

**Bihar State Disaster Management
Authority (BSDMA)**

**August
2015**

**Preparation of District Disaster
Management Plan for Arwal District**

Inception Report

Submitted By:

Global Rescue Consultants Pvt Ltd,
Pearey Lal Bhawan, 1st Floor,
Bahadur Shah Zafar Marg (ITO),
New Delhi-110002

Contact

+91-11-43723332, 9312875832
sgautam@rescueconsultants.com
globalrescueconsultants@gmail.com
www.rescueconsultants.com; www.gapsham.org

TABLE OF CONTENTS

<i>Executive Summary</i>	4
<i>Chapter - 1: INTRODUCTION</i>	5
1.1 In Brief About GRCPL	5
1.2 Background and Context	5
1.3 Purpose/Objectives	6
1.4 Overview of the District	7
<i>Chapter - 2: Scope of the Work</i>	14
2.1 Districts Allocated to GRCPL	14
2.2 Applicable Definition of Disaster & Disaster Management	14
2.3 Scope for DDMP as per D.M. Act-2005	15
2.4 Addl Scope for DDMP as per BSDMA Work Order	15
2.5 Addl Scope for DDMP as per Experts Views in Inception Workshop	16
<i>Chapter - 3: Approach and Methodology</i>	20
3.1 Our Understanding of the Project (Approach)	20
3.2 Detailed Design of the DDMP	21
3.3 Methodology Overview	25
3.4 Detailed Methodology	26
3.5 Required Data	30
3.6 Data Source	32
3.7 Data Collection, Review and Analysis Methodology	33
3.8 Sampling Methodology	34
<i>Chapter - 4: Work Plan</i>	35
4.1 Overview of Schedule	35
4.2 Gantt Chart	35
4.3 Schedule for field visits	36
4.4 Schedule of meetings and Workshops	36
4.5 Possible Deviations and Adaptations to Time line	37
4.6 Support to be provided by BSDMA/DDMA	37

Chapter - 5: Activities Already Carried Out.....	39
5.1 Composition of team for DDMP and Kick-off meeting at our office	39
5.2 Documents Reviewed	39
5.3 Interaction with Distt Headquarters.....	39
5.4 Initial Field Visit.....	39
5.5 Other Activites	39
Chapter - 6: Annexures	40-80
6.1 Terms of Reference	40
6.2 Line Departments and Organizations to be contacted	41
6.3 Team & Experts for DDMP Preparation	42
6.4 Day-to-Day Responsibility of Team Members	43
6.5 Deliverables	44
6.6 Draft Structure of DDMP.....	45
6.7 Formats for Some of the Exercises to be Done for Analysis... ..	48-80

Executive Summary

District Disaster Management Plans (DDMPs) are operational module for the district administrations for effective mitigation and risk reduction of different types of disasters with locally available resources and personnel and to provide distressed people with immediate relief. Earlier, disaster management was considered as a crisis management function that begun with a disaster and closed soon after the relief and rehabilitation. It is now realized that process of mitigation should incorporate long term preventive and protective measures by adopting appropriate strategies for disaster prone areas.

National Disaster Management Act, 2005 mandates for the development of comprehensive and holistic District Disaster Management Plan (DDMP) to minimize the impact of disasters on the communities, to facilitate timely and effective response to disasters and a holistic disaster management through integration of mitigation, preparedness and DRR measures with the development plans of the district.

India has a diverse geographical characteristics and hazard scenarios in different regions which becomes more complex due to varied socio-economical settings. Bihar in particular is a live example of such a scenario and further that each district in Bihar is prone to one or other or multiple hazards and vulnerable conditions leading to severe loss of life and property. For each scenario, the Disaster Management Plan would be different to effectively deal with the complexities of the region. GRCPL will prepare DDMP for Arwal District which will be in compliance with the guidelines of the DM Act 2005, with special attention to Section 31 (1) of the Act. The objectives of the DDMP to be developed will be **"SMART"** i.e. **Specific, Measurable, Achievable, Realistic and Time Bound**. DDMP to be developed shall be of very high quality but will be operable in pre, during and post disaster phases. The mainstreaming of Disaster Risk Reduction (DRR) and Climate Change Adaptation (CCA) features into development planning of sectoral departments is one of the key areas identified and will be incorporated in the plan.

Chapter-1: INTRODUCTION

1.1 In Brief About GRCPL

Headquartered at New Delhi in the heart of the city at ITO, Global Rescue Consultants Pvt Ltd (GRCPL) works in following domain:

- » Disaster Risk Reduction (DRR)/Disaster Risk Management (DRM)
- » Emergency Response Preparedness
- » Climate Change Adaptation (CCA)
- » Sustainable Development

GRCPL has been consistently working with Delhi Disaster Management Authority, District Disaster Management Authorities in Uttar Pradesh (Viz Bareilly, Pilibhit, Shahjahanpur, Badayun, Sonbhadra etc), DDMA Haridwar in Uttarakh and and other institutions and organization in the country on DRR. The services provided by GRCPL include training and capacity building, survey, audits, preparation of Disaster Management Plans, HRVC analysis, Risk Analysis, RVS (Rapid Visual Survey) for structural safety of buildings, resource planning, hazard resistant construction, GIS based mapping etc.

1.2 Background and Context

India has a diverse geographical characteristics and hazard scenarios in different regions which becomes more complex due to varied socio-economical settings. Bihar in particular is a live example of such a scenario and further that each district in Bihar is prone to one or other or multiple hazards and vulnerable conditions leading to severe loss of life and property. For each scenario, the Disaster Management Plan would be different to effectively deal with the complexities of the region.

National Disaster Management Act, 2005 mandates for the development of comprehensive and holistic District Disaster Management Plan (DDMP) to minimize the impact of disasters on the communities, to facilitate timely and effective response to disasters and a holistic disaster management through integration of mitigation, preparedness and DRR measures with the development plans of the district.

Therefore, Bihar State Disaster Management Authority (BSDMA) took up an ambitious task of preparing DDMPs for all Districts in Bihar based upon hazard profile of each district and accordingly with a very intensive selection process, some of the organizations were handed over the task of preparing DDMPs in a time bound and scientific manner. To further ensure the quality of the work, each agency was awarded the work for only a few of the Districts (4 to 5 Districts each).

1.3 Purpose/Objectives

The key objectives of developing DDMP are:

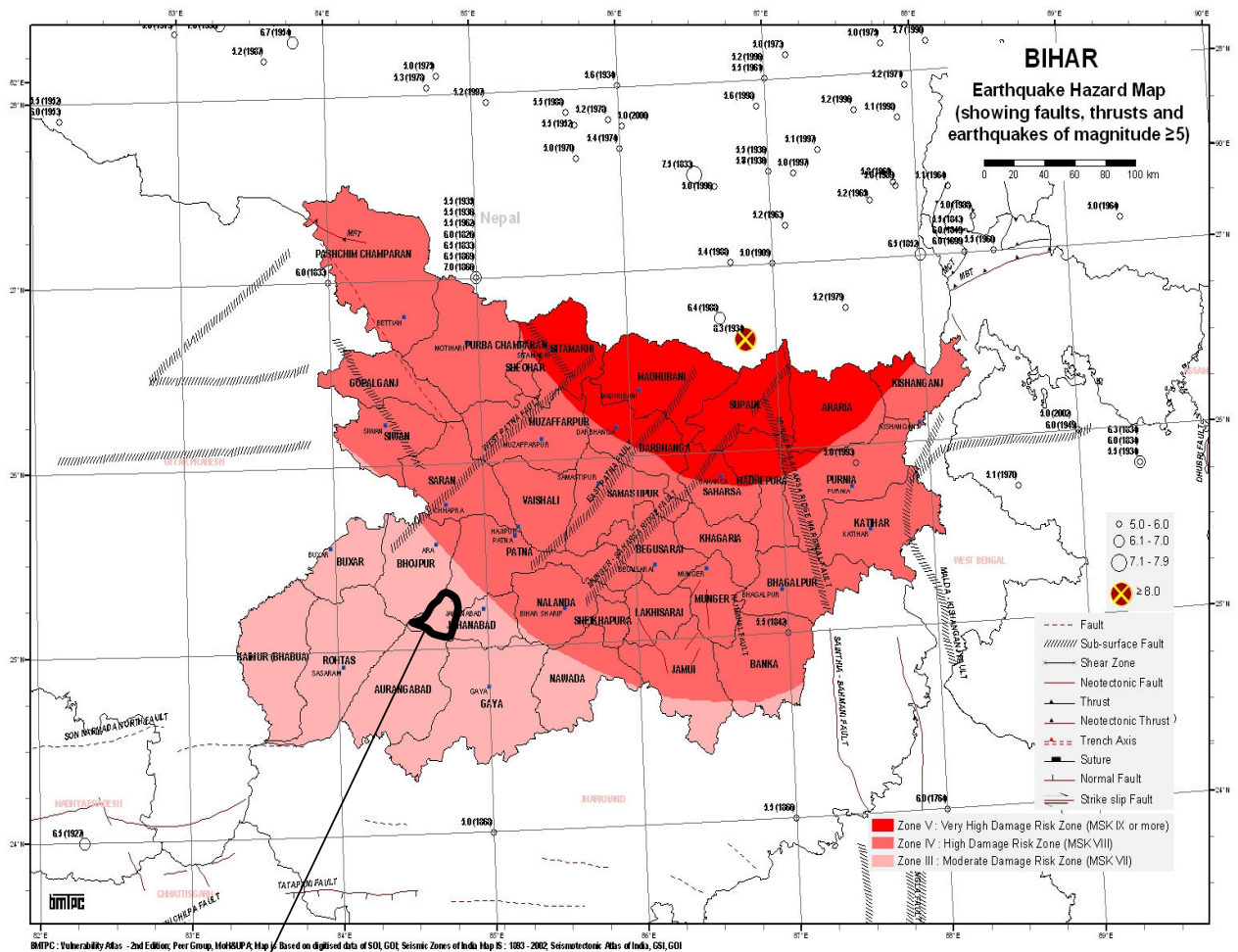
- 1) To analyse the geographical, social, political and economic context of allocated 4 District from disaster management perspective.
- 2) To analyse current development problems and it's linkage with past disasters and hazards in the district.
- 3) To identify areas vulnerable to different natural and manmade hazards
- 4) To know underlying risks and develop action plans for different stakeholders for risk reduction.
- 5) To mainstream climate change risk to have climate change enabled DDMP.
- 6) To suggest mitigation measures to be adopted by different stakeholders for the risks identified in the district.
- 7) To develop action plans for different stakeholders (Communities, Govt. Line departments and other stakeholder groups) for disaster risk reduction, emergency response and recovery actions.
- 8) To mainstream the participation of stakeholders during the process of DDMP preparation for their user-friendliness and to enable the ownership of the DDMP documents through consensus building and consultation workshops.
- 9) To have user-friendly, cross-functional and matrix based DDMP, to strengthen institutional mechanism at district level to make it an integrated and coordinated plan at all levels, that can be integrated with the development plans and projects of the Govt. of Bihar.
- 10) To prepare DDMP for Arwal District of Bihar in compliance with the guidelines of the DM Act 2005, with special attention to Section 31 (1) of the Act.
- 11) To prepare DDMP structure based on the model DDMP of Madhubani developed by BSDMA.
- 12) To do gap analysis of existing early warning system for different disasters at district level for purpose of strengthening it.
- 13) To do the gap analysis in the institutional structure and functional capacities of DDMPs for the purpose of strengthening it.
- 14) To address the Roles and responsibilities for the different stakeholders, other than government departments, during different disasters in DDMP
- 15) To address Roles and responsibilities for different government departments at the time of disasters in DDMP.

1.4 Overview of the District

An overview of Arwal District is profiled briefly as under:

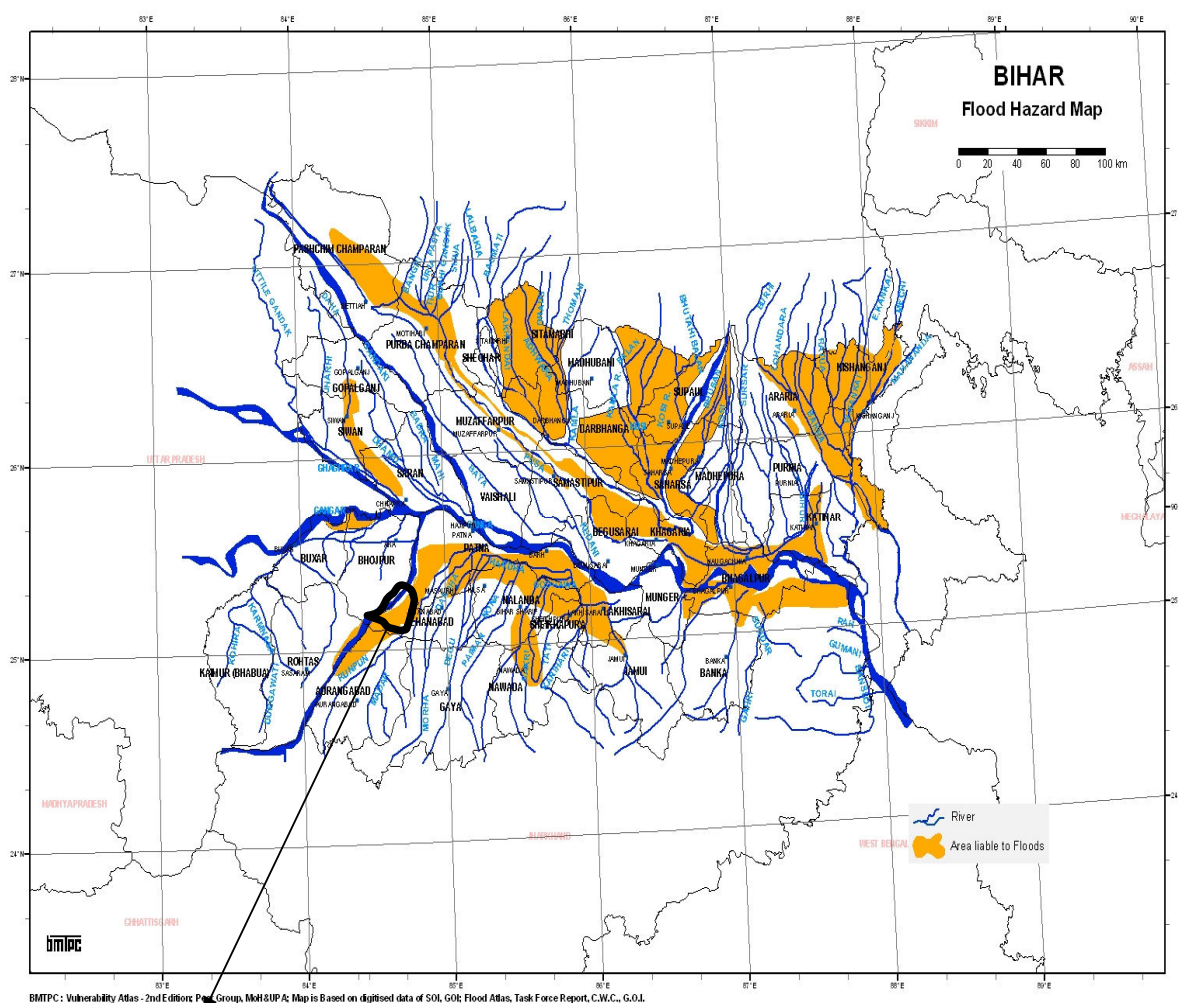
Profile Feature	Arwal
GEOGRAPHICAL PROFILING	
General Info	Arwal district is a part of Magadh division. It came into existence on 20 August 2001 and was earlier part of Jehanabad district. Latitude: 25.25°, Longitude: 84.6833333°. Arwal town is situated on the right side bank of the river Son, which is a tributary to the river Ganges. The language spoken here is "MAGAH", a dialect of Hindi. Rivers- Punpunand Son. Electricity available only for 15% of total village. Drinking water available for 70% of total population.
Distance from State Capital, Patna	80 Km
Total Area (km²)	642.42 sq Km
Nearest Airport	Patna
Nearest Railway Station	Jehanabad, Patna
Major Roads and Highways	NH110 Arwal to Jehanabad NH98 Arwal-Aurangabad-Patna
SOCIAL PROFILING	
Total Population	Total-699563. Suryapur Block- 66846; Kurtha Block- 100692; Kaler Block- 130663; Arwal Block- 130996; Karpi Block- 158629. (Census 2011)
Demographic features	Total Population lives in rural area in the district.
- Population density	1099 Per Square KM
- Total Male/ Female	Male- 362945. Female- 336618. Sex Ratio- 927.
- Total no. of children - Below 7 years - Above 7 years	
- Literacy rate	Total Literate- 400439. Total Illiterate- 299124. Literacy rate- 69.54% . Male Literate- 243163 (81.27%). Female Literate- 157276 (56.85 %).
- No. of schools/colleges	Colleges-3. High School-39. Middle School-193. Primary Schools-333.
- Total no. of blocks	5 Blocks: Arwal, Kaler, Karpi, Kurtha and Sonbhadra Banshi Suryapur situated in 1 sub-division.
- Total no. of Panchayats and Police Station	65 Panchayats. 335 villages. Police Stations 8+3 Out Posts.
- No. of hospitals (major/minor/ PHC)	PHC-5. Aati PHC-19. Health Sub centre-47.

