



Climate Related Health Adaptation and Resilience In India: Northern Region



A Policy Paper Developed under the HER-CAP Project



Resilient India - Disaster Free India

National Institute of Disaster Management

(Ministry of Home Affairs, Government of India)



Climate Related Health Adaptation and Resilience In India: Northern Region Policy Paper



National Institute of Disaster Management (NIDM)
(Ministry of Home Affairs, Government of India)

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Climate Related Health Adaptation and Resilience in India : Northern Region : Policy Paper

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FOREWORD

Climate change has the potential to influence the earth's biological systems, however, its effects on human health are not well defined. Developing nations with limited resources are expected to face a host of health effects due to climate change, including vector-borne and water-borne diseases such as malaria, cholera, and dengue. The impact of climate or disasters on health is not same everywhere even in India. Northern Region of India is assumed to be the treasure house of nature but with the growing population pressure and urbanization, the impact of climate change is showing up at a faster rate.

In Northern states, social and demographic factors such as population growth, urbanization, immigration, changes in land use and agricultural practices, deforestation, international travel, and breakdown in public health services have been mainly responsible for the recent resurgence of infectious diseases. Public health effects of various disasters include diseases and illnesses associated with the loss of clean water, hygiene, and sanitation, loss of shelter and belongings, population displacement, toxic exposures, and hunger and malnutrition risk due to food scarcity.

I complement Prof. Anil K. Gupta and the HER-CAP project team for this important contribution. I also thank WHO-India for supporting this endeavor. The efforts of the authors are praiseworthy, as they meticulously brought in the context of this policy paper which covers all these existing and forth coming problems and their mitigation measures and resilience policy after a close consultation with the experts of Northern States & UTs.



Shri Taj Hassan, IPS

आपदा प्रबंधन महाविचार: पूरा भारत भागीदार

Climate Related Health Adaptation and Resilience in India: Northern Region

ABSTRACT

There is a close link between natural ecosystems and health of the people. This linkage needs to be recognized in policies and programmes. To understand region-wise real scenarios and climate specific induced health problems, a Hazard Risk Vulnerability and Capacity Assessment (HRVCA) Workshop for Northern Region was conducted. Eminent experts from climate change, disaster management and health background from various national level institutions and state government departments participated in the workshop. They discussed the ground level issues and shared their valuable views regarding the mitigation, adaptation and resilience building to overcome the climate related health problems. From the discussion, it is evident that the flood affected northern region is particularly vulnerable to climate change impacts due to its specific agro-geo-ecology. Protection and maintenance of ecosystems will be helpful in strengthening preventive aspects of health problems. Capacity building of front-line functionaries will help in developing resilience of people living in rural, peri-urban and urban areas. This paper describes subtle way of mitigating such health issues and building resilience without changing the climatic scenario.

Keywords:

Climate Change; Public Health; Regional Health Issues; Adaptation; Mitigation; Health Resilience

1. Introduction

Climate change is a significant and emerging threat to public health which has become a major issue confronting the lives of millions of people. Overwhelming evidence shows that climate change presents growing threats to public health security - from extreme weather-related disasters to wider spread of food and vector-borne diseases.

The livelihood and food security of the people inhabiting the northern states of India largely depends on closely interlinked and climate-sensitive sectors, viz. agriculture, livestock and forestry.

The Himalayas are considered most vulnerable to climate change. The Himalayan glaciers are retreating at a faster rate than the global average. Glacier retreat and permafrost thaw are projected to decrease the stability of mountain slopes and increase the number and area of glacier lakes, according to the latest assessment reports of the UN Intergovernmental Panel on Climate Change. There is also high confidence that in the coming decades the number and area of glacier lakes will continue to increase in most regions and new lakes will develop closer to steep and potentially unstable mountain walls where lake outbursts can be more easily triggered. (Koshy J, 2021). The impacts of climate change on the Himalayas have local, regional and global implications.

The Trans Saryu region is located in the north of Ghaghra/Saryu river and the north of the middle of Ganga river in the foothills of Nepal Himalayas and the region comprises of 8 districts of Eastern Uttar Pradesh. The land fertility and availability of ground water is good due to alluvial soil and the geo-climatic conditions of the terai region. However, the area is chronically flood prone and the very nature of the flooding is changing due to climatic conditions, with a greater intensity of flash floods.

