Localizing Resilience Agenda

Transformational Governance, Innovations and Capacities: Learnings across boundaries

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Migrant workers in cities

Chapter 22
Multi-Hazard Risk Management During Pandemic

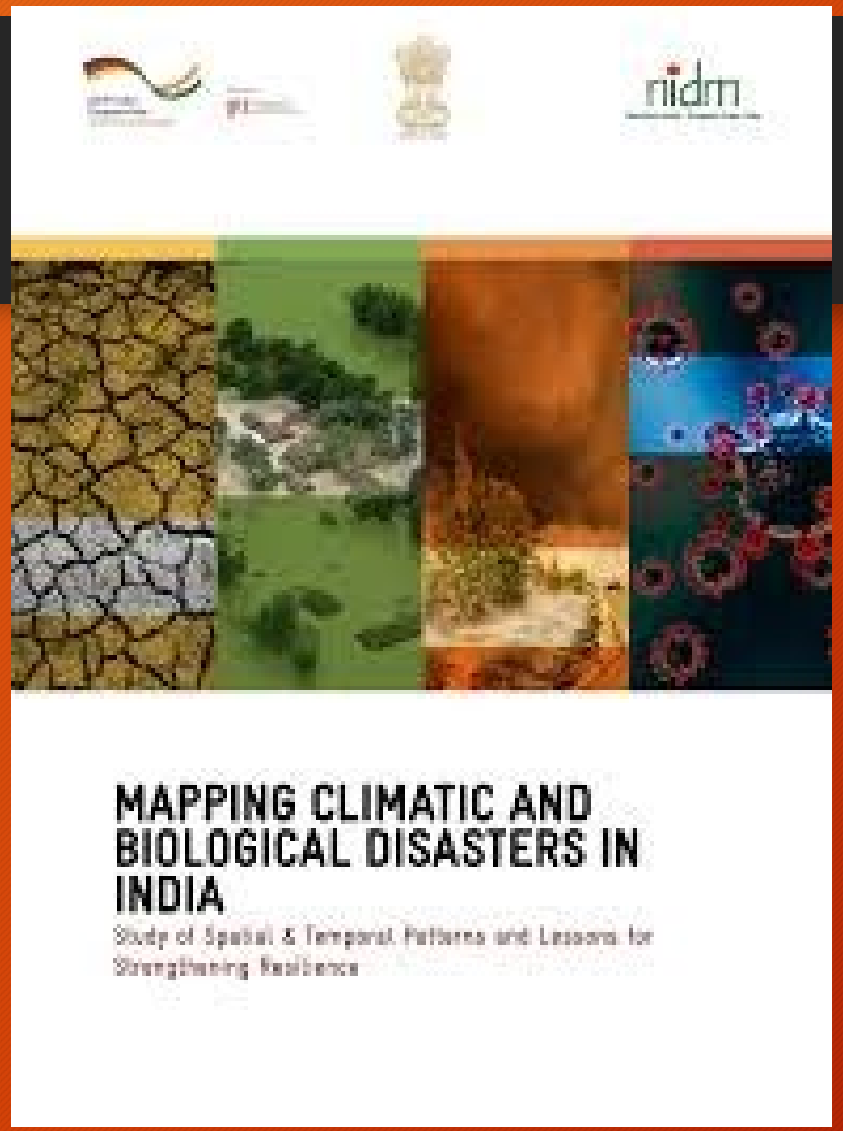
Thinles Chondol, Shweta Bhardwaj, Ashish Kumar Panda, and Anil Kumar Gupta

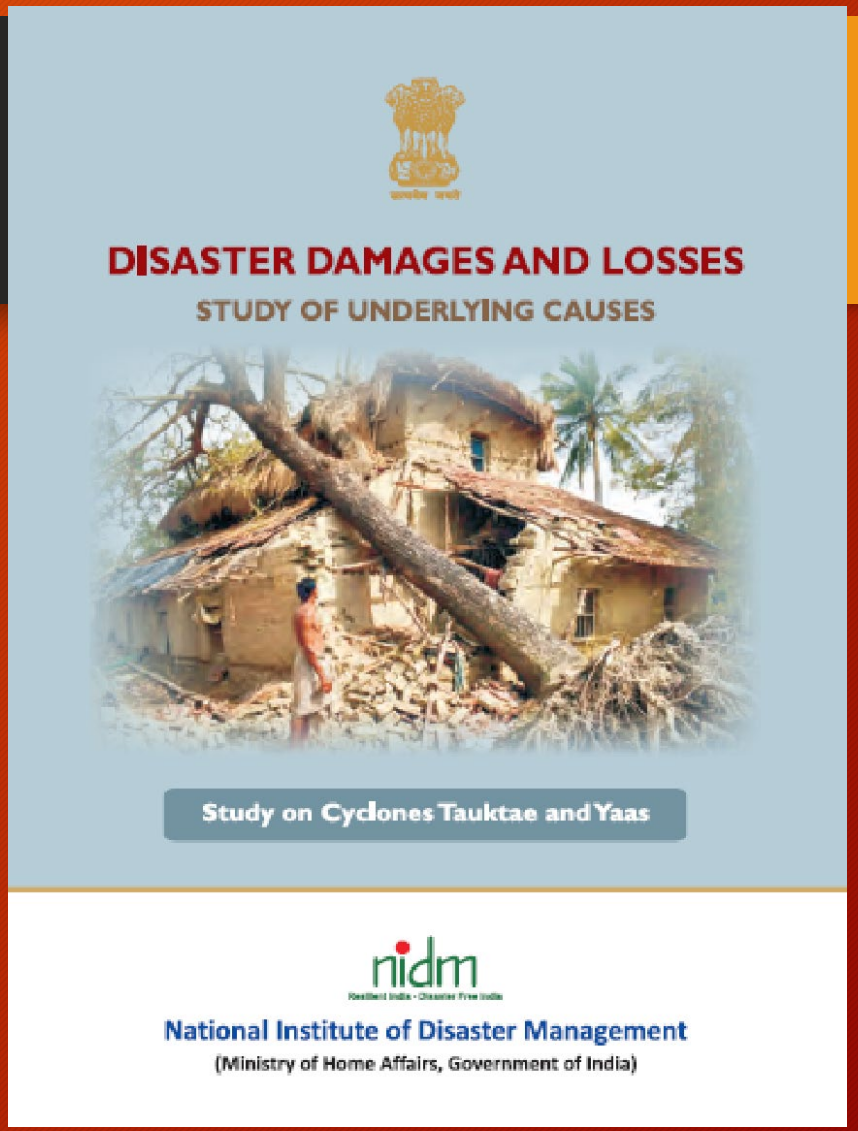
Abstract Disasters not necessarily occur one at a time rather multiple disasters may occur amid another, in a form of secondary or cascading disaster or a new disaster may occur from a new origin due to the aggravated vulnerability factors. In past