Profile Feature	Arwal
Education facilities	
Public Information/ Media	
Religious Distribution	
Religious Places of Attraction	<ul style="list-style-type: none"> ➤ Madhushrawan-Birth place of "Chyavan Rishi" ➤ DevkundDham ➤ MahendiyaVenkateshwarDham ➤ Panchteerth ➤ Radha Baba birth place-Pakharpur
ECONOMIC PROFILING	
General	Arwal district is a predominantly agricultural district. The soil is highly fertile. This district is densely populated. Paddy, wheat, maize and pulses are the main agricultural crops raised by farmers in the district. Cane is also grown in some parts of the district. The total land available in the district is 195966.08 acres. Forest coverage is very small. The net sown area available for cultivation is 129166.39 acres, which is 65.91% of the total available land. Area under non-agriculture use is 22115.06 acres. Only Kaler & Arwal blocks are cultivated blocks. Total workers are 220533.
Places of tourist attraction	
Industries	There is no industry in this area .The agriculture is the main source of income in this area.
Short-term Development plans of GoB (<5yrs)	
Long-term Development Plans of GoB/ District (>5yr)	
Approved development plans	
CLIMATE CHANGE AND OTHER DISASTER RISKS	
Climate Profile	The climate of Arwal is of extreme nature, i.e. very hot in the summers and biting cold in the winters.
Key Disaster / Climate Risks	Drought
Other hazards prone to disaster	See Maps & table below.
POLITICAL PROFILING	
	<p>Lok Sabha:33-Jehanabad.</p> <p>2 Vidhansabha areas (1) 214-Arwal VidhanSabha Area (2) 215-Kurtha VidhanSabha Area.</p> <p>Nagar Ward-1.</p>



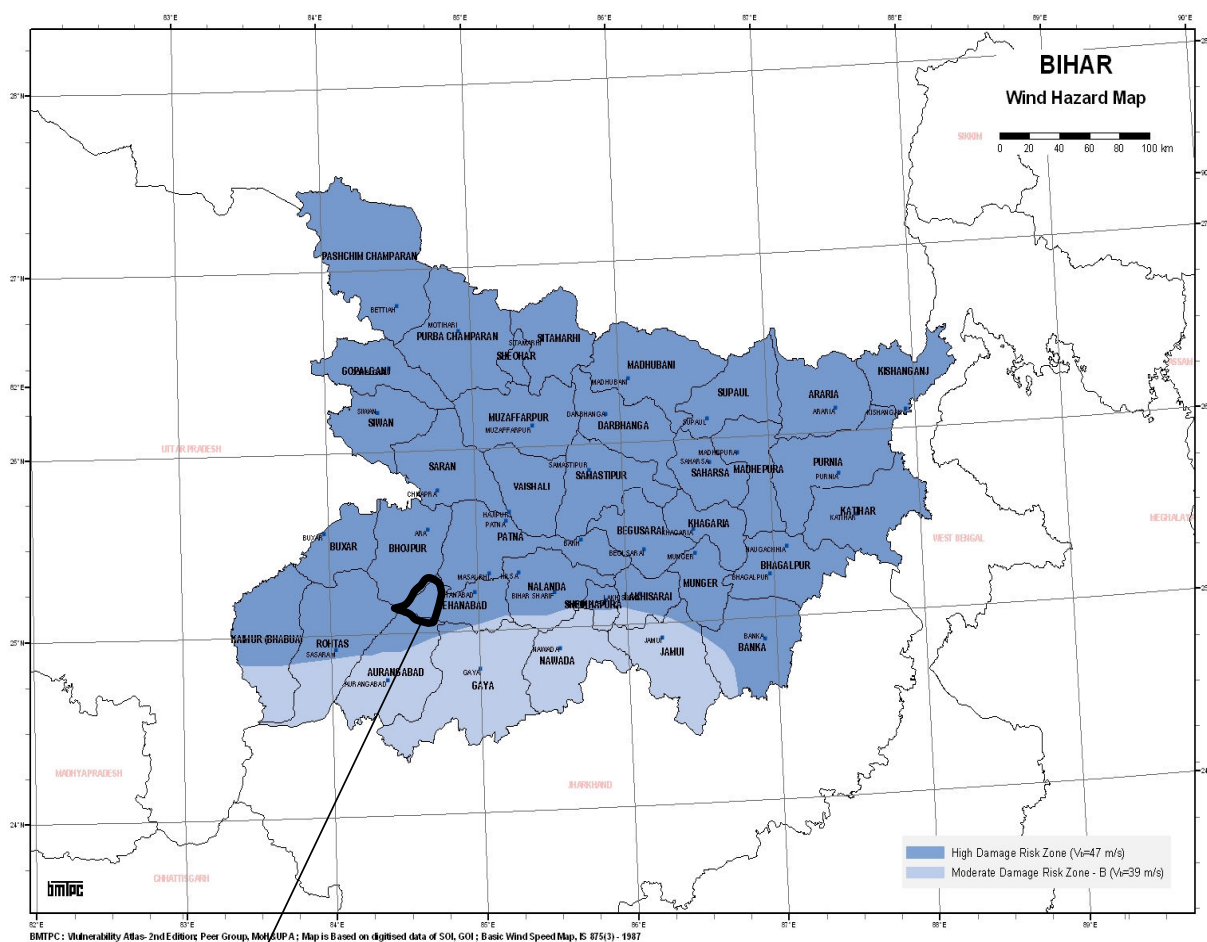
Aewal Distt -
GRCPL's Work Area

Map-1: Bihar Earthquake Hazard Map



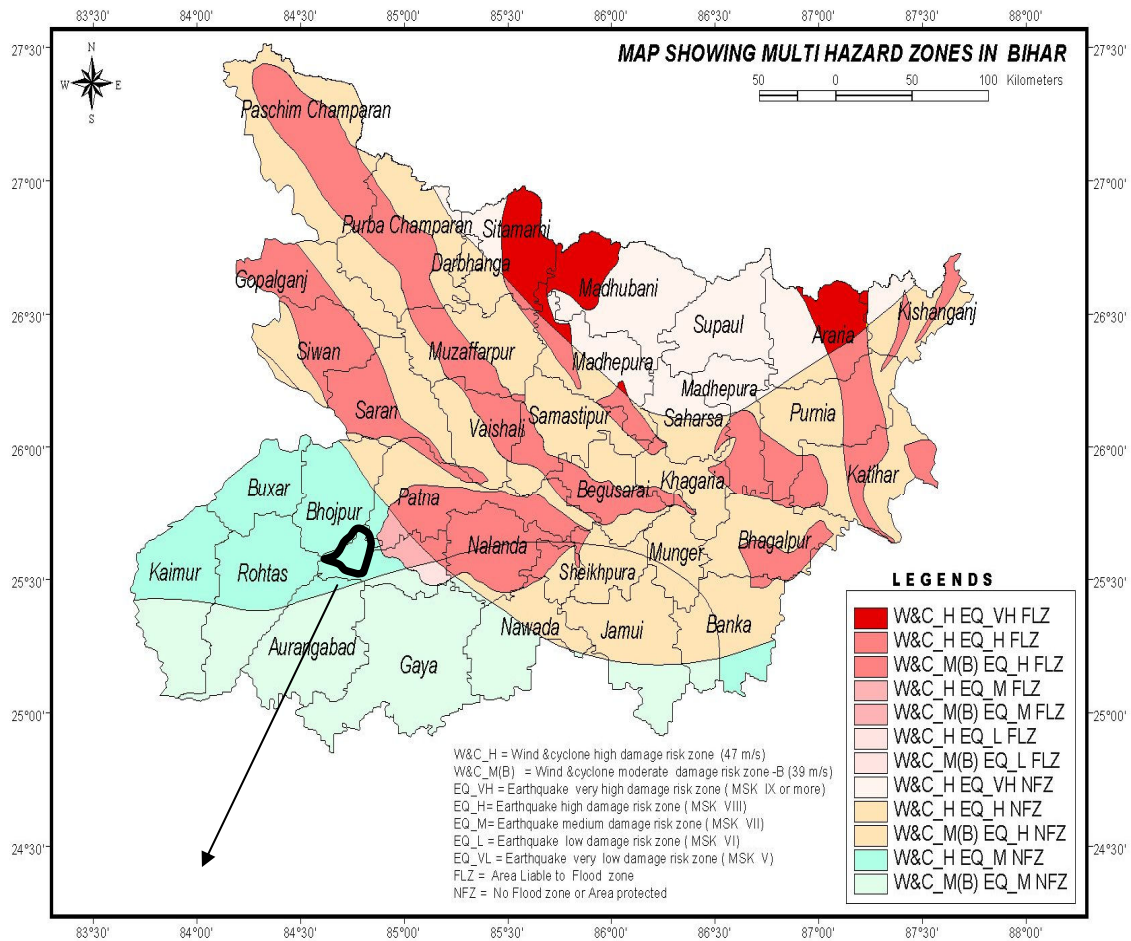
Arwal Distt-GRCPL's
Work Area

Map-2: Bihar Flood Hazard Map



Arwal Distt-GRCPL's
Work Area

Map-3: Bihar Wind Hazard Map



Arwal Distt-GRCP's
Work Area

Map-4: Bihar Multi Hazard Map

Above Maps Clearly show the hazard profile of Arwal District. We are summarizing as follows:

	Wind and Cyclone	Flood	Earthquake
Arwal	Heavy damage Zone.	No Flood Zone	Moderate Risk Zone

	Other Hazards
Arwal	<ul style="list-style-type: none"> ➤ Civil unrest and terror strikes ➤ Drought (moderate) ➤ Minor rural fire

Chapter-2: SCOPE OF THE WORK

2.1 Districts Allocated to GRCPL

In response to the Expression of Interest by Bihar State Disaster Management Authority (BSDMA) for "Preparation of the District Disaster Management Plans (DDMP)" in all the 38 District of Bihar, GRCPL has been allocated 4 Districts for preparing the DDMP. These are:

- i) **Gaya**
- ii) **Jehanabad**
- iii) **Arwal**
- iv) **Aurangabad**

2.2 Applicable Definition of Disaster & Disaster Management

The definition of disaster & Disaster Management to be considered as guideline for developing DDMP shall be **as per DM Act-2005 i.e.**

"disaster" means a catastrophe, mishap, calamity or grave occurrence in any area, arising from natural or manmade causes, or by accident or negligence which results in substantial loss of life or human suffering or damage to, and destruction of, property, or damage to, or degradation of, environment, and is of such a nature or magnitude as to be beyond the coping capacity of the community of the affected area;

Thus, DDMP will be a Multi-Hazard focused plan.

"disaster management" means a continuous and integrated process of planning, organising, coordinating and implementing measures which are necessary or expedient for-

- (i) Prevention of danger or threat of any disaster;
- (ii) Mitigation or reduction of risk of any disaster or its severity or consequences;
- (iii) capacity-building;
- (iv) Preparedness to deal with any disaster;
- (v) Prompt response to any threatening disaster situation or disaster;
- (vi) Assessing the severity or magnitude of effects of any disaster;
- (vii) Evacuation, rescue and relief;
- (viii) Rehabilitation and reconstruction;

2.3 Scope for DDMP as per D.M. Act-2005

According to Section 31 (1) of the Disaster Management Act 2005

- 'There shall be a plan for disaster management for every district of the State'. This District Plan shall include -

- a) Areas in the district vulnerable to different forms of disasters.
- b) Measures to be taken, for prevention and mitigation of disaster, by the Departments of the Government at the district level and local authorities in the district.
- c) Capacity-building and preparedness measures required to be taken by the Departments of the Government at the district level and the local authorities in the district to respond to any threatening disaster situation or disaster.
- d) Response plans and procedures, in the event of a disaster, providing for -
 - i. Allocation of responsibilities to the Departments of the Government at the district level and the local authorities in the district.
 - ii. Prompt response to disaster and relief thereof.
 - iii. Procurement of essential resources.
 - iv. Establishment of communication links.
 - v. Dissemination of information to the public.

2.4 Additional Scope for DDMP as per BSDMA's Work Order

In addition to the above mentioned provisions of the Act, the DDMP should also include -

- The manner in which DRR& CCA could be integrated with the development plans and projects of the Govt. of Bihar i.e. **Mainstreaming DRR & CCA.**
- Strategies for **strengthening institutional and functional capacities of District Disaster Management Authorities (DDMAs).**
- The roles and responsibilities for different government departments and for different stakeholders during different disasters. **Thus, DDMP will be Multi-Sector.**
- Strengthening **early warning system** for different disasters at district level.
- Consideration for lower administrative units below district i.e. **Block & Panchayat** level interventions. **Thus, DDMP will Multi-Level.**

2.5 Additional Scope for DDMP as per Experts' Advice/Views in Inception Workshop

(A) Sh. Anil K. Sinha, Hon'ble Vice Chairman/BSDMA

Sr	Points Highlighted by Hon'ble VC/BSDMA	GRCPL's Remarks
1	Multi Hazard will be the key word for the DDMP.	Confirmed
2	DDMP should strengthen DDMA's-Framework & executable system/plan for the same is to be incorporated in the DDMP.	Confirmed & shall be incorporated
3	Overall framework of DDMP will be as per DM Act-2005 (especially Section 31) but agencies are free to work to develop a practical & executable plan through value addition.	Noted and confirmed. We will add value to DDMP by making it workable.
4	Sleek/crisp Response Plan.	Noted & Confirmed.
5	DDMP should be in 2 volumes (Vol-1:Preparedness & Mitigation Plan.Vol-2:Response Plan).	Confirmed.
6	Commonly used dialect in DDMP	Confirmed.
7	HRVC depth to be defined clearly by agencies.	Confirmed. Shall be finalized after Planning workshop with all stakeholders
8	Pro-poor Plan	Noted. This aspect shall be taken care of while preparing Mitigation & Preparedness Plan.
9	Consider Underlying Risk Factors	Will be considered.
10	Disaster Definition as per the D.M. Act-2005 to be followed	Confirmed
11	HPC report's 34+ disasters to be considered while making multi-hazard DDMP	Noted & Confirmed.
12	2011 census data to be used	Confirmed
13	Climate Sensitive DDMP	Confirmed
14	Response plan to be developed considering worst case scenario (L1, L2, L3 categorization as per HPC may be considered)	Noted. Response plan shall be developed accordingly.
15	It should have detailed planning for EOC, IDRN.	Confirmed.

16	Preparedness Plan: Immediate as well as Long Term	Both aspects shall be considered.
17	Mitigation Plan: Non-structural within the structure and beyond the structure. Structural Mitigation.	Confirmed.
18	System for mainstreaming	Shall be incorporated.
19	Should also focus on Block & Panchayat level	Confirmed.
20	Gender concern to be addressed	Shall be addressed.
21	Communication plan	Shall be incorporated.
22	GIS based mapping	Confirmed.
23	DDMP should be Multi-Layer, Multi-Sector and Multi-Hazard	Confirmed.
24	Planning for enforcing existing codes	Shall be incorporated.
25	Land use planning	Shall be part & parcel of Mitigation Plan.
26	Defining threshold for each disaster	Will be evaluated & incorporated in DDMP after discussing with district administration based upon their experiences of past incidents/disasters.
27	School Safety & Hospital Safety aspect to be dealt in detail	Confirmed.
28	Samastipur DDMP may also be referred	Will be referred for clues to make DDMP practical & workable.
29	Alignment of National Guidelines	Will be done.
30	Indigenous knowledge to be used for Response & Mitigation plan	Primary data collection shall cover this aspect also and best indigenous practices at ground level shall be incorporated in DDMP.
31	DDMP should connect with the people	Ways for the same shall be found out & evaluated while interacting with stakeholders and also at the ground level. The learning shall be used to make DDMP connect with people.
32	Animal Disaster Management provision in DDMP	Shall be incorporated in the DDMP as separate chapter.

