

# TEAM TRAYA

Registration Id: CAUSE2025#0321125559

Theme: Sustainable Cities



Check out our video here!



# MEET OUR TEAM - TRAYA



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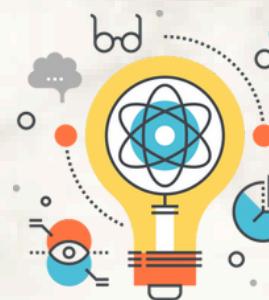


# PROBLEM STATEMENT

Floods affected over **43 million** people in 2024, with disaster response delays averaging **30 minutes to 4 hours**, leading to preventable loss of lives.

How might we use **AI-powered systems** for real-time disaster tracking to reduce response time, improve rescues, and minimize impact? Additionally, how can a user-friendly website help victims send SOS alerts, assist rescue teams with insights, and enable seamless coordination?





# RESEARCH



## PRIMARY RESEARCH



**General Public (Neighbors)** - Have no idea whom to reach out for help during floods/disasters.

**Volunteer (Vijayawada flood relief)**  
- Don't receive information during pre-floods so they can act instead of just consoling



## SECONDARY RESEARCH



- [https://www.researchgate.net/publication/341582257\\_Disaster\\_Assessment\\_from\\_Satellite\\_Imagery\\_by\\_Analysing\\_Topographic\\_Features\\_Using\\_Deep\\_Learning](https://www.researchgate.net/publication/341582257_Disaster_Assessment_from_Satellite_Imagery_by_Analysing_Topographic_Features_Using_Deep_Learning)
- <https://www.sciencedirect.com/science/article/pii/S221209632400688#s0010>
- <https://www.isro.gov.in/NISARSatellite.html>
- [https://repository.library.noaa.gov/view/noaa/52029/noaa\\_52029\\_DS1.pdf](https://repository.library.noaa.gov/view/noaa/52029/noaa_52029_DS1.pdf)
- <https://www.kjrs.org/journal/view.html?uid=995&vmd=Full>

# OBSERVATIONS



Rescue teams struggle with late alerts & unclear victim locations.



Traditional Systems are time consuming



Flood victims lack a reliable way to request help.



Volunteers without timely data can only console instead of preventing further damage.

