

Participatory GIS: Indian Ocean Case Study

Russell Jackson

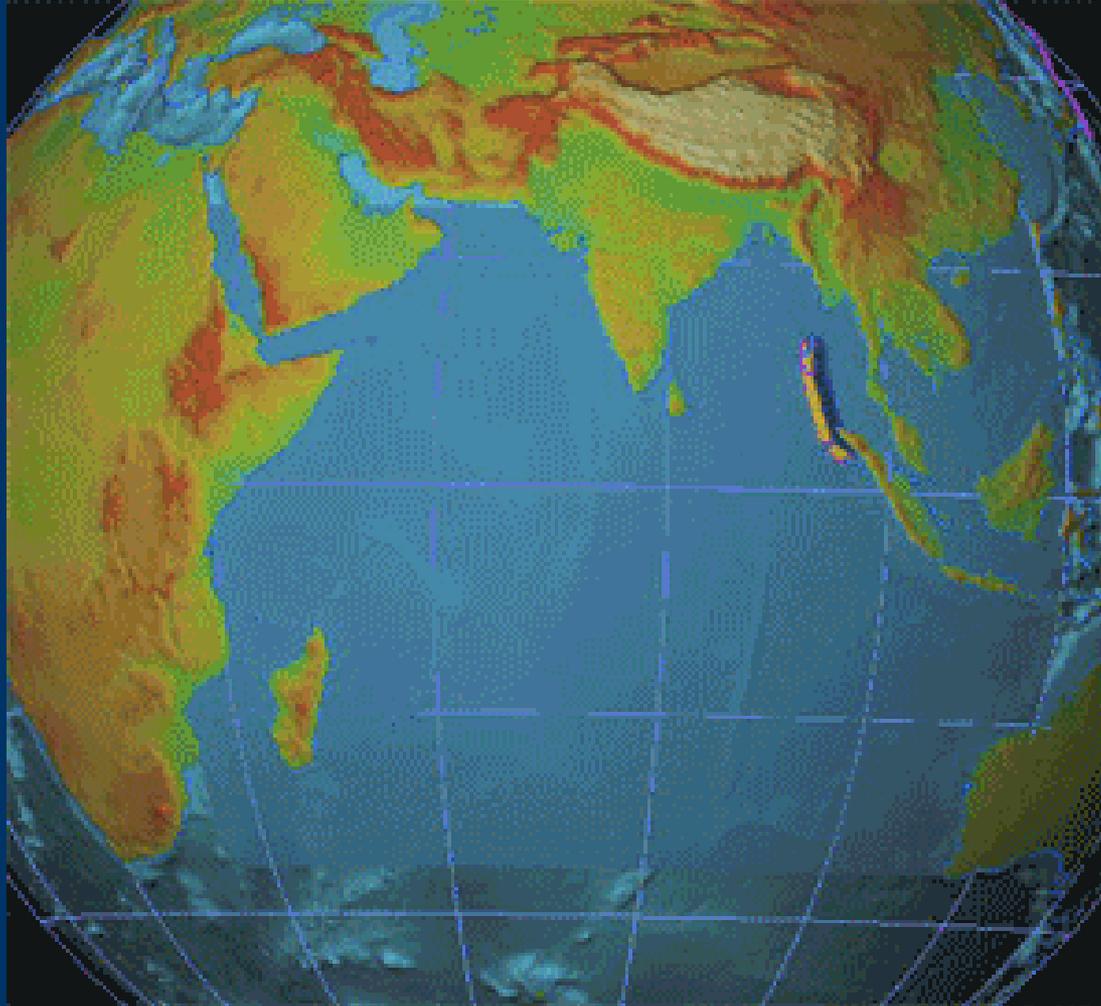
**National Oceanic and Atmospheric Administration (NOAA)
Coastal Services Center**

GeoTools 2009



**NOAA Pacific Services Center
NOAA Coastal Services Center**

December 2004 Sumatra Tsunami



NOAA Pacific Services Center
NOAA Coastal Services Center

December 2004 Sumatra Tsunami



NOAA Pacific Services Center
NOAA Coastal Services Center

December 2004 Sumatra Tsunami



NOAA Pacific Services Center
NOAA Coastal Services Center

U.S. Government

Indian Ocean Tsunami Warning System Program

Strengthening “end-to-end” tsunami warning capabilities in the Indian Ocean region—from advanced technologies to resilient communities.



