



Making Cities Resilient

*UNDRR, UNOSSC, PAHO/WHO Joint Certificate Training*

# Leveraging South-South and Triangular Cooperation: Inclusive and Technological Innovations for Urban Health and Disaster Risk Reduction

*12, 19, 26 March 2025*



with support from:

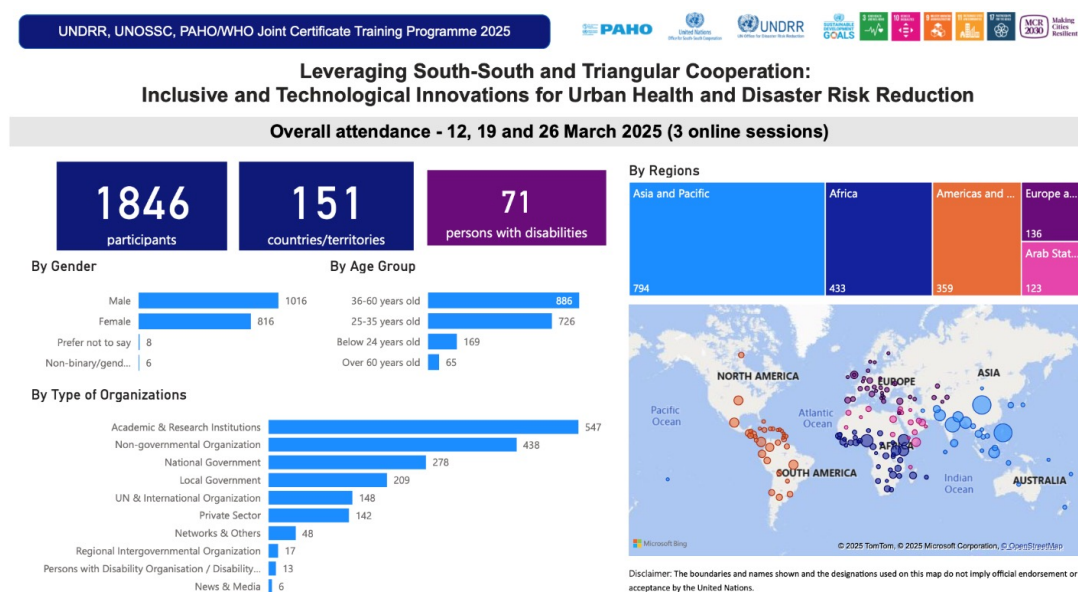


# EXECUTIVE SUMMARY

Since 2020, the United Nations Office for South-South Cooperation (UNOSSC), the United Nations Office for Disaster and Risk Reduction (UNDRR) Global Education and Training Institute (GETI), and the Pan American Health Organization (PAHO/WHO) have jointly organized five certificate online training programs. These programs focused on leveraging South-South and triangular cooperation (SSTC), disaster risk reduction (DRR), and integrating health emergency response and preparedness into building resilient cities and societies, addressing various phases of the COVID-19 pandemic, including outbreak response, emergency management, and recovery.

The recently concluded 5th edition, entitled **“Leveraging South-South and Triangular Cooperation: Inclusive and Technological Innovations for Urban Health and Disaster Risk Reduction”**, consisting of three online sessions, was held on the 12, 19 and 26 March 2025.

The first session, led by UNDRR-GETI on 12 March, focused on the inclusion of persons with disabilities in disaster risk reduction. It became evident that building resilient cities and urban environments requires going beyond structural approaches. The second session, held on March 19 and led by PAHO/WHO, focused on inclusive disaster risk management of older persons and people with disabilities in health emergencies in urban settings, reaffirming that older persons and persons with disabilities should be recognized not only as recipients of protection, but as active agents of resilience, building on their knowledge and experience. The third session, led by UNOSSC on 26 March, showcased technological solutions from six countries and highlight how these technological advancements and cooperation are transforming disaster preparedness and response in developing countries, particularly through South-South and triangular cooperation (SSTC).



Overall, the 5th training received more than 3,200 online registrations. 1,846 participants joined the three live sessions from over 700 cities in 151 countries and territories, with 44% female participants. Among all, 71 participants reported as being people living with disabilities.

Around 26 percent participants were from national and local governments, 30 percent from academia and research institutions, 24 percent from non-governmental organizations, 8 percent from UN & international organizations, and another 8 percent from the private sector.

By the end of the course, 1,174 people responded to the post-training survey. Among them, 93 percent reported having gained new knowledge and understood key concepts on urban disaster risk management, health emergency, and SSTC. 777 participants completed all mandatory requirements and were granted certificates of completion.

The training series (2020-2025) has been highly successful, attracting over 11,000 live session participants and over 6,500 self-paced learners from 155 countries and territories.

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## **DISCLAIMER**

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# ***ABOUT ORGANIZERS***

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## **UNOSSC and the GSSDC II Project**

The United Nations Office for South-South Cooperation (UNOSSC) was established by the United Nations General Assembly in 1974 with a mandate to advocate for and coordinate South-South and triangular cooperation on a global and UN system-wide basis.

UNOSSC, hosted by the United Nations Development Programme (UNDP) since its establishment, receives policy directives and guidance from the General Assembly and through its subsidiary body, the High-level Committee on South-South Cooperation. UNOSSC submits its strategic planning frameworks to the UNDP, UNFPA, and UNOPS Executive Board for approval and funding.

The Global South-South Development Center (GSSDC) is a flagship initiative of the UNOSSC, funded by the Government of China, under the framework of the UN Fund for South-South Cooperation (UNFSSC). It was launched in 2009 in partnership with the China International Center for Economic and Technical Exchanges (CICETE).

The GSSDC Phase II (2025-2030) seeks to leverage the technical expertise and resources of the China South-South Cooperation Network (CSSCN) to advance practical and technological cooperation, capacity development, knowledge exchange and network-building, while promoting South-South and triangular cooperation among cities and sub-national entities globally.

## UNDRR

The UN Office for Disaster Risk Reduction (UNDRR, formerly known as UNISDR) was established in 1999 and serves as the focal point in the United Nations System for the coordination of disaster risk reduction. It supports the implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030, which maps out a broad people-centered approach towards achieving a substantial reduction in disaster losses from natural and man-made hazards and a shift in emphasis from disaster management to disaster risk management. Overseeing the implementation of the Sendai Framework, supporting countries in its implementation, monitoring, and sharing what works in reducing existing risks and preventing the creation of new risks, UNDRR brings governments, partners, and communities together to reduce disaster risk and losses to ensure a safer, more sustainable future. UNDRR also coordinates the Making Cities Resilient 2030 (MCR2030), a global coalition of practitioners, thought-leaders, financiers and donors, policymakers, technical agencies, and networks with a collective commitment to contributing towards strengthening local resilience and delivery of the 2030 Agenda, and the ARISE private sector network committed to risk-informed development, disaster risk reduction, and preparedness action.

In 2010, the UNDRR Global Education and Training Institute (GETI) was established to develop a new cadre of professionals in disaster risk reduction and climate change adaptation to build disaster resilient societies. GETI has a global mandate to provide capacity building support to mainstream disaster risk reduction and climate change adaptation into sustainable development; convene and support inter-city learning to strengthen resilience (Making Cities Resilient); and to provide capacity building and best practice sharing support to national training institutions working on resilience issues. Based in Incheon, the Republic of Korea, UNDRR GETI is also the global secretariat of the Making Cities Resilient 2030 (MCR2030).

## PAHO

The Pan American Health Organization (PAHO) is the first multilateral health agency. Established in 1902, its founding objective was to respond to disease threats associated with increasing trade among countries in the Americas. PAHO is the specialized international health agency for the Americas. It works with countries throughout the region to improve and protect people's health. PAHO wears two institutional hats: it is the specialized health agency of the Inter-American System and also serves as the Regional Office for the Americas of the World Health Organization (WHO), the specialized health agency of the United Nations.

PAHO engages in technical cooperation with its member countries to fight communicable and non-communicable diseases and their causes, to strengthen health systems, and to respond to emergencies and disasters. PAHO is committed to ensuring that all people have access to the health care they need, when they need it, with quality and without fear of falling into poverty. Through its work, PAHO promotes and supports the right of everyone to good health.

To advance these goals, PAHO promotes technical cooperation between countries and works in partnership with ministries of health and other government agencies, civil society organizations, other international agencies, universities, social security agencies, community groups, and other partners. PAHO promotes the inclusion of health in all public policies and the engagement of all sectors in efforts to ensure that people live longer, healthier lives, with good health as their most valuable resource. PAHO promotes evidence-based decision-making to improve and promote health as a driver of sustainable development.

In the emergency area, PAHO Health Emergencies Department works with countries to increase the health sector's resilience to emergencies and disasters. PAHO's priority is to deliver rapid, predictable, and comprehensive support to the Member States in terms of prevention, risk reduction, preparedness, surveillance, response, and early recovery in case of any threat to human health, including outbreaks or disasters caused by natural phenomena, biological, chemical or radiological agent, human activities, conflicts or any other hazard.

# TRAINING INTRODUCTION

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Resilient and inclusive cities are key to achieving global commitments such as the 2030 Agenda for Sustainable Development, the Sendai Framework for Disaster Risk Reduction, and the Paris Agreement on Climate Change. These cities ensure no one is left behind by actively involving all community members, particularly marginalized groups like persons with disabilities, older persons, among others in resilience planning and decision-making. The Sendai Framework emphasizes that inclusive disaster risk reduction (DRR) is essential for effective risk management, while the 2030 Agenda highlights the importance of inclusivity in achieving Sustainable Development Goal 11, which aims to make cities inclusive, safe, resilient, and sustainable. The Pact for the Future (2024) further underscores the need to empower all individuals, regardless of their background, to contribute meaningfully to the design and implementation of urban resilience strategies.

Technological solutions play a crucial role in disaster risk reduction and management by enhancing early warning systems, real-time monitoring, and rapid response capabilities. Countries and cities are increasingly adopting and sharing innovative solutions, such as satellite-based remote sensing, AI-powered predictive analytics, and IoT-enabled sensors, to detect hazards and improve disaster preparedness. Collaborative initiatives, including joint research, technology transfers, and capacity-building programs, enable developing countries to leverage cost-effective, context-specific innovations. Mobile applications, digital communication platforms, and drone technology—often co-developed through South-South and Triangular Cooperation—enhance response efforts, fostering resilience and data-driven decision-making across at-risk regions.

