RIKA
Resilience Innovation Knowledge Academy

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Celebrating 5 Years of RIKA India

Pitchbook

August 2023

Resilience Innovation Knowledge Academy India Pvt. Ltd.

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1. Introduction to RIKA India

Resilience Innovation Knowledge Academy India Pvt. Ltd. (RIKA) is a research-based for-profit social entrepreneurial start-up. We create cost-effective community-oriented solutions for Disaster Risk Reduction, Climate Change Adaptation, Environment Management, and Sustainable Development.

1.1. Vision

To provide innovative disaster risk reduction solutions today for a resilient tomorrow.

1.2. Mission

To research, innovate, and train minds for global resilience.

RIKA's Sectoral Expertise

2. Recognitions/Membership

- Member of **Arise Global Network**
- Member of **United Nations Global Network**
- Recognized as a startup by the **Department of Industrial Policy and Promotion (DIPP).**
- Empanelled with **Gujarat Institute of Disaster Management (GIDM), Gandhinagar, Gujarat.**
- Member of **ARISE INDIA program of FICCI** (Federation of Indian Chambers of Commerce & Industry) - an initiative to bring together corporate organizations in the field of disaster management for shared learning and progress.
- Shared the stage with world leaders in disaster management at **Global Platform for Disaster Risk Reduction (GPDRR) 2019 at Geneva**, establishing its niche in the field of linking science & technology for Community Based Disaster Risk Reduction (CBDRR).
- Partnered with **UN-Habitat Advocacy Forum for Climate Change**.

At RIKA India, we focus on extensive research and citizen science to provide customized knowledge products. We are a group of interdisciplinary professionals coming from varied areas of expertise with a common passion for making this world safer and resilient. We value time,

commitment, and quality and bring innovative solutions.

3. Team RIKA

3.1. Co-founders

Dr. Rajib Shaw and Dr. Ranit Chatterjee have between them more than 30 years of experience in Disaster Risk Governance, Policy Designing, and Implementation. They co-founded RIKA India Pvt Ltd intending to create a social entrepreneurial medium for grassroot DRM (Disaster Risk Management) interventions.

Dr. Rajib Shaw
Co-founder & Director

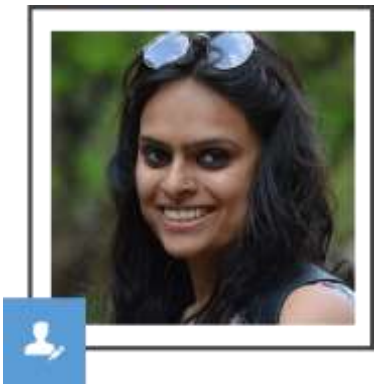
Professor in the Graduate School of Media and Governance, Keio University, Japan
Received 2022 United Nations Sasakawa Award for Disaster Risk Reduction
Recipient of the Pravasi Bharatiya Samman Award (PBSA) 2021, the highest honour conferred on overseas Indians
Coordinating Lead Author (CLA) IPCC 6th Assessment Report
Published more than 62 books and over 565 academic papers and book chapters

Dr. Ranit Chatterjee
Co-founder & Director

Visiting Associate Professor, Keio University
PhD. Environmental Management, Kyoto University
IRDR Young Scientist
Advisory board member of UNDRR's Stakeholder Engagement Mechanism (SEM)
CEM member Business and Biodiversity Group, IUCN
Trained Architect and Disaster Risk Management Professional
Over 20 Published Journal Articles and Book Chapters

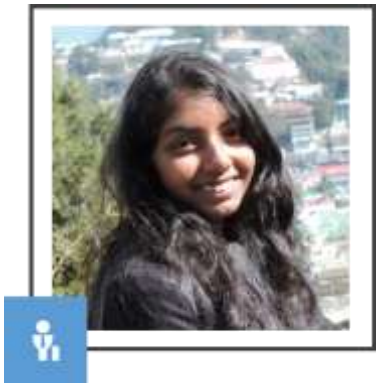
3.2. Project Team

The project team at RIKA India provide the culmination of diverse background experiences with professional training in the field of DRM, urban planning, development and sustainability.



Ambika Dabral

M.Sc. Disaster Management, TISS Mumbai
ALS Fellow, Harris School of Public Policy (University of Chicago) and Indian School of Public Policy
Trained Mathematician
DRM professional with expertise in planning, research and capacity building of multi-stakeholders across varied levels



Krishnakali Ghosh

M.Sc. Geo-information Science & Earth Observation, University of Twente, Netherlands
Experience in urban planning, development and sustainability projects with state governments

Savita Khurana

Bachelor's Degree from Delhi University and a Post-Graduate Diploma in Health Family Welfare and Population Education from Punjab University.
Experience in working with Health NGOs in Administration and Procurement area

3.3. Interns

RIKA provides internship opportunities on rolling basis to students and researchers from varied academic institutions. Through this, it mentors and handholds students and researchers from diverse disciplines in pursuing research and projects aimed at DRR & CCA and promoting innovations and S&T and evidence-based research.

Shalu Mathuria

Bachelors in Architecture, Vastu kala Academy College of Architecture, Master's Degree in Disaster Mitigation and Management, pursuing PhD, Indian Institute of Technology Roorkee.

Arshiya AC

Pursuing Masters in Urban Planning from National Institute of Technology, Calicut. Bachelor of Architecture, MES College of Architecture, Calicut.

Anuskya Ray

Master of Science (MSc) in Geography, Bachelor's Degree in Science (Geography), University of Calcutta

3.4. Advisors

The Advisors provide multi-disciplinary expertise and guidance to Team RIKA from time to time.

Dr. Rohit Jigyasu

Conservation architect and risk management professional.

ICCROM Program Manager
UNESCO Chair professor at the Institute for Disaster Mitigation of Urban Cultural Heritage at Ritsumeikan University, Kyoto, Japan.

Dr. Akhilesh Surjan

Associate Professor

Research & Theme Leader of Humanitarian, Emergency and Disaster Management Studies Program at the Charles Darwin University, Australia.

Dr. Takako Izumi

Associate Professor

International Research Institute of Disaster Science (IRIDeS), Tohoku University.
Director of the Multi Hazards Program under the Association of Pacific Rim Universities (APRU)

Dr. Hassan Virji

Emeritus Executive Director of START International, Inc

Expertise in building systems-level capacities in global change to foster resilient and sustainable societies.

3.5. Associates

RIKA Associates expand the regional outreach and add to the diversity of skillsets of the team.

