



P H I L I P P I N E S

# TUKLAS

**INNOVATION LABS**

TUNGO SA KAHANDAAN NG PILIPINAS



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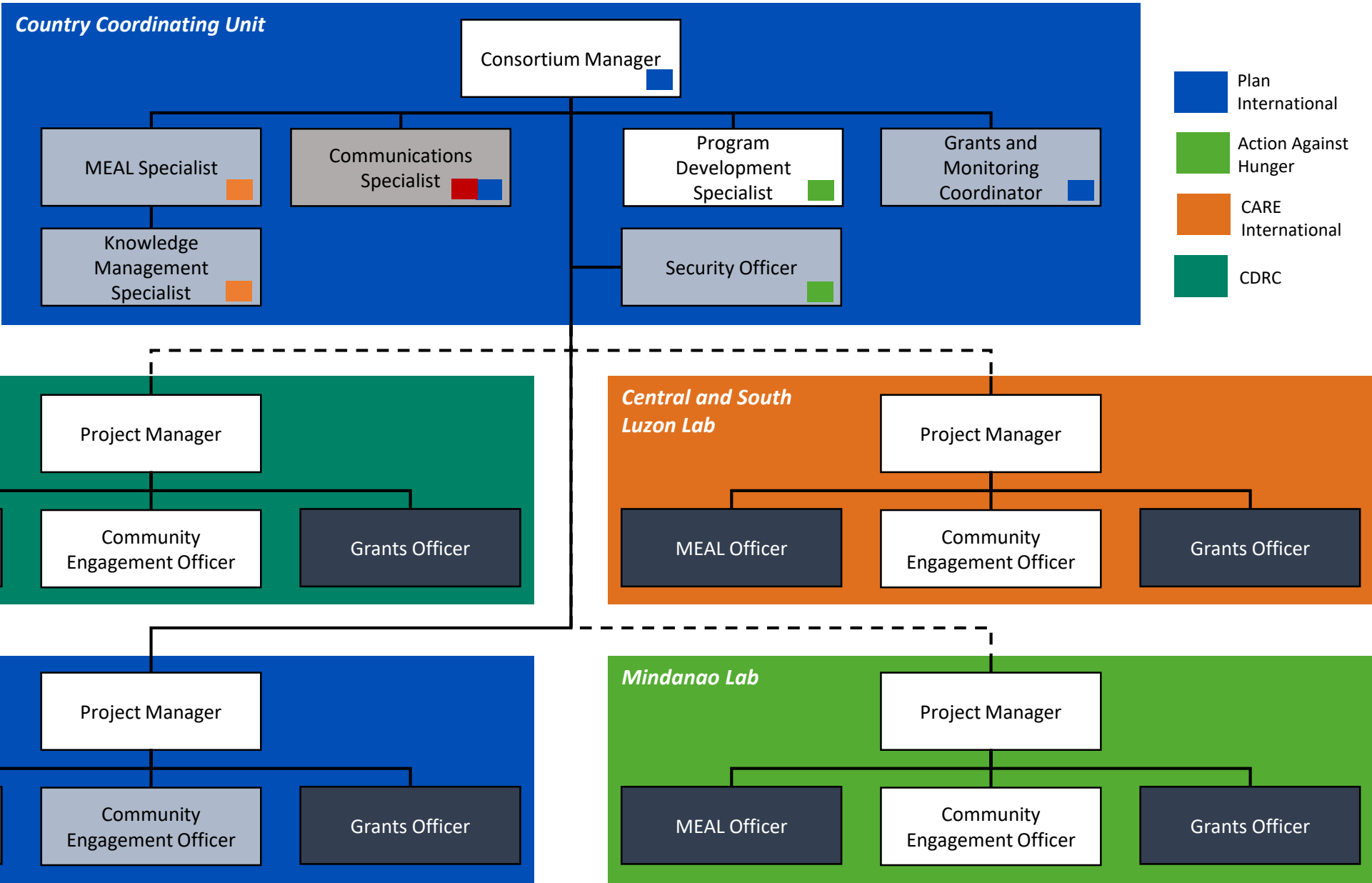
## TUNGO SA KAHANDAAN NG PILIPINAS