In addition to these principles, South-South and Triangular Cooperation (SSTC) offers valuable opportunities to foster knowledge sharing, capacity building, and technology exchange among countries in the Global South. The Buenos Aires outcome document of BAPA+40 (2019) underscores the role of local authorities, women, and youth in advancing South-South and Triangular Cooperation and promoting inclusive societies to achieve sustainable development. By leveraging South-South and Triangular Cooperation, cities can adopt innovative solutions to address disaster risks, including the use of technology for early warning systems, data analytics, and inclusive infrastructure design. This approach aligns with global efforts, such as WHO's Healthy Cities initiative, which integrates public health into urban planning to enhance resilience, inclusivity, and well-being. Through South-South and Triangular Cooperation, the use of technology, and a focus on inclusivity, cities can strengthen their disaster risk reduction capacities and better prepare for challenges such as climate change, urbanization, and other emerging risks.

## Course Objective:

This training served as an introductory training for urban leaders, planners, and practitioners, aiming to:

- **Increase awareness and understanding** for managing complex urban disaster risks, health emergencies, and disaster risk management, leveraging technology, and facilitating South-South and Triangular Cooperation;
- **Introduce useful concepts and tools** to strengthen inclusion, especially the inclusion of persons with disabilities and older persons in urban disaster risk management;
- **Better prepare city stakeholders** and engage them in making cities resilient and inclusive for future crises, health and non-health emergencies and uncertainties;
- **Facilitate learning** through South-South and Triangular Cooperation and sharing of experience;
- **Inspire and motivate whole-of-society to play a key and active role** in securing resilient, inclusive and sustainable urban futures.

## Expected Outcome:

By the end of this training, participants should be able to:

- **Describe** disaster risk reduction, health emergency and disaster risk management, South-South and Triangular Cooperation, use of technology, and the whole-of-society approach for creating inclusive, resilient and healthy cities;
- **Apply concepts and tools** such as the Disaster Resilience Scorecard for Cities – Annex on the Inclusion of Persons with Disabilities, the Disability Inclusion in Hospital Disaster Risk Management Tool (INGRID-H), and health facilities strategic risk assessment;
- **Provide examples** of good practices and relevant solutions by local government authorities and diverse stakeholders in inclusive and technology-driven disaster risk reduction, health emergency response preparedness, and South-South and Triangular Cooperation.

## Targeted Audience:

Local and national government officials in charge of disaster risk reduction and management, urban development and planning and public health emergency preparedness, national associations of municipalities, urban resilience and development practitioners, as well as civil society, private sector, and academia.

The course was open to all participants from both developed and developing countries. Participants from least developed countries (LDCs), landlocked developing countries (LLDCs) and small island developing states (SIDs) were highly encouraged.

# SESSION 1

## Inclusion of Persons with Disabilities in Disaster Risk Reduction

### Opening Remarks:



**Piedad Huerta Arneros**  
Chief  
Office of Country and  
Subregional Coordination  
PAHO/WHO



**Dima Al-Khatib**  
Director  
UN Office for South-  
South Cooperation  
(UNOSSC)



**Kamal Kishore**  
Special Representative of  
the UN Secretary-General  
for Disaster Risk  
Reduction and Head of  
UNDRR



**Sanjaya Bhatia**  
Head of Global Education  
and Training Institute  
(GETI), UNDRR

### Speakers:



**Carlos Kaiser Mansilla**  
Executive Director  
ONG Inclusiva



**Mutarika Pruksapong, PhD**  
Programme Management  
Officer, Global Education  
and Training Institute  
(GETI), UNDRR



**Bianca D. Perez**  
Department Head of  
Quezon City Disaster Risk  
Management Office,  
Philippines



**Maria Elena Opazo**  
Director of Disaster Risk  
Management Department,  
Pudahuel Municipality,  
Chile

The primary focus of the session was to introduce concepts and frameworks on disaster risk reduction and urban resilience with a focus on disability inclusive disaster risk reduction (DiDRR). The session also introduced the Disaster Resilience Scorecard for Cities – Annex for the Inclusion of Persons with Disabilities and its application, highlighting practice examples from local governments that have applied this Scorecard and advanced on DiDRR. The session ended with a mini-quiz and introduction to Session 2.

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- Recording available at: <https://www.youtube.com/watch?v=ISODs2SVn9U>
  - Slides available at: <https://www.undrr.org/event/undrr-unOSSC-paho2025>
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## Opening Remarks



*Piedad Huerta Arneros*  
Source: PAHO/WHO

### **PIEDAD HUERTA ARNEROS**

*Head, Office of Country and Subregional Coordination, PAHO/WHO*

"This training programme embodies the principles of the Sendai Framework for Disaster Risk Reduction, which explicitly calls for an inclusive approach that considers the needs of all populations and groups. Through South-South and Triangular Cooperation, we can share valuable lessons and innovative approaches that ensure no one is left behind when disaster strikes."



*Dima Al-Khatib*  
Source: UNOSSC

### **DIMA AL-KHATIB**

*Director, UNOSSC*

"South-South Cooperation fosters collaboration amongst developing countries by facilitating knowledge exchange, technical cooperation and resource sharing to achieve mutual development goals."



*Kamal Kishore*  
Source: UNDRR

### **KAMAL KISHORE**

*Special Representative of the UN Secretary-General for Disaster Risk Reduction and Head of UNDRR*

"We must ensure that there are mechanisms to engage with at-risk groups and to capture their needs in planning processes. This is why UNDRR developed and piloted the Annex for the Inclusion of Persons with Disabilities, as part of our Disaster Resilience Scorecard for Cities. We invite all local governments to utilize this tested tool."

## Technical Presentations

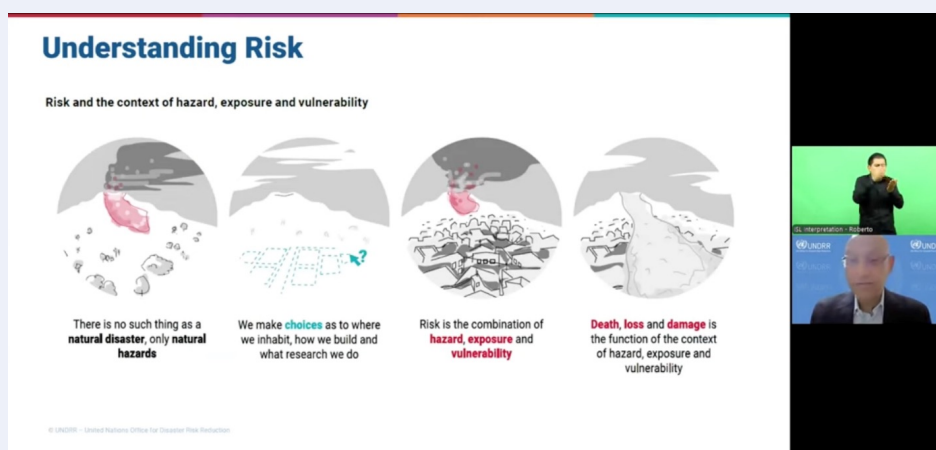
# Introduction to Disaster Risk Reduction (DRR), Urban Resilience and Making Cities Resilient 2030 (MCR2030)

## SANJAYA BHATIA

*Head of Global Education and Training Institute (GETI), UNDRR*

This presentation offered a comprehensive introduction to the concepts of disaster risk reduction (DRR) and urban resilience. It highlighted that disasters are not natural but are a result of interaction of hazards, exposure, and vulnerability. The presentation explored how intensifying risks, rapid urbanization, climate change, and governance challenges can increase vulnerability, making resilience—a system's ability to absorb and recover from hazards—critical. The Sendai Framework for Disaster Risk Reduction 2015–2030 was presented as a global framework supporting member states in reducing disaster risks and losses, aiming for risk-informed sustainable development.

Additionally, Sanjaya Bhatia introduced the Making Cities Resilient 2030 (MCR2030), a successor initiative of the previously known Making Cities Resilient campaign and provided a structured roadmap for cities to advance their resilience through progressive stages—Stage A awareness raising, Stage B improved planning, and Stage C implementing and mainstreaming DRR strategies into urban development. Tools like the Disaster Resilience Scorecard for Cities are offered to support cities in strengthening DRR planning and fostering partnerships. Cities are encouraged to share experience and knowledge to peer cities. The initiative supported cities in aligning with SDG 11 (Sustainable and Resilient Cities) and promoted local-level governance, data-driven decision-making, and a whole-of-society approach to risk reduction.



*Presentation by Sanjaya Bhatia on DRR, Urban Resilience and MCR2030*

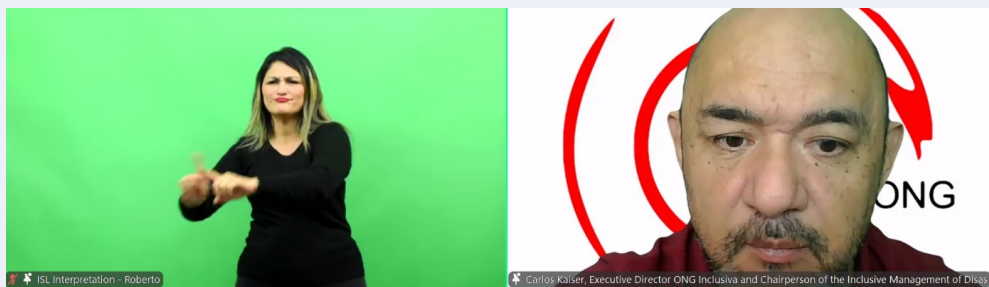
## Disability Inclusive Disaster Risk Reduction (DiDRR)

### CARLOS KAISER MANSILLA

*Executive Director, ONG Inclusiva*

The presentation focused on the critical importance of Disability Inclusive Disaster Risk Reduction (DiDRR). Carlos Kaiser Mansilla emphasized the necessity of integrating disability inclusion into DRR frameworks by promoting the meaningful participation of persons with disabilities at every stage of planning and implementation.

Guided by the principle of “Nothing about us without us,” his presentation underscored how inclusive approaches not only benefit persons with disabilities but also enhance the overall resilience of communities.