Mr. Arnab Gazi
Economics and Marketing Specialist, XIMB

Ms. Sangita Das
Architect, SPA, Delhi

Dr. Tong Thi
Lecturer, Hanoi University

Dr. Raju Sarkar
Professor, Royal University of Bhutan

Ms. Chandra L. Hada
Architect & Urban Planner, Nepal

Dr. Indrajit Pal
Asst. Professor & Chair at DPMM, AIT, Thailand

Ms. Suvendrini Kakuchi
Sri Lankan Journalist based in Tokyo

Ms. Ashoo Kalra
Company Law Graduate with expertise on School Safety

Ms. Thinn Hlaing Oo
Environmental Studies, Kyoto University, Japan

Dr. Shobha Poudel
Asst. Professor, Universal Engineering & Science College, Pokhara University Nepal

Dr. Anwarul Abedin
Professor, Bangladesh Agricultural University

Mr. Lalit Deshora
Urban Planner & GIS Specialist, currently with ADPC

Dr. Aditi Madan
PhD in Disaster Management, AIT, Bangkok

Mr. Shashikant Chopde
Senior Research Associate
Institute for Social & Environmental Transition-International

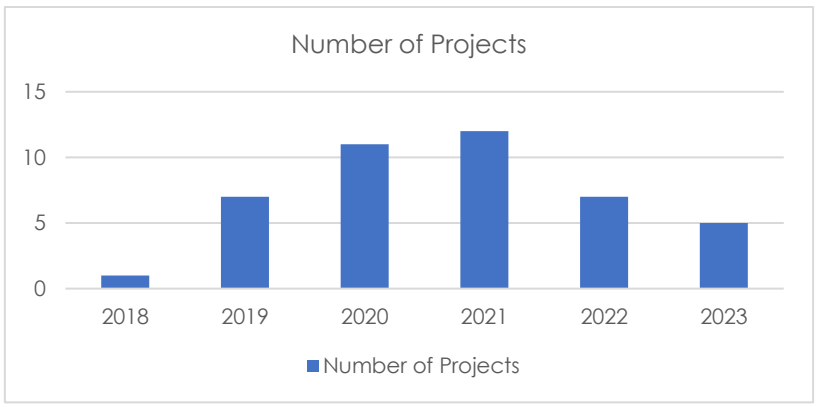
Dr - Ing. Hassan Elmouelhi
Architect & Urban Planner
Berlin Technical University, Germany

4. Presence of Team RIKA

4.1. Our Associations & Clients

5. Overview of Projects

5.1. Number of Projects



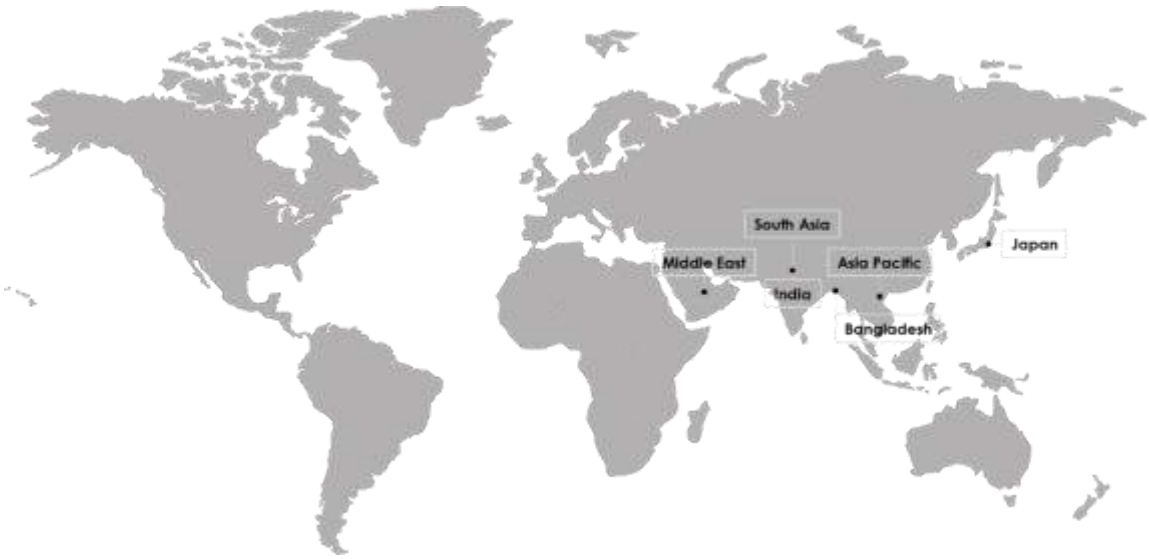
(From RIKA's inception in Aug 2018 to Aug 2023)

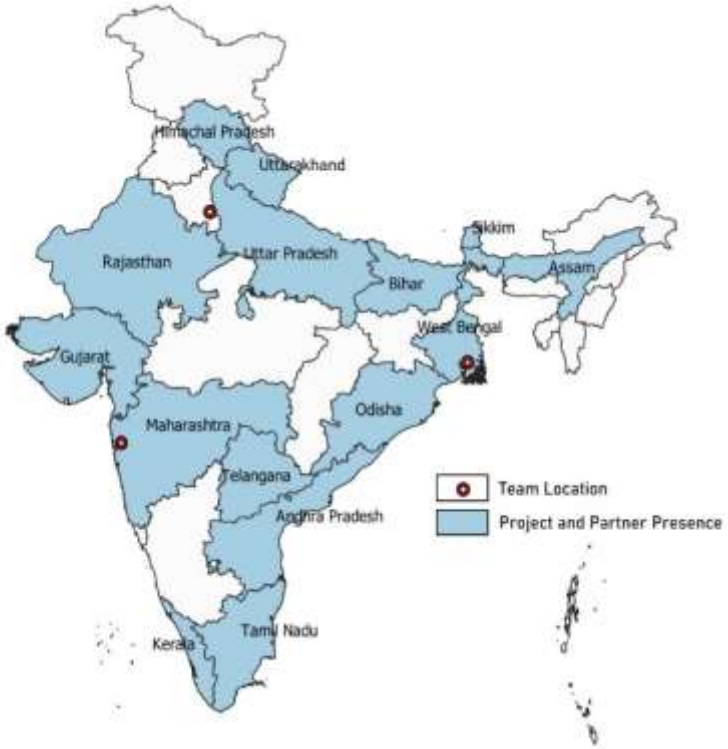
5.2. Our footprint work

3 Regions

15 States in India

13 Cities in India





5.3. Type of Projects

Technical studies and assessments

- Situation Analysis for CBM India Trust
- Scoping Study on functioning of EoCs at districts & tehsil levels at Uttrakhand-UNDP India
- Development of SOP/Guidelines to establish SIDM in the State of Maharashtra-UNDP India
- Assessing the profitability of climate smart agriculture in the Ganges-Brahmaputra River basin
- Scoping study for Systemic and Cascading Risk in the Asia-Pacific Region supported by UNDRR
- Development of Country Paper on Building resilience for Climate Change and Disasters supported by UNORC
- Water-related issues in Gujarat: Key challenges and prospects-WOTA Corp, Japan
- Enhancing Disaster Risk Reduction and Climate Resilience at UNESCO sites in Asia-Pacific
- Strengthening Disaster Risk Governance Framework in India: Learnings from global best practices
- Preparation of Guidelines for Establishment of Emergency Operations Centre (EOC) USAID-GOI UNDP
- Asia-Pacific Regional Framework for NATECH Risk Management, UNDRR and AP-STAG
- Functional Review of Odisha State Disaster Management Authority-The World Bank
- Revision of 2012 Early Warning System in Vijayawada City-UNDP India
- Regional Assessment of DRM Institutions in the South Asian Region with World Bank in collaboration with ADPC
- Status of Science and Technology in Disaster Risk Reduction in Asia-Pacific by UNDRR and AP-STAAGHealth Disaster Resilience Assessment of Bongaigaon District, Assam
- Health Disaster Resilience Assessment of Bongaigaon District, Assam suppoted by National Health Mission

