



Capacity  
Building



# Responding to Disasters and Humanitarian Crises





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# THE GSMA



Has represented  
the interests of  
mobile operators  
worldwide for  
more than

**30 YEARS**

Unites  
more than  
**750**  
mobile  
operators



with almost  
**400**  
companies in the  
broader mobile  
ecosystem



Convenes more than **200,000**  
people annually from across the  
globe to **industry-leading** events



Focuses on  
activities where  
collective action  
can deliver  
significant benefits



Led the mobile  
industry to formally  
commit to the  
Sustainable  
Development Goals








# Capacity Building training courses

## Reaching out to policymakers and regulators



 Policymakers and regulators play a key role in shaping the way the mobile industry responds to key issues.

 As the global association of mobile network operators, the GSMA closely tracks changes in technology, policy and regulation worldwide.

 Using this knowledge, we have created a range of high-quality, short training courses to offer insights into the latest industry, policy and regulatory thinking.



## In-depth courses developed by experts

Course Title	Duration
5G – The Path to the Next Generation	2 Days
Advanced Spectrum Management for Mobile Telecoms	2 Days
Bridging the Mobile Gender Gap	1 Day
Children and Mobile Technology	2 Days
Competition Policy in the Digital Age	2 Days
Digital Identity for the Underserved	1 Day
Internet of Things	2 Days
Leveraging Mobile to Achieve SDG Targets	2 Days
Mobile Money for Financial Inclusion	1 Day
Mobile Sector Taxation	½ Day
Mobile Technology, the Environment and Climate Change	2 Days
Principles of Internet Governance	2 Days
Principles of Mobile Privacy	1 Day
Radio Signals and Health	1 Day
Responding to Disasters and Humanitarian Crises	1 Day
Unlocking Rural Mobile Coverage	1 Day





# How we deliver our training

The GSMA recognises that organisations, departments and individuals have varying training needs, which is why we can deliver our courses in a number of ways:



Via local partners



On-site



Online



# Global Reach, Local Impact

- We have trained students from over 150 countries around the world, providing insights into the latest industry, policy and regulatory thinking.



- Key Training Partners:





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# Mobile for Development



**58 million lives impacted to date**



We drive innovation in digital technology to reduce inequalities in our world





# Agenda

- Introduction
- Preparation
- Response and Recovery
- Long-term Recovery and Mitigation
- Responding to Humanitarian Crisis







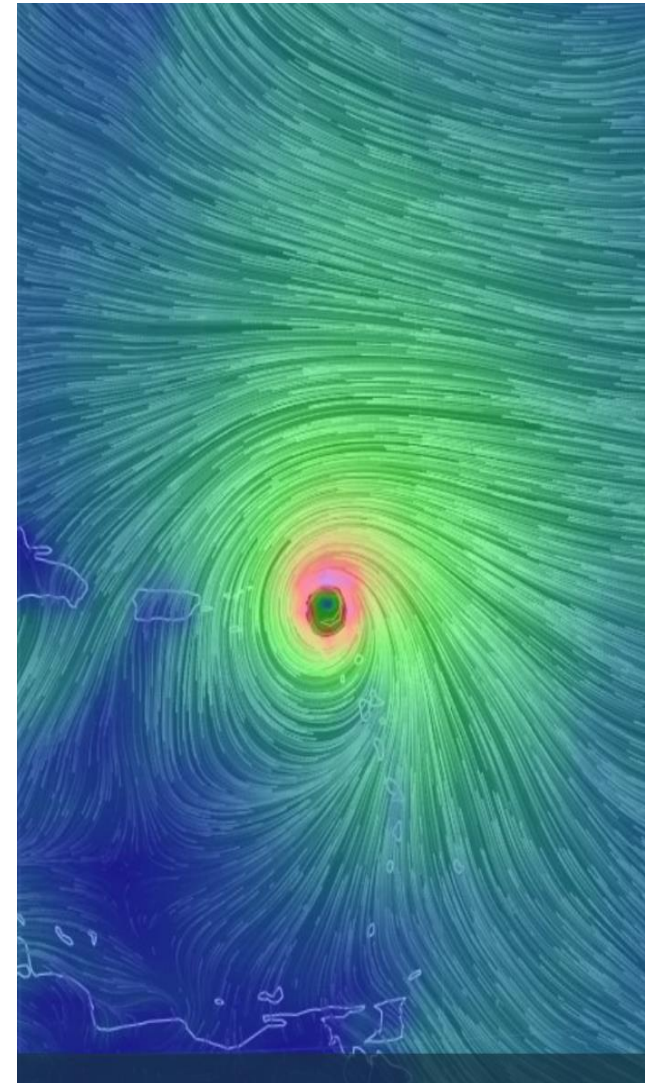
# Course Objectives

## Disaster Response

- Define what a disaster is
- Understand the challenges mobile operators face when a disaster occurs
- Share the good regulatory practices that enable the fast and efficient responses that help restore networks and save lives

## Mobile for Humanitarian Innovation

- Highlight the role of mobile technology and MNOs in accelerating the delivery of digital humanitarian aid
- Outline how regulators can support these efforts through enabling policy environments





# 1

## SESSION 1

# Group Discussion

Please tell us:

- Your name and job title
- The area you are most interested in learning about today
- What would you miss the most without your phone?





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SESSION 1

# Introduction





## In this session we will consider:

- What is a disaster
- What is Disaster Risk Management
- The importance of mobile technology in time of crisis
- Key challenges mobile network operators (MNOs) face when a crisis occurs
- Enabling regulation that supports rapid recovery





# What is a Disaster?

- It is a sudden and a calamitous event.
- It seriously disrupts the functioning of a community or society and causes human and material losses that exceed the community's or society's ability to cope - and recover - using its own resources.
- Even though disasters are often caused by nature they can also have human origin.

***UN International Strategy for Disaster Reduction (UNISDR)***

# Disasters are Increasing in Frequency and Magnitude

**EXTRA** BONUS CONTENT: Subscribers can log into our digital replica edition to find multiple pages on Hurricane Florence featuring news that wasn't available at press time. Find the ExtraExtra pages behind your daily eEdition.

THURSDAY SEPTEMBER 13, 2018

## The News & Observer

NEWSOBSERVER.COM

**HURRICANE FLORENCE**

### 'Disaster is at the doorstep,' Cooper says

Joe B. Redick of Wrightsville Beach walls up his store in preparation for Hurricane Florence on Wednesday. Wrightsville Beach is located in the coastal area that connects the coast and after Florence passes.

**THE STORM SLOWED AND SHIFTED SOUTH AND WEST WEDNESDAY, ENCOMPASSING MORE OF SOUTH CAROLINA AND WESTERN NORTH CAROLINA. THE WINDS EXCEEDED 100 MPH.**

do not live to tell the tale of surviving storm surge. It's the most deadly part of the hurricane that comes in and it causes the most destruction.

"We cannot stress this enough, Florence poses a very serious threat to people who live far away from the coast," said a National Weather Service tweet

morning as Florence slowed and Hurricane Center was reporting

**EXTRA** BONUS CONTENT: Subscribers can log into our digital replica edition to find multiple pages on Hurricane Florence featuring news that wasn't available at press time. Find the ExtraExtra pages behind your daily eEdition.

THURSDAY SEPTEMBER 13, 2018

## The Charlotte Observer

CHARLOTTEOBSERVER.COM

### 'DISASTER AT THE DOORSTEP'

Coast braces for devastation, Charlotte area for deluge

Coastal towns and cities are bracing for a major disaster as Hurricane Florence approaches the Carolinas. The storm is expected to make landfall on the North Carolina coast on Friday, with winds reaching 150 mph.

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Coastal towns and cities are bracing for a major disaster as Hurricane Florence approaches the Carolinas. The storm is expected to make landfall on the North Carolina coast on Friday, with winds reaching 150 mph.

**DO | INSIDE** MUSIC, COMEDY, MOVIES, SEAFOOD ALL ON TAP FOR THE WEEKEND

THURSDAY, SEPTEMBER 13, 2018

## Savannah Morning News

Light of the Coastal Empire | savannahnews.com | @SavannahNews

### Florence effects looking more likely in Chatham

Forecasts have storm making landfall on the southern N. Carolina coast on Friday.

By Mary Landers, 1010 Probes and 1010s Bay

Chatham County residents stepped up their hurricane preparations Wednesday as the predicted path of Hurricane Florence shifted south.

Tybee Islanders filled sand bags, animal lovers adopted from the shelter. And emergency officials urged everyone to keep an eye on the storm and be prepared to shelter in place.

See FLORENCE, A5

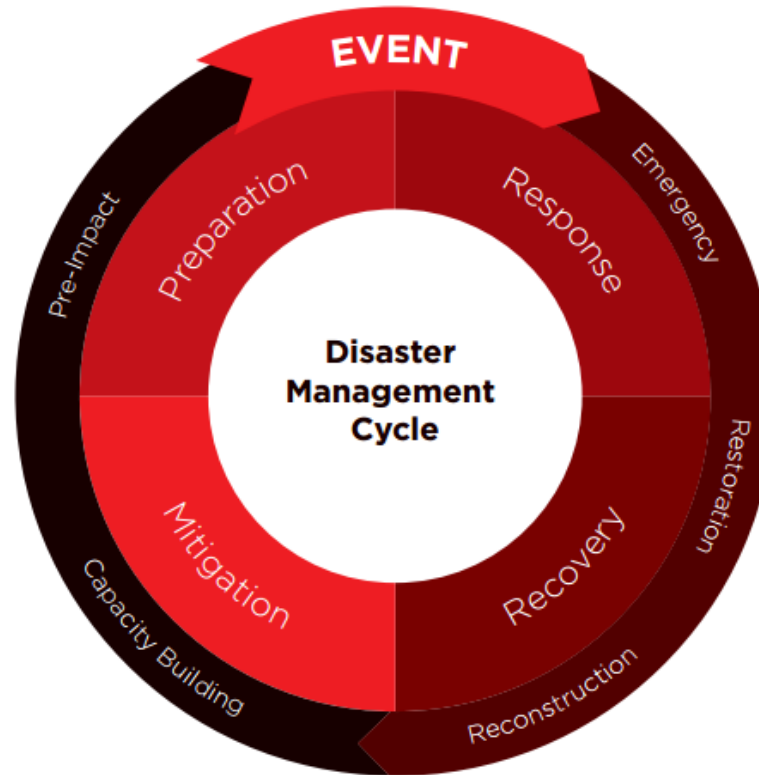
**S. Carolina keeps eye on hurricane**

Beaufort County remains without any watches or warnings.