M. K. Goyal, A. K. Gupta (eds.), *Integrated Risk of Pandemic: Covid-19 Impacts, Resilience and Recommendations*, Disaster Resilience and Green Growth,
https://doi.org/10.1007/978-981-15-7679-9_22

Recent Studies

- 25 years / 3 period
- 4 climatic, 3 biological disasters
- All states / UTs
- Frequency, Mortality






Swachh Bharat
Mission


GOBARdhan
Scheme


Catch the Rain

Disasters: Trends and Transformations

- Damage and Losses: Life, Infrastructure, Economy, Environment
- New disasters trends: Forest fire, Heat, Industrial…
- Sectoral contexts
- Disruptive changes – Futuristic concerns

Innovations

- Self Reliance
- Integrated planning process
- Finance – Climate & DRR
- Volunteerism
- S&T and Innovation Policy
- Scoreboard : City resilience
- L&D – Underlying causes
- Climate knowledge network

Sectoral dimensions

- National Health Adaptation Plan
- Disaster management plan of Central Ministries/ Departments
- Experience of Covid Pandemic, Non-medical actors, DM Act, Social – Migrants
- Lateral – Role of traditional knowledge – Ayush, Food advisory
- Multi-hazard risk management during Covid Pandemic – Indusrial /chemical
- Business sectors DRR – BCM

Recent inititiaves

- CAP-RES (DST, GOI) – CECR
- HER-CAP (WHO), CDH (NPCCHH)
- RSS2047 (Jan 2022)
- LiFE Mission: Global Call for Ideas
- G20: Forest fire, Land degradation, Drought, Floods, Food & nutritional security
- Cooperation to support other nations
- CDRI
- NAPCC, SAPCC, DAPCCs

Future vision

- Vision 2047
- Health – Environment – Climate – DRR Nexus
- Institutional revamping
- Asia – Pacific network / framework
- Enablers and resource support system
- Human capacity programmes

LiFE
Lifestyle for Environment

भूमे मातर्नि धेहि मा भद्रया सुप्रतिष्ठितम् ।
संविदाना दिवा कवे श्रियां मा धेहि भूत्याम् ॥