Planning, training and drills

- Urban Risk Reduction and Resilience: A Comprehensive Approach - GIDM
- School safety program in the state of Maharashtra-UNDP India
- Ecosystems Conservations and Disaster Risk Management by strenghtening community based regulatory mechanisms cultural community-NIDM
- Workshop to discuss the findings of Questionnaire Survey and Identify Potential ASEAN-Japan Collaborative Actions
- Developing of Risk Sensitive Land Use planning for Neelkantha and Dullu Municipalities - Dai USAID under Tayar Nepal Project
- Training of Trainers (TOT) programme on Integrated and Inclusive Natural Hazards Risk Reduction and Management targeting the Arab countries under UNESCO-MENA
- Strengthening DRM capacity under COVID-19 pandemic in cyclone/flood-prone area supported by JICA India
- Preparation of 18 Ward Level Disaster Management Plan – Vijayawada City-UNDP India
- Preparation of 18 Ward Level Disaster Management Plan – Visakhapatnam City-UNDP India
- Preparation of Eight (08) Ward Level Disaster Management Plans for Navi Mumbai-UNDP India
- Preparation of Ward level Disaster Management Plan for Navi Mumbai-UNDP India
- Situation Analysis of Urban Action for people's resilience programme in Delhi and Chennai-Caritas India
- School Disaster Management Plans and IEC : Vishakhapatnam-UNDP India
- Simulation Exercise: Developing Resilience Cities through Risk Reduction in the context of Disaster & Climate Change-USAID-GoI-UNDP
- Preparation for Disaster Risk Management Plan for GIFT City
- Providing technical assistance to the State Government of Odisha in setting up the International Centre for Disaster Management

Innovations

- Technical support to 10 selected innovators under the Tech-Emerge Resilience India Challenge supported by ADPC
- CDRI Fellowship Programme 2021-22: Risk-Informed School Evaluation Tool (RISE Tool)
- Urban Thinker Campus
- Quick Risk Evaluation Tool for Micro Small and Medium Scale Enterprises (MSMEs)
- Social Entrepreneurial Initiative - Thematic Incubators
- Supporting the Establishment of India University Network with UNDRR & NIDM

Knowledge products

- Outlooks
- Research Papers
- Book Chapters

6. Details of Projects

6.1 Scoping Study on Functioning of Emergency Operation Centres at District and Tehsil Levels in Uttarakhand

The scoping study assessed the functioning of the existing EOCs at the district and tehsil levels in Uttarakhand and identify associated gaps and areas of improvement. It study provided recommendations for enhancing the effectiveness and efficiency of the EOCs in the State. The scoping study was conducted in light of relevant global and national frameworks, policy instruments and guidelines. The study undertook a comprehensive evaluation of the four identified EOCs, analysing their functional effectiveness, performance during past disaster events, reviewing standard operating procedures, assessing coordination mechanisms, and evaluating overall capacity to perform the required functions across different phases of disaster risk management.

Project Location: Uttarakhand
Project Duration: June 2023
Supported By: United Nations Development Programme (UNDP)

6.2 Situation Analysis of Climate Change and Environment, Disability Inclusive Disaster Risk Reduction, and Humanitarian Response

The situation analysis strived to understand the evolution and the current context in the country related to climate change and environment, disability inclusive disaster risk reduction and humanitarian response. The study provided an in-depth understanding of the situation in terms of its general development context and its status on realising equality for persons with disabilities. The study also supported identifying critical needs, gaps and opportunities for CBM to promote inclusion.

Project Location: India
Project Duration: May to July 2023
Supported By: CBM India Trust, Bangalore

6.3 Urban Risk Reduction and Resilience: A Comprehensive Approach

The project involved development of training module and conduct of ToT on Urban Risk Reduction and Resilience: A Comprehensive Approach for the urban policy makers and practitioners (urban planners, engineers and architects). The module development was informed by stakeholder consultations. It envisaged to train and build capacity of future trainers on urban risks and resilience building to enhance urban resilience in Gujarat.

Project Location: Gujarat
Project Duration: January to May 2023
Supported By: Gujarat Institute of Disaster Management (GIDM), Government of Gujarat

6.4 School Safety Program in Maharashtra

The School Safety Program was part of the umbrella project of UNDP, "Strengthening the Disaster Risk Management Systems for the Government of Maharashtra". The School Safety Program aimed at training 340 Master Trainers across the state by conducting Training of Trainers (ToTs) programs, developing School Disaster Management Plans (SDMP) of selected 34 schools and conducting mock drills. The project included development of training module for ToTs, a school safety manual in English and Marathi along with development of IEC material and designing structure for a central portal having information on various aspects of school safety.

Project Location: Maharashtra
Project Duration: June to October 2022
Supported By: United Nations Development Programme (UNDP)

6.5 Development of SOP/ Guidelines to Establish SIDM in the State of Maharashtra

Under an umbrella project of UNDP, "Strengthening the Disaster Risk Management systems for the Government of Maharashtra", the project included development of SOP/ guidelines for establishing a dedicated State Institute for Disaster Management (SIDM) as a state-of-art excellent institute for training and capacity building, research, planning and knowledge management of varied aspects of disaster risk management in the state. The guidelines were developed by studying the similar existing institutions in India and globally along with undertaking active stakeholder consultations and engagement to understand the specific context and needs of the state.

Project Location: Maharashtra
Project Duration: June to August 2022
Supported By: United Nations Development Programme (UNDP)

6.6 Ecosystem Conservation and Disaster Risk Management by Strengthening Community Based Regulatory Mechanisms and Cultural Continuity in Sunderbans

Under this project joint publication is being developed by NIDM and RIKA for identifying socio-cultural practices linking ecosystem conservation and disaster risk management. For highlighting the sustainable activities and ecological resilience online training programmes have been conducted. The project aims to study the temporal change in regulations and ecosystem governance and analyse the impact of frequent disasters on cultural practices and livelihood in the Indian Sundarbans.

Project Location: India

Project Duration: August 2022 to ongoing
Supported By: National Institute of Disaster Management (NIDM)

6.7 Health Disaster Resilience Assessment of Bongaigaon District, Assam

The aim of the project was to analyze the current status of the healthcare system in Bongaigaon district by utilizing a comprehensive Healthcare Disaster Resilience Assessment Framework rating tool (5-point rating), and thereby generating key learning for improving disaster resilience. The mapping and assessment exercise of all health centres in Bongaigaon, Assam to generate short-term, medium, and long-term plans based on their disaster resilience was conducted with support from India Japan Laboratory (IJL), Keio University, Japan; Indian Institute of Technology (IIT) Guwahati in collaboration with the National Health Mission (NHM), Assam. The survey and the analysis of the total 137 centres in the district was undertaken as per the available four health blocks, namely Boitamari, Bongaigaon, Manikpur, and Srijangram through field-based research, key informant interviews, and insights.