Red flag indicates the water is closed at Tybee, Mary Landers, SAVANNAHNEWS.COM



# Disaster Risk Management





# Mobile a Basic Humanitarian Need in Times of Crisis



*"I congratulate the GSMA and its membership for developing this partnership (the Humanitarian Connectivity Charter) with the humanitarian community, which will enable people affected by crises to gain access to vital communications."*

***Ban Ki-Moon, ex-Secretary-General, United Nations***

*"You may wonder, well, what's a 130-year-old institution like the Red Cross doing in the new world of mobile technology? But we are seeing it literally revolutionize disaster response."*



***Suzy DeFrancis, Chief Public Affairs Officer, American Red Cross***



*". . we are gaining a better understanding of the potential our networks have to play a supportive role both during and in the aftermath of a crisis. Enabling affected communities, governments and aid workers to access the internet, make a phone call or send a text is a vital part of crisis management and the humanitarian response which follows."*

***Dr Nasser Marafih, Group Board Member and ex-CEO, Ooredoo***

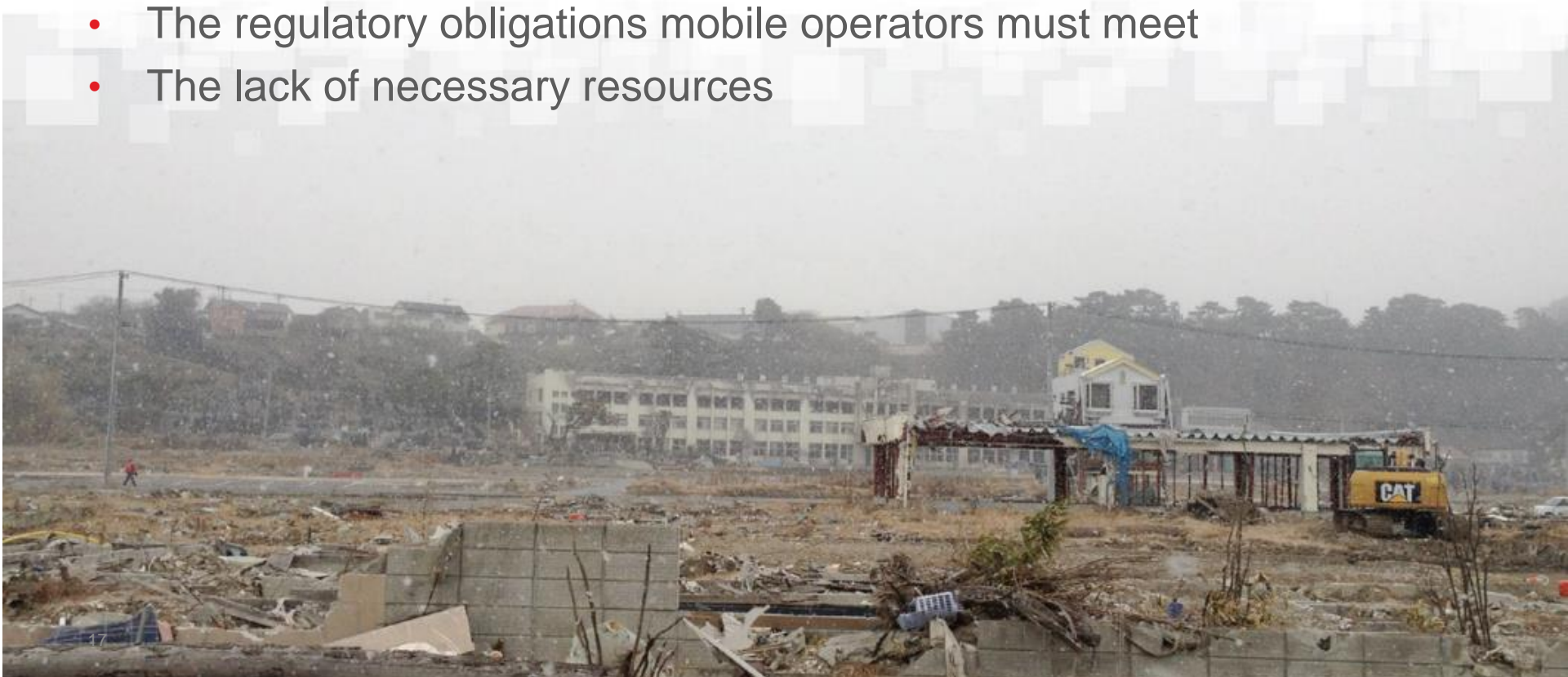




# Disasters are Challenging for Operators

## Because...

- The design of mobile networks
- The unpredictability of disasters
- The regulatory obligations mobile operators must meet
- The lack of necessary resources





## Key challenges operators face:

- Lack of power
- Extreme (up to 95%) damage to network infrastructure
- Disrupted road infrastructure
- Disrupted air travel
- Fuel shortages
- Optical fibre breakage
- Security
- Lack of staff accommodation
- Lack of basic supplies
- Shortage of critical parts
- Compounded impact of subsequent disasters
- Multi-country impact (stretched MNO resources and reduced ability to stage responses)



# There are a number of considerations for regulators in the context of disaster response:

## Preparation



## Response




## Recovery






# Regulatory Opportunities and Challenges



At its best, regulation can create an enabling environment that supports rapid recovery after a disaster or crisis.



At its worst, it can inhibit recovery efforts and prolong the recovery phase, preventing affected communities from taking full advantages of the benefits mobile communication offers.





## Collaboration Opportunities



Regulators have an important role to play.

Input from regulators is welcomed by operators.



There is a real opportunity to ensure better industry responses.



# Summary

1

Disasters are untimely and are increasing in frequency and complexity.

2

Mobile technology plays a vital role in disaster risk management.

3

There are numerous policy consideration for regulators in the context of disaster response.



# 1

## SESSION 1

# Group Discussion

- How could policymakers and regulators work with the telecommunications industry to improve disaster preparedness and resilience in your region?





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SESSION 2

# Preparation







# National Emergency Telecommunications (NET) Plans





# National Emergency Telecommunications Plans

The key components of a NET Plan we will focus on are:

- Identifying key decision-makers
- Encouraging operators to have Business Continuity Management (BCM) plans in place
- Supporting Early Warning Systems (EWS)
- Effective and enabling regulatory policies



## Setting up a NET plan is a key step to ensure pre-disaster preparedness

A National Emergency Telecommunications plan should:

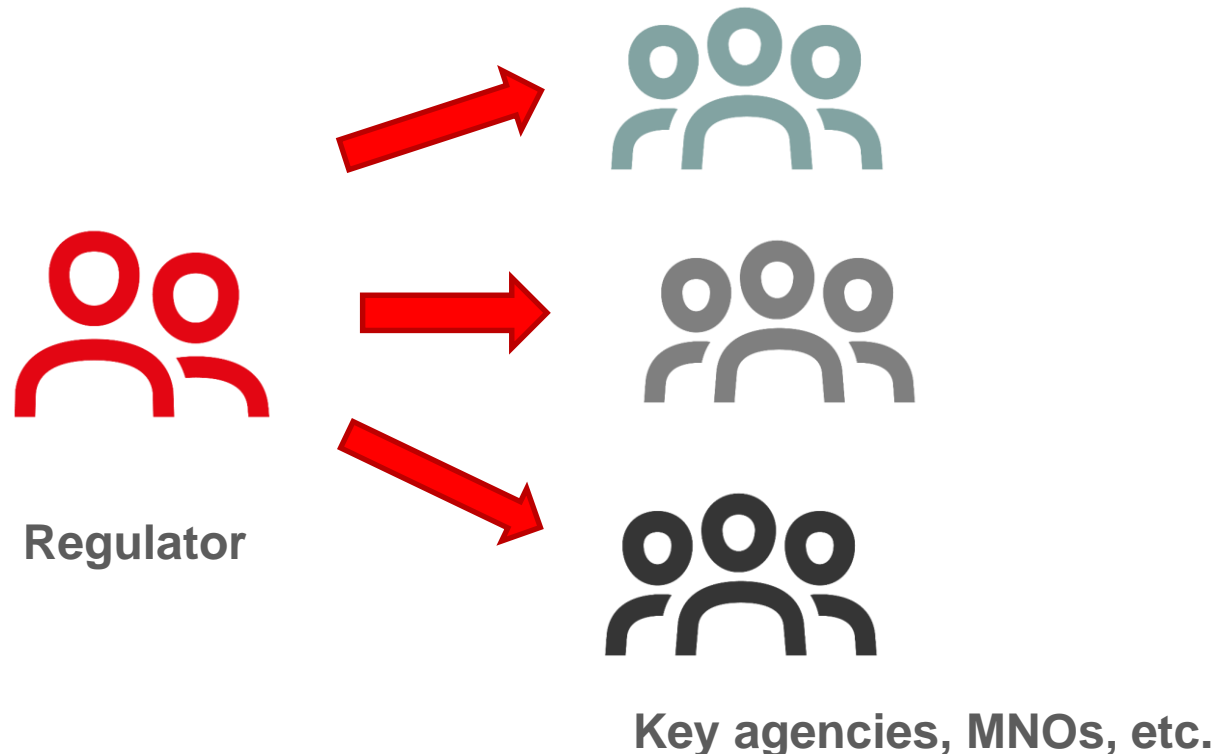
- Identify key government departments and individuals involved in disaster management
- Encourage operators to adopt Business Continuity Management practices
- Help operators set up Early Warning Systems
- Outline training opportunities available to all those working in disaster management
- Explain how telecommunications regulation might change during a disaster
- Encourage collaboration and coordination between regulators, operators and humanitarian responders





## NET Step 1: Identify Key Government Agencies

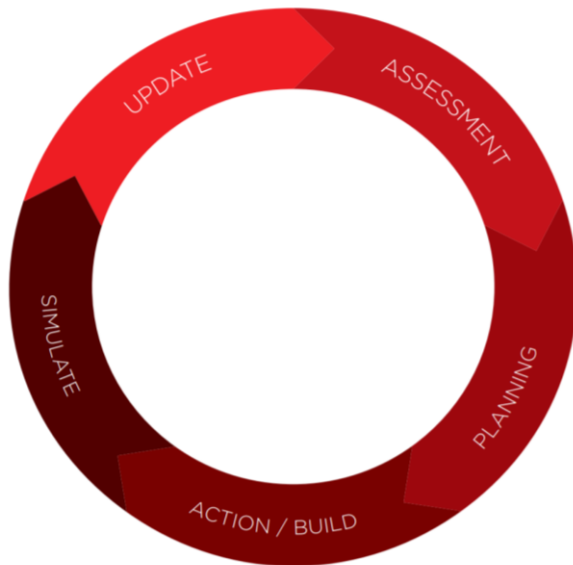
In an emergency, knowing which agency is in charge of each regulatory area of concern is crucial, but this may not always be obvious.





## NET Step 2: Encourage Operators to put Business Continuity Management (BCM) Plans in place

### The Business Continuity Management cycle:



- **Assessment**
- **Planning**
- **Action/Build**
- **Simulate/Test**
- **Update**

**For more information visit:**

[https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2016/05/GSMA\\_Disaster-Response\\_Business\\_Continuity\\_Management\\_Report.pdf](https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2016/05/GSMA_Disaster-Response_Business_Continuity_Management_Report.pdf)





# Innovative MNO Business Continuity Management Practices

- **Turkcell** – Supplier assessments
- **Ncell** – Construction of COWs
- **Zain** – Steps to keep senior management connected
- **NTT and KDDI** – Super resilience base stations





## NET Step 3: Facilitate Early Warning Systems (EWS)



### Risk Management

- Are hazards and vulnerabilities known?
- Are risk maps and data widely available?



### Monitoring and Warning

- Are the right parameters being monitored?
- Can accurate and timely warnings be generated?



### Dissemination and Communication

- Do warnings reach all of those at risk?
- Is the warning information clear and useful?



### Response Capacity

- Are response plans up to date and tested?
- Are people prepared and ready to react to warnings?



## NET Step 4: Support Effective and Enabling Regulatory Policies

- The ability of operators to quickly establish, or re-establish their services depends on how rapidly technical and relief staff and equipment can be brought to / set up in the impacted areas.
- Depending on the circumstances, operators may need to repair or replace damaged infrastructure within very short timeframes.
- To ensure emergency communications services are established without unnecessary delay, governments should set up clear regulatory frameworks and operational guidelines before a disaster strikes. They should also allow for operational flexibility even if it is only on a temporary basis.



