Revised Report

INCEPTION REPORT

Preparing District Disaster Management Plan of Bihar

(District Madhepura)

Gorakhpur Environmental Action Group

Govt. of Bihar

Bihar State Disaster Management

Table of Contents

Preface

This report marks the inception of the study titled ‘Preparation of District Disaster Management Plan (DDMP) in the Madhepura district of Bihar. The study is commissioned by Gorakhpur Environmental Action Group with the support of Bihar State Disaster Management Authority.

This inception report presents the plan, process, approach and methodology for carrying out the assignment. The study will proceed over the next six months with a number of activities to achieve the ambitious goals of all the components DM plan development as outlined in this report. The research team will be grateful to the BSDMA, District Administration and all the line departments who will be engaged in the entire process of developing the District Disaster Management Plan with the clients for successful completion of the assignment.

Abbreviations

ACCCRN	Asian cities climate change resilience Network
BPL	Below poverty Line
BSDMA	Bihar State Disaster Management Authority
CCA	Climate Change Adaptation
CEO	Chief Executive Officer
DC	District Collector
DDMA	District Disaster Management Authority
DDMP	District Disaster Management Plan
DM	Disaster Management
DM	District Magistrate
DRR	Disaster Risk Reduction
ESF	Emergency Service Function
GEAG	Gorakhpur Environmental Action Group
GIS	Geographic Information System
GPs	Gram Panchayat
HFA	Hyogo Framework for Action
HPC	High Power committee
HVCRA	Hazard vulnerability Capacity Risk Assessment
IDNDR	International Decade for Natural Disaster Reduction
ISDR	International Strategy for Disaster Reduction
NIDM	National Institute of Disaster management
PRI	Panchayat Raj Institution
PWD	Public welfare Department
SLD	Shard learning dialogue
ULBs	Urban local Bodies

Conceptual Background

Introduction

The catastrophic flood of 2013 of Uttrakhand and recent earthquakes (2015) in various parts of Nepal and foothill of Bihar and Uttar Pradesh have raised question to retrospect the issues of disaster management in India. On the brink of celebrating a decade since the passing of the Disaster management Act 2005, India's disaster management system has seen a significant shift from a relief- driven response to being more proactive , with an emphasis on multi hazards disaster prevention , mitigation and preparedness. The Act paved the way by providing a detailed action plan right from the central government to the district and local level to design and implement disaster management plans.

With increasing frequency and intensity of disaster and numerous death and enormous loss of property have compelled the states as well as civil societies to ponder on such issues to evolve more systematic attention and planned approach to strengthen the entire system, agents and institutions to fight such situation. In this context, there is a greater need for political commitment to keep the momentum going for building resilience since the 2005 enactment. Over the past few years to address mounting losses due to disasters, the Government of India, both at national and also even at the states level, has brought t a paradigm shift in its approach to disaster management. The High Powered Committee (HPC) work, the National Disaster Management Act and the National Policy on Disaster Management are some landmark initiatives that have driven a reactive relief based approach to a more proactive disaster risk reduction approach; and the agenda has been integrated into practicable instruments including the National Five Year Plans and the Finance Commission Reports. The new approach proceeds from the conviction that development cannot be sustainable unless disaster mitigation is built into the development process. Another cornerstone of the approach is that mitigation has to be multi-disciplinary, spanning across all sectors of development. The new policy also emanates from the belief that investments in mitigation are much more cost effective than expenditure on relief and rehabilitation.

Progress has also been aligned with the international perspective and the evolution of disaster risk reduction (DRR) frameworks and initiatives with special reference to IDNDR, ISDR, Yokohama Strategy and the Hyogo Framework for Action (HFA). Critical inter-linkages across DRR and Climate Change Adaptation (CCA) concerns and issues are another emerging concern that is being addressed at various levels. Hence, the evolving understanding of the subject of disaster management, lessons learnt from the existing plans and the mandate provided by National Disaster Management Act, 2005 to DDMA's to develop comprehensive disaster management plan provides an excellent opportunity to develop some model plans and a standard process for development of district disaster management plans for replication in different parts of the country.

The country requires a long -term development –oriented approach to disaster risk management. Until recently, the focus was on post disaster relief and rehabilitation.

However, the present philosophy lays more emphasis on mitigation and vulnerability reduction and it has become absolutely necessary to strike a balance between mitigation and managing disaster

The current study is the part of this initiative to prepare a disaster management plan at district level with an objective to provide long term development –oriented approach to disaster risk management.

Purpose and scope of the Study

The key purpose of the study is to meet BSDMA expectations by delivering highest quality outputs i.e. District Disaster Management Plan (DDMP) of Madhepura district within six months starting from July 2015. In this work order the Gorakhpur environmental Action group (GEAG) will produce good quality DDMPs that enable disaster resilient development in the district and promote the continuity of services essential for life and dignity of citizens during disaster and non disaster situations. While developing the district disaster management plan following points to be taken into account:

1. Assessment of the geography, social, political and economic context of the district from disaster management lens
2. Assessment of current development problems and it's linkage with past disasters and hazards in the district.
3. Identification of vulnerable areas in the district to different natural and man-made hazards
4. Involvement of lower administrative units such as – Block ,Panchayat , village level stakeholders in comprehending the underlying risks and develop action plan for risk reduction
5. Enhance awareness among different stakeholders by their direct engagement with development of disaster management plan and establishing a process for regular up gradation of it in future.
6. Introduction of innovation and good practice in institutional mechanism at district level to make it an integrated and coordinated plan at all levels.
7. Development of action plans for different stakeholders (Communities, Govt. Line departments and other stakeholder groups) for disaster risk reduction, emergency response and recovery actions.
8. Recommendation of mitigation measures to be adopted by different stakeholders for the risks identified in the district.
9. Development of standardized mechanism for mainstreaming the disaster risk reduction and climate change adaption in the departmental developmental plan

Thus, the developed District Disaster Management Plan (DDMP) will be the tool/guide for different stakeholders to respond in pre, during and post disaster phase with a sense to minimize human, property and environmental loss.

Approach and Methodology

The broad approach would be one of participatory research, action learning and collaborative strategy development. This would entail widespread stakeholder consultation; participatory needs assessments involving communities and other stakeholders; and the development of innovative tools and techniques to mainstream DRR and CCA, integrate climate projection in DRR and departmental plan (DPs), gender concern in disaster and design need based DDMP.

GEAG has a strong background in disaster management activities at local level. From the past experiences of projects related with disaster management at district and sub district level, it is quite explicit that there exist wide vertical (national, state and district) and horizontal (intra departments at district and sub district level) gaps in coordination and implementation of programme due to lack of capacity, both financial and human resources and skills of the relevant departments or organization especially on assessing and managing risks. Consequently, agencies such as the District Disaster Management Authority (DDMA) seldom have a forward looking approach in their planning and implementation activities. Furthermore, an array of development departments (such as water supply, health, agriculture, PWD and urban development) undertake activities that influence climate and disaster resilience , however, very little effective horizontal coordination exists between departments especially on integrating development and DRR into their sectoral/ departmental programmes. Such gaps undermine the ability to translate concepts and DRR policies into action on the ground and have potential to create a mal-adapted scenario.

The strategy to be adopted in each district towards developing DDMP will be as follows:

1. Formation of core team composed of a department /(s) or office/(s) that are generally involve in most, if not in all, responses. The purpose of the core team formation is to provide support in inviting representative from civil societies for consultation on specific components of the plan

2. Interaction with core team including DDMA to introduce the concepts and approaches in developing the DDMP of the district and finalizing the tools and methodology in the specific context of the district needs

3. Secondary data collection on district profile, administrative set up, existing DM plan, disaster losses and damages, and climate trends. Review of exisiting DDMP and finding out the gaps

4. Proper Hazard, Vulnerability and Capacity Risk Assessment (HVCRA) is to be conducted. This will include the analysis of the matrix of past disaster on magnitude, frequency, duration and best practices. This will also include GIS mapping to assess the spatial and temporal pattern of hazards and risks

5. Iterative shared learning dialogue (SLDs) with different line departments will be organized to comprehend their institutional arrangement and assess their capacities and weaknesses (at system, agents and institution level) in implementing the DM plan. This will further lead to design the content and structure of the District Disaster Management Plan (DDMP). The shared learning dialogues will include following steps of information milestones in drafting the DDMP.

