**PHASE 2 IOT**

**FLOOD MONITORING AND EARLY WARNING**

**Innovative Concept:**

A network of floating sensors outfitted with cutting-edge technology that can track water levels, rainfall, and meteorological conditions in real-time is a novel IoT-based flood monitoring and early warning system concept. These intelligent buoys would be positioned in water bodies, such as rivers, lakes, and locations vulnerable to flooding, and would provide exact information for flood forecasting and early warning.

**Steps to implement the idea:**

Step 1: Development of sensors

* Create unique sensors that can float on water and measure a variety of variables, including water level, temperature, rainfall, and even water quality.
* These sensors ought to have GPS and communication tools for data transmission.

Step 2: Sensor Deployment

* In flood-prone waterways, strategically place these smart buoys.
* Make sure they are firmly attached to prevent drifting.

Step 3: Data Transmission and Gathering

* Connect the sensors to a hub in the middle that handles data collection and processing.

Step 4: Prediction and Data Analysis

* Use software to instantly analyse the data. By looking at patterns in water levels, predicted rainfall, and the weather, algorithms can forecast flood conditions.

Step 5: Alert system

* Create a warning system that notifies the government and locals when flood conditions are likely to materialise.
* Text messages, smartphone notifications, or even sirens may serve as alerts.

Step 6: User-friendly App

* Make a user-friendly online interface and mobile application so that anyone may access the sensors' real-time data.

Step 7: calibration and testing

* To verify accuracy, test the sensors and the overall system in various types of weather and bodies of water.

Step 8: Continuous Improvement

* Update the system frequently with the newest tools and data sources.