**Project Title**

Flood Monitoring & Early Warning

# PHASE-1

**PROBLEM DEFINITION**

The problem addressed by the Flood Monitoring & Early Warning project is the need to mitigate the devastating effects of floods on communities, infrastructure, and the environment.

# DESIGN OVERVIEW

To address these challenges, the Flood Monitoring & Early Warning project

* This problem can be broken down into several key challenges :-

**Inadequate Flood Prediction**: Current flood prediction methods may not provide timely and accurate information, leading to a lack of preparedness and delayed response to flood events.

**Limited Data Integration:** Disparate sources of data, such as weather information, river levels, and local terrain, are often not effectively integrated into a single system for comprehensive flood risk assessment.

**Community Vulnerability:** Communities living in flood-prone areas may lack awareness and preparedness, making them highly vulnerable to flood disaster Etc.,

* **The primary objectives include:-**

**Data Collection and Analysis:** Gather data from various sources, including satellite imagery, river gauges, weather stations, and historical flood data. Analyze this data to understand past flood patterns and

predict future risks.

**Early Warning System**: Develop a sophisticated early warning system that can detect potential flood events well in advance. This system will trigger alerts to authorities and the public, allowing for timely evacuations and preparations.

**Community Engagement:** Educate and engage local communities on flood preparedness and response strategies. Empower residents with the knowledge and tools they need to protect themselves and their property Etc.,