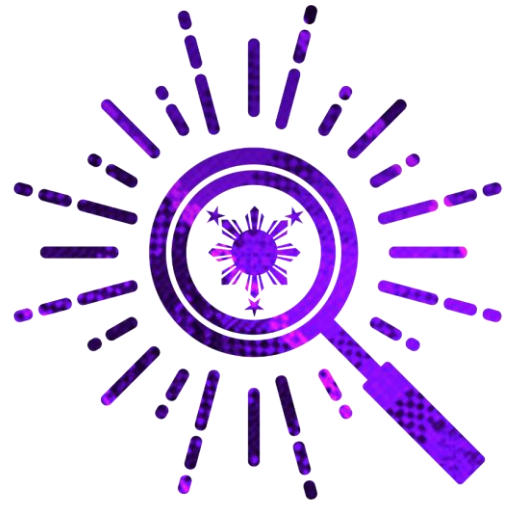
**TUKLAS** means

- DISCOVERY in Filipino language
- **TU**ngo sa **K**ahandaan ng **PiL**ipin**AS**, which translates to “Towards Preparedness in the Philippines”
- Discover and support innovative disaster preparedness solutions in communities

# THE CONSORTIUM







# TUKLAS Core Values



# TUKLAS Process

## Call for Ideas

- Information Sessions
- Writing Workshops
- Proposal Submission

## 8-month Implementation

- Haraya Proj. Mngt. and Sustainability Training
- Community Orientation
- Needs Assessment
- Mentoring and Coaching
- Quarterly Review

## Selection Process

- Intra-lab Review
- Peer Review
- Writing Workshop II
- Community Review
- Expert Review (Subject Area + Innovation)
- Final Selection Committee Review

## Wrap-up

- Sustainability Planning
- Innovations Fair
- Funders Matching



# Call for Ideas

- 25 September to 30 November, 2017
- provide an opportunity for every Filipino to apply as an innovator
- give voice to indigenous solutions or ideas arising from the communities
- emphasize importance of addressing distinct needs and perspectives of groups not usually heard or included

# Call for Ideas

- 50 information sessions (30 from CSL) and 12 writeshops (4 in CSL) in 37 provinces and cities
- Customization of activities to be more inclusive
- Support provided to those who may have difficulty writing and expressing their ideas
- Partnership building

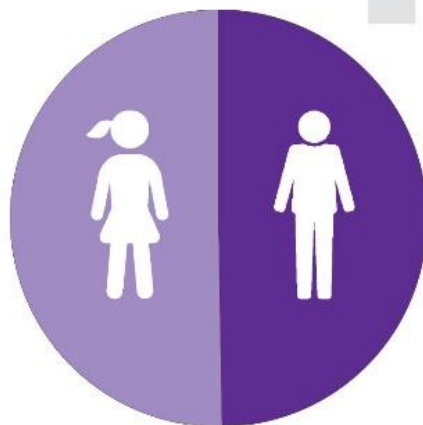
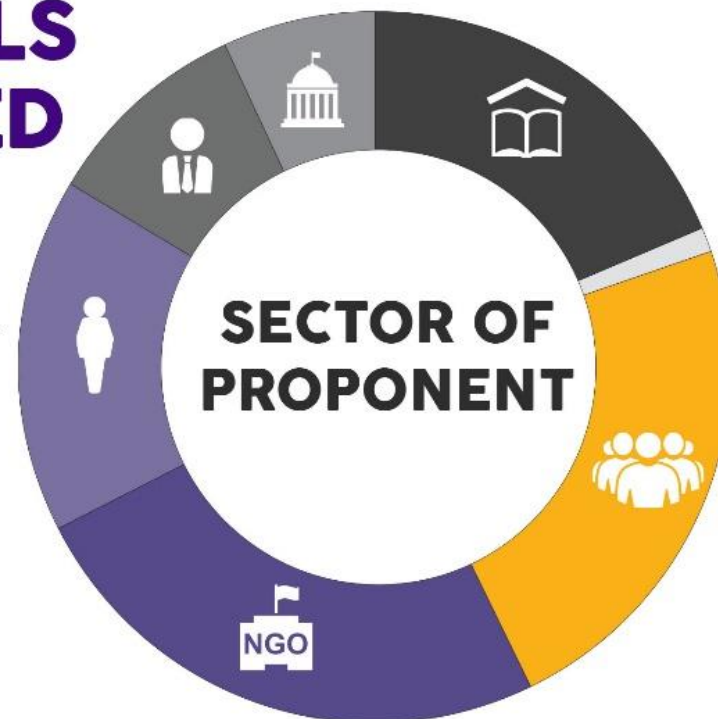
# Selection Process

