief (OSC).

3. **Incident Base**

All primary services and support activities for the incident are usually located and performed at the Incident base. The Logistics Section will also be preferably located here. There will be only one Base established for each incident and normally it will not be relocated. The management of the Incident Base comes under the LS. If an Incident base is established, a Base Manager will be designated. The Base Manager in a fully activated IRS organization will be in the Facility Unit of the LS.

4.Camps

Camps are temporary locations within the general incident area which are equipped and staffed to provide rest, food, drinking water and sanitary services to the responders. These are separate facilities which may not be located at the Incident Base. Camps may be in place for several days and they may be moved depending upon incident needs while the Incident Base remains at the same location.

Each camp will have a Camp Manager assigned. The Camp Managers are responsible for managing the camp and for providing coordination to all organisational Units operating within the camp. The Camp manager will report to the Facility Unit in the LS. If the FUL has not been activated he will report to the LSC. After the camp is established, additional personnel and support needs will normally be determined and ordered by the Camp manager. If Logistics Units are established at Camps they will be managed by assistants. Camps will be designated by a geographic name or by a number.

5. Relief Camps (RC)

All support services to the affected communities are usually provided in the Relief Camps (RCs). They will be established as per demands of the situation. The resources required for the establishment of RC will be provided by the LS and it will be maintained and managed by the Branch or Division of the OS deployed for the purpose. It may be established at the existing buildings like Schools, Community halls, Shelters, etc. or tents may also be used for such purposes.

Each RC will have a Camp Manager assigned. After RC is established, additional personnel and support needs will normally be determined and requested for by the RC Manager. The RCs will be designated by a geographic name or by a number.

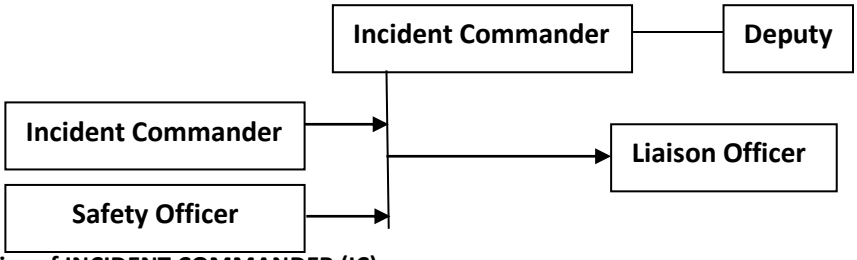
6. Helibase / Helipad

For all air operations for search and rescue, medical facilities and dropping of food packets, a temporary helibase may be required to be set-up. West Champaran has two landing bases (small airports) in Bettiah and Valmikinagar.

If there is a need of air operations, RO (District Magistrate) will liaison with State RO (Chief Secretary) that will coordinate with Ministry of Civil Aviation. There will be appointment of nodal officer, Group-in-charge, designated by the RO, who will work directly under the Transportation Branch for coordination of logistic support at Airbase, Helibase and Helipad.

c) Command Staff

i) Structure:



ii) Roles & Responsibilities of INCIDENT COMMANDER (IC)

The IC will:

i. obtain information on:

a) situation status like number of people and the area affected etc.

b) availability and procurement of resources

c) requirement of facilities like ICP, Staging Area, Incident Base, Camp, Relief Camp, etc.

d) availability and requirements of Communication system

e) future weather behavior from IMD; and

f) any other information required for response from all available sources and analyse the situation.

ii. determine incident objectives and strategies based on the available information and resources

iii. establish immediate priorities, including search & rescue and relief distribution

strategies

iv. assess requirements for maintenance of law and order, traffic etc. if any at the incident site, and make arrangements with help of the local police

v. brief higher authorities about the situation as per incident briefing form enclosed in Annexure and request for additional resources, if required

vi. extend support for implementation of AC and UC if considered necessary by the RO

vii. establish appropriate IRS organisation with Sections, Branches, Divisions and/or Units based on the span of control and scale of the incident

viii. establish ICP at a suitable place. There will be one ICP even if the incident is multijurisdictional. Even a mobile van with complete communication equipment and appropriate personnel may be used as ICP. In case of total destruction of buildings, tents, or temporary shelters may be used. If appropriate or enough space is not available, other Sections can function from a different convenient location. But there should be proper and fail safe contact with the ICP in order to provide quick assistance

ix. ensure that the IAP is prepared

x. ensure that team members are briefed on performance of various activities as per IAP

xi. approve and authorise the implementation of an IAP and ensure that IAP is regularly developed and updated as per debriefing of IRT members. It will be reviewed every 24 hours and circulated to all concerned

ii. ensure that planning meetings are held at regular intervals. The meetings will draw out an implementation strategy and IAP for effective incident response. The decision to hold this meeting is solely the responsibility of the IC. Apart from other members, ensure that PSC attend all briefing and debriefing meetings

xiii. ensure that all Sections or Units are working as per IAP

xiv. ensure that adequate safety measures for responders and affected communities are in place

xv. ensure proper coordination between all Sections of the IRT, agencies working in the response activities and make sure that all conflicts are resolved

xvi. ensure that computerised and web based IT solutions are used for planning, resource mobilisation and deployment of trained IRT members

xvii. consider requirement of resources, equipment which are not available in the functional jurisdiction, discuss with PSC and LSC and inform RO regarding their procurement

xviii. approve and ensure that the required additional resources are procured and issued to the concerned Sections, Branches and Units etc. and are properly utilised. On completion of assigned work, the resources will be returned immediately for utilisation elsewhere or to the department concerned

xix. if required, establish contact with PRIs, ULBs, CBOs, NGOs etc. and seek their cooperation in achieving the objectives of IAP and enlist their support to act as local guides in assisting the external rescue and relief teams

xx. approve the deployment of volunteers and such other personnel and ensure that they follow the chain of command

xxi. authorise release of information to the media

xxii. ensure that the record of resources mobilised from outside is maintained so that prompt payment can be made for hired resources

xxiii. ensure that Incident Status Summary (ISS) is completed and forwarded to the RO (IRS form-002 is enclosed at Annexure-II)

xxiv. recommend demobilisation of the IRT, when appropriate

xxv. review public complaints and recommend suitable grievance redressal measures to the RO

xxvi. ensure that the NGOs and other social organisations deployed in the affected sites are working properly and in an equitable manner

xxvii. ensure preparation of After Action Report (AAR) prior to the demobilisation of the IRT on completion of the incident response.

xxviii. perform any other duties that may be required for the management of the incident

xxix. ensure that the record of various activities performed (IRS Form-004 enclosed in Annexure-IV) by members of Branches, Divisions, Units/Groups are collected and maintained in the Unit Log (IRS Form-003) enclosed at Annexure-III; and

xxx. perform such other duties as assigned by RO.

ii) Roles & Responsibilities of *Information & Media Officer* (IMO)

The IMO will:

i. prepare and release information about the incident to the media agencies and others with the approval of IC;

ii. jot down decisions taken and directions issued in case of sudden disasters when the IRT has not been fully activated and hand it over to the PS on its activation for

incorporation in the IAP;

iii. ask for additional personnel support depending on the scale of incident and

workload;

iv. monitor and review various media reports regarding the incident that may be useful for incident planning;

v. organise IAP meetings as directed by the IC or when required;

vi. coordinate with IMD to collect weather information and disseminate it to all

concerned;

vii. maintain record of various activities performed as per IRS Form-004 (enclosed in Annexure-IV); and

viii. perform such other duties as assigned by IC.

ii) Roles & Responsibilities of Liaison Officer (LO)

The LO is the focal point of contact for various line departments, representatives of NGOs, PRIs and ULBs etc. participating in the response. The LO is the point of contact to assist the first responders, cooperating agencies and line departments. LO may be designated depending on the number of agencies involved and the spread of affected area.

The LO will:

i. maintain a list of concerned line departments, agencies (CBOs, NGOs, etc.) and their representatives at various locations;

ii. carry out liaison with all concerned agencies including NDRF and Armed Forces and line departments of Government;

iii. monitor Operations to identify current or potential inter-agency problems;

iv. participate in planning meetings and provide information on response by participating agencies;

v. ask for personnel support if required;

vi. keep the IC informed about arrivals of all the Government and Non Government agencies and their resources;

vii. help in organising briefing sessions of all Governmental and Non Governmental agencies with the IC;

viii. maintain record of various activities performed as per IRS Form-004 (enclosed in Annexure-IV); and

ix. perform such other duties as assigned by IC.

iii) Roles & Responsibilities of Safety Officer (SO)

The SO's function is to develop and recommend measures for ensuring safety of personnel, and to assess and/or anticipate hazardous and unsafe situations. The SO is authorised to stop or prevent unsafe acts. SO may also give general advice on safety of affected communities.

The SO will:

i. recommend measures for assuring safety of responders and to assess or anticipate hazardous and unsafe situations and review it regularly;

ii. ask for assistants and assign responsibilities as required;

iii. participate in planning meetings for preparation of IAP;

iv. review the IAP for safety implications;

v. obtain details of accidents that have occurred within the incident area if required or as directed by IC and inform the appropriate authorities;

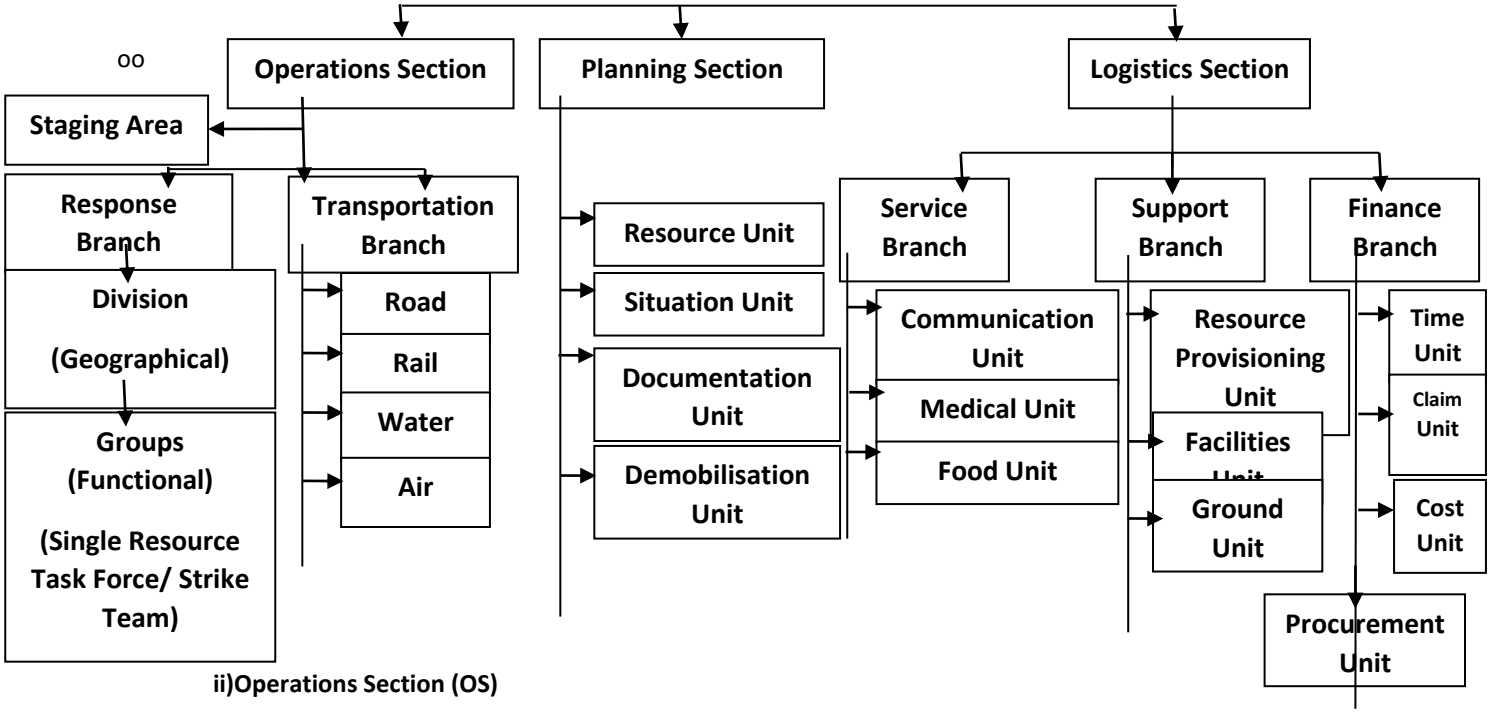
vi. review and approve the Site Safety Plan, as and when required;

vii. maintain record of various activities performed as per IRS Form-004 (enclosed in Annexure-IV); and

viii. perform such other duties as assigned by IC.

d) General Staff

i) Structure of General Staff



ii)Operations Section (OS)

The OS deals with all types of field level tactical operations directly applicable to the management of an incident. This section is headed by an Operation Section Chief (OSC). In addition, a deputy may be appointed to assist the OSC for discharging his functions depending on the magnitude of the work load. OS is further sub-divided into Branches, Divisions and Groups which assist the OSC / IC in the execution of the field operations.

