

1. Record Nr.	UNINA9910743242103321
Autore	Ghosh Candana
Titolo	A system engineering approach to disaster resilience : select proceedings of VCDRR 2021 // Chandan Ghosh and Sreevalsa Kolathayar
Pubbl/distr/stampa	Singapore : , : Springer, , [2022] ©2022
ISBN	981-16-7397-7 981-16-7396-9
Descrizione fisica	1 online resource (546 pages)
Collana	Lecture Notes in Civil Engineering ; ; v.205
Disciplina	363.348
Soggetti	Hazard mitigation Hazard mitigation - Social aspects
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Intro -- Preface -- Contents -- About the Editors -- A System Engineering Approach to Disaster Resilience-An Introduction -- 1 Introduction -- 2 Disaster Preparedness -- 3 Climate Change Adaptation and Mapping Tools -- 4 Resilient City and Flooding -- 5 Community Resilience Measures -- 6 Dams and Slope Mitigation -- 7 Strengthening Measures -- 8 Summary -- References -- Disaster Preparedness -- Impact of Human Activities Inducing and Triggering of Natural Disasters -- 1 Introduction -- 2 Effects of Human Population and Activities on Climate Change -- 2.1 Extension of Atmospheric Strata Boundary -- 3 Effects of Population Impacting on Environmental Degradation -- 4 Impact of Human Footprint Causing Natural Disasters -- 4.1 Capacity of Planet Earth to Support Human Population -- 5 Ecological Footprint (EF) -- 6 Prominent Ways of Triggering Natural Disasters -- 7 Disaster Management Strategies -- 8 Discussion -- 9 Concluding Remarks -- References -- Implementation of Build Back Better Concept for Post-Disaster Reconstruction in Sri Lanka -- 1 Introduction -- 2 Literature Review -- 2.1 What is Build Back Better? -- 2.2 Build Back Better in Sri Lanka -- 3 Research Methodology -- 4 Data Analysis and Findings -- 4.1 Case 1- PDR Project Implemented Due to Landslides in Badulla -- 4.2 Case 2-PDR Project Implemented Due

to Landslides in Kaluthara -- 4.3 Case 3-PDR Project Implemented Due to Landslides in Galle -- 5 Discussion -- 5.1 Disaster Risk Reduction -- 5.2 Community Recovery -- 5.3 Implementation -- 6 Conclusions -- References -- Disaster Affected People's Vulnerability Assessment Through Addressing Padma River Bank Erosion -- 1 Introduction -- 1.1 Background of the Study -- 1.2 Objectives of the Study -- 2 Literature Review -- 3 Background of the Study Area -- 4 Methodology -- 5 Data Analysis and Result.

5.1 Effect on the Livelihood of the Respondents After Riverbank Erosion -- 5.2 Before and After Riverbank Erosion Land Status -- 5.3 Before and After Riverbank Erosion Dwelling Status -- 5.4 Occupational Change After Riverbank Erosion -- 5.5 Resettlement Problems After Riverbank Erosion -- 5.6 Social Capital Status in the City After Riverbank Erosion -- 5.7 Aid from Different Organization After Riverbank Erosion -- 6 Recommendation and Conclusion -- 6.1

Recommendation -- References -- An Investigative Study on Material and Its Performance of Intermediate Disaster Relief Shelters -- 1 Introduction -- 1.1 Why is There a Need for Intermediate Semi-permanent Shelters? -- 2 Literature Review -- 2.1 Review of the Factors Influencing the Design Decision of Disaster Shelters -- 2.2 Types of Intermediate Disaster Relief Shelters -- 2.3 Urge to Enable Victim-driven Intermediate Disaster Relief Shelters -- 3 Recommendations -- 4 Conclusion -- References -- Development of Emergency Food Aid Plan for Renal Disease Patients: A Vital Disaster Preparedness -- 1

Introduction -- 2 Methodology -- 2.1 Creation of Food Database -- 2.2 Creation of Food Database -- 2.3 Food Prices -- 2.4 Nutritional Constraints -- 2.5 Diet Optimization by Linear Programming -- 3 Results -- 4 Discussion -- 5 Conclusion -- References --

Understanding Disaster Preparedness Level in the South Indian City of Chennai -- 1 Introduction -- 1.1 A Subsection Sample -- 2

Methodology -- 2.1 Questionnaire Development -- 2.2 Sampling --

2.3 Field Survey -- 3 Results and Discussions -- 3.1 Effect of Psychological and Risk Perception Factors on Preparedness Levels -- 3.2 Effect of Demographic Factors on Preparedness Levels -- 3.3 Role of Various Media to Disseminate Disaster Information -- 4 Conclusions -- References.

Emergency Preparedness and Response-An Evidence-Based Onsite Audit Conducted in Two Hundred Organizations -- 1 Introduction -- 2 Literature Review -- 3 Research Gap -- 4 Research Methodology -- 4.1 Reliability Analysis -- 5 Results -- 6 Conclusions -- 7 Scope for Future Work -- Appendix -- References -- Framework for Location-Allocation of Shelters for Evacuation During Cyclones -- 1 Introduction -- 2

Literature Review -- 3 Framework Implementation -- 3.1 Study Area --

3.2 Modelling Approach -- 4 Solution Procedure -- 5 Results and Discussions -- 6 Discussion -- 7 Conclusion -- References --

Climate Change Adaptation and Mapping Tools -- Assessment of Socio-economic Impact of Urban Flooding in Hyderabad Due to Climate Change -- 1 Introduction -- 1.1 Background -- 1.2

Flooding in Indian Cities -- 1.3 Impact of Climate Change and Urbanisation on Flooding -- 2 Methodology -- 2.1 Study Area --