## Case Study: An Effective NET Plan Could Have Saved More Lives

### Challenge

Samoa is prone to be hit by earthquakes. The 2009 earthquake and tsunami killed approximately 200 people and caused severe destruction.

A post-disaster assessment revealed that lack of relevant procedures delayed the transmission of warnings to the public.

### Solution

Samoa's Telecommunications Regulator created the National Emergency Telecommunications Plan.



# Case Study: Samoan Regulators Develop a NET Plan

## Approach

The Office of the Regulator:

- Set clear objectives
- Consulted with all relevant stakeholders
- Circulated drafts and asked all stakeholders for feedback
- Finalised the plan after detailed discussion at a workshop

## Lessons

- Some key decisions should be made early in the process.
- All relevant stakeholders should be involved.
- The development of a NET plan should involve extensive consultation and coordination.
- Stakeholders should analyse communications shortfalls in previous plans.

For more information visit:

[https://www.itu.int/en/ITU-D/Emergency-Telecommunications/Documents/Guatemala\\_2012/Presentation/S6/Developing%20and%20NETP112012.pdf](https://www.itu.int/en/ITU-D/Emergency-Telecommunications/Documents/Guatemala_2012/Presentation/S6/Developing%20and%20NETP112012.pdf)





# Advantages of Using Cell Broadcast for Early Warning

**It can be displayed automatically with no user interaction.**



**It can be delivered to millions of people in seconds.**



**It can send differentiated messages to designated areas.**



**It is not affected by and will not lead to network congestion.**



**It does not violate customer privacy.**



**It can only be sent from authorized, verified sources.**



# Use of SMS in Disaster Response



SMS can provide timely information to disaster affected communities.



The effectiveness of SMS as a tool for quickly disseminating information was seen before, during and after the 2010 Haiti earthquake.



While there are considerable opportunities, there are also some limitations.



2005 World Disaster Report published by the International Committee of the Red Cross (ICRC)



# MNO Guidelines for Using SMS in Disasters



Consider whether SMS is the most appropriate vehicle for the information you are trying to disseminate or collect.



Do not launch an SMS service unless you have the ability (capacity and resources) to act on incoming information.



Consider what solid partnerships are required to make an SMS service successful.



Design with the end user in mind.



The humanitarian principle of 'Do No Harm' comes first.



Unless agreed otherwise with customers, SMS alerts should only be used to send information about disasters.



# Case Study: The Philippines Free Mobile Disaster Alerts

## Challenge

The Philippines is one of the five countries most frequently hit by natural hazards. On average, 20 major storms hit the Philippines every year.

In 2013, the Philippines experienced one of the deadliest typhoons ever recorded: Typhoon Haiyan (“Yolanda”).

## Solution

Since the country has one of the highest SMS usage rates in the world, MNOs working with the government introduced Free Mobile Disaster Alerts.



# Case Study: The Philippines Free Mobile Disaster Alerts

## Approach

Mobile operators have processes in place to send out free alerts about storms, tsunamis or other calamities to customers whenever national disaster agencies ask them to do so.

## Outcome

In 2017 mobile phone operators Smart Communications and Globe Telecom sent a combined total of 260 million texts and alerts to customers in areas with a high risk of tsunamis.





## Case Study: Sri Lanka Disaster and Emergency Warning Network (DEWN)

### Challenge

The Indian Ocean tsunami of 2004 resulted in the loss of approximately 35,000 lives in Sri Lanka.

Approximately 90 minutes passed between the earthquake and the arrival of the waves on the Sri Lankan coast.

### Solution

Many Dialog employees were impacted by the disaster.

This led to the creation of the Disaster and Emergency Warning Network (DEWN).



# Case Study: Sri Lanka Disaster and Emergency Warning Network (DEWN)

## Outcome

Messages can be received on basic cell broadcast-enabled 2G handsets, smartphones via a downloadable Java app, and a dedicated DEWN device.

Though the service uses the cell broadcast functionality of Dialog's network, warnings can also be delivered to other local providers.

The system is continually improved.

## Case Study: Maldives 2014 Water Crisis

### Challenge

In December 2014, a fire broke out at the Maldives Water and Sewerage Company Generator Unit, resulting in drinking water being cut off to over 150,000 people.

With a critical water shortage affecting a third of the country's population, a state of emergency was declared by the Government of the Maldives.

The Maldives National Defence Force (MNDF) began to distribute available water in Malé.





## Case Study: Maldives 2014 Water Crisis

### Solution

As news of the crisis broke, the business continuity management team at Ooredoo Maldives activated the internal disaster response business continuity plan.

Volunteers were able to use a pre-existing internal short code to get information about volunteer activities and the wider response.

Ooredoo repurposed an existing SMS short code as a water crisis helpline.





## Case Study: Maldives 2014 Water Crisis

### Lessons

As key communications providers, mobile networks should attend national emergency committee meetings.

Ooredoo believes more involvement is required from its IT department.

Translating the crisis management plan from paper into a real life situation highlighted challenges not previously identified.





## Case Study: Lumkani Fire Detection and Insurance

### Project

Lumkani's devices are designed for informal settlement environments. They detect rapid rise in temperature caused by fire. When one device is triggered, it warns residents via an audible alarm and triggers all neighbouring detectors through radio frequency transmission to create a community response.

Lumkani is able to provide a physical address and verify the property's details, a critical pre-requisite for any insurance provider.





## Recommendations for Regulators so far:

- Work with relevant multilateral agencies and operators to agree sets of policy guidelines to **best respond to and recover from emergencies**
- **Give operators** flexibility to adjust to unforeseen circumstances
- Help **improve communication and coordination** among all the various government entities involved in responding to emergencies





# Summary

1

Planning for disasters helps save lives and speeds up recovery.

2

Early warning systems help minimise, or eliminate altogether, the effects of disasters.

3

Clear regulatory frameworks and operational guidelines should be put in place.

# 2

## SESSION 2

# Group Discussion

- If you had to put together an NET in your own country, what are the key government departments you would need to work with? Please list them and explain what their roles are in this area.





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# Lunch break





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SESSION 3

# Response and Recovery





## In this section we will consider:

In session three we will consider:

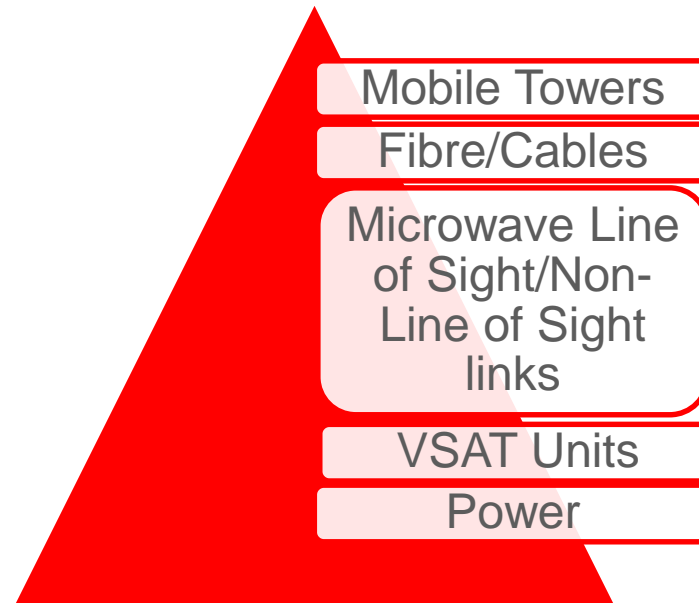
- How regulation can impact the ability of operators to respond to and recover from disasters
- How regulators can help operators recover from disasters
- How the temporary relaxation of certain rules may help save lives in the aftermath of a disaster





# Mobile infrastructure is prone to suffer severe damage during natural disasters

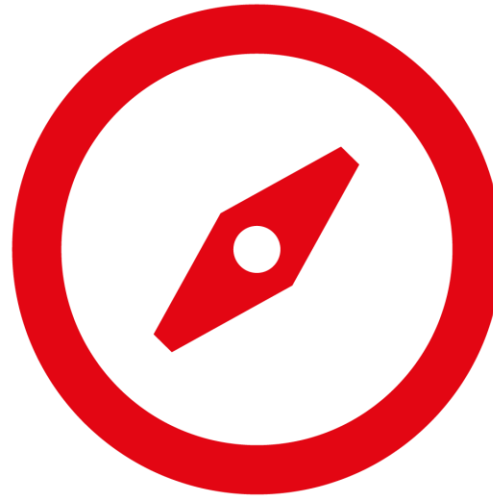
Key components of an operator's infrastructure that are likely to be impacted by natural disasters are:







## Flexible and ‘emergency’ regulations facilitate a more effective response



Rather than insisting that rules designed for non-emergency situations apply regardless of the circumstances, regulation should allow for **flexibility** so that **operators** can adjust to unforeseen circumstances when disasters strike.



# Operator challenges during and after emergencies that regulators can help overcome

1. Service outages
2. Loss of power
3. Antenna-siting and spectrum-management
4. Transfer of staff and equipment across borders
5. Encouraging collaboration and effective partnerships
6. Supporting the use of mobile-derived Big Data



# 1. Service Outages

## Challenge

A disaster can disrupt an operator's network in a specific area while those of other operators remain unaffected.

## Possible Role of Policymakers

Regulators can encourage operators to reach agreements among themselves allowing customers to use their respective networks to contact the emergency services during a crisis.



## 2. Loss of Power

### Challenge

Disruption to power mains can cause a transmitter or other network components to fail.

### Possible Role of Policymakers

Regulators should encourage coordination between utility and telecommunications companies so that they can prepare for this.

Regulators should also give operators clear guidance on:

- How to increase the maximum power of functioning cells in order to enlarge its coverage area
- How back-up power should be used at cell sites
- How to source and transport fuel for base stations



## 3. Antenna-Sitting Regulation and Spectrum Management

### Challenge

When disasters strike, cellular network antenna sites often suffer serious damage, which forces operators to use temporary sites

### Possible Role of Policymakers

Disaster response policies should cover:

1. Permissions for temporary antenna sites
2. Exemptions
3. Flexible reporting requirements
4. Alterations to existing cell site
5. The use of Cell-on-Wheels (COW) transmitters
6. Access to damaged cellular sites for emergency maintenance
7. Maximum output power
8. The use of cellular network sites by emergency services for communication purposes
9. Flexibility to adapt assigned spectrum frequencies to better serve affected populations



# Case Study: Vodafone's Portable Instant Network

## Background

The Vodafone Foundation partnered with Télécoms Sans Frontières (TSF) and Huawei in 2010 to create the Instant Network – a portable mobile GSM Base Transceiver Station (BTS) designed to be deployed rapidly wherever needed

## Features

Antenna

Industrial  
Computer

Base  
Transceiver  
Station

Extras



## Case Study: Vodafone's Portable Instant Network

### Approach

Vodafone Instant Network can function in two modes: standalone and normal.

In **standalone mode**, the BTS is not connected to the BSC. The BTS sends all call signalling to the industrial computer, which functions as the BSC, MSC, Home Location Register (HLR), and SMSC to process voice and SMS services.