Members need to be appointed for various positions under the Operations Section that could undergo training by the state for respective positions and be deployed by the RO and the departmental heads for response operations. The names of the positions for which personnel need to be appointed are as below. Suitable officers for the under mentioned positions are provided in Annexure I.

1. Operations Section Chief
2. Staging Area Manager
3. Response Branch
4. Division Supervisor and Groups-in-charge
5. Single Resource Leader
6. Strike Team or Task Force Leader
7. Transportation Branch
    a. Road Group
        i. Group-in-charge
        ii. Vehicle Coordinator
        iii. Loading/Unloading-in-charge
    b. Rail Group
        i. Group-in-charge
        ii. Coordinator
        iii. Loading/Unloading-in-charge
    c. Water Group
        i. Group-in-charge
        ii. Coordinator
        iii. Loading/Unloading-in-charge
    d. Air Operations Group
        i. Group-in-charge
        ii. Helibase / Helipad-in-charge
        iii. Loading/Unloading-in-charge

iii) Planning Section (PS)

The PS deals with all matters relating to the planning of the incident response. It is headed by the Planning Section Chief (PSC). This section helps the IC in determining the objectives and strategies for the response. It works out the requirements for resources, their allocation and subsequent utilisation. It maintains up-to-date information about the ongoing response and prepares IAP. For the closing phase of the Operations, this Section also prepares the Incident Demobilisation Plan (IDP).

Members need to be appointed for various positions under the Operations Section that could undergo training by the state for respective positions and be deployed by the RO and the departmental heads for response operations. The names of the positions for which personnel need to be appointed are as below. Suitable officers for the under mentioned positions are provided in Annexure I.

1. Planning Section Chief
2. Resource Unit Leader
3. Check-in-status Recorder
4. Situation Unit Leader
5. Display Processor
6. Field Observer
7. Weather Observer
8. Documentation Unit
9. Demobilisation Unit
10. Technical Specialist

iv) Logistics Section (LS)

The LS deals with matters relating to procurement of resources and establishment of facilities for the incident response. It also deals with all financial matters, concerning an incident. This section is headed by the Logistic Section Chief (LSC) and is an important component of the IRS organisation for providing back end services and other important logistic support like communications, food, medical supplies, shelter and other facilities to the affected communities and responders as well. There is a Finance Branch (FB) attached to this Section in order to ensure that the procurements, if any, may be done quickly and in accordance with the financial rules.

The establishment and functions of all Sections are essential and vital for efficient response management. However, for management of smaller incidents, all the Sections need not be activated.

Members need to be appointed for various positions under the Operations Section that could undergo training by the state for respective positions and be deployed by the RO and the departmental heads for response operations. The names of the positions for which personnel need to be appointed are as below. Suitable officers for the under mentioned positions are provided in Annexure I.

1. Logistics Sections Chief
2. Service Branch Director
3. Communication Unit Leader
4. Medical Unit Leader
5. Food Unit Leader
6. Support Branch Director
7. Resource Provisioning Unit Leader
8. Facilities Unit Leader
9. Ground Support Unit Leader
10. Finance Branch Director

11. Time Unit Leader
12. Compensation / Claim Unit
13. Procurement Unit Leader
14. Cost Unit Leader

7.3. Preparedness by General Staff

The Incident Response System is the backbone of disaster response that comprises of both command staff – for direction and control – and general staff for conducting actual field operations and operations and logistics management. It is the general staff that deals with various managerial functions like procurement, inventorying, transportation and distribution management. Preparedness to better manage these aspects is given below.

7.3.1.1. Procurement

1. Timely procurement of all relief materials that shall include food stocks like rice, dry fruits, chuda and gur; emergency health resources like first-aid boxes and relief camp resources like polythene, tarpaulins, etc.
2. Supply Management: Supplies of the required resources can be both in-house (government) or outsourced to a supplier. It is essential to identify possible suppliers well in advance. In case the contract is awarded to a particular supplier, a contingency supplier engagement must also be made.
3. Ensure procurement of Safety Stock: Safety Stock is the minimum levels of quantity that must be stored to provide relief in any eventuality.
4. Identification and listing of Local distribution centers is required to be done.
5. Facility Location: For setting up of new storage facilities, the facility locations must be selected in hazard safe areas. The objective must also be to find the most suitable place for inventory in the relief network.
6. Storage Capacity: Storage capacity in all the facilities of the district shall be pre-identified by keeping records of the size and the number of the facilities. Storage capacity forms the basis for planning for supply management.
7. Demand Management: To ensure preparedness, it is necessary to make predictions of needs before a disaster strikes in order to ensure timely availability of materials and capacities. It has to be done by considering the following:

i) Forecasting of disasters using Early Warning System

ii) Number of Inhabitants in the region for estimating logistic needs

iii) Considering factors like recurring demand commodities like food, hygiene kits and One-time demand commodities like Tents for shelter.

7.3.1.2. Logistics

1. **Inventory Management**

Management of inventory at desirable levels ensures availability of required levels of stock, effective utilization of space in warehouses and optimum usage of money. The following will have to be considered for proper inventory management.

i) Managing the Inflow and Outflow of the relief materials
ii) Take a decision on Target Inventory Levels
iii) Minimum and Maximum Inventory Levels acceptable
iv) Minimum threshold before reordering for stock replenishment
v) Order Quantity
vi) Safety Stock Levels
vii) Perishable/Non-perishable materials

2. Distribution Management

For ensuring that the relief cycle is not just efficient but effective, the final distribution of the relief materials have to be ensured. The following shall be done:

i) District Disaster Management Authority (DDMA) of West Chamaparan shall finalise the process for distribution of relief and share it in pre-disaster scenario with the affected population.
ii) Collaborate with NGOs/ CBOs, Civil Defence and other volunteer institutions for distribution only after giving clear directions on the distribution process and procedures to be maintained.
iii) Prepare block and panchayat wise list of number of volunteers from various youth organisations for effective and easier localised distribution management.

7.3.1.3. Operations

1. Transportation Management

The effective transportation of all the resources from the warehouses from food stocks in Bettiah and Narkatiaganj and relief materials stored in Block Emergency Support Centres has to be done by considering various factors and making required calculations for smooth transportation operations. The District Transport Officer (DTO) shall be responsible to prepare a plan based on the transportation infrastructure and resources available with the Transport Department and the number of outsourced transport vehicles that could be pushed in action in case of any contingency. They are as follows:

i. Calculation of the Number of Vehicles required

a) Number of vehicles capacity wise near the warehouse / stores

b) To decide on the number of possible tricks that can be made per vehicle, total time available for the transportation will have to be divided by time taken for a round trip.

Number of possible trips per vehicle **= Period/Round trip**

c) To decide on the number of rounds to be made to the relief camps near the disaster site, total weight or number of pieces to be transported will have to be decided. To get the

number of rounds required, total weight/ volume/ number of pieces will have to be divided by vehicular capacity.

Number of loads **= Total Tonnage/ Vehicle Capacity**

d) To calculate the number of vehicles that shall be required, output of (c) shall be divided by output of (b).

No. of Vehicles required = Number of Loads/ No. of possible trips per vehicle

ii. **Calculation of approximate amount of diesel required for transportation**

This will be useful while tendering contract to transportation agencies or to monitor for internal fuel expenditures.

Total approximate number of liters of diesel required = *Number of Kilometers travelled by a vehicle in a Round trip * Number of trips * Number of Vehicles / Average number of Kilometers per liter*

For efficient transportation, route planning shall be done to identify different routes in case of disruption due to disaster in some of the routes.

7.4. Protocol for seeking external help

7.4.1. National Disaster Response Force

The NDRF battalion assigned the district can be requisitioned directly by the District Administration by liaising with NDRF Commander of the North Lakhimpur division in case of Earthquake which is a rapid onset disaster where early warning or alert is not available. In case of disasters which has sufficient lead time, the district administration can requisition through Director General, NDRF or otherwise, NDMA.

7.4.2. Indian Army or Indian Air Force

District's Responsible Officer, i.e., Deputy Commissioner, who is the CEO of DEOC will communicate the request to the Principal Secretary, Revenue & Disaster Management Department to get access to external help from Indian Army or Indian Air Force.

7.5. Establishment of Emergency Operation Centre (EOC)

EOC is a central command and control facility responsible for carrying out the principles of disaster preparedness and disaster management functions at a strategic level in an emergency. The common functions of all EOC's are to collect, gather and analyze data; make decisions that protect life and property and disseminate those decisions to all concerned agencies and individuals.

The District Collector is the focal point at the district level and assisted by Sub Divisional Officers, Line Departments, District Fire & Police stations, Tehsildars, Block Development Officers, Gram Panchayat and Mobile Teams (Field reporting teams). **The contact details of all the major stakeholders of EOCs are maintained in the annexure.** In the wake of natural calamities, the District Emergency Operations Centre (DEOC) will be set up in the district for a day-to-day monitoring of rescue and relief operations on continuing bases.

Objectives of the District Emergency Operations Centre

To be the nerve centres for coordination and management of disasters. The objectives of the DEOCs shall be to provide centralized direction and control of any or all of the following functions:

- Receive and process disaster alerts and warnings from nodal agencies and other sources and communicate the same to all designated authorities.
- Monitor emergency operations.
- Facilitate coordination among primary and secondary ESFs/Departments/Agencies
- Requisitioning additional resources during the disaster phase.
- Issuing disaster/incident specific information and instructions specific to all concerned.
- Consolidation, analysis, and dissemination of damage, loss and needs assessment data.
- Forwarding of consolidated reports to all designated authorities.

Location of DEOC

The EOC will be set up at a suitable location and the building must be disaster resistant made by following Building Code norms strictly so as to withstand the impact of disasters, particularly earthquakes, and remain functional during the emergency phase. The EOCs/Control Rooms already in existence will have to be suitably upgraded.

Communication Network of EOCs

The EOC must be provided with a fail proof communication network with triple redundancy of NICNET of NIC, POLNET of Police and SPACENET of ISRO in addition to the terrestrial and satellite based communication to ensure voice, data and video transfer.

The DEOC has to be connected with the Assam State EOC (SEOC) at Guwahati that will function on 24*7 basis right through the year.

The DEOC is required to communicate with SEOC, NDRF and MEOC (at disaster site).

Applications at the DEOC

A range of modules are under development for systemic management of data and information at pre, during and post disaster situations. District Disaster Management Authority, West Champaran will need to get in touch with NDMA through BSDMA for setting up of these applications. These systems will become available for use in due course.