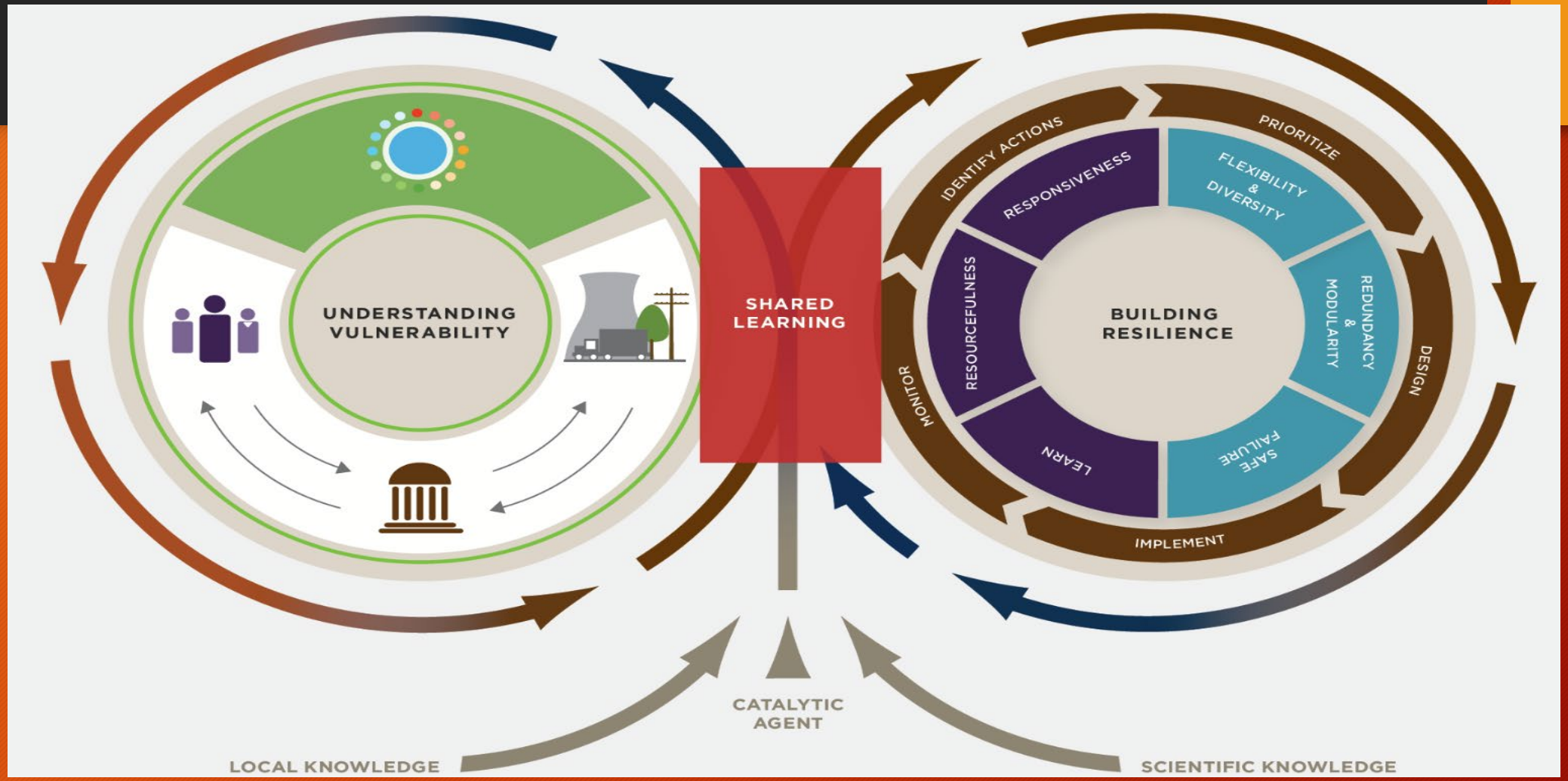
"With an utter sense of ethics and dutiful attitude, we can live happily in an honourable position. It is reiterated that the evolving Earth, of one accord with the Sun sets the supersentient seer in glory and in wealth."

Atharva Veda (A.V.) 12.1.63

This word is LiFE, which means 'Lifestyle For Environment'. Today, there is a need for all of us to come together and take Lifestyle For Environment (LiFE) forward as a campaign. This can become a mass movement towards an environmentally conscious lifestyle.

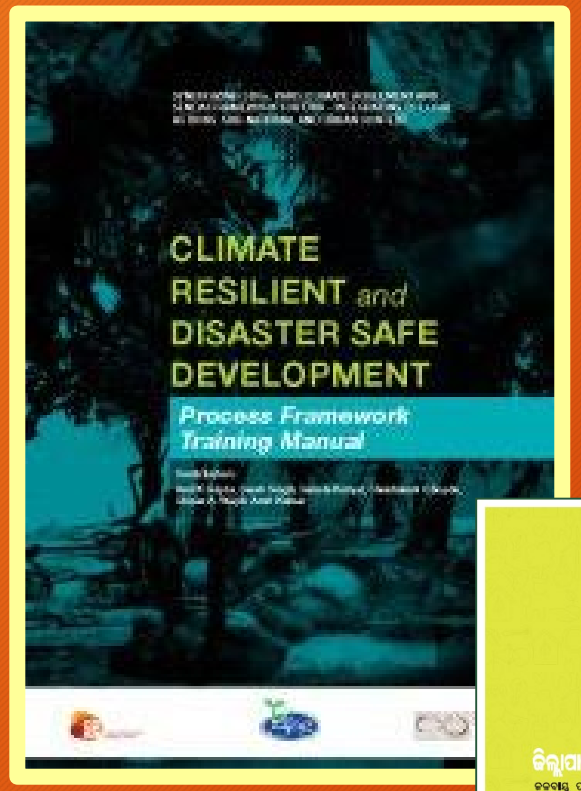
Prime Minister **Narendra Modi** at **COP 26**

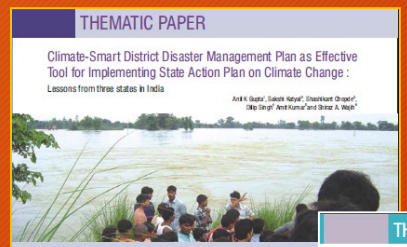
The Climate Resilience Framework (CRF)