In **normal mode**, the BTS is configured to communicate with a compatible operator Huawei BSC, typically using a connection to the internet via an IP backhaul over a Very Small Aperture Terminal (VSAT) satellite transmission.





## 4. Transfer of Staff and Equipment across Borders

### Challenge

MNOs strive to ensure that they have access to all relevant expertise and back-up equipment during a crisis, but after particularly destructive disasters, it may be necessary to import additional equipment and bring experts from abroad.

### Possible Role of Policymakers

Regulators, together with customs and immigration agencies, should establish emergency response plans allowing fast-track approvals for the transfer across borders of both equipment and experts during emergencies.



## 5. Encouraging Collaboration and Effective Partnerships

As a result of a request from the UN General Assembly, the Sendai Framework for Disaster Risk Reduction 2015-2030 was adopted at the UN World Conference in Sendai, Japan, in 2015.

The framework calls on governments to encourage cooperation in order to design and implement effective risk reduction strategies.



## 6. Supporting the Use of Mobile-derived Big Data



### Urgent needs

**1.8**  
Billion

Number of people  
affected by  
**disasters** in the last  
decade

**15**  
Million

Number of people  
who die because of  
**infectious diseases**  
every year



### Mobile Big Data can help



Mobilising Big Data for **people** in **need**



Providing **actionable** insights



Enabling **effective** responses

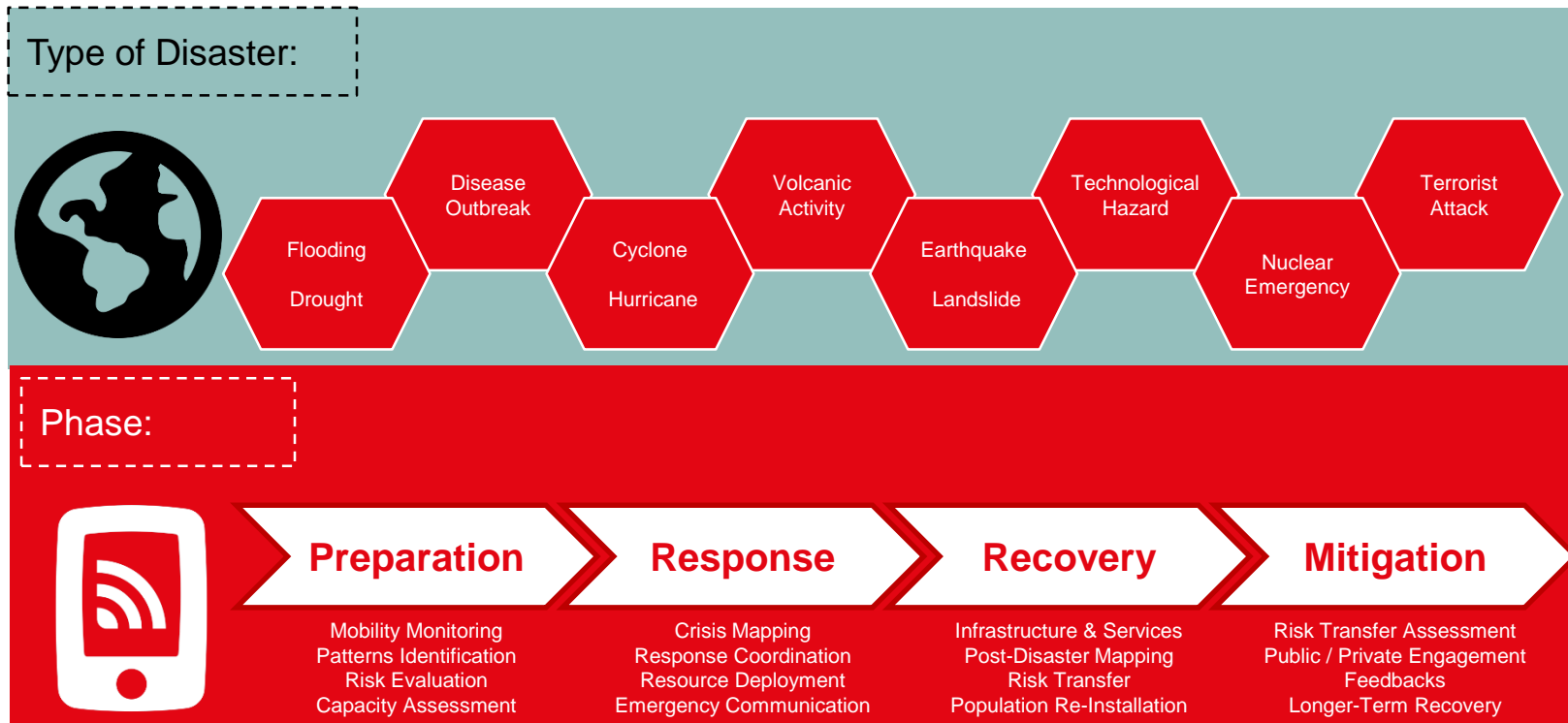


Ensuring a **big impact** where it **matters** most

Identifying where people are and where they are going is essential to **understanding** and effectively **responding** to **disease** outbreaks, natural **disasters** and **environmental** crisis.



# Mobile Big Data in a Disaster





# Considerations on the Use of Big Data

- Government bodies in charge of emergency response programmes should be aware of the considerable amount of time that it can take to negotiate agreements to access and use mobile Big Data.
- Governments and operators should consider setting up these agreements in advance so that Big Data is analysed promptly and the insights that are derived from it can be used when they are needed.



# Mobile Privacy Principles

## Addressing privacy beyond legal compliance

- Openness, transparency and notice
- Purpose and use
- User choice and control
- Data minimisation and retention
- Respect user rights
- Security
- Education
- Children and adolescents
- Accountability and enforcement

**For more information visit:** [www.gsma.com/publicpolicy/wp-content/uploads/2012/03/GSMA2016\\_Guidelines\\_Mobile\\_Privacy\\_Principles.pdf](http://www.gsma.com/publicpolicy/wp-content/uploads/2012/03/GSMA2016_Guidelines_Mobile_Privacy_Principles.pdf)





## Case Study: Flowminder Foundation

### Implementation Partners

Digicel (Haiti), Ncell (Nepal) and the World Food Programme

### Project

Flowminder will provide telecom operators with the open source code needed to set up a system that monitors population flows before and after disasters.

Flowminder will create comprehensive implementation materials, which will give MNOs full control of the system. It will also adapt the system to their own platforms if this is required.



# Enabling Policies and Regulations that Improve Disaster Response and Recovery Efforts

## Japan's Ministry of Communications

- Temporary increase of the power levels of certain sites to increase their range

## AFAD, Turkey

- Relaxation of privacy laws to allow Turkcell to help locate missing persons trapped under rubble

## Financial Regulator, the Philippines

- Relaxation of Know Your Customer (KYC) requirements to facilitate mobile government-to-person payments

## Puerto Rican government and aviation agency

- Google's Project Loon was given permission to fly balloons over the island to provide connectivity to 200,000 people





# Case Study: Japan's Ministry for Internal Affairs and Communications

## Challenge

Disasters are likely to leave base stations inoperable and force mobile telecommunications providers to erect new ones.

## Solution

There are, however, emergency measures in place that allow operators to erect new sites as soon as they apply for permission to do so. The MIC may grant permission over the phone and operators can submit formal applications at a later stage.



# Case Study: Puerto Rico

## Challenge

MNOs faced one of the most devastating Atlantic hurricane seasons on record in 2017. 90 per cent of the telecommunications infrastructure of Puerto Rico was damaged.

## Solution

Project Loon partnered with local MNOs to extend LTE coverage after a request from Puerto Rico's Chief Innovation Officer.

Project Loon is a network of stratospheric balloons designed to bring Internet connectivity to rural and remote communities. Its balloons can extend mobile coverage over 5,000 sq kilometres.



## Case Study: Puerto Rico

### Approach

In October 2017, the United States' Federal Communications Commission granted Project Loon a temporary spectrum authorisation to activate service with operators AT&T and T-Mobile in Puerto Rico. Project Loon was given authorisation to deploy ground infrastructure and fly its balloons.

### Solution

This initiative gave access to basic connectivity to more than 200,000 users in Puerto Rico.



# Best Practice



Never Stop Preparing



Enabling Environment



Build Competencies



Build Relationships



Preposition

For more information visit: [https://www.itu.int/dms\\_pub/itu-d/opb/stg/D-STG-SG02.05.1-2017-PDF-E.pdf](https://www.itu.int/dms_pub/itu-d/opb/stg/D-STG-SG02.05.1-2017-PDF-E.pdf)



# Summary

1

Disasters are challenging for operators, who often struggle to recover afterwards.

2

Regulation should be flexible and allow operators to adjust to unforeseen circumstances.

3

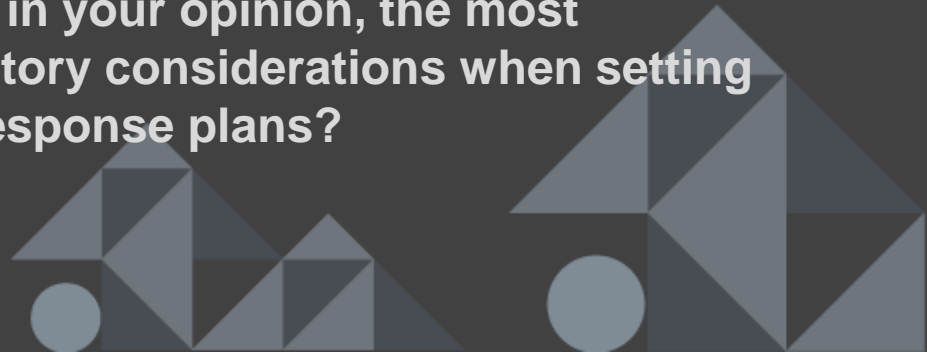
Regulators should encourage strong partnerships and innovative approaches, including the use of mobile Big Data analytics.

# 3

## SESSION 3

# Group Discussion

- Are there any policy or regulatory frameworks relating to mobile communications in your country?
- Is there a forum in your country where regulators and the mobile industry come together to discuss disaster management issues?
- What should be, in your opinion, the most important regulatory considerations when setting up emergency response plans?





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# 4

## SESSION 4

# Long-term Preparation and Mitigation





## In this session we will consider:

- How the GSMA encourage operators and partners to improve preparedness and resilience.
- The key elements of the GSMA's Humanitarian Connectivity Charter (HCC).
- The outcomes HCC signatories are working towards.
- The proactive steps operators have taken to improve access to communication and information for those affected by a disaster or crisis.
- Best practice guideline for disaster management.





# GSMA Humanitarian Connectivity Charter

The GSMA launched the Humanitarian Connectivity Charter (HCC) to support mobile network operators in improving preparedness and resilience among mobile networks.

The Charter consists of:

- shared principles adopted by key players in the mobile industry and
- information for those affected by crisis.





