

3D DIGITAL HAZARD & RISK MAPPING PROJECT

INTRODUCTION

Disaster Management requires the involvement of varied technologies. The mapping of natural risks and disasters is one of the sectors or areas that has seen significant growth in the last few years. Virtual environments such as Google Earth and Virtual Earth have contributed to the process of “Build Back Better” after the event of Disaster. This approach, which emphasizes rebuilding to reduce the risk of future disasters, has been instrumental in post-disaster recovery. These new visualization approaches offer new opportunities for disaster managers, enabling users to obtain a clearer perception of the characteristics of disasters, including providing details on the magnitude of an event and improving estimates of evacuation conditions.





Geoinformatics Technology (GIT) has recently significantly contributed to disaster management by making high-resolution data available and by timely disseminating and utilizing such information. In line with this, NSDMA, as the lead agency, is undertaking the 3D Hazard and Risk Mapping project using UAV and GPS for all the Administrative Headquarters in the State. As the lead agency, NSDMA will oversee the project's implementation, coordinate with stakeholders, and ensure the project's objectives are met.

The project aims to bring the pre-disaster data and a 3D Map of the District Headquarters in Nagaland, which will include detailed topographic information, infrastructure locations, and potential hazard zones. This will help us understand the past and present historical disaster events to mitigate Disaster for preventive measures. The project is a comprehensive disaster-related data collection and collation such as digital aerial data, social and economic loss data, atmospheric data, disaster legacy data, and ground truthing data.

GOAL AND OBJECTIVES

1. To minimize the impact of Disaster on the State.
2. To identify potential risks in the District Headquarters.

STRATEGIC OBJECTIVES 1

Identification of resources to carry out the risk identification.

1. Orientation workshop with the stakeholders.
2. Social mapping of the District Headquarters.
3. Listing of hazards and risks in the District Headquarters.

STRATEGIC OBJECTIVE 2

To carry out space EUAV (Extended Unmanned Aerial Vehicle) mission and operation for 3D Disaster Hazard and Risk Mapping. This involves using advanced UAV technology to collect high-resolution aerial data for mapping and risk assessment.

1. Coordinating with security agencies to obtain clearance for UAV missions in each District Headquarters.



2. Deployment of UAV for mapping.
3. Development of UAV flight mission plan.
4. Correlating 3D maps with identified hazards and risks of the area.
5. Re-deployment of the flight mission plan.

STRATEGIC OBJECTIVE 3

Data Collection and Collation.

1. Identification of 3D digital elevation and slope map of District Headquarters.
2. Asset density mapping of all District Headquarters.
3. Collection of data through UAV flight missions.
4. Collation of data into server.
5. Screening of raw data.
6. Feeding appropriate screened data into the platform.

EXPECTED OUTCOME

1. NSDMA possesses a pre-disaster map of all the District Headquarters.
2. NSDMA identified the hazards and risks of all District Headquarters.
3. NSDMA identified digital elevation data and digital slope mapping of all the district headquarters.
4. Asset density map of all districts of the State is mapped.



NSDMA
NAGALAND STATE DISASTER MANAGEMENT AUTHORITY