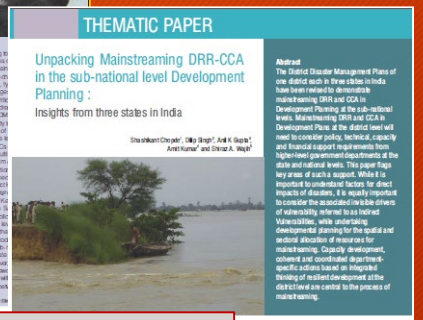


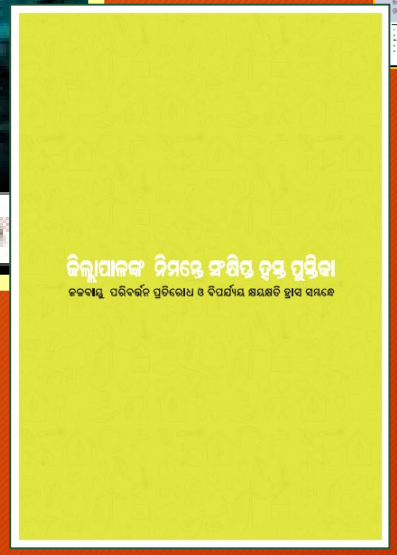
ISET, GEAG & NIDM

Scaling Up 3 States and National Level Lessons









	DDMP Sections			SAPCC Sections					
	VI	VIII	IX	A	M	SV	SS	SF	SI
DDMP Actions									
Planning assumptions for different departments				SC1					
Disaster Specific Measures and Approaches (**Heat wave, Water, Disaster-Floods, Cyclones, Food**)				SC1	SC2		SCD-15,16,SHE5,SWA4		SI2
Climate Change Action Plan Remarks: Department/Sector wise impacts against each disaster are given along with existing coping practices (Disasters:- Cyclones, Floods, Drought, Heavy Rains) (Department/Sector:- **Agriculture, Health, Water**)				SC1	SC2	SV1, SV2	SAG-3,4,11,13, SHE2, SWA-4,5,7 SAG-7,17,SCD2		
Understanding Disaster Risks				SC1		SV1,SV2			
Inter-Agency Coordination for **Disaster** Management							SAG2,SCD4		SI2
National/State Schemes for CCA-DRR (**Health, Water, Agriculture, Disaster Preparedness**)				SC1	SC2	SV2,SV3	SAG-4,6,7,9,17,SCD11,SHE2		
Investing in DRR Structural and Non-Structural Measures (**Agriculture, Forestry, Health**) **Specific capacity needs for various departments (Health, Forest, Agriculture)**				SC1	SC2		SAG-1, 5,8,10,11,12,13,19, SCD5, SFO-1,2,3.4.5,SHE2,5 SAG-4,4,7,9,15,17,18,SCD3,SFO12	SF1	

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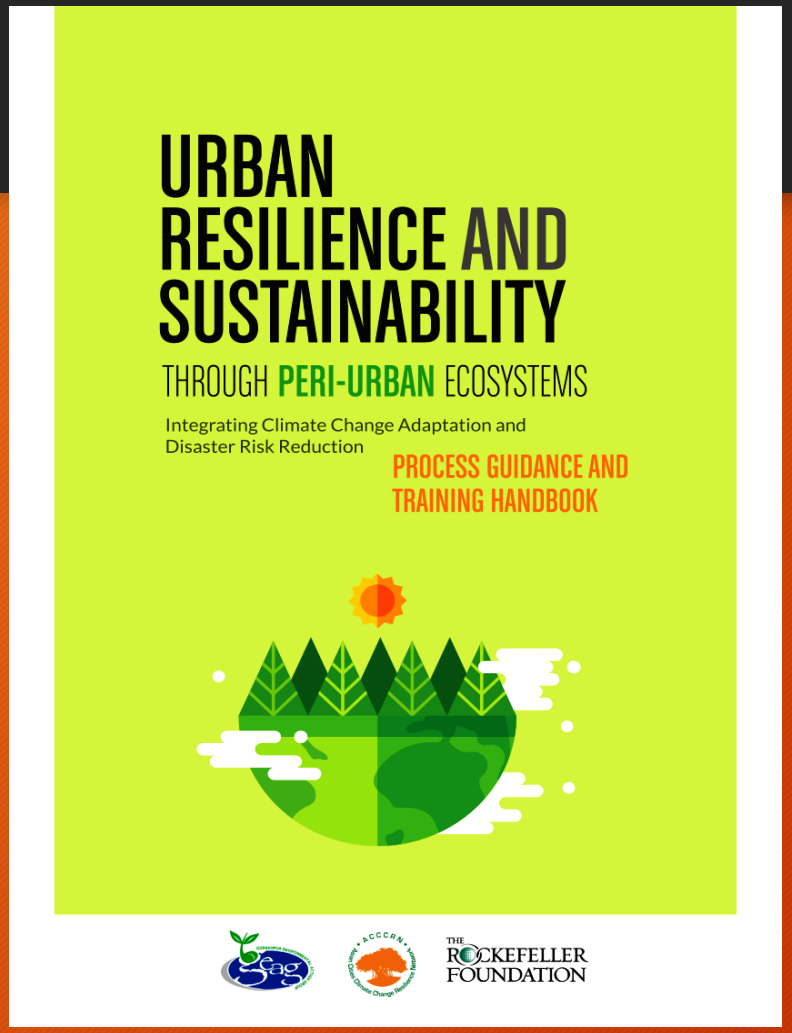
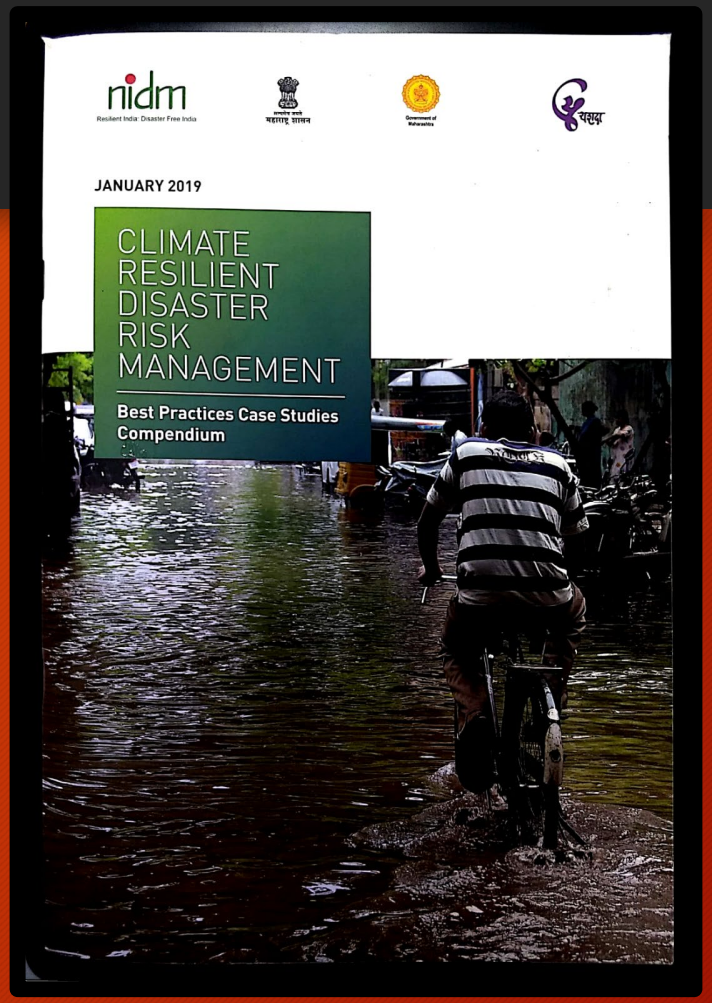
Towards a disaster free India