*Presentation by Carlos Kaiser Mansilla*

# Applying Disaster Resilience Scorecard for Cities – Annex for the Inclusion of Persons with Disabilities

## MUTARIKA PRUKSAPONG, PHD

*Programme Management Officer, Global Education and Training Institute (GETI), UNDRR*

Mutarika Pruksapong, PhD, introduced the Disaster Resilience Scorecard for Cities, with a particular focus on its Annex for the Inclusion of Persons with Disabilities. The Scorecard Annex is a self-assessment tool to support local governments in the design, formulation, and implementation of policies that include persons with disabilities in disaster risk reduction (DRR). It is based on two cross-cutting principles: meaningful participation and accessibility, and alignment with the Convention on the Rights of Persons with Disabilities (CRPD). The Scorecard includes 19 indicators aligned with the “Ten Essentials for Making Cities Resilient,” each scored from 0 to 3. The accompanying Excel tool enables local authorities to self-assess their efforts, identify gaps, propose improvement actions, assign responsibilities, and set timelines. Participants were encouraged to apply what they learned by assessing their own cities using a few of the indicators during the session.

**Steps in using the Scorecard Excel Tool**

**DISASTER RESILIENCE SCORECARD FOR CITIES** (Annex for the Inclusion of persons with disabilities V1.0)

**ESSENTIAL 2: IDENTIFY, UNDERSTAND AND USE CURRENT AND FUTURE RISK SCENARIOS**  
Addendum - Inclusion of persons with disabilities in disaster risk scenarios

Question	Response	Comments	Responsible Institution
Does the local plan contain information on the population of persons with disabilities and does it include measures to mitigate the negative impact that a disaster could have on them, including impacts resulting from possible cascading failures?	<p>1. Question/Indicator</p> <p>3. Response section: select an appropriate answer based on your city's situation</p>	<p>2. These comments provide additional explanation about the question</p> <p>4. Provide explanation and supporting evidence for why you select a particular score. Identify also a gap area you identified which should be improved</p>	<p>5. Identify potential actions to help you improve the gap identified</p> <p>6. Identify responsible institution to lead this action</p> <p>7. Identify timescale to complete this action</p>

*Presentation by Mutarika Pruksapong, PhD, on Applying Disaster Resilience Scorecard for Cities*

The presentation also highlighted the findings from the pilot application of the Disability Inclusion Scorecard in cities in 2023 that cities score an average of 1.23 out of 3 in advancing disability inclusion in local DRR efforts, revealing that there are still a considerable room for improvement in this area. A few common gaps were also presented including the absence of disaggregated data, limited knowledge, and the lack of designated focal points supporting disability inclusion. The session concluded with the message that the DRR planning and implementation process must be inclusive, involving not only local government officials, but also stakeholders including persons with disabilities themselves.

## Case examples from Quezon City

### MA. BIANCA D. PEREZ

*Department Head of Quezon City Disaster Risk Management Office, the Philippines*

Ma. Bianca D. Perez presented practical case studies on disability inclusion in disaster risk reduction implemented at Quezon City's local government level. Opening with an overview of the city's demographic context regarding persons with disabilities, she specifically addressed their heightened vulnerabilities during disasters. The presentation documented the city's application of the Disability Inclusion Scorecard, revealing critical gaps across four key areas: financial inclusion, institutional capacity, infrastructure resilience, and post-disaster recovery systems.



*Presentation by Ma. Bianca D. Perez on  
Quezon City's Initiative for Community Inclusive Disaster Preparedness*

Quezon City has launched a comprehensive initiative focused on making disaster preparedness more inclusive for persons with disabilities. With a population of over 3.2 million, the city has recognized the need to incorporate the specific needs of nearly 84,000 persons with disabilities across all six districts. Using the Disability Inclusion Scorecard, the city assessed gaps in financial inclusion, institutional capacity, infrastructure resilience, and recovery. As part of the MCR2030 initiative, the city leverages the Sendai Framework to enhance its disaster risk reduction plans and ensure that no one is left behind in crisis response and recovery.

To support this inclusive approach, Quezon City has allocated substantial budgets from 2024 to 2026 to fund assistive devices, training sessions, and community-based programs. These include the distribution of prosthetics, hearing aids, and E-Braille units, as well as the implementation of child-centered disaster risk reduction training, abuse awareness workshops, and hazard preparedness seminars for children with disabilities and their families. Despite challenges such as limited resources and accessibility issues in early warning systems, the city is committed to improving infrastructure, strengthening community engagement, and integrating disability-inclusive strategies into its disaster risk reduction and management framework.

## Case examples from Pudahuel Municipality

### MARIA ELENA OPAZO

*Director of Disaster Risk Management Department, Pudahuel Municipality, Chile*

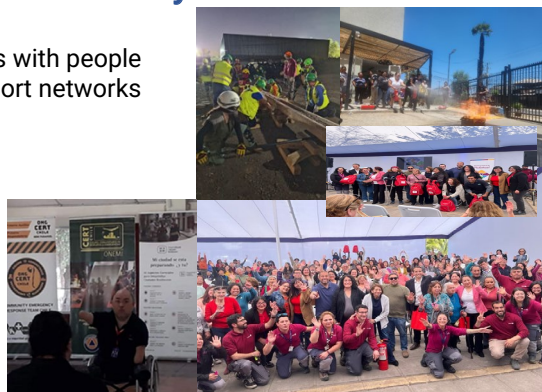
Maria Elena Opazo provided insights to Pudahuel's experiences in implementing the Disability Inclusion Scorecard in Spanish. The presentation detailed how the tool has been integrated into municipal disaster risk management processes to enhance the inclusion of persons with disabilities.

Pudahuel is experiencing rapid urban expansion, with its population projected to grow from nearly 300,000 today to over 1.2 million by 2030. The city faces heightened disaster risks, including earthquakes, floods, wildfires, and extreme weather. Among its residents, 20,717 individuals (8,091 men and 12,626 women) live with disabilities, with 50% falling into vulnerable economic brackets. Such growth poses complex challenges for disaster preparedness and equitable service delivery. The municipality's initial scorecard assessment revealed progress in community-driven emergency planning, but also show significant gaps such as insufficient funding for early warning systems, personnel training, and inclusive building code enforcement. Instead of being discouraged, the municipality found that the scorecard results prompted a strategic effort to improve institutional mechanisms for inclusion.

The presentation highlighted how the scorecard process provided a structured way to identify weaknesses in planning, coordination, and data. In response, the municipality updated its emergency protocols, developed inclusive community emergency plans, and established local Disaster Risk Management Committees with the participation of organizations of persons with disabilities (OPDs). These committees now meet quarterly and serve as a platform for both planning and simulation exercises.

### DiDRR Activities in the city

Community preparedness with people with disabilities and support networks



*Presentation by Maria Elena Opazo*

## Mini-Quiz & Wrap up

### MUTARIKA PRUKSAPONG, PHD

*Programme Management Officer, Global Education and Training Institute (GETI), UNDRR*

### SANJAYA BHATIA

*Head of Global Education and Training Institute (GETI), UNDRR*

A mini-quiz was conducted at the end of Session 1 to support participants in drawing key takeaways from the session. The quiz consisted of 5 questions. The questions helped test the participants' understanding, ranging from the concept of disability inclusion, the use of the Scorecard Annex for the Inclusion of Persons with Disabilities, and also what cities can do to become more inclusive.

Session 1 was concluded by the session moderator, Sanjaya Bhatia, with key takeaways and the introduction of the next session.



Mini-quiz

# SESSION 2

## Building Resilient and Inclusive Cities: Addressing Health Emergencies and Disaster Risks for the Older People and Persons with Disabilities

### Opening Remarks:



**Dr. Ciro Ugarte**  
Director, Health Emergencies Department, PAHO/WHO

### Closing Remarks:



**Piedad Huerta Ameros**  
Head, Office of Country and Subregional Coordination, PAHO/WHO

### Hosts



**Dr. Alex Camacho Vasconez**  
Disaster Risk Reduction, Unit Chief a.i. Health Emergencies Department, PAHO/WHO



**Dr. Qudsia Huda**  
Head, Disaster Risk Management and Resilience, WHO HQ, Geneva



**Monica Schoch-Spana, PhD**  
Director, Community Health Degree Program, Texas A&M University, San Antonio - Texas, USA



**Marian Urbina, PhD**  
Country Program Advisor, Office of Country and Subregional Coordination, PAHO/WHO

### Part 1 - Addressing Health Emergencies and Disaster Risks for Older People



**Ambassador Luis Gallegos Chiriboga**  
Chair, Global Initiative for Aging, Ecuador



**Moderated by Dr. Enrique Vega**  
Unit Chief, Life Course Health Systems and Services, PAHO/WHO

### Part 2 - Critical Infrastructure in Cities: Resilient Hospitals to health emergencies and disasters



**Hamid Ravaghi, PhD**  
Regional Advisor for Hospital Care and Management, Department of UHC/Health Systems, WHO EMRO



**Dr. Felipe Cruz Vega**  
Head, Coordination of Special Projects in Health of the Medical Benefits Direction, Mexican Social Security Institute



**Moderated by Marcie Roth**  
Executive Director/CEO, World Institute on Disability



**Umamaheshwaran Rajasekar, PhD**  
Advisor - Urban Resilience, Coalition for Disaster Resilient Infrastructure (CDRI)



**Ratnesh Kumar, PhD**  
Lead Specialist - Knowledge Management, CDRI

Led by PAHO/WHO, this session focused on introducing frameworks, key concepts, and tools for health emergency and disaster risk management in cities and urban settings, with particular attention to the roles of older people and persons with disabilities. It also highlighted the importance of a Resilient Hospital and health/care facilities approach to effectively manage health emergencies and disaster risks in various settings, including health/care facilities and long-term care institutions, while emphasizing disability inclusion in disaster risk management.

- Recording available at: <https://www.youtube.com/watch?v=rlf02D-wQfs>
- Slides available at: <https://www.undrr.org/event/undrr-unossc-paho2025>

## Panel Opening



*Dr. Ciro Ugarte*  
*Source: PAHO/WHO*

### **DR. CIRO UGARTE**

*Health Emergencies Director, PAHO/WHO*

Dr. Ciro Ugarte welcomed participants and emphasized the urgent need to address the disproportionate impact of health emergencies and disasters on populations in vulnerable situations, particularly the older persons and people with disabilities. He discussed global challenges such as rapid urbanization, aging populations, increasing extreme weather events, and biological hazards. Reflecting on the gaps exposed by COVID-19, he stressed the importance of integrating disaster risk into health and aging policies and ensuring that health infrastructure remains accessible and operational during crises.