A. Understanding systemic factors within the district that contribute to resilience or increase vulnerability:

In this process interactive meetings with core implementing and planning departments will be done to collect following sectoral information:

1. Comprehensive planning: This would involve the mapping of all possible stakeholders at all levels in the state and district to discuss and comprehend all possible hazards, vulnerabilities and all phases of disaster i.e Mitigation, Preparedness, response, and recovery

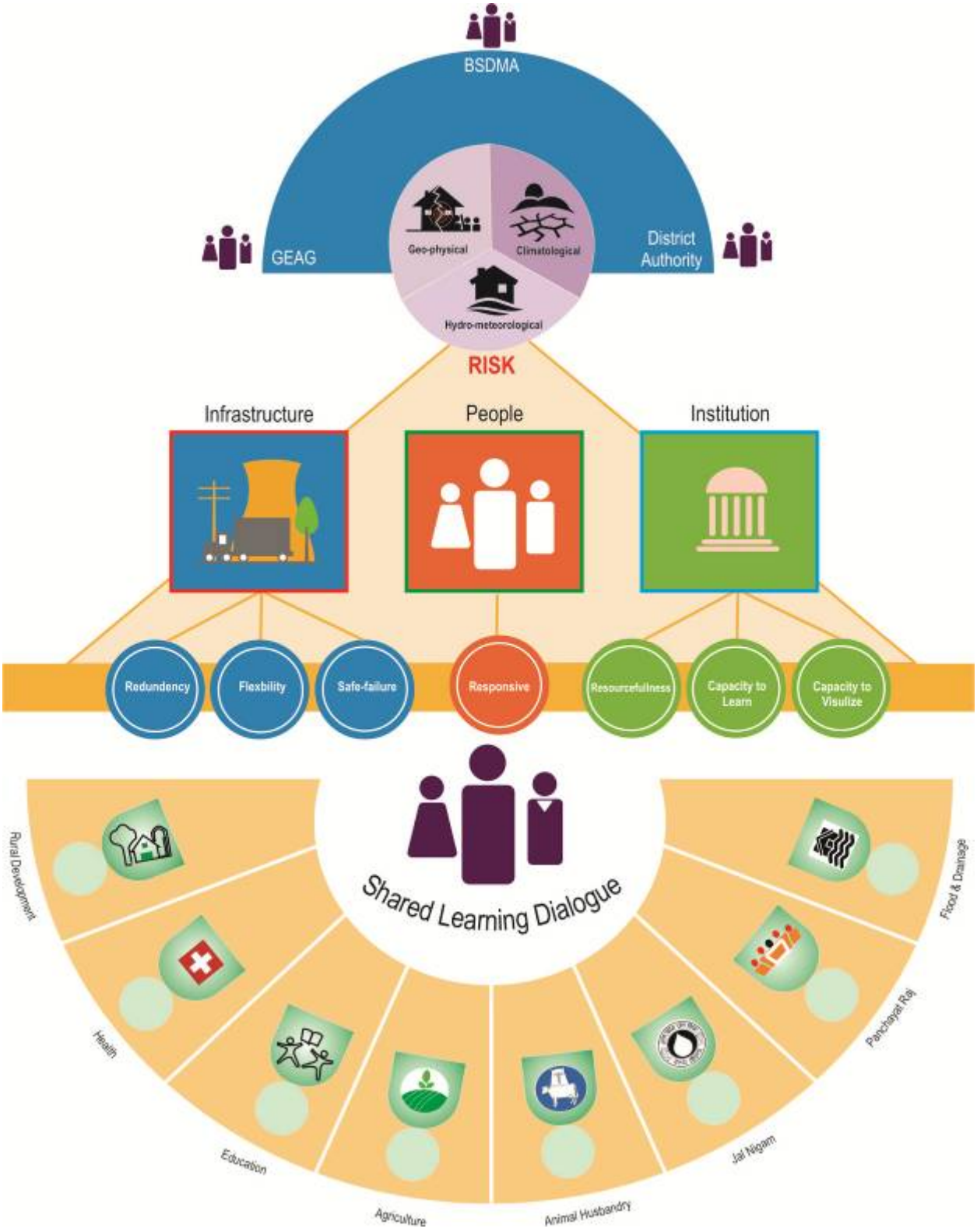
2. Assessment of Essential service Function (ESF): This is basically the capacities of stakeholder at all level which includes the considerations of planning, reducing disaster risk, continuity and maintenance of essential services functions at different level

3. Exposure and fragility of key system considering the recent signature events. Indicative examples of such data/ information that would be collected including:

    a. Frequency of failure of a system under stress periods. For example whether a fragile power system has regular backups which determines the current failure rates; number of breaches in roads and embankments; areas on embankments that are designated as weak; failures in communication systems (eg number of cell-towers that went down);

    b. Failures across systems i.e. where failures in power system affected communication system, and failures in communication affected transport.

Approach


BSDMA
GEAG
District Authority
Geo-physical
Climatological
Hydro-meteorological
RISK
Infrastructure
People
Institution
Redundency
Flexibility
Safe-failure
Responsive
Resourcefulness
Capacity to Learn
Capacity to Visulize
Shared Learning Dialogue
Rural Development
Health
Education
Agriculture
Animal Husbandry
Jal Nigam
Panchayat Raj
Flood & Drainage

4. Overlaying the climate projections for the district on current vulnerability to map out future vulnerabilities and risks. Specifically the climate projection will be interpreted and translated in a way that is more meaningful for departments to understand and comprehend the current and future risks. In addition, tools of the systematic Resilience Planning will be utilized. This involves systematic evaluation of the impacts of disaster on key systems and relates them to current indicators of fragility, such as existing failure rates. The core point of such exercise is to compare disaster effects to the causes of failure in existing system and probing into reasons for them.

B. Understanding vertical and horizontal gaps

For understanding barriers in bridging the horizontal and vertical gaps from district to national levels an in-depth institutional analysis (on prevention, mitigation and preparedness measures) will be undertaken using a shared learning dialogue process and instruments such as interactive learning sessions with key government organizations. This includes:

5. Analytical review of programmes and policies of core departments like fire and police chiefs, the emergency Manager and the planner, agriculture, water supply, health, PWD, housing, flood control etc vis-à-vis different hazard and disasters like flood, drought , cyclone, and earth quake

6. Analytical review of codes, legal and regulatory frameworks of various departments such as housing vis-à-vis disasters

7. Assessment of capacity building and training needs of stakeholders (including community) for successful and sustainable plan

8. Integration and Coordination of all stakeholder and Essential Services Functions: This includes institutional mechanism, tools and good practices which will be comprehended for integration and coordination of all stakeholders and essential service functions at different levels.

9. Assessment of gender concern in plan’s preparation

10. Review of worst case scenario, contingency planning and field coordination mechanism : In this segment comprehensive discussion will be made to understand the contingency planning of the departments for worst case scenarios (past disasters or assumed

situations), periodic validation and inter, intra and extra agency coordination testing as per that

11. Using a Causal-loop-diagramming tool to understand relationship between sectoral department programmes and reduction/ exacerbation of disaster vulnerability. This tool has been used by GEAG in the ACCCRN programme and will be adapted to formulate the DDMPs.