Pre-disaster Systems

- Administrative Unit Module
- Disaster Risk & Vulnerability Module
- Directory Information module
- Resource (Contingency Plan) module
- Forecasting, Warning, Simulation Module

During-disaster System

- Alert Messaging module
- Incident Reporting module
- Rescue operations module
- Relief operations module

- Relief Management Module
- Damage Assessment & Fund Allocation System

Post-disaster Systems

- Restoration & Rehabilitation monitoring System
- Damage Analysis System
- Feedback and Control module

Facilities at DEOC

The DEOC will have the following facilities along with the number of instruments:-

1. INMARSAT Satellite phones - 5
2. VSAT Terminal - 1
3. Laptops with encoding/streaming card - 2
4. Workstations - 5
5. Call center positions - 5
6. Projection System - 1
7. LCD based TV Scenes - 3
8. IP Phones - 5
9. Printer - 3
10. Scanner - 2
11. EPABX: 50 lines with requisite phones
12. LAN with severs to provide datacenter facility
13. Routers-LAN switches-wireless access point for access and connectivity
14. Hot Lines : VOIP (Voice over IP) connectivity via satellite as CUG
15. Power pack – Gen and UPS: Capacity 10 KVA & 8 KVA
16. Public address system
17. Connecting cables

Apart from these facilities, the EOC must have soft and hard copies of Emergency Response Plans & Disaster Preparedness, Restoration, Rehabilitation and Recovery Plans.

7.6. Coordination with Selected NGOs

7.7. Community Preparedness

7.7.1. Community Warning System

In order to do so, the communication will be done to targeted audience in specific blocks and GPs where there is greater risk, as applicable. One of the multiple means of communication can be adopted. Use of local television channels, state news channel, communication through community radios or radios and newspaper. However, there is a definite need of targeted communication of quick warning and for that the following has to be done which leverages communities for spreading messages across the panchayats:

4. Creation of mobile number database of all the important stakeholders, as given below in the information dissemination format, at the Panchayat level in rural areas and Nagar Parishad and Nagar Panchayat level in urban areas for early warning communication.
5. Identifying the fastest means of communicating the message in the most lucid manner so as to prevent spread of rumour and panic among the masses.

Bulk Voice SMS Service is the best means of communication to large masses without any effort and within no time. A voice recorded message from the District Magistrate from his/her official number shall be sent to the database of numbers identified for information dissemination. A number of private parties deliver Bulk Voice SMS service at very low cost that will have to be identified in pre-disaster stage.

6. All the members identified for information dissemination must be formally appointed for the task of spreading warning information irrespective of the time of the day and their availability. In case of change of their number, they must communicate this to the EOC coordinator and have the number updated in the database immediately.

7.7.2. Community Awareness

Disaster mitigation and preparedness to respond measures need to be taken with greatest vigour by the local communities to increase the reach and scale of such measures which are necessary for preventing, reducing and responding to disasters. This can only be achieved by enhancing awareness levels of local communities on what interventions are required from them. The section provides what needs to be covered as part of IEC initiatives by the district administration and respective line departments.

S. No.	Aspects of Awareness Building	Departments Responsible
1.	Negative effects of deforestation and benefits of Agroforestry & Social Forestry	Soil Conservation, Forests, GP Presidents, ZPM
2.	Need for community retaliation against poachers and reporting of incidences	Forests, GP Presidents, ZPM
3.	Biological measures to prevent mosquito bites	Health, GP Presidents, ZPM
4.	Involvement of youth groups with Village, Health, Sanitation & Nutrition Committee	GP Presidents, ZPM, Public Health Engineering, Health
5.	Formation of Village Disaster Response Party with functions of SAR, First Aid and coordination to support local administration during disasters	Civil Defence, NCC, NYKS, GP Presidents, ZPM
6.	Benefits of intercropping, mixed cropping and crop rotation to farmers	Agriculture
7.	Building awareness on Crop Insurance and its benefits	Agriculture

8.	Building awareness on Livestock Insurance and its benefits	Animal Husbandry and Veterinary
9.	Promotion of disaster resilient construction of houses	Panchayat & Rural Development, GP Presidents, ZPM
10.	Biological measures of Vetiver grass plantation to prevent or reduce soil erosion	Water Resources, Panchayat & Rural Development, GP Presidents, ZPM

7.7.3. Channels for building Community Awareness

Awareness building has to be done particularly for the communities that are often not aware of the facilities and provisions established by the district administration. They are also required to be made aware of various hazards and ways of escaping those or preventing mechanisms to avoid those. The various channels utilised to build community awareness are mentioned below.

i) Schools
   a) Cultural Groups
   b) Scouts & Guides
   c) Student Groups
ii) Colleges
   a) National Service Scheme
   b) Nehru Yuva Kendra Sansthan
   c) National Cadet Corps
iii) Police personnel at ground/panchayat level.
iv) Civil Defence volunteers (after Dhemaji turns into a CD district)
v) NGOs and CBOs
vi) PRIs

7.8. Institutional Capacity Building

Training inDisaster Management

S. No.	State Level / District Level	Name of the Course	Participants
1.	District & State	Orientation course for first responders to disasters	Home Guards, Civil Defence volunteers, Forest Protection Force, Police
2.	State	Joint staff course in Disaster Response for middle-level officers	District Magistrate, Additional District Magistrates, Sub-Divisional Magistrates, Superintendents of Police, Additional

			Superintendents of Police, Deputy Superintendents of Police
3.	State	Basic training for Para-medics and medical personnel of NDRF battalions and states	Medical officers and para-medics nominated by various state governments
4.	State	Search & Rescue and Safe Evacuation	Civil Defence volunteers, SDRF, Forest Protection Force, Fire & Emergency Services, Home Guards, NSS, NYKS, NCC
5.	State	Training of Trainers on Incident Response System (IRS)	4 key and resourceful officers
6.	State	Training on Incident Response System	Selected personnel of Response Staff and General Staff of IRS to train people identified for various roles in pre-disaster period
7.	State	Training of Trainers (TOT) on Earthquake Resistant Technology for Masons	Masons
8.	District	Hospital Preparedness & Mass Casualty Management including Hospital Management Plan	Doctors and Hospital Administrators
9.	District	Mass casualty management	Paramedics / Response Force (Police, Fire & Emergency Services, Civil Defence)
10.	District	Role of PRIs / ULBs in Disaster Management	PRIs and ULBs
11.	District	Training of teachers on School safety including School DM Plans and conduct of mock drills	Teachers
12.	District	Training for Village Defence Party's	Village volunteers
13.	State	TOT - Earthquake Resistant Technology for Engineers	Engineers, Trainers from technical institutes, colleges, etc.
14.	State	TOT - Rapid Visual Screening for Masonry Buildings	Junior Engineers
15.	State	TOT - Role of PRIs / ULBs in Disaster Management	PRIs and ULBs
16.	State	State Disaster Resource Network	SDO (Civil), Revenue Circle Officers

		(SDRN)	
17.	State	Application of GIS Mapping of Utilities	ADC, DPOs, Line Departments
18.	State	Damage and Needs Assessment	ADC or DPO, District Disaster Management Authority; CMO, Health Department; District Food & Civil Supply Officer, Project Director, DRDA; Exec. Engineer or Assistant Exec. Engineer, Public Health Engineering, Exec. Engineer, Public Works – Building & Roads, Town Committee and S.P. or A.S.P. or D.S.P.
19.	District	Shelter and Camp Management	District Food & Civil Supplies Officer; ADC or DPO, District Disaster Management Authority
20.	District	Collapsed Structure Search and Rescue and Medical First Response	Civil Defence volunteers, Forest Protection Force, Fire & Emergency Services, Home Guards, SDRF
21.	District	Public Health in Emergencies (Safe drinking water and sanitation, Alternative water resources identification during emergency conditions, Supply management).	Public Health Engineering

7.9. Knowledge Management

7.9.1. IDRN / SDRN

SDRN is an online inventory designed as a decision support system for the use of decision makers responsible for disaster management to take appropriate steps in a short time. The resource data includes information regarding vulnerable population within a specified area (Village, District), human resources and equipments in addition to a large data on parameters that help in prediction of losses (property as well human lives) in case of a disaster. Such predictions even though approximate, are useful to arrive at initial decisions regarding provisioning of relief materials and resources. SDRN data has proved an important in disaster preparedness, mitigation efforts as well as planning for setting-up of new infrastructure facilities such as schools, hospitals, etc. Assam state SDRN is based on Census 2011 data. This data will be compounded by data and documents submitted by Circle Officers and SDO Civil from the district. These documents will be uploaded on the SDRN via DEOC.

7.9.2. Documentation of Lessons Learnt and Best Practices

Each of the Line Departments, Block Development Officers, Circle Officers and District Project Officer at DDMA, and others in the District administration shall be able to document lessons learnt and best practices after handling

of every major disaster event. These documents will be useful in improving understanding of the district, its vulnerabilities, measures that need to be adopted in risk mitigation, improvement in response measures and recovery effort. DPO, DDMA shall communicate the need and importance of such documents to all the key stakeholders which could help build knowledge portfolio on the district.

7.10. Media Management

7.10.1. Interaction between Media & District Administration

A pre-flood season interaction in the month of May shall be organized between administration and media to state media's role in increasing community's preparedness for disasters. This interaction will be headed by District Public Relations Officer (DPRO) or those appointed by the Deputy Commissioner and organized by Information and Public Relations Department. Besides this, an interaction between representative of District administration and media shall also happen at the time of sudden disaster such as Earthquakes.

7.10.2. Responsibilities of Media

The following are considered the responsibilities of the local media towards its readers and viewers.

1. Educating and making communities aware about disasters and important Dos and Don'ts to reduce risks.
2. Inform the public on various matters to raise their level of preparedness.
3. Inform the public about the current situation.
4. Advice the public on course of action appropriate to the event.
5. Inform the public on the actions being taken by authorities and aid groups.
6. Relay messages concerning the welfare of isolated groups within the community.
7. Maintain a reassuring presence.

7.11. Debris Management

7.11.1. Debris Management Definitions

1. **Animal carcasses** – remains of animals killed by a disaster.
2. **Electronic debris** – devices or components thereof that contain one or more circuit boards and are used primarily for data transfer or storage, communication, or entertainment purposes, including but not limited to, desktop and laptop computers, computer peripherals, monitors, copying machines, scanners, printers, radios, televisions, camcorders, video cassette recorders (VCRs), compact disc players, digital video disc players, MP3 players, telephones, including cellular and portable telephones, and stereos.
3. **Emergency debris site –** a location that has been identified by the local government or state agency after due environmental impact assessment for the purposes of staging, reduction, or final disposal of disaster-generated debris.
4. **Metals** – (or scrap metals) bits and pieces of metal parts (e.g., bars, turnings, rods, sheets, wire) or metal pieces that may be combined together with bolts or soldering (e.g., radiators, scrap automobiles, railroad box cars), which when worn or superfluous can be recycled. Materials not

covered by the definition of scrap metal include "residues generated from smelting and refining operations (e.g., drosses, slags, and sludges), liquid wastes containing metals (e.g., spent acids, caustics, or other liquid wastes with metals in solution), liquid metals wastes (e.g., liquid mercury), or metal-containing wastes with a significant liquid component, such as spent batteries.

5. **Municipal waste–** Residential and/or commercial solid waste.
6. **Vegetative Debris** – vegetative matter resulting from landscaping, maintenance, right-of-way or land-clearing operations, including trees and shrubbery, leaves and limbs, stumps, grass clippings, and flowers.
7. **Vehicles –** an automobile; motorcycle; truck; trailer; semitrailer; truck, tractor and semitrailer combination; or any other vehicle used to transport persons or property and propelled by power.
8. **Vessels** – any type of watercraft used, or capable of being used, as a means of transportation on the water.
9. **White goods** – discarded domestic appliances including, but not limited to, refrigerators, ranges, washers, freezers, dryers, air conditioning and heating units, freestanding ice makers, built-in stove surface units and oven units, and water heaters. White goods do not include small household appliances, such as, stand mixers, toasters, blenders, etc.
10. **Wood waste** – wood residue, cutoffs, wood chips, sawdust, wood shaving, bark, wood refuse, wood-fired boiler ash, wood ash, and plywood or other bonded materials that contain only polyurethane, phenolic-based glues, or other glues that are approved specifically by the administrative authority. Uncontaminated, un-treated, or un-painted lumber or wooden pallets are considered wood waste under this definition.
11. **Emergency construction and demolition (C&D) debris–** nonhazardous waste generally considered not water-soluble, including but not limited to, metal, concrete, brick, asphalt, roofing materials (shingles, sheet rock, plaster), or lumberfrom a construction, remodeling, repair, renovation, or demolition project that is authorized by the government to be necessary for a disaster.C & D debris does not include asbestos-containing material.

