



#### **CENTRE FOR DISASTER MANAGEMENT (CDM)**

Centre for Disaster Management Lal Bahadur Shastri National Academy of Administration, Mussoorie - 248179, Uttarakhand

# DISASTER Response & Management

Volume-X, No. 1, March, 2024 ISSN: 2347-2553



## Centre for Disaster Management Lal Bahadur Shastri National Academy of Administration

Lal Bahadur Shastri National Academy of Administration Mussoorie - 248179, Uttarakhand, INDIA EPABX: (0135) 2632236, 2632489, 2632374 Phone & Fax: (0135) 2632655, Fax: 2632350, 2632720

Email: cdm.lbsnaa@nic.in

ISSN: 2347-2553

Copyright@2024, CDM, LBSNAA

#### **Editorial Advisors**

#### Joint Secretary (Capacity Building)

National Disaster Management Authority (NDMA), Government of India, NDMA Bhawan, A-1, Safdarjung Enclave, New Delhi

#### Ms. Sowjanya, IAS

Joint Director

Lal Bahadur Shastri National Academy of Administration,

Mussoorie, Uttarakhand, India

#### **Editorial Board**

#### Shri Sanjeev Kumar Jindal, CSS

Joint Secretary (DM),

Ministry of Home Affairs (MHA), New Delhi

#### Dr. Akhilesh Gupta

Secretary, SERB

Department of Science & Technology, New Delhi

#### Shri Sarbjit Singh Sahota

Emergency Specialist, Disaster Risk Reduction Section, United Nations Children's Fund (UNICEF), UNICEF India Country Office, New Delhi

#### Col V N Supanekar (Retd)

Former Director & Professor,

Center for Disaster Management, YASHADA, Pune

#### Prof. Mahua Mukherjee

Professor, Department of Architecture & Planning & Joint Faculty and Ex-Head, Centre of Excellence in Disaster Mitigation and Management, IIT Roorkee

#### Shri Abhiram G. Sankar

Deputy Director & Director, CDM

Lal Bahadur Shastri National Academy of Administration. Mussoorie, Uttarakhand

#### **Managing Editor**

#### Dr. Pankaj Kumar Singh

Associate Professor & Nodal Officer

Centre for Disaster Management,

Lal Bahadur Shastri National Academy of Administration, Mussoorie, Uttarakhand

#### **Associate Managing Editor**

#### Dr.Pasala Eswara Rao

Research Officer

Centre for Disaster Management,

Lal Bahadur Shastri National Academy of Administration, Mussoorie, Uttarakhand

Designed & Processed by

Chandu Press, D-97, Shakarpur, Delhi-110092

Ph.: 011-22526936, 09810519841 E-mail: chandupress@gmail.com **Sriram Taranikanti, IAS**Director,
Lal Bahadur Shastri National Academy of Administration, Mussoorie-248179



## Director's Message

India, due to its unique geographical and geological conditions, is vulnerable to various natural disasters. In India, the incidents of flood, drought and other natural disasters are on the rise and pose a tremendous challenge to the society in general and administration in particular. Each disaster heightens the sense of urgency to equip ourselves better in coping and managing them. In this context, the training of Civil servants in Disaster Management assumes critical significance.

There is a need to move from the paradigm of responding to disasters to building resilience against disasters in all aspects of decision making. A key challenge to administrators would be increasing the level of awareness in the society regarding the cost of disasters and to build resilience specifically in infrastructure and community in general. It gives me immense pleasure to note that Centre for Disaster Management, Lal Bahadur Shastri National Academy of Administration is bringing out the edited Journal "Disaster Response and Management" Volume-X, No. 1 for the year 2023-24 under the project "Capacity Building on Disaster Management for IAS/Central Civil Services Officers" sponsored by National Disaster Management Authority (NDMA), Government of India, New Delhi. This is the compilation of research articles providing insights about recent trends in Disaster Management. I hope this volume will add to the knowledge base for Disaster Management in the country and will be useful for both the Officers Trainees and the Administrators in the field. It can also serve as a good reference material for ATIs and CTIs for their in house courses.

I hope this compilation will be useful for both the Officer Trainees and the Administrators in handling disasters and emergency situations across the country. I want to congratulate the CDM team for this publication and also place on record my appreciation for the contribution made by the faculty & staff of the CDM who contributed in various capacities for bringing out this Journal.

(Sriram Taranikanti)

**Abhiram G. Sankar, IAS**Deputy Director & Director
Centre for Disaster Management



## Preface

The Centre for Disaster Management (CDM), Lal Bahadur Shastri National Academy of Administration (LBSNAA), Mussoorie is a training and research Centre working under the aegis of LBSNAA, Mussoorie. The Centre is involved in training IAS and other Group-A civil service officers at induction as well as at inservice level in various aspects of disaster management, besides undertaking, action research projects, documentation of best practices, development of case studies, etc.