12. Follow up actions for the stakeholder groups, ESFs and local self governments at each level to develop their own comprehensive plans will be assessed

13. Sharing of findings and sectoral disaster management plans with each of the identified department for getting their feedback and assessing the financial aspects. Annual work and time plan of the department will be developed in different phases (preparedness, event response, recovery, rehabilitation) of disaster management.
14. Sharing of the departmental plans and coordination plan with DDMA.

Assumptions and Risk

GEAG will collect primary and secondary data with the facilitation of BSDMA and district administration, to the extent feasible, through their respective Nodal Officers designated at different levels. District administration will also facilitate through their nodal officers, meetings for In-depth interviews with senior officers, and respective DM/ DC/ CEO of DDMAs etc.

Risks

1. Part of the survey may coincide with adverse conditions created by the weather, and the long periods of festivities during the intervention period, which may interfere with smooth implementation of project activities.

2. As the election has declared in the state, which also may also affect the availability of the officer during the intervention period.

3. Lack of proper documentation or response from the stakeholders may hamper data collection process.

4. Since a number of planned activities are sequentially linked, any delay on part of the client in reviewing and approving the deliverables and releasing payments will lead to corresponding overrun in project time and cost. This may be evaluated and addressed at the time of review.

Survey Schedule Risks:

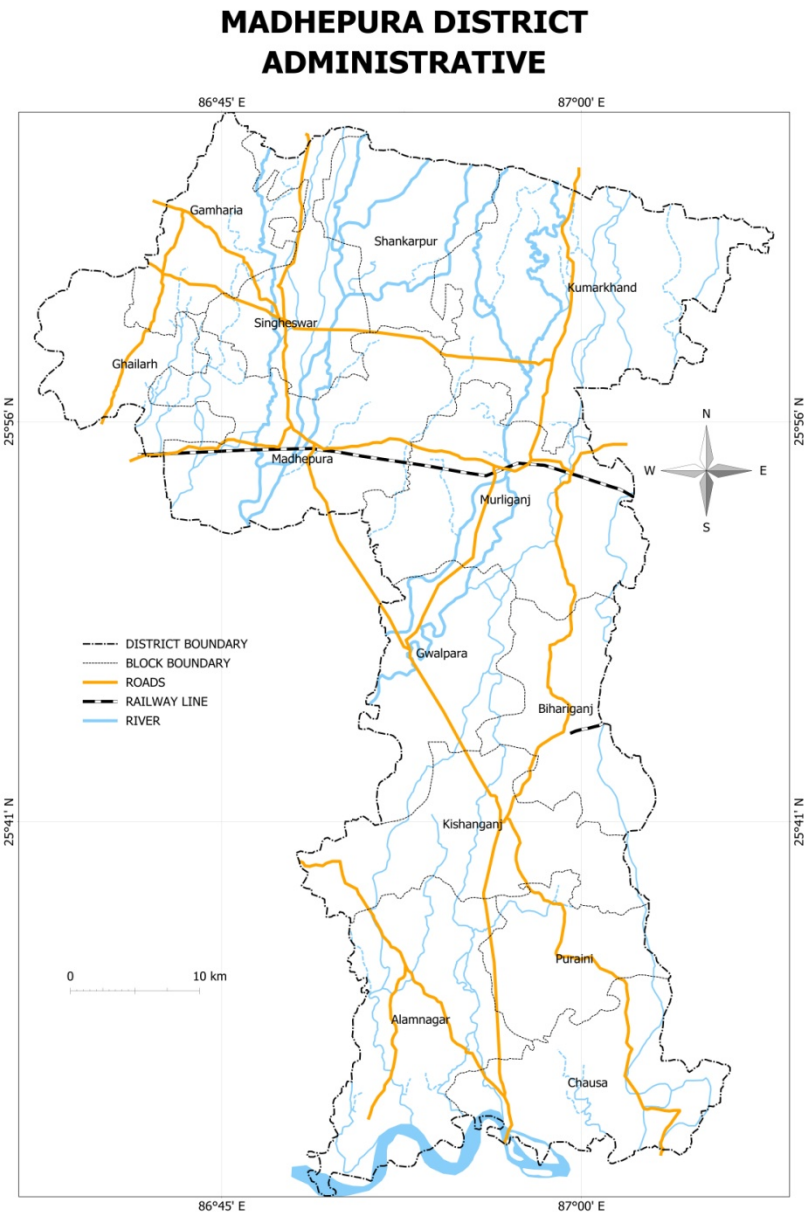
The field visits will commence from the date of approval of the Inception Report. Initially it was envisaged to complete it in six months. The reasons it cannot be completed in six months are:

- The period of field visits and stakeholder consultation may coincide with main holidays such as Dussehra, Diwali, Christmas and New Year. The concerned State Government Officers are not likely to be available during these main festivals
- Adverse weather conditions may also delay the conduct of field surveys.

- The more time taken for completion of Field Visits will result in some slippage in completion of deliverable

Despite the slippage in time line, due to situations beyond the control of the Study Team, intensive efforts will be made to complete the entire Study within the stipulated six months or, if it is not feasible, to reduce the slippage period to the barest minimum.

