# ITU Workshop on "Telecommunication Service Quality"

## Regulator measures to mitigated the impact of natural disasters

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# Topics

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# Introduction 1/3

Mozambique is one of the most vulnerable country in Africa to disaster risks, due to its geographical location. Mozambique is highly vulnerable to natural disasters, exacerbated by being in the influence zone of tropical systems that cause intense rainfall in the northern and central provinces. Tropical cyclones formed in the Southwest Indian Ocean and the Mozambique Channel lead to severe destruction of social and economic infrastructure due to strong winds and heavy rains.
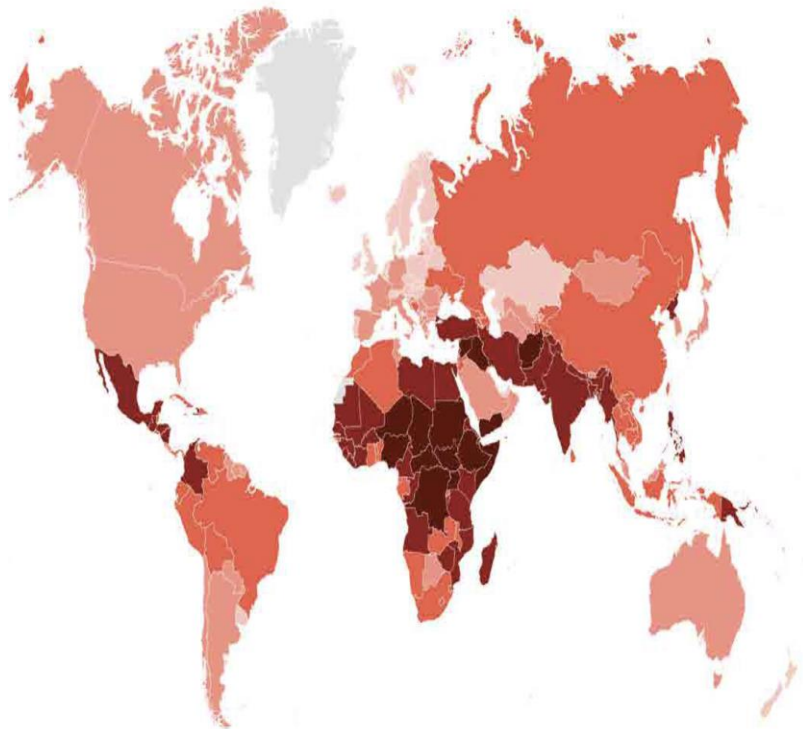
The map show risk for all the countries from humanitarian crises and disasters.

Source: European Commission

# Introduction 2/3

In 2019, the Communications sector suffered damages and total losses of approximately **49.23 million** and **1.6 million dollars** due to cyclones **IDAI** and **KENNETH**, respectively.

| # | Cyclones Names | Year |
|---|---|---|
| 1 | Nadia | 1994 |
| 2 | Bonita | 1996 |
| 3 | Eline | 2000 |
| 4 | Japhet | 2003 |
| 5 | Jokwe | |
| 6 | Dando | 2012 |
| 7 | Dineo | 2017 |
| 8 | Idai | 2019 |
| 9 | Kenneth | |
| 10 | Chalane | |
| 11 | Eloise | 2021 |
| 12 | Guambe | |
| 13 | Ana | 2022 |
| 14 | Freddy | 2023 |

# Actions Undertaken by INCM

- The two cyclones highlighted the need for establishing disaster-resilient telecommunications infrastructure, establishing mechanisms for disaster risk reduction and the requirement for effective and operational communication systems during and after disasters, ensuring the successful execution of essential and rescue services.

- The International Telecommunication Union's Strategic Plan for 2020-2023, recommends that all countries establish a National Emergency Telecommunications Plan as part of their national and local disaster risk reduction strategy by 2023.

- It was based on these premises that in 2020-2021, with the support of a World Food Program (WFP/ETC) consultant, a Proposal for a National Emergency Communications Preparedness and Readiness Plan was developed.
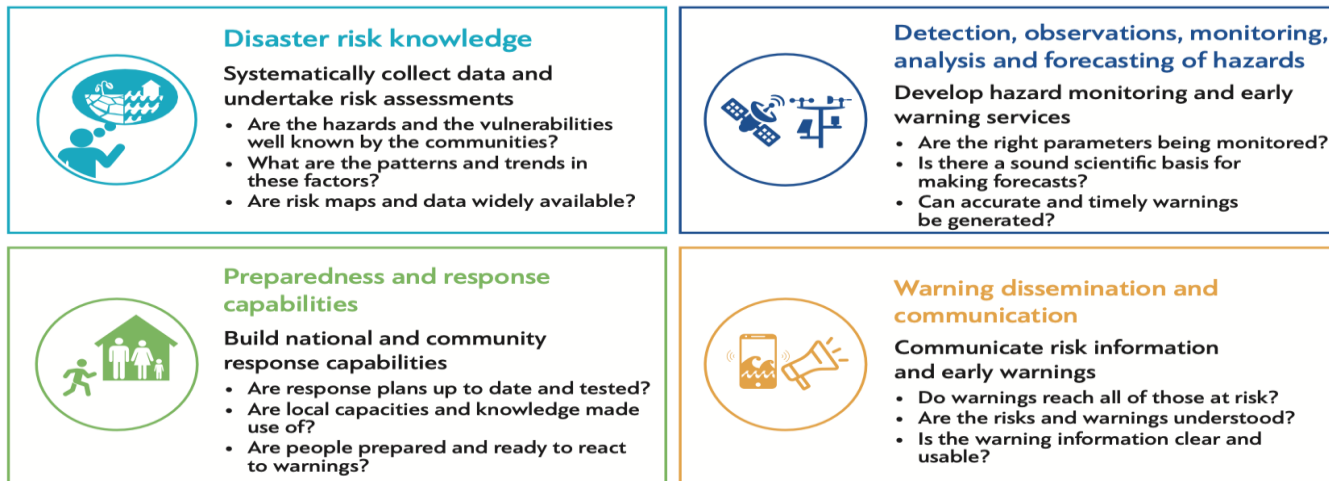
# Emergency Communications System 1/5