Project Duration: August 2022
Supported By: National Health Mission, Assam
Location: Bongaigaon, Assam

6.8 Workshop to Discuss the Findings of Questionnaire Survey and Identify Potential ASEAN-Japan Collaborative Actions

RIKA India supported OYO Corporation, the consultant to International Cooperation Division, Disaster Management Bureau, Cabinet Office, Government of Japan in conducting the online workshop with ACDM (ASEAN Committee on Disaster Management) focal points. The workshop sought ASEAN's views on the current state of disaster management in ASEAN based on the findings of the questionnaire survey. It helped identify ASEAN's views on possible collaborative actions between ASEAN and Japan to address the challenges in strengthening disaster management in the region, which were mutually beneficial and could potentially be incorporated into the proposed ASEAN-Japan Work Plan on Disaster Management 2021-2025. The key participants of the workshop included ACDM Focal Points (or their representatives), members of AHA Centre, ASEC, representative of Cabinet Office of Japan, JICA, Mission of Japan to ASEAN and JAIF Management Team.

Project Duration: March 2022
Supported By: Oyo Corporation, Japan

6.9 Ecosystem Conservation and Disaster Risk Management by Strengthening Community Based Regulatory Mechanisms and Cultural Continuity

RIKA India conducted the three-day online training programme on Ecosystem Conservation and Disaster Risk Management by Strengthening Community Based Regulatory Mechanisms and Cultural Continuity. The webinar brought into light the need for more research on ecosystem services and creating knowledge products specifically taking into account the community-based practices. The linkages between ecosystem services and human-wellbeing need to be well understood. Most importantly, a need for the creation of awareness in ecosystem conservation and utilizing this opportunity to develop an action-oriented plan for the same was realized.

Project Duration: 11th to 13th January 2022
Supported By: National Institute of Disaster Management (NIDM)

6.10 Assessing the Profitability of Climate Smart Agriculture in the Ganges-Brahmaputra River Basin

This project was under the Collaborative Regional Research Programme (CRRP) of Asia-Pacific Network (APN) for Global Change Research. This project intended to achieve its goals by providing empirical economic evidence that could inform the development of new climate-smart policies. Thereby advancing knowledge on the costs and benefits of Climate Smart Agriculture (CSA) practices. It assessed the profitability of CSA practices through cost and benefit analysis adopted by small-scale farmers in Ganges Brahmaputra River basin of South Asia particularly in Bangladesh, India and Nepal. It was being led by the Science Hub, Nepal and supported by Agriculture and Forestry University, Nepal, Bangladesh Agricultural University, Bangladesh along with RIKA India.

Project Duration: August 2021 to July 2023
Project Location: Bangladesh, India & Nepal
Supported By: Asia-Pacific Network (APN) for Global Change Research

6.11 Implementation of Tech Emerge Resilience India Pilot Projects

The project provided technical support to 10 selected innovators under the Tech-Emerge Resilience India Challenge in terms of engaging, monitoring, and evaluating technical aspects of the solutions being implemented through disruptive technologies

during different phases of planning and implementation. The outcome of the project focused on the creation of states and cities resilient to climate change and disaster risks through the adoption of practices and solutions which were environmentally safe and sustainable through the use of disruptive technology. It primarily helped in addressing key sectors such as social innovation, development policy, finance, and technology by providing a platform for action-driven discussions and deliberations with other innovators as well as end-users and technology experts from the field.

Project Duration: June 2021 to May 2022

Supported By: Asian Disaster Preparedness Centre (ADPC)

6.12 CDRI Fellowship Programme 2021-22: Risk-Informed School Evaluation Tool (RISE Tool)

Under the CDRI Fellowship for the year 2021-22, a study on Risk-Informed School Evaluation Tool (RISE Tool) was undertaken. The study developed a tool that would help parents in undertaking risk-informed decision making and would promote effective disaster risk reduction measures in schools. It considered schools as critical infrastructure accommodating highly vulnerable group, the children; hence called for building their resilience so as to create safe learning spaces.

Project Duration: May 2021 to April 2022

Supported By: Coalition for Disaster Resilient Infrastructure (CDRI)

6.13 ASEAN Mapping Exercise to Promote Synergy with Other Relevant ASEAN Sectoral Bodies, & Entities Associated with ASEAN on DM

The project in collaboration with the Southeast Asia Disaster Prevention Research Initiative, University of Kebangsaan Malaysia (SEADPRI-UKM), Global Resilience Innovation Laboratory (GRIL) of Keio University, Japan focused on enhancing the role of the Joint Task Force for Humanitarian Assistance and Disaster Relief (JTF on HADR) Mechanism of ASEAN.

It helped identify the current and potential roles of each relevant sector bodies, centres and, entities in disaster management alongside mapping the technical expertise, capabilities and resources from each relevant sector which could be made available at ASEAN's disposal for Humanitarian Assistance and Disaster Relief (HADR) activities. The outcomes of the project included recommendations on enhancing the JTF on HADR to promote synergy with other relevant ASEAN Bodies to promote a whole-of-ASEAN approach towards supporting disaster management.

Project Duration: June 2021 to October 2021

Supported By: ASEAN Secretariat SEADPRI-UKM

6.14 Developing of Risk Sensitive Land Use planning for Neelkantha and Dullu Municipalities

The project established robust risk sensitive land use planning in two municipalities of Nepal. RIKA India supported the integration of disaster risk reduction parameters into land-use planning and their institutionalization at the municipal level. The project included reviewing, developing methodology and tools to incorporate the hazard, risk and vulnerabilities in land use planning.

Project Location: Nepal

Project Duration: April to December 2021

Supported By: Dai USAID, Tayar Nepal

6.15 Water-related Issues in Gujarat: Key Challenges and Prospects

A study was conducted to understand the key water-related issues in the Indian state of Gujarat and to understand associated sectors and areas with water reuse and recycling requirements. The study looked into the three key dimensions of water security, viz, water availability, accessibility (sustainability and affordability) and usage (adequacy and safety). Case studies were developed highlighting pressing issues of leakage, energy, etc. The key findings of the study threw light on the challenges and bottlenecks in promising water security in the state.

Project Location: Gujarat

Project Duration: May 2021 to July 2021

6.16 Interventions to Build Socio-Ecological Systems Resilience to Natural Hazards

The project involved conducting regional Training of Trainers (TOT) programmes on Integrated and Inclusive Natural Hazards Risk Reduction and Management targeting the Arab countries. It supported enhancing the readiness of communities in urban, peri-urban, and rural areas to address natural hazards risks; strengthening their capacities to manage these risks, and fostering the social capital in risks prone areas in the MENA region. It included development of tools and learning materials on disaster risk reduction, catering to the contexts and needs of the Arab region. The courses offered under the project, namely, Basic, Advanced and Specialised courses for Policymakers, NGOs, Farmers, Engineers, Private Sector and Media helped build a potential cadre of future trainers in the region.