District's profile and Formative Research

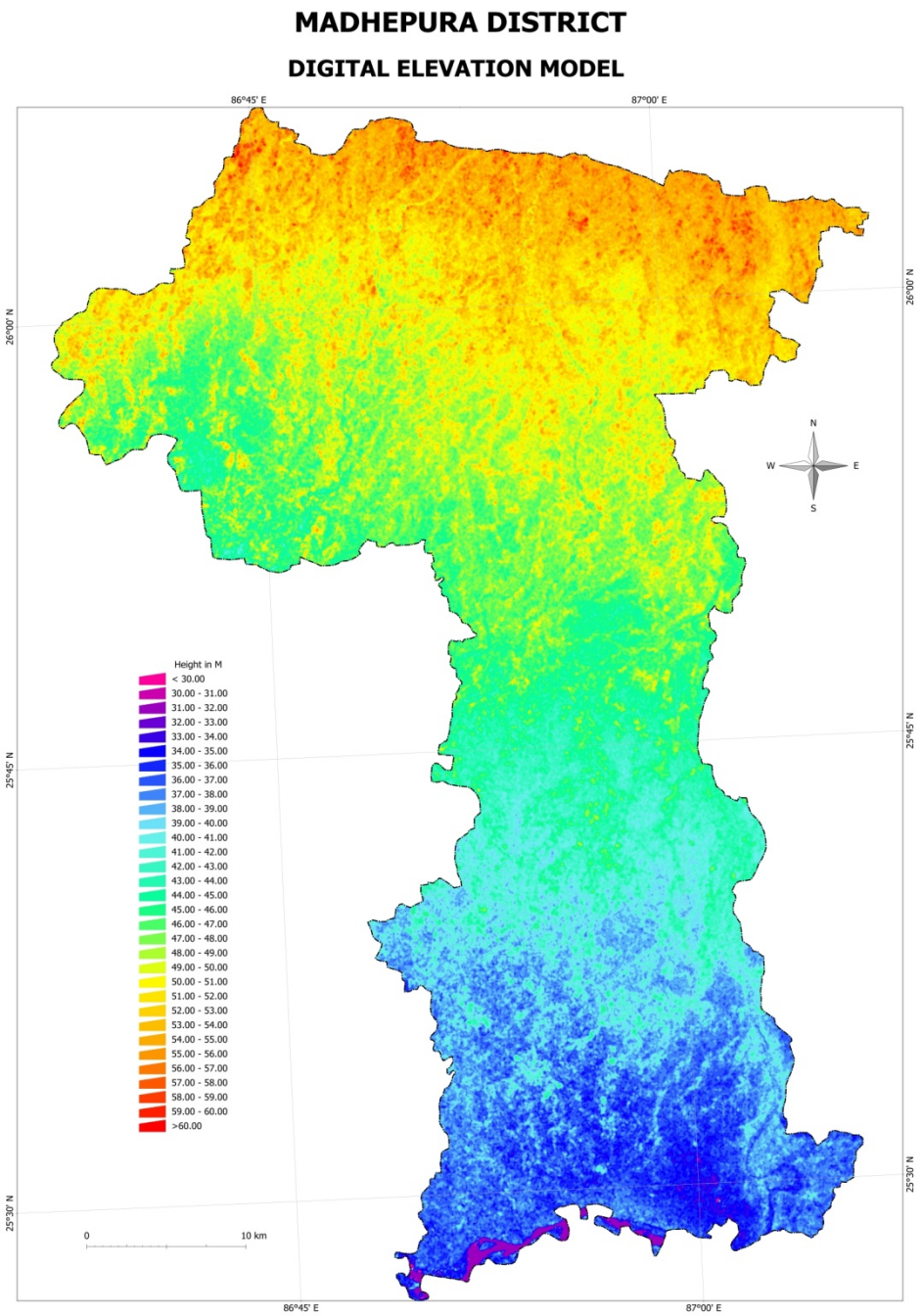


The district Madhepura was a part of Maurya Dynasty, this fact is asserted by the Mauryan pillar at Uda-kishunganj. The history of Madhepura is traced back to the reign of Kushan Dynasty of Ancient India. The "Bhant Community" living in Basantpur and Raibhir village under Shankarpur block are the descendents of the Kushan Dynasty. In the District Singheswar Sathan has the religious significance since ancient time as this land was the meditation place of the great Rishi,Shringi. Hence this place is considered to be the most pious for the Hindus.

The Madhepura district now consists of two Subdivisions : 1. Madhepura and 2. Udakishunganj. The district consists of 13 development blocks. The present Madhepura district had already got the status of subdivision on 09/05/1845 in which there were seven blocks. Saharsa district today was then the revenue circle of Madhepura at that time. When Saharsa became a district on 01/04/1954, Madhepura became its subdivision. Madhepura subdivision which had seven blocks at that time,was given the status of a district on 09/05/1981. On 21/05/83 Udakishunganj Block was upgraded and made a subdivision of Madhepura district in the name of Uda-kishunganj. Besides seven old blocks, four new blocks came in to existence in the year 1994. They were Gwalpara,Puraini, Bihariganj and Shankarpur. First three blocks come under udakishunganj subdivision and last one is under Madhepura subdivision. Later on two more new blocks were constituted in the name of Ghailar and Gamaharia, under Madhepura subdivision in 1999. The detail development indicators of the district is given in table 1

Physical setting

The district occupies an area of 1788 km². Madhepura district is surrounded by Araria and Supaul district in the north, Khagaria and Bhagalpur district in the south, Purnia district in the east and Saharsa district in the West. It is situated in the Plains of River Kosi and located in the Northeastern part of Bihar at the latitude between 25°. 34 to 26°.07' and longitude between 86° .19' to 87°.07'.



In general the district exhibits a low land with few gentle undulations. The drainage system of the district is controlled by the river kosi and its tributaries. The climate of Madhepura is warm and temperate. In winter there is much less rainfall than in summer. The average annual temperature in Madhepura is 25ºc. The average annual rainfall is 1230 mm. The driest month is considered as December. Most precipitation falls in July-August with an average of 294mm. The warmest month of the year is May with an average temperature of 30ºC. The lowest temperature is observed in January with average of 16.5ºC.

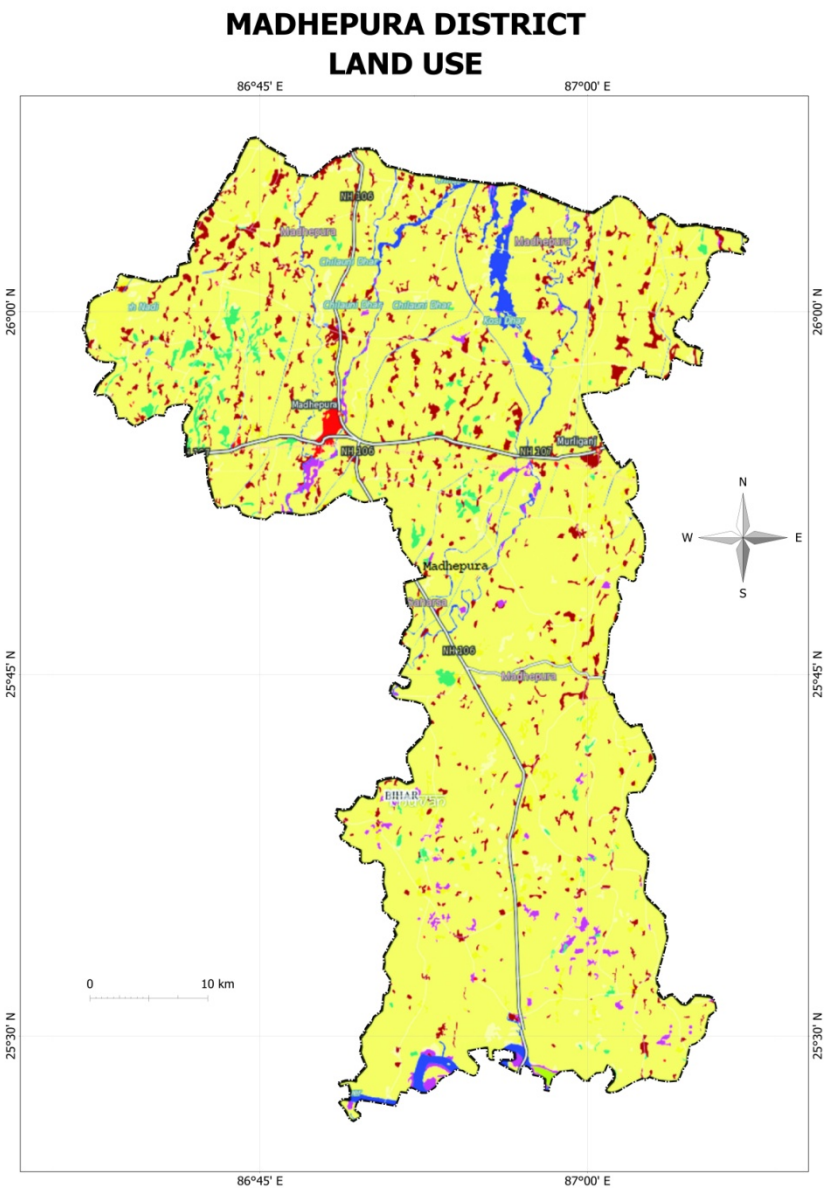
Table-1 District Profile and Development Indicators: Madhepura

Population	
Total Population	2001762
Total Area in sq km	1788
Density /sq km	1116
Rural Population (in %)	95.58 %
Urban Population (in %)	4.42 %
Literacy Rate	61.77
SC Population (in %)	17.30
ST Population (in %)	0.63
Sex Ratio	911
Population Growth (2001 - 2011)	30.65
Population Density (person per sq km)	1120
Number of Household	401001
Household Size	5.0
Per Capita Income	Rs.3346
Total workers (number)	778000
Main workers (number)	444000
Marginal workers (number)	334000
Non - workers (number)	103000
Total workers to total population (%)	38.84
Cultivators to total workers (%)	30.60
Agriculture laborers to total workers (%)	53.86
Workers in HH industries to total workers (%)	1.85
Main workers to total population (%)	22.15
Non workers to total population (%)	13.70
Number of villages	489
Number of panchayats	170
Number of blocks	13
Ranking of district according to CDI	27
Pupil Teacher Ratio (Primary School)	67.58
Number of Health Sub Centre	190
Number of Additional Primary Health Centre	28
Number of Primary Health Centre	13
Number of Sub-divisional hospital	01
Percentage of children having complete immunization	38.6
Percentage of women having safe delivery	20.0
Normal Rain Fall	1230 mm
Total livestock per sq km	462
Density of poultry per sq km	81

Source : Bihar through figures- 2013, Published by Directorate of economic and statistic, Patna, Bihar

Demography

As per 2011 census the total population of Madhepura is 2001762 . The district has a population density of 1120 inhabitants per square kilometer . Its population growth rate over the decade 2001-2011 was 30.65 %. It has a sex ratio of 914:1000 and a literacy rate of 53.78 %. As per the population Madhepura is largest and Gamaharia is smallest block. The district situated in the plains of river Koshi, since time immemorial, it has seen several ups and downs perpetuated by river in the form of flood, famine and drought. The minor rivers like Duas touching the town Madhepura from three sites, Parwane, Baiwah, Sursar, Harun, Loran, Tilabe are facing threat for narrowing and now dryness of the river bed posing threat of regional ecological imbalance. Madhepura district is situated between 37-50 meter above the sea. The soil of district is light to medium text turned, slightly acidic, sandy and slity loan.