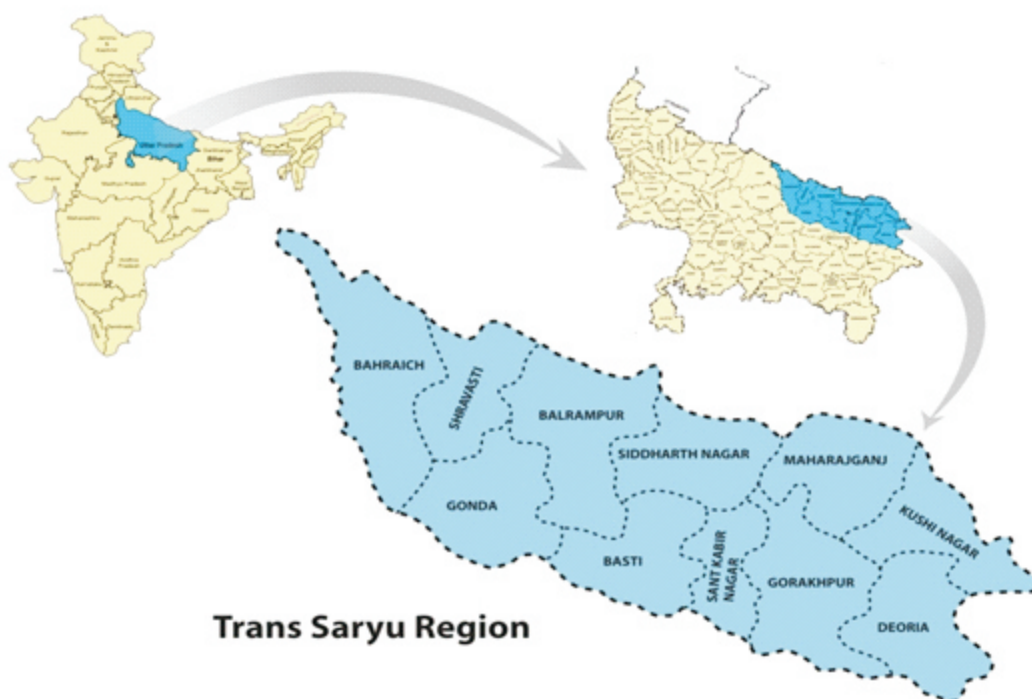


Figure 1: Trans-Saryu region of Uttar Pradesh

The water logged situation disrupts the whole crop cycle and production even in Rabi season is severely affected. Many become victims of water borne diseases like diarrhoea, cholera, dengue, Acute Encephalitis Syndrome (AES) and Japanese encephalitis as the flood waters stagnate. The natural lines of drainage disrupts due to embankments, roads and other encroachments. Depending on the gradient, which averages 20 cm/km, the region is divided into three distinct parts known as the Tarai, the Khadar and the Bangar.

The soil of northern belt is fertile and availability of water is good (ground water table being 40-50 ft deep on an average) making the area agriculturally active. However due to high population density the average land holding is quite small (less than 1 ha/house hold). Also, the frequent floods in the area have been instrumental in claiming significant losses of agricultural production assets, and life. The small land holding agriculture, practiced by more than 90 per cent of the farmers in the area, is most affected due to such climate change impacts.

High population densities of over 1000 persons per km² in some areas puts many people at risk in this flood affected areas. This is significantly higher than the national average of 250 persons per km² in rural areas. Increasing population density is placing additional pressures on already stressed environmental and economic resources in the region.

Similarly, Uttarakhand has recorded a rainfall deficiency at 18% in 2019 and 20% in 2020. This scant rainfall or snowfall in the past two winters has lead to the dry forest floors, which helps the forest fires to spread in the central and eastern Himalayas. These fires pose major threats to forest and biodiversity conservation and hazards to human health. The health effects of severe air pollution ranges from skin and eyes irritation to severe neurological, cardiovascular and respiratory disorders such as asthma, chronic obstructive pulmonary disease (COPD), bronchitis, tracheitis, pneumonia, allergic rhinitis, silicosis, emphysema, cancer, etc. In Himachal Pradesh also, vector-borne diseases were not prevalent earlier, but specially dengue outbreaks have occurred recently in the state.

1.1 Geographical Profile

Ten States and Union Territories (UTs), namely Jammu & Kashmir, Himachal Pradesh, Punjab, Uttarakhand, Uttar Pradesh, Haryana, Chandigarh, Bihar, Jharkhand and Delhi participated in the northern regional consultation workshop.