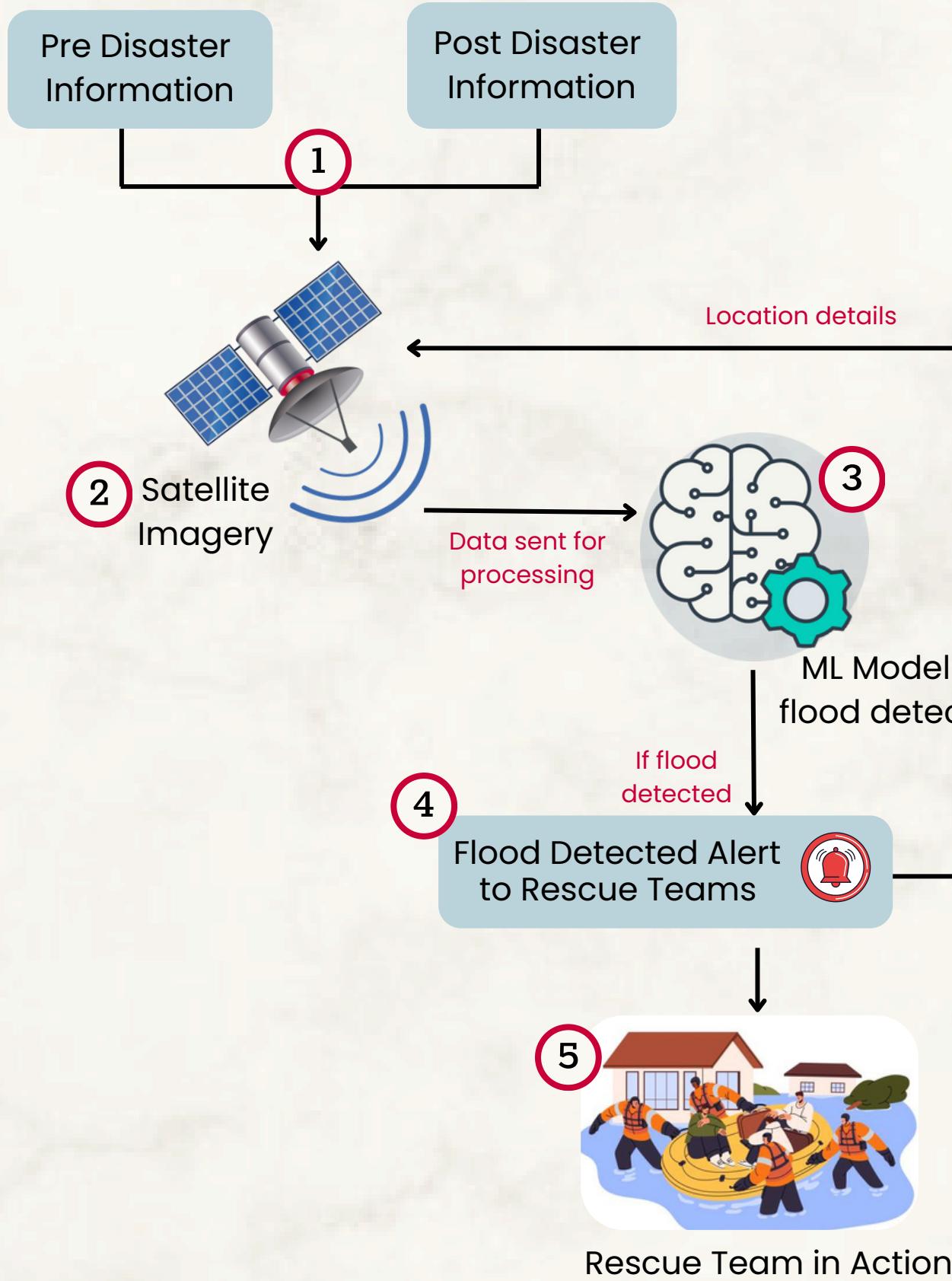


People panic due to lack of real-time updates on rescue operations.

# OUR SOLUTION

## ResQ

Hope in the Darkest Hour



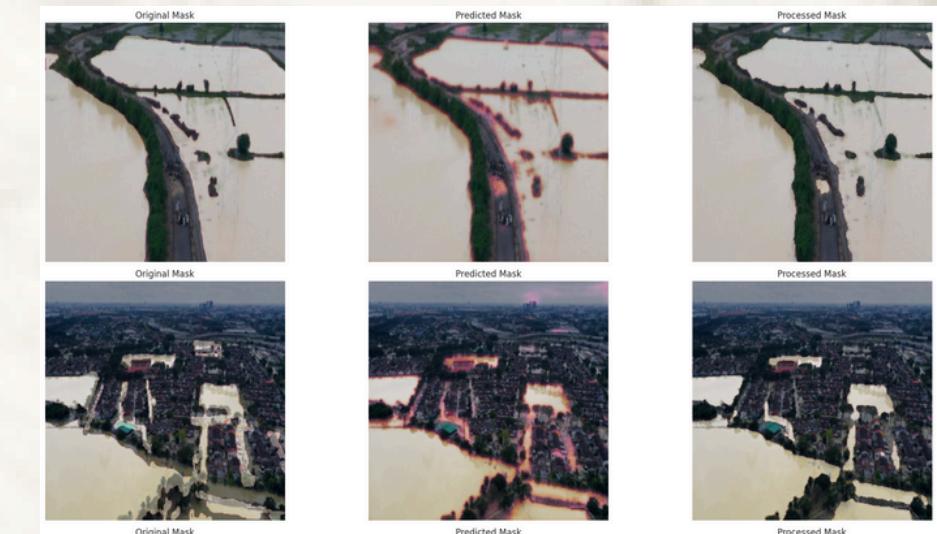
This is a 2 ways Flood Prediction and Rescue System.

