

- Japan SDGs Innovation Challenge for UNDP Accelerator Labs -

Developing Early Warning System (EWS) in wearable technology for disaster preparedness

UNDP Accelerator Lab Indonesia

Identified SDGs issues by Accelerator Lab Indonesia

Identified SDGs:



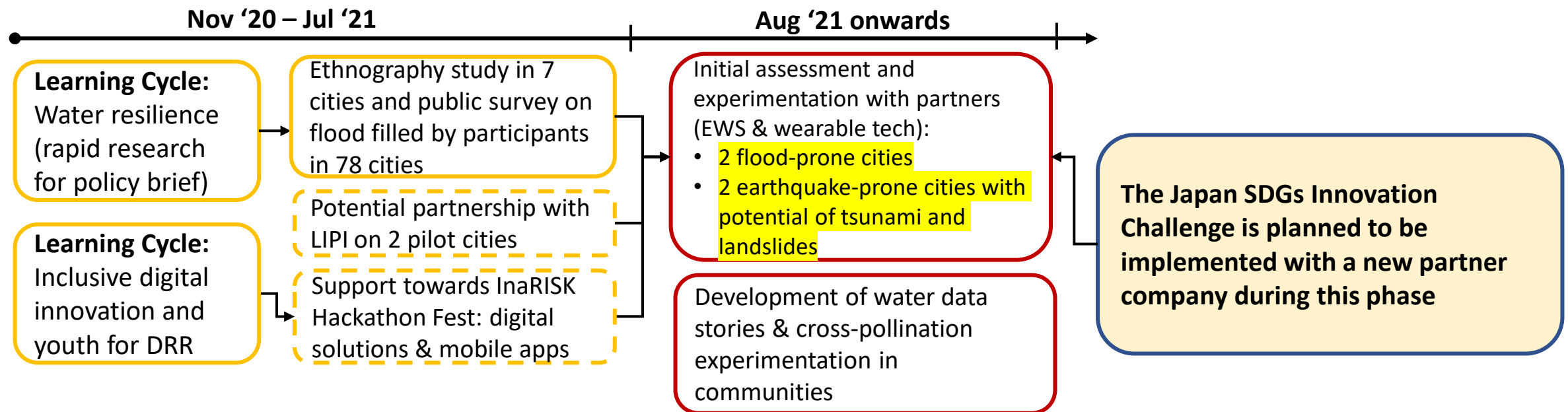
- With more than **270 million people living on 17,000+ islands**, Indonesia is **prone to earthquakes, tsunamis, floods & volcanic eruptions**.
- One of the **world's deadliest natural disasters** was the 2004 Aceh earthquake and tsunami, causing **230,000 casualties** with an estimated total **damages and losses of USD4.45 billion**.
- Majority of current disaster risk reduction (DRR) programs in Indonesia are **still concentrating on physical infrastructure**, overshadowing **the need for an inclusive approach to disaster preparedness**.
- **Investments on mitigation efforts** such as early warning system (EWS) for natural hazards **needs to be strengthened and designed to be more accessible** for vulnerable communities.
- **Early warning and action** are keys to minimizing the impact of future extreme weather events and climate change.



Planned/on-going solutions by Accelerator Lab Indonesia

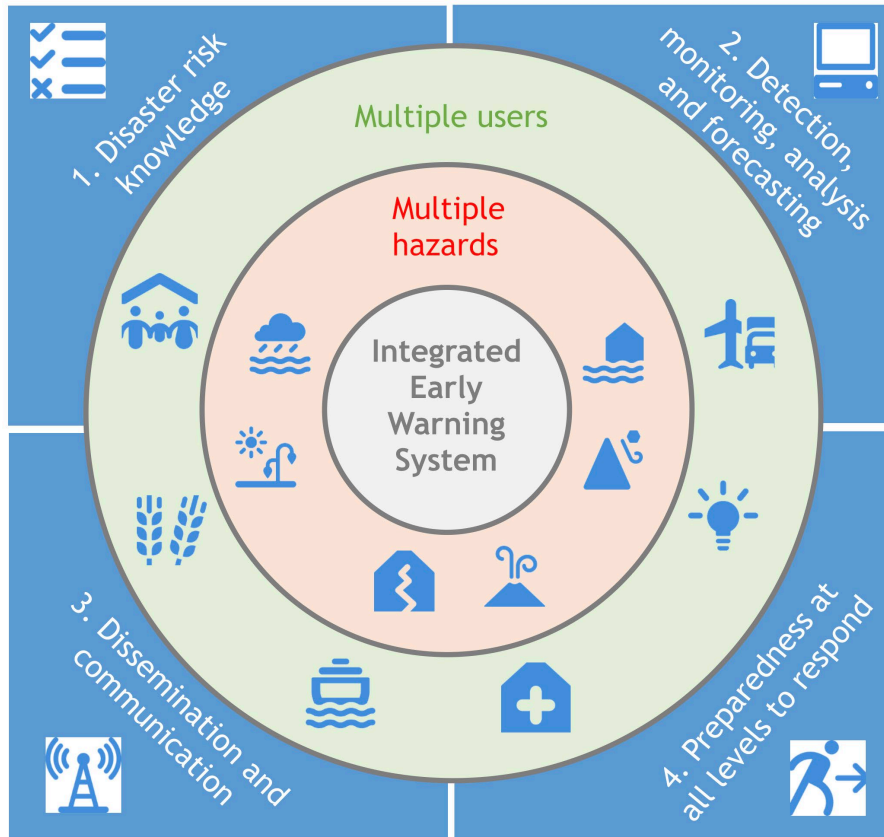
Objective: Developing Early Warning System (EWS) and integrating into wearable technology