- Identify the most innovative, most aligned to disaster preparedness, can create significant impact, and viable to scale
- Evaluation from the TUKLAS Community Labs, peer innovators, communities, innovation and subject area experts, and Consortium Leadership

# Intra-lab Review

- Main proponents from 88 provinces and highly urbanized cities
- 266 innovation teams comprised of 1,101 team members
- Innovation teams: 50% male and 50% female
- 107 proposals from CSL Lab

# 266 PROPOSALS SUBMITTED



## 1101 INDIVIDUALS AND TEAM PROPONENTS



Sex disaggregated data of individual and team proponents

# Intra-lab Review

- Main proponents from 88 provinces and highly urbanized cities
- 266 innovation teams comprised of 1,101 team members
- Innovation teams: 50% male and 50% female

**SUBMISSIONS FROM ALL 17 REGIONS OF THE PHILIPPINES**



## INNOVATION TYPE



52 Products and Technology



102 Systems and Services



112 Combination

## INNOVATION THEMES



23 Education



50 Disaster Management



2 Energy and Environment



5 Livelihood



5 Shelter and Infrastructure



5 Food Security



4 Water, Sanitation, and Hygiene

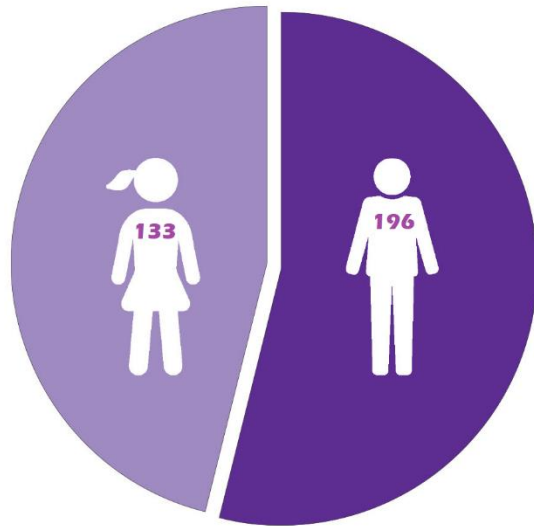
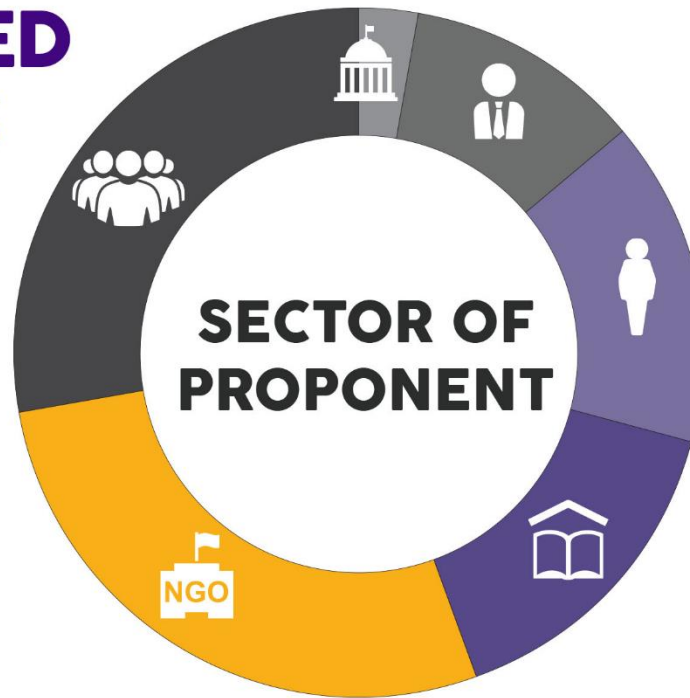
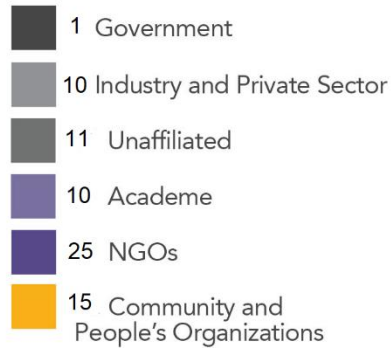


