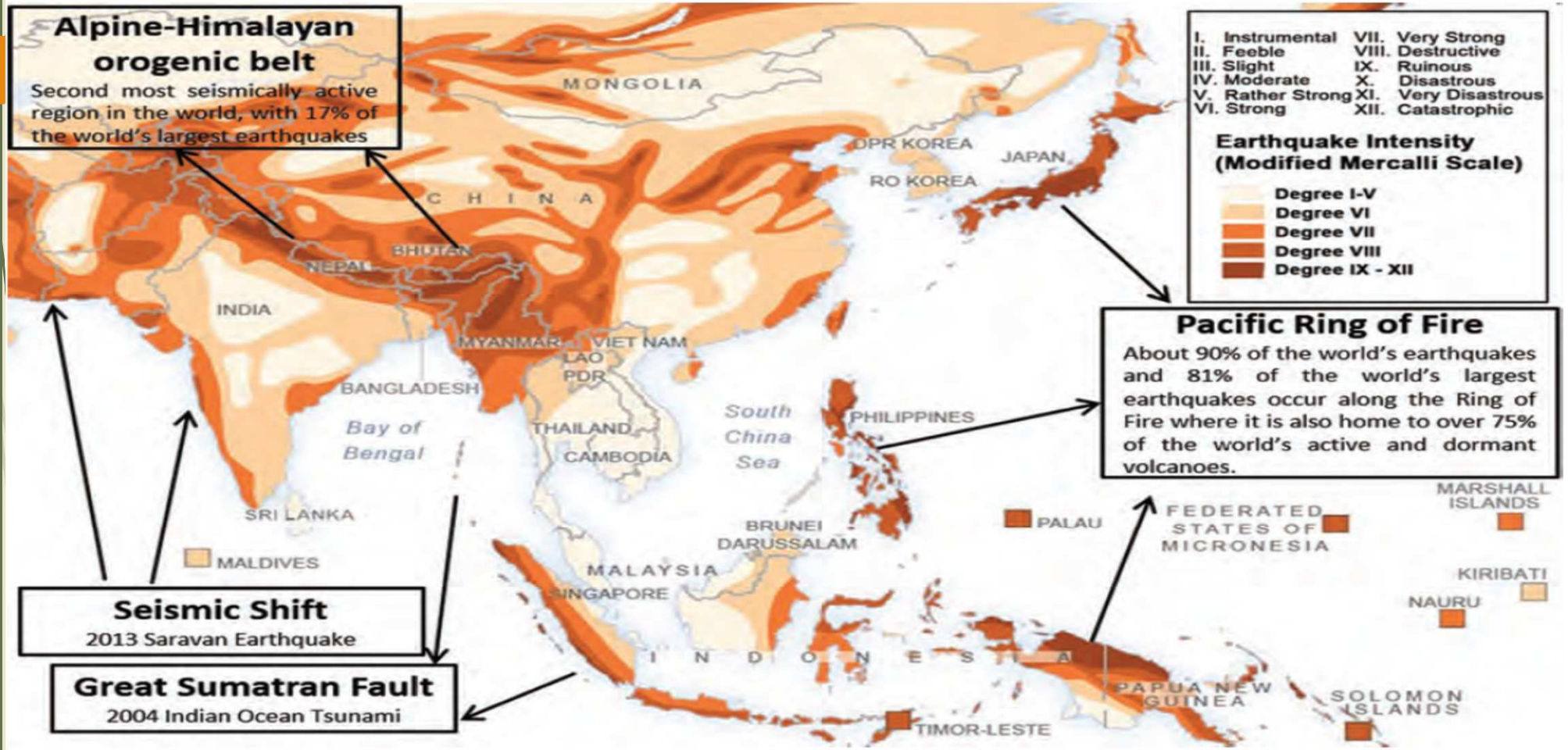
e-Resilience

During disaster and normal day to day situations

Jeffrey N. Llanto
CVISNET Foundation
Philippines

Seismic risk in Asia and the Pacific



Source: Based on Asia-Pacific: Earthquake Risk – Modified Mercalli Scale, OCHA, 2014. Available from http://reliefweb.int/sites/reliefweb.int/files/resources/map_613.pdf.

Source: ESCAP (2015) APDR 2015

e-Resilience

- E-Resilience is defined as the ability of ICT systems to withstand, recover from and change in the face of an external disturbance such as a natural disaster. In addition, e-resilience is concerned with utilizing ICT for societal resilience.
- ICTs role in DRM. Addresses not only software, and hardware, but also the communication aspect, and its ability to operate and recover during and after disasters