7.11.2. Finding the right location

When selecting a proposed emergency debris site, the local government should consider the answers to the following questions to be favourable before approving land to be used as debris disposal site.

1. What is the proposed use for this site?
2. Is it easily accessible by the types of vehicles transporting the debris?
3. Is it removed from obstructions such as power lines and pipelines?
4. Is the site considered a wetland area?
5. Is the general site topography conducive to the activity that will be conducted there?

6. Are there nearby occupied residences and/or businesses that will be inconvenienced or adversely affected by use of this site?
7. Is the size sufficient for its intended use?
8. Is the soil type suitable for its intended use?
9. Is the site located near water bodies such as rivers, lakes, or streams?
10. Does this site have access to a local fire department for availability of water in the event of a fire?
11. Ownership of site? If not government owned, the applicant needs to have secured access rights to the property. (Please note, it is up to the local government to ensure that they have the legal right to utilize the site for its intended purpose.)

7.11.3. Site Pre-Approval

In order for a location to be considered as an emergency debris site, the agency or local administration will need to take approval from Central Pollution Control Board, Assam.

7.11.4. Management approaches to different forms of debris

1. Vegetative Debris Management

Every effort shall be made to consolidate material from fallen trees and other vegetative debris in an attempt to beneficially use as much of this material as possible. For example, some local industries can utilize the wood material for fuel, and should be encouraged to do so. Otherwise, locals be allowed to use this as fuelwood.

Usage as Industrial Fuel

There may be regulatory limitations for a facility who may utilize wood material as an industrial fuel source.

Disposal

To the extent possible and practicable, vegetative debris that cannot be beneficially used will be disposed in permitted landfills. The total volume of green and woody debris intended for final disposal in a landfill shall be reduced fifty percent (50%) by volume and fifty percent (50%) by weight prior to final disposal. This chipped or ground vegetative debris may be used as compost, a component of daily cover, ground cover, erosion control material, or as fuel. Vegetative debris shall not be disposed in a landfill as the first option, but may be used as a component of the cover system, road bed material, or a means for providing erosion control for a landfill.

2. Electronic Debris

In order to contribute to increased recycling and to reduce the volume of waste disposed in landfills, electronic debris should be recovered. It is required that local administration contract with an electronics recycler or use the state recycling contractor to come and collect electronics for recycling and dismantling.

3. White Goods

Local administration must contract with a metals/or scrap appliance dealer to come and collect white goods for recycling, as white goods are not landfilled. Mercury switches and refrigerant must be removed from appliances by

the contractor. Appliances containing refrigerant, including refrigerators, freezers, and window air conditioner units, should have the refrigerant removed by refrigeration technicians.

4. Metals

In order to contribute to an increase in recycling and to reduce the volume of waste disposed in landfills, metals should be recycled or salvaged. It is recommended that local governments contract with a recycler or sell the metal for scrap.

5. Abandoned Vehicles and Vessels

Vehicles damaged in accidents or in human conflicts are often left on the road side as it is. They have to be properly managed in a manner that is not harmful to the environment.

Scrap vehicles shall be dismantled and properly recycled. The following materials shall be recovered: gasoline and diesel fuel, refrigerants, lubricating oils, mercury ABS switches, mercury convenience switches, lead acid batteries, brake and transmission fluid, antifreeze, and tires. Propane tanks and large appliances in recreational vehicles shall be removed.

Vessels deemed for scrap shall be crushed to reduce volume for easier handling and management, shredded, and properly recycled when possible. The following disposition for hull materials shall be followed: metal boat hulls shall be handled as scrap metal.

6. Latex Paint

Latex paint, if not recycled, may be hardened by adding an absorbent, such as cat litter or a commercial hardener and then sent to a municipal landfill.

Evacuation Procedures

1. On receipt of early warning of prevailing threat, alert communities on possible need for eviction.
2. Identify possible alternative routes that could be used for emergency evacuation in case of floods.
3. Ensure flood shelters make necessary arrangements for prospective number of people that may be required to take refuge.
4. On receipt of confirmation to local administrative authorities on the need for evacuation, communicate to community to be ready for transportation on a short notice.
5. Organise transportation to and from community.
6. Register all persons who are evacuating.
7. Start evacuation and ensure that all people in these areas are safely evacuated.
8. Update District Emergency Operation Centre (DEOC).

Section 8

District Emergency Response Plan

8.1 Emergency Warning & Information Dissemination

Early Warning System

The availability of early warning system is a must before early warning message could be disseminate to the people till the last mile. Thus for every type of disaster there is an agency designated with the responsibility of keeping track of developments in respect of specific hazards and inform the designated authorities/agencies at the district level about the impending disaster. Nodal agencies for early warning of different natural hazards are:

Disaster	Agency
Floods	Central Water Commission (CWC)
Drought	Indian Meteorological Department (IMD)
Heat & Cold Waves	Indian Meteorological Department (IMD)

Information Dissemination

The dissemination of information is the most critical function in order to give early warning to the district administration to put them on high alert to prepare for response and to alert the community. It has to be fast in order to give reasonable amount of time for communities to prepare for any eventuality. Due consideration has to be given to the points mentioned below before sending across the information.

7. Information dissemination will be done to all the important stakeholders (as given below in the information dissemination format) at the Panchayat level in rural areas and Nagar Parishad and Nagar Panchayat level in urban areas for early warning communication.
8. Making use of the fastest means to communicate the message in the most lucid manner so as to prevent spread of rumour and panic among the masses.

   Bulk Voice SMS Service is the best means of communication to large masses without any effort and within no time. A voice recorded message from the District Magistrate from his/her official number shall be sent to the database of numbers identified for information dissemination. A number of private parties deliver Bulk Voice SMS service at very low cost.
9. The communication can be done to all the identified stakeholders of the district, block and panchayat depending on the possibility of the coverage of the disaster.

10. All the members identified for information dissemination must ensure spreading warning information irrespective of the time of the day and their availability in their panchayats / nagar parishad / nagar panchayat.

In the event where the warning is lifted by the concerned department for the respective hazard, another communication removing the warning must be made by the District Magistrate to the community following the same process.

Information Dissemination Plan

1. Information Dissemination Plan for the District Administration

   The contact details of all the POCs of Emergency Support Functions shall be maintained by the DEOC. The communicate shall be made with the permission of RO (Deputy Commissioner) to become available for District CMG meeting (as mentioned in 8.3).

2. Information Dissemination Plan for Rural Areas

Block Name:

Block PramukhContactNo.:

S. No.	Gaon Panchayat	G.P. Sect.	President	Gaon Burah

3. Information Dissemination Plan for Urban Areas

Town Committee Name:

S. No.	Town Committee	Ward Number	Contact No. of Ward Member

8.2 First Assessment Report

First assessment report need to be collected in a specified format (as in Appendix J) to understand the scale and intensity of impact directly on the population. The aspects assessed are limited and majorly looks to assess the socio-economic impact of the disaster. The FAR for the areas belonging to respective Lot Mandal's will be collected and submitted to Circle Officers. COs will in-turn compile the information and submit it to the Deputy Commissioner and DDMA.

8.3 District Crisis Management Group Meeting

District Crisis Management Group (CMG) meeting is the first meeting chaired by the Responsible Officer (Deputy Commissioner) of the Incident Response Team which involves participation of all key members of IRT that is inclusive of ESF Primary Stakeholders (as per the type of disaster discussed below), BDOs and Circle Officers. This meeting may be held at the backdrop of FAR (as in 8.2) outputs and decisions taken based on this. The RO shall appoint the personnel such as Incident Commander and other functionaries that will be part of Incident Response Team. The DC at this point shall order conducting of 'Rapid Damage & Needs assessment' by the team that forms part of this ESF.

8.4 Rapid Damages and Needs Assessment

Rapid damage and needs assessment is acritical for decision makers to plan the emergency response better for effective resource mobilisation and deployment of responders in areas that needs urgent action to reduce loss of lives. The rapid damage and needs assessment shall be performed by ESF No. 7 by following the annexure L.

8.5 Activation of Response

The disaster response system shall be automatically activated after receipt of early warning signals of a disaster happening or likely to happen or on receipt of information of an incident. Thus, receipt of early warning will act as a trigger for the activation of response to set in motion command, control and management of the situation. Activities envisaged in this SOP under the response phase shall be initiated simultaneously without loss of time to minimize the loss and damage and mitigate the impact of disaster.

There shall be two types of situation with different trigger mechanisms for natural disasters:

(i) Scenario I – Where Early Warning signals are available

(ii) Scenario II- Where Disaster occurs without early warning

Scenario 1: Where Early Warning signals are available

a) Nodal agencies designated for forecasting of events of natural disasters like floods and cyclone will issue Watch, Alerts and Warning to DEOC or via SEOC to the DEOC, State & District level designated authorities.

b) As soon as the Watch/Alerts/warning has been issued, the DEOC shall be fully activated.

c) DEOC shall activate District/Sub-Division/Block level administrative machinery as per IRS to respond to the situation with available manpower and resources.

d) First and foremost task shall be informing the community likely to be affected by the disaster through a warning system and undertake evacuation. The responsibility of ensuring that warning information is disseminated lies with District Public Information Officer (DPIO) by default or otherwise the DEOC, if mandated by the Deputy Commissioner during Preparedness phase.

f) CEO of DDMA, the Deputy Commissioner who is the RO in IRS will call upon an emergency meeting and activate IRS that will undertake pre-emptive measures of people's evacuation from risky areas. A comprehensive Standing Order, listing all necessary pre-emptive measures based on the warning, will be prepared at the district level.

g) Thereafter, follow up action shall be undertaken by all concerned at all levels as envisaged under Operational Direction & Coordination comprising of DEOC, ESF and IRT.

Scenario 2: Where Disaster occurs without early warning

In disaster situations where no early warning signals are available, the primary objective of the trigger mechanism shall be to mount immediate rescue and relief operations and set the process in as quickly as possible. The following procedure shall be followed in such situations:

a) The field functionary at ground zero shall inform the DEOC, District Magistrate of the incident, if the disaster limited to a part of the district.

b) DEOC shall be fully activated for managing the incident.

c) DEOC/District Magistrate shall inform the SEOC/ SDMA, SEC and seeks external assistance if required.

d) SEC is activated and NEOC is informed. FIR is submitted to NEOC.

e) Quick Response Teams (QRTs), Search and Rescue Teams, Medical and Para-medical teams shall be deployed.

f) District Magistrate shall review the situation and activate coordination, command and control.

g) Incident Command Teams shall be deployed

h) Meeting of DDMA shall be convened to review situations.

i) Team for rapid assessment of damage shall be deployed.

j).Line Departments/agencies shall begin work for restoration of power, tele-communication, surface transport etc

k) Arrangements shall be made for supply of food material, drinking water etc

l) Thereafter, follow up action shall be undertaken by all concerned at all levels as envisaged under Response and Relief Phases.

8.6 Operational Direction & Coordination

A) Emergency Operation Centre (EOC)

EOC is a control room responsible for coordinating the response functions in an organized and strategic manner. The common functions of all EOC's are to collect, gather and analyze data; make decisions that protect life and property and disseminate those decisions to all concerned agencies and individuals.