(B) Sh. Kamal Kishore, Hon'ble Member, NDMA

Sr	Points Highlighted by Hon'ble Member/NDMA	GRCPL's Remarks
1	Participatory Approach (but keeping in view the rationale as well as the cost factor)	Participatory approach shall be followed to the maximum possible extent.
2	Incorporate the lessons/experiences of response, Relief & recovery & reconstruction phases of past major disasters	Shall be incorporated in the DDMP.
3	Rationalization of Risk Assessment. What to cover and up to what level?	Shall be taken care of while doing the HRVCA.
4	Effective Review & updation framework and system	Shall be taken care of while preparing the DDMP.
5	Monitoring of effectiveness of DRR measures	Monitoring mechanism shall be incorporated in the DDMP
6	Integration of District Development Plans with the DDMP	Confirmed.
7	Recovery System Chapter in DDMP should be water tight (most effective and practical by drawing experiences from past disasters)	Confirmed. Shall be taken care of.
8	Impact assessment: retrospective as well prospective	Confirmed.
9	Trends of risk to be studied	Shall be done.
10	Logic of risk reduction: what is to be achieved in a time bound manner (say within next 5 yrs or so; on capacity building)? Questionnaire may be based on these aspects.	Shall be taken care of while developing questionnaire for various stages/stakeholders and analysis/evaluation shall become the part of DDMP.
11	Consequence of DDMP on adjoining District/areas	Shall be evaluated.
12	Bottoms-up approach: sensible plan based upon ground level facts & gaps	The same approach shall be followed while developing DDMP.
13	Practical ways for DRR planning (Corrective risk reduction as well as prospective risk reduction)	Shall be taken care of based upon the feedback & facts gathered during interaction with various stakeholders & administration.

(C) Sh. P.N. Rai (DG-Fire Services & Home Guards, GOB)

Sr	Points Highlighted by DG-FS & HG	GRCPL's Remarks
1	Practical & Executable DDMP	Same approach shall be followed.
2	IRS based Response Plan	Confirmed.
3	Panchayat Representatives to be involved in entire process	Confirmed.

(D) Sh. R. K. Singh, Director, NDMA

Sr	Points Highlighted by Director/NDMA	GRCPL's Remarks
1	In Mitigation planning, capacity building should be the focus area	Confirmed.
2	Static part of DDMP may be hard bound and Dynamic Part may be spiral bound for ease of modification/updation	Noted. Shall be implemented based upon the feedback/views from the users of the DDMP.
3	Lessons learnt during the entire process and also the usefulness of the DDMP guidelines of the NDMA may be documented and shared with NDMA for future DDMP	Shall be done.

Chapter-3: APPROACH AND METHODOLOGY

3.1 Our Understanding of the Project (The Approach)

As per the scope of the work elaborated by BSDMA and as mentioned in chapter-1 above, our understanding of the project (The Approach) is summarized as under:

- 1) **The Guiding Principles** for the development of the DDMP will be:
 - Disaster Management Plans are **strategic documents** which envisage "Specific Tools and Procedures" for current reference and ease of use, incorporating strategic development issues within.
 - Disaster Management Plans are organic in nature that gets **modified** over the period in adaptable manner.
- 2) The objectives of the DDMP will be **"SMART"** i.e. **Specific, Measurable, Achievable, Realistic and Time Bound**.
- 3) Incumbent District Magistrate will use it as reference manual for all development work in relation with the DRR and also shall be confident to use the plan during any emergency situation in the district especially during large disasters.
- 4) DDMP shall be of very high quality but will be operable/executable in pre, during and post disaster phases.
- 5) It will be in Hindi language but will incorporate local dialect and a mix of commonly used English words.
- 6) It will be developed and presented in such a manner that it will gel with the local traditions, culture and work environment so that people for whom it will be developed shall not feel or treat it as something alien to them.
- 7) It will be the perfect example of blending of Global knowledge with local wisdom.
- 8) Bottoms-up approach will be adopted i.e. DDMP will be developed based upon the inputs from ground level on the ongoing practices, gaps and facts.
- 9) DDMP shall be structured **as per the model DDMP of Madhubani District developed by BSDMA** and shall be **in compliance with the guidelines of the Disaster Management Act 2005**, in particular Section 31 of the Act.

- 10) DDMP shall also incorporate all provisions as defined by BSDMA in the work order and also all the advices/views highlighted by experts in Inception Workshop, especially the concerns/points raised by Hon'ble VC/BSDMA.

3.2 Detailed Design of the DDMP

A tentative/draft structure of the DDMP has been given in the Annexure Part of this inception report. But this is just a tentative idea and a final structure will come up as we proceed ahead with the ground work in the district and that final structure shall be got approved from the BSDMA in due course of time.

Some of the features of the **Detailed Design** of DDMP are as under:

- a) DDMP shall follow the latest (2014) guidelines of NDMA for the development of DDMP but definitely these shall be used in such a manner so as to ensure that each DDMP is developed in a tailor-made way with value edition.
- b) DDMP of each district shall have specific and quantifiable objectives as per the requirements of the district, based upon its hazard, risk and vulnerability profile.
- c) The DDMP shall be in **two distinct parts** as:
 - i. Part-1: Prevention and Mitigation Plan
 - ii. Part-2: Response Plan

DDMP	Situation Purpose
Part-1: Prevention and Mitigation Plan	Peace time Plan of DRR based development work.
Part-2: Response Plan	War-time (i.e. when disaster strikes). During War-time to work in tandem with Line Departments

Preparing DDMP in two parts shall facilitate following:

- DDMP will be **Crisp** for referring and working by the concerned authorities as pre-disaster and during disaster phase plans are separate. So the concerned authorities will refer the part as per the peace or war time situation.
- Line departments will not have to go through the whole plan and they will work according to their role and responsibility defined in DDMP during peace or war time.
- This will also facilitate the quick, easy and economical updating as only those portions will get modified or updated where it is required and whole plan will not have to be re-printed.

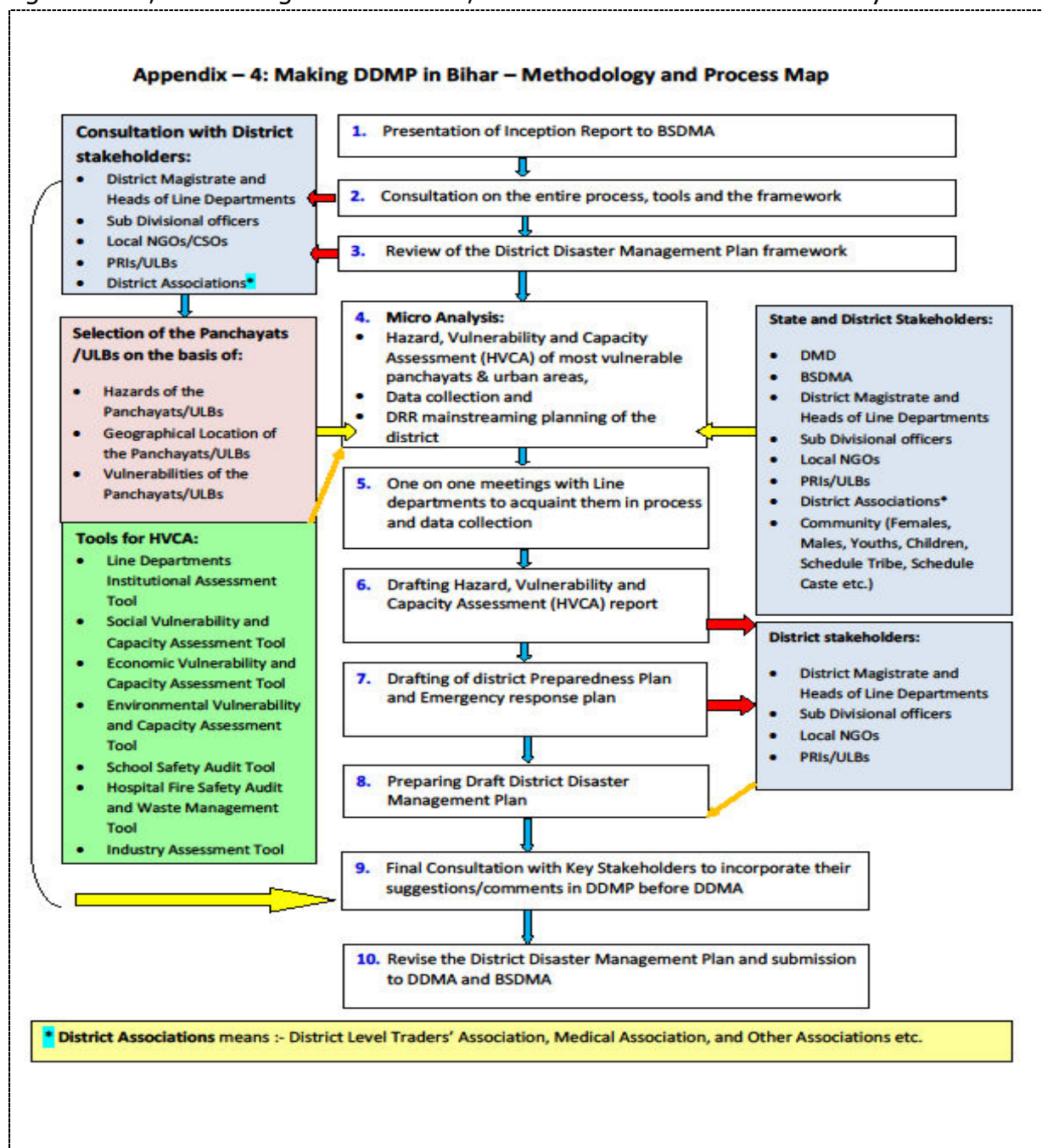
- During peace time, Part-1 shall be referred by the district authorities for
 - Ensuring that all the development work/projects in the district are being integrated with the prevention and mitigation plan of the district.
 - This will also facilitate the district administration to know about the various prevention and mitigation work to be undertaken in due course of time (as per the timeline given in Part-1 of the DDMP) for ensuring the sustainable development.
 - An updated part-1 shall also act as a reference guide for the incumbent District Magistrate to the district on the current state of the prevention and mitigation plans and future course of action to be adopted by him/her and accordingly they will be in a better position to plan for the district's development, financial requirements, requests for budgetary allocation with the concerned authorities.
 - During war time i.e. when a disaster strikes, Part-2 will be the reference plan for the district administration and entire response machinery will work in line with this part. Post disaster, based upon the learning, this part shall get modified for better response in future.
- d) DDMP shall cover the areas in the district vulnerable to different forms of disasters. This will include
- Identification of hazard hotspots,
 - Vulnerable locations/habitat and populations and/or section(s).
- e) DDMP shall incorporate the measures to be taken for prevention and mitigation of disaster by the Departments of the Government at the district level and local authorities in the District at Block & Panchayat level. These measures
- Shall be department-wise.
 - Shall have timelines to achieve the prevention and mitigation objectives of the plan.
 - Shall incorporate short, medium and long-term action plans.
- f) DDMP shall have **specific and time bound capacity-building and preparedness measures** required to be taken by the Departments of the Government at the district level and the local authorities in the District at Block & Panchayat level to enable them to respond to any threatening disaster situation or disaster effectively. This will include:
- Detailed analysis of existing resources
 - Resources to be acquired

- Training and non-training interventions
 - Community awareness
 - Facilities to be built up etc.
- g) DDMP shall comprise the **Response Plans and Procedures**, in the event of a disaster. This response plan shall incorporate and provide for the following aspects:
- Allocation of responsibilities to the Departments of the Government at the district level and the local authorities in the district at Block & Panchayat level.
 - SOPs for delivering key functions as per the allocated responsibilities.
 - Prompt and efficient response mechanism to disaster and relief thereof.
 - Procurement of essential resources required for the efficient response.
 - Establishment of communication links.
 - Dissemination of information to the public.
 - Critical resources like hospitals, police stations, schools etc. shown on the GIS based maps.
- h) In DDMP, for the places seeing mass tourist inflow or places of pilgrimage or tourist attraction points leading to huge gatherings there shall be additional feature of crowd management and evacuation system which shall incorporate:
- Human Management
 - Health Management
 - Rumours Management
- i) DDMP shall have a **framework for Knowledge Management**. This will be especially useful for District with pilgrimage places or where there is huge inflow of tourists.
- This will incorporate Visitors Information System (VIS).
 - Development of Point of Dissemination & Distribution of Information.
 - Media Management.
 - Development of system for the dissemination of Safety Tips (using social media/ mobile) to upcoming visitors/pilgrims.
- j) For industrial areas of the District, we shall also prepare off-site disaster management plans for industrial areas and shall integrate these off-site D.M. plans with DDMP of that particular district.
- k) Special Needs Citizens (disabled, marginalized population) shall be taken care of while developing DDMP.

- l) School & Hospital safety aspects shall be dealt in detail in the DDMP.
- m) Development of provision and approach for following aspects shall be dealt in DDMP:
 - linking of Block and Panchayat level D.M. plans with DDMP
 - guidelines & template for the D.M. plan of Block level, Panchayat Level and ULBs
 - guidelines and template for RWAs D.M. Plans (especially for Gaya)
- n) Disaster Management awareness generation strategy especially for safe construction, RVS, safer schools etc shall be incorporated in the DDMP. This will especially deal with the strategy to utilize the religious and political gatherings or other mass congregations for the sensitization and awareness among citizens.
- o) Disaster management and safety aspects of the **historical, heritage and protected (like wildlife sanctuaries, zoo) sites** should be dealt in the DDMP.
- p) Taking the base of 1934 & 1988 Seismic ISO-Seismic Map, prepared by BSDMA, a vulnerability & risk mapping of the number of house hold that is likely to be affected, (in event of a major earthquake) can be projected. This projection shall be calculated in each of the district DDMP.
- q) Special focus of training measures for population/dhabas/restaurants/petrol pumps situated both side of highways & rail track for first responders' effective response capacity building of district during any accident.
- r) Without proper skill development of all stakeholders about the usage of the DDMP, it will be merely a paper exercise. So, a proper DDMP handholding framework/plan shall be part of the DDMP capacity building chapter which shall focus on required skill development by concerned departments and stakeholders so that the DDMP could be used by them as their day-to-day work guide and to ensure the development of ownership in a planned manner.
- s) DDMP development process flow chart shall be incorporated so that future updating could be done following that process.
- t) **Further, DDMP shall incorporate all points raised by experts during inception workshop and supplementary guidelines issued by BSDMA post inception workshop.**

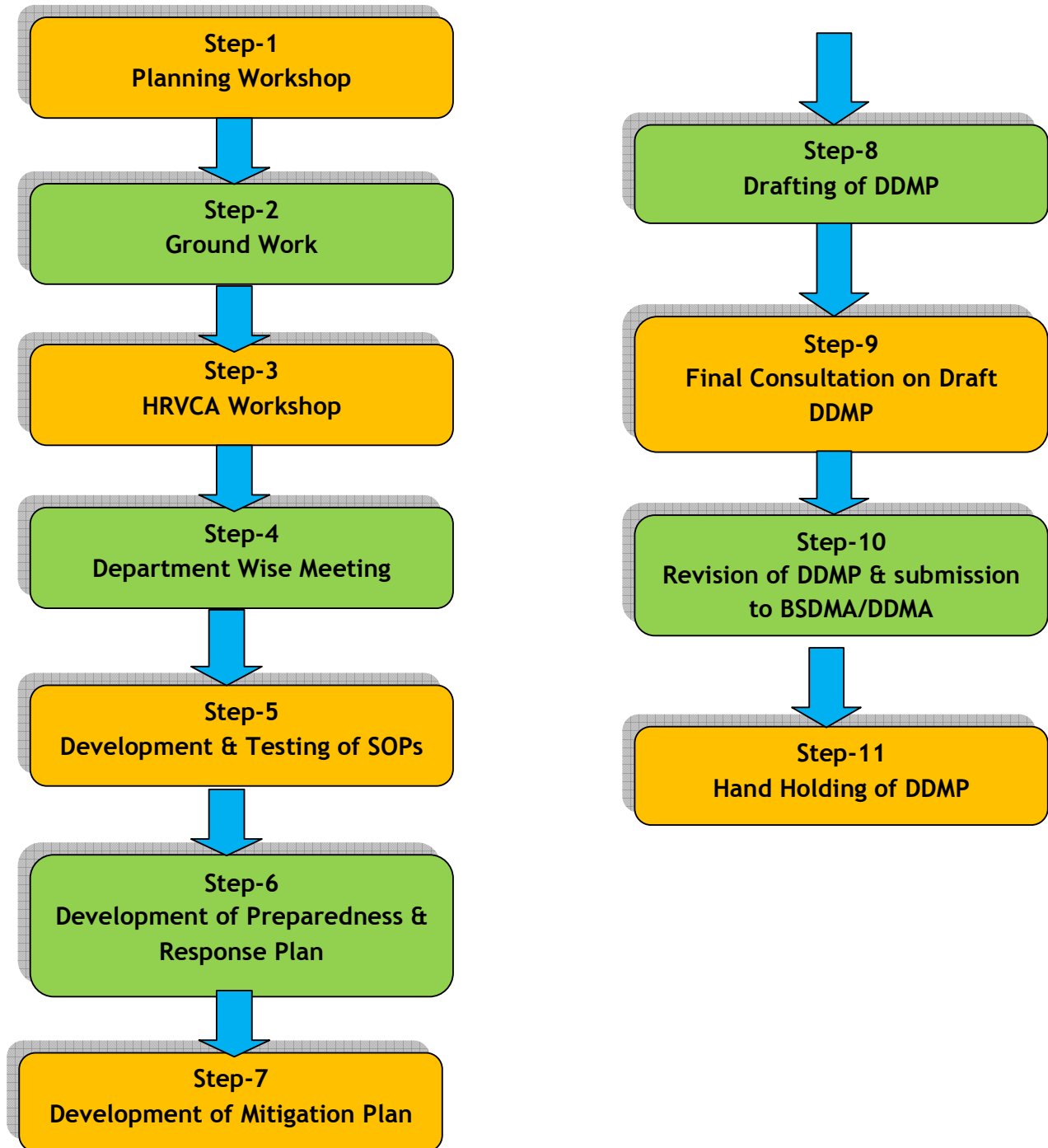
3.3 Methodology Overview

The methodology proposed by BDSMA in the work order/contract agreement, as given under, shall be followed by us.