Role of ICT for DRRM

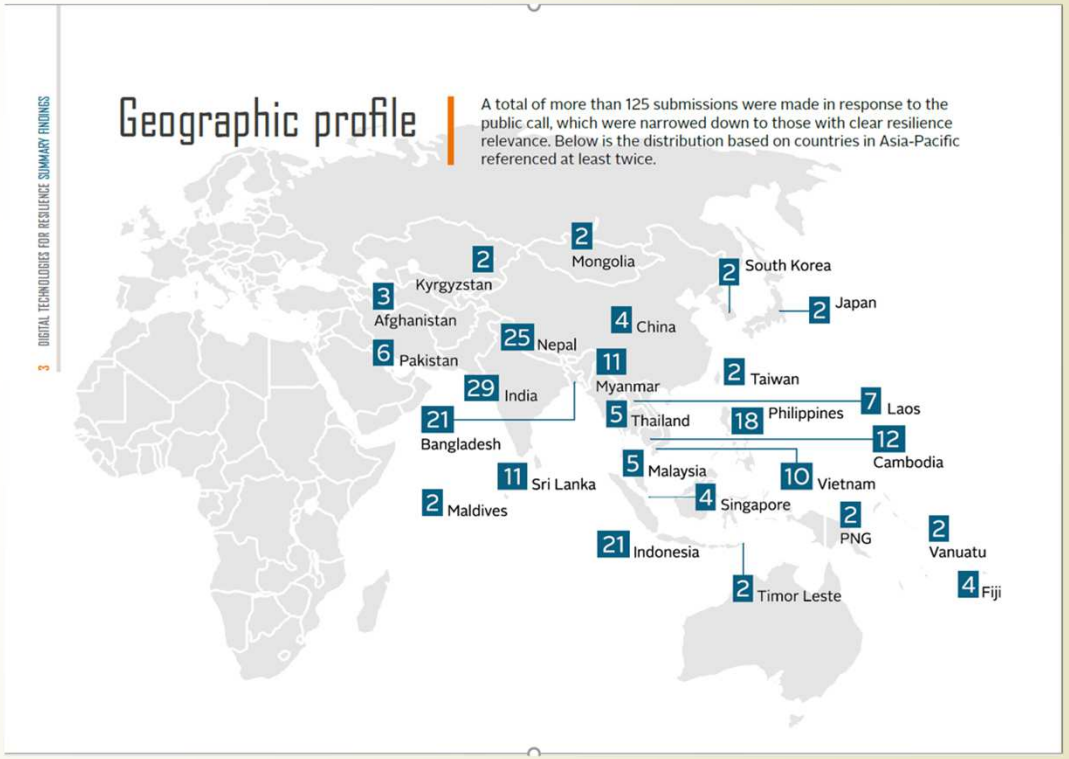
- ICTs as Infra for communication
- Critical infra for Data Repository
- Delivery of information
  - Means for education
  - Warning the population
  - Enabling mechanism for Information Systems
  - Climate and DRR forecasting, mapping, modeling
  - Early warning systems

5i's for e-Resilience Preparation in AP

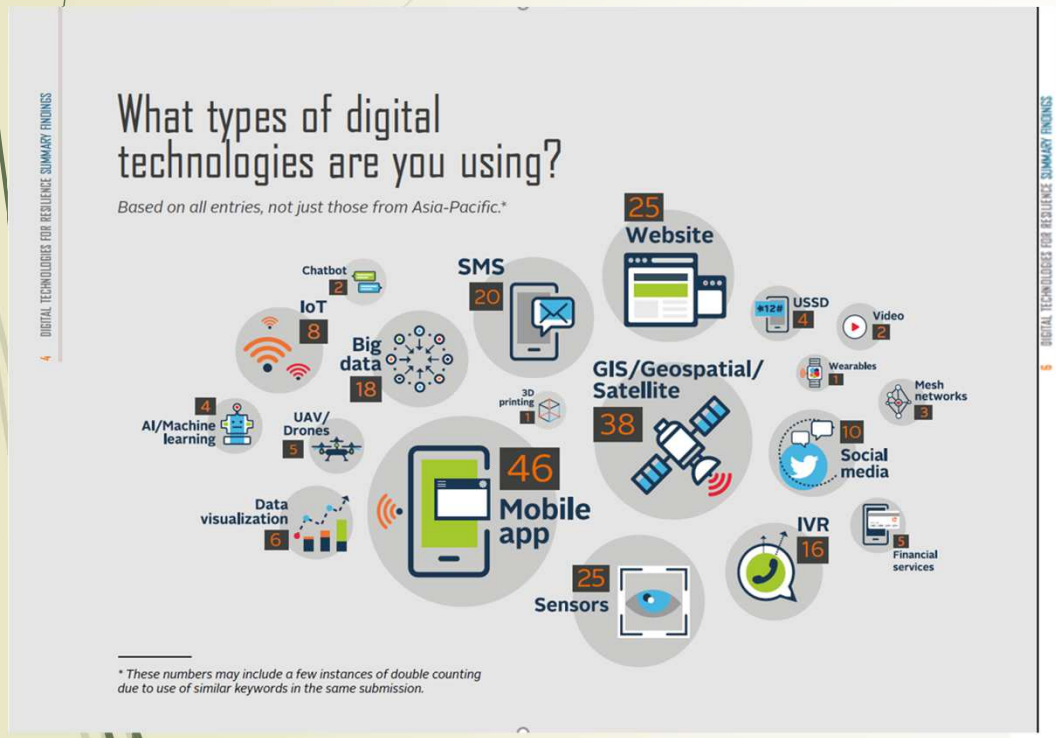
- Inventory
  of the different AP member on e-resilience activities
- Inform
  other AP members thru conferences and meetings
- Initiatives
  ICT DRRM projects
- Integration
  of Initiatives
- Implementation
  as an e-resilience support to AP-IS