He called for strengthened international collaboration and the adoption of resilient and sustainable models like the Safe and Smart Hospitals initiatives, urging all participants to actively engage and prepare for a more inclusive and resilient future.

## Technical Presentations

### Part 1: Addressing Health Emergencies and Disaster Risks for Older People

#### DR. ENRIQUE VEGA

*Unit Chief, Life Course, Health Systems and Services, PAHO/WHO*

Dr. Enrique Vega played a pivotal role in guiding the discussion and ensuring its alignment with the theme of prioritizing older populations in disaster risk management. He opened the dialogue by framing the importance of inclusivity, introduced panelists, and facilitated smooth transitions between speakers. He also managed time constraints to balance presentations with audience engagement, directing critical questions to panelists and synthesizing their insights.

Through his negotiation, the session bridged technical expertise with practical policy discourse, emphasizing the role of health systems in safeguarding vulnerable groups during emergencies.



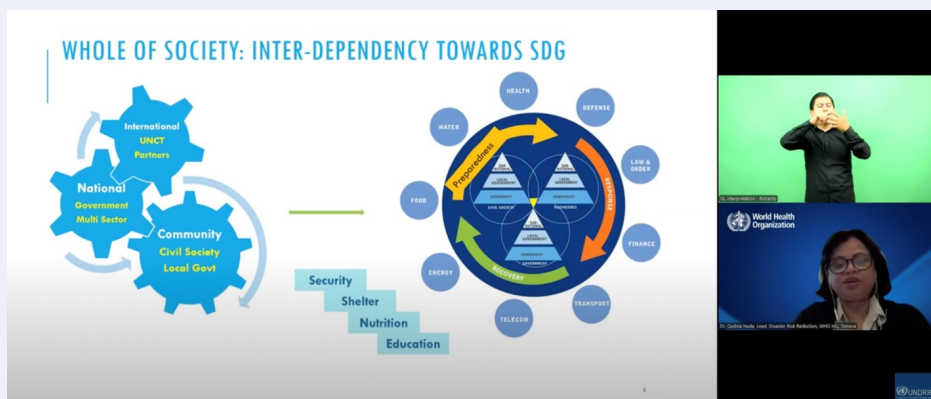
*Panel Discussion during Session 2*

# Health Emergency Disaster Risk Management Leaving No One Behind

## DR QUDSIA HUDA

*Head, Disaster Risk Management and Resilience Unit, WHO HQ, Geneva*

Dr. Qudsia Huda advocated for a human rights-based approach to disaster risk management, emphasizing inclusivity, equity, and resilience in health emergency planning. At the heart of her presentation was the principle of “Leaving No One Behind,” ensuring that the most vulnerable—particularly older adults and marginalized communities—have equitable access to information, services, and resources in all phases of disaster preparedness and response. Her message was aligned with global frameworks such as the UN Decade of Healthy Ageing and the Sustainable Development Goals, particularly those targeting poverty, hunger, and sustainable cities.



*Presentation by Dr. Qudsia Huda*

She outlined the growing complexity of the global disaster landscape, marked by the interplay of climate change, conflict, pandemics, and forced displacement. Dr. Huda warned that these concurrent risks have compounded impacts on health systems, leading to loss of life, service disruptions, and weakened infrastructure. In response, she called for a whole-of-society, multi-sectoral strategy that integrates the efforts of governments, communities, civil society, and international agencies. Her presentation highlighted that key sectors—including health, education, and nutrition—must work collaboratively to strengthen resilience and deliver comprehensive disaster responses.

Dr. Huda also stressed the importance of turning policy into action through inclusive, all-hazards planning. She emphasized critical steps such as capacity building, early warning systems, sustainable financing, and the inclusion of elderly populations in all humanitarian strategies.

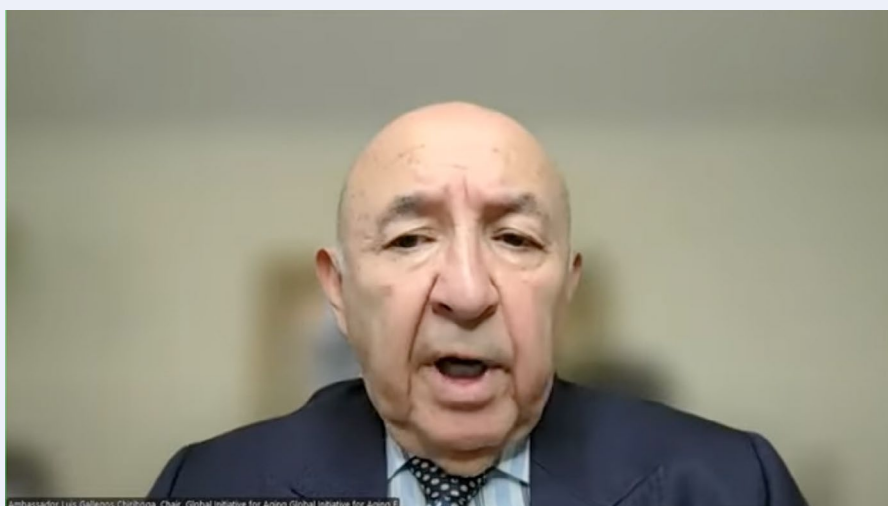
## The Global Initiative for Aging

### LUIS GALLEGOS CHIRIBOGA

*President, Global Initiative for Aging (GIA), Ecuador*

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Ambassador Luis Gallegos Chiriboga emphasized the urgent need for a rights-based approach to aging and disaster risk reduction. Drawing from his experience as chair of the negotiations for the Convention on the Rights of Persons with Disabilities (CRPD), he highlighted the intersection between aging and disability. As people age, 65% will experience some form of disability, making it a growing concern for global policy. With the aging population expected to reach 2 billion by 2050, and affecting up to 6 billion people when caregivers and related stakeholders are considered, this demographic shift presents a historic and complex challenge. He challenged the lack of proactive public policy measures by governments and emphasized the need for structural change to meet the coming demands.



*Luis Gallegos Chiriboga presenting during Session 2*

He also noted the growing threats to inclusion in today's global political climate and stressed the importance of continuing to build inclusive societies where older persons are integrated into political, economic, and social life.

Furthermore, he welcomed recent developments at the UN Human Rights Council to establish a working group aimed at drafting a new international convention on the rights of older persons, following the model of the CRPD. He concluded by underscoring the importance of integrating advanced technologies like artificial intelligence into aging-related policy and practice, and called for enhanced South-South and triangular cooperation to address the capacity and resource gaps in disaster risk management. His message was clear: the challenges of aging populations must be tackled with urgency, inclusion, and a strong foundation in human rights.

# Key Considerations in Health Disaster Risk Reduction for Older Persons

## MONICA SCHOCH-SPANNA, PHD, CPH

*Professor and Director of Community Health, Department of Health and Behavioral Sciences  
Texas A&M University*

Monica Schoch-Spanna, PhD, highlighted the growing urgency of disaster risk reduction tailored to older adults, given the rapid global aging trend. By 2050, the population aged 60 and over was projected to double, with those aged 80+ expected to triple. This demographic shift demanded specific attention in emergency preparedness and response planning. Older individuals faced distinct vulnerabilities throughout disaster phases—from limited mobility and sensory impairments during evacuation, to heightened risks during sheltering-in-place, and systemic obstacles in recovery due to age discrimination and social isolation.

The image shows a presentation slide titled "Takeaways" with a list of four bullet points. To the right of the text is the Texas A&M University San Antonio logo. Below the text are two video thumbnails: the top one shows a woman in a green background, and the bottom one shows a woman with glasses. A small UNCRS logo is visible in the bottom right corner of the video thumbnails.

**Takeaways**

- Every country in the world is experiencing growth in both the size and the proportion of older persons in the population
- Older persons face challenges in processing and acting on risk and warning information (including evacuation and shelter-in-place)
- Various factors place older persons at higher risk of injury, mortality, and morbidity
- Age and senior status are sources of resilience: having perspective on hard times, sharing wisdom/experience, volunteering

*Presentation by Monica Schoch-Spanna, PhD*

Her analysis outlined a spectrum of challenges older adults faced during disasters, emphasizing both physical and systemic barriers. Evacuation was often hampered by limited transport options for nursing homes, reliance on medical devices, and isolation. During disasters, power outages and disrupted care services further endangered seniors, especially those with chronic illnesses or functional limitations. Post-disaster recovery was often complicated by bureaucracy, limited access to aid, and cultural stigma. Case studies like Hurricane Harvey and the Tōhoku tsunami illustrated how aging populations were disproportionately affected—but also demonstrated remarkable resilience.

Schoch-Spanna advocated for inclusive planning that recognized older adults not only as vulnerable but also as valuable community assets. She recommended integrating access and functional needs into all stages of disaster management, improving nursing home protocols, and simplifying recovery processes.

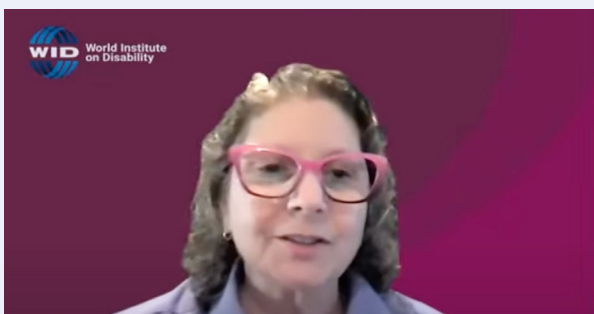
## Part 2

### Critical Infrastructure in Cities: Resilient Hospitals to health emergencies and disasters

#### MARCIE ROTH

*Executive Director/CEO, World Institute on Disability, United States of America*

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*Marcie Roth moderating Session 2*

Marcie Roth emphasized the urgent need for disability-inclusive disaster risk reduction in her remarks. Drawing on her extensive experience since 2001, she highlighted that over 1.3 billion people with disabilities globally must be considered not only as recipients of aid but as contributors and leaders in disaster preparedness and resilience. She underscored the importance

of principles such as universal accessibility, sustainability, and the whole-community approach, advocating for “Nothing about us without us” and adding “Nothing without us” to reinforce the value of leadership by people with disabilities.