① ML Model

② Web app

Deployed ML Model Link - [@](#)

Model Accuracy: 92%



Original Mask - actual flood area

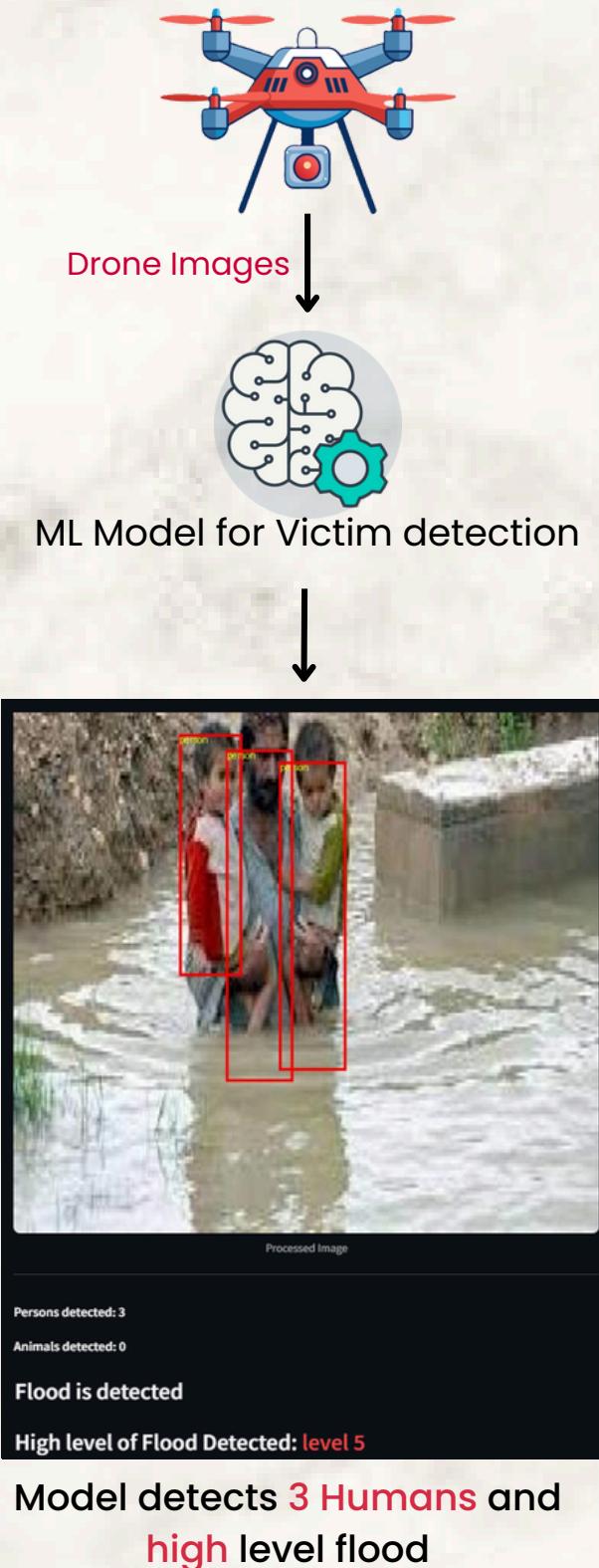
Predicted Mask - model's prediction

Processed Mask - refined or corrected version of the predicted segmentation.