The District Collector is the focal point at the district level and assisted by Sub Divisional Officers, Line Departments, District Fire & Police stations, Tehsildars, Block Development Officers, Gram Panchayat and Mobile Teams (Field reporting teams).

The EOC centre has designated space with required equipments for all the emergency Support Functions (ESFs), except for ESF 15 (Law & Order), in the EOC conference hall at the time of an emergency. The place is designated for the nodal officer of the primary department who are required to coordinate the activities in the district with their own department and support agencies/departments. They shall communicate with them by using dedicated telephones and other communication facilities for the EOC.

Role of the EOC during Emergency Response

DEOC shall discharge the following functions:

1. On receipt of information either from NEOC/SEOC or from Early Warning agencies or field functionaries from Sub-divisions, Blocks, or any other reliable sources, District Emergency Operation Centre shall be activated fully as per laid down protocol.

2. DEOC shall issue alerts/warning to all designated authorities at district, sub-division and block level and elected representatives at the panchayat, nagar parishad and nagar panchayat level for which an 'Information Dissemination Plan' is already prepared. The information will also be communicated to:

a) District Magistrate

b) Emergency Support Functions (ESFs)

c) Members, District Disaster Management Committee

d) District Health Society for communicating to health centers at the disaster site.

e) Emergency Operating Centre in Purbi Champaran & Gopalganj districts

f) State Relief Commissioner (SRC)

g) State Emergency Operation Centre (SEOC)

h) MLAs and MPs of affected areas of Dhemaji

3. DEOC shall send First Information Report to SEOC and NEOC, MHA and thereafter Daily Situation Report till situation normalizes. (Format for FIR is in the annexure).

4. DEOC shall collect all relevant information and appraise the status to the designated decision making authorities.

5. DEOC shall maintain all records and documents related to the response.

6. It shall activate all or relevant ESFs of District, as the situation so warrants.

7. Constantly communicate with Mobile Emergency Operation Centre (MEOC) and Incident Commander (IC).

B) Emergency Support Function (ESF)

Disaster response is a multi-agency function. However, there will be only one Lead or Primary Agency which will be responsible for managing and coordinating the response while other agencies will support and provide assistance in managing the incident. Thus multiple agencies working on one functional area are clubbed together to form an Emergency Support Function (ESF) that forms the backbone of the disaster response. All ESFs put together highlights the most important components to be addressed in order to respond to the disaster on all fronts parallely. These ESFs will form part of the Emergency Operation Centre (EOC) and each ESF will coordinate its activities from here. Extension teams and workers of each ESF will be required to coordinate the response procedures at the disaster affected site.

i) Communication Plan

The communication plan must be made available to the District Magistrate, ADM/AC In-charge Disaster Management, other relevant officers in the District Administration, the Emergency Operation Centre (EOC), Responsible Officers (ROs) at the EOC of different Line Departments who must make them available to their respective field staff, Incident Management Team (IMT) and Quick Response Team (QRT) of Civil Defence.

The block-wise communication plan format is given below:-

Information dissemination plan for rural areas

Block Name:

Block PramukhContactNo.:

S. No.	Panchayat	Panchayat Sachiv	Mukhiya	Sarpanch

Information dissemination plan for urban areas

Parishad/Nagar Panchayat Name:

Nagar

S. No.	Nagar Parishad/Nagar Panchayat	Ward Number	Ward Member Contact No.

ii) E

mergency Support Functions (ESFs)

The roles of primary and secondary agencies/departments are provided below:

Primary agencies:

1. Coordinate directly with their agency for guidance to provide assistance and make operational decisions.

2. Designate agency staff members to collaborate with ESF agencies to provide assistance.

3. Update their Standard Operating Procedures (SOP) to accomplish ESFs mission.

Support agencies:

1. Assist the primary agencies in the process of exercising, reviewing, maintaining and implementing this plan, ESFs and Standard Operating Procedures.

2. Provide representatives to the DEOC that can be responsible for coordination with the primary agencies and make operational decisions.

Note: All the ESFs are applicable to Earthquake and Floods. However, in other hazards of lesser scale, only a limited number of ESFs are required to be activated. The hazard wise details are provided below.

In case of Rail & Road accidents within the district, only the following ESFs will have to be activated.

S. No.	ESF Number	ESF Name
1.	1	Communication
2.	2	Search & Rescue
3.	4	Engineering Services & Public Works
4.	5	Public Health & Medical Response
5.	7	Damage Assessment
6.	8	Law & Order
7.	9	Social Welfare
8.	10	Transport

In case of Fire accidents within the district, only the following ESFs will have to be activated.

S. No.	ESF Number	ESF Name
1.	1	Communication

2.	2	Search & Rescue
3.	3	Relief Coordination
4.	5	Public Health & Medical Response
5.	7	Damage Assessment
6.	8	Law & Order
7.	9	Social Welfare
8.	10	Transport

In case of Storms& Hailstorms accidents within the district, only the following ESFs will have to be activated.

S. No.	ESF Number	ESF Name
1.	1	Communication
2.	3	Relief Coordination
3.	5	Public Health & Medical Response
4.	7	Damage Assessment
5.	9	Social Welfare
6.	10	Transport
7.	12	Power

ESF along with appointed officials from the primary and secondary agencies

ESF No.	ESF Name	Function Lead and Department	Support Departments / Agencies
ESF 1	**Communication**	BSNL	• All India Radio/Television • Police Wireless (POLNET)
ESF 2	**Search & Rescue**	Warden, Civil Defence / S.P., Police / Fire Officer, Fire Services (In case of Fire) **Note**: Fire Services will be primary in case of Fire Hazard.	• Village Disaster Response Party • Home Guards • NSS / NCC / NYKS • Forest Protection Force, Forest Dept.

		Home Guards under Police will lead SAR until Civil Defence establishes itself in the district.	External Agencies: • SDRF • Paramilitary Forces – CRPF and SSB • NDRF • Air Force / Army
ESF 3	**Relief Coordination (Shelter, Water & Food)**	ADC (In-charge of Disaster Management), Disaster Management Dept.	• Department of Food & Civil Supplies • PWD – B & R • Civil Defence • Transport • Home Guards • Red Cross Society • Private Cos. / CBOs • NCC/NSS/NYKS
ESF 4	**Engineering Services & Public Works**	Executive Engineer, PWD – Building & PWD – Roads	• WRD • PHED • DRDA • Town Committee
ESF 5	**Public Health & Medical Response**	Civil Surgeon / Chief Medical Officer, Health Department	• Assam State Electricity Board (ASEB) • Transport Dept. • Health Centres • Red Cross Society • Civil Defence
ESF 6	**Water & Sanitation**	Executive Engineer, Public Health Engineering Department (PHED)	• Electricity Department (ASEB) • NGOs
ESF 7	**Damage Assessment**	ADM (In-charge of Disaster Management), Disaster Management Dept.	• Dept. of Police • Rural Development Dept. / Urban Development Dept. • PWD –B & R • PHED • Forest Dept. • Food & Civil Supplies • DRDA • Town Committee • Dept. of Agriculture • Dept. of Animal Husbandry
ESF 8	**Law & Order**	Superintendent of Police, Police Dept.	• DDMA • Para-military (CRPF, SSB) • Armed Forces
ESF 9	**Social Welfare**	District Social Welfare Officer, Social Welfare Dept.	• Food & Civil Supplies Dept. • DDMA
ESF 10	**Transport**	D.T.O., Transport Department	• PWD – B & R • Private Transport

			Carriers • Private Boat Owners • Ambulance Service • Railways • Air Force
ESF 11	**Volunteers Management**	ADM (In-charge of Disaster Management), Disaster Management Dept.	• Civil Defence • Youth Orgs – NCC, NSS, NYKS
ESF 12	**Power**	Executive Engineer, ASEB	• Genset Suppliers • PWD – B & R
ESF 13	**Livestock Management**	D.A.H.V.O., Animal Husbandry & Veterinary Department	-

Responsibility Matrix of Departments/Agencies with respect to ESFs

Dept. / ESF	ESF 1	ESF 2	ESF 3	ESF 4	ESF 5	ESF 6	ESF 7	ESF 8	ESF 9	ESF 10	ESF 11	ESF 12	ESF 13
Disaster Management	S	S	P				P	S	S		P		
Police	S	P					S	P					
Information & Public Relations	S	S											
Public Works - Roads		S	S	P			S			S		S	
Public Works - Building		S	S	P			S			S		S	
f Social Welfare									P				
Transport			S		S					P			
ASEB (Electricity)					S	S						P	
PHED				S		P	S						
Animal Husbandry					S		S						P
Forest		S					S						
Health					P								
Agriculture							S						

Food & Civil Supplies			P				S		S			
Civil Defence		P or	S							S		
Home Guards		S	S									
Fire & Emergency Services		S										
Panchayat & Rural Development							S					
Town Committee				S			S					
Water Resources				S								
BSNL	S											
NGO / CBOs	S		S			S						
Private Cos.			S									
Private Hospitals / Clinics					S							
Red Cross Society			S									
Youth Organisations - NCC,NSS, NYKS		S								S		
Scouts & Guides		S								S		
Media	S											
District Warehouses			S									
Village Disaster Response Party		S										
CRPF / SSB / Army		S						S				
SDRF/NDRF/Air Force		S										
Private Boat Owners		S										
Ambulances		S			S							

Functions of the ESFs during Emergency Response

ESF No.	ESF Name	Functions during Emergency
ESF 1	**Communication**	1. To restore communication facilities after disaster. 2. To provide emergency communication linking for

		EOCs, IMS. 3. To ensure early warning communication to identified stakeholders at community level. 4. To ensure communication facilities to support State and District actions 5. To coordinate the temporary communication requirements 6. To gather correct information from authorities onsite. 7. To track the deployment of field bound teams
ESF 2	**Search & Rescue**	1. To check the evacuation tools & equipment 2. To work out evacuation Plan 3. To establish linkages and coordination with camp office 4. To carry drinking water and packed food, emergency medicine etc. for the victims. 5. To prioritise evacuation of children, women, old, disabled etc. 6. To avoid overloading
ESF 3	**Relief Coordination**	1. To carry cooked dry, fast food materials in properly packaged form for immediate distribution. 2. To organize the supply of drinking water 3. To setup Shelter camps, Kitchen camps, mobilize volunteers for cooking, serving, washing etc. 4. To organize Supply of food grains and vegetables 5. To line up teams of local youths to carry those rescued to relief and shelter camps. 6. To maintain record of names, villages, Panchyat & blocks to which the victims belong 7. To setup latrine & bathrooms 8. To take special care of children, women, old and disabled, especially those separated from families.