Project Duration: March to September 2021

Supported By: UNESCO-MENA

6.17 Strengthening DRM Capacity under COVID-19 Pandemic in Cyclone/ Flood-Prone Area

The project evaluated and provided for better integration of aspects of biological hazards into existing planning and decision-making mechanisms for Disaster Risk Management (DRM) at the local level in the state of Odisha. It laid down guidelines and tools for supporting such integration with enhanced awareness and preparedness and capacity of local government and local communities for playing the critical roles and functions leading to better management of complex risks of natural and biological hazards. It included undertaking baselines studies, audience research, community-based field exercises and stakeholder consultations for mapping the gaps and identification of good practices and lessons learned from the management of Cyclone Amphan under the COVID-19 pandemic. The project was implemented in partnership with the Kalinga Institute of Social Sciences (KISS), Bhubaneswar in the six selected districts of Odisha.

Project Location: Odisha
Project Duration: January 2021 to February 2022
Supported By: JICA, India office

6.18 Systemic and Cascading Risks: Challenges and potentials in Asia-Pacific's risk landscape

The scoping study on Compound, Cascading and Systemic Risks in the Asia Pacific strived to understand the different aspects and dimensions of compound, cascading and systemic risks by mapping and analysing the literature and case studies for mapping the good practices, lessons learned and gaps in the management of such complex risks in the region. It led to the development of basic principles for their management along with a framework for strengthening the governance for management of such risks.

Project Duration: June to November 2021
Supported By: UNDRR

6.19 Country Paper on Building Resilience for Climate Change and Disasters

The country paper on building resilience for climate change and disasters focused on India. It discussed the nexus between climate change and disaster risks and the current and potential challenges it posed to India towards achieving the sustainable development agenda. It identified key drivers, challenges, opportunities in the context of India and suggested a way forward especially for achieving a "better recovery post COVID-19. Overall, it informed the India Common Country Analysis for the next UN Sustainable

Development Framework (2023-2030).

Project Duration: June 2021
Supported By: Office of the United Nations Recovery Coordinator UNORC

6.20 Enhancing Disaster Risk Reduction and Climate Resilience at UNESCO Sites in Asia-Pacific

The project supported developing the capacity of disaster risk management of UNESCO sites in the Asia-Pacific region by identifying gaps and lessons learned from the sites, offering support to implement small-scale DRM pilot projects at selected sites, and organizing knowledge exchange meetings. The process was supported by experts from the regional science networks. Key areas of focus were developing multi-disciplinary solutions, science communications, and mobilization of communities.

Project Location: Assam, Kerala, Maharashtra, Uttar Pradesh, West Bengal
Project Duration: March to May 2021
Supported By: UNESCO Jakarta Office & the Japanese Funds-in-Trust program

6.21 Strengthening Disaster Risk Governance Framework in India: Learnings from Global Best Practices

RIKA India in collaboration with India Japan Laboratory, Keio University and Institute for Social and Environmental Transition–International (ISET-International) undertook the study on 'Strengthening Disaster Risk Governance Framework in India: Learnings from global best practices.' It analyzed disaster risk management systems and processes in selected eight countries (USA, Canada, Germany, Japan, Australia, Turkey, Indonesia and Philippines) highlighting the good practices that could be adopted for the Indian context. The study was further informed by the review of existing literature and supported by inputs from country experts through web-based consultations.

Project Duration: October 2020 to January 2021
Supported By: NDMA. Government of India under the National Cyclone Risk Mitigation Project (NCRMP)

6.22 Urban Thinker Campus

Urban Thinker Campus (UTC) is an initiative of UN Habitat's- World Urban Campaign and aims to bring dialogues amongst experts from various fields of science and technology, management, etc. for better urban management. RIKA India along with Visvesvaraya National Institute of Technology (VNIT), Nagpur, India co-hosted the UTC in 2020. Other co-organizers included Centre of Excellence in Disaster Mitigation and Management, Indian Institute of

Technology (IIT) Roorkee, India Japan Laboratory, Keio University, Japan, Resilient Urban Planning and development (RUPD) GbR, Bonn, Germany, ARISE India FICCI, IRDR IcoE and IRDR RCS.

Chief guest Hon' Mr. Nitin Gadkari, Cabinet Minister for Road Transport & Highways and the Minister of Micro, Small and Medium Enterprises, Government of India addressing the participants

The event focused on comprehending the present and future urban challenges especially in the Asian countries and explored workable solutions that would ensure attaining sustainable goals in the context of urban climate change. Some of the eminent speakers included Ms. Mami Mizutori, SRSG, and Head UNDRR, Dr. Mazlan Othman, Director Regional Office for Asia and the Pacific, International Science Council, Malaysia, Dr. Emily Ying-Yang Chang, Director Collaborating Centre for Oxford University, among others.

Project Duration: 9th to 11th December 2020

Supported By: UN-Habitat

6.23 Preparation of Guidelines for Establishment of Emergency Operations Centre (EOC)

The preparation of Guidelines for Establishment of Emergency Operation Centre (EOC) was undertaken under the umbrella project 'Developing Resilient Cities through Risk Reduction in the context of Disaster and Climate Change' of USAID-GoI-UNDP. It included reviewing of existing national and international best practices of EOCs, undertaking stakeholder consultations and contextualising the findings to the needs of Indian cities for effective implementation and replication by urban local bodies. The guidelines so developed was aligned with existing global, national and sub-national DRM policies and guidelines.

Project Duration: September to December 2020

Supported By: UNDP

6.24 Preparation of 18 Ward Level Disaster Management Plan – Vijayawada City

The development of 18 Ward Level Disaster Management (WDMPs) was undertaken under the USAID-GoI-UNDP Partnership Project 'Developing Resilient Cities through Risk Reduction in the context of Disaster and Climate Change'. It involved incorporating all the applicable provisions laid down in the City Disaster Management Plan and Hazard Risk and Vulnerability Assessments of Vijayawada into the

WDMPs. The selected wards included 10 wards highly prone to landslides and Krishna River floods, 08 wards prone to Krishna floods. The process of WDMPs development was informed by review of global practices for the formulation of cities/ward level emergency management and stakeholder consultations at the local level.

Project Location: Vijayawada City, Andhra Pradesh
Project Duration: September to December 2020
Supported By: UNDP

6.25 Preparation of 18 Ward Level Disaster Management Plan – Visakhapatnam City

The development of 18 Ward Level Disaster Management (WDMPs) was undertaken under the USAID-GoI-UNDP Partnership Project 'Developing Resilient Cities through Risk Reduction in the context of Disaster and Climate Change'. The 18 wards were selected based on their proximity to the coast, associated hazards, and industrial profile.

The process of WDMPs development integrated of all the applicable provisions laid down in the City Disaster Management Plan and Hazard Risk and Vulnerability Assessments of Visakhapatnam City into the WDMPs. It was informed by review of global practices for the formulation of cities/ward level emergency management and stakeholder consultations at the local level. WDMPs laid down measures and SOPs to support varied stakeholders on their roles and responsibilities pertaining to DRM.