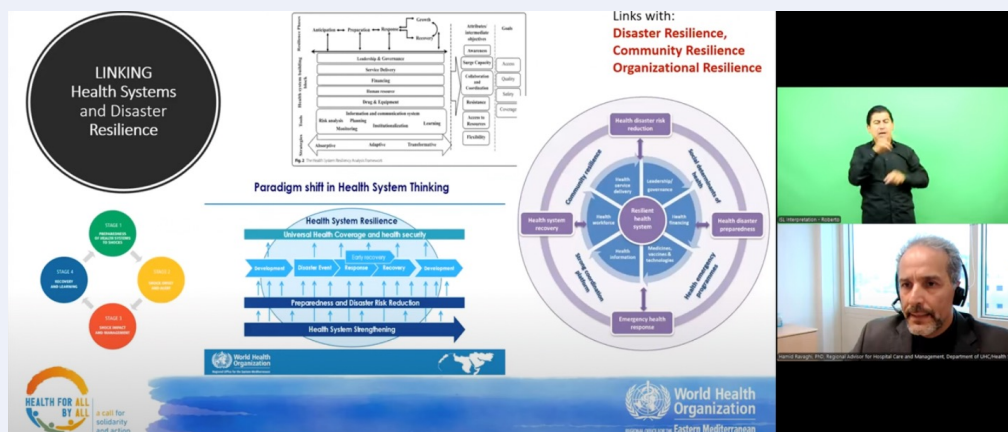
She pointed to the lack of significant progress in disability inclusion over the past decade, citing a 2023 global survey. She called for inclusive early warning systems under the “Early Warnings for All” initiative, stressing the need for actionable and accessible communication. According to her, these systems should be designed for the entire community, enabling everyone—not just people with disabilities—to take protective actions during emergencies. Her message was clear: inclusive infrastructure and leadership are essential for resilient health systems and cities.

# Resilient Hospital for Health Emergencies and Disasters Framework and UHC

## HAMID RAVAGHI, PHD

*Regional Advisor for Hospital Care & Management, Department of UHC/Health Systems, WHO EMRO*

Hamid Ravaghi, PhD, emphasized the critical role of hospitals as central components in resilient cities, highlighting their responsibility to maintain health service continuity during crises such as pandemics, climate change, and urban disasters. He underscored the necessity of inclusive planning, particularly the integration of accessible infrastructure and emergency protocols that prioritize the needs of vulnerable populations, including older adults and individuals with disabilities. He emphasized that ensuring hospitals can withstand and adapt to multiple hazards is essential to both disaster response and advancing Universal Health Coverage (UHC).



*Presentation by Hamid Ravaghi, PhD*

He framed resilience around four core questions: maintaining quality and equitable care (“For What”), resilience to diverse threats (“To What”), implementation through the PRR cycle (“Through What”), and integration of critical hospital components like staff and systems (“Of What”). While current strategies focus heavily on preparedness and response, he identified significant gaps in prevention and resilient recovery, advocating for the Build Back Better (BBB) approach to reduce vulnerabilities.

Ravaghi concluded that actionable and context-specific strategies are vital to strengthening hospital capacities, enhancing equity, and ensuring that health systems remain functional and inclusive in the face of future emergencies.

# Resilient Health Infrastructure in Urban Context

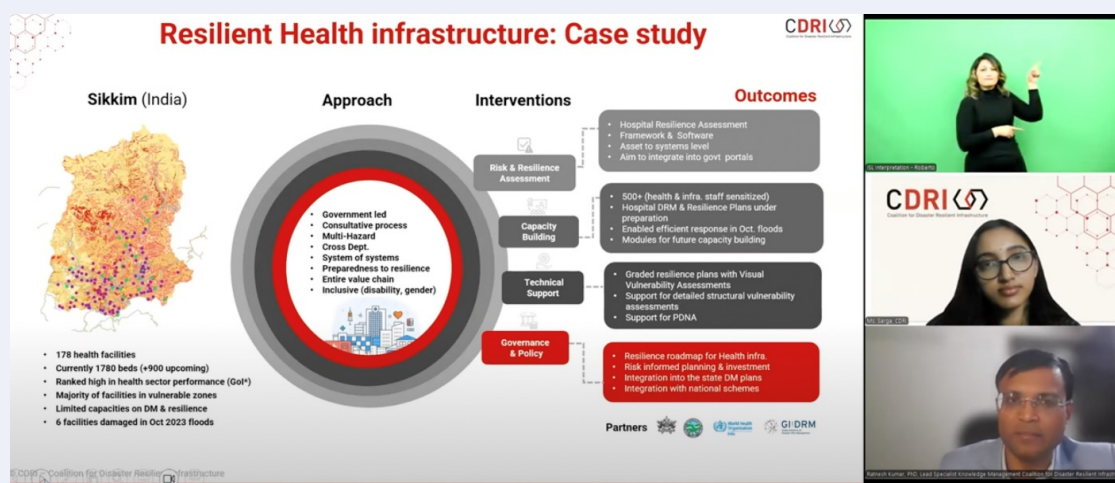
## RATNESH KUMAR, PHD

*Lead Specialist – Knowledge Management, Coalition for Disaster Resilient Infrastructure (CDRI), India*

## SARGA GS

*Analyst – Urban Resilience CDRI, India*

Ratnesh Kumar, PhD, and Sarga GS introduced the Coalition for Disaster Resilient Infrastructure (CDRI), an international initiative launched by India at the 2019 UN Climate Action Summit. With 43 member countries and 7 organizations, CDRI aims to enhance global infrastructure resilience, particularly in Low- and Middle-Income Countries (LMICs) and Small Island Developing States (SIDS). The coalition promotes data-driven infrastructure planning, access to financing through multilateral institutions, and capacity-building for urban local bodies.



*Presentation by Sarga GS and Ratnesh Kumar, PhD*

CDRI's Urban Infrastructure Resilience Programme (UIRP) focuses on tackling climate-related challenges such as floods, droughts, and extreme heat. The strategy launched at COP28 is based on a Theory of Change built around four pillars: informed planning, improved capacities, augmented financial resources, and integrated operations and maintenance (O&M). Thematic priorities include resilient health systems, with the first Call for Proposals emphasizing surge capacity (e.g., 150-bed hospitals), continuity of essential health services, and infrastructure protection during disasters.

They shared the 2023 glacial lake outburst flood (GLOF) in Sikkim, India, as a case study illustrating disaster impacts: hospital evacuations, disrupted healthcare services, and infrastructure breakdowns. Groups in vulnerable situations such as older persons faced heightened risks. In response, CDRI promotes the Resilient Health Infrastructure (RHI) framework, which adopts a systems approach to strengthen preparedness, adaptive capacity, and resilience integration in health systems. The key message: collaboration, financing, and data-informed strategies are essential to safeguarding critical infrastructure and vulnerable populations during crises.

# Disability Inclusion in Hospital Emergency and Disaster Risk Management

## DR. FELIPE CRUZ VEGA

*Head of the Coordination of Special Projects in Health of the Medical Benefits Direction of the Mexican Social Security Institute, Mexico*

The presentation by Dr. Felipe Cruz Vega highlighted the importance of disability inclusion in hospital emergency and disaster risk management, focusing on the methodology called INGRID-H. This is an “evaluation-action” tool aimed at improving how hospitals include persons with disabilities in their preparedness and response to emergencies.



*Presentation by Dr. Felipe Cruz Vega*

INGRID-H is built around five key aspects and thirteen actions, helping hospitals assess their current practices and implement improvements. Over 220 hospitals conducted initial self-evaluations, followed by a second round of evaluations after 180 days. On-site verifications in 32 hospitals reviewed documentation, physical infrastructure, and the involvement of people with disabilities in planning and preparedness activities.

Results showed significant progress in staff training, accessible communication (e.g., Braille, pictograms), and inclusive simulations. Facilities also made physical improvements, such as installing visual alarms, accessible restrooms, and clear, tactile signage to support mobility and navigation. A call was made for inclusion to go beyond policy statements and be actively implemented. INGRID-H not only protects the rights of people with disabilities, but also strengthens the overall resilience and safety of the health system during emergencies.

## Session Wrap-up

### DR. ALEX CAMACHO

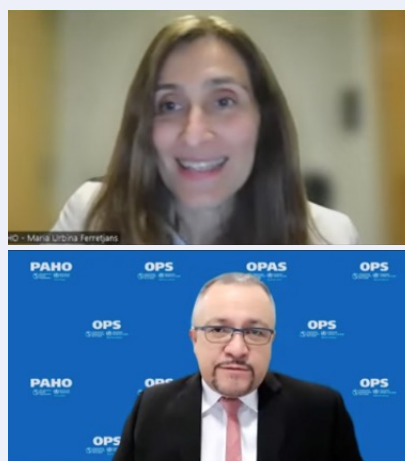
*Disaster Risk Reduction Unit Chief a.i.  
Health Emergencies Department, PAHO/WHO*

Dr. Camacho and Marian Urbina, PhD, concluded the session with a brief interactive quiz, reinforcing key messages and takeaways.

The questions highlighted the importance of considering all relevant groups when preparing for and responding to emergencies, as well as the essential conditions for creating resilient health infrastructure for older persons and people with disabilities.

### MARIAN URBINA, PHD

*Country Program Advisor, PAHO/WHO*

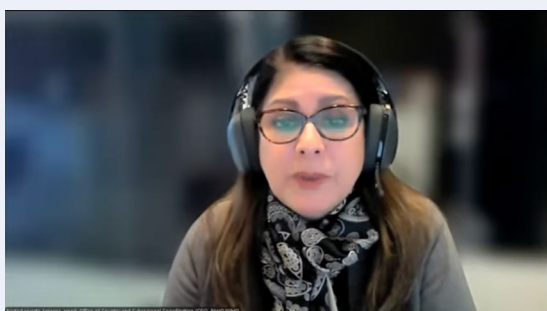


*Marian Urbina, PhD, and Dr. Camacho wrapping up Session 2*

## Closing Remarks

### PIEDAD HUERTA

*Head, Office of Country and Subregional Coordination, PAHO/WHO*



*Piedad Huerta closing Session 2*

Piedad Huerta emphasized the urgent need to transform discussions into tangible actions to build safe, resilient, and inclusive urban environments. She called for the integration of older persons and people with disabilities not merely as beneficiaries but as active contributors in disaster risk reduction strategies. She stressed the importance of inclusive governance, sustainable policy development, resilient infrastructure, and international cooperation. Piedad Huerta advocated for a human rights-based approach that recognizes the experience and autonomy of these groups, urging collective action and cross-country collaboration to meet the challenges ahead.