# The Importance of Mobile in Response and Preparedness

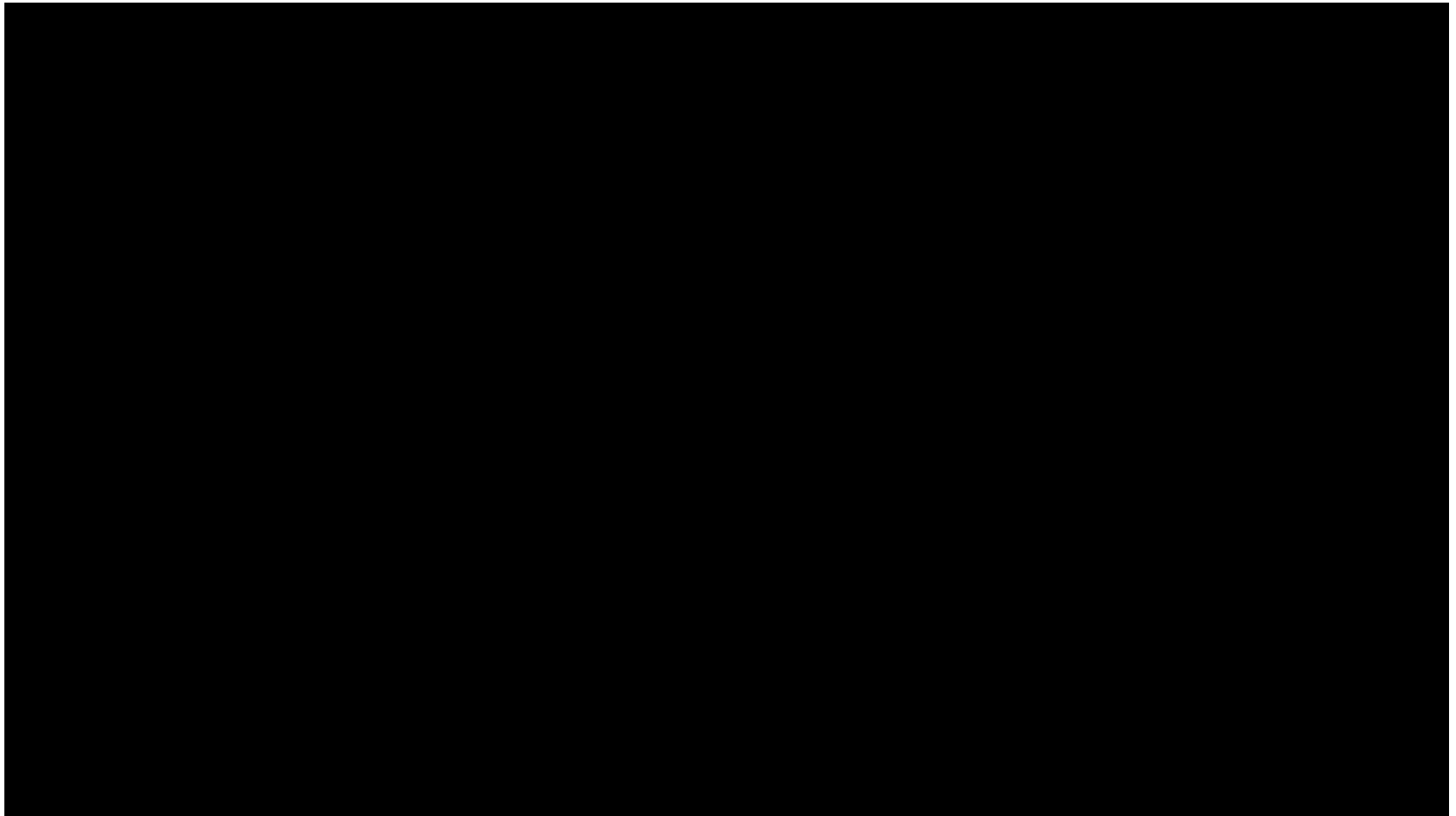
The Charter is supported by:



The Humanitarian Connectivity Charter reflects the growing recognition within the mobile industry, as well as among government and responding stakeholders, of the crucial role that mobile plays during humanitarian crises.



# GSMA Humanitarian Connectivity Charter





# HCC Principles

The principles of the charter are:

Enhance coordination

Scale and standardise  
preparedness and  
response activities

Strengthen  
partnerships



# Case Study: Haiti Humanitarian Connectivity Charter Engagement

## Challenge

Haiti ranks as one of the countries with the highest exposure to multiple hazards. However, it lacks an early warning system and coordination between agencies involved in emergency response

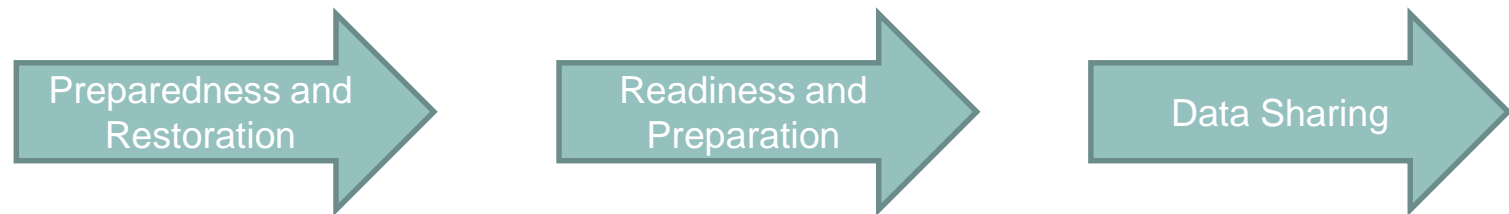
## Solution

GSMA's Mobile for Humanitarian Innovation team are working with industry actors to develop an Early Warning system and are assisting in the establishment of an Emergency Telecommunications Task Force



# Regulators' initiatives

In December 2016, the Federal Communications Commission (FCC) set up the Wireless Resiliency Cooperative Framework. The framework promotes resilient wireless communications and situational awareness during disasters. These include:





# Long-term Recovery and Mitigation: Summary

1

The GSMA has launched the Humanitarian Connectivity Charter.

2

The Charter complements a range of proactive steps already being taken by operators and the industry.

3

Telecommunications regulators can play a crucial role in supporting and working with the industry in preparing for, responding to, recovering from and mitigating against disasters.

# 4

## SESSION 4

# Group Discussion

- What steps can operators and humanitarian partners take to improve access to information for those affected by disasters?
- How can regulators facilitate such partnerships?







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**SESSION 5**

# Responding to Humanitarian Crises





## In this session we will consider:

- The key challenge that the GSMA's Mobile for Humanitarian Innovation Programme is seeking to address.
- How mobile acts as a lifeline for forcibly displaced persons (FDPs)
  - Mobile Money
  - Identification
  - Utilities
- The key policy considerations in countries hosting the forcibly displaced for improving humanitarian assistance and the lives of those affected.
- How operators, governments (including regulators) and humanitarian organisations can plan and establish partnerships in a crises.



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# The GSMA's Mobile for Humanitarian Innovation Programme





