Participatory GIS (pGIS) for Community Resilience

Presentation by:
Janeen Kim Cayetano, GIS Analyst | janeenkim.cayetano@crs.org
Ian Carlo Zuniga, GIS Specialist | iancarlo.zuniga@crs.org
GOAL: Target barangays to be better prepared for and be able to respond effectively to future shocks and disasters.

DISASTER RISK REDUCTION AND MANAGEMENT
Project Area

Palo
15,481 affected families

Tanauan
12,370 affected families

*according to NDRRMC final report on effects of Typhoon Yolanda.
DILEMMA
Initial Assessment of Target Barangays

\[ R = \frac{H \times V}{C} \]
CHALLENGES
Outdated

From: John Tewell through the University of Texas Map archives
Scale
Challenges

DATA

OUTDATED

AVAILABLE

FRONTPORTS
Opportunity

From: Discover ISIF Asia

From: ArcSoft

From: GMA News Online
SOLUTION
Community-based approach where residents map out their own neighborhood:

- key infrastructures,
- evacuation centers,
- hazards,
- risks, etc.

that can be used by the government for effective planning and budgeting.
Advantages of using ArcGIS Collector

- Collect and update information in the field using readily available maps or through GPS (tracks your location)
- Input supporting data with map-driven data entry forms
- Maps and data can be used offline regardless of network availability (sync collected information once reconnected)
- Capture and attach photos and videos
- Works seamlessly with ArcGIS Online
- Create and configure maps based on your preference
METHODOLOGY
Community Orientation
Data Collection
Data Processing and Map Layout
Community Validation and Joint Planning Assemblies
OUTPUT
Contingency and Evacuation Plan
pGIS Engages the Community

**Municipality**
- Develop Municipal Disaster Risk Reduction Plan and budget

**Barangays**
- Lead Barangay-level Community Risk Assessment and mapping
- Develop Barangay Disaster Risk Reduction Plan and Budget
- Present Plan and budget to Municipality
- Identify and implement infrastructure improvement projects

**Zones**
- Participate in zone- and barangay-level Community Risk Assessment and mapping

**Households**
- Participate in Zone-level Community Risk Assessment and mapping
- Household Preparedness and Contingency Planning
“Our risk, hazard and vulnerability maps of the barangay were all beautiful with hand-drawn detail. But they were all destroyed during Typhoon Yolanda.

The pGIS project will help us to have readily available maps wherein we can update them anytime. It will also help us for future infrastructure and risk assessment planning.”

Gregorio Lantajo
Chairman of Barangay San Joaquin
Palo, Leyte
QUESTIONS?

janeenkim.cayetano@crs.org
iancarlo.zuniga@crs.org