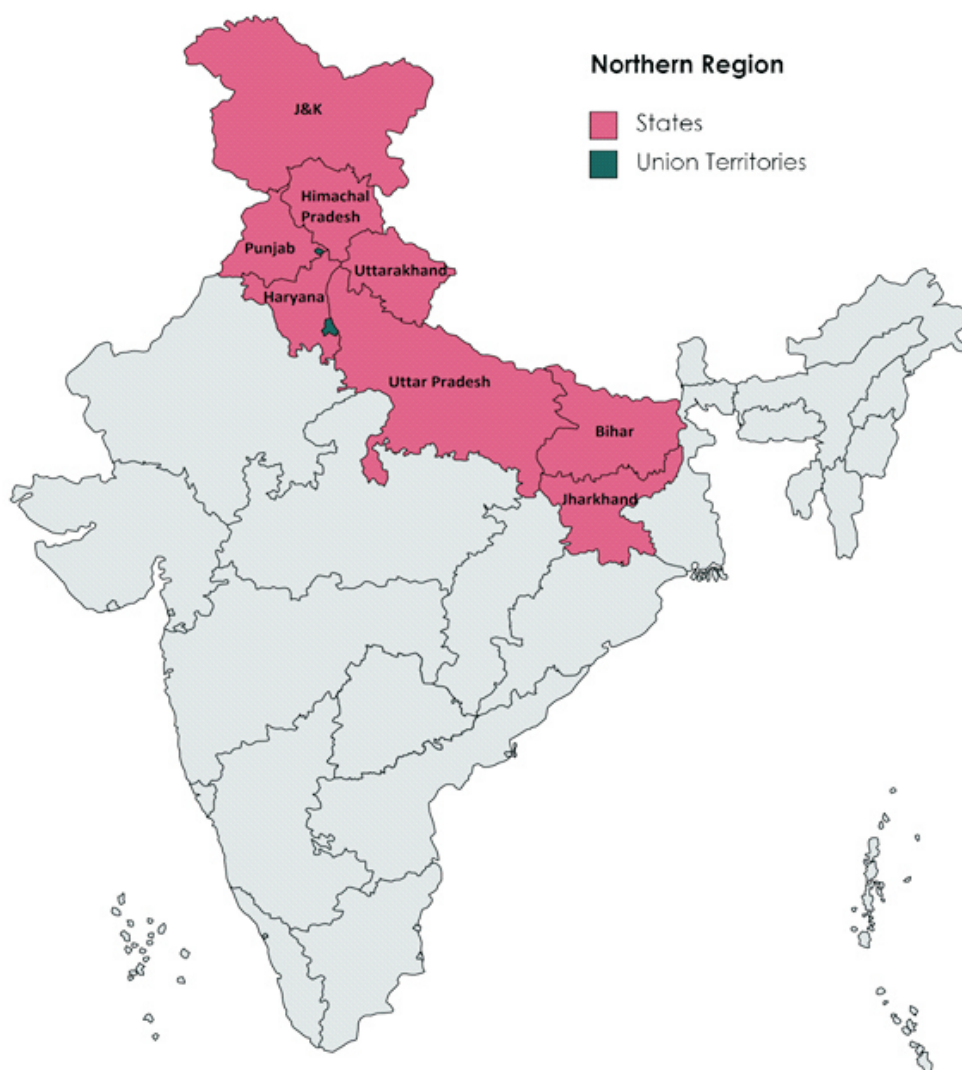


Figure 2: Participatory States and Union Territories in the northern regional consultation workshop
(Source: Mapchart 2020)

The northern region of the country has a tropical climate with severe summers alternating with cold winters when the temperatures touch freezing points. Due to extreme heat over summer months, the northern region draws moist winds causing summer or south-west monsoons. These monsoons contribute to 75% of annual rain over a period of four months (June to September), affecting the Indian climate very significantly. Any variability in the rainfall during this period in turn affects the water

resources, power generation, agriculture, disease-pattern and ecosystems in the country. Winter season starts early in December and goes on till February for most of the areas in Northern regions, extending even till mid-march for areas at higher altitudes. Maximum temperatures rise sharply exceeding 45°C by the end of May and early June resulting in harsh summers in the region. Decrease in humidity levels and clear skies over most parts of north India after mid-October are characteristics features of autumn season.

1.2 Demographic profile

- Uttar Pradesh is the most populated state of India with estimated population of 199,812,341 in 2011.
- Followed by Punjab and Haryana in the northern region with population of 27,743,338 and 25,351,462 respectively. Jammu and Kashmir, Uttarakhand and Himachal Pradesh follow further with populations of 12,541,302, 10,086,292 and 6,864,602.
- The National Capital Region of Delhi alone has a population of 16,787,941.
- The state of Himachal Pradesh has the highest share of rural population (89.97%) in India.
- While the NCR Delhi region has the country's most urban population, almost 97.50%.