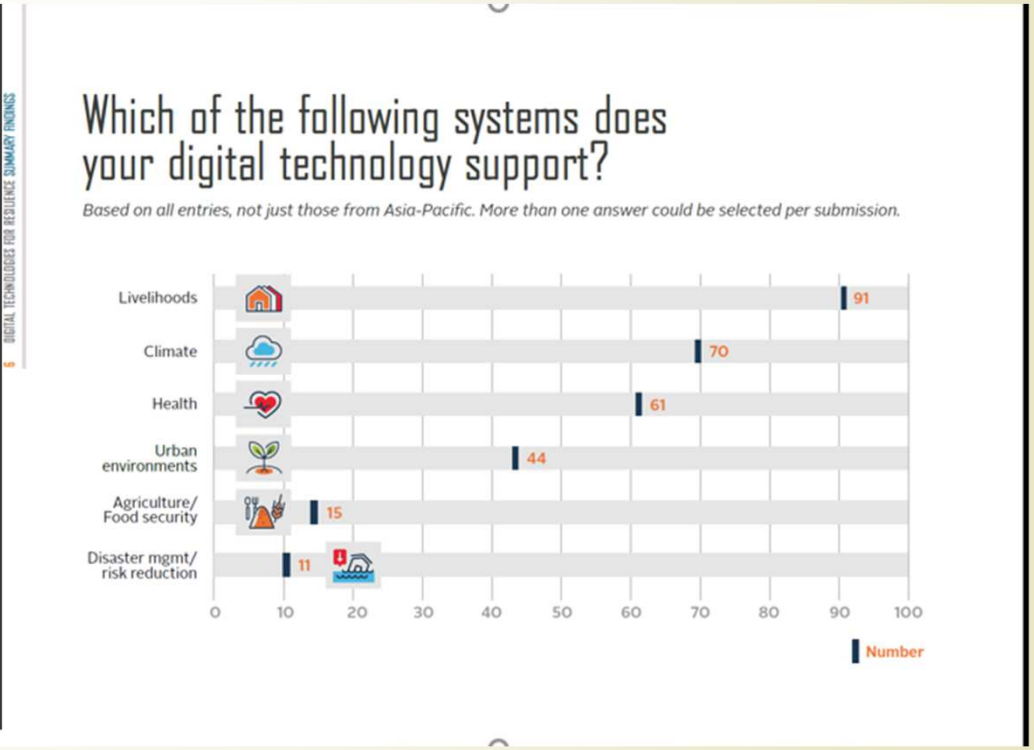
Inventory

MAY 2017
Inventory of Digital Technologies FOR Resilience in Asia-Pacific
The ROCKEFELLER FOUNDATION
fhi360


3 DIGITAL TECHNOLOGIES FOR RESILIENCE SUMMARY FINDINGS
Geographic profile
A total of more than 125 submissions were made in response to the public call, which were narrowed down to those with clear resilience relevance. Below is the distribution based on countries in Asia-Pacific referenced at least twice.
2 Mongolia
2 Kyrgyzstan
2 South Korea
3 Afghanistan
2 Japan
4 China
25 Nepal
6 Pakistan
11 Myanmar
2 Taiwan
29 India
7 Laos
5 Thailand
18 Philippines
21 Bangladesh
12 Cambodia
5 Malaysia
11 Sri Lanka
10 Vietnam
2 Maldives
4 Singapore
2 PNG
2 Vanuatu
21 Indonesia
2 Timor Leste
4 Fiji

Inventory

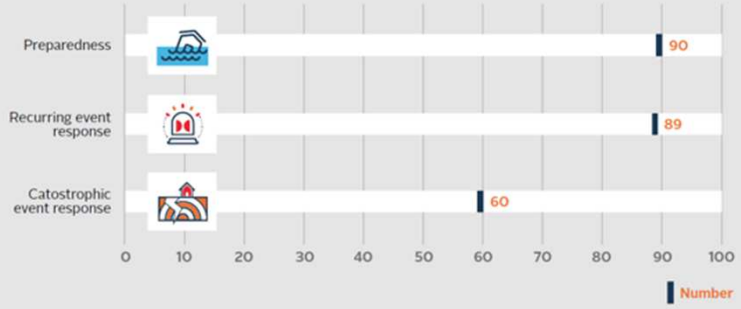

4 DIGITAL TECHNOLOGIES FOR RESILIENCE SUMMARY FINDINGS
What types of digital technologies are you using?
Based on all entries, not just those from Asia-Pacific.*
Chatbot 2
IoT 8
SMS 20
25 Website
Big data 18
USSD 4
Video 2
GIS/Geospatial/ Satellite 38
Wearables 1
Mesh networks 3
3D printing 1
4 AI/Machine learning
UAV/ Drones 5
10 Social media
46 Mobile app
Data visualization 6
IVR 16
5 Financial services
25 Sensors
* These numbers may include a few instances of double counting due to use of similar keywords in the same submission.