3.4 Detailed Methodology

Taking the clue from the methodology suggested by BSDMA in contract documents and also to make it more precise & effective, the entire methodology has been divided into 11 steps/stages to develop the workable/executable DDMP. These 11 steps/stages are as under:



Step-0: Inception Report

Inception report outlining the proposed approach and methodology for developing the DDMP for the allocated District is the initial preparation & gearing up of machinery/resources for the development of DDMP and the same is being completed through this report. The report addresses

1. Introduction
2. Scope of Work
3. Approach & Methodology
4. Activities Carried Out So far and Team Structure
5. Work Plan/ Gantt Chart
6. Next Steps / Activities Planned
7. Annexure having various formats

Step-1: Planning & Consultation Workshop on entire process, tools and the framework including Review of the District Disaster Management Plan framework

1. Desk review of available data and existing DDMP (if any) of District allocated prior to undertaking the Consultation workshop, to be able to align with the concerns raised by participants in the workshop.
2. As a starting point, a workshop will be held at district headquarters with relevant stakeholders as defined in the Appendix 4 of the Contract, in consultation with BSDMA and DDMA.
3. Likely Stakeholders may include, DMD, BSDMA, District Magistrate and Heads of Line Departments, Sub Divisional officers, Local NGOs, PRIs/ULBs, District Traders Associations, Community (Females, Males, Youths, Children, Schedule Tribe, Schedule Caste etc.), schools, hospitals etc.
4. Purpose of the consultation workshop with all relevant stakeholders shall be to have :
 - Selection of the Panchayats /ULBs on the basis of Geographical Location of the Panchayats/ULBs for Hazards and vulnerability of the Panchayats/ULBs
 - aligned understanding of the entire DDMP preparation process, tools and the framework to be followed;
 - free-flow of communication on the historical experiences in handling the current DDMP/plan;
 - Ease and effectiveness of the use of current DDMP during peace/war-time situation, where war-time situation is occurrence of actual disaster situation.
 - Perception issues and bottlenecks, perceived issues lacking in the current DDMP, to be addressed during the revision.

- Perceived changes vis-a-vis current scenario of climate change, developments in place and pipeline, at different levels of administration.
 - Planning for the data collection/ground work.
 - To start the process of inculcating/emphasising ownership among the stakeholders.
 - Any other issue of relevance, to have effective and user-friendly DDMP in place.
5. Based on the inputs derived from discussions with all stakeholders, outlined approach and outputs in DDMP shall be accordingly streamlined and amended as required. Amendments shall be updated to BSDMA for finalized:
- Milestones for DDMP development.
 - Objectives for the DDMP.
 - Timeline for the completion of various milestones.

Step-2: Micro-analysis and Ground Work

1. Hazard, Risk, Vulnerability and Capacity Analysis (HRVCA) of the district shall be conducted for:
 - (a) natural hazards, industrial/chemical risks and other man-made disasters. The analysis shall take into account the underlying risks, potential hazards/risks also.
 - (b) include most vulnerable panchayats and urban areas.
2. Data collection shall be done for DRR and CCA mainstreaming planning and for the district response plan.
3. Analysis will be done through primary and secondary collection as well through one-to-one meeting with all line departments.
4. Detailed analysis of existing works of various line departments will be done.
5. Evaluation of additional responsibilities in case of a disaster situation or disaster will be done.
6. Resources available and gaps analysis.
7. Study and analysis of Interdependency of responsibilities among various departments and stakeholders.

Step-3: HRVC Analysis Report Drafting and HRVCA Workshop

1. Based upon the HRVCA, a detailed report shall be drafted.
2. Based upon the HRVCA report, a workshop involving all stakeholders shall be conducted.
3. HRVC Analysis report/findings shall be deliberated in details to get further inputs from stakeholders.

Step-4: Department wise Meetings

1. Each line department or other agencies shall be discussed separately.

2. These meetings shall form the basis for the development of SOPs.

Step-5: Development & Testing of SOPs

1. SOPs shall be developed for each line department.
2. Workability of SOPs shall be tested through:
 - Table top exercises will be involved initially.
 - There may be mock drills & simulation exercises also to test SOPs.
 - Based upon the feedback & findings of the tests, SOPs shall be modified.

Step-6: Drafting of District Preparedness Plan and Emergency Response Plan

1. After compiling the inputs of the HRVCA workshop and development of SOPs, district Preparedness Plan and Emergency Response Plan shall be prepared.
2. Response Plan shall be IRS based and shall emphasize on:
 - Development of EOC for the district.
 - Development of Line of Communication.
 - Development of Line of Response.
3. Maps shall be developed in soft as well as hard copy.
 - Hard copy maps will be of full size for easy reference & planning needs.
 - The Resource Maps shall be GIS based.
 - The sources of maps shall be as advised by BSDMA after the inception workshop.
4. The draft plan shall be shared with DDMA, Line Departments and BSDMA for their inputs.

Step-7: Development of Mitigation Plan

1. Study of Existing & Proposed Projects of various departments.
2. Integration of those projects with DDMP.
3. Shall take into accounts all the suggestions of experts on mitigation planning during inception workshop.

Step-8: Drafting of District Disaster Management Plan

1. After incorporating all the inputs of DDMA, Line Departments and BSDMA, DDMP shall be drafted.
2. The draft plan shall be shared with DDMA and BSDMA for their inputs.

Step-9: Final Consultation with Key Stakeholders on Draft DDMP

1. After incorporating the inputs of DDMA and BSDMA received during step-8, on the draft DDMP, a final consultation meeting shall be held with all stakeholders.
2. This will facilitate final comments/inputs from stakeholders on the DDMP.

Step-10: Revision of the DDMP and Submission to BSDMA

1. After incorporating the inputs of stakeholders during the final consultation meeting, DDMP shall take its final shape.
2. Final DDMP shall be submitted to DDMA and BSDMA for a final review that all inputs have been incorporated.
3. On getting the final yes from DDMA and BSDMA, we will prepare the Hindi version of the Plan which shall be submitted to DDMA and BSDMA for approval. Any comments/inputs regarding Hindi translation shall be incorporated and DDMP shall be modified and submitted to DDMA and BSDMA.

Step-11: Handholding of DDMP

1. This step shall ensure proper handholding of the DDMP to concerned line departments & stakeholders.
2. This will enhance ownership and usability of the DDMP.

3.5 Required Data

The table given below compiles the data to be collected for preparing the DDMP. This is not an exhaustive list and may get further modified based upon the requirements of the inputs during the development of the DDMP.

Sr#	Required Data
1	IMPORTANT CONTACT DETAILS
2	Composition of District Disaster Management Authority (DDMA)
3	District Disaster Management Nodal Officers
4	District Level Govt. Officials Contacts
5	Contact Details of Line Departments
6	Contact Details of Police Department
7	Contact Details of Engineers of Energy Department
8	Contact Details of BSNL Officials
9	Contact Details of Sub-division and Block Level Officers
10	Contact Details of NDMA Officials, New Delhi
11	State Disaster Management Nodal Officers, Patna
12	Contact Details of NDRF Officials and Nearby Battalions
13	Contact Numbers of Military, Air Force and Rehabilitation Department
14	Contact Details of Indian Meteorological Department (IMD) and Observatories
15	Name and Contact Numbers of Gram Panchayat Mukhiya
	DEMOGRAPHIC AND CONTEXT DETAILS
16	Population, Sex Ratio, Density
17	Child Population And Population Aged 7 Years And Above By Sex
18	Population Of District By Sex & Percentage Share of Population In Total Population
19	Literates And Literacy Rates By Sex
20	House Listing And Housing Census Data
21	Block Wise Labour Details
22	Subdivision And Block Wise No. of Gram Panchayats and Revenue Villages
23	Block Wise List of Gram Panchayats
24	Month wise Average Rainfall Data
25	Month wise Temperature Data
26	River Wise Details Of Danger Level and Maximum Water Level

	RESOURCE DETAILS
27	Detail of Road Connectivity of District
28	Stockpile In District Emergency Operational Center
29	Division of Flood Zones In District
30	List Of Flood Control Divisions In District
31	Prepositioning At Flood Control Divisions
32	Details Of Rainfall Measurement Officers
33	List Of Trained NDRF Officers, Home Guards And Volunteers
34	Trained NCC And NYKS Cadets
35	Block wise Details Of Helipads
36	Details Of Relief Centers In Different Blocks
37	Status Of Drinking Water Resources In Relief Camps
38	Status Of Hand Pump And Toilet In Flood Effectuated Areas by PHED
39	Block Wise Number Of Identified Shelters And Drinking Water Sources
40	Block wise List of Temporary Shelters
41	Detail Of Shelters Constructed By NGOs
42	Block Wise Availability Of Polythene Sheets
43	Block wise Boat Facility Details
44	Details Of Public And Private Boats Available In District
45	Resources In Fire Station In District
46	Resources In Health Facilities
47	Details Of Human Resources In Health Services In District
48	Details Of ANMs Posted In PHC/HSC/APHC
49	Block Wise Water Resources
50	Data on Water Quality Testing By The Department
51	Block wise Irrigation Resources
52	Block Wise Public Distribution Shops
53	List Of District's Inter-agency Group (with Details of Resources And Work Area)
54	List of Stakeholders' Plans
	Hazard and VULNERABILITY RELATED DETAILS
55	List of Villages Based on their Flood, drought and other hazard Vulnerability
56	Block Wise Details Of Rivers And The Affected Areas
57	List Of Highly Sensitive Embankments In District
58	Detail Of Sensitive Places Under Flood Control Division
59	History of Past hazards
	MAPS
60	Flood Zones In Bihar/
61	Earthquake Zones In Bihar
62	Wind And Cyclone Zones In Bihar
63	Multi Hazard Zones In Bihar
64	Drainage Area Of Bihar
65	Map of the water logged areas of District
66	Administrative Map Of District with Block Boundaries And Road and Rail Network
67	Distt Road Division Map
68	Distt Road Connectivity Map
69	Gram Panchayat Map Of District
70	Drainage Map Of District
71	River Map Of District
72	River Basin Map
73	Flood Plain Zone (Inundation Map) of District
74	Earthquake Vulnerability Table
75	Ground Water Map of District

76	Drought Map
	Other Info, Formats And Questionnaire
77	Hazard, Vulnerability, Risk, Capacity And Resource Assessment Questionnaire
78	Initial Rapid Assessment Format
79	Detailed Assessment Format
80	Important Websites

3.6 Data Source

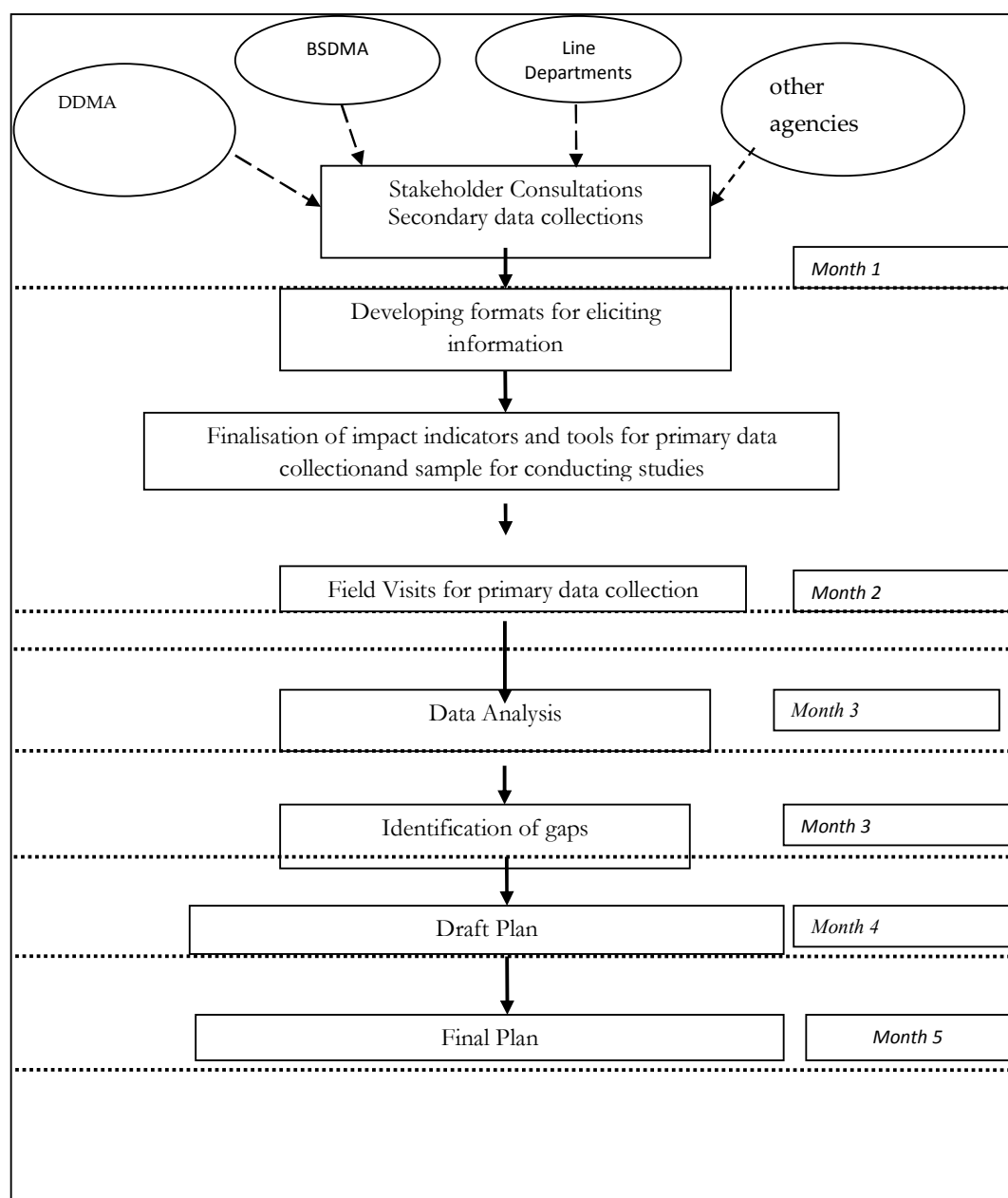
Data sources as envisaged by GRCPL and as suggested by BSDMA are:

Sr	Source of Data
1	District Headquarters
2	Line Departments
3	Websites especially of NDMA, NIDM, District headquarter, BSDMA etc
4	IDRN website
5	SDMP of Bihar state
6	Primary Data Collection from field
7	Discussions with all stakeholders
8	DDMP workshops
9	Newspapers archives
10	IMD etc
11	Hazard-vulnerability maps from the following authentic sources would be applicable in all the DDMP:
12	Bihar Infrastructure (roads, hospitals, rivers, education institutions etc. Mapping- (Source: http://gis.bih.nic.in/ . Designed and developed by NIC Bihar State Centre, Patna).
13	District Wise Flood Hazard Map - (Source: http://www.nrsc.gov.in , National Remote Sensing Centre (NRSC)/Bhuvan, ISRO, Hyderabad.)
14	Vulnerability Atlas of India, Building Materials and Technology Promotion Council(BMTPC) (http://www.bmtpc.org/)
15	1934 & 1988, Seismic ISO-Seismic Map (Source: BSDMA)
16	Table of Seismic Intensity VII, VIII & IX (Source: IS: 1893, part 1 , 2002.)
17	Table of block wise Seismic Risk (Source: Bihar State Disaster Management Authority: publication : Hypothetical Occurrence of 1934 Earthquake Intensity,)
18	Survey of India Maps (http://www.surveyofindia.gov.in/)
19	Maps from the individual web sites of the 38 District of Bihar.
20	Maps from Flood Management Information System(FMIS), (http://fmis.bih.nic.in/), WaterResources Department, Govt. of Bihar. (to be coordinated by Shri A. K Samiyar, Sr.Technical Advisor, BSDMA)
21	Road Maps- (Source Road Construction Department, Govt. of Bihar/Ministry of Surface Transport, GoI.)
22	Maps and Data from Department of Disaster Management, Govt.of Bihar.
23	Ground Water availability map from the Public Health and Engineering Department Website, Govt. of Bihar

3.7 Data Collection, Review and Analysis Methodology

Analysis will include a review and feedback analysis of responses given by stakeholders – qualitative and quantitative. A qualitative analysis of gaps identified in the capacity building will be undertaken. An overall quality evaluation of effectiveness of existing procedures and practices will be done using relevant tools.