The magnitude and frequency of disasters has increased drastically in terms of human, economic and environmental losses. Under the conventions on SDGs, Paris agreement, Sendai framework for Disaster Risk Reduction, there is a need to document the research carried by individuals in the field of Disaster management to achieve the committed goals of India as a signatory.

Disaster Response and Management in recent times, received increased attention, both within the country and abroad. In a caring and civilized society, it is essential to deal effectively with the devastating impact of disasters. It is our pleasure to publish Volume-X, No. 1 of the Journal "Disaster-Response and Management" for the year 2023-2024. The journal will provide an insight to administrators about the recent trends in response, planning and scientific interventions towards Disaster Risk Reduction.

I would like to thank the Centre for Disaster Management, Lal Bahadur Shastri National Academy of Administration who have been able to compile by faculty and staff of CDM who have contributed in various capacities for bringing out this Journal.

I would like to place on record the contribution made by faculty and staff of CDM who have contributed in various capacities for bringing out this Journal.

(Abhiram G. Sankar)

## **Contents**

S1. No	Title	Name and Address of the Authors	Page no.
	Director's Message		iii
	Preface		V
1	Climate Change and Indian Agriculture: Adaptation and Mitigation	Dr. Ch. Srinivasarao* Director, ICAR-National Academy of Agricultural Research Management, Hyderabad Mr. G. Ranjith Kumar Ph.D Scholar ICAR-National Academy of Agricultural Research Management, Hyderabad Dr. Pankaj Kumar Singh Associate Professor, Centre for Disaster Management, Lal Bahadur Shastri National Academy of Administration, Mussoorie, Uttarakhand	1
2	Responding to Disaster Health Needs with Homoeopathy	Dr. Padmalaya Rath* Research Officer (Homoeopathy)/Scientist-3, Dr. D.P. Rastogi Central Research Institute of Homoeopathy, (Central Council for Research in Homoeopathy, Ministry of AYUSH, Govt. of India), Noida, Uttar Pradesh Dr. Shib Narayan Jana Professor, Dr. B.R. Sur Homoeopathic Medical College, Hospital and Research Centre, New Delhi, India	28
3	Warehousing Pre-Positioned Relief Material for Effective Disaster Response	Dr. Kunal Sharma* Assistant Director, Regional Labour Institute (RLI), Faridabad, Haryana Col Rahul Devrani Former Joint Advisor, National Disaster Management Authority (NDMA), Government of India, New Delhi	43

Sl. No	Title	Name and Address of the Authors	Page no.
4	Emergent Responsive Disaster Management at Workplaces for Employees with Respiratory- Distresses	Mohd. Faisal Nawaz Assistant Purchase Manager, Material Management Division, Central Electronics Limited, (A Govt. of India Enterprise) Sahibabad, Uttar Pradesh	51
5	Flood Preparedness Scorecard: An Initiative to Tackle and Minimise the Vulnerability of Flood in Bihar	Vivek Kumar Singh* Adjunct Faculty, Centre of Excellence in Disaster Management, (Disaster Management Department, Govt of Bihar), Patna Sandeep Kumar Officer on Special Duty (OSD), Disaster Management Department, Govt. of Bihar, Patna Avinash Kumar Officer on Special Duty (OSD), Disaster Management Department, Govt. of Bihar, Patna Tarak Nath Singh Programmer, Disaster Management Department, Govt. of Bihar, Patna Banku Bihari Sarkar Program Officer, UNICEF, Patna, Bihar Sanjay Agarwal, IAS Secretary, Agriculture Department, Government of Bihar, Patna	57

### **Centre for Disaster Management**

Centre for Disaster Management (CDM) is a research and training centre, and a unit of Lal Bahadur Shastri National Academy of Administration (LBSNAA), Mussoorie, Department of Personnel & Training (DoPT), Government of India. The CDM is a Nodal agency for training in Incident Command System (ICS). The Centre is involved in training officers belonging to the IAS and other Group-A civil services at induction as well as at Mid-Career level in various aspects of disaster management through classroom sessions, case studies, and experience sharing presentations, panel discussions, workshops, and mock drills. Apart from conducting training programmes on fire safety, search and rescue, IRS, DRR, DDMP, school safety, the centre is involved in various types of documentation and publication activities in terms of case studies, documentation of best practices, research papers, books and posters in national and international journals and developed course specific training materials in the area of Disaster and Emergency management and Science and Technology.

Disaster: Response & Management

Volume X, No. 1, (March, 2024)

ISSN: 2347-2553

Published by Centre for Disaster Management

Lal Bahadur Shastri National Academy of Administration Mussoorie - 248179, Uttarakhand, India



#### CENTRE FOR DISASTER MANAGEMENT (CDM)

Lal Bahadur Shastri National Academy of Administration Mussoorie - 248179, Uttarakhand EPABX: 0135-2632489, 2222000 (Extn-2385) Telefax: 0135-2632655; Fax: 0135-2632350, 2632720 Email: cdm.lbsnaa@nic.in