Land use

The economy of the district mainly depends upon agriculture. It has seen several ups and downs perpetuated by by Kosi in the form of flood, famine and drought. Flood and drought has remained the regular feature of the area. The total areas of land for cultivation are 1515.23 sq km. Besides these, there is 26.84 sq km land remain as fallow land, 22.79 sq km of land is scrub land covered with sand. The built-up area in rural and urban areas is 110.51 and 6.98 sq km respectively. The detail land use pattern of Madhepura is given in table 2

Table 2 Category wise distribution of land use / land cover in Madhepura

Category 1	Category 2	Area in km^2
Agriculture	Crop land	1515.23
	Fallow land	26.84
	Plantation	34.69
Barren/ waste land	Scrub land	22.79
Built-up area	Rural	110.51
	Urban	6.98
Grass/ grazing	Grass/ grazing	1.29
Wet Land	Inland wetland	28.66
	River / stream	44.39
	Water bodies	0.63

Source: BHUVAN , ISRO , Hyderabad

Multi hazard profile

The District Madhepura is considered as one of the most disaster prone district of Bihar. Different types of natural disasters like floods, droughts, earthquakes, cyclones, landslides, and volcanoes, etc. strike according to the vulnerability of the area. Among all the natural disasters that district faces, river floods are the most frequent and often devastating. Though, recent earthquake has also affected the Madhepura . According to Vulnerability Atlas of India, the areas under different hazards are illustrated in table 3.

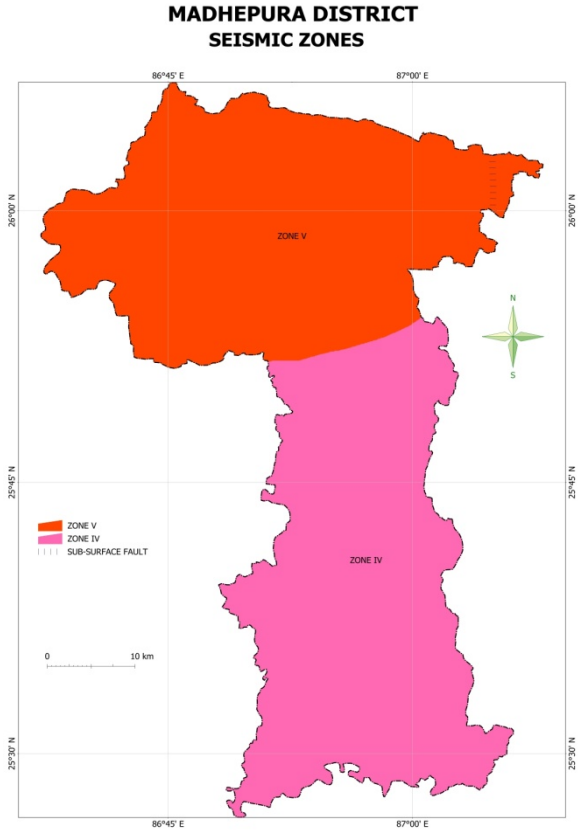
Table. 3 Distribution of Houses by Predominant Materials of Roof and Wall and Level of Damage Risk
MADHEPURA DISTRICT

Wall/ roof		Census Houses		Level of risk under								Flood proneness in %
		No of Houses	%	EQ zone				Wind velocity m/s				
				V	IV	III	II	55-50	47	46-39		
				Area in %				Area in %				
WAll				53.2	46.8				100			25.7
A1 Mud and unburnt brick wall	R	23497	5.86									
	U	1117	0.28									
	T	24614	6.13	H	H				H			VH
A2 -Stone wall	R	2514	0.63									
	U	360	0.09									
	T	2874	0.72	H	H				M			VH
Total category A		27488	6.85									
B Burnt brick wall	R	112210	27.98									
	U	8531	2.12									
Total category B		120741	30.11	H	M				M			H/M

C1 Concrete wall	R	1016	0.25									
	U	98	0.02									
	T	1114	0.27	M	M				L			L/VL
C2 wood wall	R	485	0.12									
	U	37	0.01									
	T			M	L				H			H
Total C		1636	0.41									
X –other category	R	244070	60.86									
	U	7066	1.76									
Total category X	T	251136	62.63	M	L				H			VH
Total Buildings		401001										
Roof												
R1- Light weight sloping roof	R	274504	68.45									
	U	7402	1.84									
	T	281906		M	M				H			VH
R2- Heavy weight sloping roof	R	59912	14.94									
	U	3979	0.99									
	T	63891		H	M				M			H
R3 – Flat Roof	R	49376	12.31									
	U	5828	1.45									
	T	55204		Damage risk as per that for the wall supporting it								
Total Buildings		401001										

Source: Computed on basis of census data , 2011 and Vulnerability Atlas of India , revised version 2006, Published by BMTPC, India

The district ,lie in the Seismic Zone V and IV of Seismic Zoning Map of India, which is referred to as very high damage risk zone. The present classification of seismic Zones in Bihar is in reality the outcome of the 1934 Bihar-Nepal Earthquake. Therefore, the repeat occurrence of similar intensities in a future large magnitude earthquake of the same size as in 1934 earthquake should be considered probable and the damage levels in the district that could occur in the present building types will be worked out in a realistic manner.



As it is mentioned above that the district is severely affected by the flood. The data over hydro meteorological hazards like flood and extreme rainfall events during last 100 years shows a considerable change in the intensity and frequency. As per statistics on flood damages, it is seen that on an average 0.676 lakh hectares of area is affected annually. The 2008 Floods was the major flood in the history of Madhepura. It had affected the lives of 14.02 lakh people and 2.01 lakh livestock. One lakh 30 thousand houses were damaged fully or partially by floods alone. The impact and damages by flood in different time period is mentioned in table