# SESSION 3

## Leveraging Technological Innovation for Urban Disaster Risk Reduction and Management

### Welcoming Remarks:



**Xiaojun Grace Wang, PhD**  
Trust Fund Director  
UNOSSC

### Speakers:



**Bo Yu, PhD**  
Associate Professor, International  
Research Center of Big Data for  
Sustainable Development Goals,  
Chinese Academy of Sciences, China



**Eugene Kim**  
Water Information System Expert,  
Lao Pilot under ROK-UNOSSC Facility  
(Phase 3)/ P-LINK; Director,  
Hermesys Co. Ltd., Republic of Korea

### Moderator:



**Dingding Sun**  
Programme Coordination  
Specialist, UNOSSC

### Keynote Speaker:



**Deodat Maharaj**  
Managing Director  
UN Technology Bank  
for Least Developed  
Countries



**Amadou Sanneh**  
GIS and Data Management Officer &  
Head of the Information Technology  
Unit, National Disaster Management  
Agency (NDMA), The Gambia



**Betül Ergün Konukcu, PhD**  
Official Responsible for Urban  
Resilience Projects, Directorate of  
Earthquake and Ground Research,  
Istanbul Metropolitan Municipality,  
Türkiye



**Sanjaya Bhatia**  
Head of Global Education  
and Training Institute (GETI)  
UNDRR

### Closing Remarks:



**Fredy Montealegre**  
Leader of Information Technology  
Development Projects, Agustin Codazzi  
Geographical Institute (IGAC), Colombia



**Magali Antônia Batista**  
Director of Environmental Health  
Surveillance Division, São Paulo,  
Brazil



**Dr. Alex Camacho Vasconez**  
Disaster Risk Reduction Unit  
Chief a.i., Health Emergencies  
Department, PAHO/WHO

Led by UNOSSC, this session brought together national and local authorities, and technical experts from Brazil, China, Colombia, Korea, Türkiye and The Gambia, who shared innovative technological solutions and experiences that are making a tangible impact in disaster risk reduction and urban resilience.

The session focused on how technological advancements such as satellite-based remote sensing, AI-driven analytics, and IoT-enabled sensors are transforming disaster preparedness and response, particularly through South-South and Triangular Cooperation.

- Recording available at: <https://www.youtube.com/watch?v=I2JY9kazHQY>
- Slides available at: <https://www.undrr.org/event/undrr-unossc-paho2025>

## Panel Opening



*Deodat Maharaj  
Source: UN Tech Bank for LDCs*

### DEODAT MAHARAJ

*Managing Director  
UN Technology Bank for Least Developed Countries*

Deodat Maharaj emphasized South-South and triangular cooperation to be key, considering that access to new tools and technologies remains a significant challenge in the world's most vulnerable regions: "The best solutions are those that are shared, adapted, and implemented through collaboration across countries facing similar challenges."



*Xiaojun Grace Wang, PhD  
Source: UNOSSC*

### XIAOJUN GRACE WANG, PHD

*Trust Fund Director, UNOSSC*

Xiaojun Grace Wang, PhD, recognized the vital role of SSTC in reducing disaster risks and building urban resilience through mutual learning, knowledge sharing, technological exchange, and collaborative capacity building. She highlighted that the Global South-South Development Center (GSSDC) Phase II (2025-2030), funded by the Government of China, aims to foster precisely such technological cooperation in accelerating progress toward the SDGs.

## Technical Presentations

# Using Remote Sensing Images and Artificial Intelligence for Natural Hazard Reduction: Case Examples in Landslides, Floods, and Droughts

## BO YU, PHD

*Associate Professor, International Research Center of Big Data for Sustainable Development Goals  
Chinese Academy of Sciences, China*

Bo Yu, PhD, presented the use of AI-driven remote sensing for natural hazard detection and early warning systems. She showcased case studies from China, Nepal and Pakistan, demonstrating how satellite-based remote sensing and core algorithms and models of machine learning are being applied for effective monitoring and adaptive management of landslides, floods and droughts.

**Landslide Detection:** In Nepal, a matrix-structured neural network with directional convolution was developed to enhance landslide features, mapping landslide distribution from 1987-2020 and revealing how small earthquakes combined with rainfall increase landslide risk.

**Flood Mapping:** In Pakistan, monitoring catastrophic 2010 floods that affected 20% of the country using SAR (Synthetic Aperture Radar) imagery and segmentation techniques.

**Drought Monitoring:** In China's Yangtze River basin, which supports 40% of China's rice production, differentiating drought impacts between rainfed and irrigated croplands. Findings showed that rainfed lands respond consistently to drought conditions across different periods, while irrigated lands are more sensitive to severe meteorological drought.

**Data & Products | SDGSAT-1 Scientific Satellite**

Launched on Nov. 5th 2021, depicting anthropic interaction with the Earth's environment.

- 300km Wide Scale, ensuring global data retrieval
- Glimmer : 10m/40m panchromatic & RGB
- Thermal : 3 TIS bands , 0.2K temp. recognition
- Multispectral : 2 deep blue & 1 red edge bands

Multispectral    Glimmer    Thermal infrared

Data is available through SDGSAT-1 Open Science Program  
([www.sdgsat.ac.cn](http://www.sdgsat.ac.cn))

ISL Interpretation - Roberto

Bo Yu, Ph.D., Associate Professor, International Research Center of Big Data f...

*Presentation by Bo Yu, PhD, on Remote Sensing*

# Technological Solutions in DRR/Early Warning and Lessons Learned from the UNOSSC P-LINK Pilot in Lao PDR

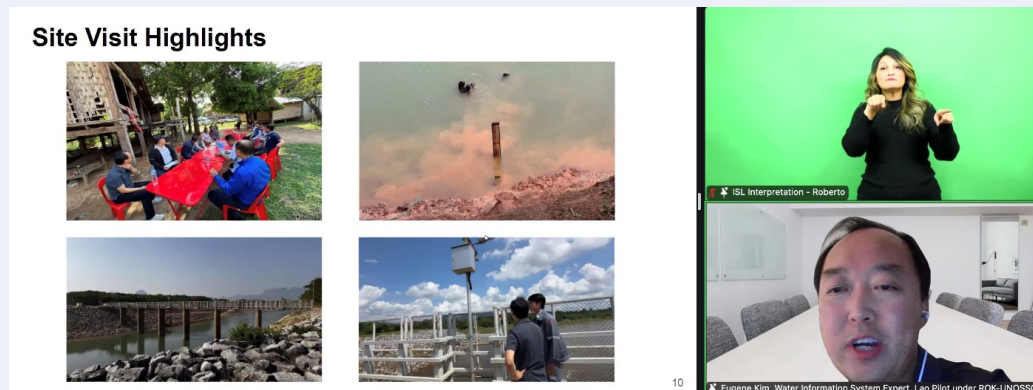
## EUGENE KIM

*Water Information System Expert, Lao Pilot under ROK-UNOSSC Facility (Phase 3) /P-LINK*

Eugene Kim shared good practices and lessons learned from the UNOSSC P-LINK project in Lao PDR. He discussed the importance of technology selection, regional data integration, and local capacity building in creating effective flood warning systems.

The Flood Forecasting and Early Warning System (FFEWS) technology matrix was introduced, outlining components like data collection, transmission, analysis, dissemination, and actionable responses, with varying complexity and costs tailored to local capacities.

The Lao PDR pilot specifically addressed major challenges including limited hydromet station coverage, poor data quality, and fragmented inter-agency coordination. The pilot introduced a hybrid of low- to high-tech solutions such as IoT sensors, AI-based models, and cloud-based data integration to strengthen flood monitoring and response. Despite limitations—like terrain-induced forecasting issues and data gaps—the project showcased the importance of aligning technology with existing infrastructure, ensuring data reliability, and fostering cross-agency collaboration.



*Presentation by Eugene Kim on P-Link Project Results*

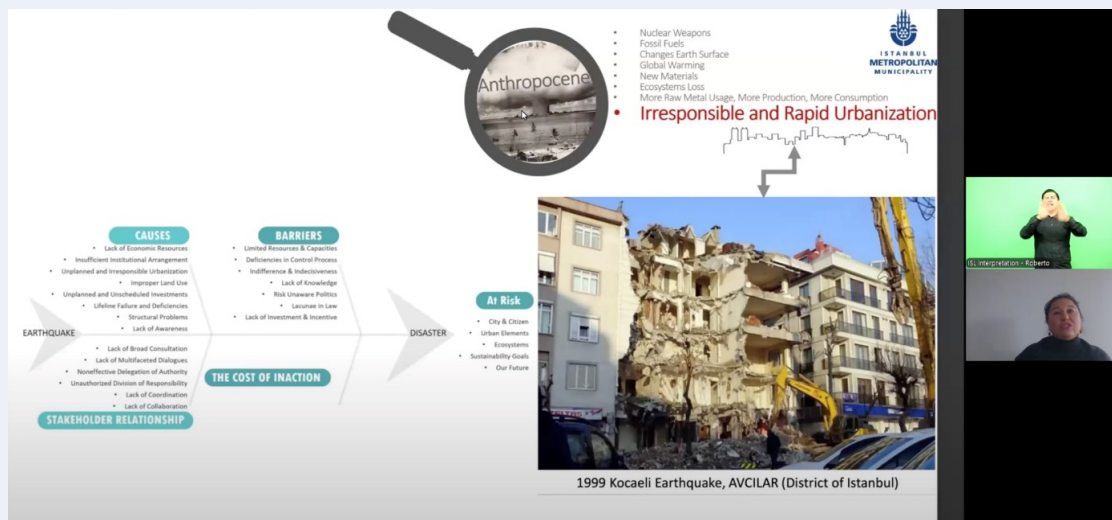
# Istanbul Approach – Technological Innovation for Earthquake, Tsunami and Human Health Scenarios

## BETÜL ERGÜN KONUKCU, PHD

*Official Responsible for Urban Resilience Projects*

*Directorate of Earthquake and Ground Research, Istanbul Metropolitan Municipality, Türkiye*

Betül Ergün Konukcu, PhD, presented how the city maps social vulnerability to earthquakes, tsunamis, and human health risks, using data-driven modeling to enhance urban resilience and improve risk management analysis.