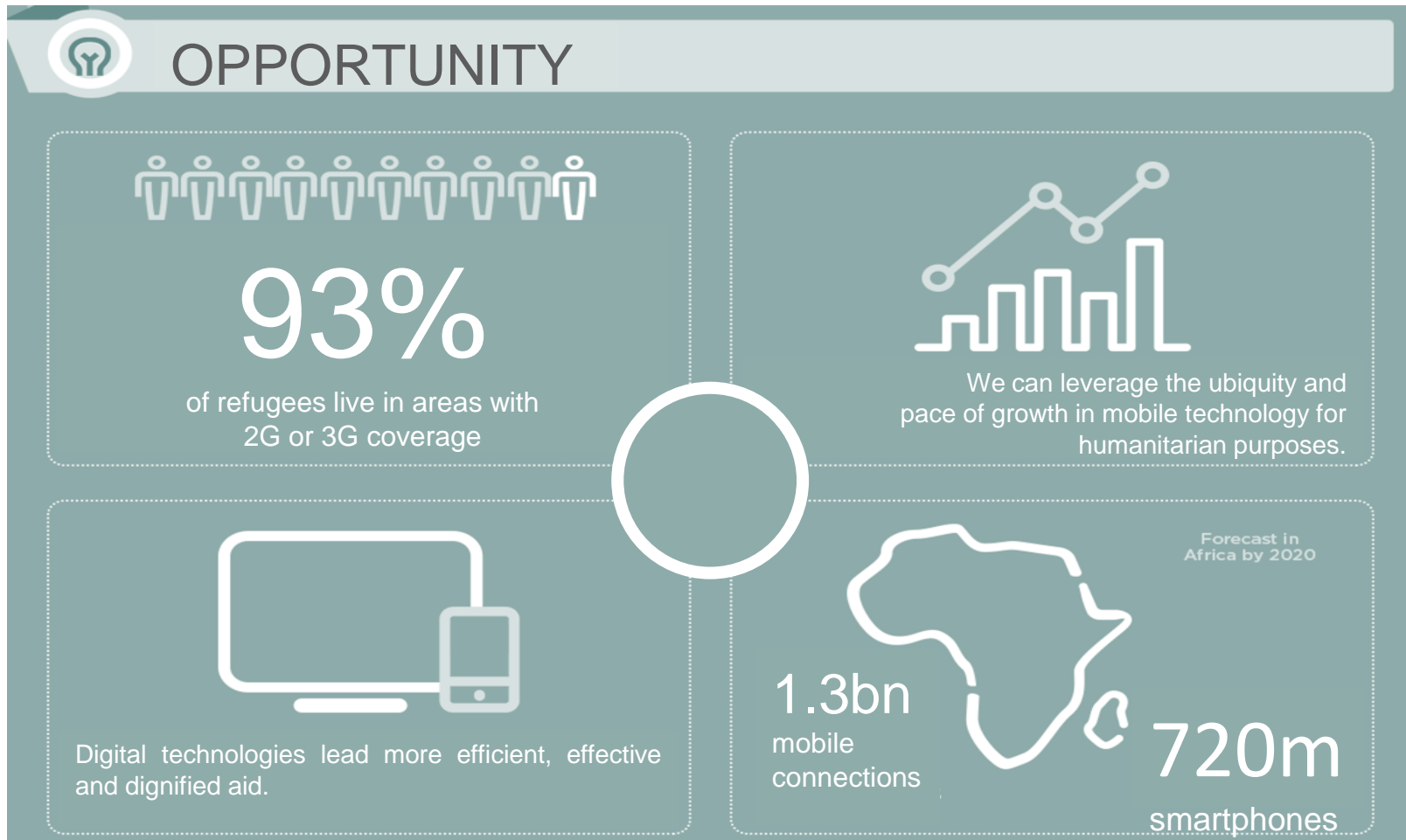
## The Big Humanitarian Challenge

68.5 million

the number of FDPs in 2018: UNHCR



# The Importance of Mobile in Humanitarian Contexts





# GSMA Mobile for Humanitarian Innovation



**Vision:** An inclusive, impactful digital humanitarian future



**Mission:** Accelerating the delivery of digital humanitarian assistance

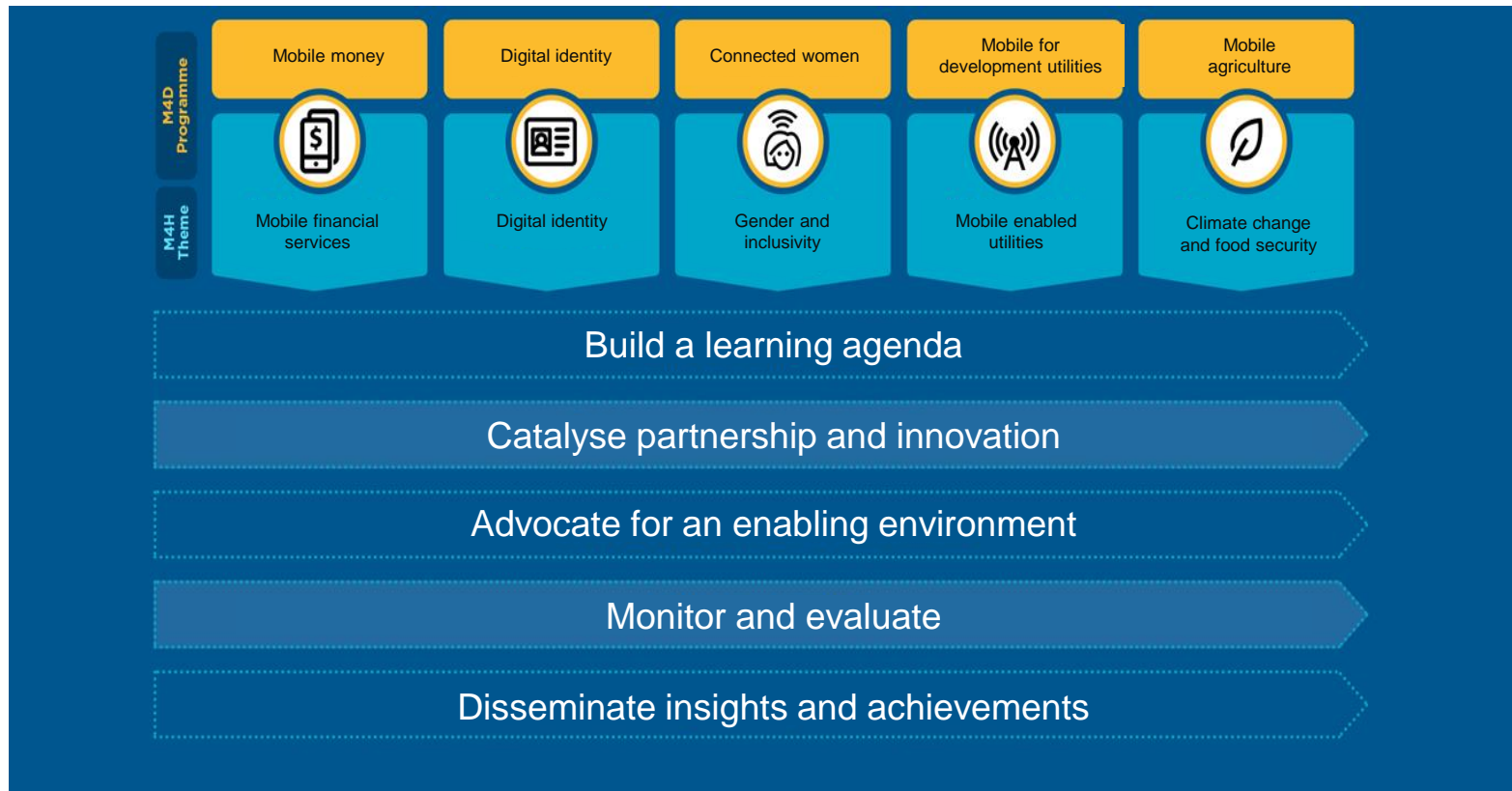


**Impact:** six million people with access to, and use of mobile-enabled digital humanitarian services





# GSMA Mobile for Humanitarian Innovation





# Mobile As A Lifeline

In 2017, the GSMA conducted research in Nyarugusu refugee camp. The study found that refugees use mobile devices for an array of activities.

*"I love using the video calls. I haven't seen my relatives for two years so when I communicate through video I feel closer to her or him."*

**Female, Internet-enabled phone user**

*"I feel more safe with a phone."*

**Female, Basic phone user**

*"For agents, the new tower has caused an increase in customers. They used to buy voice call credit, but now they buy data – it has been very good for business."*

**Male, Mobile agent**

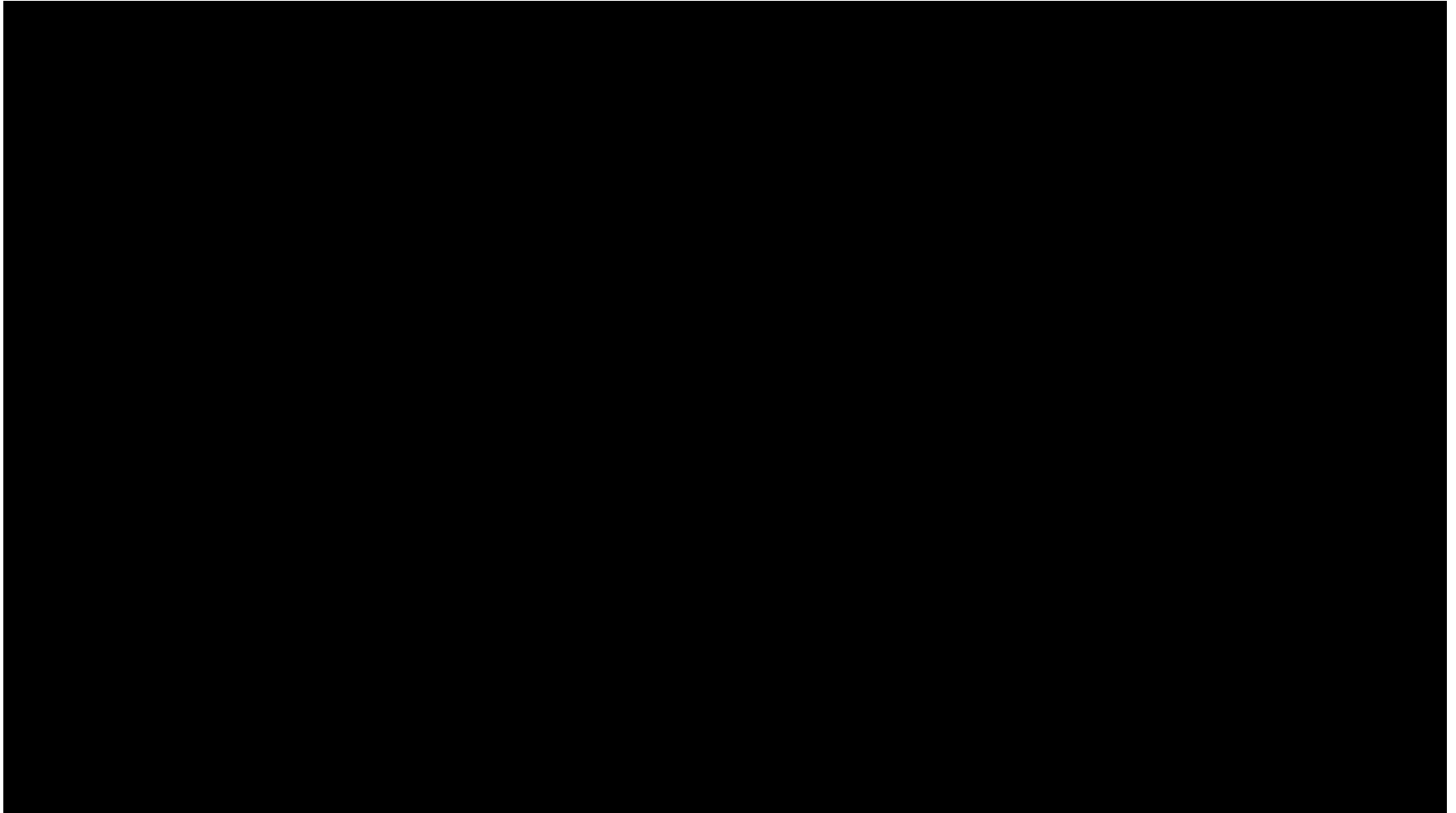




# Benefits of Enabling Mobile Access

Enabling access to mobile services can lead to positive outcomes not just for forcibly displaced persons (FDPs) but also for host governments and communities.

Benefits for FDPs	Benefits for host governments and communities
Ability to communicate with loved ones	Reduced reliance on state resources
Empowerment and improved livelihood and productivity	Increased economic activity in host communities
Financial Inclusion	Reduced risk of financial exclusion and strengthened financial integrity





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# Mobile as a lifeline for forcibly displaced persons





# Increasing Relevance of Mobile Money in Humanitarian Contexts

Mobile money cash transfers are:

**More  
affordable**

**More  
dignified**

**Faster**

**Safer**

**Transparent  
and traceable**





# Impact of Mobile Money in Humanitarian Contexts

Mobile money can:

**Facilitate flows of remittances to and from displaced persons**

**Improve the financial literacy of displaced populations**

**Enhance the connectedness of displaced populations**

**Contribute to recovery, resilience and return**

**Foster economic growth within and beyond displacement settings**

**Increase the security of displaced populations and those implementing humanitarian programmes**



# Bidi Bidi Refugee Settlement Focus

- Mobile network operators (MNOs) invested heavily in coverage and agent networks at Bidi Bidi.
- For the first time in Uganda, MNOs used their mobile money bulk payment offerings to deliver humanitarian cash transfers.
- Humanitarian organisations informed the business case for MNOs, aggregating demand and de-risking investment - resulting in successful mobile money-enabled transfers.



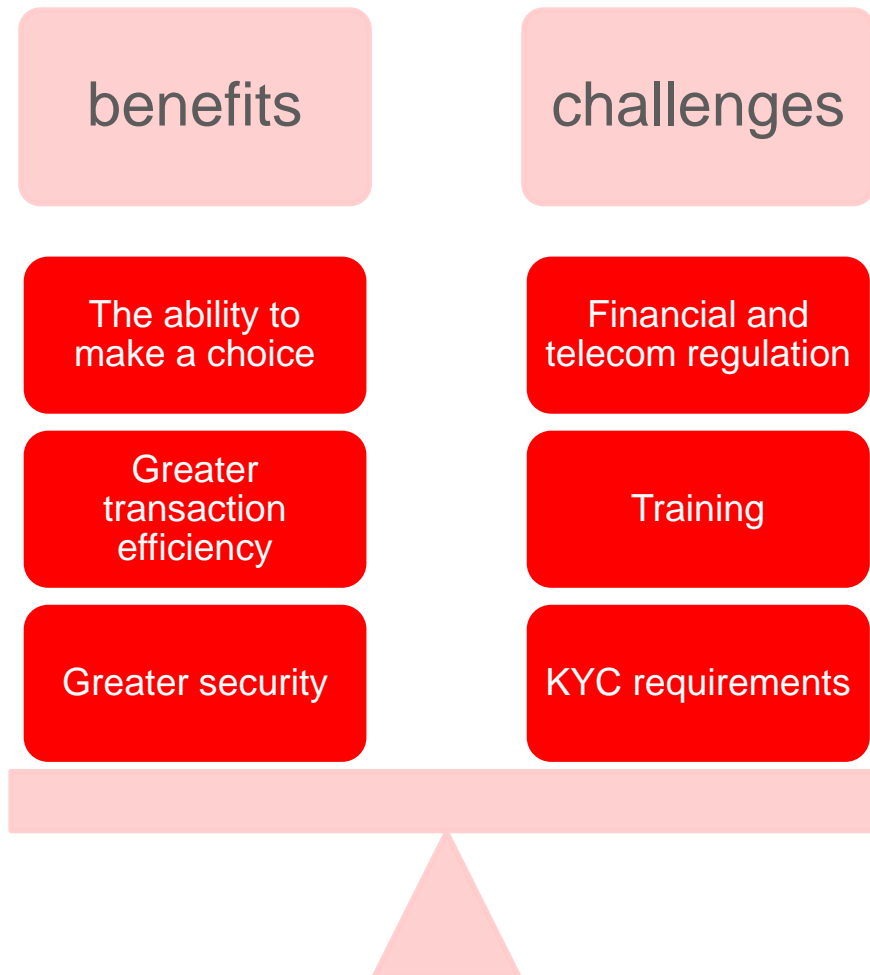
## Humanitarian orgs support

*We are helping the MNO understand refugee and host community settlement “demographics, patterns and aggregate demand to mobile money so that they can make informed business cases for site roll out.” UNCDF*





