Ideation Phase
Define the Problem Statements

Date	19 February 2026
Team ID	LTVIP2026TMIDS75186
Project Name	Rising Waters: A Machine Learning Approach to Flood Prediction
Maximum Marks	2 Marks

Customer Problem Statement: Flood Prediction

Government agencies, urban planners, and disaster management teams are increasingly dependent on advanced forecasting technologies to protect infrastructure and save lives in the face of climate change. Flood prediction is a critical part of this transition, but the onset and severity of rising waters are highly variable due to complex environmental factors and shifting weather patterns.

Empathy Statement: Rising Waters

City officials and residents feel vulnerable and anxious when they cannot rely on traditional flood forecasts. They want confidence that their disaster preparedness strategies will effectively protect lives and property, and they need tools that make flood risk management as precise and actionable as modern weather tracking.

Reference: https://miro.com/templates/customer-problem-statement/

Example:

Problem Statements (PS)

PS-1 (Resident in Flood-Prone Area Persona)

I live in a flood-prone region where heavy rainfall often leads to sudden water rise.

I want early and accurate flood warnings so I can protect my family and property.

But current warnings are either delayed or too general for my area.

Sometimes floods occur without clear alerts, causing damage and panic.

Which makes me feel unsafe and unprepared during extreme weather events.

PS-2 (Disaster Management Officer Persona)

I am a disaster management officer responsible for issuing flood alerts.

I'm trying to predict floods early and allocate resources effectively.

But traditional forecasting methods rely on limited parameters and manual monitoring.

Flood patterns are changing due to climate variability, making prediction harder.

Which makes me concerned about delayed response and public safety risks.

PS-3 (Government / Policy Maker Persona)

I am responsible for planning infrastructure and reducing flood-related losses.

I want reliable data-driven insights to improve preparedness and response strategies.

But existing systems lack accurate predictive analytics based on historical and real-time data.

This leads to reactive decisions instead of proactive planning.

Which makes me worried about economic losses and infrastructure damage.

Proposed Direction (Solution Focus)

Develop a Machine Learning-based Flood Prediction System that analyzes historical rainfall, river levels, weather data, and seasonal patterns to predict flood risk levels.

The system will provide early warnings, improve prediction accuracy, assist disaster management teams in decision-making, and reduce loss of life and property.