5 DIGITAL TECHNOLOGIES FOR RESILIENCE SUMMARY FINDINGS
Which of the following systems does your digital technology support?
Based on all entries, not just those from Asia-Pacific. More than one answer could be selected per submission.
Livelihoods 91
Climate 70
Health 61
Urban environments 44
Agriculture/ Food security 15
Disaster mgmt/ risk reduction 11
0 10 20 30 40 50 60 70 80 90 100
Number

Inventory

What is the primary focus of your digital technology?

Based on all entries, not just those from Asia-Pacific. More than one answer could be selected per submission.



Name of your organization/firm	Countries deployed in	Description of digital technology	How does it enhance resilience for your target audience?	Additional details	Pro-poor focus?	Who's involved?
Sahana Software Foundation **Name of your technology:** Sahana Alerting and Messaging Broker (SAMBRO) **Contact person:** Nuwan Waidyanatha nuwan@sahanafoundation.org **Website:** https://sahanafoundation.org/sambro/	Myanmar, Maldives, Philippines	SAMBRO interconnects early warning Publishers (Alerting Authorities) and Subscribers (Pubic, Emergency Services, In-Line Agencies, and Civil Society). It makes use of the ITU-T X.1303 (CAP), all-hazard all-media, international warning standard to interchange messages from Alerting Authorities who are using disparate ICT systems. SAMBRO visually shares the aggregated situational-awareness information across all agencies. It offers drill-down and filtering capabilities using interactive maps. The single entry of a warning message is automatically disseminated to targeted recipients over multiple channels (Email, SMS, Social Media, FTP, RSS, Web, and Mobile-APP) and in the desired languages.	The situational-awareness and timely dissemination that SAMBRO implements improves the institutional responsiveness to all-hazards in a nation. Moreover, it supports cross-boarder coordination of risk information.	**Technologies used:** open source, web services, mobile apps, GIS, **Level/scale:** Individual, Family, Community, Business, Government **Systems supported:** Climate, Health, Livelihoods, Urban environments **Primary focus:** Preparedness, Recurring event response, Catastrophic event response **Context:** Urban (primary/capital cities), Urban (secondary/tertiary cities), Peri-urban, Rural **Users:** Approximately 500 in each country	Yes	**Development and deployment:** Community organizations (e.g. local CSO) Local (non-national) government body/agency National government body/agency Donor or philanthropic programs (internationally based) Entrepreneurs or social enterprises **How it's funded:** Donor, Government, Private investors

What, if any, impact has your digital technology had to date?

Maldives, Myanmar, and Philippines adopted the ITU-T X.1303 CAP warning standard. They are 3 of the 23 of the countries including North America, Australia, Europe, Taiwan, Indonesia who have implemented CAP. The CAP messages produced by the three countries are received by the World Meteorological Organization advocated Filtered Alert Hub; which is available for member states to subscribe to specific alerts. Google and the IFRC Preparedness Center are two other consumers making use of the CAP feeds in their products to share knowledge with people.

All three countries operationalized and have been using the system since October 2016. They share alerts over the web, social media, RSS, email, and SMS. Maldive's "dhandhaana" is narrowing the response times and reaches 500 focal recipients in the 180+ inhabited Islands [1]. Philippines aggregates flood and storm warnings are made available for situational-awareness in the Barangay removing the need for laborious communication trees [2]. Maldives share meteorological, hydrological, and seismological warnings with all Stakeholders down to the Townships [3]. Recent major events such as the typhoon and floods in Philippines and earthquake and floods in Myanmar, in 2016, made use of the system to mitigate the impact to lives and livelihoods.