1.3 Climatic Risk Profile

Sudden and more frequent extreme hot and cold events have been observed in the northern region of India. It has been observed that the amount of rainfall hasn't significantly decreased but the wet days are lesser, with greater intensity of rainfall in a shorter period, creating flood-like situations in the region. The rainy season has even shifted now, starting in mid-July till late September, instead of June till September earlier.

The climate change trends clearly indicate increasing vulnerability in the region. Such climate changes are mostly in form of variations in rainfall trends, temperature regimes and humidity.

1.4 Key Health Concerns

Poor health is a major problem in all flood-affected study sites. Water-borne diseases such as cholera, typhoid, dysentery and other gastrointestinal disorders are common, particularly during floods. Water related diseases such as Malaria and Japanese Encephalitis are also common as are non-water related illnesses.

A large number of children died from encephalitis alone in a hospital at Gorakhpur, Uttar Pradesh. These infections have been found to increase during monsoon and affect children under five who are severely malnourished and from poor economic backgrounds. Child deaths are high in this area in the months of July, August, and September and many cases in rural areas go unreported. Many children who survive get impaired (Khambete, 2017).

Anaemia and malnutrition are frequent particularly among women and children. The presence of many disease vectors is compounded by the lack of an effective health care system in many cities of the northern region. Well-trained doctors and health services are inadequate or because of their high cost, are inaccessible in most of the areas. People depend on local knowledge or poorly trained 'health workers' to meet their medical requirements.

Local populations attribute many of their health-related problems to the recurrence of floods. Flooding exacerbates poverty and renders local populations unable to attract the types of resources needed for regional development to occur. Social infrastructure such as a health care system needs more development and improvement.

1.5 Health issues related to women

Women eat very little even during normal times, approximately 1,000 calories a day, after the men and children have had their fill. This becomes acute during times of flood when there is very little food available, and women's daily caloric intake goes even lesser than 1000 calories.

In addition to the health impacts associated with food, other health problems are a major concern. Quacks and faith healers play a significant role in the community healthcare system, and in many area where babies delivered in institutions are still less than 20%, traditional birth attendants play a vital role. When serious diseases or health problems strike, however, allopathic doctors are consulted at Primary Health Centres or private practitioners in towns and cities. In general, women are more easily able to consult local healers and traditional birth attendants and men are responsible for accessing the services of Primary Health Centres or private doctors if needed. Women in this region suffer from various health problems even during normal times. They are more vulnerable to diseases and sickness due to their poor nutrition and consequently weaker bodies. During times of disaster, their problems become more severe. The major health problems, in order of importance, suffered by women during the flood and post-flood periods is shown in the following Figure 3.

During	After
Skin Diseases	Cough, Cold
Flu, Cold, Cough	Fever, Malaria
Fever, Malaria	Diarrhea/Intestinal Problems
Body Aches	Reproductive Tract Infections
Respiratory Problems	Skin Diseases
Stomach Disorders	
Diarrhea	
Reproductive Tract Infections	

Figure 3: Health Problems suffered by women during and after disaster

Overall, diminishing resources and limited options during and after a disaster affect the women more than the men. It is clear that although the impacts of disasters affect everyone in general, the extent of suffering varies according to gender, and that women are the worse off.

2. Objective

- To understand the impact of climate change on health in the northern region.
- To understand the nature and characteristics of regional health issues.
- To propose the probable mitigation and adaptation pathways.

3. Approach & Methodology

To understand the regional health issues of India five consultation workshops were organized. One National Workshop “National Programme on Climate Change and Health Sector Resilience” was organized in New Delhi. After that four regional consultation workshops were organized. All states of India were divided into four regions such as Northern, Eastern & North Eastern, Southern and Western region and for these regions workshops were organized in Lucknow, Kolkata, Hyderabad and Ahmedabad, respectively.

