

Mobilizing Local Knowledge in Local Disaster Risk Reduction Strategies

Aaron Opdyke PhD, PE

Lecturer | Humanitarian Engineering
School of Civil Engineering
Faculty of Engineering



THE UNIVERSITY OF
SYDNEY



Humanitarian
FRONTIERS LAB

What is a Local Disaster Risk Reduction Strategy?

“A local disaster risk reduction and resilience strategy is the planning tool to integrate and mainstream a DRR approach within local development, and to guide and make coherent local plans and actions.”

Why are they important?

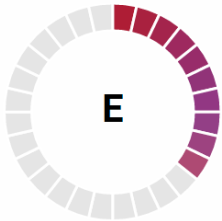
Disaster risk is context specific; it is experienced in particular places and times, in ways that shape local patterns of exposure, vulnerability, adaptive capacities and resilience.

UNDRR (2018). *Implementation guide for local disaster risk reduction and resilience strategies: A companion for implementing the Sendai Framework target E.*

Sendai Framework Progress



Target (e): *Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020*



Indicator E-2: *Percentage of local governments that have adopted and implemented local disaster risk reduction strategies in line with national strategies*

As of 2018, **60% of local governments have adopted local strategies** in 32 (of 195) countries reporting

RA 10121 – DRRM Act (2010)

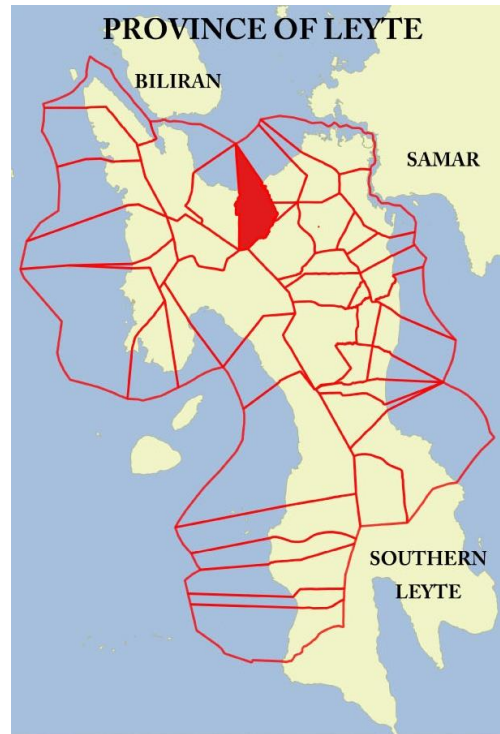
At subnational levels, the Disaster Risk Reduction and Management Act mandates:

- 1) the establishment of a Disaster Risk Reduction and Management Office (DRRMO) in every province, city and municipality;
- 2) the creation of a Barangay Disaster Risk Reduction and Management Committee (BDRRMC) in every barangay (the smallest administrative division); and
- 3) the development of Local Disaster Risk Reduction and Management Plans (LDRRMPs). Mandated establishment of Municipal Disaster Risk Reduction and Management Office(MDRRMOs)

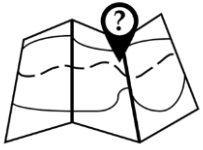
Case Study: Municipality of Carigara (Philippines)