Ecosystem Approach to Disaster Risk Reduction


URBAN
RESILIENCE AND
SUSTAINABILITY
THROUGH PERI-URBAN ECOSYSTEMS
Integrating Climate Change Adaptation and
Disaster Risk Reduction
PROCESS GUIDANCE AND
TRAINING HANDBOOK
THE ROCKEFELLER FOUNDATION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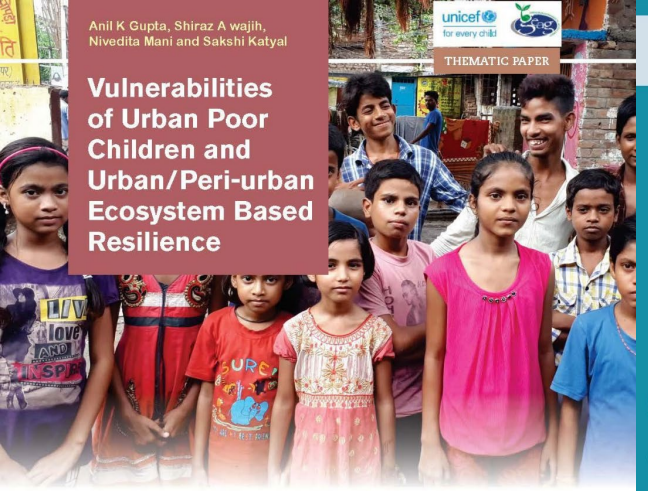
Resilient India: Disaster Free India
JANUARY 2019
CLIMATE
RESILIENT
DISASTER
RISK
MANAGEMENT
Best Practices Case Studies
Compendium

Anil K Gupta, Shiraz A wajih,
Nivedita Mani and Sakshi Katyal

Vulnerabilities of Urban Poor Children and Urban/Peri-urban Ecosystem Based Resilience

unicef for every child

THEMATIC PAPER



ABSTRACT

World is witnessing unprecedented urban sprawl, with high pace in the Asia Pacific. It is likely that half of the Indian population shift to cities and towns in the coming two decades, and the already prevailing challenges of urban poor will manifest itself as a major challenge if not addressed proactively and prudently. Climate change and ecological degradation are major impediments, in the backdrop of inadequate civil infrastructure and services of water, sanitation and health. Children and more particularly urban poor children bear and would continue bearing the brunt of their as well as their family's sufferings. The ever growing migratory population duelling in slums, urban villages, fringes and peri-urban areas include significant portions of rural ecological refugees affected by prolonged climatic stresses, agricultural setbacks, natural hazards or socio-cultural challenges, in addition to job and amenities aspirations. Children are differentially vulnerable to climatic stresses, related disasters and health risks. In order to understand the vulnerability of urban poor children to climatic risks and issues pertaining to peri-urban ecosystems in resilience building, a study has been undertaken in five cities of India, viz. Shimla (Himachal Pradesh), Indore (Madhya Pradesh), Gorakhpur (Uttar Pradesh), Panjim (Goa) and Guwahati (Assam). Of late, the role of ecosystems and particularly those constituting of peri-urban areas on which many of city's services and interests depend have come to some recognition in the discourse of resilience as well of sustainable cities. However, urban and rural planning still has no mechanism to harness peri-urban potential and, thus, degradation of peri-urban ecosystems continue posing even greater threat to urban poor and particularly to children. The context of Sustainable Development Goals (SDGs) and other resilience related

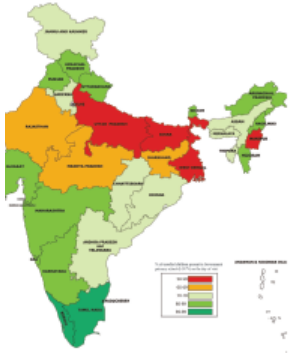
unicef for every child

Children's vulnerability in the context of climate change induced disaster risks *in bih*

Vulnerability of children under climatic and disaster risks in the Bihar state of India | Policy Brief 2

Vulnerability of Child Education with Reference to Climate Uncertainties *in Bihar (India)*