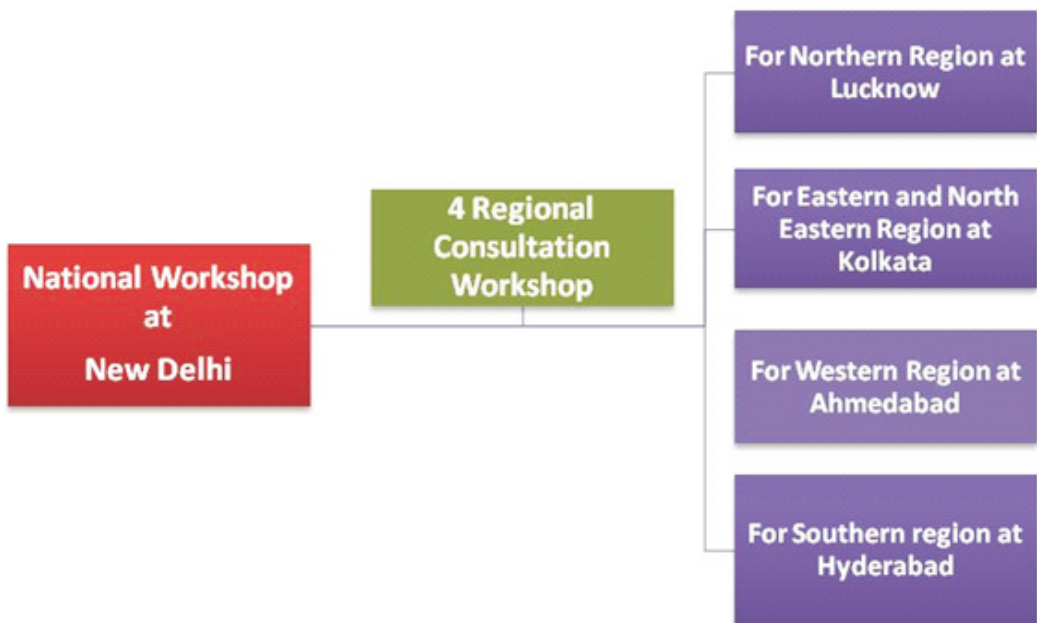


Figure 4: Details of the consultation workshops organized at national and regional level.

For Northern region of India, Hazard Risk Vulnerability and Capacity Assessment (HRVCA) Workshop was organized on 1st November, 2019 at Lucknow (Uttar Pradesh). Twenty five experts from Northern States and UTs joined this workshop to discuss the present health scenarios and challenges in their respective states in relation to the disasters and changing climate. They gave their valuable suggestions and inputs on the mitigation process. All the experts were fairly represented from Health, Disaster Management and Climate Change sector.

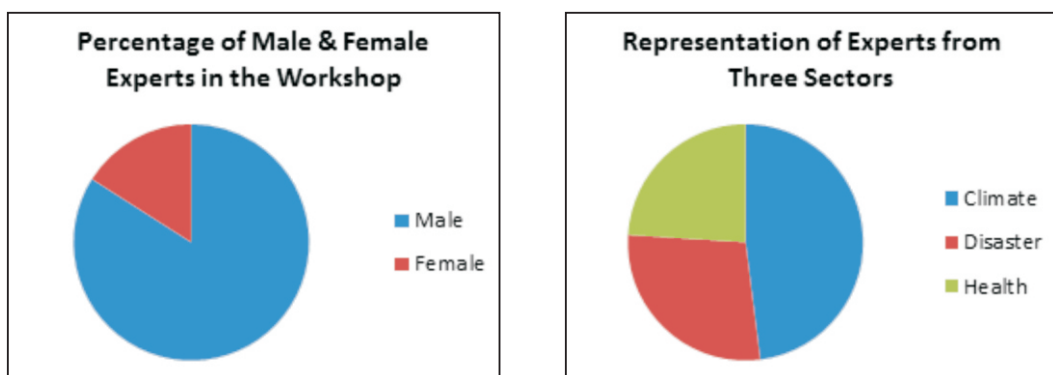


Figure 5: Percentage of male and female experts in the workshop and the Percentage of experts from Climate, Disaster and Health background.

4. Key Participant Institutions

The experts were from several renowned institutions and State government authority like CSIR - National Botanical Research Institute, Babasaheb Bhimrao Ambedkar University, North DMC Medical College, Dr. Ram Manohar Lohia Hospital, King George's Medical University, Climate Change & Human Health Department of Health, National Health Mission, Ranchi, Jharkhand, UP State Disaster Management Authority, Gorakhpur Environmental Action Group, Directorate of Medical & Health Services, Uttar Pradesh, Confederation of Indian Industry, India Meteorological Department, World Health Organization, National Centre for Disease Control and many more.