Developing an “End-to-End” Tsunami Warning System for the Indian Ocean

The U.S. Indian Ocean Tsunami Warning System (IOTWS) program is providing technical assistance to the region using an integrated, “end-to-end” approach. In addition, the approach is multi-hazard in that it simultaneously addresses tsunami hazards and a number of other critical coastal hazards such as cyclones, sea swells, floods, and earthquakes.


www.iotws.org



HOW RESILIENT IS YOUR COASTAL COMMUNITY?
 A GUIDE FOR EVALUATING COASTAL COMMUNITY RESILIENCE TO TSUNAMIS AND OTHER HAZARDS


USAID | ASIA


 Coastal Resources Center
 University of Rhode Island


 The Nature Conservancy
 1195 17th Street, NW
 Washington, DC 20036







Over 140 agencies, institutions, nongovernmental organizations (NGO), etc. contributed

Coastal Community Resilience (CCR) Initiative

Unique Partnership – Core Team

- NOAA (U.S. Government)
- Asian Disaster Preparedness Center (Regional NGO)
- The Nature Conservancy (International NGO)
- University of Rhode Island's Coastal Resources Center (Academia)
- Tetra Tech, Inc. (Private Sector)



NOAA Pacific Services Center
NOAA Coastal Services Center

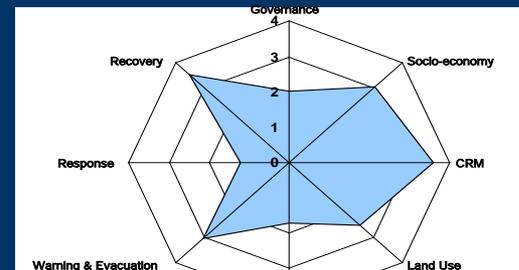
Components of the CCR System

Resilience Benchmarks & Assessment



- *Strengths*
- *Weaknesses*
- *Unknowns*

Resilience Scoring



Implementation
& Monitoring

Phased Action Plan

Resource &
Opportunity
Evaluation

Gaps & Priority
Identification

Participatory Process

Data Gathering

- Participatory Mapping
- Focus Groups
- Interviews



සමාජය

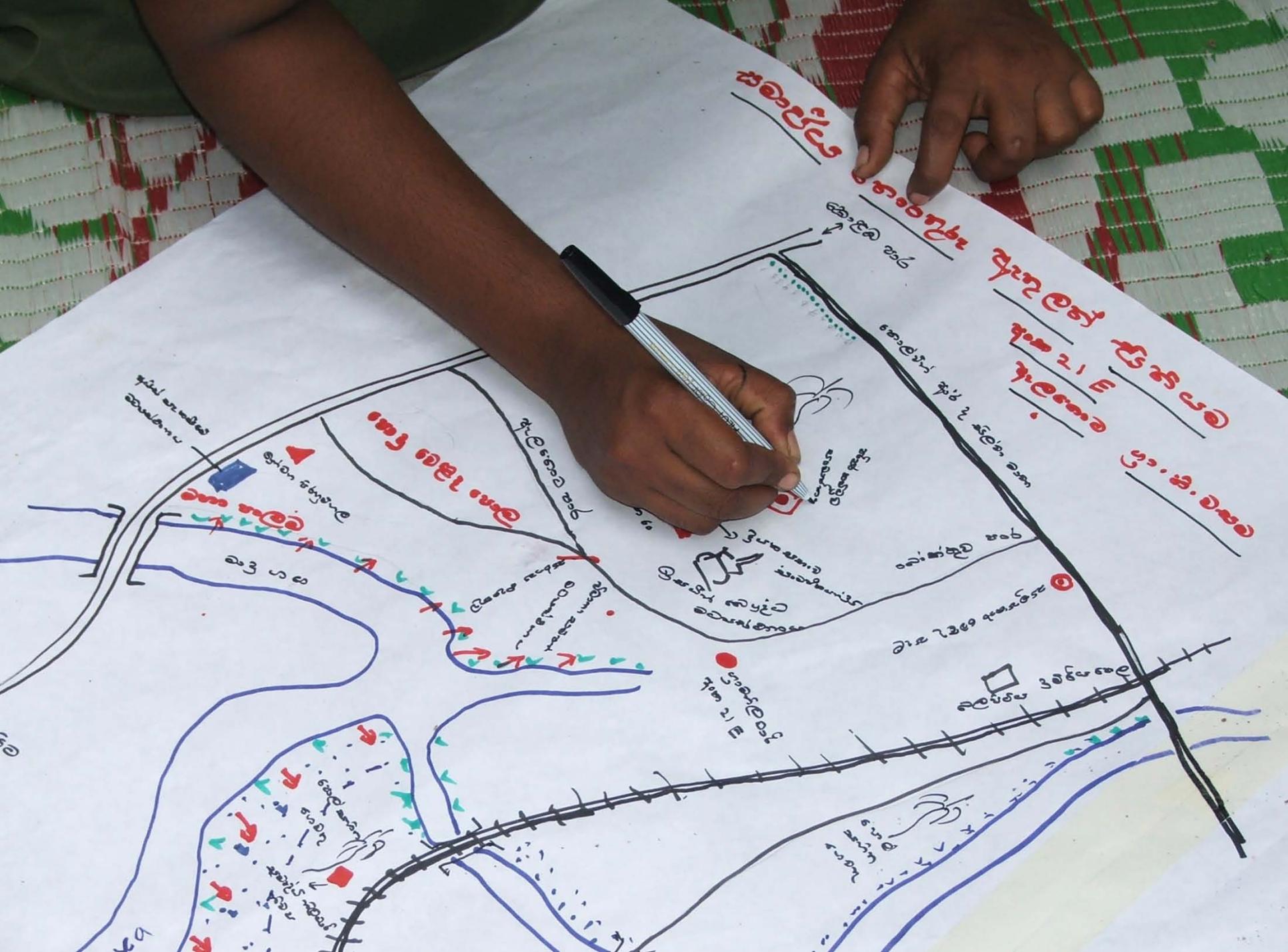
විකාරාගාර

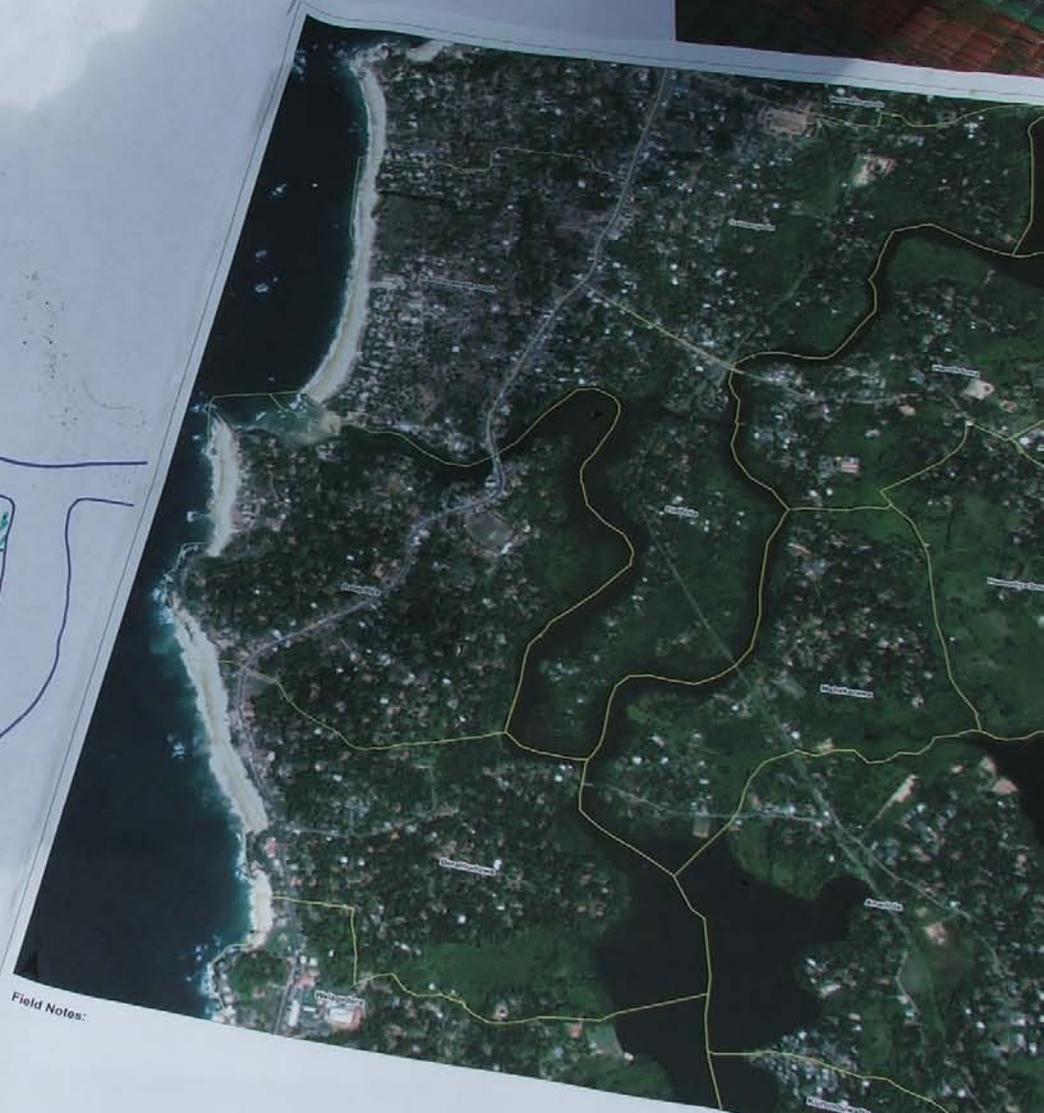
අනුලක්ෂිතයාගේ

අංක 2.1 E

අලුතොට

ප්‍රා.ම.වසම





Field Notes:

Coastal Community
National



Chin Doun 6A2

Chin Doun 6A2 (writing table)

6A2

PILOT







Participatory Process

Application

- Coastal Community Resilience Assessments
- ArcIMS application in Sri Lanka
- Printed tsunami evacuation maps for communities



NOAA Pacific Services Center
NOAA Coastal Services Center



COMMUNITY BASED DISASTER MANAGEMENT IN THAILAND

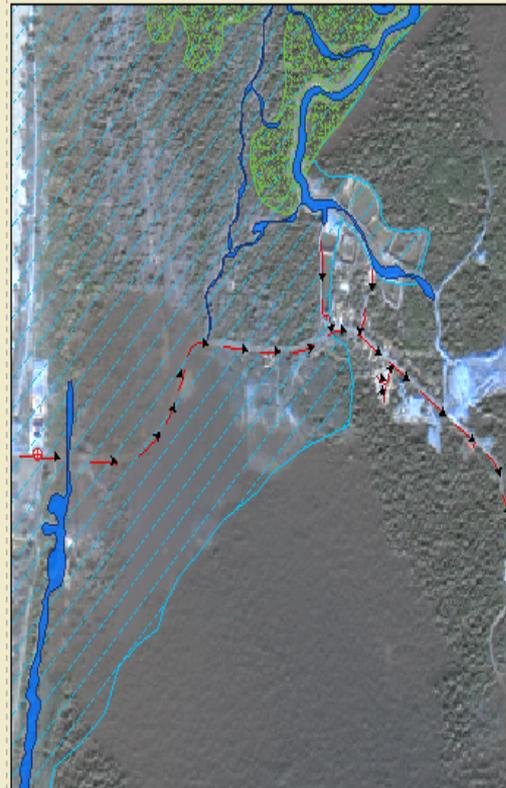


Village Talae Nok, Kamphuan, Suksamron, Ranong

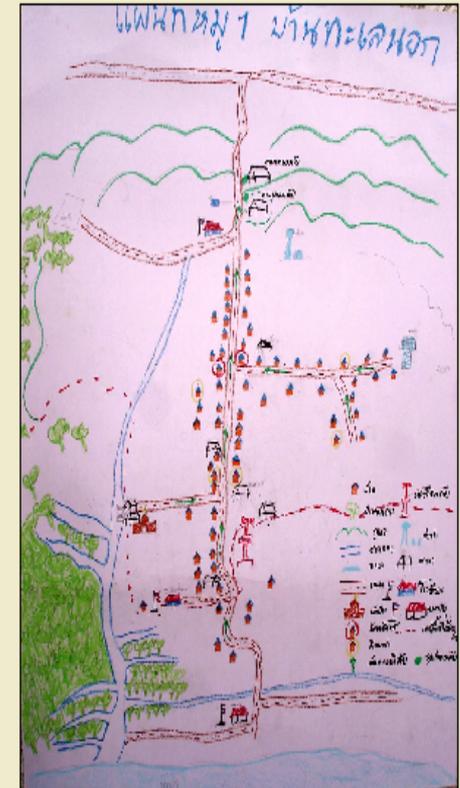
Overview Map



Village of Talae Nok



Children's Perceptions



Map Key

- Evacuation Route
- Flooded Areas**
- Observed
- Estimated
- Places of Concern**
- House
- Disabled Home
- Elderly Home
- Hospital or Health Center
- Schools
- Other Significant Places**
- Safe Zone
- Municipal Facility
- Religious Building
- Pier
- Community Building
- Warning Tower
- Landmarks
- Wet Areas**
- Shrimp Ponds
- Mangrove
- Rivers and Inlets

© 2008 USGS, National Geographic, and the National Aeronautics and Space Administration. All rights reserved. This map is a derivative work of the USGS National Wetlands Inventory and the National Aeronautics and Space Administration's Landsat satellite imagery. It is not to be used for navigation purposes.



Participatory Process

Challenges

- Building relationships and trust
- Gender issues in some cultures
- Unfamiliarity with maps by community members



NOAA Pacific Services Center
NOAA Coastal Services Center



For More Information

Russell.Jackson@noaa.gov



NOAA Pacific Services Center
NOAA Coastal Services Center