Early warning systems: mobile reporting, information integration, and decision making with Mobile4D and Lao DECIDE

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Early warning systems

• Importance of early warning systems for disaster risk reduction and adaptation to unpredictable events

• Accurate, locally relevant data, for timely intervention
Mobile4D System

• Organizations involved
  – MAF, Lao PDR
  – Capacity Lab, University of Bremen, Germany
  – Decide, CDE, University of Bern, Switzerland
Mobile4D System

• Organizations involved

• Information Flow

Smartphone App

- Send out warnings
- Receive warnings (location based)
- Contact other people

Web-Administration

- Send out warnings
- Administration: combine, edit, close warnings
- Provide further help (e.g. safety advice)

Cloud-Server

- Handles incoming warnings
- Sends out notifications to people in danger
- Is connected to the crowd server
Mobile4D System

• Organizations involved
• Information flow
  – Top-Down

• Send Warnings and related information

![Diagram showing Mobile4D System]
Mobile4D System

• Organizations involved
• Information flow
  – Top-Down
  – Bottom-Up

• Send warnings and related information
Mobile4D System

- Organizations involved
- Information flow
- Decentralized concept
  - Also works with small local groups
  - Would also work without any administrative layer
Pilot testing

- **2014 - Disaster Monitoring**
  - Vientiane Capital (CST, DOA, DOLF and DOPC, MAF)
  - Luangprabang (Luangprabang, Chomphet and Pak Ou)

- **2015 - MAF (CST, DoPC)**
  - Sekong (Kaleum, Dak Cheung)
  - Saravan (Taoi, Samuay)
  - Attapeu (Sanexay, Phouvong)

- **2016-2017 - Locusts Monitoring**
  - Luangprabang (Ngoi, Viengkham, Nambak, Phonsay, Pakou)
  - Houaphanh (Hiem)
2015-2016: Disaster reporting function
2015-2016: Disaster reporting function

When did it happen?

- Jan 07 2015
- Feb 08 2016
- Mar 09 2017

Set to today

Reported by

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2016-2017: Locust monitoring function
What else is happening?

A WeChat group of 400+ farmers shares market and technical information in Laos.

- The group has been self-running, similar to a Facebook group chat or Tholakhom.
- It does not require external management.
- Such initiatives can be powerful tools of farmer self-help, spreading market and other information.
- Spreading gained information in a village would be easy
Some answers needed

• We can track market and other changes
  – We need to find a self-sustaining model to do so

• We know little about impact
  – What impact do ICT based systems really have?
  – Which information has most impact on buffer capacity?

• Making information universally available
  – What are the limits?
  – How much government control is actually required or beneficial?
Looking ahead...

• Constraints
  – Technical: System is sometime down
  – Financial: Limited number of android mobile for the dedicated reporter
  – Human capacity: urgent needs for more TOT at all administrative levels

• Perspectives
  – Expand collaborations: MLSW, MoNRE, MOPH, MPWT, MEM, DMCC and CSOs
  – Expand topics: soil properties monitoring module DALaM
  – Expand geographical coverage: full country Lao PDR
Thank You!

- [www.decide.la](http://www.decide.la)
- [http://mobile4d.capacitylab.org](http://mobile4d.capacitylab.org)
- [http://dalam.maf.gov.la](http://dalam.maf.gov.la)