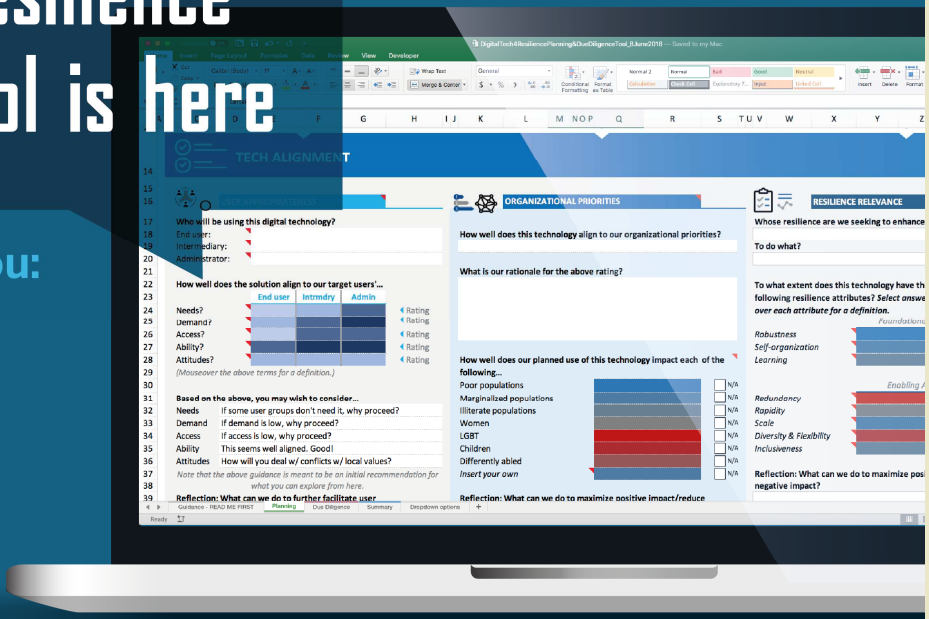
We applied an agile (SCRUM), prototyping, and action research oriented implementation approach. The CAP implementation challenges, in the three country context, have been published [4] and others have been submitted. We have also shared the technical reports that discuss performance and acceptance evaluation, which was used to develop further recommendations for Institutional and Technical coherence in three countries [2] & [3]. These are valuable lessons for future Implementations, especially in Asia.

It is uncertain what the actual impact for strengthening resilience is and such a study is necessary. However, it is a major step towards sharing timely risk information giving communities advance notice to mitigate their losses such as with saving their livestock, harvesting available crops, securing valuables (e.g. electronics), and official documents.

0-9 A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Inventory

The Digital Technologies for Resilience Planning and Due Diligence Tool is here



This tool intends to help practitioners like you:

- better plan for how to use a particular digital technology in your projects and programs,
- conduct a basic level of due diligence on potential digital technology partners.

Download it today at
https://goo.gl/fNB9Fx

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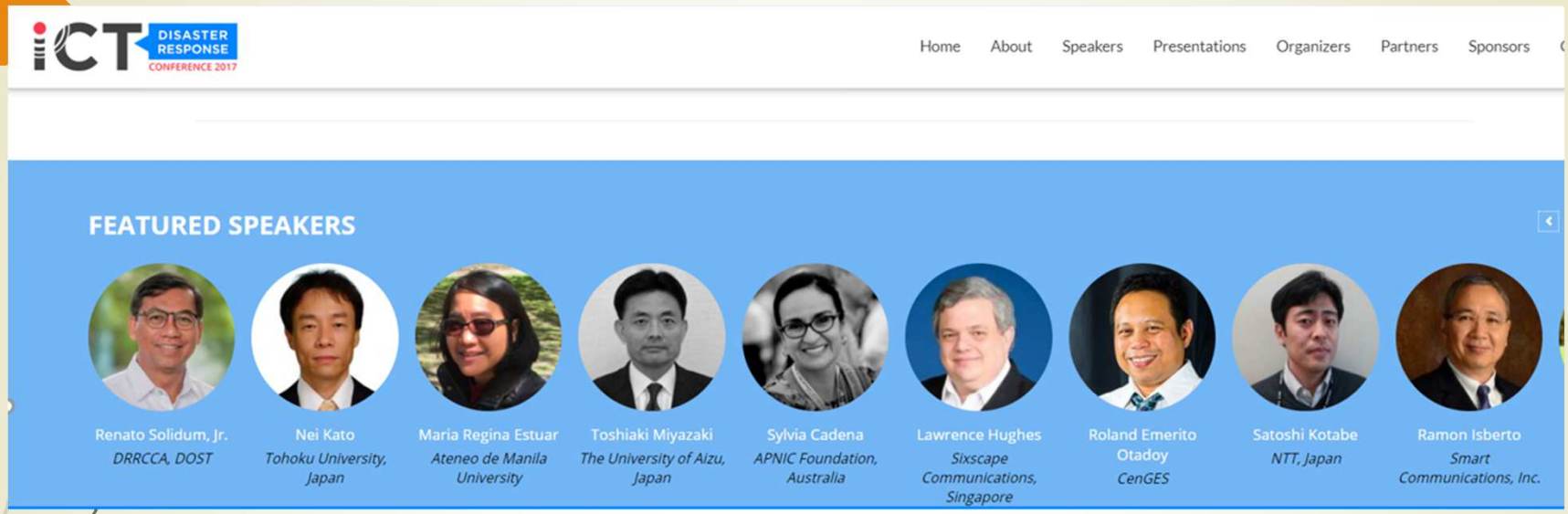
Inform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DRRCCA, DOST
Nei Kato
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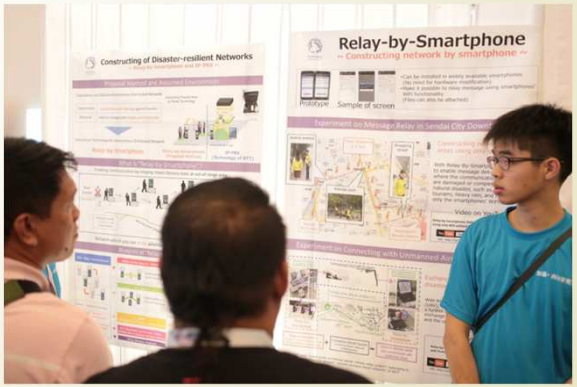
Maria Regina Estuar
Ateneo de Manila University
Toshiaki Miyazaki
The University of Aizu, Japan
Sylvia Cadena
APNIC Foundation, Australia
Lawrence Hughes
Sixscape Communications, Singapore
Roland Emerito Otadoy
CenGES
Satoshi Kotabe
NTT, Japan
Ramon Isberto
Smart Communications, Inc.