4 Health



1 Big Data

# 72 SHORTLISTED PROPOSALS



## 329 INDIVIDUALS AND TEAM PROPONENTS



Sex disaggregated data of individual and team proponents

## Intra-lab Review

- Main proponents from 48 provinces and highly urbanized cities
- Implementation sites: at least 51 provinces and HUCs
- 21 shortlisted proposals from CSL

## INNOVATION TYPE



20 Products  
and Technology



24 Systems  
and Services



28 Combination

## INNOVATION THEMES



25 Education



53 Disaster  
Management



2 Energy and  
Environment



6 Livelihood



6 Shelter and  
Infrastructure



8 Food Security



3 Water, Sanitation,  
and Hygiene



4 Health



2 Big Data

## Some examples

- Indigenous peoples: indigenous shelter design, codification of practices, healing remedies, innovations to disaster management of ancestral forests
- Youth: disaster youth hub, education through board games and game apps. We also had a high school student who submitted a shortlisted innovation
- Women: women as first responders
- Children: child-to-child support in areas of armed conflict, and use of creative process on how to deal with trauma
- Elderly: emergency kits for the elderly, methods to better evacuate elderly
- Persons with disabilities: mapping of persons with disabilities, apps that they can use

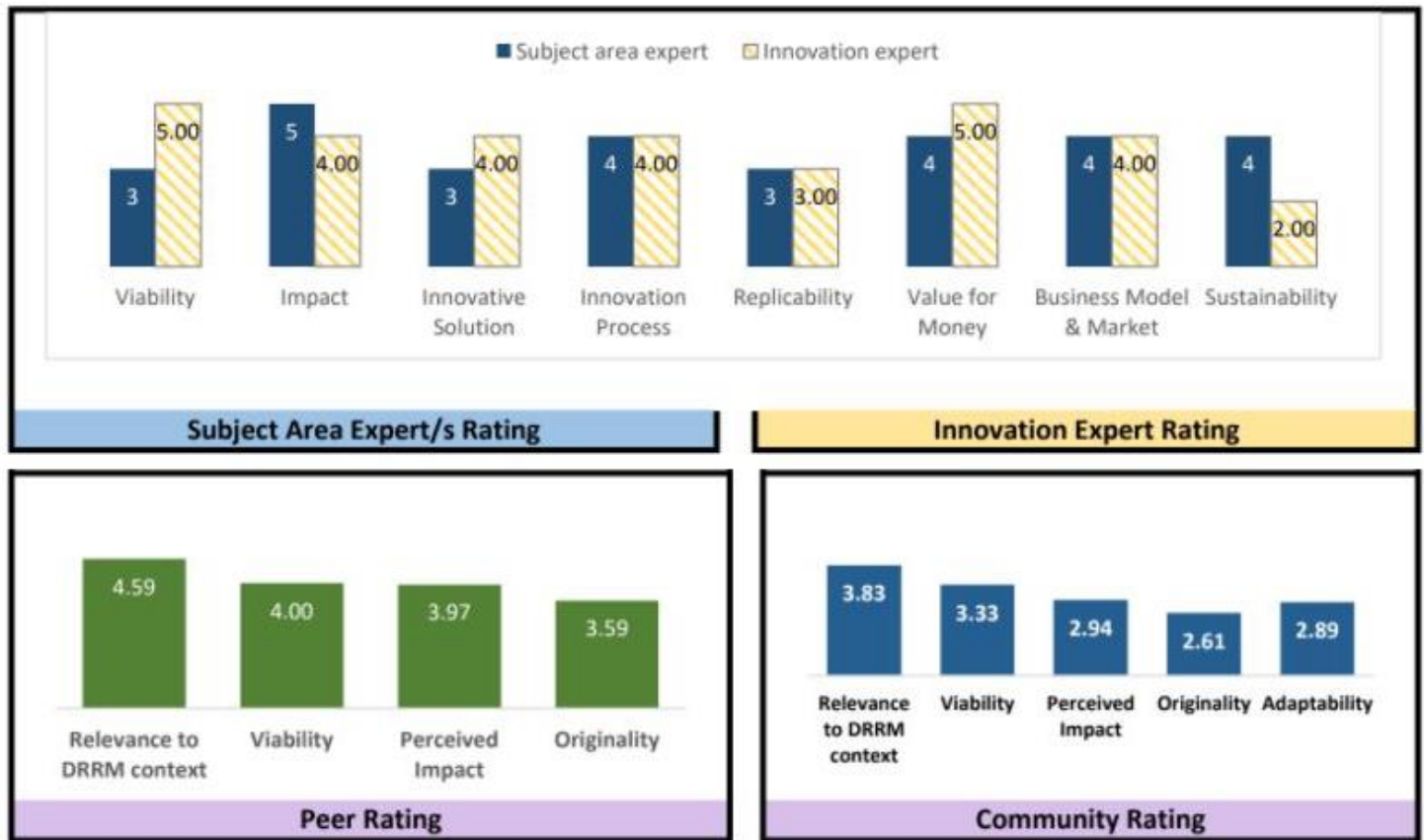


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# Generating Final Scores

- 20% from Peer Rating
- 30% from Community Rating
- 50% from Experts (Subject Area + Innovation) Rating
- Metrics include:
  - Relevance to DRRM context
  - Perceived Impact
  - Viability
  - Originality
  - Adaptability



## CENTRAL & SOUTHERN LUZON INNOVATORS

Sustainable Food Production thru Hydroponics Tech  
in perennially flooded coastal communities

- MASANTOL, PAMPANGA •

Empower and Engage People with Disability in  
Mainstreaming Disability-Inclusive DRRM

- CABANATUAN, NUEVA ECIJA •

Disaster Preparedness Simulator

- MANILA, METRO MANILA •

watchme, a GPS tracking device to be  
given to elementary students

- TAGUIG, METRO MANILA •

Enhancing Traditional Food Source Management  
in Small-Island Tagbanwa Communities

- BUSUANGA, PALAWAN •



Ligtas Pad: Light-based  
Participatory 3D Mapping

- DINGALAN, AURORA •

DRRM Infomercial for Deaf Learners

- ANTIPOLO, RIZAL •

FLAREMOB: A Systems Framework  
for Catastrophic Disaster Guidance and Response  
in Flood-Prone Areas in Marikina

- MARIKINA, METRO MANILA •

Creative Tools for Disaster Resilience Education  
(Civil Defense Board Game and Card Games)