*Presentation by Betül Ergün Konukcu, PhD*

Istanbul is vulnerable to earthquakes, with over 194,000 buildings at risk of moderate to severe damage in a potential Mw=7.5 quake. Using ELER software, earthquake projections show potential risks across districts based on physical risk indicators, including lifeline damage, road blockages, potential fire outbreaks, and building damage.

Konukcu also introduced tsunami hazard assessment, highlighting risk zones and evacuation resilience based on coastal usage and numerical modeling. The model shows integrated social vulnerability maps combining data on economic, administrative, and social factors to inform disaster response planning.

# Early Warning System and Flying Labs Help the Gambia to Mitigate the Impacts of Flash Floods

## AMADOU SANNEH

*GIS and Data Management Officer and Head of the Information Technology Unit  
National Disaster Management Agency (NDMA), The Gambia*

Amadou Sanneh showcased a South-South technical cooperation project that utilizes drones from Senegal to improve early warning systems for flood disaster management in The Gambia. Supported by the UNOSSC's India-UN Development Partnership Fund, the UNESCO implemented project demonstrates the power of technology transfer in building local capacities for disaster preparedness.

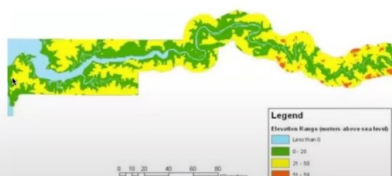
Ten remote pilots were trained and licensed, equipped with skills in drone operation, image analysis, and Digital Elevation Model (DEM) use for flood management. Software like Pix4DMapper and QGIS was introduced for processing imagery. As a result, drone technology began contributing to real-time monitoring, situational awareness, and informed decision-making in disaster response.

### Background and Justification II

5

#### Topology Map of The Gambia

- The chances of floods happening are high due to the geomorphology of the country
- Its impacts are also high due to the vulnerability of the individuals in the country.
- The whole of The Gambia is vulnerable to flood because it is a low-lying country with none of its areas 60 meters above sea level.



*Presentation by Amadou Sanneh on UNOSSC-UNESCO Pilot*

# Methodological Tools for Fire Prevention and Risk Management Using Remote Sensing

## FREDY MONTEALEGRE

*Specialized Professional, Leader of Information Technology Development Projects  
Agustín Codazzi Geographical Institute (IGAC), Colombia*

Fredy Montealegre presented a methodological tool for fire prevention and risk management using remote sensing technology. He demonstrated how the collaborative South-South institutional partnership between Argentina and Colombia has enhanced research, optimized territorial development, and facilitated technology transfer and knowledge-sharing.

The screenshot shows a presentation slide with the following content:

**PRODUCTOS**

**Herramienta metodológica para la prevención y gestión de riesgo por incendios, basada en la teledetección (estudio de caso en Colombia y Argentina)**

- ✓ Compartir experiencias exitosas de cada una de las entidades en el objeto de estudio y estado de arte.
- ✓ Desarrollar un documento técnico y definición de un caso de estudio.
- ✓ Aplicación en caso de estudio en Argentina. Visita delegación Colombia a Argentina (Septiembre 2019).
- ✓ Aplicación en caso de estudio en Colombia. Visita delegación Argentina a Colombia (Julio 2022).

**Methodological Tool for Fire Prevention and Risk Management Using Remote Sensing**

- ✓ Sharing successful experiences from both countries regarding the study subject and the state of the art.
- ✓ Developing a technical document and defining a case study.
- ✓ Case study applications in Argentina: Colombian delegation visit in September 2019.
- ✓ Case study applications in Colombia: Argentine delegation visit in July 2022.

The slide also features logos for 'Gobierno de Colombia' and 'IGAC'. To the right of the slide is a video call window showing two participants: one in a green background and another in a white background.

*Presentation by Fredy Montealegre on Colombia-Argentina DRR collaboration*

He showcased web and mobile applications for fire prevention and risk management. The tool assesses the vulnerability of urban developments in forested areas, where homes are close to natural fuels (trees, shrubs, grasslands). Multi-Criteria Evaluation (AHP Methodology) is used based on indicators including risk perception, physical conditions of the terrain, environmental surroundings, housing characteristics, exposure conditions, etc.

He concluded that cloud-based tools allow qualitative and quantitative fire impact analysis while mobile applications simplify field data collection on natural phenomena. International institutional partnerships enhance robust research, optimizing territorial development by leveraging shared experiences and resources.

# Environmental Health Surveillance Program Related to the Health of Populations Exposed to Natural and Technological Disasters

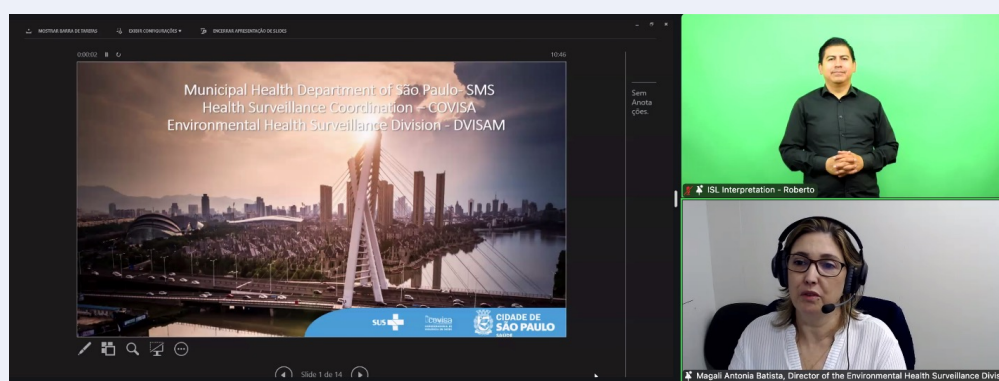
## MAGALI ANTÔNIA BATISTA

*Director, Environmental Health Surveillance Division, São Paulo, Brazil*

Magali Antônia Batista introduced the VIGIDESASTRES program, a comprehensive Environmental Health Surveillance initiative in São Paulo aimed at mitigating the health impacts of both natural disasters (floods, landslides, heat waves, etc.) and technological disasters (urban fires and chemical emergencies). Through strategic coordination and the use of real-time disaster monitoring dashboards, the program ensures that actions, such as shelter management, disease surveillance, and public health guidance, are efficiently executed.

During alerts, VIGIDESASTRES coordinates with Civil Defense through a tiered response system based on escalating threat levels. Field investigations assess displaced persons, casualties, shelter needs, disease outbreaks, and infrastructure damage. Similar protocols exist for urban fires and chemical emergencies, with specialized responses for each disaster type.

The program also includes contingency plans for temperature extremes, with graduated response levels for both heat waves and cold waves based on specific temperature thresholds. São Paulo maintains an interactive disaster monitoring dashboard that consolidates event notifications into tables, graphs, and maps, allowing for effective situation monitoring and coordination across agencies.



*Presentation by Magali Antônia Batista*

## Session Wrap-up

### DINGDING SUN

*Programme Coordination Specialist, UNOSSC*

Dingding Sun, moderator of the session, highlighted that cutting-edge, low-cost technologies like remote sensing, AI, and data-driven modeling are enhancing disaster risk management across various countries. South-South and triangular cooperation, alongside UN partnerships, have been instrumental in technology transfer, capacity building, and institutional strengthening. However, sustaining these efforts requires consistent government financing, investment in data infrastructure, and better access to technology markets.

Building local capacities is equally crucial for long-term impact, ensuring that communities can sustain and scale innovations. Continuous learning from the past, effective coordination, and collaboration remains key to making informed decisions and driving meaningful changes.



*Dingding Sun wrapping up Session 3*

## Closing Remarks



*Sanjaya Bhatia*  
Source: UNDRR

### **SANJAYA BHATIA**

*Head of Global Education and Training Institute, UNDRR*

Sanjaya Bhatia expressed his gratitude to all the co-organizers of the event and congratulated the participants on completing the entire training sessions. He highlighted that all alumni of this course will be kept informed on upcoming courses, newly developed knowledge products, approaches, methodologies, and tools as they have all been included in UNDRR's mailing list. Looking forward to future engagements, he also urged cities, sub-national and national governments to reach out to UNDRR if there is any interested in in-person and in-depth training programs. UNDRR can provide technical support with trainers and materials for a 3-4 day in-person training with the interested government hosting and convening participants to the workshop.



*Dr. Alex Camacho*  
Source: PAHO/WHO

### **DR. ALEX CAMACHO**

*Disaster Risk Reduction Unit Chief a.i., Health Emergencies Department, PAHO/WHO*

Dr. Camacho highlighted that inclusion is a right: it is essential in disaster risk management and for the development of resilience capacities. Meaningful participation, accessibility and direct consultation with people with disabilities are key requirements for response and recovery plans to work in practice.

Technology alone does not guarantee inclusion or equity. Therefore, the use of technological solutions must be guided by principles of universal accessibility, community participation and sustainability, ensuring that even in the most vulnerable environments, no one is left out.

## SURVEY FINDINGS

A post-training survey was conducted at the end of the course to assess the knowledge acquired by the participants after the three course sessions. The survey was completed by **1,174** people, and **777** participants obtained certificates of completion.

According to the post-training survey responses:

**93%** of participants **gained new knowledge** and understood various concepts on urban disaster risk management, health emergency, and South-South and triangular cooperation (SSTC).

**91%** **learned about tools and technological innovations** that can help me strengthen DRR and health emergency efforts and make them more inclusive.

**93%** gained new insights and **learned of good practices** from other countries and cities through case examples.

**91%** felt that the training **helped address the gaps in their knowledge** which can be applied to improve their work in urban health and disaster risk reduction, technology innovations and inclusive principles.