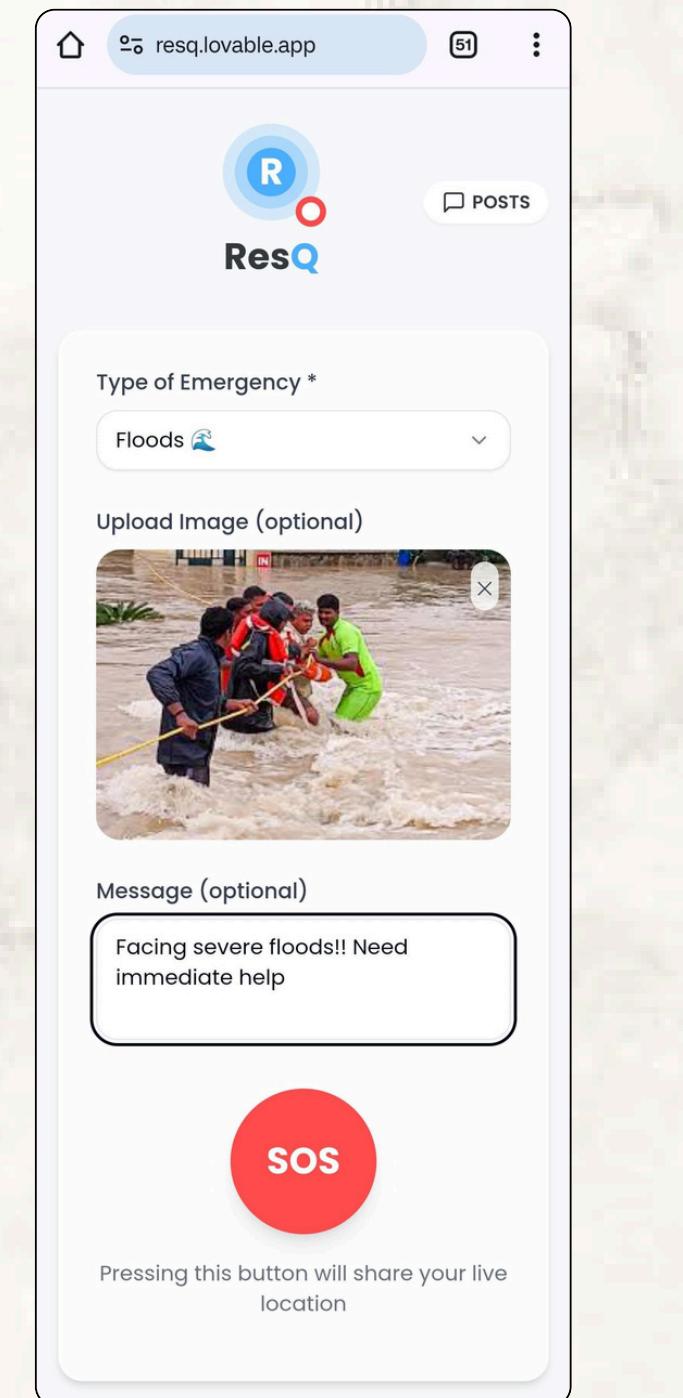
Note: Satellites can detect floods even without Web app. While the web app enables people to send alerts, connect with locals & NGOs, and track rescue progress for faster aid.