- Acquisition and installation of amateur radio stations in 5 (five) provincial delegations of INCM, Maputo Headquarters, Inhambane, Nampula, Cabo Delgado, and Niassa.

- The acquisition of amateur radio stations for the provinces of Tete, Sofala, and Zambézia is currently underway, with the installation expected to be completed by December.

- Additionally, 4 (four) satellite phones have been procured to support the coordination teams involved in the recovery of telecommunication networks.

Niassa

Cabo Delgado

Nampula

Tete

Zambézia

Marica

Sofala

Inhambane

Gaza

Maputo

# Emergency Communications System 2/5

Through the Early Warning 4 All (EW4A) project of the United Nations every person on Earth to be protected by early warning systems by 2027, INCM is engaged in one of its pillars, the Communications Pillar, which aims to ensure communications before an event, thereby reducing or minimizing the risk of loss of human lives and property.

Between INCM and INGD currently exists a cooperative relationship involving support with communication means and the dissemination of information about natural disasters. This includes sending messages to subscribers in affected regions or localities and providing support for satellite communications (sponsored by ITU - International Telecommunication Union).



**Disaster risk knowledge**
Systematically collect data and undertake risk assessments
- Are the hazards and the vulnerabilities well known by the communities?
- What are the patterns and trends in these factors?
- Are risk maps and data widely available?

**Detection, observations, monitoring, analysis and forecasting of hazards**
Develop hazard monitoring and early warning services
- Are the right parameters being monitored?
- Is there a sound scientific basis for making forecasts?
- Can accurate and timely warnings be generated?

**Preparedness and response capabilities**
Build national and community response capabilities
- Are response plans up to date and tested?
- Are local capacities and knowledge made use of?
- Are people prepared and ready to react to warnings?

**Warning dissemination and communication**
Communicate risk information and early warnings
- Do warnings reach all of those at risk?
- Are the risks and warnings understood?
- Is the warning information clear and usable?

# Emergency Communications System 3/5

Within the framework of the Digital Acceleration project funded by the World Bank, the process of acquiring emergency satellite communication equipment is currently underway. The set of equipment includes 30 (thirty) satellite phones, 10 (ten) BGAN (mobile satellite devices for communication and data transmission) to provide internet in critical locations, 4 (four) VSATs for inter-regional data transmission (South, Central, and North), and 6 (six) point-to-point satellite communication stations for monitoring integrated teams in the system.

The acquired equipment will be installed in the Emergency Operations Centers (CENOE) in the city of Nampula for the Northern region, in the city of Beira for the Central region, and in Maputo city for the Southern region.
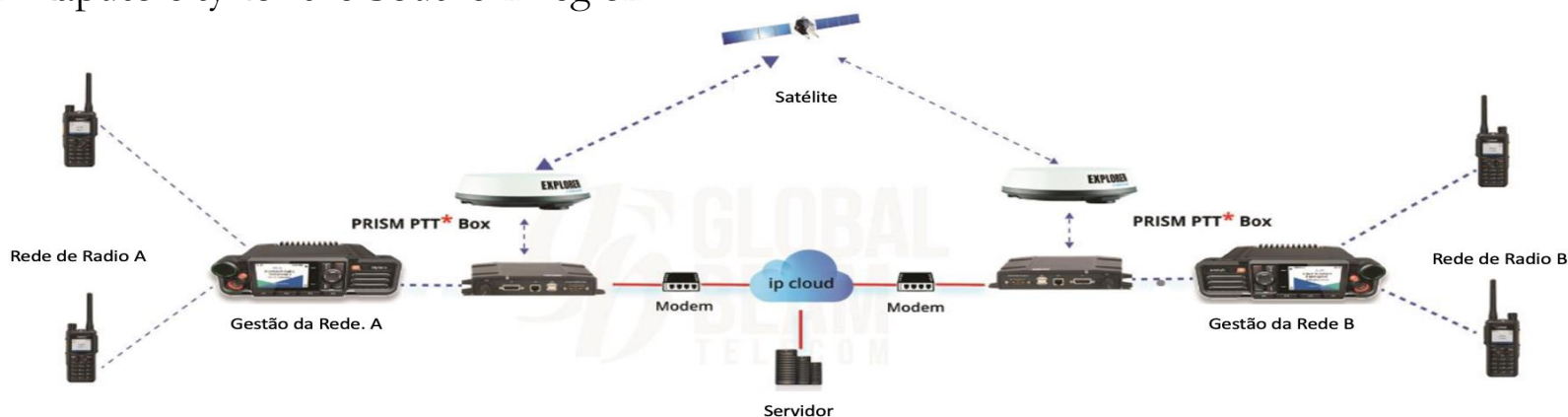
**Cloudline** will develop and test a system based on our autonomous airships on behalf of WFP to provide data connectivity in disaster-stricken areas