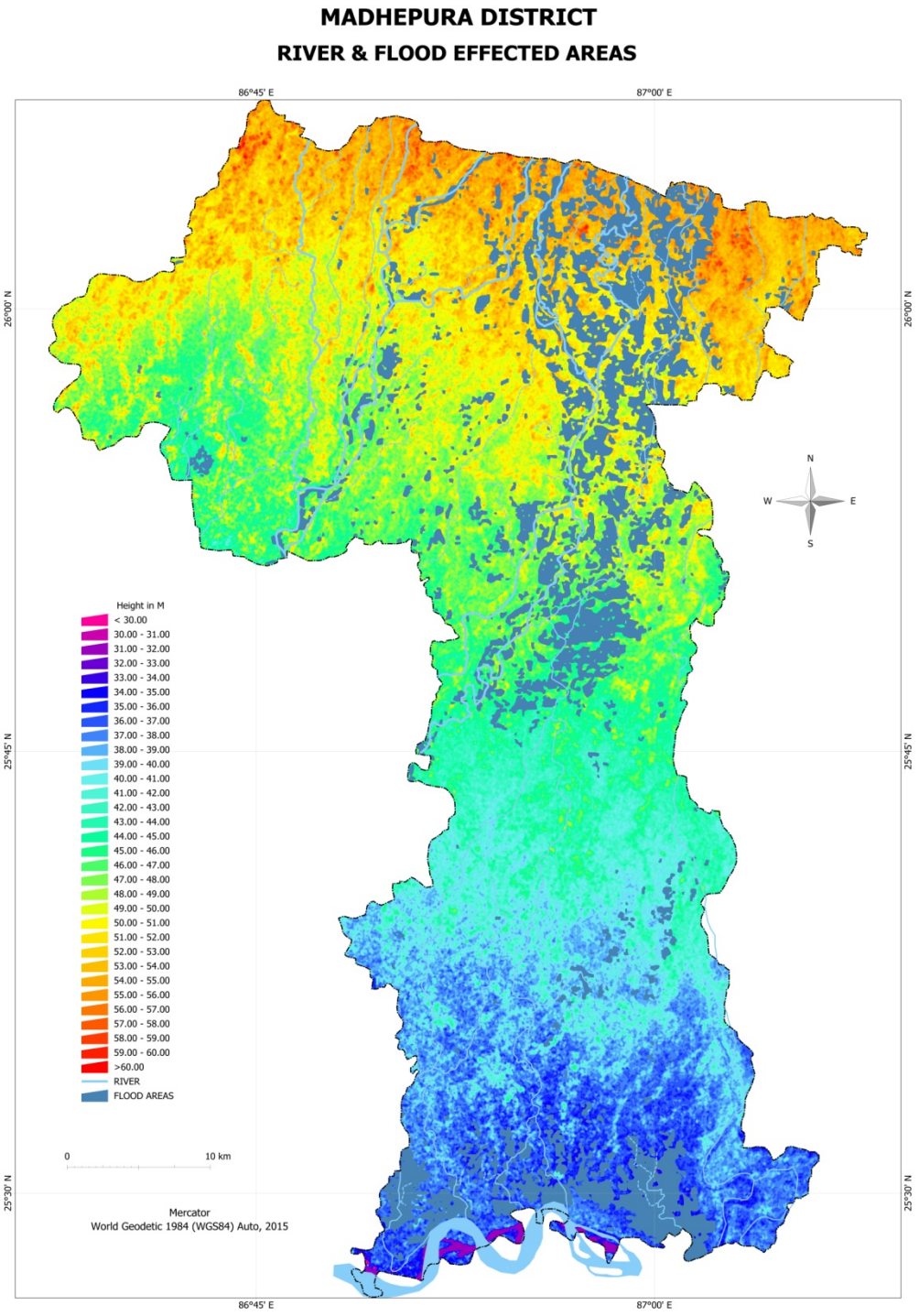


Table 4: Impact and damages by flood in different time period

	2005	2006	2007	2008	2009	2010	2011	2012	2013
No of Affected blocks	-	1	3	11	-	3	5	-	-
No of affected Panchayats	-	2	24	140	-	7	24	-	-
Fully	-	0	0	110	-	0	11	-	-
Partially	-	2	24	30	-	7	13	-	-
Population affected (In lakh)	-	-	.70	14.02	-	-	1.05	-	-
Livestock affected (In lakh)	-	-	-	2.01	-	-	.11	-	-
Area affected (in lakh Ha)	-	.00	.22	2.93	-	.00	.23	-	-
House damages	-		2100	129460	-	25	532	-	-

Source: BSDMA, Bihar

Recently large part of the district was also ravaged by high velocity cyclonic storm. The 150-200 km/hour cyclonic storm hit the district. Apart from loss of human lives, standing crops in thousands of acres was badly damaged. Hundreds of trees and houses fell and more than thousand people, including women and children, were affected. The exact number of deaths is yet to be ascertained.

Literature review and data collection

The literature review will be the key source of secondary data input, which will be synergized with the primary data collected from the field. The questionnaires/ checklist for the shared learning dialogue (SLD) will be based on inputs taken out from literature review. Both processes – literature review and the design of questionnaires/checklist format have been initiated and as per the time schedule will be finalized by the time approval of Inception Report is received. The specific documents to be reviewed have been identified in each section of the Inception Report. As the study proceeds further, additional documents, on a need based basis, will be accessed through web search/ collection from different stakeholders. This includes BSDMA, District Governments, DDMAs and the concerned Departments of DM, Rural Development, Health, Education, PRIs and ULBs for additional inputs, which will also feed into the gaps and needs analysis.

In addition to the stakeholders identified Institutions / reports of those sectors which are not directly dealing but directly responding to disaster situation, will also be referred.

Field Visits

The field visits will be undertaken to obtain primary data from the institutions at district and community levels and to interact with communities at various levels. The visits will

help the team to map the DM and sectoral institutions, carry out interviews with the nodal officers and assess the infrastructure and available with institutions. The information collected would feed into the gaps and needs analysis.

During field visits at community level, preferably the most risk prone Gram Panchayats and wards/ urban agglomerations will be covered in consultation with district authority. Mohallas (or ward) to be picked up with support from Municipality, and Village in a Gram Panchayat, if more than one, to be picked up, after consulting the concerned district authorities.

Sampling

The field and community consultation will be conducted in two of the most vulnerable blocks in the district. A sample of two GPs in each block and one urban centre in the district will be taken. This would Involve 4 GPs and one urban areas in the intervention area. The criteria for selection of the panchayats and ULBs will be:

- Panchayats/ ULBs that are prone to multiple hazard and have significant disaster in the past
- Geographical Location of the Panchayats/ULBs
- Highly Vulnerable Panchayats/ULBs of the district in term of BPL and socially disadvantage population

DDMP Preparing plan and tools

The framework of work plan and the time for carrying out the study has been developed by the GEAG which involved mapping of key departments, analysis of vulnerabilities under different Geo-hydrological, Climatological and Geo-physical conditions, institutional arrangements and current planning process. To meet out the objectives, specific set of tasks and tools are developed and will be adopted during the process of the study. Based on the objectives, the entire study has broadly divided into four Phases .

Phase 1: Inception Phase

Phase 2: 1st Round of shared learning dialogue

- Interaction with key stakeholders and data collection

Phase 3: 2nd Round of shared learning dialogue

- Hazard, vulnerability , Risk and capacity assessment

Phase 4: 3rd Round of shared learning dialogue

- Sectoral workshop and need assessment for disaster management

Phase 5: Documentation and sharing

A. Inception Phase :

Under this component following task has been undertaken

1. Formulation of Research team
2. Literature review on disaster management like Disaster Management Act, 2005 and various report of disaster related with Bihar
3. Review of existing Disaster Management plan of the intervention district
4. Secondary data related with the concern district on disaster and, demographic profile
5. Internal meeting of research team on approach and methodology for DDMP development
6. Developed detail Work plan
7. Correspondence with district administration to update the initiative and visit of research team in the district
8. Interaction with District Magistrate, and nodal authorities related with Disaster management in the district
9. Facilitated district administration to set up either a core group or nominate a nodal person
10. Participated in inception workshop at Patna and shared the approach and methodologies to develop the DDMP
11. Feedback of BSDMA received and revised the inception report as per their suggestions
12. Submission of revised Inception Report

Recently the research team visited the district (July, 2015) and shared the work plan with the district administration. The purpose of the visit was to meet district magistrate and other officials for initial rapport building, brief the project work plan, assess the current scenario of data and information availability at district level and tentatively finalize the dates of field visit as well as departmental dialogues. The overall output of the visit was:

1. A work plan and methodology of DDMP development was shared with district administration
2. Some useful insights of the officials on DDMP process and content received
3. Procurement of some reports from the departments
4. The then district magistrate suggested the research team to visit the district first to get the sense of the district's situation.