		9. To setup disaster relief centre to receive, collect, sort out and distribute relief materials 10. To organize proper supply chain to reach the same to victims.
ESF 4	**Engineering Services &Public Works**	1. To restore the road connectivity in collaboration with Road Construction Department 2. To construct temporary bridges where required 3. To organize repairing of health centre, schools, important buildings 4. To put all high powered machines such as JCBs into effect for debris removal. 5. To organize local force for clearing debris of building, bridges, road etc. for reconstruction 6. To organize locals for chopping and removing of fallen trees etc.
ESF 5	**Public Health &Medical Response**	1. To ensure availability of equipments & stock of medicines. 2. Deployment of medical personnel and ensure availability of all doctors 3. To deploy first aid providing team in larger numbers in affected areas 4. To provide public health advice and warnings to participating agencies and the community 5. To organize mobile medical vans(MMUs)to attend to emergency needs in affected areas 6. To set-up medical camps 7. To provide Psycho-social support by establishing trauma counselors for disaster affected persons 8. To conduct surveillancefor quickly locating prospective outbreak of epidemics 9. To include locally available medical staff in health check up exercise. 10. To coordinate with private clinics and hospitals in

		providing emergency response services. 11. To keep a record of the patients treated, injuries sustained and deaths. 12. To organize voluntaries for removal of dead bodies - both humans& animals 13. To organize burning or burying of dead bodies in case of mass casualty
ESF 6	**Water & Sanitation**	1. To visit shelter camps to keep an eye on sanitation and make adequate arrangements for the same. 2. To identify the sources to provide drinking water & restore supply. 3. To undertake purification of spot drinking water sources affected due to flood waters. 4. To install hand pumps in relief shelters, as per the requests received from ESF 3. 5. To distribute mineral water packetsin areas suffering from drinking water crisis.
ESF 7	**Damage Assessment**	1. To conduct Rapid Damage Assessment using the formats during and immediately following the disaster. 2. The assessment be done primarily to take stock of the following: a) Blocks & Panchayats affected b) Affected Population Size c) Human lives lost d) Livestock lost e) Damage to Standing Crop and Cultivable Land area. f) Loss of cultivable land to soil erosion g) Infrastructural damages to Roads, Bridges,Canals, Schools, Hospitals, Anganwadis, Panchayat Buildings, Houses, Govt. Buildings, Power Supply and Water

		Supply.
ESF 8	**Law & Order**	1. Coordination and posting of Police, Home Guards and CivilDefence forces in strategic places 2. Preservation of peace and good order, particularly in case of Riots, Fires &Accidents. 3. Providing security to Fire & Emergency Services Personnel 4. Prevention of Criminal activities 5. Deployment of forces in any site that is vulnerable to violence, especially in case of ethnic violence in other areas 6. Investigation of the criminal aspect of any event 7. Traffic control, including assistance with road closures and maintenance of road blocks 8. Crowd management/public safety 9. Coordination of Search and Rescue 10. Providing Salvage service to protect households from theft in evacuated areas
ESF 9	**Social Welfare**	1. To ensure continued access to food supplies to Anganwadis. 2. To provide immediate disbursal of life insurance money as under *Mukhya Mantri Jiban Jyoti Bima Asoni*to those who lose their lives in the disaster. 3. To provide stay services to widowed women in Short Stay Homes for Women & their Children
ESF 10	**Transport**	1. To know loading and unloading points nearest to the incident site. 2. To coordinate the transport requirements of the emergency support forces. 3. To arrange transportation of relief and rescue materials. 4. To coordinate and provide transport facilities to

		all support agencies such as Indian Red Cross, NGOs, or others alike. 5. To regulate the movement of onsite traffic 6. To organize transportation of sick and wounded
ESF 11	**Volunteer Management**	1. To ensure coordination between different volunteer groups such as NCC, NSS, NYKS and NGOs 2. To deploy volunteers with any of the ESFs requiring voluntary services in undertaking tasks of emergency response.
ESF 12	**Power**	1. To carry repair and maintenance kits for generator sets and other devices. 2. To check electricity supply line and restore supply 3. To organize alternative source to provide electricity 4. To carry replacement generator set where need be. 5. To organize and ensure power supply to hospitals, shelter camps, kitchen, onsite EOCs and other important institutions. 6. To carry candles, match boxes, solar lamps, petromax, etc.
ESF 13	**Livestock Management**	1. To setup fodder camps for animals in close proximity to affected areas and temporary shelter 2. To vaccinate animals if not vaccinated earlier. 3. To mobilise veterinary teamsat GP level in affected areas. 4. To undertake surveillance of diseases to livestock in affected areas to undertake control measures in a timely manner.

iii) **DESK MANAGEMENT**

IntheEmergencyOperationCenter,allthemajoractivitieswill be distributed among different government officials of different department responsible for ESFs to ensure accountability,properinformation,assimilationandrecordkeeping.Thiswillalsohelpin easy coordination and reporting to the District/State Disaster Manager.

Responsibilities of Desks

The EOC would activate the ESFs in the event of disaster and thedesksystemswould ensuretheperformanceofvariousESFsasperthenеedand requirementoftheemergency throughthenodalofficers appointed of perform theESFsbytherespectivedepartments. List of duties which shall be assigned to different desks is enumerated below.

iv) **OPERATION DESK**

To be manned by the Revenue Department. The officers managing this desk will be responsiblefor the following.

1. Ensuring adequate supplies of food and water.
2. Monitoringrescueandevacuation operations.
3. MonitoringSalvageoperations.
4. Monitoringdisposal of dead/carcasses.
5. Transportation for medical aid to needy.
6. Proper function of transits and feeding centers.
7. Co-coordinating withNGO's. Civil Societymembersand District Emergency Operation Center.
8. Dissemination of information.
9. Maintenance of records in the Emergency Operation Center.
10. Requisitionofaccommodation,transportandothernecessary equipmentsforrelief groups.
11. Providing badges and stickers for volunteers and vehicles and
12. Regular updates to the Disaster Managers at various levels.

v) **COMMUNICATION AND INFORMATION DESK**

The Desk would be handled by Information & Public RelationsDepartment. The officers of this desk will be responsiblefor:

1. Monitoring of weather reportsandsharingof its information with ICs.
2. Keep the Contingency plans along with all necessary maps in hand.
3. Maintenanceofimporttelephonenumbers,databaseonavailableresources,listof key persons.
4. Maintaininformationofdamage,materialssentandongoingactivitiesforimmediate sharing with District Emergency Operation Center.

vi) **LOGISTICS DESK**

Logistics Desk would be jointly manned by the Transport and PWD Departments. The officers oflogistics desk will:

1. Assess the need in terms of manpower and resources and ensure regular supply.
2. Ensure proper storage and transport facilities for relief materials.
3. Maintain adequate supply of necessary transportand equipment.
4. Coordinatewithprivatetransportassociationsandboatassociationforemergency requirement and
5. Organizetransportationforrescueparty,evacuatedpeoplemedicaltermsandinjured or sick people.

vii) **HEALTH DESK**

ThedeskwouldbehandledbytheHealthDepartment.Theofficersinhealthdeskare responsible to ensure:

1. Organize treatment ofinjured and sick, disposal of carcasses.
2. Preventive Medicine and anti-epidemic measures are taken.
3. Maintain record ofall activities.
4. Assess and ensure setting up medical relief camps.
5. Maintain adequate supply of medicines, equipment and personnel and
6. Monitormaintenanceofhealthmeasuresinallcampsandprovisionofsafedrinking water.

viii) **SERVICE DESK**

TheresponsibilitytomanthedeskwillrestwithRevenueDepartment.TheServicedeskwill be responsible for the following:-

1. Assessing the relief, search and rescue and cash compensation requirements.
2. Organize and co-ordinate setting up of transit, relief and cattle comps.
3. Ensure adequate supplies to these camps.
4. Maintain law and order.
5. Coordinate identified NGO activities to ensure community participation.
6. Reporting the procurement and disbursement of relief materialreceived from all sources.
7. Organizeandcleardebrisandtemporaryrepairofcommunicationfacilities,power supply and water supply and
8. Construction of temporary shelters, school buildings, medical facilities etc.

ix) **RESOURCE DESK**

Resource Desk would also be manned by the Revenue Department. The officers working in this desk will be responsible for:

1. Maintenanceofcashanddisbursementsreceipts,issueofreliefmaterials,personnel T.A & D.A. of relief duty staff, daily wages, cash and credit vouchers, Gratuitous and compensation

paid, etc.

2. Issuing of all cash and material receipts.
3. Reimbursement of all expenses approved.

8.7 Media Management

The coordination between the District Administration via District Information & Public Relations department and Media shall always be maintained during and after the disaster while in Response phase so as to ensure people in the district are better aware about the situation and interventions by the administration through this information dissemination medium. The following will be ensured by the DIPRO.

1. Organize media briefing by senior officer in-charge.
2. Provide graphic and statistical details to the extent possible.
3. Organize visits to shelters, relief and various activity camps.
4. Organize briefing on daily basis towards the end of the day.
5. Facilitate media personnel in their interaction with other emergency functionaries, if possible.

Section 9

Reconstruction, Rehabilitation and Recovery Plan

9.1. Detailed Damage and Loss Assessment

Damage and Loss assessment is a critical component to identify what is the extent of recovery required to be done to bring normalcy. This component lays the foundation for the complete reconstruction, rehabilitation and recovery phase. The format can be picked up from annexure.

9.2. Establishment of Recovery Support Functions (RSFs)

RSFs are in line with ESFs in which they are involved in reconstruction of lifeline buildings, social, physical and economic infrastructure and recovery of the disaster affected communities and their livelihoods. RSFs take ownership for the entire recovery phase as per the execution plan by planning the projects in collaboration with respective line departments and also monitors and evaluates the projects. The Deputy Commissioner shall involve other key stakeholders to implement the Recovery phase even beyond the RSFs, as required.

RSF Number	RSF Name	Function Lead and Department	Support Department / Agencies
RSF 1	**Housing & Shelter**	ADM (In-charge of Disaster Management), Disaster Management Dept.	• Department of Food & Civil Supplies • PWD – B & R • Civil Defence • Transport • Home Guards • Red Cross Society • Private Cos. / CBOs • NCC/NSS/NYKS
RSF 2	**Roads**	Executive Engineer, PWD – Roads (State, Rural) and National Highway Authority of India	• MGNREGS, DRDA
RSF 3	**Healthcare**	Civil Surgeon, Health Department	• Public Health Engineering Department (PHED) • Hospitals • Red Cross Society • Civil Defence
RSF 4	**Animal Healthcare**	D.A.H.O., Dept. of Animal Husbandry	• Veterinary Hospitals • Fodder Suppliers

RSF 4	**Water Supply and Sanitation**	Executive Engineer, Public Health Engineering Department (PHED)	• Minor Water Resources (Tube Well Division) • DRDA • Electricity Department • NGOs / CSR
RSF 5	**Power**	Executive Engineer, Assam State Electricity Board	• Genset Suppliers • PWD – B & R
RSF 6	**Livelihoods**	DDC, District Rural Development Agency	• District Industrial Center • NGOs / CSR
RSF 7	**Damage Assessment**	ADM (In-charge of Disaster Management), Disaster Management Dept.	• Dept. of Police • Rural Development Dept. / Urban Development Dept. • PWD –B & R • PHED • Forest Dept. • Food & Civil Supplies • DRDA • Town Committee • Dept. of Agriculture • Dept. of Animal Husbandry
RSF 8	**Lifeline Buildings**	Executive Engineer, Building Construction Department	Construction Contractors

9.3. Immediate and Short Term Recovery

Immediate & Short Term recovery can continue from a day to a month, depending upon the type of recovery work, the extent of disaster and the damage caused. This phase involves completion of any outstanding response activities and conduct of immediate recovery operations.

9.3.1. Recovery Timeline and Execution Plan

The immediate period in post-impact requires undertaking of *Detailed Needs and Loss Assessment* to be conducted by RSF 7. Based on the findings from this assessment, the development of recovery strategies, its timeline and the execution plan shall be formulated during the *Short Term Recovery Phase* through engagement and consultation of the District administration with the internal line departments and external supporting agencies such as NGOs and Contractors. The recovery strategies formulated shall follow Rights Based Approach to provide all essential services as per Human Rights of the citizens of the district.

9.3.2. Types of Recovery

The recovery strategies will involve an all round focus around Social, Economic, Environment and Infrastructure. These are illustrated below.

9.3.2.1. Infrastructure Recovery:

1. **Restoration of Utility and Services**

   1.1. Water Supply: For affected habitation in rural areas, PHED shall work to restore water supply units that shall be identified as dysfunctional during Damage Assessment exercise.

   1.2. Power: Assam State Electricity Board (ASEB) shall restore power lines in areas where damage is reported due to any disaster. The restoration shall be ensured first in critical buildings that includes Hospitals, Health Centers and Administrative buildings. Meanwhile they are under repair, Generator sets shall be made available to these buildings.

   1.3. Telecommunication: Disrupted lines of Telecommunication links shall be repaired on highest priority by BSNL and other private telecom agencies to restore connectivity.