- TAGUIG, METRO MANILA •

Low-cost Household Rainwater  
Collection and Filtration System

- CALAMBA, LAGUNA •

# Creative Tools for Disaster Resilience Education (Civil Defense Board Game and Card Games)

• TAGUIG, METRO MANILA •

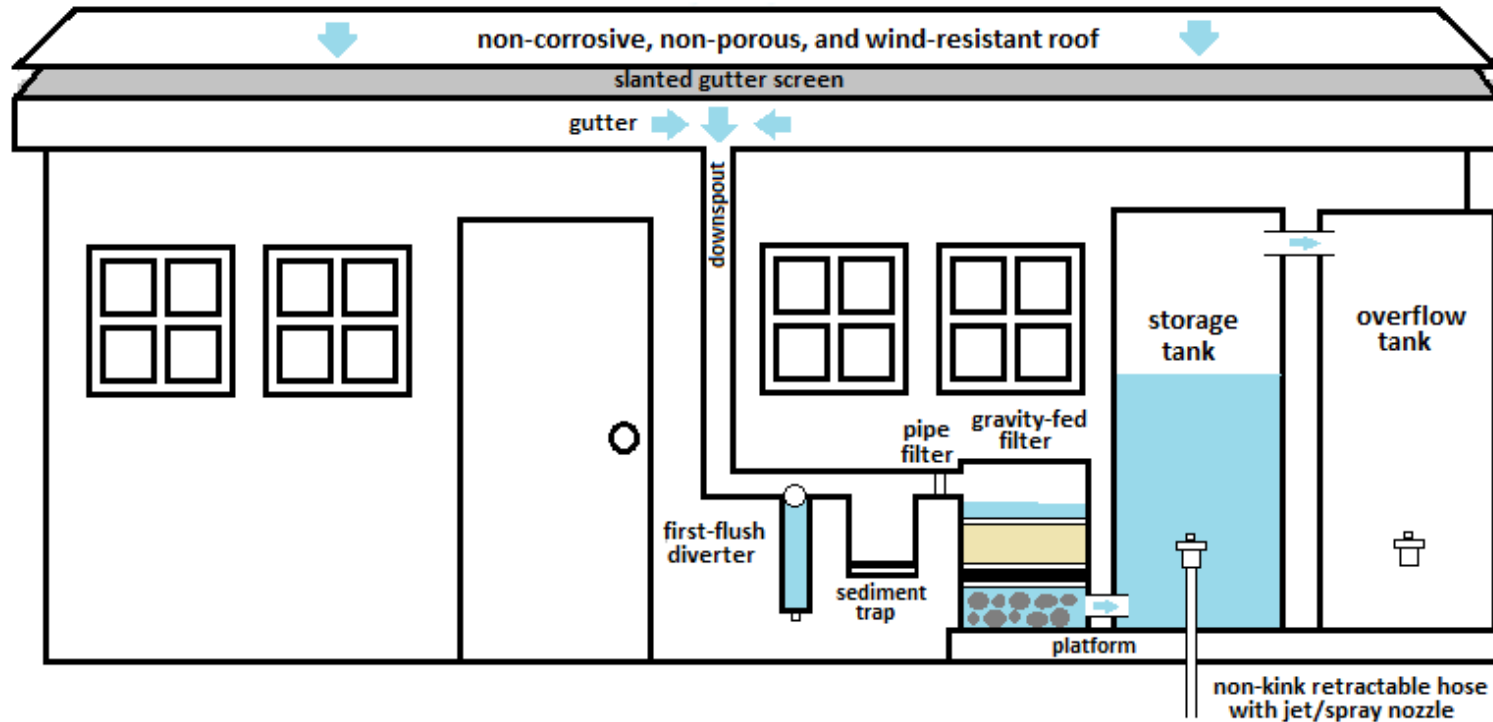


- Principles of tangential learning to incite full participation and sensory experience through **simulated play** of board games and card games
- Different **multi-hazard scenarios and effects**, costs and needs of humanitarian action, logistical requirements/strategies needed to deliver aid
- Increase knowledge, skills, and awareness on multi-hazards, disaster effects, **resilience as an attitude**
- Develops **critical decision making** through strategic logistical challenges
- Unique because it **inculcates all tropical hazard scenarios and field experience challenges** that will induct participants on what to mostly expect from a regular deployment or job

# Low-cost Household Rainwater Collection and Filtration System



• CALAMBA, LAGUNA •



Prototype of the low-cost household rainwater collection and filtration system

- Various mechanisms to ensure **potability**: non-corrosive roof, sediment trap, pipe filter
- A beneficiary household can collect an average of **35 gallons of water per day** for a variety of uses (drinking, washing, etc.)
- The pump is not electric since power outage is common during typhoons
- People [especially the elderly and persons with disability] can **easily transport gallons of water indoors**

# Empower and Engage People with Disability in Mainstreaming Disability-Inclusive DRRM

• CABANATUAN CITY, NUEVA ECIJA •



- “Nothing about us, without us”
- When disasters strike, people with disability were unprepared, helpless as their livelihood are often destroyed, sometimes lives are even lost
- **Capacity Building Training:** deepen understanding on DIDRR, how to assess and implement DIDRR plans on the barangay level
- People with disability to **lead in the promotion of the mainstreaming of DIDRR** in their respective communities
- Local government officials to have a change in mindset that **people with disability are not merely end recipients** of their programs but contributors and good resource of ideas for their DRR programs

