

Climate Resilient Infrastructure for Social Transformation and Adaptation (CRISTA) – 2.0

The Dhading district in Nepal faces climate-induced hazards, damaging critical infrastructure like roads and power systems. To address this, the Asian Institute of Technology (AIT) developed Climate

Resilient Infrastructure for Social Transformation and Adaptation (CRISTA) which offers near-real-time monitoring using geospatial data, vulnerability assessments, a crowdsourcing app, and a GIS dashboard. After its successful pilot, CRISTA is sure to enhance decision-making for climate resilience and adaptation in Dhading.

Introduction

Near-real-time monitoring and status assessment of road and power infrastructure by using granular geospatial database

A human-AI hybrid framework coupled with crowdsourcing mobile application and a web-based GIS dashboard for decision-making and planning



Dynamic and comprehensive risk and vulnerability assessment of the critical infrastructure through learning-based disaster damage assessment (DDA).

Development and Implementation

1. Near-real-time monitoring and status assessment of road and power infrastructure.

3. Increasing efficiency in identifying vulnerabilities in infrastructure systems, assessing damages, and intensifying preparedness and emergency response efforts.

5. Providing access to local and national agencies to the solution to support their critical infrastructure monitoring and risk management actions.



2. Engaging and enabling local communities to enhance the capacity of local governments and authorities.

4. Training more than 200 people in the project municipalities as citizen incident reporters.

Expected Outcomes

Increased awareness of local stakeholders on the CRISTA 2.0 system for climate-induced hazard and damage monitoring to critical infrastructure systems.



Improved decision-making for monitoring climate-induced vulnerabilities, risks and damages to critical infrastructure systems.



Improved capacity of local governments to actively monitor impacts of climate-induced hazards on critical infrastructure in real-time, enhancing their ability to respond promptly and effectively.