Sasakawa Award Nominee 2018



Base Mapping



Administrative Boundaries
49 barangays



Buildings
16,971 structures



Population
54,084 people surveyed



Roads and Pathways
31,085 meters



Waterways
36,715 meters

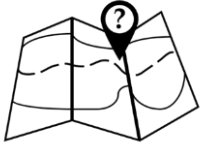


Land Cover
12,703 hectares

BEFORE



Base Mapping



Administrative Boundaries
49 barangays



Buildings
16,971 structures



Population
54,084 people surveyed



Roads and Pathways
31,085 meters



Waterways
36,715 meters



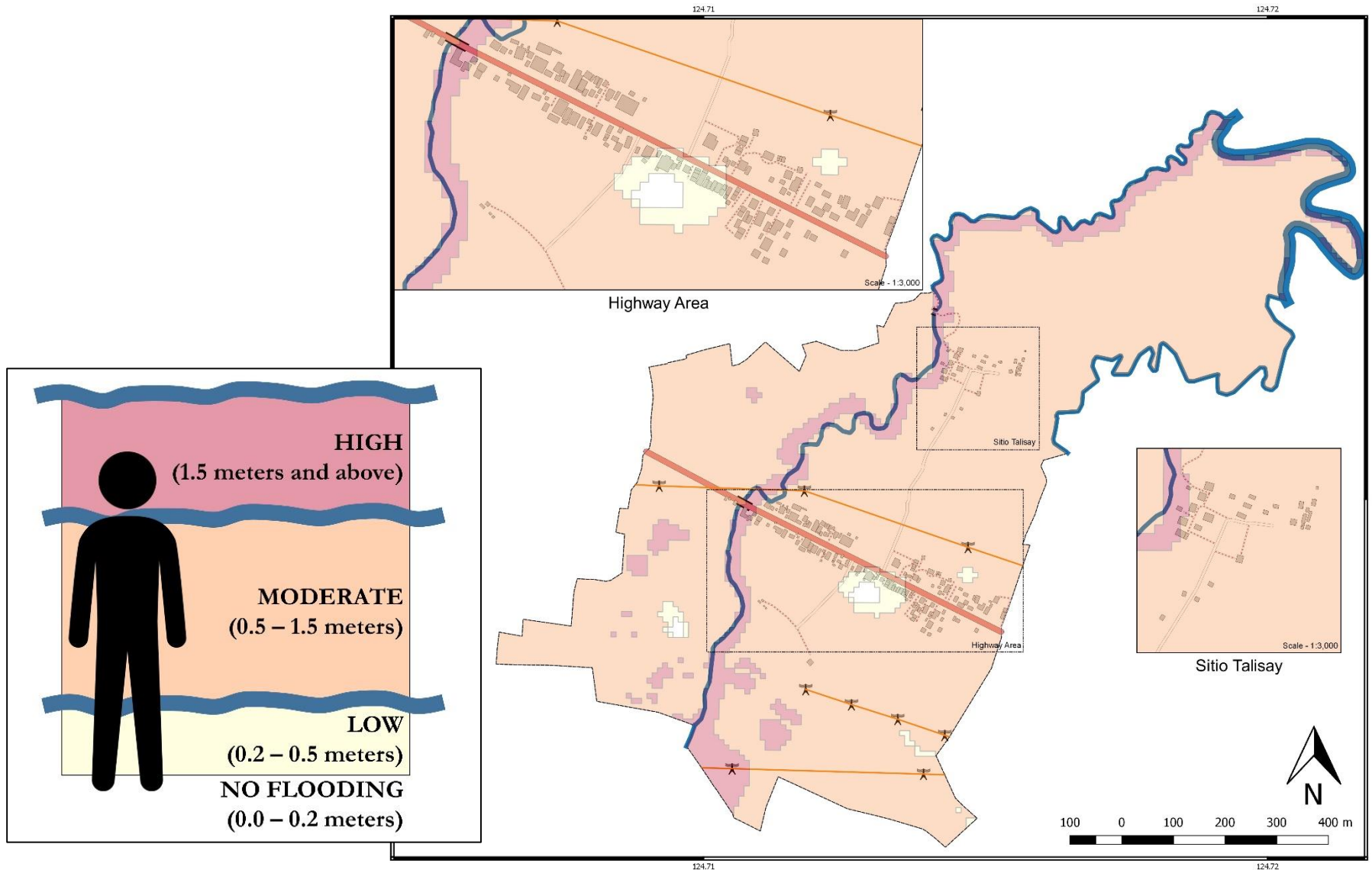
Land Cover
12,703 hectares