B. Phase 2: 1st Round of shared learning dialogue

As it is mentioned in the methodology section that the whole process of Disaster Management plan development would be collaborative/ participatory in nature, hence will involve widespread stakeholder consultation to identify their needs. In the entire process of DDMP development, the District Disaster Management Authority (DDMA) will play key role in the district. In the chairmanship of District Collector, DDMA is supposed facilitate the process of revisiting existing DDMP, preparing plan of revising/redevelopment, finalizing methodology with framework, establishing monitoring & evaluation mechanism and coordination with concerned government department. However, there are several existing factors which need to be relooked and revived at district so that DDMA can start taking required actions on the planning. In this phase following task will be performed:

1. At the outset, to steer the whole process, a 'Core Team' of key departments would be constituted with the consultation of district administration under the chairmanship of district Magistrate. While forming the core team it would be good to involve the key agencies/ departments such as DDMA, Fire and Police Chiefs, the Emergency Manager and the Planner (DDMO/DPO), Civil Surgeon and the Superintending Engineer / Executive Engineer (Public Works), which are generally involved in response activities during the time of odds. Other agencies / members of community may also be contacted as per the need of information. This core team will help, in the entire process plan development, to invite representatives for consultation on specific components of the plan.

2. Finalisation of operational strategies of plan development by the core team
3. Collection of district profile data on social, economic, political and critical

infrastructure etc

4. Identification of vulnerable areas and visit to these places
5. Collection of past and future climate data
6. Desk review of the existing DM plan of the intervention district

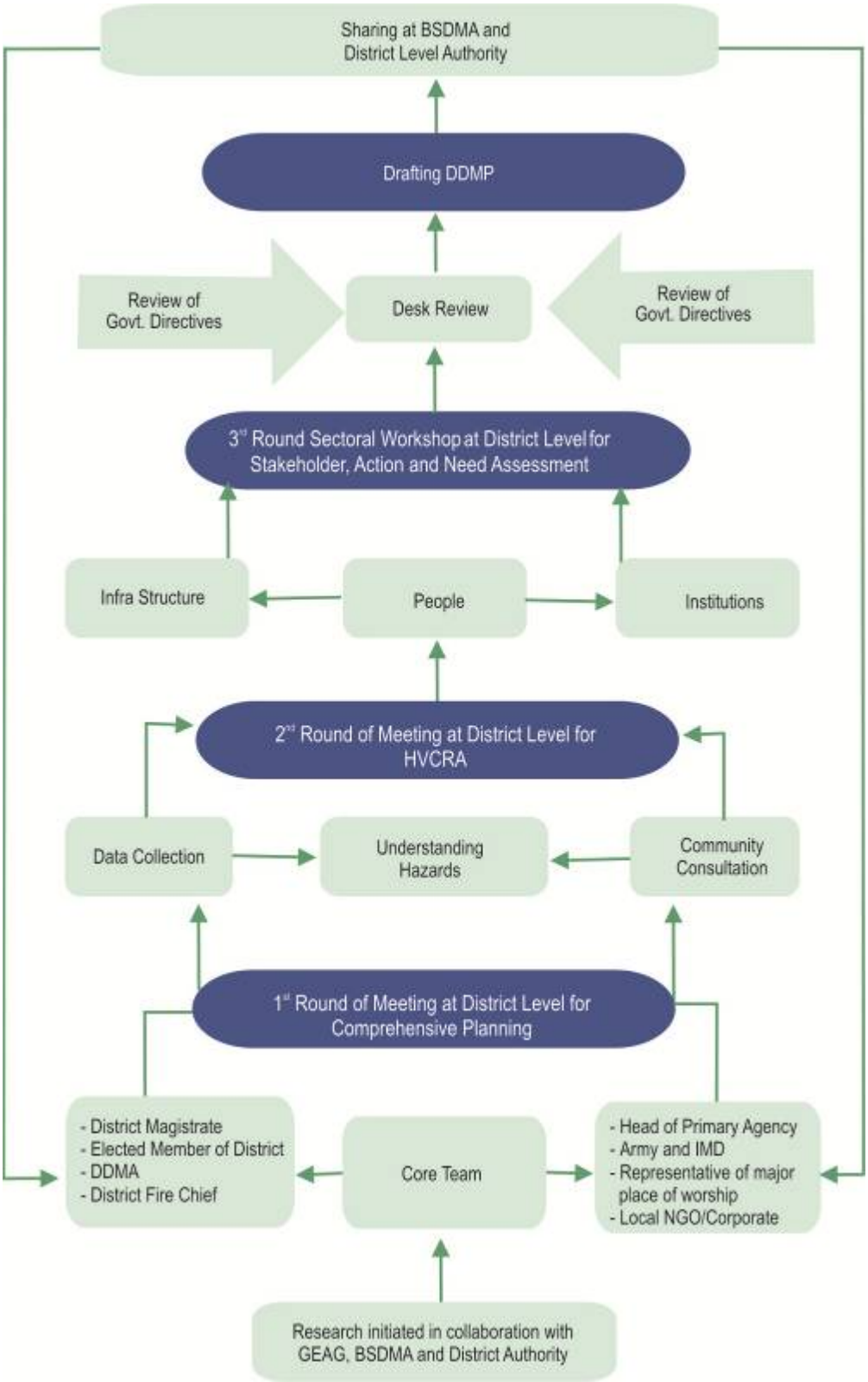
C. Phase 3: 2nd Round of Shared Learning Dialogue (Hazard, Vulnerability, Capacity and Risk Assessment)

In this section nature of hazards, vulnerability, risk and capacity of the district to be visualised based on district profile and exposure to hazards. There are some subjective methods which will be used for identification of hazards and vulnerabilities and regional priority for their mitigation. Following steps will be adopted to analyse the HVCR of the district:

1. Collection of hazard information from local administration
2. Development of hazard matrix of past disasters on magnitude, frequency, and duration scale
3. Seasonality of hazards
4. Development of matrix of hazards and its impact on system (assets and infrastructures), agents (population) and institution (rules and response)
5. Based on severity scale[1] - catastrophic (> 50%), critical (25-50%), limited(10-25%) and negligible (< 10 %) scoring (1-5 scale, where 1 would be least and 5 would be highest) will assigned
6. Based on the review and analysis of hazards and exposure of system, agents and institutions to risk, the most important disaster risk with reference to the lowest administrative unit in the district will be identified.
7. List of critical infrastructure, key resources, and essential facilities will be collected to determine the capacity to respond the risk
8. Probable damage scenario of earthquake at block level will be computed based on housing condition of the district.

[1] Percentage of community affected

Task Flow


Sharing at BSDMA and District Level Authority
Drafting DDMP
Review of Govt. Directives
Desk Review
Review of Govt. Directives
3rd Round Sectoral Workshop at District Level for Stakeholder, Action and Need Assessment
Infra Structure
People
Institutions
2nd Round of Meeting at District Level for HVCRA
Data Collection
Understanding Hazards
Community Consultation
1st Round of Meeting at District Level for Comprehensive Planning
- District Magistrate
- Elected Member of District
- DDMA
- District Fire Chief
Core Team
- Head of Primary Agency
- Army and IMD
- Representative of major place of worship
- Local NGO/Corporate
Research initiated in collaboration with GEAG, BSDMA and District Authority

D. Phase 4: 3rd Round of Shared Learning Dialogue
(Sectoral workshop and Need Assessment for Disaster Management)

This is the important component for DDMP development. The DDMP development strategy starts with the interaction of key stakeholders who are actively engaged in planning and implementing the policy. In this phase following key activities will be performed to identify the key stakeholders, their roles and responsibilities, and assess their capacity and needs.

The iterative shared learning dialogue will be conducted to interact with stakeholders to assess their existing DRR, and Mitigation actions, and comprehend the present response, relief, reconstruction, and rehabilitation and recovery measures at Relevance, effective , efficiency and sustainability scale . This subjective method of information collection will also help to understand the underlying factors/ constraints related with institutions responsible to enhance/reduce the vulnerabilities/resilience of district.

1. Comprehensive stakeholders analysis will be done at all level (National, state, District, GP and ULB) to discuss and comprehend the mitigation actions and response measures adopted at all phases of disaster i.e Mitigation, Preparedness, response, and recovery.