# FLOOD VICTIM DETECTION

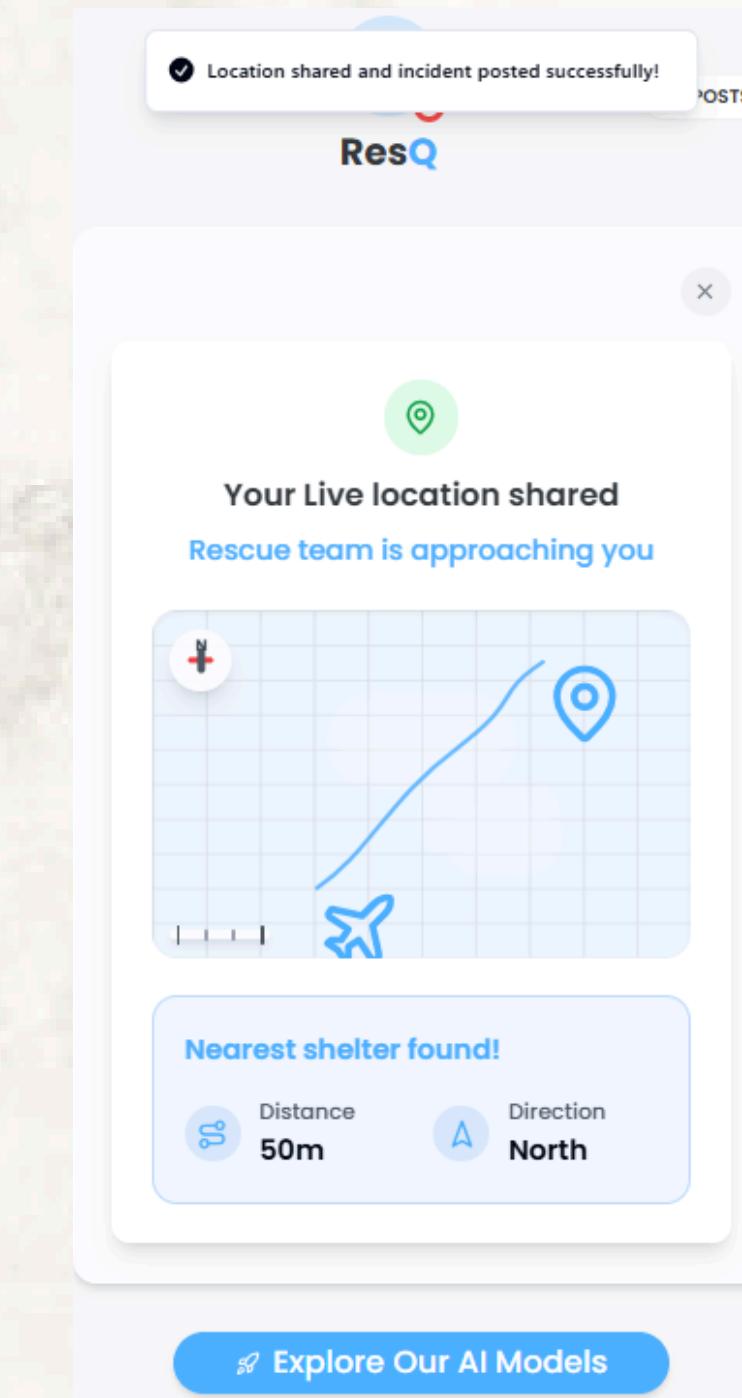
During or Post Floods, Missed victims can be detected using aerial images