2. **Identification of Critical Lifeline Buildings requiring Retrofitting or Reconstruction**: Lifeline buildings are those necessary to keep the administrative machinery or any emergency needs centres functioning despite the damage by disaster. Infrastructural damage to any of the critical lifeline buildings that include Hospitals, Health Centres and Schools, Anganwadi centres, Offices of Line Departments and District administration shall be identified. Also, places where large crowds throng such as Places of Worship and Cinema Halls will be identified for retrofitting by private individuals within a set timeframe.

3. **Identification of Roads& Bridgesto be Repaired or Reconstructed**: As part of Damage and Loss assessment, PWD B & R and NHAI will list down roads and bridges that needs repairs and those requiring complete reconstruction, besides placement of priority on which projects need to be undertaken. Roads & Bridges that are critical for the district (NH - 52), access to health centers in rural areas or critical for access to Police Stations / Outposts will be placed on priority list.

4. **Identification of Households requiring Retrofitting, Repairs and Reconstruction:** This shall be undertaken in Phase II of structural assessments by PWD Building to identify concrete houses that are

vulnerable as such or to various hazardous in the region including storms, floods or Earthquakes.

5. **Identification of other Infrastructure requiring repairs, retrofitting or reconstruction:** Water Resources Department and Canal Division (Irrigation department) will identify embankments and canals respectively, in need of retrofitting as a result of floods or earthquake in the district.

9.3.2.2. Social Recovery

1. **Temporary Shelter Needs**: The management of relief shelters is continued from the response phase to the immediate recovery phase and done through Incident Response System. Temporary rehabilitation or relocation of people shall be done for houses suffering damage, complete destruction or loss due to river bank erosion. These people will be provided relief supplies while the construction or repair of houses is undertaken. This effort will be led by Relief Camp Manager and DDMA with the involvement of Forest department to ensure identification of areas that are not damaging to the local environment.
2. **Psychosocial Support:** Health department will push to action psychologists for providing psychosocial support to tormented people for their mental well being. This shall be done particularly for members of households losing lives or those that suffered major economic losses.
3. **Physical Health**: First aid and emergency health care has to be provided at the earliest. In case the health care centres are affected by the disaster, temporary medical relief camps have to be installed while the building is retrofitted or reconstructed. Reconstruction of buildings has to begin in this phase. Mobile Medical Units (MMUs) have to be pushed into action for immediately health care close to the community
4. **Animal Health:** Injuries and diseases to animals must be addressed by AH & V department by providing necessary veterinary support at the village or G.P. level.
5. **Financial Support:** Social welfaredepartment shall release life insurance money as under *Mukhya Mantri Jiban Jyoti Bima Asoni*to those who lose their lives in the disaster, as per the scheme norms.
6. **Peace Meetings:** In case of any violence in the region, peace meetings shall be organized by the Police department and the Deputy Commissioner along with leaders of estranged communities to diffuse tensions.

9.3.3. Economic Recovery

Economic recovery in the initial phase is to provide survival avenues by providing such support and employment, while usual livelihoods are affected.

1. **Livelihoods Provisioning**: Providing critical food and non food items necessary for survival in the form of relief. This will focus on disbursement of food and health relief for people in an emergency or people who are chronically vulnerable.
2. **Identification of Beneficiaries of Risk Transfer:**Crop Insurance as per NAIS (RKBY) and Livestock Insurance beneficiaries must be identified during early recovery phase that shall provide affected people with money for meeting immediate expenditures.
3. **Wage Employment:** This shall make available on high priority to people of affected areas so as to give access to money soon after disaster response when the withdrawal of relief supplies generally takes effect. MGNREGS shall be implemented to provide temporary wages while using this to build assets that could be beneficial for their long term recovery.
4. **Restarting Banking Operations:**Banking operations affected due to disaster must continue with minimal period disruption so that communities are able to draw money deposited via MGNREGS work, insurance amounts besides being able to avail regular banking benefits.

9.4. Medium to Long Term Recovery

Medium to long term recovery phase must be complete between 2 to 24 months. This phase is required to ensure complete recovery from disaster through livelihoods regeneration, rehabilitation and reconstruction. This phase requires implementation of strategic plans drawn during the Immediate and Short Term Recovery phase.

9.4.1. Infrastructure Recovery

1. **Strengthening & Retrofitting:** This shall be executed during this phase for all the critical lifeline buildings on priority by the PWD – Building department, besides that for Canals and Embankments by Canal (Irrigation dept) and WRD, respectively. These works for Schools shall be undertaken by Building construction division of Education department.
2. **Repair and Reconstruction:**

2.1. **Roads & Bridges:** The execution shall be undertaken & monitored by the NHAI and the PWD – Roads (State & Rural) as per the execution plan defined during the first segment of recovery phase.

2.2. **Housing:** Development of permanent housing solution for victims will happen during this period under National Housing Scheme (IAY & RAY). Also, housing solutions may be provided in cooperation and financial support of external agencies such as NGOs, Private Companies CSR, etc., if planned during the Immediate Recovery Phase. The planning and execution shall involve local community empowerment by undertaking consultations and needs assessment.

9.4.2. Social Recovery

1. **Rehabilitation:** During this phase, families placed in temporary shelters due to damage, destruction of their houses or erosion of their land to rivers shall be smoothly rehabilitated through requisite infrastructure recovery interventions. Efforts shall be made to rehabilitate affected communities to the locations close to the original habitations to keep them in proximity of pre-disaster communities and land.
2. **Education:** Schools shall be made operational in the shortest span in the post-disaster period.

9.4.3. Economic Recovery

1. **Economic Infrastructure:** Restatement of economic infrastructure (banking operations) shall be doneto improve economic scenario of communities and businesses in the district.
2. **Risk Transfer:**Insurance money shall be transferred to affected communities for Crop loss or loss of domestic animals lost in the disaster.
3. **Wage Employment:** The focus on providing wage employment through MGNREGS will be continued with greater vigour for the affected parts of the district so as to provide economic recovery while original livelihoods such as Agriculture outputs are restored to normalcy.
4. **Livelihoods Promotion:** To initiate and strengthen livelihoods to be more economically and environmentally sustainable as well as more resilient to future disasters. In this long term recovery effort, focus is on livelihoods diversification, creation of alternative income generating activities, providing financial services such as loans and insurance, and strengthening forward linkages with markets for existing and new livelihoods.

a. **Credit Linkages**: This shall be done by formation of SHG groups for affected communities so as to support in buying or rebuilding assets such as Domestic animals, Farm equipments, Craft equipments, etc by providing Micro credits. This shall be critical to reduce population's dependency on the district administration for support.

b. **Increasing Micro-Insurance Cover:**A drive shall be undertaken to cover more farmers and livestock owners to have micro insurance done for their productive lands and livestock to improve risk transfer benefits in case of damages from any future disasters.

c. **Diversification to Disaster Resilient Livelihoods:** Agriculture is the mainstay of the district while it is one of those vulnerable to natural hazards. Alternative livelihoods such as crafts, sericulture and plantation of Khus (Vetiver) for its Oil production with a processing industry, etc. shall be undertaken which are resilient to floods, storms and hailstorms.

9.4.4. Environment Recovery

1. **Regeneration of Biodiversity:**
   Afforestation initiatives will be undertaken by Soil Conservation, Forest and P & RD in affected areas to regenerate forests and biodiversity of the area. This shall be done as in risk mitigation phase.
2. **Treatment of Wetlands:** NaturalWetlands shall be cleared of debris and sediment deposits to restore them so as to aquatic biodiversity of the region that include fishes and plants.
3. **Treatment or safe disposal of contaminated land / water caused due to hazardous material spill:** In case of hazardous spill in Bongaigaon Refinery and its untreated release with drainage, Tunia Drain, the release of water shall be restricted by Bongaigaon Refinery and the drainage channel and surrounding areas (in case of inundation) shall be treated.

9.5. Monitoring Progress & Reporting

The primary agencies of RSF shall monitor the progress of all its projects as per the Execution Plan and evaluate the quality of outcomes which will be required to be submitted to the CEO, DDMA. The Monitoring & Evaluation reports shall be submitted by DDMA to SDMA in Guwahati.

Section 10

Monitoring & Evaluation

10.1. Introduction

Monitoring and Evaluation of DDMPs is a necessary exercise for the below mentioned purposes.

1. To ensure a year round target oriented implementation of the projects for disaster risk reduction during pre-disaster phase
2. Conducting of drills to test the effectiveness of the plan and check the level of preparedness of line departments and other stakeholders
3. To assess the trainings done for capacity building of the officers, community and CBOs
4. To assess the effectiveness of the plan used during disaster response in a review conducted after the disaster.
5. To keep the plan updated after incorporation of inputs to plug the gaps.

10.2 Monitoring & Evaluation

102.1. Projects worked on during the year for Disaster Risk Mitigation (Hazard wise account)

This section is to monitor and evaluate the projects completed by line departments as per the DDMPs Section 6-9. Each of the departments shall undertake the projects to they worked upon keeping in focus the mitigation, preparedness, response and recovery measures that have to be addressed with special focus on completing mitigation projects even in case of no disaster. The details need to be filled and submitted by head of the line department to the Deputy Commissioner via DDMA office and is maintained by DDMA. The same shall also be submitted by the Deputy Commissioner to the SDMA, Guwahati. If the project status is delayed, the reason for the delay has to be provided under the same column. At the yearly review of the plan, the review team which shall be District Disaster Management Committee (DDMC) will consider proposing new mitigation projects. Similar such projects implemented by NGOs/CBOs or any other external agency shall format also have to be submitted to the Deputy Commissioner via DDMA.

To access format, refer to annexure.

10.2.2. Trainings completed for Disaster Reduction & Management during the year

There are number of trainings that could be conducted for disaster preparedness as well as improving disaster response capability of officers, staff of line departments, community, NGOs and CBOs. This section has to be filled by each of the stakeholder departments and submitted to the DDMA at the end of each financial year to show the capacity building of their department along with the original proof of completing the training.

S. No	Name of the Training	Department	Number of Participants	Training Dates	Training Evaluation

10.3 Review and updation of plans

Based on comments and suggestion of the DDMA, DPO (Disaster Management) will revise plan under the guidance of Additional Deputy Commissioner, Dhemaji and Deputy Commissioner, Dhemaji.

1. The plan will have to be updated twice every year during the months of May and November. This is required to be done to incorporate:

a) Changes made to existing centrally sponsored and state sponsored schemes that are part of the DDM.

b) Introduction of new schemes by the central or state governments relevant for DRR.

c) Passing of the new acts in the parliament that have any bearing on the DDMP irrespective of any prior reference to the functions of the act.

d) Change of directions by the DMD or any updates to the State's Disaster Management Plan

e) Installation of new technology by the NDMA/ASDMA for any purpose that includes but not limited to Communication networks, Knowledge Management Systems, Decision Support Systems, etc.

f) Induction of ASDRF (Assam State Disaster Response Force)

g) Opening up of any relevant institutions for training

h) If there are changes in roles and responsibilities and the departments responsible for mitigation projects within the district or state.

i) Addition of new resources as in the resource inventory.

j) Identification of new mitigation measures as per the identification by the review committee and inputs from line departments and CBOs (as suggested in M & E section)

k) Update coordinates of responsible personnel and their roles / responsibility whenever a change happens. Names and contact details of the officers/officials who are the nodal officers or the in-charge of resources are to be updated on regular basis.

2. The updated plan shall be uploaded on the website of Dhemaji and ASDMA. The updated plan shall be put up as a new version document with newly added components be distinctly marked or underlined so that any change in the plan could be distinctly identified and studied by any Block, District or State official, Community Based Organisation, Zila Parishad Members and ASDMA.

3. The updated plan should be circulated to all stakeholder departments, agencies and organisations so that they remain updated about their key roles and responsibilities.