Detailed methodology for data collection is given as under:



3.8 Sampling Methodology

After finalization of the data collection or survey formats, a sampling methodology (as per practiced/established sampling systems) shall be derived based upon the statistical data available about each district. Focus and emphasis will be to cover all stakeholders with sufficient representation in data collection to arrive at some rational conclusion especially on gap analysis and capacity building planning for the district.

Chapter-4: WORK PLAN

4.1 Overview of Schedule

As per the work order/contract entire exercise of the preparation of the DDMP has to be completed within 6 months time frame. The project start date is 25th June 2015 and preparation of DDMP is to be completed before 25th December 2015.

A presentation on inception report was scheduled at Patna on 30th July 2015. Based on BSDMA suggestions and inputs from time to time, desired modification in approach and methodology for the preparation of the DDMP shall be carried out in stipulated time frame.

4.2 Gantt Chart

Work Plan Chart									
Sr No	Activity	BSDMA Deadline	GRCPL's Time Line						
			Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.	Submission of Contract Agreement	15 June	12						
2.	Inception Report Submission	25 July		25					
3.	Presentation on Inception Report	30 July		30					
4.	Preliminary visit of all district			30					
5.	Collection of documents for review				15				
6.	Review of Documents and Compilation of secondary data				30				
7.	Finalization of data collection formats				15				
8.	Consultation on the entire process, tools and the framework with Distt Stakeholders				30				
9.	Review of the District Disaster Management Plan framework with Distt Stakeholders				30				
10.	Selection of the Panchayats /ULBs on the basis of Hazard, Geographical Location and Vulnerability				30				
11.	HRVCA of most vulnerable panchayats and urban areas as well as of institutions as per HRVCA tools given in BSDMA methodology chart					30			
12.	Primary Data collection including One on one meetings with Line departments to acquaint them in process and data collection					30			
13.	Drafting Hazard, Risk,					30			

	Vulnerability and Capacity Assessment (HRVCA) report								
14.	DRR and CCA mainstreaming planning of the district						15		
15.	Drafting of Preparedness Plan and Emergency response plan						15		
16.	Preparing Draft District Disaster Management Plan						30		
17.	Final Consultation with Key Stakeholders to incorporate their suggestions/ comments in DDMP before DDMA							15	
18.	Revise the District Disaster Management Plan							30	
19.	Submission of DDMP to DDMA and BSDMA	25 Dec							20

4.3 Schedule for field visits

Particular	Duration/Dates
Preliminary Visit to District to get acquainted with officers at district headquarters and to collect some basic facts about the district on disaster management.	Last week of July 2015.
Secondary Data Collection	1 st to 3 rd week of August 2015
Primary Data Collection, HRVCA	August and September 2015.
Collection of residual data	October 2015
Final consultation with stakeholders and line departments on draft DDMP	15 th Oct to 15 th Nov 2015.

4.4 Schedule of meetings and Workshops

Particular	Duration/Dates
Inception Report presentation	30 July 2015
DDMP Planning & Kick-off meeting with all stakeholders at district headquarter for consultation on entire process	21 August 2015
One to one meetings with line departments for data collection	During August and Sep 2015.
HRVCA workshop	By End of September 2015
Workshop on draft DDMP	By 15 th November 2015
Monthly progress overview meetings at Distt Headquarters	First Friday of every successive month (proposed).

4.5 Possible Deviations and Adaptations to Time line

- During the process of the preparation of the DDMP, Bihar state is likely to observe assembly elections during Oct-Nov 2015. Since entire Govt machinery shall get involved in this, workshops and consultation meetings may get delayed than the planned schedule.
- Delay in getting the approval of submitted documents/draft plans etc from concerned authorities due to their prior work commitments.
- Secondly, we foresee at this preliminary stage itself is the translation of the finalized DDMP in line with the entire satisfaction of the DDMA and BSDMA. This may take extra rounds of approval based upon the time availability of the concerned approving authority for the same. Since all experts and staff who will prepare DDMP are acquainted to work in English so original DDMP will be in English version only and the finally approved plan from DDMA and BSDMA shall be got translated to avoid multiple working.
- For any foreseeable deviation, BDSMA shall be appropriately approached and informed of concerns and issues, for approval and adaptation to timeline as agreed.

4.6 Support to be provided by BSDMA/DDMA

GRCPL shall require timely support from BSDMA and District Level/ Department Officials *inter-alia* for

1. BSDMA/DDMA shall provide GRCPL with the short-term and long-term development plans envisaged and those in pipeline / likely to be induced soon.
2. BSDMA/DDMA shall assist GRCPL in making it aware and understanding its institutional structure and functional capacities in place, for executing the DDMP.
3. BSDMA/DDMA shall help GRCPL to understand clearly the Roles and Responsibilities of the different stakeholders, other than government departments, during different disasters.
4. BSDMA/DDMA shall help understand the existing clear Roles and Responsibilities of the different government departments at the time of disasters.
5. BSDMA/DDMA shall provide the details of the existing Early warning system in place for different disasters at the district level and its needs assessment.
6. Facilitate in identifying key and right persons for the workshops and active participation in providing inputs for DDMP preparation and taking forward its implementation.

7. Facilitating meeting with officials at different levels for Stakeholder meeting and discussions.
8. Facilitate in arranging for feasible dates and availability of people for workshops, in line with the project deadlines.
9. Facilitating stakeholders' discussions.
10. Facilitating the testing of SOPs prepared.
11. Provide the necessary documents/ documentation/ information to the team.
12. A proper sitting space for our executive in Distt Headquarter with access to photocopy, printing, email, fax, scanning, internet connection, etc available in the office of the DDMA.
13. Provide contact information of the necessary personnel at relevant levels for their email ids, fax number, telephone/ mobile number to facilitate ease of access and communication.
14. Any changes or communications required to be updated by BSDMA and its officials, to GRCPL in facilitating the preparation of DDMP.

Chapter-5: ACTIVITIES ALREADY CARRIED OUT

5.1 Composition of team for DDMP and Kick-off meeting at our office

- DDMP team was re-composed with additional manpower associated with experts in our DDMP team.
- Kick-off meeting was held at our office on 20th June 2015 to discuss the project requirement and also to assess the human resource requirement.
- Job responsibility was assigned to team members.
- Initial time line was framed for various stages of DDMP development.
- Preliminary visit to all Districts was planned before starting the actual work of DDMP preparation.

5.2 Documents Reviewed

- Terms of Reference and Contract Agreement by BSDMA
- Disaster Management Act 2005
- NDMA's latest guidelines on DDMP
- NIDM's literatures on DDMP
- DDMP of few more District in the country
- SDMP of Bihar State
- DDMP of Madhubani District
- Web-search for secondary data for District Profiling

5.3 Interaction with District Headquarters

- District Headquarters were contacted through phone and E-mail soon after the award of the work order.
- Arwal has already officially notified SDC cum Aapda Prabhari as the nodal officer for the development of the DDMP.

5.4 Initial Field Visits

District	Date
Arwal	29 th July 2015

5.5 Other Activities

1. Strengthening of team with human resource acquisition.
2. Development of draft/tentative DDMP structure.
3. Development of initial study/exercise formats (questionnaire) for collection of data.
4. Study of ongoing Kanwad Mela at Haridwar for having a better understanding of crowd management planning keeping in view the provision in DDMP for places of mass gatherings.

Chapter-6: ANNEXURES

6.1 Terms of Reference

Appendix – 1: Terms of Reference for the preparation of District Disaster Management Plans (DDMP) for Bihar:

1. Preparation of the DDMP for the District of Bihar should be **in total compliance with the guidelines of the DM Act 2005** and the structure of the **report should be as per the model DDMP of Madhubani developed by BSDMA.**
2. While preparing the DDMP, besides other provisions of the DM Act 2005, the Consultant has to pay special attention to Section 31 (1) of the Act.
3. In addition to the above mentioned provisions of the Act, the DDMP should also include –
 - a. The manner in which DRR could be integrated with the development plans and projects of the Govt. of Bihar.
 - b. Strategies for strengthening institutional and functional capacities of District Disaster Management Authorities (DDMAs).
 - c. The roles and responsibilities for the different stakeholders, other than government departments, during different disasters.
 - d. The roles and responsibilities for different government departments at the time of disasters.
 - e. Strengthening early warning system for different disasters at the district level.
4. The DDMP shall be prepared in Hindi with commonly used terminologies in English.
5. The Consultant shall give strategies and names of the resource persons to be deployed for the proposed work of preparation of DDMP along with their consent letter for commitment of their time as indicated by the Consultant.
6. Names of personnel with their responsibilities and district(s) to be covered by them along with their commitment of no. of person days for the said assignment shall be provided by the Consultant.
7. **Deliverables:**
 - a. Inception report shall be submitted by the Consultant within one month of the award of the work in hardcopy and a softcopy in CD. The Consultants will be required to make a presentation of their Inception Report in a workshop, organised by BSDMA. BSDMA shall offer its comments within 15 days the presentation. The revised final Action Plan shall commence immediately thereafter.
 - b. Thereafter Consultant will submit monthly reports, in the format prescribed by BSDMA, on the progress of the assignment. These monthly reports will be preceded by a monthly meeting to be organised by the Consultant in the concerned district headquarter with all stakeholders and BSDMA representative.
 - c. Draft report of DDMP after 5 months of the award of the work order of the assignment in hardcopy and a softcopy in CD.
 - d. Final Report (incorporating the comments/feedback from BSDMA) within 6 months of the award of the work order of the assignment in two hardcopies and two softcopies in CDs.
 - e. The Draft Report and the Final Report of the District Disaster Management Plan (DDMP) will be developed as per the structure of model DDMP of Madhubani, which is in two volumes, as below –
 - i. Vol. I – Disaster Risk Reduction Plan
 - ii. Vol. II – District Response Plan
 - f. All the above mentioned reports should be submitted to DM/DDMA of concerned district along with copies to each of BSDMA and Department of Disaster Management, GoB.
 - g. In case BSDMA requires additional hard copies of the finally approved report, the Consultant shall make these available at the rates approved by Government of Bihar.
8. BSDMA professional staff, attached with the Consultant, shall make visits to the project District and the Consultant will facilitate their visit and monitoring of the progress by BSDMA staff. However, costs of such visits of BSDMA officers will be borne by BSDMA.

6.2 Line Departments and Organisations to be contacted

Sr	LINE DEPARTMENTS
1	Agriculture Department
2	Animal and Fisheries Department
3	Bharat Sanchar Nigam Limited
4	Building Department
5	Education Department
6	Energy Department
7	Fire Service Department
8	Food Corporation Department
9	Food Supplies and Consumer Protection Department
10	Health Department
11	Industries Department
12	Information and Public Relations Department
13	Labour Resource Department
14	Panchayati Raj Department
15	PHED Department
16	Planning and Development Department
17	Police Department
18	Post and Telegraph Department
19	Rural Development Department
20	Science and Technology Department
21	Social Security Department
22	Statistics Department
23	SthaniyaKshetraAbhiyantranSangathan
24	Transport Department
25	Urban Development Department
26	Water Resource Department
27	Gram Panchayat

Sr	OTHER NON-GOVT STAKEHOLDERS
1	Academic Institutions, schools, colleges
2	Architects, Engineers, Diploma Holders and Masons
3	Artisans, Craftsmen Group
4	Business Groups-Corporates, Industry, SMEs, traders, Markets /Association
5	Dalit and Tribal Association
6	Ex Servicemen and Retired Professionals Association
7	Health Association (Medical association, Chemist /Druggist Association, RVC, Nurses)
8	Local and International Media
9	Local NGOs, International NGOs, UN Agencies, 334 Red Cross,
10	National NGOs
11	SHG, Women, Farmers, JEEVIKA Group
12	Transporters (Train, Road and Ferries)
13	Youth, NSS, NCC, Scouts and Guides Group

6.3 Team & Experts for DDMP preparation

Sr No	Name	Qualification	Field of Expertise
1	Ms Swati Singh	Pursuing PhD from TERI University, New Delhi. M.Phil in Natural Resource Management from Indian Institute of Forest Management (IIFM). M.Sc in Environmental Sciences BHU. Ex-Consultant, NIDM.	Hydro-Met and Climate induced disaster management
2	Ms Veena Vadini Puri	MBA, IIT Delhi. Specialization: Climate Technology Strategies. M Phil (Environmental Biology). MSc (Environmental Biology). BSc (Environmental Science), DU.	Risk Assessment
3	Mr Amar Nath	BARC, Trombey. 1975-76 Training in Nuclear Reactors operation and Maintenance. Delhi College of Engineering 1970- 1975 Mechanical Engineering. Ex-NPCIL officer.	Industrial Safety
4	Mr Anshuman Shukla	M.Tech (Disaster Management), IIT Roorkee. B.Arch.	Housing and Infra, Hazard Resistant Construction
5	Mr Nitesh Kumar	Bachelor Of Science In Emergency & Trauma Care Technology (Approved by DHA), MBA Hospital Management. BLS+ACLS Instructor, AHA Certified, International Trauma Life Support (ITLS). Pediatric Advanced life support (PALS)AHA Certified. Mass Casualty Trainer	Health Sector D.M.
6	Dr Priyanka Singh	M.D.[Physician], MBA in Hospital Management	Gender and Psycho-socio care
7	Dr Tejas Prajapati	M.D.Forensic Medicine & Toxicology, Diploma in Clinical Toxicology. Faculty of CBRN emergency with GIDM.	CBRN Emergency
8	Mr N.K. Bhatnagar	(Rtd) Commandant, NDRF. M.A. (Disaster Management). Master in Business Administration (MBA).	Emergency Response
9	Mr Jitender Singh	MSc, MBA. (Rtd)Asstt Commandant-CISF. Prohibition, Assistance& Protectionfrom Chemical weapons (OPCW)Krusevac, (Serbia & Montenegro). WMD- Equipment Orientation Bureau of Diplomatic Security(USA). NBCDefence, College of Military Engineering Pune. TOT Chemical	Fire Safety & CBRN

		Emergencies, (DRDE),GOI. Chemical and Biological emergencies for Masters Trainers, Defence Research Development Establishment (DRDE).	
10	Ms Priyanka Saini	M.Tech (Disaster Management), IIT Roorkee.	ITand GIS
11	Ms Shivani Chouhan	M.Tech (Disaster Management), IIT Roorkee. B Tech (Planning).	Township Planning and D.M. Expert
12	Dr D.K.Paul	PhD (Civil Engg). Earthquake Engg Deptt, IIT Roorkee.	Earthquake Risk Mitigation
13	MrPrathamesh Baviskar	MSc (Disaster Management), TISS.	DDMP Ground Work Team member
14	Ms Babli Bharti	MSc (Disaster Management), TISS.	DDMP Ground Work Team member
15	Ms Hina Khanna	M.A.(Disaster Management), Panjab University.	DDMP Ground Work Team member
16	Mr Deepak Mathur	BSc (CS), PGDCA.	Software and Web Based Services

6.4 Day-toDay Responsibility of Team Members

Sr No	Team Members	Day to Day Responsibility in Developing DDMP	
1.	Mr Saurabh Gautam	Overall Project Coordination	
2.	Mr Kunal Sharma	Complete Responsibility for the District Arwal	
3.	Ms Babli Bharati	<ul style="list-style-type: none">- Data Collection- Supporting Ms Hina Khanna in providing project documentation to team- Document Proof Reading- Documentation Preparation and Timely Submission	
4.	Ms Hina Khanna	<ul style="list-style-type: none">- Coordination, Liasoning and Arrangements for site visits by team with project officials- Communications Management between Project Officials and Team- Overall responsible for providing project documents to team	
District wise Coordinator of GRCPL			
Sr No	District	Main Coordinator	Sub-Coordinator
1.	Arwal	Mr Kunal Sharma	Mr Prathamesh Baviskar

6.5 Deliverables

The key deliverables shall be:

Deliverable	Timeline	Conditions
i) Inception Report	<u>Within 1-month</u> of the award of the work or as notified by BSDMA for the changed dates.	i) Presentation of Inception Report in workshop organized by BSDMA. ii) Comments to be received from BSDMA on inception report. iii) The revised final Action Plan shall commence immediately thereafter.
ii) Monthly Reporting	<u>Monthly</u>	i) GRCPL will submit monthly reports, in the format prescribed by BSDMA, on the progress of the assignment. ii) These monthly reports will be preceded by a monthly meeting. iii) Monthly meetings shall be organized by the Consultant in the concerned district headquarter with all stakeholders and BSDMA representatives.
iv) Draft DDMP	<u>5-months</u> after the work order or as notified for changes by BSDMA.	i) To be submitted in hardcopy and a softcopy in CD. ii) DDMP will be developed as per the structure of model DDMP of Madhubani, as: a. Vol. I – Disaster Risk Reduction Plan b. Vol. II – District Response Plan iii) GRCPL shall receive comments/feedback from BSDMA in shortest possible timeline. iv) The DDMP shall be prepared in Hindi with commonly used terminologies in English.
v) Final DDMP	<u>6-months</u> after the work order or as notified for changes by BSDMA, i.e. <u>1 month</u> after submission of Draft DDMP	i) GRCPL shall incorporate the feedback/ comments received for draft report ii) Submit Final DDMP in hardcopy and a softcopy in CD. iii) All the above mentioned reports shall be submitted to DM/DDMA of concerned district along with copies to each of BSDMA and Department of Disaster Management, GoB. iv) The DDMP shall be prepared in Hindi with commonly used terminologies in English.

