→ EARTH OBSERVATION FOR SUSTAINABLE DEVELOPMENT

Disaster Risk Reduction

disaster risk reduction
eo4sd

Potential further cooperation among ESA, ADB and Government of Indonesia
Jakarta, 21 June 2019

Alberto Lorenzo (ESA EO4SD DRR project)
alorenzoa@indra.es

Conditions for the cooperation between ESA, ADB and Government of Indonesia:

- Fulfilling experience of providing products that or of value for the final user
  - ESA and ADB funded the first round
- Recurrent natural disasters in Indonesia
- There are strong institutions that are able to uptake space technology in their working processes, especially the presence of LAPAN

The question is: is there interest from Indonesia in:

- Updating the products already provided?
- Continuous monitoring? (e.g LULC , terrain deformation)?
- Further products or services?
- A more stable cooperation?

Opportunities for cooperation

Recovery and reconstruction in Sulawesi: what next

Cooperation for recovery and reconstruction in Sulawesi

Support to get the most out of Earth Observation

European technology for improving capabilities for exploiting EO in DRM

Additional products for Central Sulawesi Recovery and Reconstruction

Potential needs

More precise **land use land cover maps**

- 1:5000 or 1:1000 ad hoc mapping
- National Indonesian LULC standards

Terrain deformations (via PSI, for instance)

- Displacement of buildings / infrastructures
- Continuous monitoring for taking informed decisions on mitigation measures
- Supporting the definition of safety standard levels

Additional damage assessment

- Bigger than EMS
- Specific for elements

Continuous monitoring of the reconstruction and rehabilitation

Challenge 1: understand and monitor hazards in Indonesia with EO

General challenges:

- To exploit **satellite information** that is freely available + satellite data produced locally
- To **build on technology and processes** that are mature and proven
- To support the **observation of**: SUBSIDENCE, EARTHQUAKES, TSUNAMI AND VOLCANOES (**Geo-Hazards**) in Indonesia
- To provide an environment for scientists / academia to **use EO for improve understanding** of Geo-Hazards in Indonesia

Specific challenges:

- To facilitate the use Earth Observation to help in:
  - Monitor effects of earthquakes / tsunamis
  - Monitor active volcanoes
  - Monitor subsidence of cities (sinking cities)
  - Assess impact of Climate Change

Challenge 2: to use EO to respond more swiftly and efficiently to disasters

General challenges:

- To exploit satellite information that is freely available + satellite data produced locally
- To build on technology and processes that are mature and proven
- To generate products or coordinate the local production + international cooperation

Specific challenges:

- To use earth observation for
    - Provide service to respond to disasters with a strong EO component

Components?

What are the usual components?

Local leaders / owners

Strategical / Technological partner
(Technology / Infrastructure
support, fund leveraging)

Thematic experts

Scientific / capacity
building experts

Concept support

Financing

Local industry / local
service providers

Civil protection or body
in charge of response