The average number of disasters due to natural hazards is expected to compound by 320% over the course of the next 20 years. Disasters induced by extreme climatic conditions have a different impact on children as compared to adults and pose a serious threat towards their survival well-being. According to a Save the Children 2008 report, more



Vulnerability of children under climatic and disaster risks in the Bihar state of India | Policy Brief 4

Water and Sanitation Vulnerability with Reference to Climatic Risks *in Bihar (India)*

Safe drinking water, better sanitation and hygiene practices are the basic foundation of survival and development for children. However, this has been a grave problem for India, particularly rural areas where unavailability of potable water has resulted in sanitation and health issues. According to the NSSO survey report of 69th round (2012), 37.6 percent of rural population in India did not get sufficient drinking water for three months and 39.4 percent have no latrine facilities, which imply that they are forced to defecate in open. The report further says that 49.9 percent of rural households did not have proper drainage systems, thus making the sanitation issues worst. The onset of disasters coupled with climate change has further aggravated the problems of disasters like recurrent floods, droughts, storms and other hydro-met extremes, which hinders the provision of safe drinking water resulting in the availability of contaminated water and poor sanitation systems. Government of India, with key ministries like Ministry of Health and Family Welfare, Ministry of women and child development, Ministry of Drinking water and Sanitation have taken various measures to

The fact sheet rural children of Bihar

- *It is estimated that water and sanitation crisis in the state is putting the lives of 30 million children at the risk of diseases such as diarrhoea, cholera, typhoid and other water borne diseases and causing the high rate of infant and child mortality (ACDS Report 2013).*
- *The statistics say that only half of the rural households in Bihar get their daily supply of water throughout the year from piped water supply at home or public taps/ standpipes (both for drinking and other household use); 66 percent of people do not have bathing facility, and 76.9 percent have no access to latrine at home (Census, 2011).*
- *Often poor sanitation and unsafe drinking water cause intestinal worm infections, which leads to malnutrition, anaemia, and retardation among children.*
- *The Annual Communicable Diseases Surveillance Report 2013 revealed that due to poor sanitation and intake of contaminated water, 5 lakh cases of acute diarrhoea were reported in the year 2013 alone in the state which constituted 13 % of the total reported cases caused by enteric, food and water borne diseases.*

Water and Sanitation Vulnerability with Reference to Climatic Risks in Bihar State (India) 1

Vulnerability of children under climatic and disaster risks in the Bihar state of India | Policy Brief 1

Child Health Vulnerability in Bihar (India) *with Reference to Climatic Risks*

Children are particularly vulnerable to the impact of climate change due to unique metabolism behaviour, physiology and development characteristics (Bunyavanich et al., 2003). Changes in rainfall pattern, frequency of floods, droughts and other hydro-meteorological events during the last couple of decades in the state have rendered a direct influence on the health and disease patterns of children. As per National Health Family Survey 2015-16, as many as 58 children per 1000 live births die every year in the state. The economic survey report of Bihar (2015-16), reveals that the number of cases recorded in respect to different diseases like Acute Respiratory Infections (1.73 million), followed by Fever of Unknown Origin (1.3 million), Acute Diarrhea (0.69 million), Dysentery (0.36 million) and Enteric Fever (0.31 million) are quite high. The spread of the diseases in the future is expected to increase as a result of climate variability effects. Apart from these changes in the spectrum of vector and water borne diseases, increasing air pollution from uninterrupted burning of fossil fuels has also

All the agro-climatic regions of Bihar show high levels of maternal and child malnutrition. The mother's malnutrition begins to impact the child's health at pregnancy. Health officials at Madhepura and Gaya District revealed that in whole of Bihar, more than 50 percent women are malnourished. One official said "a mother who is malnourished is unable to provide adequate sustenance for her growing foetus. As a result, such babies have a higher rate of premature birth and being born underweight." Close to half the babies born in Sheikhpura and Madhepura district hospital suffer from malnutrition, and without specialized care and follow up, they are at risk to a number of life-threatening ailments and developmental challenges. Not only are undernourished babies at threat, but malnourished mothers are also at an elevated risk of maternal mortality.


