

2020-2023 Coalition for Disaster Resilient Infrastructure (CDRI)

OUTREACH AND EDUCATION

Coalition for Disaster Resilient Infrastructure (CDRI) Secretariat – New Delhi, India

PROJECT DETAILS

DIFFICULTY: Medium

COST: N/A

TIMEFRAME: 24 Months

DELIVERABLES: CDRI Plan Integration beta-testing application; Risk Assessment/Capability Assessment Best Practices White Paper; A DRI Lexicon Document including terms, acronyms, and definitions.

CORE COMPETENCIES

- Ontology development
- Risk/Vulnerability Assessments
- Multi-agency, Multi-national Working Group/Cooperation

PROJECT TEAM

Vision Planning & Consulting
Coalition for Disaster Resilient Infrastructure (CDRI)

CLIENT CONTACT

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PROJECT OVERVIEW

Vision Planning and Consulting works closely with the Coalition for Disaster Resilient Infrastructure (CDRI) Secretariat in the areas of Emergency Planning and Machine Learning. CDRI is a partnership of national governments, UN agencies, multilateral development banks, and the private sector, which promotes the rapid development of resilient infrastructure. VPC staff members have developed multiple papers, presentations, and planning products in close coordination with the CDRI, with the overall purpose of advancing global knowledge related to disaster and infrastructure resilience.

PROJECT SUMMARY

Plan Integration Application - VPC was awarded a CDRI Fellowship to develop a software application using Machine Learning and Natural Language Processing (NLP). The application assists Planners and Emergency Preparedness professionals to search for words and phrases to determine how these concepts are addressed across various plans. This software allows for conducting semantic searches (where the query finds keywords, and determines the intent and contextual meaning of the words) and document comparisons, among other features. It can also help to build a repository of Disaster Management Plans (Emergency Operations, Land Use, Hazard Mitigation, Communication, etc.) that the user can query for best practices. VPC also developed an ontology as a support resource. This allows it to be deployed to search within any plan, written in English, from anywhere in the world.

Assessing Risks Through Capabilities - VPC developed a whitepaper demonstrating how to turn risk informed decisions into dynamic planning processes, and ways to ensure the reliability of critical services at all times, by examining institutional processes across all levels of government, and by involving stakeholders, to promote social learning.

The paper demonstrates how to integrate: Community Risk Assessments (CRA), Hazard Identification and Risk Assessments (HIRA), and Threat Hazard Identification and Risk Assessments (THIRA) into one comprehensive and dynamic resource. Case studies and best practices were researched and compiled on how to develop local hazard capability and risk assessments and include: an inclusive process of stakeholder collaboration; an integrated hazard ranking schema; an equitable approach to planning and outreach; and a cooperative method to identifying community capabilities.

Lexicon - VPC was selected as part of a global team of experts to develop a Disaster-related Lexicon. The Lexicon provides a common and consistent set of reference terms and definitions that apply to the core concepts of resilience, sustainability, risk and disaster management, and infrastructure. SMEs in resilience and infrastructure from 5 continents and 8 different countries represented various governments, sectors, private organizations, non-profit and academia. An initial list of 270 terms was distilled down to 66 core terms, with numerous other concepts referenced. Relationships between the terms were also mapped so that Lexicon users can navigate from one term to another related term.