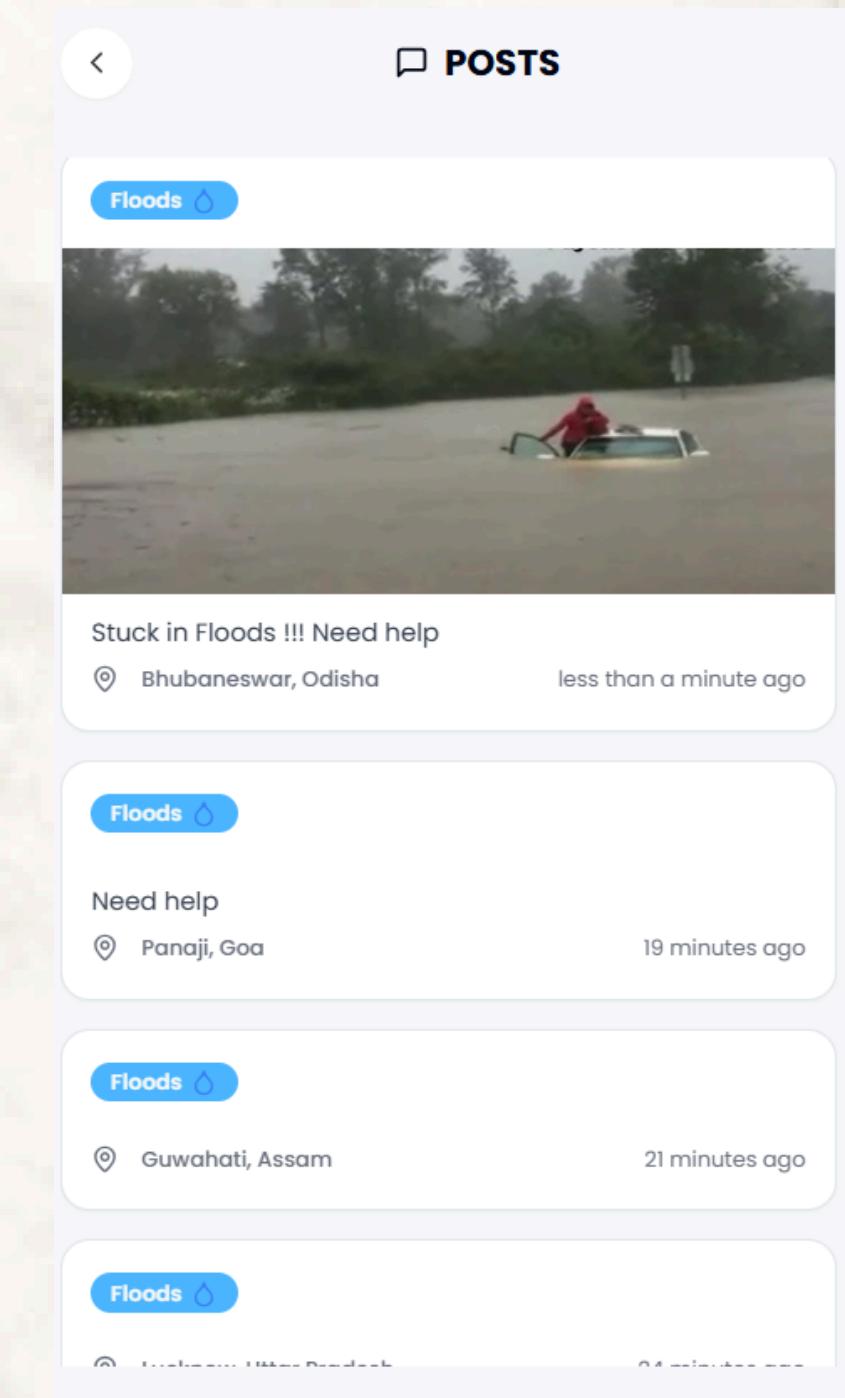
# OUR WEB APPLICATION



People Send an **SOS** Alert which also send live location



People can track the location of Rescue team & Nearby shelters



Automatic Post is generated for communities to help each other

# HOW CAN OUR SOLUTION MAKE A CAUSE?



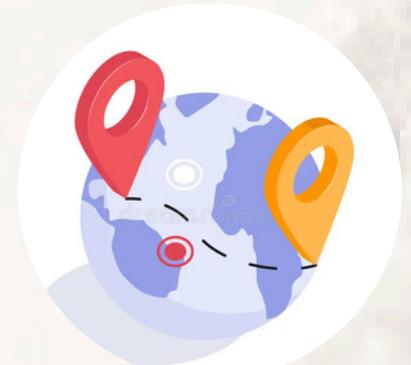
Faster Disaster Alerts & Response



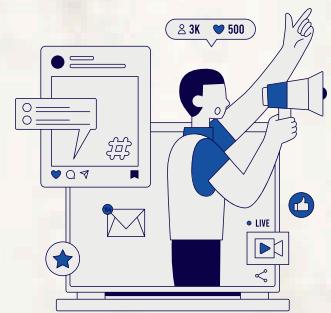
Saves Lives & Minimizes Panic



Sustainable Development Goals



Scalable & Global Solution