# Disaster Preparedness Simulator



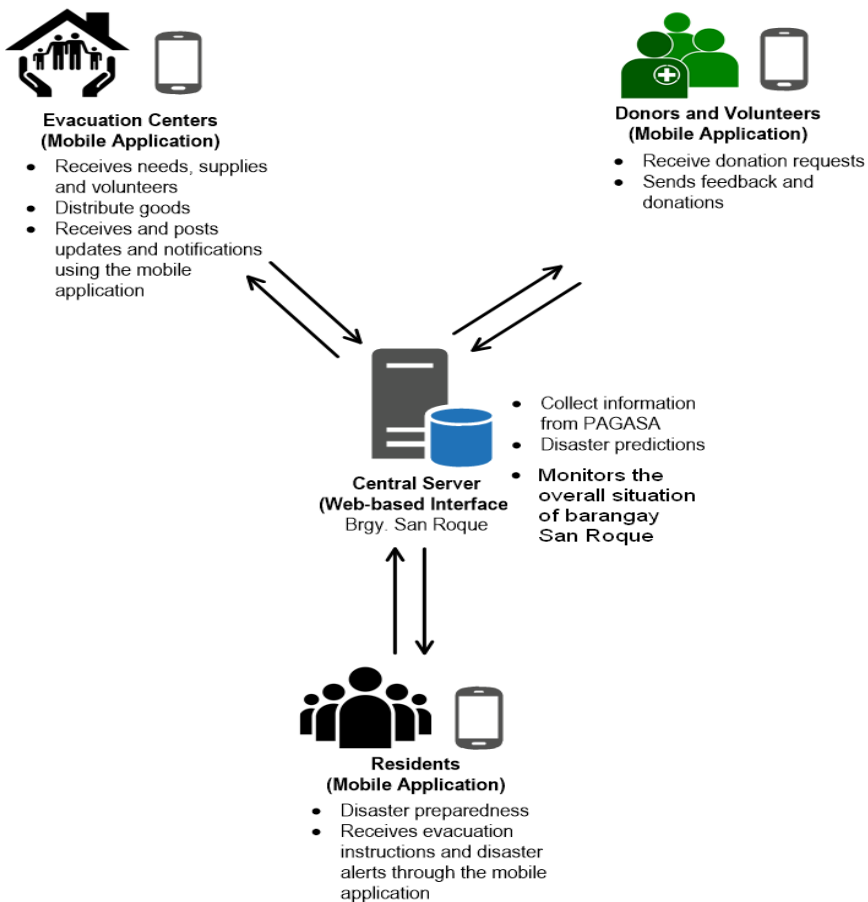
- MANILA, METRO MANILA •



- **Mobile virtual reality simulation** covering typhoon, thunderstorm, flood, flash flood, storm surge
- Immerse students in a **hydrometeorological scenario**: problems related to the disaster, given the chance to make their own decisions and choices in order to solve the problems
- Addresses the need for an **authentic learning experience through technology**
- Allows the students to become more effective in **dealing with high-stress, dynamic situations** that require quick thinking and management planning, with assurance of physical safety
- Gives its users an opportunity to **analyze decisions** they have made throughout the simulation

# FLAREMOB: A Systems Framework for Catastrophic Disaster Guidance and Response in Flood-Prone Areas

• MARIKINA, METRO MANILA •



- Web-based and 2 mobile applications
- Provide Marikina city officials assistance on strategic planning in preparation for upcoming disaster, through **disaster resiliency map**
- Notify users on their mobile phones for an upcoming typhoon using **real-time weather forecasts**, and provide the users the **fastest and safest route to designated evacuation centers**
- **Monitor the delivery of the relief goods** to the evacuation centers from a starting point to a destination point using Global Positioning System (GPS)
- Allow residents to issue SOS messages during emergency; provide barangay officers real-time locations of their barangay vehicles (equipped with GPS transmitters) to **quickly respond to messages**