Developing
Disaster-Risk
Resilience
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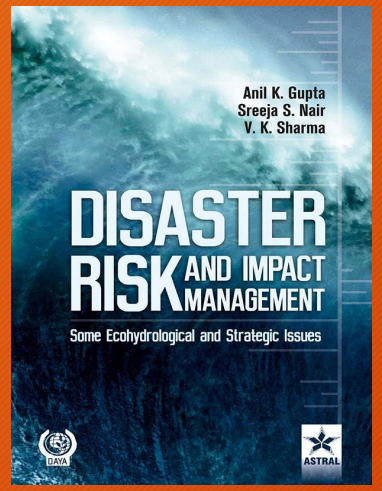
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Some Ecohydrological and Strategic Issues
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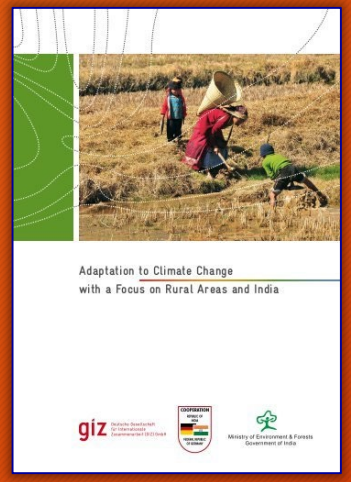
Adaptation to Climate Change
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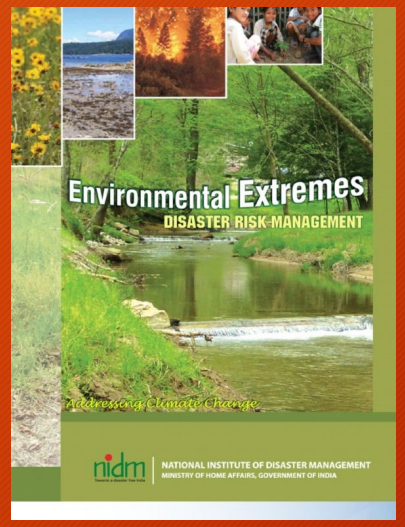
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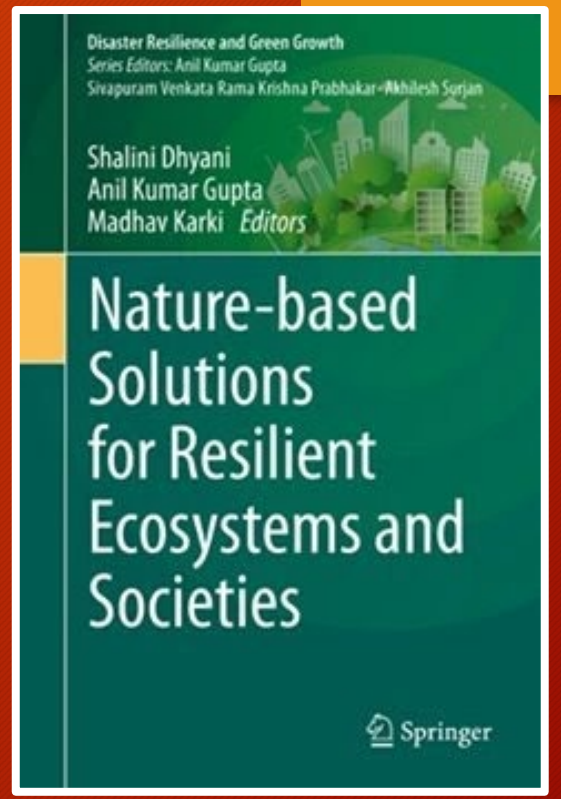
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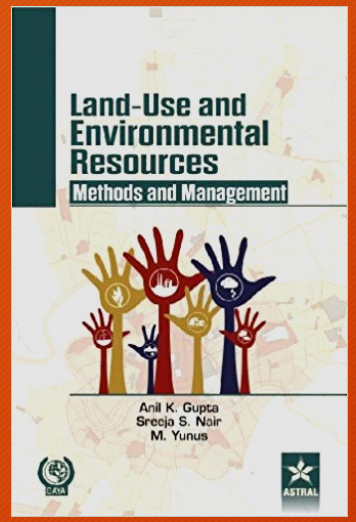
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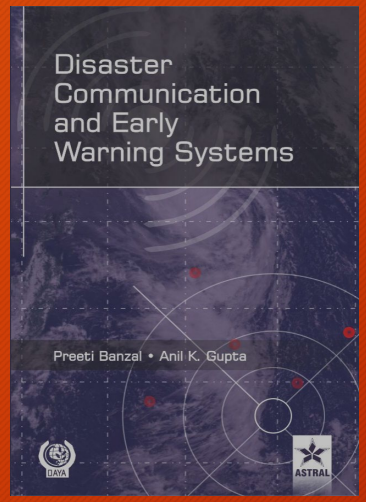
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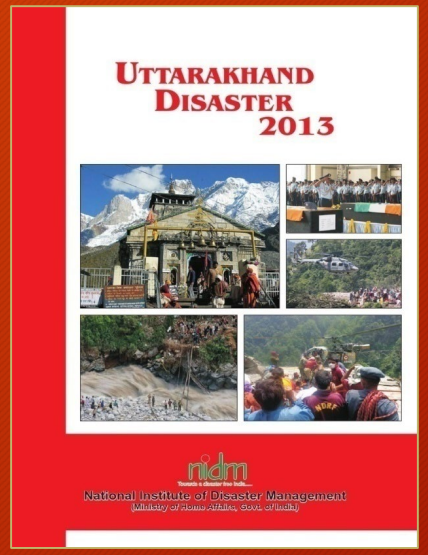
UTTARAKHAND
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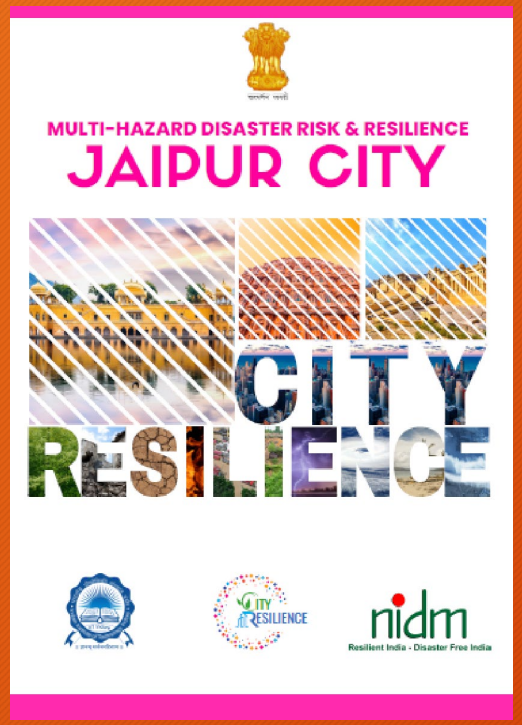
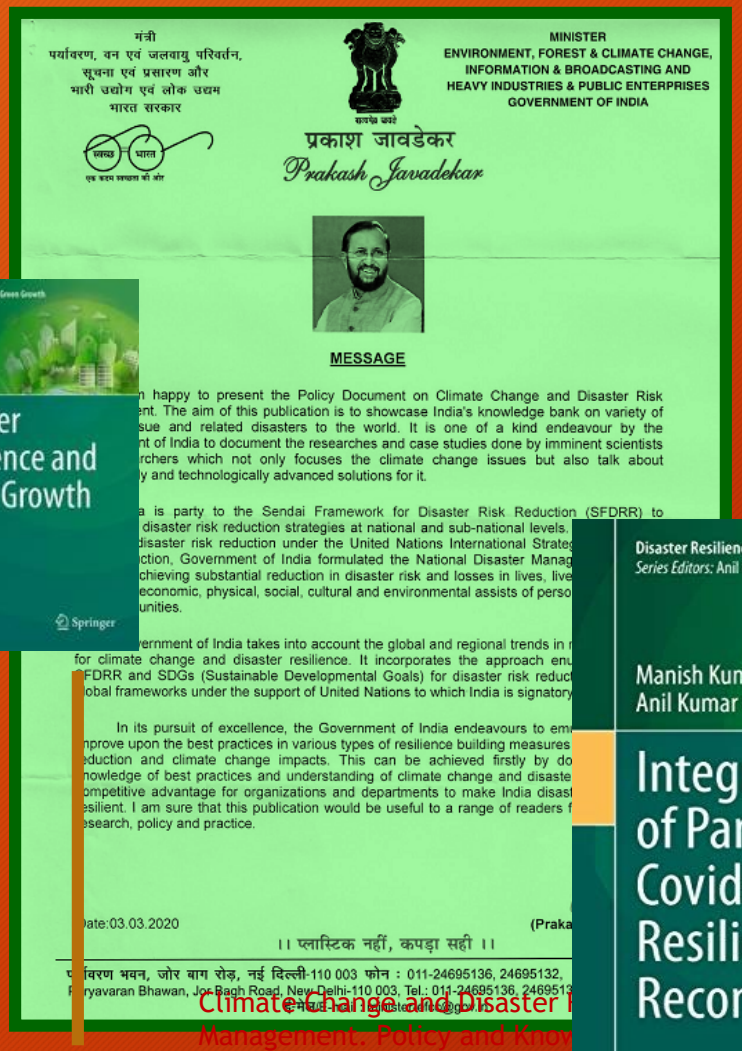


