

Agap-AI: a community-level predictive flood risk mapping system for Rizal and Catanduanes

PHILIPPINES · Rizal and Catanduanes

CATEGORY

SOCIAL SYSTEMS

DISASTER RISK REDUCTION

RICD RISK TIER

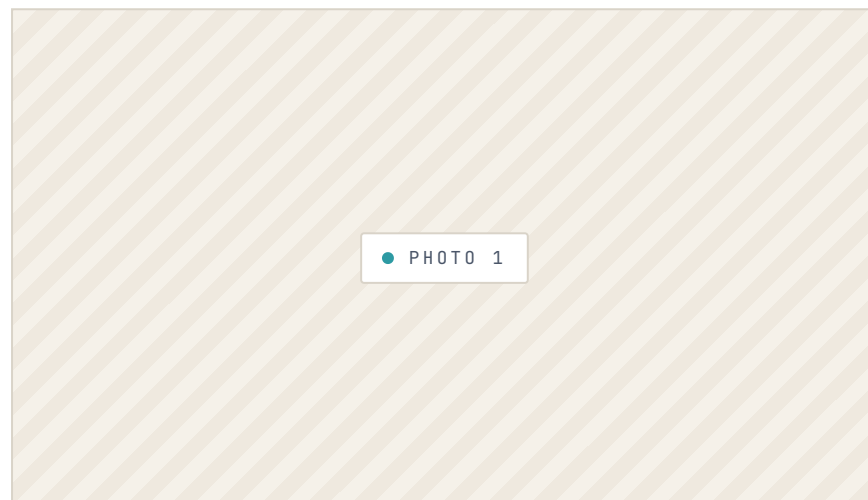
High

PRIMARY HAZARDS

Flood damage · Changes to marine conditions

MOBILITY DIMENSION

Avoided displacement



● PHOTO 1

GRANT RECIPIENT

IQvest

PARTNERS

Local Government Units · CDRMOs · Office of Civil Defense · PAGASA

TOTAL PROJECT VALUE

50,000 USD

7 months

50%

CCF GRANT

25,000 USD

50%

MATCHING FUNDS

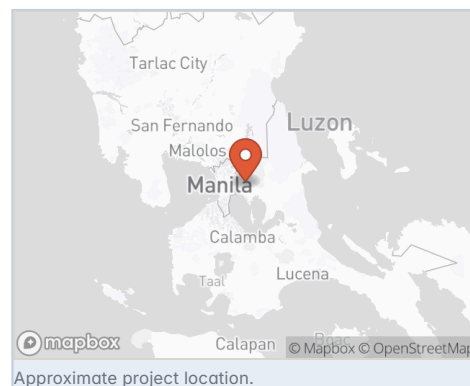
25,000 USD

Matching partner being sought

Context and approach

Local governments in Rizal and Catanduanes rely on static hazard maps that show where floods may occur but not who or what is most at risk. Without a real-time risk picture, preparedness stays reactive and vulnerable households get no targeted warning.

IQvest will develop the Agapp crowdsourcing application and fuse geotagged flood reports with machine learning and Monte Carlo simulation to produce a probabilistic, household-level risk map and dashboard for disaster offices and residents.



Project outputs

- Acquire data and develop the Agapp crowdsourcing application
- Build a vulnerability index and pre-process hazard datasets
- Run probabilistic modelling and damage curves with Monte Carlo simulation
- Deploy a real-time dashboard and hand over a scalability plan
- Disaster offices see site-specific flood probability for every weather event
- Vulnerable households receive personalised alerts and act early
- Local planning and mitigation investment are guided by dynamic risk data

Reach & deliverables

65,000

ESTIMATED
POPULATION
IMPACTEDRizal and
Catanduanes

1

DYNAMIC
FLOOD
RISK MAP
household-
level
probability

1

CROWDSOURCING
APPAgapp, real-
time flood
reports

Milestones

7 MONTHS TOTAL

M.01 3 months Data acquisition and app development	M.02 2 months Vulnerability index and pre-processing	M.03 3 months Probabilistic modelling and damage curves	M.04 2 months Real-time dashboard deployment and user testing	M.05 2 months Final handover and scalability plan
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