Experts were divided into three groups named Ganges, Yamuna and Gomti. Each group had equal representation of experts from climate, disaster and health sector. The experts were given some key questions to discuss for Hazard, Risk, Vulnerability and Capacity Assessment of the health condition of the various states of Northern region of India. The discussion included but was not limited to the following issues:

Key Questions

- Spatial and temporal shifts in climatic and weather patterns including events in the Northern states/region
- Changes in disaster patterns and seasonality, spreads
- History of outbreaks and other important cases of health episodes in past 20-30 years, and particularly in past 15 years
- Regional specific emerging health challenges, vulnerability of health systems and health resources, health infrastructure
- Opportunities, possible approaches, programmes, local and regional solutions, to protect health and respond effectively
- How and what type of coordination and interrelations with other sectors and departments is envisaged for health adaptation from climate change and disasters related illnesses
- Any other aspects of importance, including role of ecosystems, agriculture, food, water, energy etc. and relationships with health protection

After the HRVCA activity, the experts provided the valuable suggestion for building health resilience and adaptation.

Table 1: Disaster profile, agricultural/cropping cycles& related health issues for adaptation and Disaster Risk Reduction

Disaster Profile	- Major part of Jammu and Kashmir and Himachal Pradesh is a cold desert. - In the states of J & K, Himachal Pradesh, Uttarakhand and Western Uttar Pradesh, most of the area falls in Seismic Zone IV for earthquakes, and some area even in Zone V, while the remaining states fall in Zone III. - The states of Uttar Pradesh and Punjab are prone to 4floods. - There are also drought prone areas in Uttarakhand and western J& K.
Agriculture and the cropping cycles	The agriculture in the area is weather dependent and the cropping cycles have evolved according to local climatic conditions. Farmers have been experiencing vital changes in the climatic patterns resulting into local impacts like: - Change in volume, time and pattern of rain fall - Flash and accidental floods - Increasing dry spells during monsoon - Hot winds during winters - Increasing water logging periods
Average annual expected flood losses	- Average annual expected flood losses are projected to approximately double during the next 50 years due to climate change. - As this occurs, the annual average loss burden increases, such that these “small” floods become more important in terms of long - term economic impacts.
Key Health Concerns	
Extreme natural events& rainfall pattern	- Heavy rainfall, floods and water logging have been observed in Patna, Bihar. - Rainfall pattern have been changing from oneplace to another in a single region 24 hour rainfall pattern has been increasing
Delayed onset of monsoon	- Monsoon is being delayed by 40-45 days. - Seasonal changes/ variations and temporal shifts have been observed in the northern states e.g., Monsoon starts in JulyAugust now instead of the month of June.
Increased death rate due to lightening	Year 2019 has resulted in hundreds of deaths in a single day because of thunderstorms and lightening
Increased cyclone intensity	Frequency and intensity of cyclones have been increased
Lack of trained doctors	Specialized doctors are unable to help people in disaster condition
Heat & humidity index	Heat & humidity index has been increasing providing favourable climatic conditions giving rise to the vector-borne diseases

Outbreak history	• The number of vector borne disease cases have raised significantly in the past few years like dengue, chikungunya, Acute Encephalitis Syndrome (AES), Kala azar, Japanese Encephalitis and malaria. • There was a history of outbreaks of Japanese Encephalitis in eastern region of the country but in the past few years there have been incidents of disease even in Northern region, taking the health sector by a storm.
Increase in the deaths due to snake/insect bites	It has been observed that there is an increase in the deaths due to snake bites after floods, because of closer contact between human and animal population after disasters. Health system is often not prepared for such events with proper inventory.
Rapid urbanization	Industrialized areas of Northern India like Delhi, Lucknow, Kanpur, Chandigarh, Baddi and Jammu have seen a rampant urbanization, increasing the pressure on all sectors.
Need of vulnerability mapping for diseases	There is also need of vulnerability mapping for diseases, disasters and seasonality of both, for better preparedness of both the system as well the individuals.
Health infrastructure	• In the event of displacement after disasters, there are often areas of complete isolation. Sometimes, there is even complete collapse of health services. • There is lack of co ordination between dep artments, in terms of timely information sharing. • The mortality and morbidity data available right now is hospital based, while there is a need to have more population based data for getting an actual picture of the level of disease in the population. • There are limited facilities available at the primary health care level, increasing the burden over tertiary care facilities. • The facilities that are already available are not adequately utilized.