# Considering Mobile Money in Humanitarian Contexts





# Digital Identification is Key for Digitally Transforming Aid through Mobile

Digital ID

Mobile access  
in one's name

Digital and financial  
inclusion

More effective delivery  
of humanitarian aid



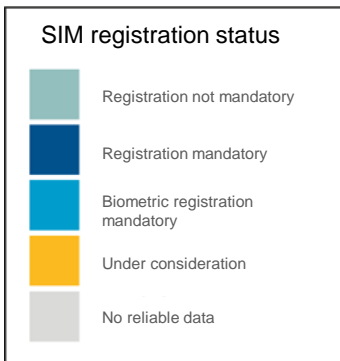


**SIM registration status**

- Registration not mandatory
- Registration mandatory
- Biometric registration mandatory
- Under consideration
- No reliable data

The map displays the following distribution of SIM registration status by country:

- Registration not mandatory (Light Green):** Canada, United States, Mexico, Greenland, Iceland, Norway, Sweden, Finland, Denmark, Germany, France, United Kingdom, Ireland, Portugal, Spain, Italy, Greece, Turkey, Cyprus, Israel, Jordan, Saudi Arabia, United Arab Emirates, Qatar, Kuwait, Oman, Bahrain, Brunei, Singapore, Malaysia, Indonesia, Philippines, Thailand, Vietnam, Laos, Cambodia, Myanmar, Bangladesh, India, Pakistan, Afghanistan, Uzbekistan, Turkmenistan, Kyrgyzstan, Kazakhstan, Russia, China, Mongolia, North Korea, South Korea, Japan, Taiwan, Hong Kong, Macao, New Zealand, Australia, and most of Oceania.
- Registration mandatory (Dark Blue):** Argentina, Chile, Peru, Colombia, Venezuela, Ecuador, Bolivia, Paraguay, Uruguay, Brazil, Cuba, Haiti, Dominican Republic, Puerto Rico, Mexico, Central America, Caribbean, South America, Africa, Middle East, and most of Asia.
- Biometric registration mandatory (Light Blue):** India, Pakistan, Bangladesh, and parts of Africa and Asia.
- Under consideration (Orange):** South Africa, Nigeria, Kenya, Ethiopia, Tanzania, Uganda, Rwanda, Burundi, Mozambique, Zimbabwe, Botswana, Namibia, Swaziland, Lesotho, and parts of Europe and Asia.
- No reliable data (Grey):** North Korea, South Korea, and parts of Africa and Asia.





## The utility of the Mobile platform in Humanitarian Aid delivery depends on customers' access to and verifiability of identification

USER CAN ACCESS A MOBILE PHONE?	USER HAS AN ACCEPTIBLE PROOF OF IDENTITY?	USER HAS DIGITAL IDENTITY THAT AN MNO CAN VALIDATE?	UTILITY OF MOBILE IN AID DELIVERY
YES	YES	YES	VERY HIGH
YES	YES	NO	HIGH
YES	NO	NO	MEDIUM





## Meet Joseph, from Tanzania...



ID



=

Mobile  
access in  
one's name



=

Digital &  
financial  
inclusion





## Closing the identity gap



Sustainable Development Goal 16 highlights the need to provide a legal identity to huge numbers of people in developing nations.



The GSMA Digital Identity programme is working to establish mobile as a scalable platform for digital identity.



In sub-Saharan Africa more than half of the population lacks an official identity, yet more than two-thirds have a mobile phone.



# Regulatory environment for digital ID



An inclusive and comprehensive ID enrollment policy is required to deliver a formal identity to the unregistered.



Consistency is needed between the different legal and regulatory instruments that affect the management of digital identity.

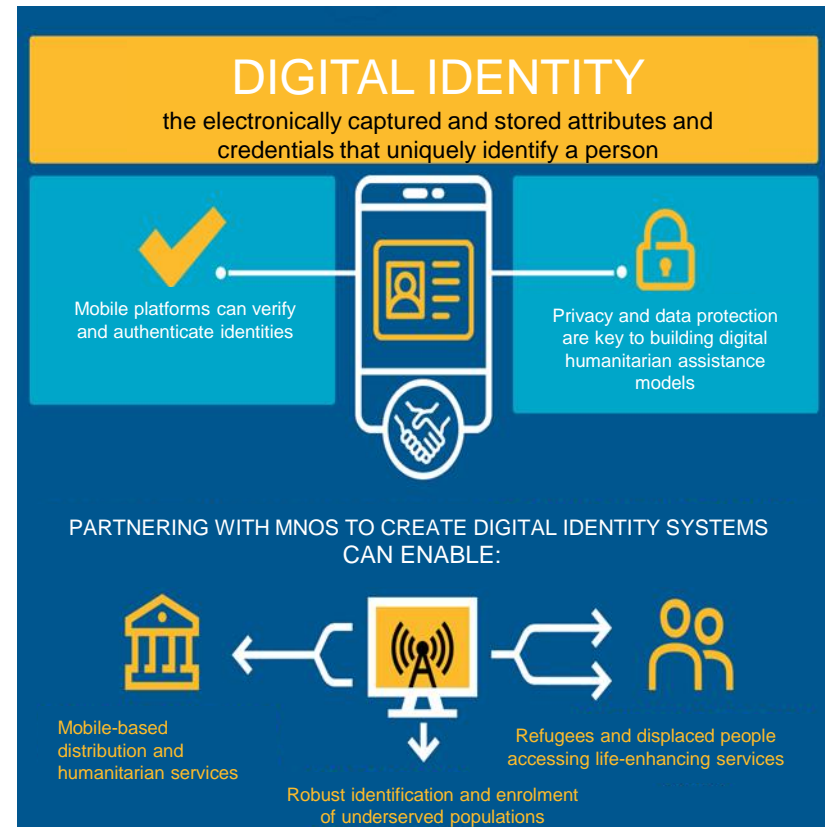


Governments also carry a responsibility to foster and help create the trusted environment within which mobile identity operates.



# What role(s) can mobile operators play in accelerating or improving Digital Identification in humanitarian contexts?

- Scale and reach → Enrol, verify IDs or both
- Unique customer attributes → Strengthen KYC
- Privacy & data protection → Build trust
- Locally licensed & regulated → Partnerships





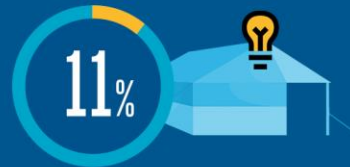
Accelerating the Delivery and Impact of **Digital Humanitarian Assistance**

## Mobile enabled utilities



Harnessing mobile enabled off-grid energy and waters innovations to improve the lives of displaced people.

In camps only 11% of refugees have reliable energy for lighting



A key barrier for refugees accessing mobile internet and services is access to charging facilities...



**THERE ARE EXCITING SOLUTIONS AND INNOVATIONS**

In the utility sector that could have significant impact in a refugee environment



**855 m**

people live off-grid but are covered by mobile



**93%**

of refugees live in areas covered by at least a 2G network



**71%**

of refugee households have access to at least one mobile phone

What positive impact is possible from mobile enabled utilities in a humanitarian context?



Improved access to basic utilities for forcibly displaced people in camps

Sustainable commercial opportunities for mobile operators and utilities providers

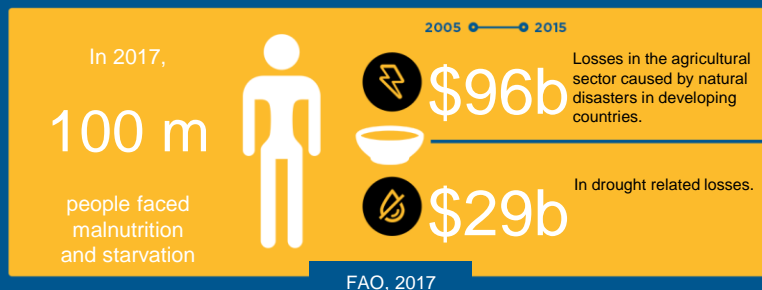


## Food security and climate change



mobile solutions for food security, adaptation and resilience to climate change – improving the impact of digital technology to help improve the food security and climate change resilience of rural communities.

Accelerating the Delivery and Impact of **Digital Humanitarian Assistance**



**INVESTING IN AND BUILDING THE RESILIENCE OF RURAL COMMUNITIES**

**REDUCES THE RISKS OF FOOD INSECURITY LEADING TO NATIONAL AND GLOBAL CRISES**

developing strategies to address food security and equip farmers with:

**ASSETS** **TIMELY INFORMATION** **TOOLS**

**IMPROVES THEIR LIVES AND PRODUCTIVITY**



### MOBILE NETWORK DATA



can provide localised granular and accurate data for weather

### MOBILE TECHNOLOGY



can deliver services that improve climate and agricultural practices

Learn more about mobile for humanitarian innovation at the following address:  
[www.gsma.com/M4H](http://www.gsma.com/M4H)







# How can policymakers facilitate access to mobile connectivity and Mobile Money services for FDPs?

- Providing clear guidelines on what identification is acceptable for FDPs;
- Allowing the use of UNHCR-issued identification;
- Enabling lower, tiered thresholds of KYC requirements;
- Harmonising identity-related SIM registration requirements;
- Establishing proportionate Risk Assessment processes;
- Exploring the use of new Digital Identity technologies;
- Promoting robust identity validation processes

Access the GSMA Policy Recommendations at: <https://bit.ly/2Sg8rqE>





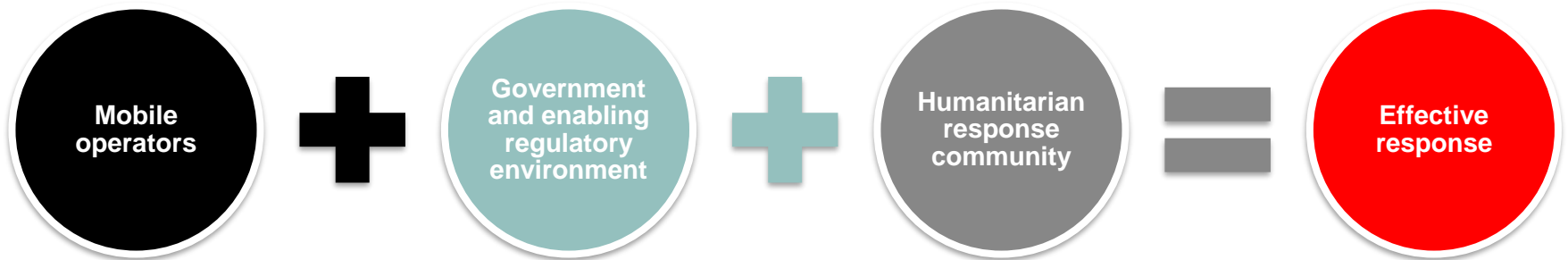
Capacity  
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# Partnerships





# Partnerships in Humanitarian Crises



Improving coordination creates a mobile system that can most effectively help people at the time of their greatest need



# Partnerships: Breaking Down the Myths

## Myth 1

- “The private sector are all the same”

## Myth 2

- “The development sector are slow, it takes ages to get anything done”

## Myth 3

- “Mobile operators are not working to support humanitarian initiatives”

## Myth 4

- “We can’t partner with them, they have a different operating model/values than us”

## Myth 5

- “We have to wait for an emergency to work together”



# Best practice checklist for effective partnerships

## Checklist

- |  |   |
|--|---|
| <input type="checkbox"/> Timing: Don't postpone                          | <input type="checkbox"/> Evidence of Partnership 'Need'         |
| <input type="checkbox"/> Discuss expectations, strengths & limitations   | <input type="checkbox"/> Be aware of 'language' barriers        |
| <input type="checkbox"/> Identify mutual benefits and incentives for all | <input type="checkbox"/> Outline financial commitments (in/out) |
| <input type="checkbox"/> Plan for sustainability, scale and exit         | <input type="checkbox"/> Create clear partnering agreements     |
| <input type="checkbox"/> Clearly define roles and responsibilities       | <input type="checkbox"/> Review with honesty                    |



# Best Practice Example: RefUnite

## Challenge

Following a crisis, the fear of political persecution or violence may sometimes be so great that people intentionally avoid being traceable.