Nature based Solutions for Resilient Ecosystems and Societies edited by, Dhyani, S., Gupta, A.K., and Karki, M., Publisher: Springer Nature, Singapore



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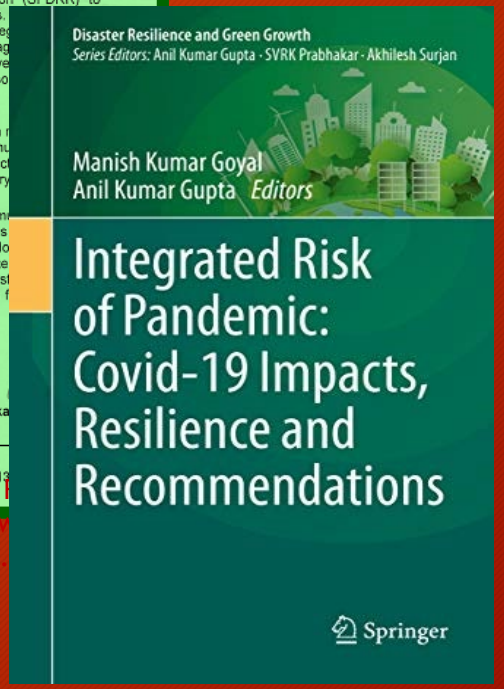

अश्वत्थो देवसदनस्तृतीयस्यामितो दिवि ।

तत्रामृतस्य चक्षणं देवाः कुष्ठमवन्वत ॥

– अथर्ववेद ५.४.३

It is prohibited to cut Vat Vriksha as Gods live in this tree and you get no disease where this tree is planted.

- Atharvaveda 5. 4. 3

दशकूपसमा वापी दशवापीसमो ह्रदः ।

दशह्रदसमः पुत्रो दशपुत्रसमो द्रुमः ॥

– मत्स्य पुरान १५४:५१२

A pond equals ten wells and a reservoir equals ten ponds. A son equals ten reservoirs, and a tree equals ten sons!

- Matsya Puran 154 : 512

ईशावास्यमिदं सर्वं यत्किञ्च जगत्यां जगत् ।

तेन त्यक्तेन भुञ्जीथा मा गृधः कस्यस्विद्धनम् ॥

– ईशोपनिषद्, मन्त्र 1

God pervades the entire universe,
Enjoy all of nature as gifts from God,
but with a spirit of renunciation!
Do not be attached to them!
Do not covet the wealth of others;
Control Greed!

- Isha Upanishad, Mantra 1

समुद्रवसने देवि पर्वतस्तनमण्डिते ।

विष्णुपत्नि नमस्तुभ्यं पादस्पर्शं क्षमस्व मे ॥

Mother Earth, who has the ocean as clothes, adorned by mountains and forests, and is the consort of Lord Vishnu, I bow to you to please forgive me for touching you with my feet.

https://www.researchgate.net/profile/Anil_Gupta15

Thank You