Project Location: Visakhapatnam City, Andhra Pradesh
Project Duration: September to December 2020
Supported By: UNDP

6.26 Quick Risk Evaluation Tool for Micro Small and Medium Scale Enterprises (MSMEs)

The COVID-19 pandemic resulted in severe economic losses calling for sustained period of interventions from both governments and the private sector to respond and recover. Micro, Small and Medium Enterprises (MSMEs) were at a high risk of being severely impacted by the broader effects of the outbreak and were also among the ones which led the fight to survival not only for their own business but also for the overall livelihood and well-being of their community.

Among the host of challenges faced by MSME, the most notable was the lack of access to credit. In the event of bigger shocks, like COVID-19 the MSMEs face an existential risk due to their smaller set of – both financial and non-financial – resources. Most MSMEs do not have enough in-house technical expertise, nor access to expertise in their area to help them develop business continuity and

recovery plans. To support MSMEs in aligning their thinking towards risk proofing their businesses, the quick self-risk estimation tool aimed to support business owners in identifying possible internal and external risks to their business from COVID-19. It provided for a general evaluation of individual business risk (MSMEs) based on potential Impact (direct) and likelihood (possible indirect and wider impacts) of COVID-19. Thereby, it promoted efforts to strengthen risk awareness and communication between business owners.

Under the same project another tool was developed Multi-hazard Business Quick Risk Estimation Tool which addressed the multi-hazard risks with consideration to cascading and compound risks. The tool highlights the most endangered aspects where interventions are required to curb losses to businesses. Currently the tool is capable of capturing the challenges faced by businesses based on the frequently occurring disaster events specific to the geographical locations. It considers complex geographical locations and secondary hazards that are triggered by majorly occurring disasters.

Project Duration: May 2020 - 2022
Supported By: UNDRR

6.27 Social Entrepreneurial Initiative - Thematic Incubators

Establishing an incubator at the university level to mentor and encourage future entrepreneurs, who can translate these targets into meaningful actions on the ground, is an important factor to actively create opportunities for the private sector in disaster risk reduction. The idea of thematic incubators is rather new. The themes vary from disaster risk reduction, safety, sustainable development, women entrepreneurship, conflict and peace, heritage risk management, citizen science, etc. The incubator centre mentors and trains the young entrepreneurs to bring innovation into the field of disaster management and climate change through new products, services and integrate research into this process. This entails developing start-ups with business development and marketing strategies, visibility of the product, linking and scaling opportunities in the DRR domain.

The signing of MoU Ceremony with Mody University

a. RIKA India has successfully established a Disaster Risk Reduction and Climate Change Thematic Incubation Centre at Mody University, Sikar, Rajasthan. This centre focuses on women leadership in Disaster Risk Reduction.
b. Another Incubation Centre with a focus on Science and Technology based solutions for the smart city of Nagpur on themes of environment, climate change and DRR is established at Visveswaraya Institute of Technology (VNIT), Nagpur, Maharashtra.

The signing of MoU for Thematic Incubation Centre Incubation at VNIT, Nagpur

c. RIKA India has partnered with BRAC University, Dhaka, Bangladesh for Thematic Incubation Centre on Coastal Risk Management and Disaster Risk Reduction.

The signing of MoU with BRAC University

6.28 Preparation of Eight (08) Ward Level Disaster Management Plans for Navi Mumbai

The development of 8 Ward Level Disaster Management (WDMPs) was undertaken under the USAID-GoI-UNDP Partnership Project 'Developing Resilient Cities through Risk Reduction in the context of Disaster and Climate Change'. It involved developing eight WDMPs on the lines of the Navi Mumbai Disaster Management Plan 2019 and incorporating the Hazard, Risk and Vulnerability Assessment of Navi Mumbai in the same. The process was informed by a review of global practices for the formulation of cities/ward level emergency Management and stakeholder consultations and data collection at departmental level.

Project Location: Navi Mumbai, Maharashtra

Project Duration: 3 Months (Feb to May 2020)
Supported By: United Nations Development Programme (UNDP)

6.29 Providing Technical Assistance to the State Government of Odisha in Setting Up the International Centre for Disaster Management

The study was undertaken as pert of the long-standing strategic partnership of UN with the State Government of Odisha. It included developing a paper capturing the details of the various centers for excellence (DM and CC) set up in different parts of the world through desk review. The review led to development of a concept note on the proposed International Center for Climate Change and Coastal Resilience (IC4R). Further, it provided for technical support to the UNRCO and the State Government of Odisha in establishing an agreement with various International Centers and Universities in the area of Disaster Management and Climate Change.

Project Location: Bhubaneshwar, Odisha
Project Duration: 30 days spread over January to December 2020
Supported By: United Nations Resident Coordinator's Office (UNRCO)

6.30 Functional Review of Odisha State Disaster Management Authority

The function review was undertaken as part of World Bank's process of preparing a DPF (Development Policy Finance) for the state of Odisha to strengthen institutions and systems for Social Protection, Statistics and Resilience. The review included studying and analyzing OSDMA's organizational readiness to address the current and evolving disaster and climate risk context of Odisha and provided recommendations towards the same. It broadly assessed OSDMA's strategic priorities, programs and thematic initiatives and their alignment with the Authority's legally envisioned role as well as the needs of the sector. It further examined OSDMA's institutional framework, human resources, and financial envelope towards meeting its envisioned goals. The review and note on Institutional Restructuring of OSDMA supported efforts towards strengthening its performance, addressing evolving risks, and establishing institutional mechanisms for knowledge exchange, among others.

Project Location: Bhubaneswar, Odisha
Project Duration: January to March 2020
Supported By: World Bank

6.31 Asia-Pacific Regional Framework for NATECH (Natural Hazards Triggering Technological Disasters) Risk Management

The project involved studying the NATECH risk in the Asia Pacific region through a review of literature and regional case studies. The analysis of the case studies led to devising basic principles for managing NATECH risk and the development of a framework for NATECH risk management in the region.

Project Duration: November to December 2019

Supported By: United Nation Office of Disaster Risk Reduction

6.32 Regional Assessment Report- Analysis of Regional Progress in DRR in Arab Countries

The Regional Assessment Report (RAR) was an important initiative of the UNDRR- Regional Office for the Arab States (ROAS) that contributed to the achievement of the Sendai Framework through monitoring risk patterns and trends and progress in disaster risk reduction in the Arab region while discussing various challenges and opportunities for the development of Arab countries in DRR. The RAR provided an overview of disaster risks in the region based on the evidence-based analysis. It highlighted the importance of investing in disaster risk reduction and the need to make risk-informed decisions for sustainable development.

The developed chapter presented an analysis of progress achieved at regional, sub-regional, national and local levels. It analyzed the relation between progress in achieving both the Sendai Framework for Disaster Risk Reduction (SFDRR) and the Sustainable Development Goals (SDGs), exposing the effects of SFDRR on overall SDG achievements and the effect of SDG achievement on DRR. It further delved into some of the specific thematic areas of SFDRR and provide a deeper understanding of issues and challenges in those areas. It presented case studies on the evidence of the shift from managing disasters to managing disaster risk at the national level in the Arab states.