- To enable better access to disaster data, leverage EWS and innovative learning programs to instigate early action and strengthen communities' resilience
- To ensure local communities and administrations have the capacity to operate and maintain the early-warning tools installed, particularly for at-risk and impacted communities in disaster-prone areas
- To increase awareness for disaster warnings and weather signals to improve mitigation measures



Expertise/technologies expected from Japanese partners

- Effective **Early Warning System (EWS)** that could detect natural hazards and disasters (including its gateway and servers)

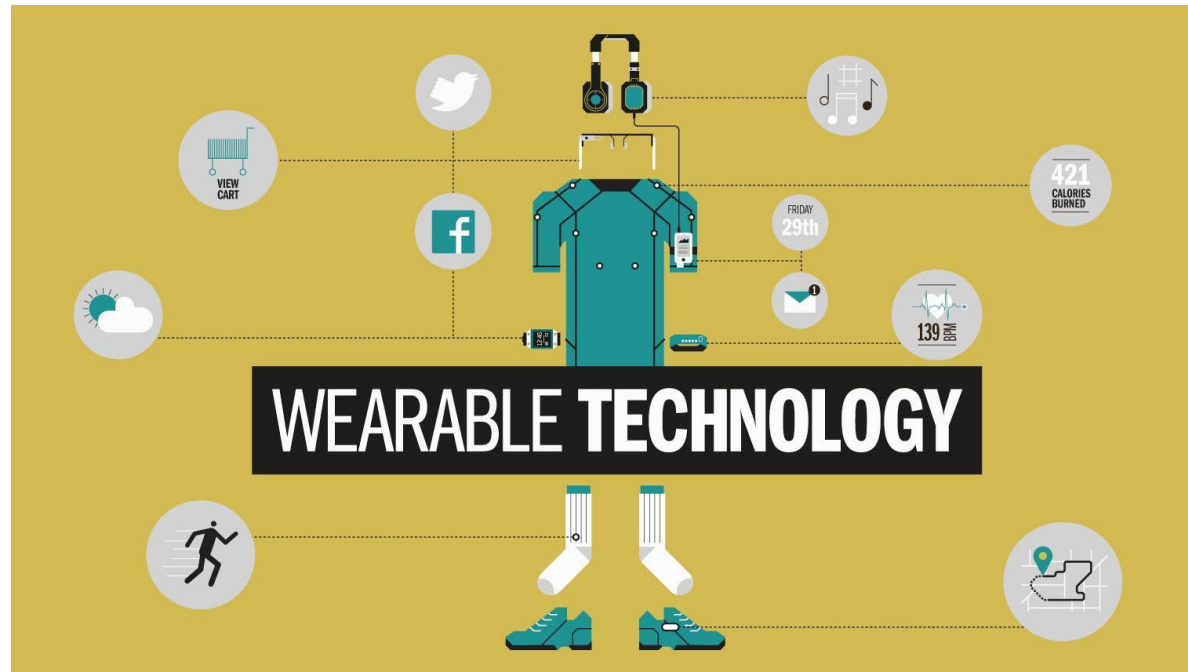


Potential pilot location



Expertise/technologies expected from Japanese partners

- Integration into **low-cost and low-maintenance wearable technology** suitable for low resource settings (data stored in cloud systems to avoid excessive energy in its operation) with potential adoption by the InaRISK system, a platform of the Indonesian risk information
- Development of **innovative learning systems** that enable users (youth, students, public) to experience virtual disasters and understand its risk



Stakeholders & Resources of the project

National Agency for Disaster Management (BNPB) and Hypocrite (Startup)

- Project technical & advisory support
- Data collection, validation and analytics
- Co-developer of technology
- Collaboration status: already ongoing for other projects

The Meteorology, Climatology and Geophysic Agency (BMKG) and other disaster data holders

- Source for disaster data and existing EWS
- Data collection, validation and analytics
- Collaboration status: planned for open call



UNDP Accelerator Lab and RRU

- Project coordinator & key decision-maker
- Data collection, validation and analytics
- Project Monitoring and Evaluation Support
- UNDP ICT unit will support on ICT Platform Testing & Integration support

Japanese corporation

Japanese corporations

- Co-developer of the technology
- Cloud Infrastructure for Testing and Deployment

Indonesian Institute of Sciences (LIPI), CSOs and other research institutions

- Project Pilot Sites and Coordination with Field Offices for Deployment
- Collaboration status: planned for open call, already has MoU with other units

Local administration, CSOs, and communities

Regional government, CSOs, and local communities

- Co-design partner: organizations for People with Disability (PwDs) and other vulnerable groups
- Collaboration status: planned for open call

Expected follow-up activities to the project

April – June 2022

Handover of EWS and wearable technology to prospective partners

Potential B2G Adoption

- National Agency for Disaster Management (BNPB) to independently host and manage the technology

Potential B2B Adoption

- Prospective business partners (ICT or electronic device companies) to adopt EWS into their wearable technology

July – September 2022

Public showcase of the project during Accelerator Lab's annual event

Presenting outcomes of the project

- Proposed joint launch of the technology together with BNPB and other governmental partners to enable public adoption
- Potential data sharing into the InaRISK system, a platform of the Indonesian risk information

October – December 2022

Support for scale-up by partner

Scale-up of technology

- Light support from Accelerator Lab to partners in implementing the technology for scaling up efforts across different regions

Accelerator Lab Indonesia Team



Ms. Aisha Marzuki,
Head of Exploration

Focal Point for Wearable EWS
Project Coordination



Mr. Muhammad Hardiana,
Head of Experimentation

Focal Point for Innovative
Learning Systems, Data
Quality Checks and
Experimental Pilots



Yulia Sugandi, PhD

Head of Solutions Mapping
Focal Point for Stakeholder
Engagement, Knowledge
Management and
Community Participation