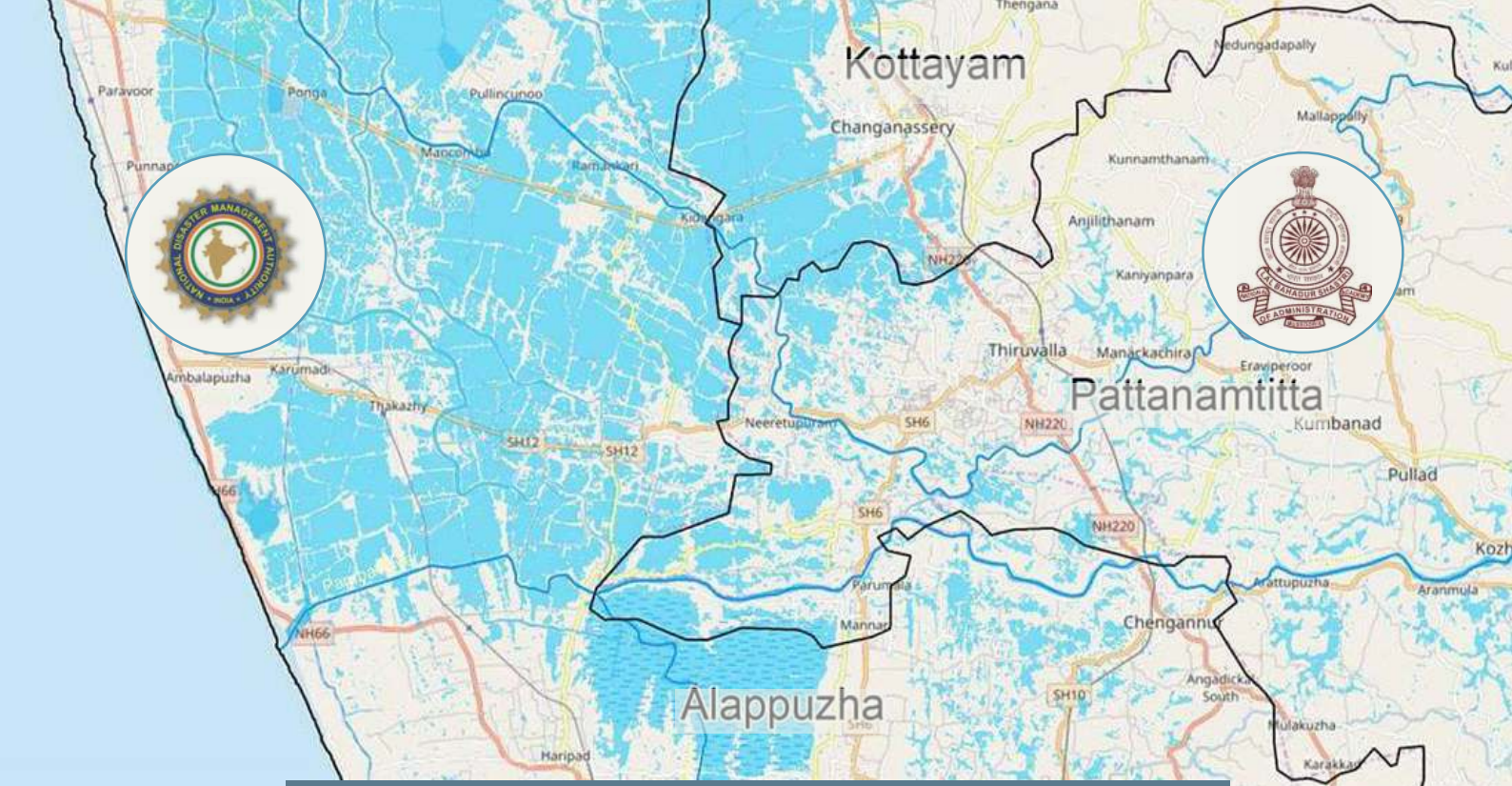

Kerala Floods 2018

Enquiry into Causes and Risk Mitigation Strategy

(Published Under Section 18 (2) (h) guidelines of Disaster Management Act 2005, for prevention, mitigation, capacity building and preparedness to combat the adverse impact of floods)

Report Prepared by

Dr. CG Madhusoodhanan

Dr. KG Sreeja

Report Submitted by

Centre for Disaster Management

Lal Bahadur Shastri National Academy of Administration, Mussoorie

Report Submitted to

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About the Publication
This research study was sponsored by NDMA, coordinated by CDM, LBSNAA and the field study was conducted by Dr. CG Madhusoodhanan and Dr. KG Sreeja