10.4 Mock Drills

Mock drills are required to be done for the following reasons:

1. To make the plan usable.
2. To improve the know-how of practices to be followed while dealing with disasters.
3. To get communities prepared to deal more appropriately during disasters.
4. To build the confidence of communities in the administration and respondents.
5. To make the plan more practicable by continually finding gaps and upgrading the plan as per the identified needs and gaps in the plan.

a) Drills at District Level

(1) Earthquake mock drill will be conducted atleast every two years at any time of the year.

(2) Flood mock drill will be conducted every year in the month of June

b) Drills at Block and Sub Divisional Level

(1) All the SDMs/BDOs shall conduct Mock Exercise at their respective level in sync with drills at the district level.

Mock exercise evaluation report should include findings, recommendations to mitigate the findings, and a rank that identifies the finding according to the following categories:

Observation – Finding has little direct impact on emergency response or restoration, but should be considered as an improvement to your emergency response processes

Gap – Finding had some measurable impact on timeliness of restoration or effectiveness of emergency response

Significant Gap – Finding had significant impact on timeliness of restoration or effectiveness of emergency response with significant potential to impact public safety

Officer in charge:

Description of Findings	Involved Parties	Gaps	Recommendations
Emergency Reponses tools and Facilities			

Communications Facilities and Procedures			
Operating Direction			
Emergency Preparedness Plans and Procedure			
Public and Media Information			
Emergency Management (Non-Operational)			
Exercise Planning, Scenario Adequacy and Exercise Control			

* All recommendations/comments/findings will be incorporated in updation of DDMP

EMERGENCY CONTACT NOS.

District Emergency Operation Centre (Control Room)-03753-261000 M No-7577035639

Toll free Number -1077

Control Room, Dispur

0361-2237460 (O)

0361-2237011 (Fax)

Toll free Number -1079

EMERGENCY CONTACT NOS

Project Officer, DDMA

03753-261000 (O)

8721966675 (M)

District Police Control Room: 100/ 03753-224220

Fire Service- 0373-294607

M.No-9707901947

9401744478 (M)

SDRF-8486290298 (M)

Ambulance Service: 108

NDRF-Dhemaji

Control Room-03753-294698

Assistant Comandant-9485235470

Inspector-7002069409

Sub-inspector- 9957547858

NDRF- Guwahati- 0361-2840027 (o) 0361-2849080 (Fax)

CONTACT NUMBERS OF GOVT. OFFICIALS OF DHEMAJI DISTRICT

District Administration			
Sl. No.	**Name**	**Designation & Address**	**Mobile**
1	JAVIR RAHIL SURESH, IAS	**DISTRICT COMMISIONER , DHEMAJI**	9960791646
3	Kuldip Hazarika ,ACS	**ADDI. DISTRICT COMMISIONER CUM CEO DDMA, DHEMAJI**	8876285835
5	SANJIB PHUKAN,ACS	**ADDI.DISTRICT COMMISIONER , DHEMAJI**	9706519455
6	Rashni Pratap , ACS	**ADDI. DISTRICT COMMISIONER , DHEMAJI**	8840746403
7	Anand Malhutra , IAS	**SDO Civil JONAI/ Co District Commissioner jonai**	9789966893
9	**Dimpal Kaman ,ACS**	**ELECTION OFFICER , DHEMAJI**	8724050586
11	**Pinamoni Baruah**	**I/C D.P.O DDMA , DHEMAJI**	8721966675
Sl. No.	**Name**	**Designation**	**Mobile**
1	**LILA KANTA BHUYAN**	**INFORMATION ASSISTANT**	**9954179461/7002188018**
2	**DEVAJIT GOGOI**	**INFORMATION ASSISTANT**	**8011590078**
3	**SUBHAN DUTTA**	**INFORMATION ASSISTANT**	**7577963371**
4	**SEEMANTA BARUAH**	**INFORMATION ASSISTANT**	**9101998058**
5	**CONTROL ROOM**	**DEOC DHEMAJI**	**03753261000/7577035639**
Sl. No.	**Revenue Circle**	**R.C.O Name**	**Mobile**
1	Manali Prasad Rajak,ACS	**CIRCLE OFFICER , DHEMAJI REVENUE CIRCLE**	**8876817034**
2	DIMPY BHATTACHYAJEE, ALRS	ATTACHED Dhemaji Revenue Circle	8638539151
3	Smti Anamika Gogoi, ARLS	**CIRCLE OFFICER , GOGAMUKH REVENUE CIRCLE**	8133857040
4	Chinmoy Neog, ARLS	**CIRCLE OFFICER , SISSIBORGAON REVENUE CIRCLE**	9864691846/7576865952
5	Nilutpalakhi Borah,ARLS	**Attached CIRCLE OFFICER , SISSIBORGAON REVENUE CIRCLE**	9101865802
6	Rajeeb Sonowal, ACS	**CIRCLE OFFICER , JONAI REVENUE CIRCLE**	8826512890
Sl. No	**Name**	**Designation & Address**	**Mobile**

.			
1	**Prahlad Ranjan Hazarika**	**BDO, DHEMAJI BLOCK DEVELOPMENT OFFICE, DHEMAJI**	**7896289937**
2	Biduyt Gharphalia	**BDO, SISSIBORGAON BLOCK DEVELOPMENT OFFICE**	8472916182
3	**Sanjeepan Guswami**	**BDO, BORDALANI BLOCK DEVELOPMENT OFFICE**	7002199048
4	**Aslekha Bordoloi**	**BDO, MACHKHOWA BLOCK DEVELOPMENT OFFICE**	**8473816141**
5	**Chandima Das**	**BDO, JONAI BLOCK DEVELOPMENT OFFICE**	9864077247
Sl. No.	**Name**	**Designation & Address**	**Mobile**
1	**PROTIM GOGOI**	**EXECUTIVE ENGINEER , WATER RESOUREC DEPARTMENT DHRMAJI**	**7002193908/9101298460**
Sl. No.	**In-charge/ Superintendent**	**Address**	**Mobile**
1	**Dr. Kulen chandraBorguhain**	**JOINT DIRECTOR , HEALTH , DHEMAJI**	**9435034223**
2	**Dr. Binid Barah**	**SUPEINTENDENT , DHEMAJI CIVIL HOSPITAL**	**8638808242**
3	**Dr. P. CHAYENGIA**	**Gogamukh PHC**	**9957838575**
4	**Dr. B. K. DOLEY**	**Begenagarah PHC**	**9954591359**
5	**Dr. Phorid Kaman**	**Sissiborgaon BPHC**	**8011407225**
6	**Dr. Chandra kat Mili**	**Jonai BPHC**	**7002113036**
7	**Dr. Dibya Sharma**	**Dhemaji BPHC**	**9954368043**
8	**DR. D . K. DEORI**	**Silapathar MPHC**	**9127582849**
Sl. No.	**Incharge**	**Address**	**Mobile**
1	**JOSEPH /Sanjoy Prashad Sharma,Assistant Commandant**	**ASSTT. COMMANDANT NDRF , DHEMAJI**	**9862254388/9485235470/8011771251**
Sl. No.	**Incharge**	**Address**	**Mobile**
1	**RAM PRASAD DOLEY**	**OFFICER , FIRE & EMERGENCY SERVICE AND SDRF, DHEMAJI STATION**	**9678202644**
2	Suneswr Rajbanshi	**OFFICER , FIRE & EMERGENCY SERVICE AND SDRF, SILAPATHAR STATION**	9401744478
3	Dipen Mili	**OFFICER , FIRE & EMERGENCY SERVICE AND SDRF, JONAI STATION**	6002182442/ 9954842767
4	**Bipul Baruah**	**OFFICER , FIRE & EMERGENCY SERVICE AND SDRF, Gogamukh STATION**	9954842767

5	**PARESH DAS (i/c)**	**OFFICER , FIRE & EMERGENCY SERVICE , NHPC GOGAMUKH STATION**	**9435820830**
Sl. No.	**Incharge**	**Address**	**Mobile**
1	**Satish Chandra Roy,**	**SUPEINTENDENT OF POLICE, DHEMAJI**	**9435539728/6026900339**
2	**Addl. SUPEINTENDENT OF POLICE, DHEMAJI**	**ADDL.SUPEINTENDENT OF POLICE, DHEMAJI**	**6026900340/9435134149**
3	**DY SUPEINTENDENT OF POLICE, DHEMAJI**	**DY SUPEINTENDENT OF POLICE, DHEMAJI**	**6026900341**
4	**O/C Jonai PS**	**O/C Jonai PS**	**6026900349**
5	**O/C DHEMAJI PS**	**O/C DHEMAJI PS**	**6026900345**
6	**O/C Simenchapari PS**	**O/C Simenchapari PS**	**6026900351**
7	**O/C Gogamukh PS**	**O/C Gogamukh PS**	**6026900349**
8	**O/C Silapathar PS**	**O/C Silapathar PS**	**6026900346**
9	**O/C Geruka Mukh PS**	**O/C Geruka Mukh PS**	**6026900350**
Sl. No.	**Incharge**	**Address**	**Mobile**
1	Bitupan Neog	CEO, Zilaparishad, Dhemaji	**8011068849**
2	Krishna Kamal Deori	**D.F.O. DHEMAJI**	7002107487
3	Gouttam Deka	**DTO, DHEMAJI**	9864357131
4	**Sunil Pegu**	**EE, ASEB(RE) , DHEMAJI**	**8638534728**
5	Nirud Changmai	**EXECUTIVE ENGINEER, PWD Teritorial ROADS, DHEMAJI DIVISION**	**8638213516**
6	Simanta Prasad Das	**EXECUTIVE ENGINEER, PWD Teritorial ROADS, JONAI DIVISION**	**7002117925**
7	**RAJ KUMAR CHETRY**	**EXECUTIVE ENGINEER, PWD STATE BOULDING,SILAPATHAR**	**9435094218**
8	**Md. Akter Ali**	**ASST. EXECUTIVE ENGINEER, PWD BUILDING, DHEMAJI**	**8011496207**
9	TANOY GOGOI	**DISTRICT AGRICULTURE OFFICER , DHEMAJI**	9864798233
10	BIKASH SHARMA	**DIPRO.DHEMAJI**	9954004086
11	**Dr. Girin Saikia**	**DISTRICT VETERINARY OFFICER , DHEMAJI**	**9954705801**
12	**LAKHINATH LAGACHU**	**DISTRICT FISHERY OFFICER , DHEMAJI**	**9854628046**
13	**Kabita Deka**	**INSPECTOR OF SCHOOL , DHEMAJI**	**9435640207**
14	**Kabita Deka**	**DISTRICT ELEMENTARY EDUCATION OFFICER, DHEMAJI**	**9435640207**
15	**BIDYUT BORGOHAIN**	**EXECUTIVE ENGINEER, PHE, DHEMAJI**	**7002563379/9435051461**
16	PRITY REKHA GOGOI	**DISTRICT SOCIAL WELFARE OFFICER , DHEMAJI**	8876934129
17	UJJAL TALUKDAR	**ASST. DIRECTOR OF SUPPLY , DHEMAJI**	**7399970615**
18	**DEPUTY INCHARGE**	**FCI , DHEMAJI**	**7086391903**

19	Tapan kumar Talukdar	**EXECUTIVE ENGINEER, Iregation , DHEMAJI**	7002290998
Sl. No.	**Incharge**	**Address**	**Mobile**
1	**RUNUMI DUTTA**	**CIRCLE LEVEL FIELD OFFICER , DHEMAJI REV. CIRCLE**	**7005984409**
2	**RIPUNJIT BHUYAN**	**CIRCLE LEVEL FIELD OFFICER , GOGAMUKH REV. CIRCLE**	**9707434363**
3	**Jatin Pait**	**CIRCLE LEVEL FIELD OFFICER , SISSIBORGAON REV. CIRCLE**	6362448548/8811823476
4	**RITU DUTTA**	**CIRCLE LEVEL FIELD OFFICER , JONAI REV. CIRCLE**	**8811969388**