6.6 Draft Structure of DDMP

Below is the initial draft structure of DDMP. This shall include the points suggested by the BSDMA committee during the Inception Meet, as given in section 2.4 and section 2.5 of this report. This is just suggestive and does/may not incorporate all provisions/chapter as defined in the scope of the DDMP in inception report. A final structure shall take shape at later stages which shall be shared with BSDMA for approval.

- **Volume 1:** Pre-Disaster Phase (Mitigation and Preparedness Plan)
- **Volume 2:** Post-Disaster Phase (Response Plan)

Vol-1 Mitigation & Preparedness Plan

Chapter 1: Introduction

- 1.1. Purpose of the Plan
- 1.2 Key Objectives
- 1.3. District Plan Approach
- 1.4. Scope and Ownership of District Disaster Management Plan
- 1.5. Institutional Arrangements
 - 1.5.1. District Disaster Management Authority (DDMA)
 - 1.5.2. District Disaster Information Management System
 - 1.5.3. Urban Area Disaster Management Committee
 - 1.5.4. Block level disaster management committee
 - 1.5.5. Gram Panchayat / Village Disaster Management Committee

Chapter 2: District Profile

- 2.1. Location and administrative divisions
- 2.2. Geography and Topography
- 2.3 Demographic and socio economics
- 2.4 Climate and weather (present and futuristic scenarios based on model projections like change in temp, rainfall pattern, extreme climatic conditions)
- 2.5 Health (Medical)
- 2.6 Education
- 2.7 Agriculture and Land use
- 2.8 Housing Pattern
- 2.9 Industrial set ups
- 2.10 Transport and communication network
- 2.11 Power stations and electricity installations
- 2.12 Major historical, religious places, tourist spots

Chapter 3 : Hazard, Vulnerability Assessment and Risk Profiling

3. 1. Hazard Assessment

- 3.1.1 History of past disasters
- 3.1.2 Major applicable hazards
- 3.1.3 Seasonality of hazards

3.2 Vulnerability Analysis

- 3.2.1. Physical vulnerability
 - 3.2.1.1 Infrastructure vulnerability
 - 3.2.1.2. Housing vulnerability
- 3.2.2. Environmental vulnerability: Ecosystem based approach
- 3.2.3. Socio-economic vulnerability
 - 3.2.3.1. Livelihood vulnerability
 - 3.2.3.2. Economic vulnerability

3.2.3.3. Societal vulnerability

3. 3. Capacity Analysis

3.3.1. Governance

3.3.2. Society and economy

3.3.3. Natural Resource Management

3.3.4. land use management and structural design

3.3.5. Risk Knowledge

3.3.6. Warning and evacuation

3.3.7. Emergency response

3.3.8. Disaster recovery

3. 4. Risks Assessment

3.4.1 Potential impact of applicable hazards and existing vulnerabilities

3 4.2 Risk profiling of the district

Chapter 4. Disaster Mitigation & Preparedness Planning

4.1 District Action Plans

4.1.1 Risk Mitigation Plan

4.1.1.1 Scope of Integrating Disaster Risk Reduction in Development Schemes (Short term mitigation plan, long term mitigation plan-structural, non-structural)

4 1.1.2 Training & Capacity Building

4 1.1.3 Community Initiatives

4. 1.1.4 Risk Management Funding

4.1.2. Preparedness Plan

4.1.2.1 Preparedness before response

4.1.2.2 Pre-Disaster Warning, Alerts

4.1.2.3 Evacuation stage

Chapter 5. Sustainable Recovery Framework

5.1 Post-disaster Damage Assessment and Need Assessment

5.2 Plan for Restoration of basic infrastructure

5.3Plan for Reconstruction of damaged buildings/social infrastructure

5.4Plan for Restoration of livelihoods

5.5Plan for Psycho-social interventions

5.6Framework for Cross cutting elements

5.6.1 Community Based Disaster Management

5.6.2 Needs of the Special vulnerability Groups

5.6.3 Addressing climate induced anthropogenic issues

5.6.4 Addressing animal disaster management plan

Chapter 6. Standard Operating Procedures (and Checklists)

6.1 General SOPs for each line departments

6.1.1 Transport Department Organization

6.1.2 Public works Department

6.1.3Others relevant departments to follow

6.1.4 Other Relevant Issues

6.2 Hazard specific SOP's

Chapter 7. Financial Provisions for Disaster Management

Chapter 8.Coordination mechanisms with other stakeholders

8.1 Mapping of stakeholders in the District

8.1.1 Private and Public Sectors

8.1.2 Non Governmental Organizations and Community Based Organisations:

8.1.3 Religious Institutions

- 8.1.4 Academic Institutions
- 8.1.5 International Humanitarian Organizations
- 8.2 Responsibilities of the stakeholders

Chapter 9. Inter- District Coordination Mechanisms – [Standard Operating Procedures / Protocols]

Chapter 10. Dissemination of the plan

- 10.1 Plan Evaluation/monitoring
- 10.2 Plan Update

Annexure

Detailed maps, important contact list, Various Formats

Vol-2: Response Plan

1. Disaster Emergency Response Force
2. Crisis management direction & coordination
3. Incident Command System (ICS)
4. Rapid Damage and Need Assessment & reporting in line with Recovery Framework
5. District Search & rescue Team
6. Medical response
7. Logistic arrangements
8. Communications
9. Temporary shelter management
10. Water and Sanitation (WATSAN)
11. Law & order
12. Public grievances/missing person's search/mediamanagement
13. Animal care
14. Management of deceased
15. Civil Defense and Home Guards
16. Role of Private Security
17. NGOs & Voluntary organizations
18. Relief management planning
19. Media Management
20. Fire services

6.7 Formats for some of the Exercises to be done for Analysis

Exercise-1: District Profile

A. Overview of the District: (Census department)

- Location
- Area and Administrative Divisions

1. District Disaster Management Authority (As per Chapter

Name/ Address with Contact Numbers	Role in DDMA	Responsibilities

a. District Disaster Management Committee

S. N.	Name of Individual/ Authority	Designation	Affiliation/Address with contact nos. and Email	Status / Role in DDMC	Responsibilities

b. Demographic Details:

c. Household Details:

S.No.	Name of the block	No. of APL HH				No. of BPL HH			
		ST	SC	OBC	GEN	ST	SC	OBC	GEN

2. Population

Sl. No.	Name of the Block	SC		ST		OBC		GEN		TOTAL	
		M	F	M	F	M	F	M	F	M	F

3. Type of Workers

S.No.	Type of Workers							
	Skilled Workers		Semi Skilled Workers		Unskilled Workers		Total Workers	
	M	F	M	F	M	F	M	F

a. Literacy Rate in Percentage:

Category							
SC		ST		OBC		GEN	
M	F	M	F	M	F	M	F

B. Climate and Topographical Details: (Met department)**2.1 Climate and Rainfall:**

S.No.	Month	Average Rainfall (in mm)	Actual Rainfall (in mm)

2.2 Rain Recording Stations:

- Total No. of Rain Recording stations in the District.
- Location of Rain Recording stations

(Telephone Numbers of the Rain recording stations)**2.3 Month wise Height and lowest Temperature recorded in the District**

SI .No.	Month	Maximum Temperature (in Centigrade)	Minimum Temperature(in Centigrade)

2.4 Geographical Area (in Hect): (Agriculture department, Revenue Department, census, land survey of India)**a) Paddy**

S. No.	Name of the Block	Agricultural Land(ha)			Grazing land	Forest Land(ha)	Others	Total area
		High	Medium	Low				

b) Non- Paddy

S. No.	Name of the Block	Agricultural Land (ha)		
		High	Medium	Low

2.5 Land Holding pattern: (No. of HH)

S.No.	Name of the Block	Big Farmers	Marginal farmers	Small farmers	Agricultural laborers	Landless	Total

2.6 Crop Pattern:

S.No.	Name of the Block	Type of Crops	Area Cultivated in (Hect.)	Area under Crop insurance (Hect.)

2.7 Livelihood Details:

Name of the GP	Total house holds	Agriculture	Agricultural labour	Other labour	Fishing Sweet water	Saline	Petty Business	Service holder	Other (specify)

2.8 Drinking Water Sources: (Water supply and sanitation)

Name of the Block	Tube well	Well	PHD Stand
	Functional	Defunct	

2.9 River & Creeks: (Irrigation dept.)

S.No.	Name of the river/creek	Name of the Place	Danger level

2.10 List of Embankment: (Irrigation dept.)

S.No.	Name of the Embankments	Type of Embankments	Length of Embankments

2.11 River Carrying Capacity: (Irrigation dept.)

S.No.	Gauge Station	Zero level in (Mts.)	Danger Level (in Mts.)

2.12 Availability of Irrigation Facility: (Irrigation dept.)

S. No.	Name of the Project	Ayacut in Hect.

2.13 Minor Irrigation Projects: (Irrigation dept.)

S.No.	Particulars	Numbers

2.14 Irrigation Facilities and Sources: (Irrigation dept.)

Name of the Block	Ponds	Dug Wells	LI points	Drifts/ Shallow TW	River	Creeks	Canal

2.15 Infrastructure Facilities and Sources: (Revenue dept., block development officers, revenue department)

S.No.			Name of the Block	PDS Outlet	Post Offices	Police Station/ Outpost	Pucca building	CHC	PHC	Dispensary	Cyclone shelter	Educational Institutions				Livestock	Cottage Industries	Industries	Godown
												UP	M	High	College				

2.16 Industries: (Industries and commerce dept)

S.No.	Name of the Block	Name of the Industries	Government/ Private	Type of industry	Manpower employed	Infrastructure available	Investment	Production	Insured or not

2.17 2.17 Financial Institutions: (Revenue)

S.No.	Name of the Institution	Address	Telephone Number

2.18 Communication Facilities: (Public relation department)

S.No.	Name of the Block	Telecommunication (Y/N)	No. of Boats		No. of Bus		No. of Trekker		No. of Tract or		No. of Jeeps		No. of Two Wheelers	
			G	P	G	P	G	P	G	P	G	P	G	P

G: Government: P: Private

2.19 Power stations and electric installation**2.20 Transport and Communications network****2.21 Very High Frequency (VHF) station.****2.22 Telecommunication links/ IMD system/ other**

- ✚ Road network- National Highways, State Highway, Major District Roads, Other District Roads, Forest Roads, Classified Village Roads,, PanchayatSamiti Roads, Villages Roads, R.L.E.G.P. Road, and Urban Road. (inKms.)
- ✚ Waterways
- ✚ Railways
- ✚ Internet facilities
- ✚ HAM amateur radio stations

Exercise2: HVR Analysis

1: History of Disaster and Probability of Disaster episodes in the District

Type of Hazards	Year of Occurrence	Area affected	Impact on life	Livelihood	Live stock	Remark

2: Seasonality Hazards

Type of Hazards	Jan- Mar				April- June				July- Sep				Oct- Dec			
	H	C	A	I	H	C	A	I	H	C	A	I	H	C	A	I
Cyclone																
Flood																
Drought																
Earthquake																
Sunstroke																
Fire																
Chemical Accidents																
Boat capsize																
Epidemic																
Accident																
Lightening																

H: Human, C: Crop, A: Animals, I: Infrastructure

3: Climate Change related information

- Rainfall intensity and variability
- Extreme temperature: cold and hot days
- Any other abnormalitiea

4. Risk Assessment

Type of Hazards	Time of Occurrence	Potential Impact	Vulnerable areas
Cyclone			
Flood			
Drought			
Earthquake			
Sunstroke			
Fire			
Chemical Accident			
Boat capsize			
Epidemic			
Accident			
Lightening			
Others			

5. Vulnerability Analysis

5.1 Vulnerability against Hazards

Vulnerability	Vulnerability against each Hazard							
	Cyclone		Flood		Chemical Industry		Fire	
	Population	Area Name	Population	Area Name	Population	Area Name	Population	Area Name
Road Network								
Water ways								
Water Supply								
Hospital								
Food Stocks & Supplies								
Communication (System)								
Embankments								
Bridges								

5.2 Identification of Weak and Vulnerable Elements

S.No.	Name of the weak and Vulnerable Embankments	Location	Reason of its vulnerability	Population likely to be affected	Remarks

Alternate route structure (with map)

S.No.	Vulnerable Area	Main route	Alternate route

Exercise-3: Capacity Analysis

Resource Type	Details	Number	Government / Private	Contacts/Owner's name with Telephone No.
Transport and communication	Tractor			
	Trekker			
	Trolley, Rickshaw			
	Four wheeler			
	Boats			
	Telephone			
	Any other			
Containers	Tankers			
	Overhead tanks			
	Jerry canes			
	Big vessels			
Cleaning and Cutting Equipments	Kodi			
	Kudala			
	Sabala			
	Big saw			
Other Resources	Gen set			
	Pump set			
	Petromax			
	Tent house			
	Gas light			
	Solar Light			
	Biogas			
Temporary Shelter	Tents			
	Tarpaulins/ Polythenes			
	Bamboo			

3.2 Emergency contingency Plan----- District

1	2	3	4	5	6	7	8	9	10	11	12	13
S.No	Name of the Block	No. of Population as per 2001 Census	Present Population (Col. 3+20%)	Amount of food Materials (in KG) Per						Medicine per week		
				Chuda(@) 200 gms/ Head	Gur @ 50 gms/ Head	Rice (@250 gms/ Head)	Dal (@25 gms/Head)	Salt(10 gms/Head)	K. Oilil (50ml /head)	ORS in Packet/Head	Halogen Tabs. (7tabs/Head)	Bleaching powder in KG (50 Gms/ Head)
1												
2												

3.3 Storage facilities with capacity

S.No.	Type of storage structure	Location	Capacity	Contact Person	(Address and Phone no.)	Remarks

3.4 Public Distribution System

Name of the Block	No. of PDS retailer counters	Name of the retailers	Contact person and addresses	Telephone Office/ Res.	Location	Area Coverage / No. of Cards	Remarks

3.5 PHC/ PHC New

PHC/PHC New	Name of the G.P. (Location)	Staff Available

3.6 Police Station

Police Station	Name of the G.P. (Location)	Staff Available

3.7 Sub Post Offices:-

Name of the Block	Location	No. of Staff Available

3.8 Fire Station Information:

S.No.	Name of the fire station	Telephone Number	Disposition of Vehicle & Pumps	Disposition of Man Power
1.				