Project Duration: December 2019 to February 2020

Supported By: UNDRR, Regional Office for the Arab States (ROAS)

6.33 Situation Analysis of Urban Action for People's Resilience Programme in Delhi and Chennai

The overall purpose of the study was to assess the situation of the target group (with a focus on women, children and youth) under two major components – communities taking risk-informed decisions to mitigate the impact of identified risks and communities dialoguing with different concerned stakeholders for their rights and entitlements (concerning DRR). The programme was implemented in six slums of Delhi (Shastri Park, Naib Sarai, Mansarovar Park, Geeta Colony, Jahangir Puri (K & D Block) and Bhalsawa (East and North-East Districts) and three slums of Chennai (Sadaipet slum, Nesapakkam and T. Nagar). A cluster programme approach was undertaken for building the resilience of urban communities through community networks and civil society networks all the while involving other concerned government/ non-governmental stakeholders. It led to development of a comprehensive report with key findings, conclusions and recommendations based on field visits and literature review along with formulation of Urban Disaster Risk Management Manual.

Project Location: Delhi and Tamil Nadu

Project Duration: January to February 2020

Supported By: Caritas India

6.34 School Disaster Management Plans and IEC: Vishakhapatnam

The project aimed to inculcate the culture of Comprehensive School Safety in the five identified schools of Vishakhapatnam City. Among the various groups affected by the past disasters, children are the most adversely impacted group as they are extremely vulnerable to social, physical and psychological factors due to the lack of knowledge and understanding of disasters. Therefore, inculcating the culture of risk reduction and resilience is a prerequisite to reduce the vulnerability of school children. To further this, the project included development of School Disaster Management Plans (SDMPs) for five identified schools in Vishakhapatnam City. Along with development of IEC content on how to prepare SDMPs, awareness on dos and don'ts for hazards like cyclones, floods, tsunami, earthquakes, heatwaves and fire accidents.

Project Location: Vishakhapatnam, Andhra Pradesh
Project Duration: December 2019
Supported By: UNDP

6.35 Simulation Exercise: Developing Resilience Cities through Risk Reduction in the Context of Disaster & Climate Change

Simulation exercise at a city level is an over-arching approach that not only aims at testing and evaluating the laid down plans and SOP but also targets inculcating the culture of awareness and preparedness, supporting cooperation among all stakeholders and assessing the functioning of existing resources.

A multi-hazard simulation exercise was conducted at Cuttack with active support from Cuttack Municipal Corporation. This was supported by preparing hazard-specific SOP for the major hazards such as cyclones, floods, and fire for the stakeholder departments; identification of major stakeholders (government and non-government) for the simulation exercise; conducting a preparatory planning meeting, training, simulation exercise, and debriefing for a triggered disaster involving stakeholder departments. The multi-hazard simulation exercise helped identify the bottlenecks and areas for improvement and laying down the recommendations for doing so. The project also included video documentation of the simulation exercise as a learning resource for key stakeholders and other cities.

Project Location: Cuttack, Odisha
Project Duration: November to December 2019)
Supported By: United Nations Development Programme (UNDP)

6.36 Revision of 2012 Early Warning System in Vijayawada City

The project aimed to review and update the 2012 Early Warning System (EWS) in Vijayawada City. It included the review of the technical design, structure and efficiency of exiting EWS in the city. As EWS involved multiple stakeholders and a set flow of communication, the project examined the linkages between stakeholders for collection

and dissemination system along with technologies involved and up-time performance. It further identified areas through which the EWS of the city could be strengthened and linked with district and departmental disaster management plans. The actual EWS mechanism was understood and reviewed through one-to-one consultation with the identified stakeholders. Various interviews/FGDs were conducted with officials of the stakeholder departments and community representatives, and case studies were developed. After analysis of the field level data and observations, the guidelines and recommendations were suggested for enhancing the EWS for the city.

Project Location: Vijayawada, Andhra Pradesh
Project Duration: August to November 2019
Supported By: United Nations Development Programme (UNDP)

6.37 Preparation for Disaster Risk Management Plan for GIFT City

GIFT City has been developed as a high-density urban area with state-of-the-art infrastructure services in the Gandhinagar district of Gujarat. Disaster Risk Management Plan (DRMP) for GIFT was unlike that of any conventional city since it was a green-field development. The major land use was commercial; occupied mainly by service sector-oriented institutions. The plan was developed in a participatory approach with multiple stakeholders and presented in an implementable manner.

The plan development process included a review of global best practices in the field of disaster risk management, relevant global, national and local frameworks, policies, acts guidelines, and plans. It was supported by field visits, consultations and review meetings for the better understanding of local context and building greater ownership among the stakeholders. The plan laid down the institutional setup for the GIFT City delineating roles and responsibilities for risk communication, prevention & mitigation, preparedness & capacity development, response and mitigation, response & relief and recovery phases. It provided for hazard specific action plans for earthquakes, floods, cyclones and fire. The handholding of the stakeholders for effective

implementation of the plan was ensured through a capacity building workshop.

Project Location: GIFT City, Gujarat
Project Duration: March to November 2019
Supported By: Gujarat Institute of Disaster Management (GIDM), Government of Gujarat

6.38 Regional Assessment of DRM Institutions in the South Asian Region

RIKA in partnership with ADPC undertook the regional assessment of DRM institutions to bring forth the challenges and issues which needed immediate attention to truly mainstream DRM as a culture. The project spanned seven SAARC countries, namely, Pakistan, Bhutan, Sri Lanka, Afghanistan, India, Bangladesh and Nepal. The project entailed regional stock-taking of national, sub-national and local DRM institutions.

The team provided technical inputs into the design of the overall methodology, analysis framework. It undertook technical review of 7 preliminary country reports and provided technical inputs to develop the preliminary regional DRM institutional assessment. It further supported in conducting a country literature review in India's DRM legal frameworks and acts, most recent national DRM plans, strategies and policies, and mandates and functions of public sector DRM institutions and other literature to map in-country public and other stakeholders involved in DRM along with conducting in-country stakeholder engagement, workshops and consultations. It reviewed the preliminary India DRM institutional assessment.

It reviewed and analysed the 6 (Afghanistan, Sri Lanka, Maldives, Pakistan, Nepal, and Bhutan) preliminary country DRM institutional assessment reports to develop the preliminary regional report. Further, it provided regional recommendations on the capacity development action plan, priorities for strengthening current status, and enhancing operation mechanisms.

Project Location: Pakistan, Bhutan, Sri Lanka, Afghanistan, India, Bangladesh and Nepal
Project Duration: June 2019 to May 2020
Supported By: World Bank

6.39 Supporting the Establishment of India University Network with UNDRR & NIDM

RIKA India supported the initiative on the establishment of a professional network of universities and institutes

which offer a course on Disaster Risk Management. This professional association would promote common efforts towards sharing disaster knowledge across the region in educational institutes. This project entailed detailed study, mapping of university courses and strategy-building for the professional development of the nation-wide association. This initiative was supported by UNDRR and NIDM.