Prepared by
Dr. CG Madhusoodhanan and Dr. KG Sreeja

Submitted by
Centre for Disaster Management (CDM), Lal Bahadur Shastri National Academy of Administration (LBSNAA), Mussoorie

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DIRECTOR'S MESSAGE

Given its unique geographical and geological condition, India is vulnerable to various natural disasters. Incidents of flood, drought and other natural disasters 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. The Disaster Management Act 2005 has made the role of administrators pivotal in disaster management in India. Hence it is essential that the administrators are well-versed and equipped in the various aspects of disaster preparedness and management.

As the present COVID crises has shown there is a need to move from the paradigm of responding to disasters to one of building resilience against disasters in all aspects of governance. A key challenge to administrators is to establish standard operating procedures and protocols for immediate and effective response as well as for better preparedness in the future. It gives me immense pleasure to note that Centre for Disaster Management, LBSNAA is bringing out the report on the causes and administrative responses during the Kerala Floods of 2018 sponsored by the National Disaster Management Authority (NDMA). This report is based on an intensive study into the multiple causes and multi-level administrative responses to the unprecedented calamity of the Kerala floods of 2018. It provides insights into the challenges and potentials before the administrators in dealing with such calamities of extreme nature in the times of climate change. The study team also proposes mitigation strategy and preparedness measures for flood calamities in India in keeping with the Disaster Management Act 2005 and the Sendai Framework for Disaster Risk Reduction 2015-30.

I hope this volume will enhance the knowledge base and contribute to policy-making in disaster management in the country, and will be a valuable resource for both the trainees and the administrators in the field.

(Abhiram G. Sankar)

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Above all, we would like to express our admiration to all the people of Kerala who have bravely overcome this disaster through constant struggle and hope.

Dr. CG Madhusoodhanan

Dr. KG Sreeja

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Abbreviations

ASHA	Accredited Social Health Activist
CAG	Comptroller and Auditor General
CM	Chief Minister
CMG	Crisis Management Group
CHC	Community Health Centre
CMDRF	Chief Minister's Disaster Relief Fund
CWC	Central Water Commission
DDMA	District Disaster Management Authority
DDMP	District Disaster Management Plans
DEOC	District Emergency Operations Centre
DA	District Administration
DC	District Collector
DM	Disaster Management
DMD	Disaster Management Department
DRR	Disaster Risk Reduction
ESFP	Emergency Support Functions Plan
EWS	Early Warning System
FD	Forest Department

FSI	Flood Severity Index
GP	Grama Panchayat
HDI	Human Development Index
HVRA	Hazard, Vulnerability and Risk Assessment
IDRN	India Disaster Resource Network
ILDM	Institute of Land and Disaster Management
IMD	India Meteorological Department
INCOIS	Indian National Centre for Ocean Information Services
ISGN	Indian Seismic and GNSS (Global Navigation Satellite System) Network
JWRB	Joint Water Regulatory Board
KILA	Kerala Institute of Local Administration
KSDMA	Kerala State Disaster Management Authority
KSDMP	Kerala State Disaster Management Plan
KSEBL	Kerala State Electricity Board Ltd.
KWA	Kerala Water Authority
LSG	Local Self-Government
NDMA	National Disaster Management Authority
NDMP	National Disaster Management Plan
NDMS	National Disaster Management Services
NDRF	National Disaster Response Force
NERC	National Emergency Response Centre
NGO	Non-Governmental Organisation
PHC	Primary Health Centre
RKDP	Rebuild Kerala Development Programme
RKI	Rebuild Kerala Initiative
SDMF	State Disaster Mitigation Fund
SDRF	State Disaster Response Force
SEOC	State Emergency Operations Centre
SHG	Self Help Group
SOP	Standard Operating Procedure
SRC	State Relief Commissioner
TN	Tamil Nadu
UNDP	United Nations Development Programme
VHF	Very High Frequency

Technical acronyms

Flood related

WL	Warning Level
DL	Danger Level
HFL	High Flood Level

Reservoir related

MWL	Maximum Water Level
FRL	Full Reservoir Level

Water flow/storage related

m^3/sec	cubic meter per second (cumec)
ft^3/sec	cubic feet/sec (cusec)
Mm^3	million cubic meters (10^6 m^3)
m/sec	meter/sec

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&
National Disaster Management Authority, New Delhi