Automated Post Alerts



Data-Driven Decision Making



Empowers Communities & Volunteers



Reduces Economic & Infrastructure Loss

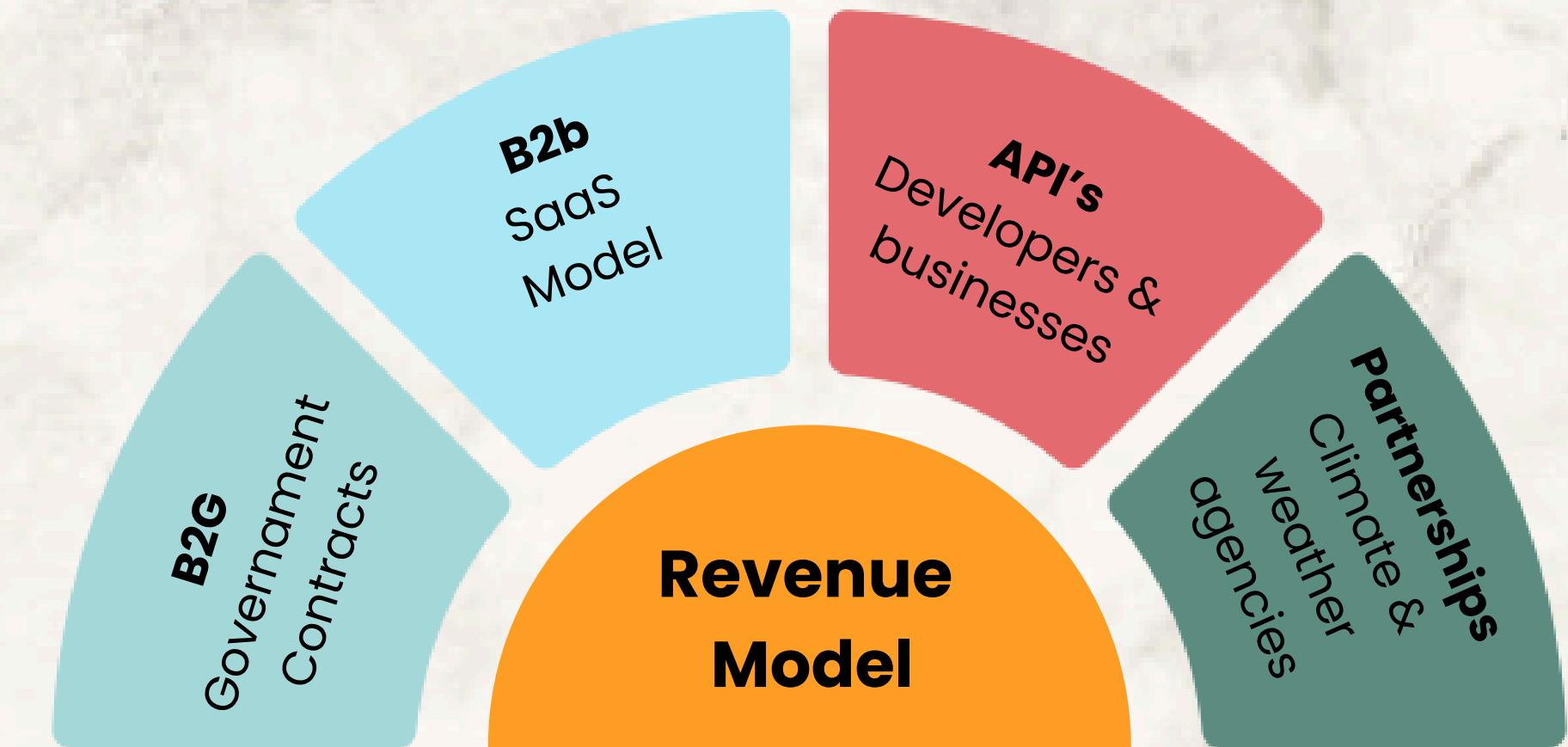


# IMPLEMENTATION & REVENUE MODEL

## IMPLEMENTATION STRATEGY

- 1 Cloud Deployment
- 2 Partnerships
- 3 Scalable to other disasters
- 4 Social Media Automation

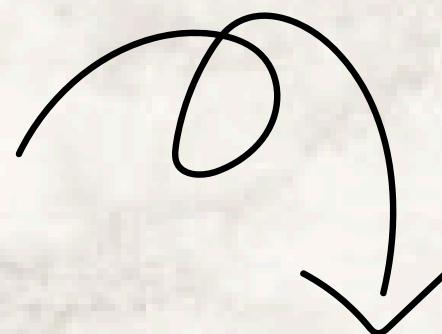
## REVENUE MODEL



# THANK YOU!



**ResQ**  
Hope in the Darkest Hour



Team Traya

**GitHub Link:** ResQ - ML Model -