1 Cloudline's airships fly for several hours on a single battery charge.

2 Low level flight enables persistent area coverage with low power transmission equipment.

3 Onboard visual and infrared sensors enable safe 24-hour operations.

4 Fully autonomous flight enables scalable operations with a small deployment staff.

1-2 km signal range
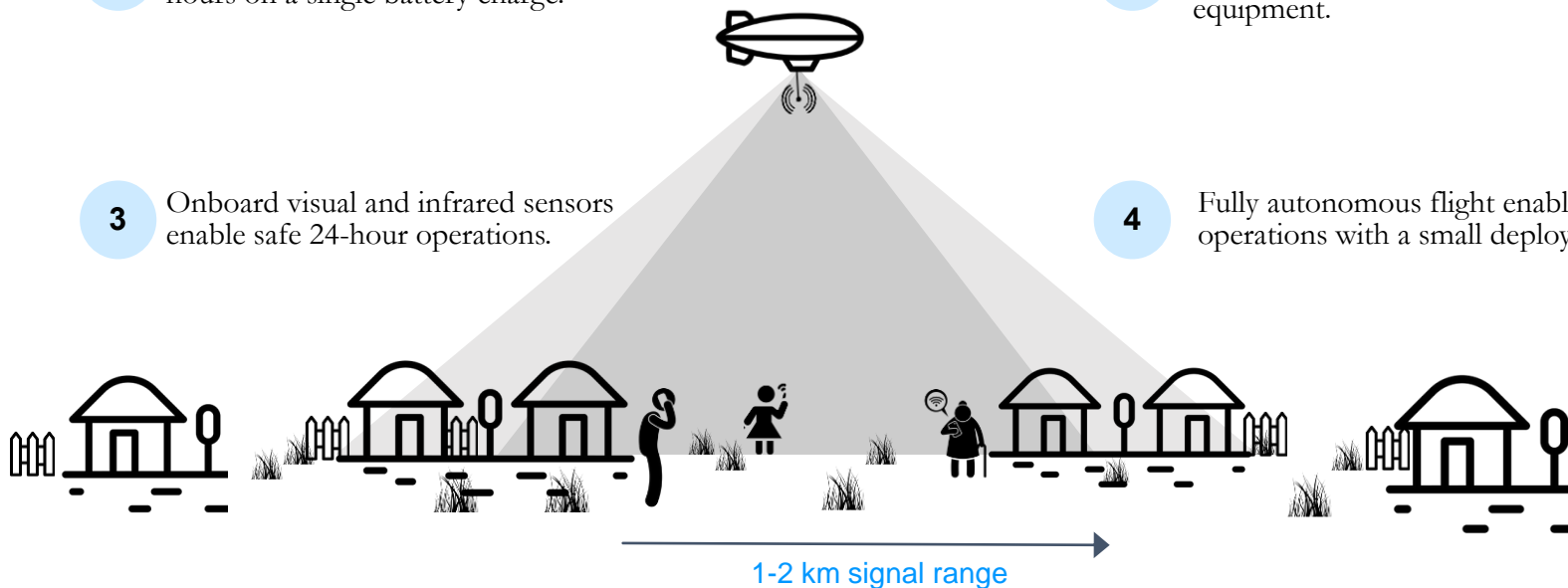
- The Regulator Lincensed Satellite broadband provider Starlink in Mozambique. SpaceX's Starlink service is became available in June 2023 for Mozambican users the hardware costs 40,492 Mozambican metical (US$634) and the monthly subscription fee is MZN3,000 (US$47);

- Starlink has proven to be a valuable contributer to provide access to communication during and after natural disaster by enabling efficient communication and connectivity;

# Regulatory Action

- Telecommunication operators providing services in the provinces affected by the calamity caused by cyclone Freddy are exempt from paying Radio Frequency Spectrum fees for stations located in the areas affected by this natural phenomenon for a period of 3 (three) months;

- Coordinate the Communication Recovery System process with EDM and operators;

- Exemption from certification and sealing fees for telecommunications equipment intended for support to victims;

# Conclusion

**1** Mozambique, due to its vulnerability, requires an integrated emergency communication system.

**2** There is a need for approval and implementation of the Emergency Communications Preparedness Plan nationwide.

**3** Establishment of an Emergency Communications Management Center for the 2024-2025 plan is recommended.

# Obrigado