2.2 Climate Change and Rainfall -- 2.3 Survey and Data Collection -- 3 Result and Discussion -- 4 Conclusions -- References -- Application of ArcGIS and HEC-RAS in Assessing Sedimentation in Godavari River Reach -- 1 Introduction -- 2 Methodology -- 2.1 Geometry -- 2.2

One-Dimensional Unsteady Flow Model -- 2.3 Sediment Transport Model -- 3 Results and Discussion -- 3.1 Calibration of Manning's Roughness Coefficient (N) -- 3.2 Sediment Transport Function -- 3.3

Predication of Mean Effective Invert Change -- 4 Conclusion --

References -- Decision Support Tool for Blast Mitigation -- 1  
Introduction -- 2 Blast Effect Phenomena -- 3 Building Damage/Injury  
Criteria -- 4 Blast Mitigation Tool -- 5 Results and Discussion -- 6  
Scope and Limitations of Work -- 7 Conclusion -- 8 Future Study --  
References -- Pavement Design Considering Changing Climate  
Temperature -- 1 Introduction -- 2 Future Increase of Pavement  
Temperature -- 2.1 IRC: 37-2018 Provision -- 2.2 Case Studies.  
2.3 Conventional Pavement -- 3 Perpetual Pavement -- 4 Analysis  
for Life Cycle Cost (LCCA) -- 5 Discussion -- 6 Conclusions --  
References -- Application of GIS and AHP-Based Integrated  
Methodology for Mapping and Characterizing Socioeconomic  
Vulnerability to Natural Hazards: A Case Study of Southwestern Coastal  
Bangladesh -- 1 Introduction -- 2 Materials and Methods -- 2.1 Study  
Area -- 2.2 Data Collection and Analysis -- 2.3 Analytical Hierarchy  
Process (AHP) -- 2.4 Construction of Composite Socioeconomic  
Vulnerability Index (SeVI) -- 3 Results and Discussions -- 3.1 Individual  
Assessment of Vulnerability Components -- 3.2 Composite  
Socioeconomic Vulnerability -- 4 Conclusion -- Appendix 1 --  
Appendix 2 -- References -- Resilient Sustainable Land Use Planning  
for Climate Change Adaptation for an Urban Area -- 1 Introduction --  
2 The Indian Scenario and Adaptability -- 2.1 Anthropogenic Causes --  
2.2 Lessons Learnt and Possible Adaptations -- 2.3 Global Adaptations  
and Best Practices -- 3 Discussion -- 3.1 Towards Resilient Sustainable  
Landuse Planning Approach (RSLUP) -- 3.2 The EQMG (Establish,  
Quantify, Manage and Govern) Pathway for RSLUP -- 4 Conclusion --  
References -- Resilient City and Flooding -- Identification of Risks  
in the Water Conduction Infrastructure for Supply Systems, a Strategy  
to Increase Resilience -- 1 Introductions -- 2 Methods -- 3 Results --  
4 Conclusions -- References -- A State-of-the-Art Review  
on the Unique Characteristics, Key Driving Causes and Mitigation  
Measures of the World Catastrophic Flood Disasters -- 1 Introduction  
-- 2 Flood -- 2.1 Definitions, Characteristics and Major Causes  
of Flood -- 2.2 Historical Flood Tragedies According to Different  
Regions -- 3 Flood Mitigation Measures -- 4 Conclusion -- References  
-- Road Accident Hazard Prevention by Applying the Haddon Matrix --  
1 Introduction -- 2 Methodology.  
3 Analysis of Road Accident Hazard Influencing Factors -- 3.1 Human  
Factors -- 3.2 Vehicular Factors -- 3.3 Road and Environment Factors  
-- 4 The Crash Phases Analysis -- 4.1 Pre-crash Phase -- 4.2 Crash  
Phase -- 4.3 Post-crash Phase -- 5 The Haddon Matrix Analysis  
with Crash Prevention Strategies -- 6 Conclusion -- References -- No  
Fine Concrete Pavement-A Sustainable Solution for Flood Disaster  
Mitigation -- 1 Introduction -- 1.1 Problem Statement -- 1.2 Research  
Significance -- 2 Methodology -- 3 Material Properties and Testing --  
3.1 Casting and Curing of Test Samples -- 3.2 Test Procedures -- 4  
Mix Design -- 5 Result and Discussion -- 5.1 Effect of Change  
in Aggregate Size -- 5.2 Effect of Change in Aggregate Proportion --  
5.3 Effect of Change in Fibre Proportion -- 6 Conclusion -- References  
-- Disaster Resilience and Rehabilitation in Kerala: A Critical Review  
of CARE-Kerala's Housing Scheme -- 1 Introduction -- 1.1 Aim -- 1.2  
Objectives -- 1.3 Research Question -- 1.4 Methodology -- 1.5 Need  
for the Study -- 2 Background Studies -- 2.1 Kerala Disaster  
Vulnerability and Floods -- 2.2 CARE-Kerala Housing Scheme, CARE-  
Home Projects -- 3 Overview of the Review -- 3.1 Features of CARE-  
Kerala Housing Projects -- 3.2 Evaluation Using Potential Success  
Criteria Variables for CARE-Kerala Housing Projects -- 3.3 Inferences  
-- 4 Conclusion -- References -- Community Resilience Measures --  
Measuring Disaster Resilience at Community Level and Exploring

the Prospects of Revitalizing Communities Coalescing Disaster Risk --  
1 Introduction -- 2 Resilience and Measuring Disaster Resilience -- 2.1  
Scales of Measurement -- 2.2 Characteristics of Measurement -- 2.3  
Dimensions/Capitals -- 3 Resilience and Sustainability -- 4 Concept,  
Definition and Strategies Used for Revitalization.  
5 Interdependencies and Inter-Linkages of Concept of Resilience  
and Revitalization.

---