3.9 Identification of Cyclone/ floods shelters (single /Double storied) with capacity:

S.No.	Type of shelter	Capacity (Room and Plinth Area)	Location	Contact person (Address and phone no.)	Facilities Available	Remarks (Single or Double)

3.10 Earth moving and Road cleaning equipments:

Type of Equipment	Contact Person and address	Telephone Offices/ Res.	Remarks

3.11 Traders:

Type of Traders	Contact person and address	Telephone Office/ Res.	Remarks
House building materials			
Groceries			
Medicine shop			
Tents Tarpaulins			
Hardware shop			
Rice mill			
Fuel wood			
Electrical Equipments			
Restaurants			
Farm Inputs			

3.12 Transport (Road and water)

Type of Vehicles	Contact person and address	Government/ Private	Telephone Office/ Resi.	Remarks
Tractors				
Bus				
Truck/Mini truck				
Trekker				
Country boats				
Motor boats				

3.13 Alternative energy sources (Bio gas and Solar Energy Cells)

Type of sources	Contact person and Address	Phone No.	Remarks
Bio Gas			
Generator			
Pump sets			
Solar Energy Cell			

3.14 Private Professionals:

Expertise	Name	Specially	Address	Phone nos.	Service facilities available
Doctor					
Health Practitioner					
Es- service man					
Mechanical /civil engineer					
VAS					
Volunteer trained in Rescue operation					
Volunteers trained in operating special equipments					
Volunteers trained in first aid					
Skilled Mechanics					
Drivers (Road)					
Motor Boat Drivers					

3.15 NGO's

Name of NGOs and CBOs	Area of Operation	Sector	No. of Volunteers	Other Resources	Contact Address

3.16 Volunteers Profile:

S. No.	Name of the Block	Name of the NGO/CBO	Name the Volunteers	No. of Volunteers Trained				
				Rescue	First Aid	Ham Radio	Relief and Co-ordination	Damage Assessment

Exercise-4: Mitigation

1. Sector wise Vulnerability Reduction Measure (considering G.P Plans): need to define structural and non-structural mitigation measures

Type of Sector	Sub sector	Responsible Dept.	Time Frame
Infrastructure Development	IEC activities		
	Road		
	Embankment		
	Bridges		
	Safe Shelters		
	Communications		
	Drinking water and sanitation		
	Power-Solar and wind		
	Technology dissemination		
Health Animal Husbandry	IEC activities		
	Vaccination		
	Training		
Livelihood Sector	Awareness		
	Agriculture		
	Fishing		
	Fishery		
	Allied activities		
	Horticulture		
Insurance	IEC activities		
	Infrastructure		
	Livelihood		
	Life		
Environment and Forest Sector	Awareness		
	IEC activities		
	Plantation		
	Solid waste management		

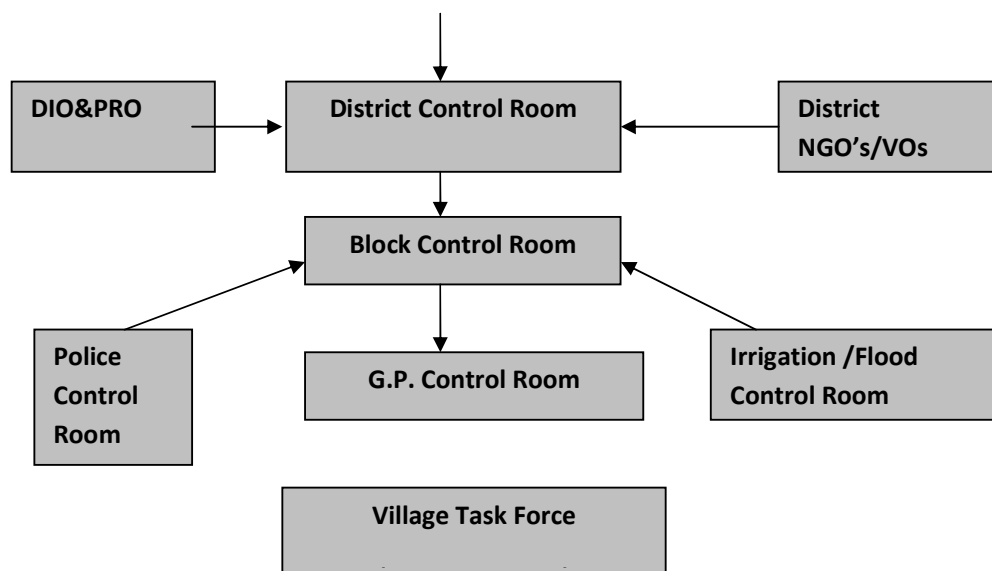
Exercise-5: Response

1. CRISES RESPONSE STRUCTURE OF THE BLOCK.

A. Early Warning Dissemination and Response Plan

Department	Response System			
	Preparedness	Pre (after warning)	During Disaster	Post Disaster
Block a. b. c.				
Police				
Revenue				
Health				
Irrigation				
Animal Husbandry				
Electric				
Agriculture				
Food and Civil Supplies				
Fire Service				
Rural Water Supply & Sanitation				
Telecommunication Dept				
PWD				
NGO's				

Early Warning System



- i) **STANDARD OPERATING PROCEDURE FOR DISTRICT CONTROL ROOM**
 ii) **Operating Timing:**

Officer in charge of the District Control Room

Operational Timing: JUNE to DECEMBER Every Year		
Normal	Warning	Post

- iii) **Control Room Operation**

Operational Timing			Personnel Deployment			Name of the record	Equipments
Normal	Warning	Post	Designation	Department	Time		

iv) Personal Deployment in Control Room:

Days	7 AM to 10 AM (Day Office 1PM to 5 PM (Morning Office))	5PM to 10PM	10PM to 7AM
Monday			
Tuesday			
Wednesday			
Thursday			
Friday			
Saturday			
Sunday			

Sub:- Collectors, BDOs Tahasildars, CDMO

EMERGENCY WARNING MESSAGE NO.	Dt:
To	
Info	
(Space for message)	
(Priority) CRASH Collector, Collector	

2. INCIDENT RESPONSE SYSTEM

1. ALERT ALL FIELD OFFICERS
2. CALL UP THE OFFICERS
3. PREPARE A LOGBOOK
4. FOOD AND KEROSENE.
5. CHECK AVAILABILITY OF SAND BAGS
6. VEHICLES: Requisition
7. EMPOWER FIELD OFFICIALS to requisition vehicles.
8. BOATS: Requisition of boats within district
9. Close EDUCATIONAL INSTITUTIONS after making an assessment of the magnitude of the emergency.
10. VETERINARY MEASURES:
11. AIR DROPPING ZONES:
12. Each JE of RD, R&B, NH & IRRIGATION on the spot.
13. Assessment of Relief items
14. CIVIL SOCIETY ORGANISATIONS:
15. PRESS BRIEFINGS

FUNCTIONAL DISTRIBUTION OF WORK:

District Press Note no.		Dated:		
		Total	Affected	Remarks
1	Blocks/towns			
2	Villages			
3	Population			
4	Severely affected areas			
5	Rescue measure			
	Boats deployed			
	Army/Navy/Coast Guard			
	Police/ Fire Brigade			
	Other agencies			
	Exemplary events			
6	Relief measure	Qty/ Beneficiaries	Village covered	Days Covered
	Free Kitchens			
	Rice			
	Chuda			
	Other dry food			
	Kerosene Oil			
	Polythense sheets			
	Tents			
	Cattle feed			
	Halogen tablets			
	Medicine			
7	Casualties			
8	Missing reports			
9	Bovine death			
10	Civil Society Organizations			
11	Damage to property	Number	Approx value	
	I. Roads			
	II. Embankments breaches			
	III. Schools			
	IV. Other public buildings			
	V. House damages			
	VI. Electrical installations			
	VII. Others			
12	Prospects in next 24 hours			
13	Message for people			
14	Other details			

MEASURE TO PUBLIC OVER PRINT AND AUDIO VISUAL MEDIA

14. **REGULAR CONTACT** at intervals with R.D.C., S.R.C., BSDMA, IMD, Home Secretary, Revenue Secretary, PS/Secretary/ Addl. Secretary to Chief Minister, Chief Secretary and Health Secretary.
15. Written orders shall be issued for identifying place for **starting free kitchens** for at least 3 days.
16. Checkup <http://www.npmoc.navy.mil/jtwc.html> and www.imd.ernet.in and other websites.
17. Keep **spare copies of district maps**. Jurisdiction maps of all irrigation divisions shall be kept ready in good numbers.
18. Place requisition with S.P/OSDMA for supply of temporary VHF sets for CDMO, CDVO, sub-collectors, SE-Irrigation, DEO & neighboring BDOs/ Tahasildar.
19. Contact **Flood Cell**, CWC and Meteorology Bhubaneswar.
20. Requisition all **Rest sheds**.
21. **Requisition** School/College for Army/ Police forces.
22. Direct all **field officers to hire generators** and keep sufficient oil for running them.
23. Direct all police stations to keep **spare batteries for VHF**.
24. Looking at the onset of emergency and after making quick preparations, **Convene emergency meeting** of important official and non-official agencies. Give them clear instructions on the above manner.
25. Make **Duty Roster** of important officials for uninterrupted functioning of DCR & immediate implementation of the Relief /Rescue Programme.

PROFROMA FOR "IN" MESSAGE REGISTER

S. No.	Date	Time of receipt	In message Sr. No.	Received from	Address to	Message Transfered to	Copies to	Mode (WL/Tel/Mess age) of receipt	Instruction/follow- up to be done
01									

PROFROMA FOR "OUT" MESSAGE REGISTER

S. No.	Date	Time of Dispatch	Out Message Sr. no.	Related in Message No. if	Address from	Address to	Copies to	Mode (WL/Tel/Message) of	Instruction /follow up to
01									

Records and Equipments for District Room (BCR):

Name of the Record	Equipments	Govt./Private

Activities of Block Control Room:

- Normal Time:
- Activities after Receiving Warning.
- Activities Post disaster.

COMMUNICATION & MEDIA

The following tabular form insures media involvement at different hierarchy of administration.

- ❖ District level- ADM (Emgy)→ DIPRO→OIC, DCR
- ❖ Sub-Div. Level- sub- Collector→Emergency Officer→SDIPRO

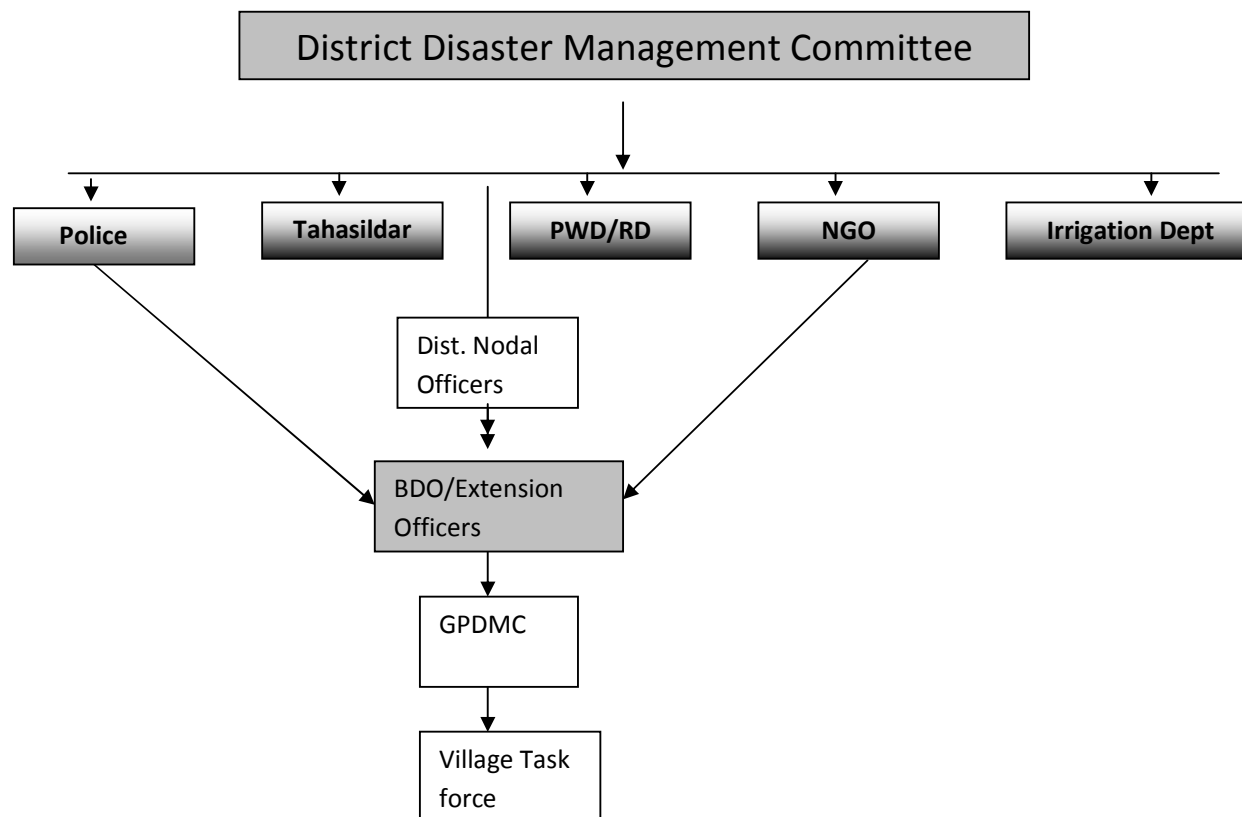
IDENTIFIED LOCATIONS FOR INSTALLATION OF VHF BY SDMA/DDMA

Sl. No.	Location for Installation of VHF systems

Check list for Control Room:

Activities	Page no. Reference	Yes/No
a) Assessing of duty. b) Maintain inventory of resources. c) Provide information who need it. d) Service division and assign duties. e) Receive information on a routine basis and record. f) Receive preparedness report from various relevant dept. g) Basing on the reports feedback to the district authority and others. h) Vulnerable area map displayed. i) Imp. Phone numbers.		

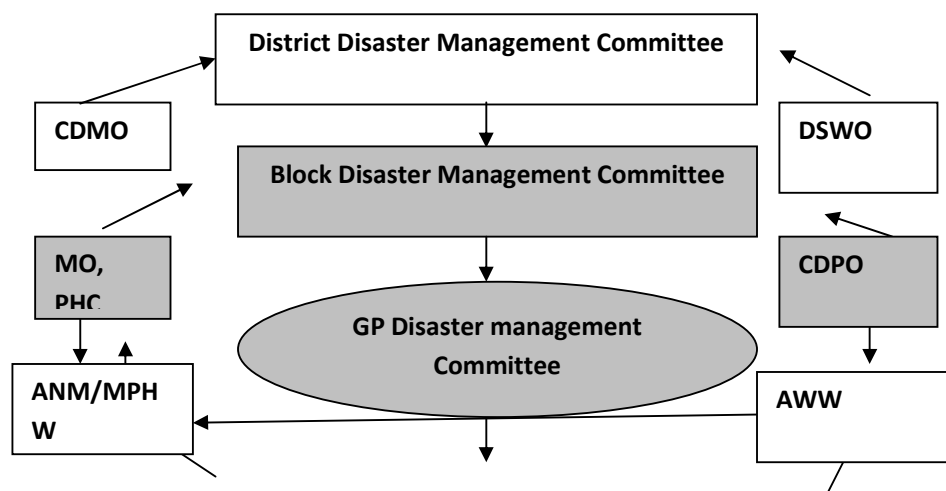
B. Evacuation, Search and Rescue Response



B. Evacuation, Search and Rescue:

Department	Evacuation, Search and Rescue Response Structure and System			
	Preparedness	Pre (after Warning)	During Disaster	Post Disaster
District				
PanchayatSamiti				
Police				
Fire Brigade				
Revenue/ RI				
Medical				
Saline and Embankment/PWD/RD				
NGO/Volunteer				

First aid & Health Services



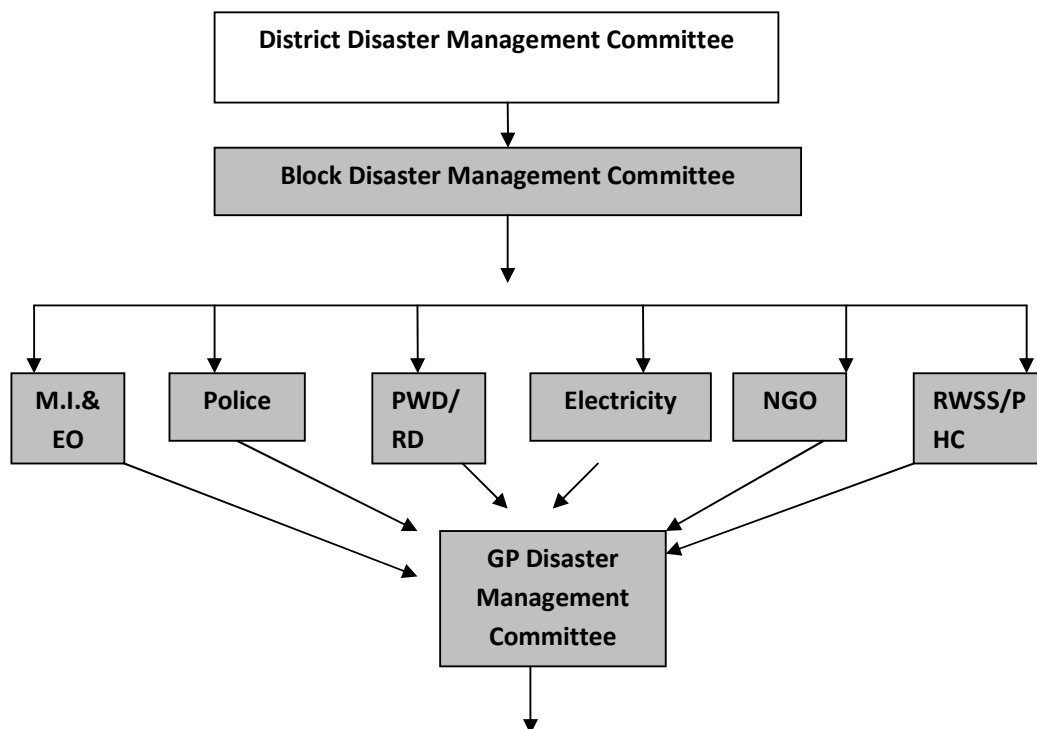
C. Medical and First Aid:

Departments	Medical Aid – Response System			
	Preparedness	Pre (after warning)	During	Post
CDMO				
CDVO				
DSWO				
District Administration				
NGO/Volunteers				

D. Carcass/Dead bodies' disposal

Department	Preparedness	Pre (after warning)	During	Post
Health/VAS				
Gram Panchayat and NGO				

Shelter Management



Village Taskforce Committee

E. Shelter Management:

S.No.	Department	Shelter Management – Response System			
		Preparedness	Pre- (after Warning)	During	Post
1	Dist. Admin.				
2	Police				
3	Electricity				
4	RWS& S				
5	Medical				
6	PWD & RD				
7	PHC				
8	NGO/ Volunteers				

Water and Sanitation Response

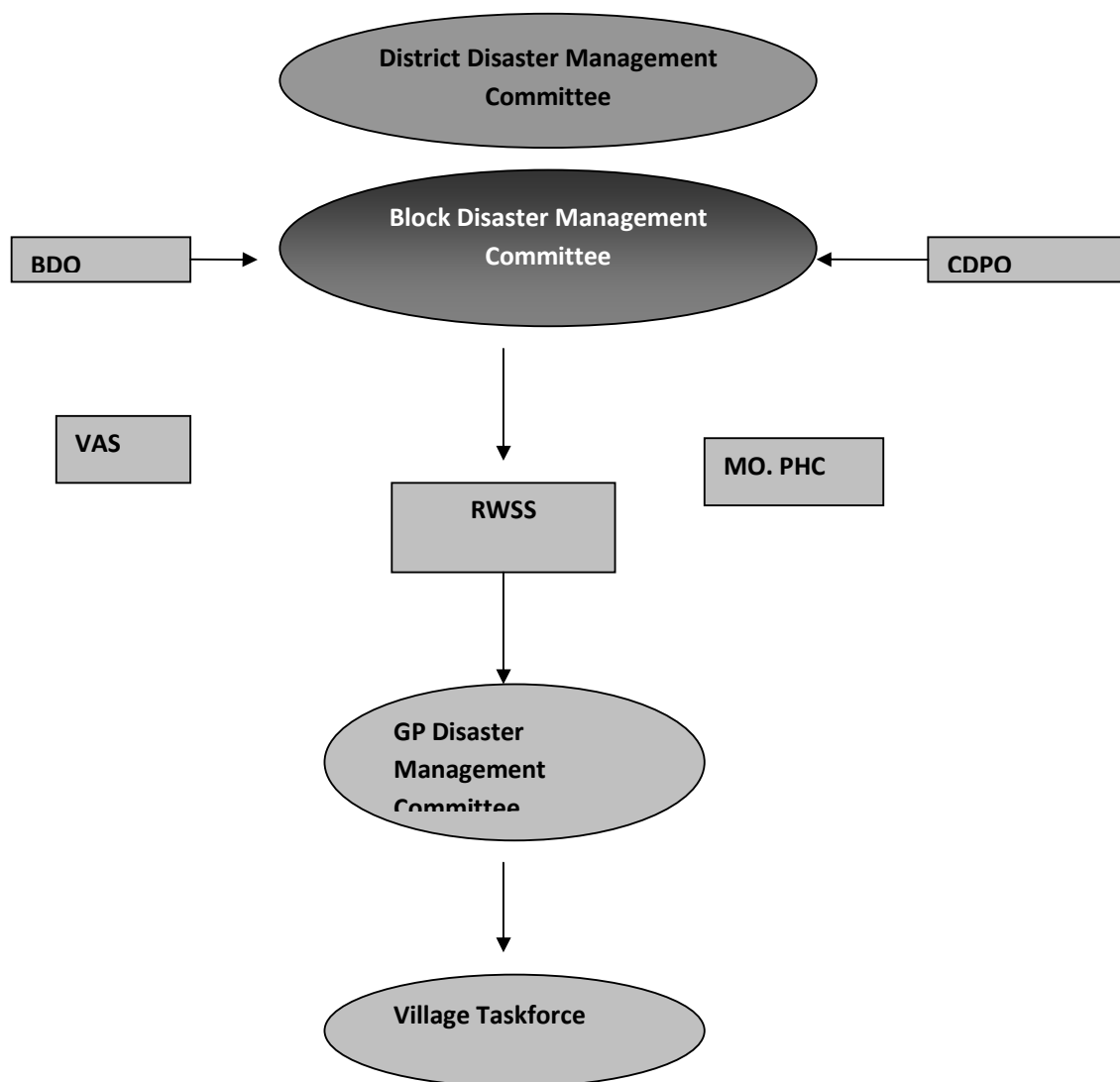
F: Water and Sanitation

S.No.	Department	Health and Sanitation Response System			
		Preparedness	Pre (after Warning)	During	Post
1	CDMO				
2	DSWO				
3	Executive Engineer RWS&S				
4	RD/NGO/Volunteers				

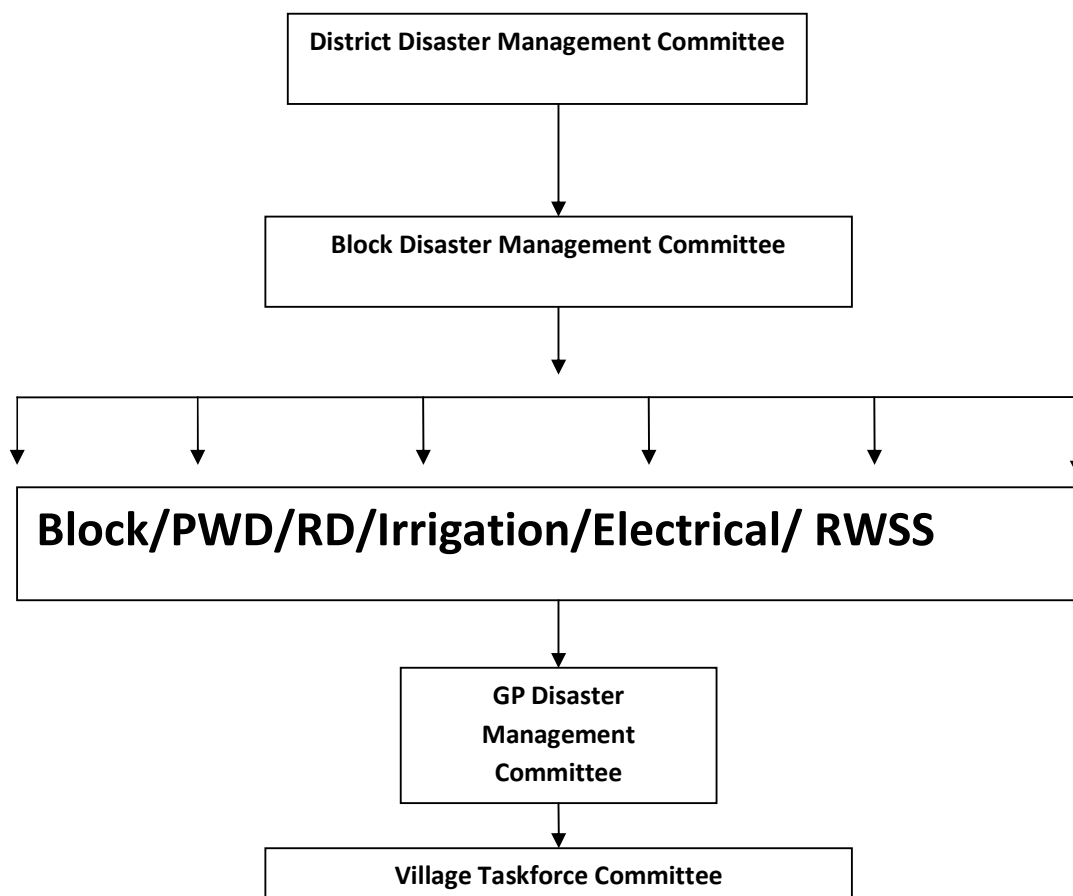
CDMO – Chief District Medical Officer,

G: Relief

S.No.	Departments	Relief Operation - Response			
		Preparedness	Pre (after Warning)	During	Post
1	Dist. Admin				
2	Block				
3	CDMO				
4	CDVO				
5	RWS&S				
6	DSWO				
7	NGO/ Volunteer				



Infrastructure Restoration

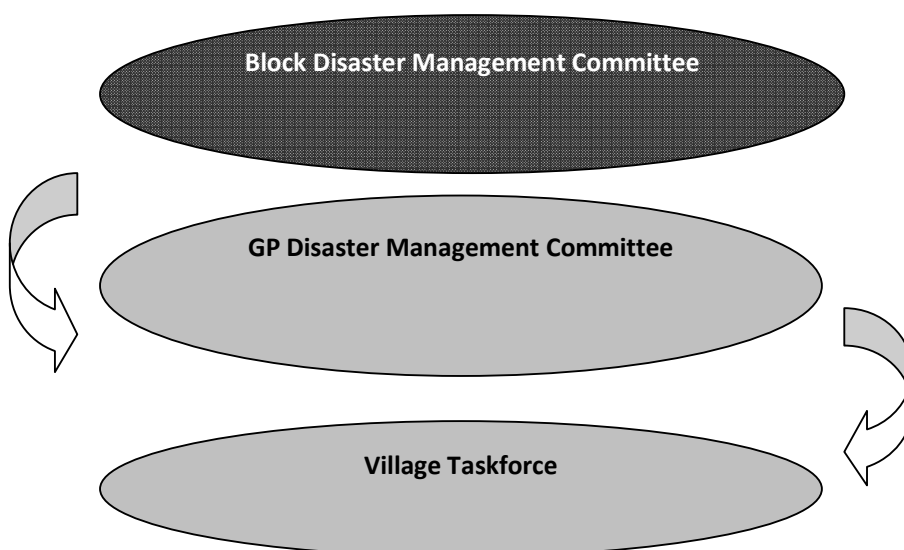


	Departments					
	RD	R&B	Irrigation	Electrical	RWS& S	District
Preparedness						
Pre (after warning)						
During						
Post						

Cattle camps

	Departments		
	VAS	BDO	NGO/Volunteer
Preparedness			
Pre (after warning)			
During			
Post			

Coordination Linkage with G.P. and Village



Block	
Preparedness	
Pre (after warning)	
During	
Post	

CHECK LIST FOR CONTROL ROOM

Activities	Pre Disaster	During Disaster	Post Disaster
a) Assignment Duty b) Maintain inventory of resources c) Identification of weak and vulnerable points d) Proper setting up the control room e) Provide information who need it f) Service division and assign duties g) Receive information on a routine basis and record h) Received preparedness report from various relevant dept. i) Basing on the report feedback to the district authority and others j) Vulnerable area map displayed k) Imp. Phone numbers			

Developmental Plans and Projects (past, ongoing and future)

S.I	Name of the project/Plan	Purpose	DM Component (Yes/No)	If Yes, Details	If no, Propose

MONITORING AND EVALUATION

Tasks	Status (Yes/ No)and Interval
Post-disaster evaluation	
a. Review and regular updation b. Census Data c. Maps d. Resource Inventory <ul style="list-style-type: none"> i. Physical ii. Financial iii. Material e. Contact details of officials	
Training of DDMC Professionals	
Any other	

Exercise-6: Preparedness

Preparedness	
Pre (after warning)	
During	
Post	

Check List for Control Room

Activities	Pre Disaster	During Disaster	Post Disaster
<ul style="list-style-type: none"> • Assignment Duty • Maintain inventory of resources • Identification of weak and vulnerable points • Proper setting up the control room • Provide information who need it • Service division and assign duties • Receive information on a routine basis and record • Received preparedness report from various relevant dept. • Basing on the report feedback to the district authority and others • Vulnerable area map displayed • Imp. Phone numbers 			

VII. CHECKLIST FOR VARIOUS DEPARTMENTS

a) Collector and District Magistrate:

Activities	Pre- Disaster	During Disaster	Post Disaster
<ul style="list-style-type: none"> • Vulnerable and risk assessment map • Cut off area with safe route map • Storing facilities • List of dealers for food • List of volunteers • Control room set up • Boat and transport for rescue • Transportation for food supply • Pre-positioning of staff • Site operation centers/ staff • Evacuation and rescue of people • Coordination and linkage • Damage assessment • Address and telephone list • Alternative communication system • Pulling resources from outside if 			

<ul style="list-style-type: none"> required Having network with neighboring blocks 			
--	--	--	--

b)President ZillaParishad

Activities	Pre Disaster	During Disaster	Post Disaster
<ul style="list-style-type: none"> Ensuring the function of BDMC Approval of DM plan in the Panchayat Generation Awareness generation 			

c) CDMO

Activities	Pre Disaster	During Disaster	Post Disaster
<ul style="list-style-type: none"> Stock position of live saving drugs, ORS, IV fluids and other equipment Distribution of ORS, Halogen to field areas List of contact address of field staff List of Volunteers List of DDC/AWW List of epidemic/ risk prone areas List of site operation areas Mobile health unit List of Dist./health control rooms List of private and local doctors Awareness through propagation of healthy practices during the disaster time. Trained the village taskforce on use of medicine and first aid. Daily disease report collection and analysis Preventive measures Taking help of others/dist 			

d) Executive Engineer Irrigation/SDO

Activities	Pre Disaster	During Disaster	Post Disaster
<ul style="list-style-type: none"> • Stock piling or repair materials like sand, bags, bamboo at vulnerable points (Place name etc.) • Provision of guarding of weak points • List of volunteers • Taking help of community for maintenance of the embankments • Taking proper measures for protecting the weak points • Co-ordination with others 			

e) District Agriculture Officer

Activities	Pre Disaster	During Disaster	Post Disaster
<ul style="list-style-type: none"> • List of different areas to be affected by different hazards • Crop pattern with land holding • List of irrigation points with status • Alternative crop • Trained for food preservation and protection • Assessment of damage • Provision of seeds and others • Helping in raising of community nursery for seedling/sapling • Crop insurance • Generate seed bank/grain bank at village level • Coordinating with others. 			

f) CDVO

Activities	Pre Disaster	During Disaster	Post Disaster
<ul style="list-style-type: none"> • Animal population with categories. • Possible problems related to different hazards 			

<ul style="list-style-type: none"> • Dealer of feeds/fodder • List of cow sheds • Site camps with volunteers • Programme for mass vaccination • Trained the taskforce to use of medicine • Coordination with others 			
---	--	--	--

g) Executive Engineer/SDO (RD/PWD)

Activities	Pre Disaster	During Disaster	Post Disaster
<ul style="list-style-type: none"> • Identification of weak points • Repair the weak points before hazards season • Stockpiling of building materials • List of dealers for building materials • Promotion/training of people on retrofitting / resistance building • Arrangement of equipment for road clearance. • Plan for vulnerable reduction • Coordination with others 			

CHECKLIST: DO'S AND DON'T'S

a) Operational Guidelines of what to do in the event of a flood.

Do's	Don'ts

b) Operational Guidelines of what to do in the event of a Cyclone.

Do's	Don'ts

c) Operational Guidelines of what to do in the event of a Landslide.

Do's	Don'ts

d) Operational Guidelines of what to do in the event of a Drought.

Do's	Don'ts

e) Operational Guidelines of what to do in the event of a Earthquake

Do's	Don'ts

DEVELOPMENT INITIATIVES/LINKAGES**Short Term Plan:**

S.No.	Name of the G.P.	Name of the Village	Required Intervention	Agency Responsible	Fund Required	Time Frame

Long Term Plan:

S.No.	Name of the G.P.	Name of the Village	Required Intervention	Agency Responsible	Fund Required	Time Frame

Mock Drills Plans:

Time	Process (Utilization, Maintenance and Record Keeping)	Responsible Person

Inter Block Linkages:

Need Areas	Process	Contact Person

Block Plan update:

Time	Process	Responsible Person

Schedule Updating Plans

Plans	Updating Time
District Disaster Management Plan	½ Yearly (MAY & NOV)
Line Department Disaster Management Plan	½ Yearly (MAY & NOV)

Schedule for updating the district database

District Database	Schedule time

Data Base of Volunteers**Master Trainers**

Name of the Volunteer	Specialized training on	Contact Address	Telephone Number

S.No.	Name of the Group	Name of the Block	Name of the GP	Name of the Village	No. of volunteers Trained
1	Early Warning				
2	First Aid				
3	Rescue and Evacuation				
4	Water and Sanitation Shelter Management				
5	Carcass Disposal				
6	Relief Management				
7	Damage Assessment				
8	Counseling				
9	Patrolling				

Staff Position in the District

S.No.	Category of Posts	Sanctioned strength	Staff in Position	Vacant

Important Name and Telephone Numbers:

Name of the Personnel	Designation and Department	Address	Phone No.		Fax	Contact Person
			Office	Residence		

Annexure: Maps

- ✓ Social Maps
- ✓ Resource Map
- ✓ Vulnerability Map
- ✓ Places showing the weak Embankments/River System
- ✓ Road Map
- ✓ Alternate Route

 * End of the Inception Report *