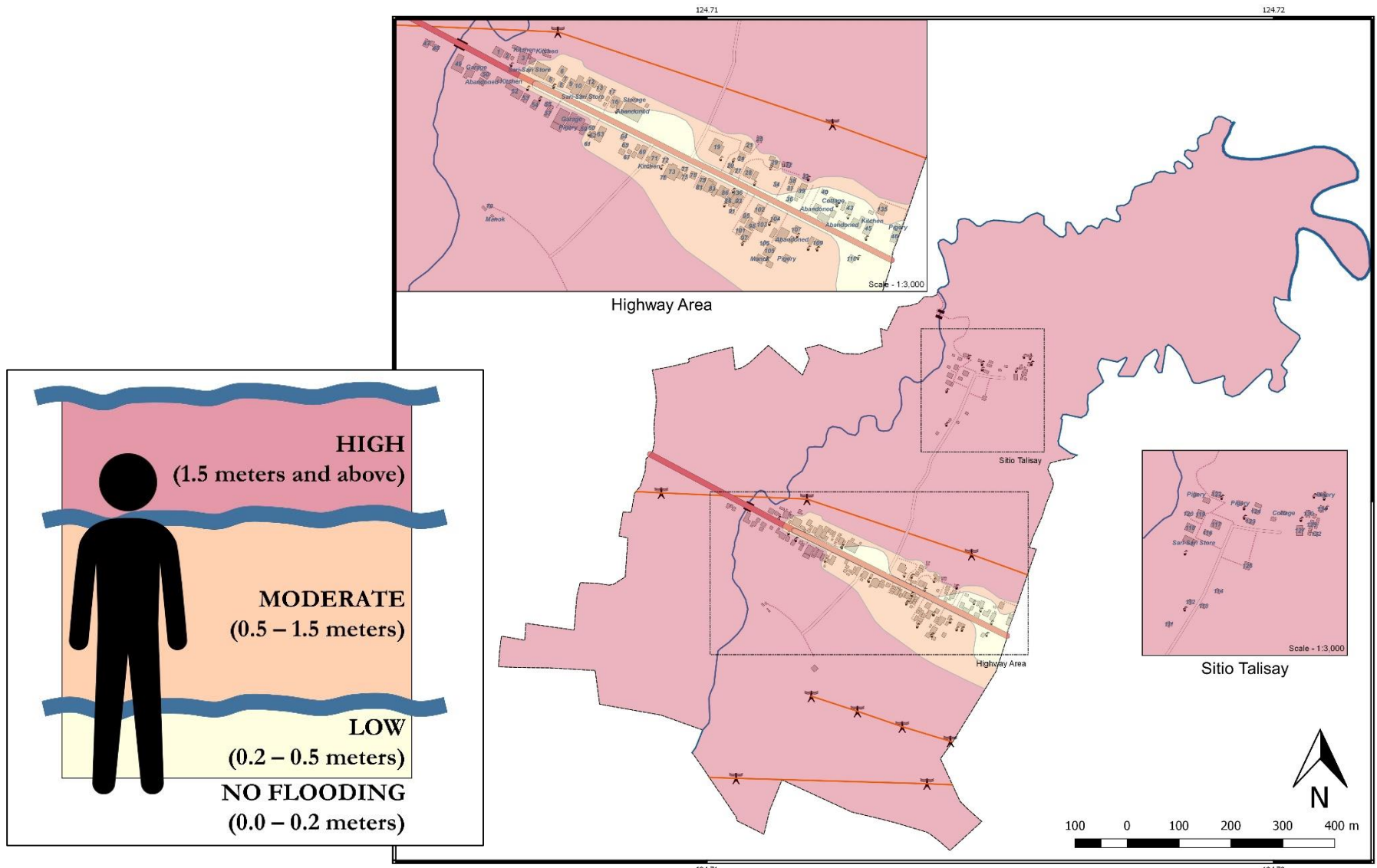




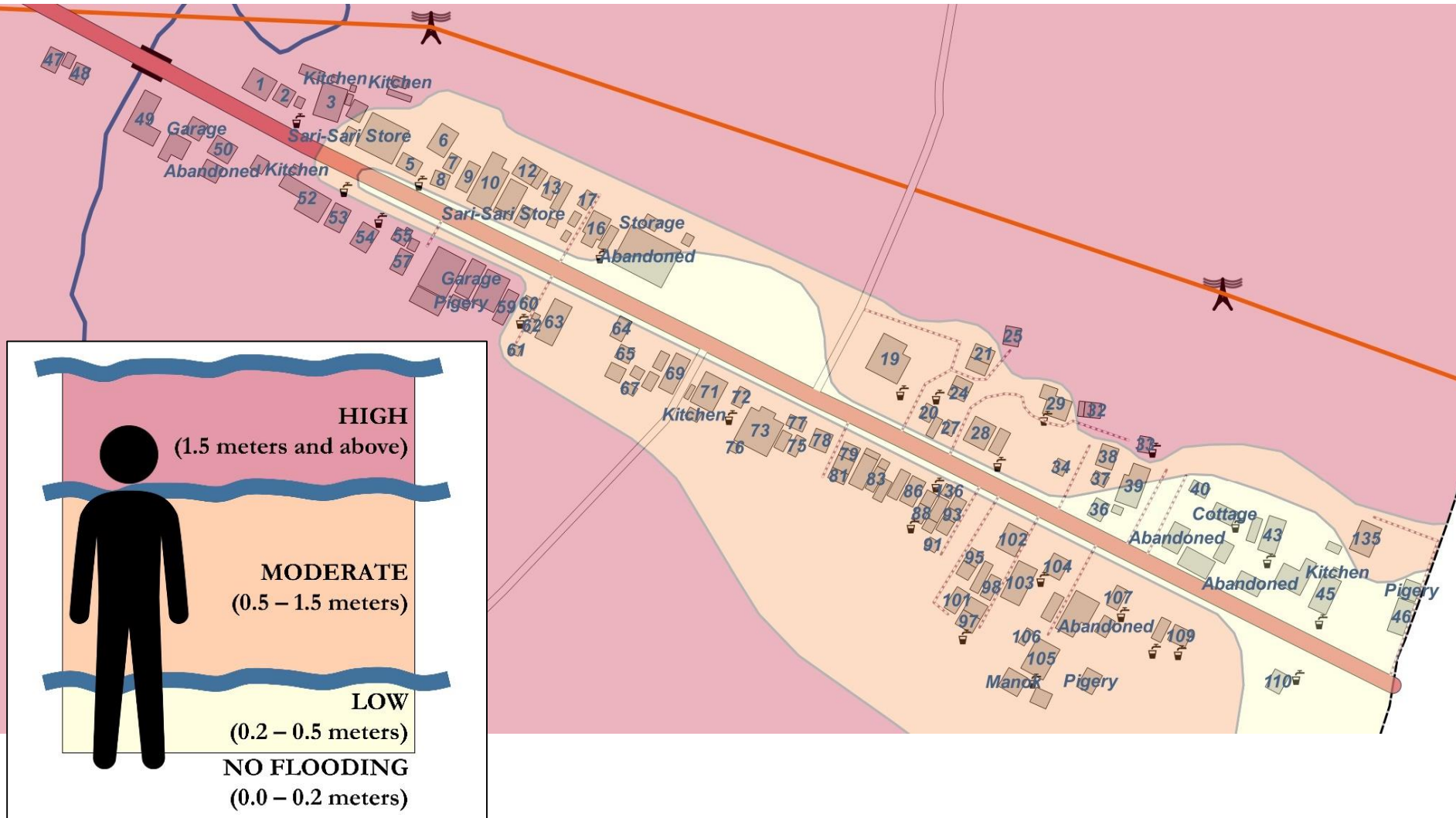
Flood Map (Before – DOST)



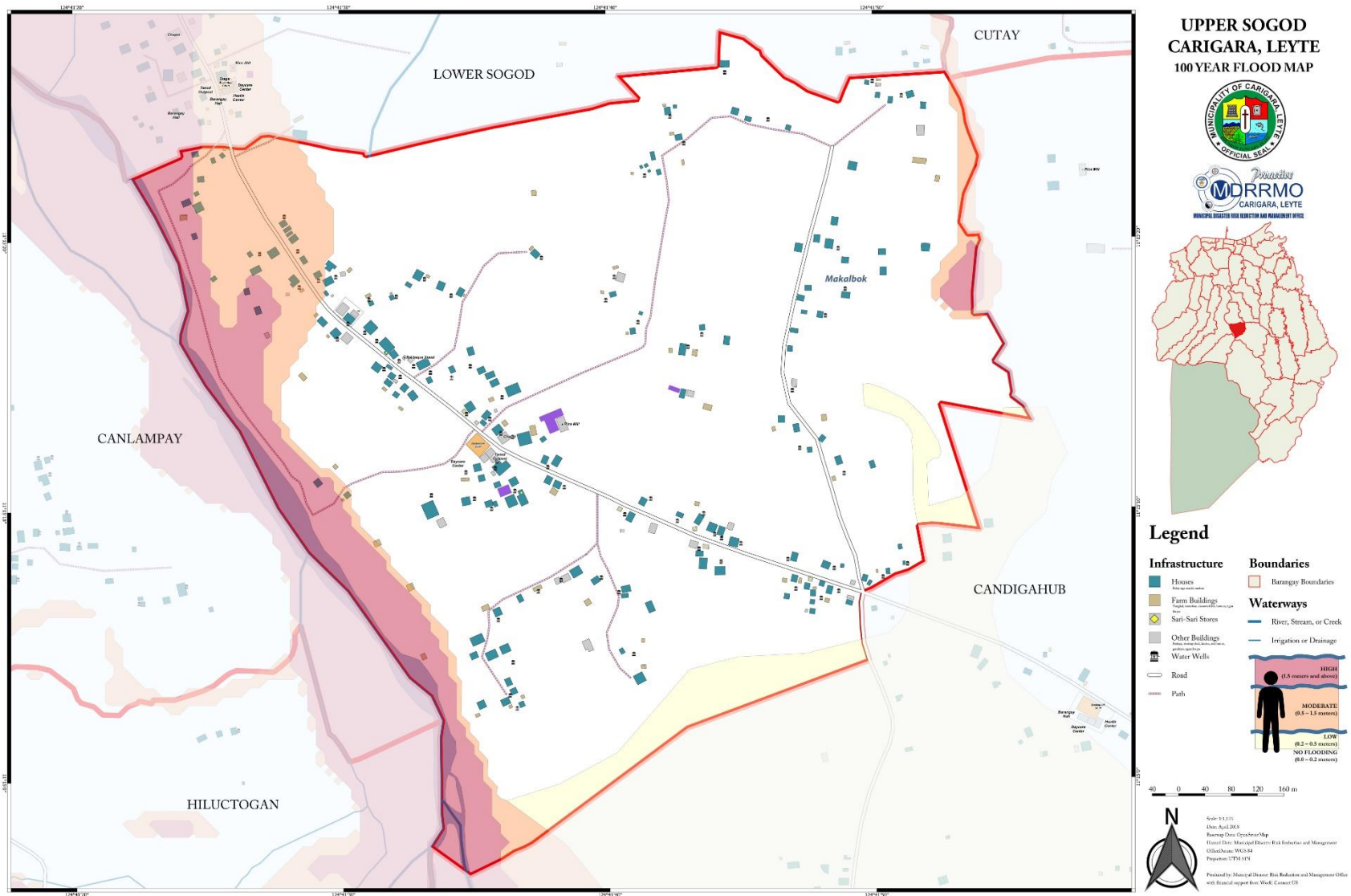
Flood Map (After – Community)