Figure 6: Pictures of HRVCA workshop at Lucknow (Uttar Pradesh) for building health adaptation & resilience

5. Policy, Infrastructure & other Interventions: Prevention, Mitigation & Adaptation Steps

After discussing the problems, the experts suggested remediation plans, policies and other interventions for the identified issues.

5.1 Policy Interventions:

- Natural ecosystems are important contributors for quality of health. The water bodies, green areas, forests, grasslands etc. provide ecosystem services which are important for health. It is important that ecosystems are maintained well for strengthening preventive aspects of health. This is particularly relevant in areas which are flood prone.
- Reducing possibilities of water logging is important. Obstructions to be avoided in free flow of water both in rural and urban areas. Adequate drainage provisions may be created in developmental activities which can aid employment opportunities, aligning with MGNREGA.
- Water bodies in the area should be rejuvenated. There are large numbers of water bodies in the area which provide water holding capacity. The storm water flows in such water bodies and saves villages from water logging. Geo-mapping, tagging and demarcation of such water bodies need to be done urgently to save from encroachments. Further, the water of water bodies to be cleaned and sewage disposal or waste dumping in water bodies is to be strictly stopped. This will save from contamination of surface water and reduce the places for breeding of vectors (aligns with Jal-Jeevan Mission).
- Adequate mechanisms of waste management are important. With high ground water table in the area and large areas of surface water the chances of contamination are high because of wastes. Decentralized mechanisms of waste (both solid and liquid) management is important so that possibilities of waste dumping and contamination of drinking water is avoided (aligns with Swach Bharat Mission).
- Drinking Water is easily available from underground resources. Poverty and lack of awareness tends to use water from shallow hand pumps. This will need to be discouraged along with provisions of safe drinking water. Also raising of hand pumps (in flood affected areas) and sealing of loose ground pipes (through which contaminated water can go inside the ground) of hand pumps are important (aligns with Piped water supply programme).
- Urban population is growing at unprecedented rate. Smaller towns and cities (approx 1 lakh population) are the main areas of population growth. These towns and cities are needed to be addressed on a priority basis in terms of cleanliness, waste management, safe drinking water etc.
- Peri-urban areas are largely neglected and used as dumping grounds for urban wastes. Ecosystem conservation, augmenting health services and waste management are important considerations in peri-urban areas.

5.2 Infrastructure & Facilities related Interventions:

- Conservation and maintenance of natural ecosystems (blue and green infrastructure).
- Adequate drainage provisions in all developmental activities (especially earth work, construction etc.).
- Safe drinking water (raising of hand pumps, sealing of pipes, deep boring hand pumps, piped water supply).
- Waste management (decentralized Solid waste management and sewage treatment).
- Improved urban basic services for urban poor and peri-urban areas.

5.3 Capacity Building:

- Urban Managers (resilient services).
- Rural population and farmers (weather advisories).
- Development workers (Linkage of Development and CC Resilience).
- Contribution of peri-urban areas (Urban planners and programme managers).
- Augmenting resilience in health services (front-line functionaries like ANM, ASHA, AWWs).

5.4 Community Centric Approaches/Interventions:

- Participatory planning for resilience building.

6. Health Risk Assessment & Regional Opportunities

- Inter-sectoral coordination between the climate change department, disaster management department and the health sector is essential.
- Regular meetings between all stakeholders to address the forthcoming events have to be made compulsory.
- Resources that are already available have to be used more responsibly.
- Periodic preparedness drills can be done to make sure everybody knows their roles and duties, and the use of facilities needed at the time of emergency.

- All infrastructures relating to health and disaster management have to be made resilient.
- More research has to be done to utilize local resources and technologies better for every region.
- The norms and rules for private healthcare system have to be made stricter to create a synergy between public and private sectors.
- Capacity Building of community can be done to make them resilient. Social media can be used for information and communication technology (ICT) to target populations.
- Better incentives and provisions for resource persons to keep them motivated and help function better.
- More recruitment can be made at grassroots level to collect and disseminate information better.
- In the longer term, the damage to ecosystems has to be regulated, having more eco-friendly infrastructures.

7. Conclusion

Flood affected areas in northern states are particularly vulnerable due to climate change impacts. There is evidence from recent historical past as well as projected data for future that the rainfall intensities are increasing/will increase (even if average annual rain fall is same or less), temperature variations are observed (with more lows and highs of temperature resulting also in cold and heat waves) and numbers of humid days are increasing. These hydro-met factors enhance water logging in low gradient areas of the region - the obstruction in natural drainage being a supporting factor. Lack of adequate waste management tends to contaminate surface and ground water and the high temperature-humidity, increases the breeding spaces and span for disease causing vectors. Weak basic services and lack of awareness cause usage of shallow hand-pumps water for drinking, leading to problems like Acute Encephalitis Syndrome (AES) and other water borne diseases. Government is taking effective measures in these directions.