2. Listing of preventive and mitigation measures-building codes, flood plain management, storm water management- planned and implemented by the district will be done.

3. Analytical review of programmes and policies of core departments.

4. Assessment of gender concern in plan's preparation.

5. Capacity Building and training needs of stakeholder and institutions will be comprehended and measures to be incorporated in the Plan.

6. Comprehension of institutional mechanism and implementation of plan in different case scenarios, contingency planning and field coordination mechanism will be evaluated.

7. Scope of using developmental programme in DRR will be assessed

8. Assessment format will be developed so that the department can gauge their preparedness level of disaster

9. Design of Short and long term recovery plan will be evolved through damage assessment mechanism.

Operational Strategy

MONITORING AND EVALUATION SYSTEM

To monitor and evaluating the effectiveness of plan and its components a core team composed of a department or office that was likely to be involved in most. The Core team should invite representatives from civil societies for consultation on specific components of the plan. Propose Members of core team are –

- ✓ Superintendent of Police
- ✓ Additional District Magistrate, Finance & Revenue
- ✓ Chief Fire Officer
- ✓ Chief Medical Officer
- ✓ Chief Veterinary Officer
- ✓ Executive Engineer, Public Welfare Department
- ✓ Executive Engineer, Irrigation

The input and support given by core team will be monitored and evaluated by M&E team, which is proposed at three levels:-

Level	Monitoring & Evaluation Team	Assessor	Roles & Responsibilities
01	District Level team	• District Magistrate • Nodal Officer, appointed by DDMA of respective district • Project Coordinator, GEAG	➢ Coordinate with all stakeholders ➢ Organize meetings/ consultation district as well as grass root level ➢ Support in data collection and review ➢ Project management at district level
02	Project Management team	• Representative of BSDMA • Project Director, GEAG • Consultant appointed by GEAG	➢ Monitor Day to Day activity ➢ Provide guidance and support at District Level. ➢ Act as a bridge between BSDMA & DDMA.
03	Steering Team	• Hon'ble VC, BSDMA • Representative of BSDMA. • District Magistrate • Project Director, GEAG	➢ Trouble shooting/ key decision making ➢ Overall guidance ➢ High level support

Research Team

Following list of Personnel will be deployed/engaged for the Project (with their names, qualifications, experience, their jobs' responsibilities, and no. of person days of commitment for each district)

Name	Qualification	Experience	Responsibility
Dr . Shiraz Wajih	Ph.D in Botany	Programme Management. Expert on participatory Planning	Support and overall research guidance in the project
Dr. Bijay Singh	Ph.D in Geography	Researcher	Operational Coordinator
Mr .Gautam Gupta	MBA	Disaster Management Expert	Provide technical advice and support on a range of disaster risk management, climate change and recovery issues
Mr Amit Kumar	Post Graduate in Rural Management	Disaster , CCA- DRR Expert	Provide technical advice and support on a range of disaster risk management, climate change and Disaster Risk reduction issues
Mr . K.C Panday	Post graduate in Meteorology	Climatologist	Climate data analysis and interpretation
Ravi Mishra	MSc in Chemistry	Livelihood and DRR expert	Shared learning dialogue with key stakeholder
Prof. S.S. Verma	Ph D in Geography	Participatory vulnerability assessment and Hazard Analysis.	Provide support in conducting shared learning dialogue with Line departments
Vijay singh	MA in Geography	GIS mapping , data collection	GIS mapping , data collection and analysis

Detail work Plan and time line

S. No	Component	Activities	JULY				AUGUST				SEPTEMBER				OCTOBER				NOVEMBER				DECEMBER			
			I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
1	Inception phase	Internal meeting & Research team finalization																								
		Review of relevant literatures on Disaster Management																								
		Framing tentative operational strategies for field survey and SLDs																								
		Draft inception report																								
		Visit to intervention district to introduce the approach and share the operational strategies with key stakeholders in the district and get their feedback																								
		Finalize inception report																								
		Final submission of Inception report to BSDMA																								
		Presentation of methodology and operational strategy for developing DDMP																								
		Approval of Inception report																								
2	1st Round SLD (Interaction with Key stakeholder,planning and secondary data collection)	Identification of key entities (Govt departments, agencies , PRIs, ULBs, private sector, NGOs ,elected representatives and citizen																								
		Formation of core group and appointment of nodal coordinator																								
		Discussion with core group on operational strategies for the development of plan and deliverables																								
		Documents on Laws & Statutes, Executive Orders / Rules, Regulations, Formal agreement (MoU) – with utility service agencies, telecom service providers, manufacturers of different emergency resources etc																								

		Broad understanding of hazards, vulnerabilities and risk in the district,																										
		Assessment of roles and responsibilities of Vertical(National , State, district) and horizontal (Departments, Agencies, PRIs, ULBs, Private sector, NGOs and citizen) key stakeholders in pre , during and post disaster period																										
		Desk review of disaster management plan of district																										
		Collection of data on district profile (socio, economic , demographic, geographic, critical infrastructure etc)																										
		Collection of historic and future climate data																										
3	2nd Round SLD (Hazard and vulnerability, Capacity and risk Assessment)	Review of literatures																										
		secondary data on past hazards events, its exposure and situational analysis,																										
		First round of In-depth interview/ shared learning dialogue with key implementation departments / agencies in four district																										
		Community consultation for risk and vulnerability assessment in four district																										
		Progress review with BSDMA and district official																										
4	3rd Round SLD (Sectoral workshop and need assessment)	Second Round of shared learning dialogue- (DRR, Mitigation Action, Response and relief measures adopted, Reconstruction rehabilitation and recovery measure adopted and contingency planning and field coordination																										
		Second Round of shared learning dialogue- (DRR, Mitigation Action, Response and relief measures adopted, Reconstruction rehabilitation and recovery measure adopted and contingency planning and field coordination																										
		Desk review existing policies and programme of core departments related																										

		with disaster management																									
		Progress review with BSDMA and district official																									
5	Documentation and sharing	Drafting Hazard, vulnerability and capacity Report																									
		Drafting of district Preparedness Plan and Emergency response plan																									
		Preparing Draft District Disaster Management Plan																									
		Final Consultation with Key Stakeholders to incorporate their suggestions/comments in DDMP before DDMA																									
		Revise the District Disaster Management Plan and submission to DDMA and BSDMA																									

Reporting to BSDMA

Deliverables and Reporting Mechanism

Reporting of the planning and related ongoing activities will be done in periodic basis. GEAG research team will report to the district administration by time to time and the representative of BSDMA on monthly basis. GEAG team will be in touch with District Nodal person on day to day basis for timely and smooth implementation of the activities. However following will be the reporting mechanism-

a. Inception report will be submitted within one month of the award of the work in hardcopy and a softcopy. Apart this, presentation of the inception report will be made in the workshop organized by the BSDMA. BSDMA will send its comments within 15 days the presentation. The revised final Action Plan will then be commenced immediately thereafter.

b. One deployed person of GEAG will work closely with DDMA and report to nodal officer/DC along with reporting to GEAG

c. The monthly accomplishment reports, in the format prescribed by BSDMA, will be shared with BSDMA representatives and district authorities.

d. Brief field visit reports/meetings reports will also be shared with nodal officer/DC

e. Draft report of DDMP will be submitted after 5 months of the award of the work order of the assignment in hardcopy and a softcopy through email.

f. Final Report after (incorporating the comments/feedback from BSDMA) will be submitted within 6 months of the award of the work order of the assignment in two hardcopies and two softcopies in CDs.

g. 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, in two volumes, as below –

i. Vol. I – Disaster Risk Reduction Plan
ii. Vol. II – District Response Plan

h. 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.

In case BSDMA requires additional hard copies of the finally approved report, the GEAG will provide at the rates approved by Government of Bihar.

*****