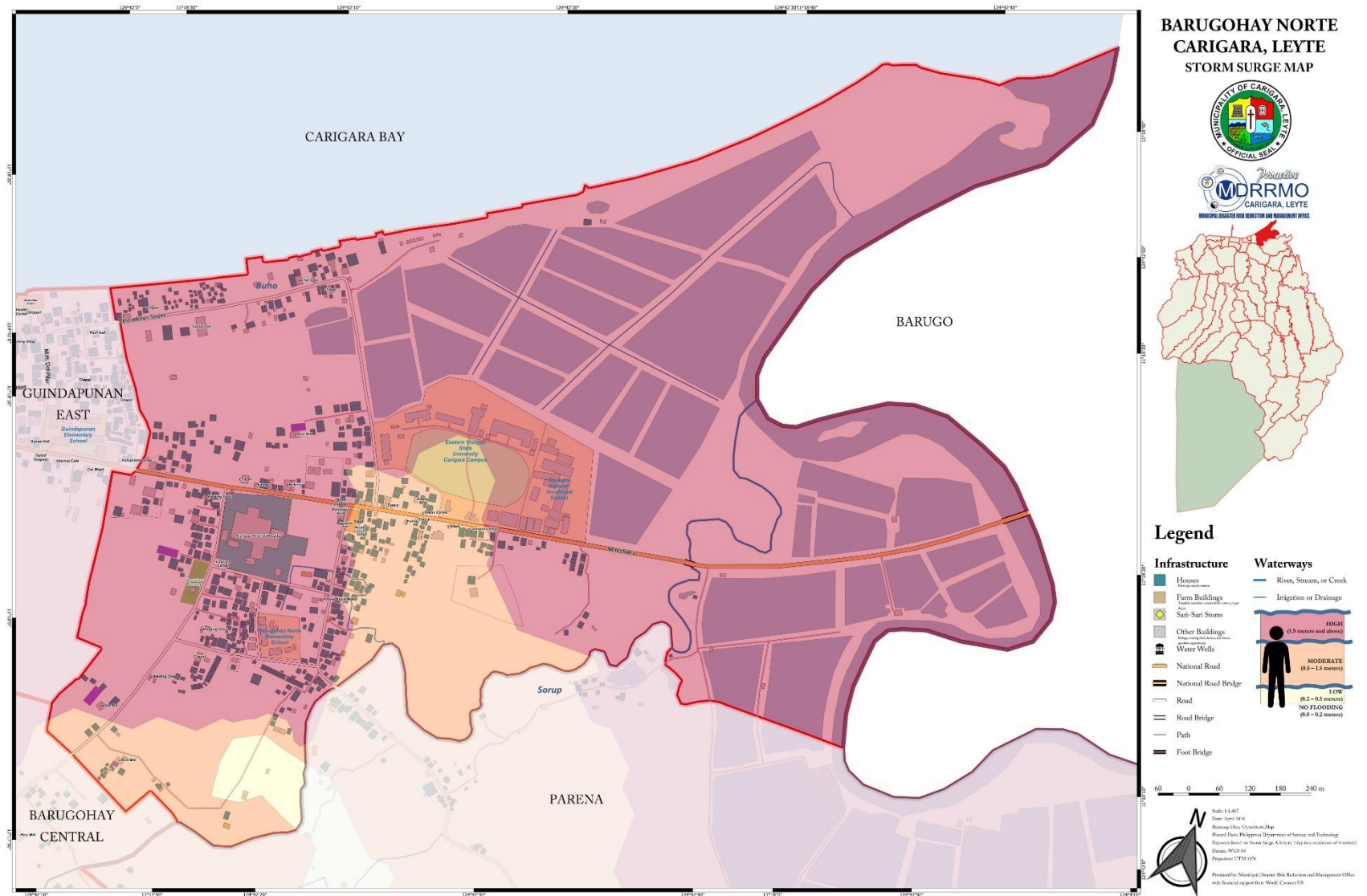
Flood Map (After – Community)