**89%** of the participants rated the training with an overall score of **8.89 out of 10**, showing a high satisfaction rate overall with the content and flow of the training.

In general, respondents found this training **most useful in:**



Conceptual frameworks on DRR/ Urban Health/SSTC



Tools provided (Disaster Resilience Scorecard for Cities, Disability Inclusion in Hospital Disaster Risk Management Tool)



Case Studies (good practices examples)

Among these respondents, **disaster and risk reduction, public health emergency, and digitalization and innovation** are their top three development priorities in the cities or organizations. It was also identified that capacity development, knowledge sharing, and partnership building are respondents' most expected support to be given by the UNOSSC GSSDC II Project.

## FEEDBACK FROM PARTICIPANTS

### From Organization of Persons with Disabilities (OPD)

“ I would like to take this opportunity to express my sincere gratitude for the exceptional training sessions organized. The content was comprehensive, insightful, and highly relevant, and the panelists delivered their presentations with remarkable expertise and timeliness. The knowledge and skills shared during the sessions are invaluable, and I am hopeful that participants will be able to effectively replicate these learnings in their respective countries. As a woman with disabilities and a leader of an Organization of Persons with Disabilities (OPD), I was particularly inspired and moved by the presentations. The inclusive approach and emphasis on good practices were truly commendable. I am confident that such initiatives will continue to multiply, fostering greater resilience and sustainable development globally.

– Participant from the Associations of Persons with Disabilities, Cameroon

”

### From Local and National Governments

“ The key take-away from this course is the importance of leveraging South-South and Triangular Cooperation to enhance disaster risk reduction and urban health resilience. The insights on inclusive and technological innovations will help me integrate best practices into local urban planning strategies, in Leova, Republic of Moldova. I plan to use the knowledge gained to improve collaboration between local authorities, community organizations, and international partners to develop more resilient and inclusive policies for disaster preparedness and response.

– Participant from the Leova City Hall, Republic of Moldova

”

“ *The South-South collaborative efforts are exemplary, and it was wonderful to see what other countries are doing in the field. Collaborative efforts between all stakeholders are essential in DRM & DRR to give proper support to those affected. I have learnt much that I can utilize in my city context where we experience extreme winter weather which includes major and localized flooding affecting mostly the poor and vulnerable. I will use the knowledge to enrich the knowledge of my colleagues and collaborators in the DRR context within the city and for post-recovery efforts.*

**– Participant from the Provincial Government, Cape Town, South Africa**

”

“ *I learnt about the considerations in health disaster risk reduction for older persons: warnings, evacuation and response. As a person working in the Department of Urban Development and Building Construction in Nepal, I am planning to make a guideline and make them enforceable.*

**– Participant from the Department of Urban Development and Building Construction, Nepal**

”

“ *My key take-away from this course is the critical importance of inclusive, technology-driven innovations, particularly the necessity to proactively integrate vulnerable populations into urban health management and disaster risk reduction efforts. I plan to apply this knowledge by advocating for and contributing to the integration of inclusive technological solutions within BNGRC's disaster management framework in Madagascar. Specifically, I will work towards sensitizing our disaster preparedness teams, supporting the adaptation of early warning and response mechanisms to better serve individuals with specific needs, and initiating collaborations with partners encountered during this course to ensure sustainable and inclusive practices in our urban resilience strategies.*

**– Participant from the National Office for Disaster and Risk Management, Madagascar**

”

“ I believe it is very important to learn from the experiences of other locations. Today, each presentation reported how they faced their challenges. This helps a lot to increase the repertoire of solutions for reducing risks. The dissemination of data, knowledge and experiences is essential in this field.

– Participant from City Hall of São Paulo, Brazil

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## From Civil Society Organizations, International Governmental Organizations, and Networks

“ The most valuable takeaway from this course is the importance of integrated, inclusive, and proactive approaches in Disaster Risk Reduction (DRR), Urban Health, and South-South and Triangular Cooperation (SSTC). The training emphasized the need for risk-informed decision-making, cross-sector collaboration, and community engagement to build resilience in cities and healthcare systems. Additionally, tools such as the Disaster Resilience Scorecard for Cities and the Disability Inclusion in Hospital Disaster Risk Management Tool provided practical frameworks for assessing and strengthening disaster preparedness.

– Participant from All India Sustainable Development Council, India

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“ The course has equipped me with knowledge on diverse topics useful for my current work. These include the implementation of the EW4ALL initiative, proposing a solution for addressing the impact of climate disaster on the elderly and people with disability, and the practical cases on the response to the climate disaster, etc.

– Participant from Resilience and Mekong Projects, UNDP Cambodia

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“ During this course I have increased awareness and understanding for managing complex urban disaster risks, health emergencies, and disaster risk management, leveraging technology, and facilitating South-South and Triangular Cooperation; I have gained introduction on useful concepts and tools to strengthen inclusion, especially the inclusion of persons with disabilities and older persons in urban disaster risk management; I want to ensure that I inspire and motivate whole-of-society to play a key and active role in securing resilient, inclusive and sustainable urban futures.

– **Participant from World Vision, Tanzania**

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“ (My key takeaway was) understand(ing) disaster risks and applying “all of a society approach” in ensuring that all people, especially the most vulnerable, are included in DRR planning when working to mitigate the impacts of disasters, strengthen readiness, respond and recover from disasters is key for the achievement of the Sustainable Development Goals (SDGs).

– **Participant from UNDP Mozambique**

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## **From Academia**

“ My key takeaways (is) that it’s striking how technology is transforming our approach to disaster risk reduction. It’s no longer just about reacting after a disaster strike; we’re learning about proactive measures, leveraging tools that can predict and monitor hazards in real-time.

– **Participant from National University Laguna, the Philippines**

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“ *The course has been instrumental in enhancing my understanding of proactive disaster mitigation strategies. My key takeaway is the importance of integrating risk reduction into urban planning and development. It allows me to apply this knowledge in my future research to the development of resilient and sustainable communities.*

**– Participant from the State University of Surabaya, Indonesia**

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“ *The main lesson is that effective risk and disaster management takes into account the integration of all (including women, children, people living with disabilities) but also technology and the integration of AI are essential to have resilient cities and good management of health crises.*

**– Participant from UNIGOM, Goma, Democratic Republic of the Congo**

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“ *As I have been a victim to health facility related disaster in my country as presented by some of our panelist, I (was) really impressed by the disaster risk reduction technologies, policies, strategies, protocols and diplomacies, collaborations, disaster management technologies, and AI based disaster prediction tools and the significance of drone for rapid data collection during disaster. The case-based scenarios were also very interesting.*

**– Participant from Binzhou Animal Sciences and Veterinary Medicine Academy, China**

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## From Private Sector and Media

“ My key takeaway from this training is the critical role of South-South and Triangular Cooperation in enhancing urban health and disaster risk reduction through inclusive and technological innovations. I plan to apply this knowledge by fostering collaborative partnerships, integrating innovative solutions into policy frameworks, and promoting sustainable, community-driven resilience strategies in urban planning and disaster management.

– **Participant from the private sector in India**

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“ My key takeaway from the training has been the inclusivity component in Disaster Risk Reduction. This whole component was new to me as being a Malawian journalist I haven't come across such information therefore I saw the need of using my platform to explore such underreported issues mainly incorporating persons with disabilities and older persons in Early warning systems, creating a conducive environment for their participation in Disaster Risk Reduction including introduction and implementation of necessary legal framework among others.

– **Participant from Blantyre Synod Radio, Blantyre, Malawi**

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“ My key takeaway from this course is the crucial role that South-South and Triangular Cooperation plays in strengthening disaster risk reduction (DRR) and urban health resilience. The insights shared on technological innovations and inclusive approaches have reinforced the importance of integrating early warning systems with broader DRR strategies. I plan to apply this knowledge by further enhancing our alerting capabilities, collaborating with stakeholders to improve community preparedness, and advocating for policies that promote inclusive and technology-driven solutions.

– **Participant from the Skyalert de Mexico, Mexico**

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## KEY REFERENCE

### Tools and key resources that have been shared in the training:

- [Sendai Framework for Disaster Risk Reduction 2015-2030](#)
- [Political declaration of the high-level meeting on the midterm review](#) of the Sendai Framework for Disaster Risk Reduction 2015–2030 (UNGA RES/77/289)
- [Making Cities Resilient 2030 \(MCR2030\)](#)
- [The Ten Essentials for Making Cities Resilient](#)
- Disaster Resilience Scorecard for Cities – [Annex for the Inclusion of Persons with Disability](#)
- UNDRR. [Disability Inclusion in Disaster Risk Reduction](#)
- UNDRR (2013). [UN2013 Global survey explains why so many people living with disabilities dies in disasters](#)
- UNDRR (2023). [2023 Global Survey on Persons with Disabilities and Disasters](#)
- UNDRR (2024). [Advancing Disability Inclusion in Local Disaster Risk Reduction](#)
- United Nations. [United Nations Disabilities Inclusion Strategy](#)
- United Nations System Staff College. [United Nations Disability Inclusion Strategy – Putting Words Into Action](#)
- WHO (2022). [Global Report on Health Equity for Persons with Disabilities](#)
- PAHO. Inclusion of Older People in Emergency Planning: [Perspectives during and beyond the COVID-19 Pandemic](#)
- GAVI. [Heat waves can be deadly for older adults: An aging global population and rising temperatures mean millions are at risk](#)
- WHO. [Global Report on Ageism](#)
- United Nations. [Policy Brief: The Impact of COVID-19 on older persons](#)
- OAS. [Inter-American Convention on Protecting the Human Rights of Older Persons](#)
- PAHO. [Healthy Aging](#)
- WHO. [Decade of Healthy Aging \(2021-2030\): Plan of Action](#)
- WHO. Decade of Healthy Ageing Connection Series No. 1 – [COVID-19](#)
- WHO. Decade of Healthy Ageing Connection Series No. 3 – [The Decade in a Climate-changing World](#)
- PAHO. [The Influence of Environments on Healthy Aging](#)
- PAHO. Training program: [Age-friendly Environments](#)
- WHO Global Network of Age-friendly Cities and Communities. [Age-friendly World](#)
- [UN-OHCHR Climate resilience and older refugees](#)
- PAHO. [Disability Inclusion in Hospital Disaster Risk Management](#)

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