Relay-by-Smartphone

Inform

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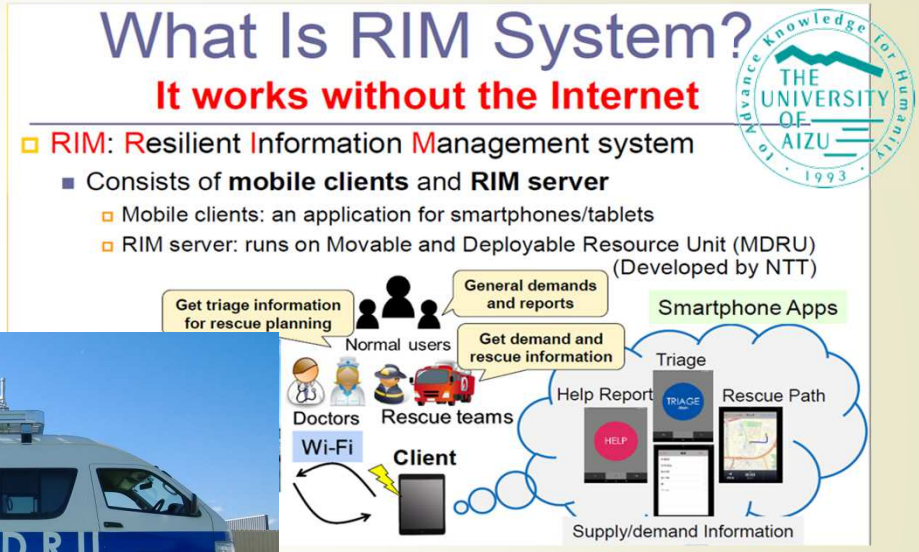
ISCRAM ASIA PACIFIC 2018
INNOVATING FOR RESILIENCE
5 – 7 November 2018, Wellington, New Zealand
An ISCRAM Conference
ISCRAM
Welcome to New Zealand
Where learning is embraced and opinions valued. Where nature inspires incredible thinking.

Initiatives

- Moveable and Deployable ICT Resource Unit (MDRU) Project
  - Provide and establish an immediate communications infrastructure using ICT as the method to response during disaster period
  - In response to experience of the Great Japan Earthquake of 2011
  - Japanese R&D initiative by the government, private sector and academe
  - Pilot tested in Japan, Philippines and Nepal
  - ITU Recommended
  - Can be utilized during disaster and normal day to day operation