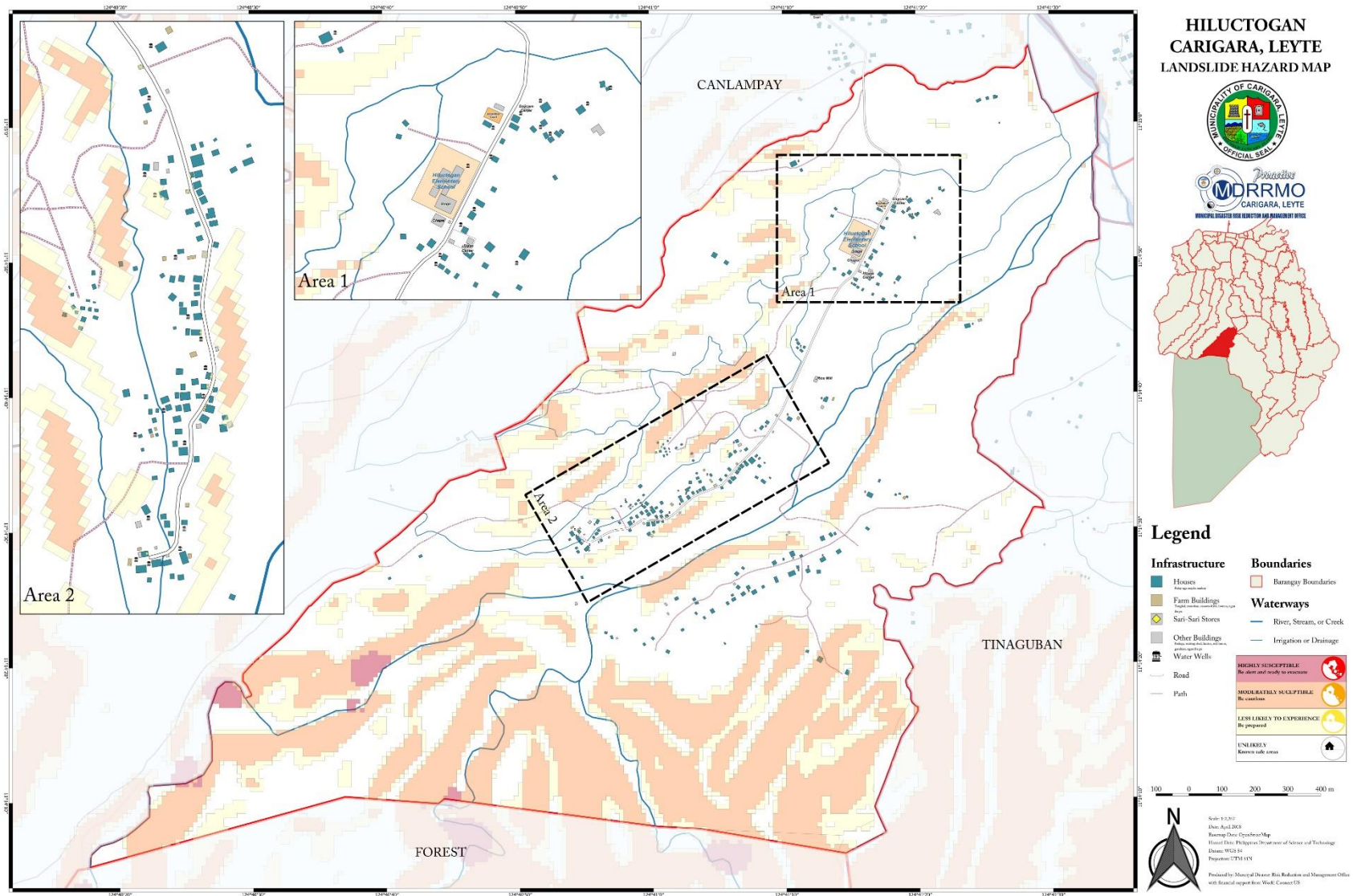
Example Flood Hazard Map



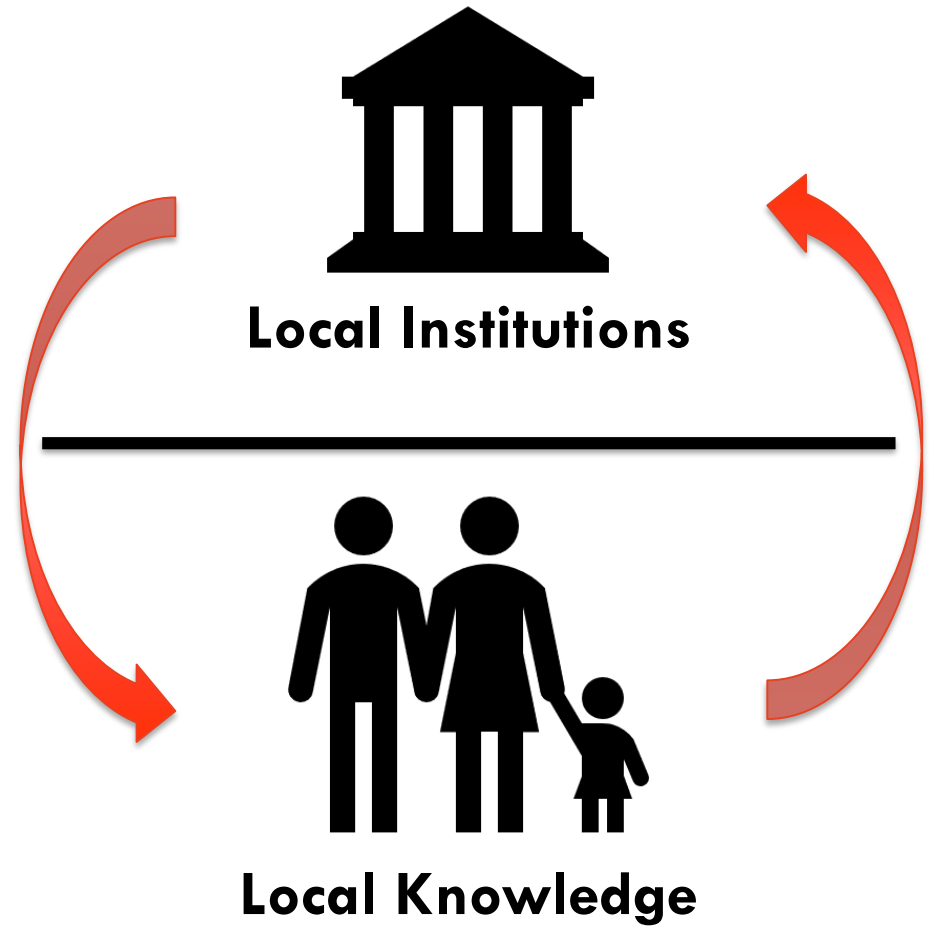
Example Storm Surge Hazard Map



Example Landslide Hazard Map

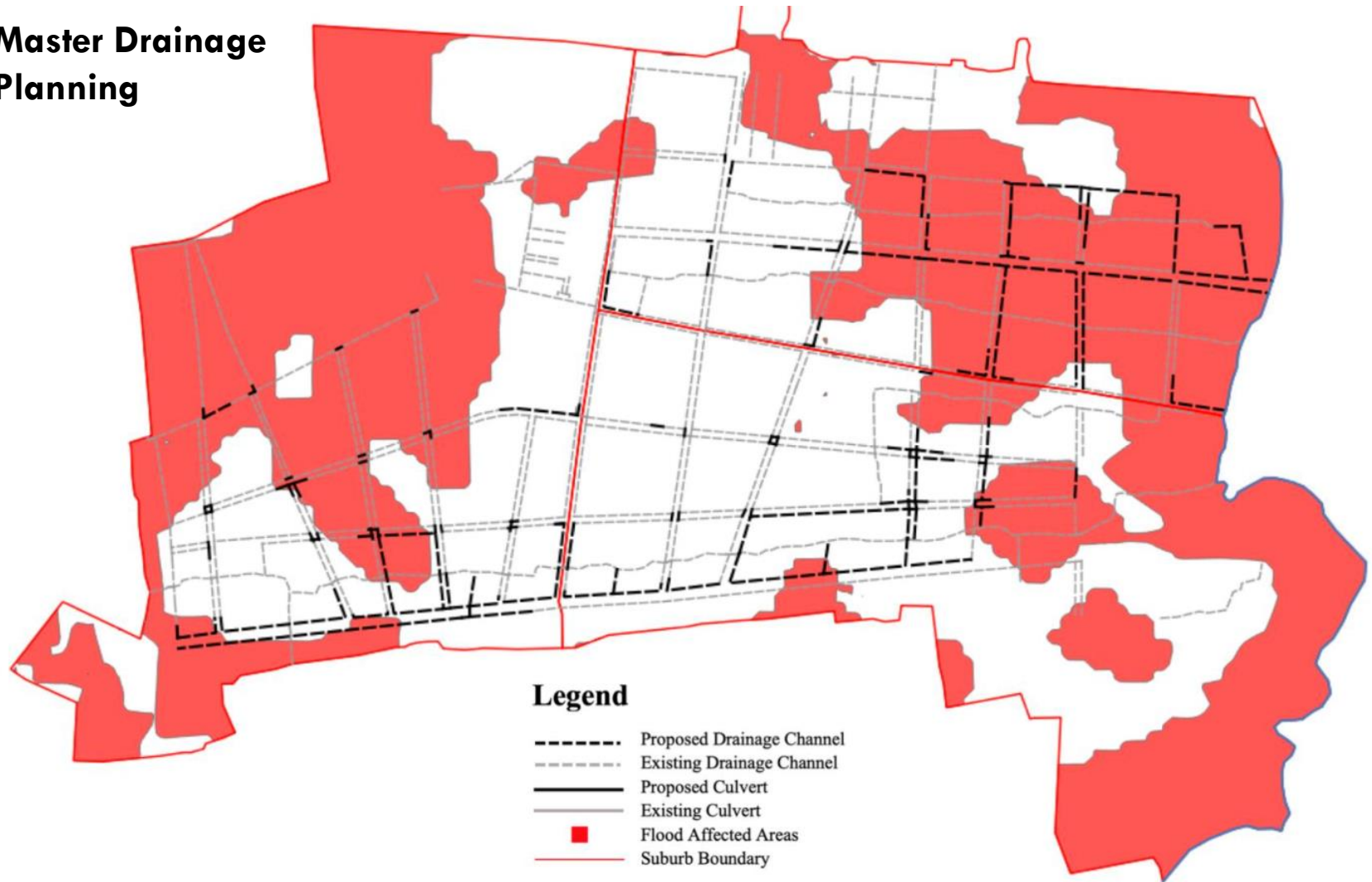


Mobilizing Local Knowledge in DRR



Mainstreaming DRR in Development Planning

Master Drainage Planning



Lessons Learned

- **Define who is responsible for disaster risk**

Important to define accountability in places of administrative boundary disputes

- **Leverage open-source technologies**

Use of freely available technologies (e.g. OpenStreetMap, QGIS, Field Papers) acted as tool to institutionalize local knowledge

- **Find opportunities to integrate DRR efforts**

Identify priority issues facing local communities and use these as an entry point to institutional planning

Conclusions

How can we leverage the knowledge embedded in local DRR strategies in the decade ahead?

1. Utilise **community-led data collection as a multiplier**
2. Emphasise **process** over **product**
3. Focus not only on risk reduction but also **halt disaster risk creation**



Aaron Opdyke PhD, PE
Lecturer | Humanitarian Engineering
aaron.opdyke@sydney.edu.au

 @aaronopdyke

Questions?