It involved cconceptualization of framework, provision of inputs from international experience of such professional association, supporting organisation of the National Consultative Workshop and reporting.

Project Location: India
Project Duration: December 2018 to April 2019
Supported By: UNDRR, Bangkok office

6. Publications

Academic writing and publications are one of the core activities at RIKA India. Team members contribute to various academic writings, book chapters and reports and share the knowledge on national and international platforms.

6.1. Academic Papers

The recent academic writings are listed below:

1. Sulfikkar Ahamed, M., Sarmah, T., Dabral, A., Chatterjee, R., Shaw, R., Unpacking Systemic, Cascading, and Compound risks: A case-based analysis of Asia Pacific-Progress in Disaster Science: Volume 18- April 2023. https://www.sciencedirect.com/science/article/pii/S2590061723000121?via%3Dihub
2. Sulfikkar Ahamed, M., Chatterjee, R., Shaw, R. (2022). Social Entrepreneurship and Disaster Risk Reduction—A Case of India. In: Ray, P., Shaw, R. (eds) Technology Entrepreneurship and Sustainable Development. Disaster Risk Reduction. Springer, Singapore. https://doi.org/10.1007/978-981-19-2053-0_11

3. Nakum, V. et al. (2022) Developing a framework on school resilience for risk-informed decision-making, Progress in Disaster Science, Volume 15, 100237, ISSN 2590-0617, https://doi.org/10.1016/j.pdisas.2022.100237
4. Ahamed, M.S., Chatterjee, R., Shaw, R. (2021) Climate Change, Loctus Crisis and COVID-19 – An Overview. Know Disasters. https://rikaindia.com/wp-content/uploads/2021/07/Locusts.pdf
5. Bajwa, S., Dabral, A., Chatterjee, R., Shaw, R. (2021) Co-Producing Knowledge Innovation through Thematic Incubators for Disaster Risk Reduction and Sustainable Development in India. Sustainability. 13(4):2044. https://doi.org/10.3390/su13042044
6. Chan, EYY., Dubois, C., Fong, AHY., Shaw, R., Chatterjee, R., Dabral, A., Loyzaga, A., Kim, Y-k., Hung, KKC., Wong, CS. (2021). Reflection of Challenges and Opportunities within the COVID-19 Pandemic to Include Biological Hazards into DRR Planning. International Journal of Environmental Research and Public Health. 18(4):1614. https://doi.org/10.3390/ijerph18041614
7. Dabral, A., Bajwa, S., Shioyama, S., Chatterjee, R., Shaw, R. (2021), "Social Innovation Hackathon for Driving Innovation in Disaster Risk Reduction (DRR)", Journal of Integrated Disaster Risk Management. https://www.idrimjournal.com/article/28876-social-innovation-hackathon-for-driving-innovation-in-disaster-risk-reduction-drr
8. Dabral A., Sasaki K., Nizhamudong Y., Chatterjee R., Shaw R. (2021) Innovation in Earthquake Early Warning System: A Case Study of EQ Guard. In: Sakurai M., Shaw R. (eds) Emerging Technologies for Disaster Resilience. Disaster Risk Reduction (Methods, Approaches and Practices). Springer, Singapore. https://doi.org/10.1007/978-981-16-0360-0_3
9. Chatterjee R., Dar L.K; Dabral A (2020) Stressors of disaster-induced displacement and migration in India" from your book; in Urban Ecology: Emerging Patterns and Social-Ecological Systems pp 71-87. Elsevier. Doi: 10.1016/B978-0-12-820730-7.00005-7
10. Izumi, T.; Shaw, R.; Ishiwatari, M.; Djalante, R.; Komino, T., Sukhwani, V., Adu Gyamfi, B. (2020): 30 innovations for disaster risk reduction by IRIDeS, Keio University, the University of Tokyo, UNU-IAS, CWS Japan, Japan, 97 pages. https://rikaindia.com/wp-content/uploads/2021/01/70713_7071330innovationslinkingdrrwithsdg.pdf

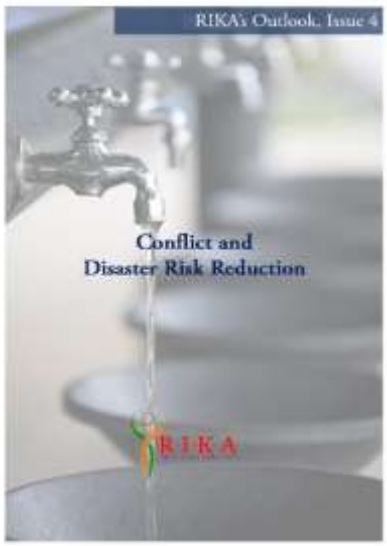
11. Bera S., Guru B., Chatterjee R., and Shaw R. (2020) Geographic variation of resilience to landslide hazard: A household-based comparative studies in Kalimpong hilly region, India; IJDRR, Elsevier, https://doi.org/10.1016/j.ijdrr.2019.101456
12. Mohanty, S.K.; Chatterjee, R.; Shaw, R. Building Resilience of Critical Infrastructure: A Case of Impacts of Cyclones on the Power Sector in Odisha. Climate 2020, 8, 73. https://doi.org/10.3390/cli8060073
13. Chatterjee, R., Bajwa, S., Dwivedi, D., Kanji, R., Ahammed, M., & Shaw, R. (2020b). COVID-19 Risk Assessment Tool: Dual application of risk communication and risk governance. In Progress in Disaster Science (Vol. 7). https://doi.org/10.1016/j.pdisas.2020.100109
14. Mohanty, S. K., Chatterjee, R., & Shaw, R. (2020). Building resilience of critical infrastructure: A case of impacts of cyclones on the power sector in Odisha. Climate, 8(6). https://doi.org/10.3390/CLI8060073
15. Ray, B., & Shaw, R. (2018). Changing built form and implications on urban resilience: Loss of climate responsive and socially interactive spaces. Procedia Engineering, 212, 117–124. https://doi.org/10.1016/j.proeng.2018.01.016

6.2. Outlook

RIKA India flagged an "Outlook" series where team RIKA shares its views on very pressing ongoing issues and concerns in the field. Outlooks are available on the following topics.

1. Sendai Framework Focuses On "Natural" and "Man-made" Hazards
2. Smart Insurance for Smarter Cities
3. Soft Assets in Resilient infrastructures
4. Conflict and Disaster Risk Reduction
5. Involving the Informal MSME's in Disaster Management
6. New Technologies and Disaster Risk Reduction
7. Capacity Development of Local Institutions for Disaster Risk Reduction
8. Reducing Disaster Risks to Cultural Heritage

9. Citizen Science and Disaster Risk Reduction
10. Climate Change Adaptation and Disaster Risk Reduction
11. Simulation Exercises Intertwining Double-Disaster Scenarios: Need to Strengthening Disaster Risk Governance
12. Thematic Incubation for DRR
13. Role of Professional Network in DRR
14. Covid-19 Pandemic: Beyond a Health Emergency!
15. Climate Change, Locust Swarms and Food Security: What to look forward
16. Rethinking urban planning for Risk resilient future cities



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