Integration

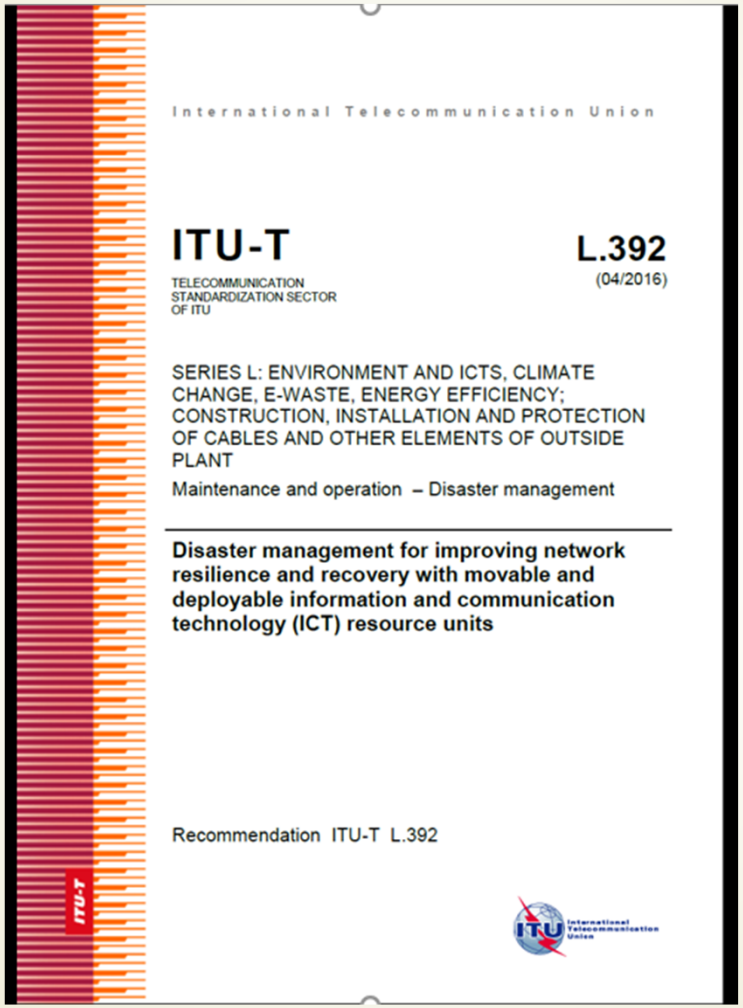
Education



R&D on DRMM

E-Governance

Implementation



International Telecommunication Union

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

L.392

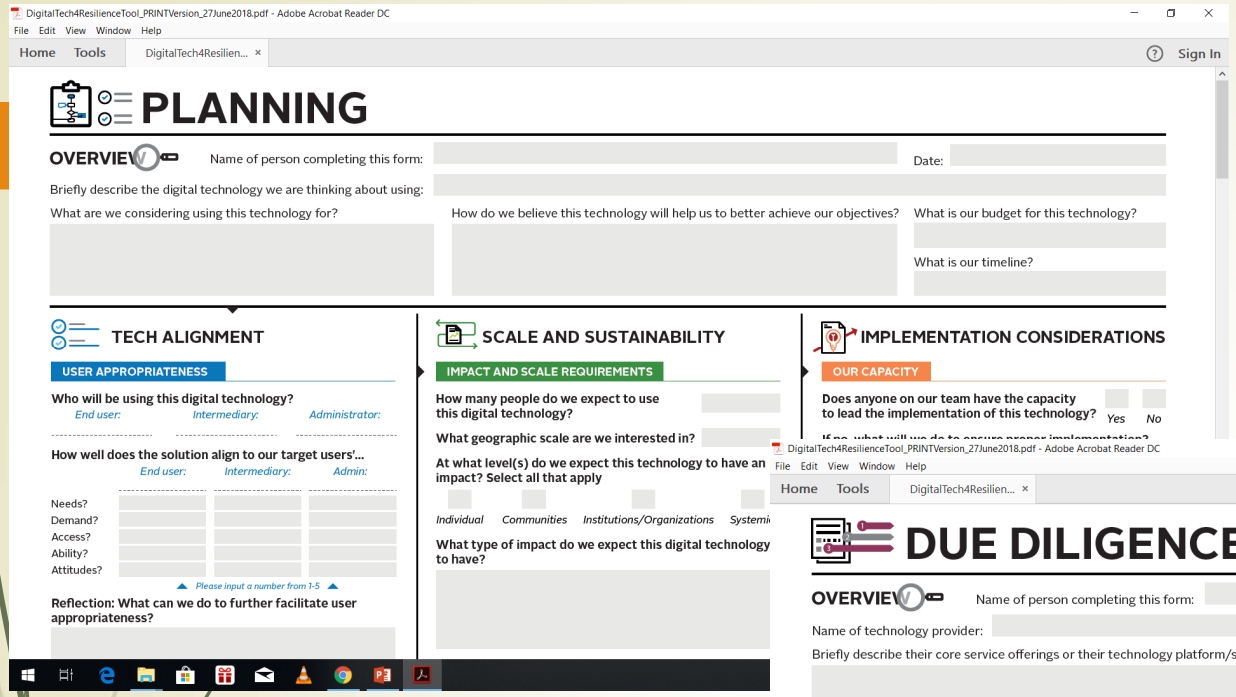
(04/2016)