Any service requiring personal information need to be both secure and intrinsically trustworthy.



Today, millions of forcibly displaced people, worldwide, have lost contact with family members or friends.



# Best Practice Example: RefUnite

## Solution

RefUnite is a non-profit technology organisation who reconnects refugee families with missing loved ones.

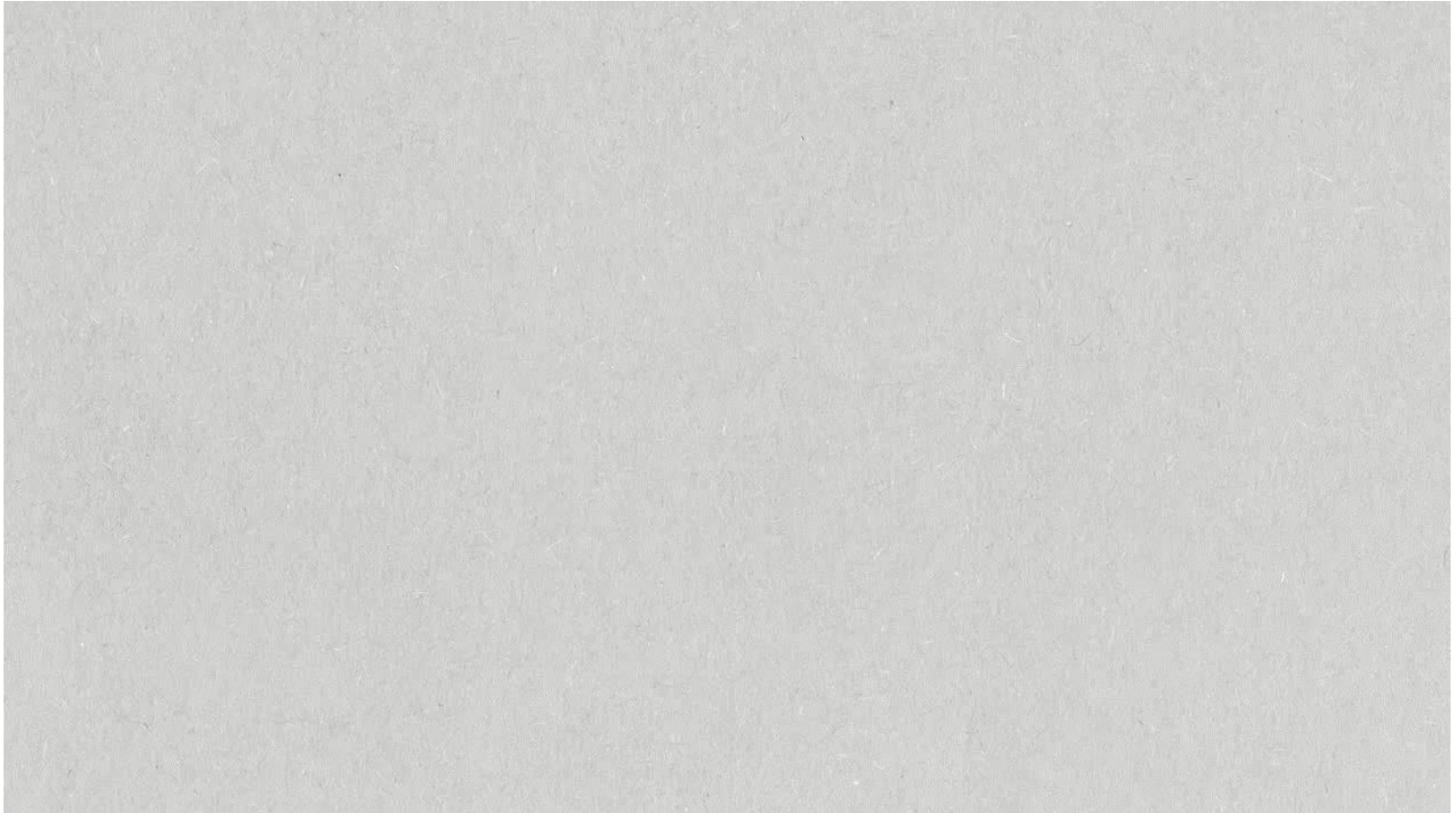
It has fostered partnerships with a range of telecom companies and non-governmental organisations, which is crucial to its work.

## Approach

Refugees can search for missing loved ones, via a mobile device.

Registered more than 1 million refugees and reconnected over 40,000.









# Summary

1

Mobile (and Mobile Money) platforms are increasingly being used to accelerate the delivery of digital humanitarian aid to displaced populations

2

Enabling policies – especially involving proof-of-identity requirements for accessing mobile services – are crucial for ensuring those affected by crises are able to benefit

3

Establishing partnerships & better coordination between government, operator and humanitarian organisations are fundamental for taking proactive action

4

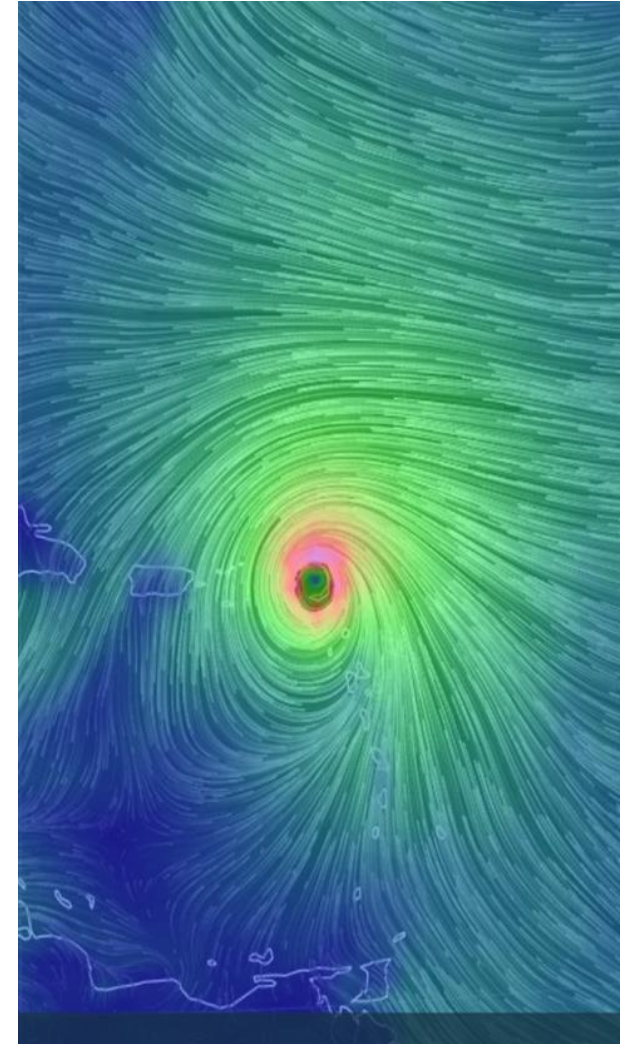
The GSMA's Mobile for Humanitarian Innovation Programme can offer a convening platform for such partnerships to be formed and sharing relevant insights



# Course Recap

In this course we have:

- Defined a **Disaster**
- Understood challenges mobile operators face in a disaster context
- Shared regulatory practices that enable fast and more efficient response to restore networks & save lives during a disaster.
- Highlighted the role of mobile in accelerating delivery of digital humanitarian aid





# The Role of Regulators

## Coordination

In a position to co-ordination all national stakeholders for emergency situations.

## Regulation

Ensure sector resilience, compliance to standards and best practices; implement NET plans; and ensure MNOs have BCPs in place;

## Facilitation

Facilitate the needs of responders in terms of licensing and frequency allocation as well as in the importation of emergency telecom equipment.

## Innovation

Enable conducive policy environment to support innovations / testing suitable technologies for crisis situations



# Industry Recommendations in GSMA's Mobile Policy Handbook

- The GSMA consolidates its portfolio of best practice industry positions in the Public Policy Handbook – a physical and digital resource that is available to operators and telecom regulators
- GSMA policy positions are governed by the Chief Policy and Regulatory Officers Group who approve positions before they are adopted

You can find the GSMA Mobile Policy Handbook at:  
<https://www.gsma.com/publicpolicy/mobilepolicyhandbook/>



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# Thank You





## Exercise

You will work in two groups.

Tables on the left side of the room will do exercise A and tables on the right side will do exercise B.

Imagine that you work for the national telecom regulator in this specific country.

Discuss in your group what key areas you would focus on and how your organisation could help improve disaster response.



## Exercise: Country description [1/3]

It is a tropical, developing country prone to natural disasters such as earthquakes, hurricanes and floods.

It is a very scenic country and its main industry is tourism.

It is very diverse both culturally and socially and presents five languages and four different ethnic groups.

It has mountains, rivers and lowlands.

The new government, quite forward looking, has a disaster response unit managed by the armed forces but wants to set up a central disaster management unit.



## Exercise: Country description [2/3]

There are four government departments offering information on disasters:

- Meteorology: rain.
- Geology: earthquakes.
- National Information Management: disasters.
- National Building Research: landslides.

There are four operators. Their market shares are 35%, 30%, 20% and 15%.

The smart phone penetration is 48%.





## Exercise: Country description [3/3]

Two mobile operators are preparing to offer mobile money services.

A humanitarian organisation is keen to conduct a project using big data, but rules on how to use it have not yet been developed.



## Exercise A [1/2]

What are the three key disaster response priorities you would focus on?

Priority 1

Priority 2

Priority 2



## Exercise A [2/2]

**Pick one of the three priorities you have selected and discuss, as a telecom regulator:**

What support you could  
offer

What challenges you would  
expect to face



## Exercise B [1/3]

When you are about to start a disaster response project, the eastern part of the country is hit by a large scale storm causing considerable havoc and damaging basic infrastructure.

Discuss what would be the three requests you would expect to receive from mobile operators and other ICT service providers.

Request 1

Request 2

Request 3



## Exercise B [2/3]

Pick one of the three requests you have discussed and decide what you could do to respond to it.

1

2

2



## Exercise B [3/3]

What are the key challenges you would expect to face?

Challenge 1

Challenge 2

Challenge 2



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# Thank You