# watchme, a GPS tracking device to be given to elementary students

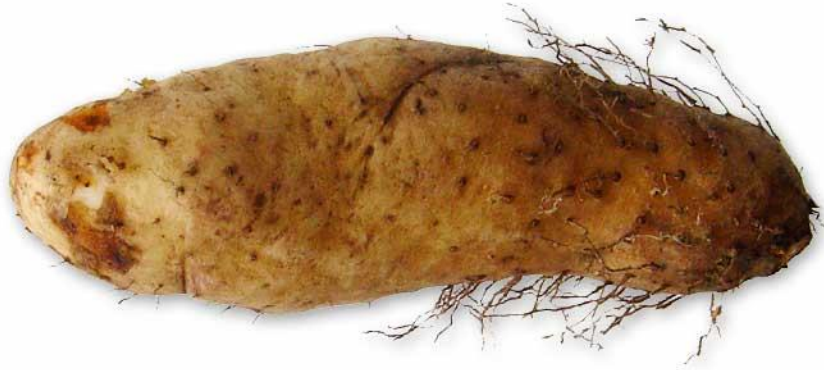
• TAGUIG, METRO MANILA •



- Low-power, cost-effective, accurate **GPS tracking device working on 2G signals** in order to better manage location tracking on a daily basis, as well as during disasters and incidents
- GPS watch, powered via rechargeable lithium-ion polymer batteries, with a local SIM card installed for data
- Parents and school administrators/local officials may check on their children/students daily and **provide immediate location information to rescuers** during emergencies
- Longer battery life than any smartphone
- **Not easily lost**, unless intentionally removed

# Enhancing Traditional Food Source Management in Small-Island Tagbanwa Communities

• BUSUANGA, PALAWAN •



- Aims to document the traditional food sources in their respective domains, and their **Indigenous Knowledge, Practices and Systems (IKSP)** in food production and management
- Aims to **enhance technologies that increase food production**, improve quality and variability of local foods and increase their shelf-life
- Activities: seed banking, flour making from local root crops, and **food technology and innovation development**
- Complementary tracks: development of basic education curriculum based on the IKSP for **integration of Tagbanwa DRR action plans into the BDRRMP**

# Sustainable Food Production thru Hydroponics Tech in perennially flooded coastal communities

- MASANTOL, PAMPANGA •



- Help to supplement their income and later developed as food production and an alternative source of livelihood
- Aims to develop into a resilient and sustainable community with a **climate adaptive food production** using available resources in the community and for adjacent coastal communities to adapt similar **climate change agricultural technologies** with food available all year-round
- Serve as a **preparedness effort** that would tide them during the disaster events with crops and food available to them
- **Water hyacinth** can be used as material for charcoal briquettes and other alternative source of livelihood

# Disaster Risk Reduction and Management (DRRM) Infomercial for Deaf Learners

- ANTIPOLO, RIZAL •



- Aim: fully understand the underlying concepts of calamities and **what precautionary measures to take once disasters arise**; develop DRRM Infomercial for the Deaf
- Electronic material with: (a) general information on natural calamities, (b) emergency preparedness materials, and (c) safety measures before, during and after the calamities
- An inset of a Sign Language Interpreter will be included in the infomercial for deaf learners to fully grasp its content
- **Consultative meetings, validations and capability building**
- Allow the regular school teachers who have no prior knowledge or training of Sign Language to **teach Disaster Risk Reduction Management to the Deaf learners** enrolled in their classes



# Future Activities

- Innovators' Implementation from April to November 2018
- Community Lab support
  - Capacity building
  - Mentorship matching
  - Peer-to-peer learning
- After TUKLAS
  - Sustainability Planning
  - Sustainability Matching / Going to market
- Building a Community of Practice

# Opportunities for Collaboration

- How can we improve the TUKLAS process?
- How can we engage with / learn from / collaborate with other CARE innovation projects?
- How can the TUKLAS process be implemented in other countries, processes, complex issues?
- How can we fund future iterations of TUKLAS cycles?



# TUKLAS Innovation Labs

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