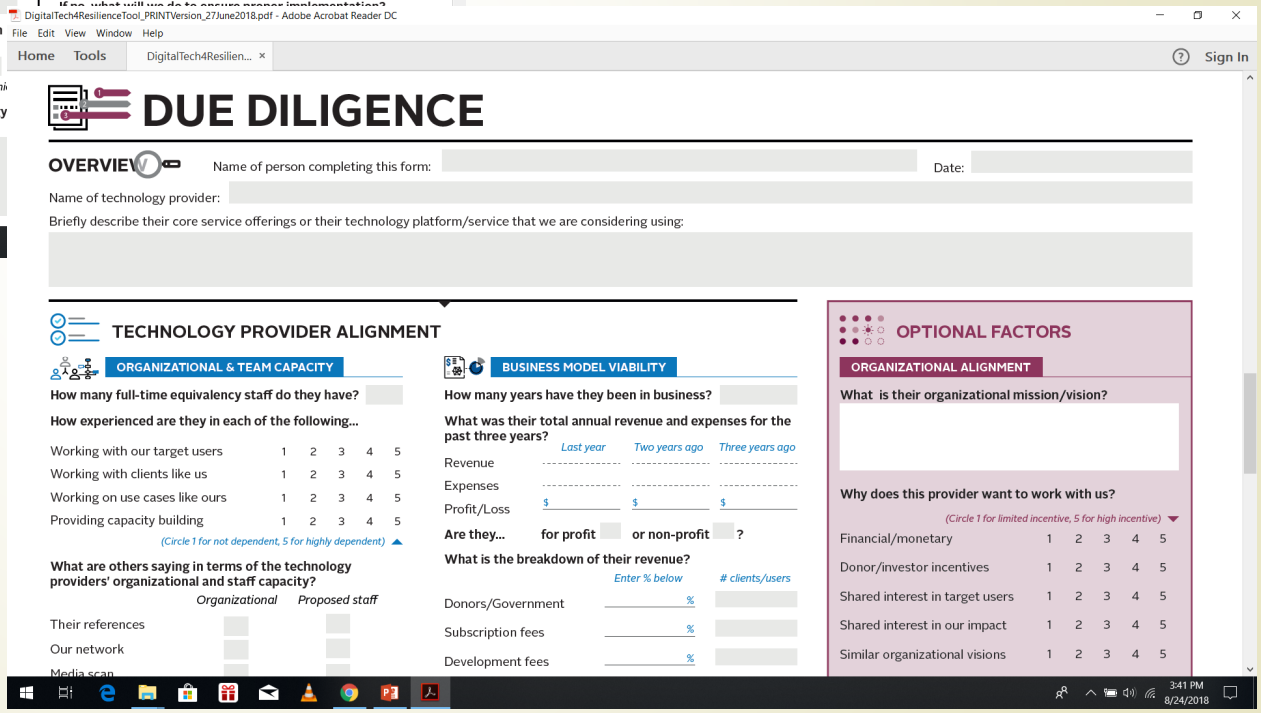
SERIES L: ENVIRONMENT AND ICTS, CLIMATE CHANGE, E-WASTE, ENERGY EFFICIENCY; CONSTRUCTION, INSTALLATION AND PROTECTION OF CABLES AND OTHER ELEMENTS OF OUTSIDE PLANT

Maintenance and operation – Disaster management

Disaster management for improving network resilience and recovery with movable and deployable information and communication technology (ICT) resource units

Recommendation ITU-T L.392


DigitalTech4ResilienceTool_PRINTVersion_27June2018.pdf - Adobe Acrobat Reader DC
File Edit View Window Help
Home Tools
DigitalTech4Resilien...
Sign In
PLANNING
OVERVIEW
Name of person completing this form:
Date:
Briefly describe the digital technology we are thinking about using:
What are we considering using this technology for?
How do we believe this technology will help us to better achieve our objectives?
What is our budget for this technology?
What is our timeline?
TECH ALIGNMENT
USER APPROPRIATENESS
Who will be using this digital technology?
End user:
Intermediary:
Administrator:
How well does the solution align to our target users'...
End user:
Intermediary:
Admin:
Needs?
Demand?
Access?
Ability?
Attitudes?
Please input a number from 1-5
Reflection: What can we do to further facilitate user appropriateness?
SCALE AND SUSTAINABILITY
IMPACT AND SCALE REQUIREMENTS
How many people do we expect to use this digital technology?
What geographic scale are we interested in?
At what level(s) do we expect this technology to have an impact? Select all that apply
Individual
Communities
Institutions/Organizations
What type of impact do we expect this digital technology to have?
IMPLEMENTATION CONSIDERATIONS
OUR CAPACITY
Does anyone on our team have the capacity to lead the implementation of this technology?
Yes
No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Sign In
DUE DILIGENCE
OVERVIEW
Name of person completing this form:
Date:
Name of technology provider:
Briefly describe their core service offerings or their technology platform/service that we are considering using:
TECHNOLOGY PROVIDER ALIGNMENT
ORGANIZATIONAL & TEAM CAPACITY
How many full-time equivalency staff do they have?
How experienced are they in each of the following...
Working with our target users 1 2 3 4 5
Working with clients like us 1 2 3 4 5
Working on use cases like ours 1 2 3 4 5
Providing capacity building 1 2 3 4 5
(Circle 1 for not dependent, 5 for highly dependent)
What are others saying in terms of the technology providers' organizational and staff capacity?
Organizational
Proposed staff
Their references
Our network
Media scan
BUSINESS MODEL VIABILITY
How many years have they been in business?
What was their total annual revenue and expenses for the past three years?
Last year
Two years ago
Three years ago
Revenue
Expenses
Profit/Loss
Are they... for profit or non-profit ?
What is the breakdown of their revenue?
Enter % below
clients/users
Donors/Government
Subscription fees
Development fees
OPTIONAL FACTORS
ORGANIZATIONAL ALIGNMENT
What is their organizational mission/vision?
Why does this provider want to work with us?
(Circle 1 for limited incentive, 5 for high incentive)
Financial/monetary 1 2 3 4 5
Donor/investor incentives 1 2 3 4 5
Shared interest in target users 1 2 3 4 5
Shared interest in our impact 1 2 3 4 5
Similar organizational visions 1 2 3 4 5
3:41 PM
8/24/2018

"By failing to prepare, you are preparing to fail." -- Benjamin Franklin

THANK YOU