It is important that ecosystems are conserved and maintained well so that they positively contribute to services and health of people- especially poor. Small towns and cities are hubs of fast population growth which needs specific attention in providing safe and resilient basic services. Recognizing importance of peri-urban areas for urban resilience at policy and programmatic levels will help both peri-urban

and urban areas. Capacity building of urban managers, health functionaries, and development functionaries on linkage of development and climate change resilience is important so that they may take appropriate measures in implementing programmes at local level which mitigates climate change impacts.

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About CECR and Project

CECR

The National Institute of Disaster Management (NIDM) was constituted under an Act of Parliament with a vision to play the role of a premier institute for capacity development in India and the region. Under the Disaster Management Act 2005, NIDM has been assigned nodal responsibilities for human resource development, capacity building, training, research, documentation and policy advocacy in the field of disaster management.

NIDM has a dedicated division for Environment, Climate and Disaster Risk Management (ECDRM) which has been designated as a Centre of Excellence on Climate Resilience (CECR) under the National Action Plan for Climate Change and Human Health (NAPCCHH). The CECR is implementing six research projects namely Climate Adaptive Planning for Resilience and Sustainable Development in Multi-hazard Environment (CAP-RES) with support of DST-Govt of India, National Agriculture Disaster Management Plan (NADMP) funded by the Ministry of Agriculture & Farmers Welfare, Health Resilience and Capacity Building (HER-CAP) with WHO, Crisis Management Plan for Dealing with Contamination of Water Bodies (CMP-WB) funded by CPCB, Disaster Management Plan for Ministry of Environment, Forest and Climate Change (NEFC-DMP) with the support of MoEFCC and Disaster Management Plan for the Department of Chemicals and Petrochemicals (NCPC-DMP) supported by DCPC, Ministry of Chemicals & Fertilizers. It also collaborates with a number of international and national organizations working in the areas of climate change adaptation, resilience, disaster management and disaster risk reduction.

HER-CAP project

NIDM in collaboration with WHO India has implemented the project “Health Adaptation and Resilience: Advancing Strategic Knowledge and Capacities” (HER-CAP). Under this project, the following documents have been drafted.

- National Health Adaptation Plan for disasters related illnesses' for Ministry of Health and Family Welfare.
- Training Manual on 'Health Adaptation and Resilience to Climate Risks'.
- A compendium of case studies on 'Climate Change related Disasters and Health Resilience'.

- Four Policy briefs on Regional Issues and Opportunities for Health System Resilience to Climatic Disasters. (For Northern, East & North-Eastern, Western and Southern Regions of India).
- Along with this, four thematic papers on key areas are as follows:
 - Temperature related disasters: Heat and Cold Wave - Implications for Health Adaptation and Resilience.
 - Water related disasters: Floods and Drought - Implications for Health Adaptation and Resilience.
 - Air Pollution and Public Health Emergencies.
 - Environmental services for health protection in disasters and emergencies.

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About the Institute

National Institute of Disaster Management (NIDM) was constituted under an Act of Parliament with a vision to play the role of a premier institute for capacity development in India and the region. The efforts in this direction that began with the formation of the National Centre for Disaster Management (NCDM) in 1995 gained impetus with its redesignation as the National Institute of Disaster Management (NIDM) for training and capacity development. Under the Disaster Management Act 2005, NIDM has been assigned nodal responsibilities for human resource development, capacity building, training, research, documentation and policy advocacy in the field of disaster management.

NIDM is proud to have a multi-disciplinary core team of professionals working in various aspects of disaster management. In its endeavour to facilitate training and capacity development, the Institute has state-of-the-art facilities like class rooms, seminar hall and video-conferencing facilities etc. The Institute has a well-stocked library exclusively on the theme of disaster management and mitigation. The Institute provides training in face-to-face, on-line and self-learning mode as well as satellite based training. In-house and off-campus face-to-face training to the officials of the state governments is provided free of charge including modest boarding and lodging facilities.

NIDM provides Capacity Building support to various National and State level agencies in the field of Disaster Management & Disaster Risk Reduction. The Institute's vision is to create a Disaster Resilient India by building the capacity at all levels for disaster prevention and preparedness.



Resilient India - Disaster Free India

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