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He held several positions and worked with UN agencies: UNDP, United Nations Economic and Social Commission for Western Asia (ESCWA), and International Telecommunications Union (ITU). He worked with German Organization (GIZ, GTZ) to build telecentres for people with disabilities in refugee camps. Also, he worked as the Regional Director of the Telecentre Foundation for the MENA Region. Nabil wrote 8 books in English and Arabic about disability inclusion and ICT accessibility. The last two books are "Accessible and Inclusive Libraries in the Smart City" and "Disability and Bridging the Digital Divide - ICT Accessibility and Assistive Technology for People of All Abilities.

Nabil researched developing policies for developing, integrating, and empowering persons with disabilities, developing innovative programs and activities to train the organizational approach, and building an accessible environment. Addressed issues and worked with other stakeholders to find the most effective solutions for Universal Design, inclusion, and integration of Assistive Technology into existing services. E-mail: nabil@ruhglobal.com & nabil@billion-strong.org

Disability-Inclusive Disaster Management Leveraging ICT Accessibility

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Abstract

Natural disasters can strike at any time, and being prepared is essential. When infrastructure and accessibility tools are in place, it can help ensure that people with disabilities are not left behind during emergencies. Inclusive disaster preparedness and response can save lives and ensure everyone can access essential resources and services.

The challenges during disasters can be significant and complex. The loss of infrastructure, including communication channels, can create communication barriers, making it difficult for people with disabilities to receive critical information in real-time.

One of the important things is to rely on ICT accessibility and sharing across all levels of government, between the public and Organizations of Persons with Disabilities (OPDs), and within communities to protect people with disabilities.

Keywords: *Disasters, infrastructure, ICT, accessibility, People with Disabilities, Emergencies, Inclusive, Preparedness, OPDs.*

Photo Credit " International Disability Alliance, IDA"

Introduction

People with disabilities should retain their rights even in crises and emergencies. Although difficult decisions, prioritizations, and sacrifices may be necessary during disasters and other crises, it is essential to ensure that the rights and lives of people with disabilities are not compromised. Disasters such as natural calamities, conflicts, or pandemics can exacerbate existing barriers to access and hinder the ability of people with disabilities to communicate, receive information, and access essential services. It is, therefore, necessary to ensure inclusive ICT accessibility during emergencies to support their needs.

In this article, we will discuss how to ensure inclusive ICT accessibility in crises and how to face challenges during disasters to help people with disabilities.

ICT accessibility becomes even more critical for people with disabilities in these crises.

Inclusive ICT accessibility is critical to disaster management, ensuring people with disabilities are not left behind during crises and emergencies. As a result, it is essential to ensure that individuals with disabilities have access to the information and resources they require during times of crisis. Emergency managers should prioritize accessibility in emergency planning, use accessible communication methods, ensure accessible ICT infrastructure, provide assistive technologies, train emergency responders on disability inclusion, and collaborate with disability organizations. Addressing these challenges can help to ensure that people with disabilities are included in emergency planning and response efforts and that their needs are met during emergencies.

The recent earthquakes in Syria and Turkey have highlighted the challenges faced by people with disabilities during natural disasters. These challenges can be exacerbated by the lack of accessibility tools and infrastructure, leaving people with disabilities vulnerable and unable to access critical resources and services. The world must come together to address these ongoing issues and work towards a more inclusive and accessible society. The inclusion of People with Disabilities in Disasters is a Human Right and is a priority for the community of disabilities.

As a global community, we have an ethical and moral obligation to ensure everyone is treated with dignity and respect regardless of their abilities. We are responsible for creating an inclusive and accessible world where everyone has equal opportunities to succeed.

The UN CRPD follows decades of work by the United Nations to change attitudes and approaches to people with disabilities. It takes to a new height the movement from viewing people with disabilities as "subjects" with rights that can claim those rights and make decisions for their lives based on their free and informed consent and being active members of society.

Article 11 – Situations of risk and humanitarian emergencies states that nations must take "all necessary measures to ensure the protection and safety of people with disabilities in situations of risk, including situations of armed conflict, humanitarian emergencies, and the occurrence of natural disasters."

Challenges During Disasters

The challenges during disasters can be significant and complex. The loss of infrastructure, including communication channels, can create communication barriers, making it difficult for people with disabilities to receive critical information in real-time.

Physical barriers, such as damaged roads, buildings, or inaccessible shelters, can also restrict access to services for people with disabilities.

Moreover, many people with disabilities have additional health concerns and may require specific medical equipment or medications, which may not be readily available during a crisis. Therefore, these challenges can be summarized through the following points:

- **Evacuation and transportation***: People with disabilities may face difficulties during evacuation and transportation,*

such as inaccessible transportation and lack of accommodations for assistive devices.

- **Access to information***: People with disabilities may face challenges accessing critical data during emergencies, such as alerts and warnings.*

- **Communication barriers***: Communication can be difficult during emergencies, and people with disabilities may face additional communication barriers, such as a lack of access to accessible communication methods.*

- **Access to healthcare:** *People with disabilities may have difficulties accessing healthcare during emergencies, such as inaccessible medical facilities or a lack of accommodations for assistive devices.*
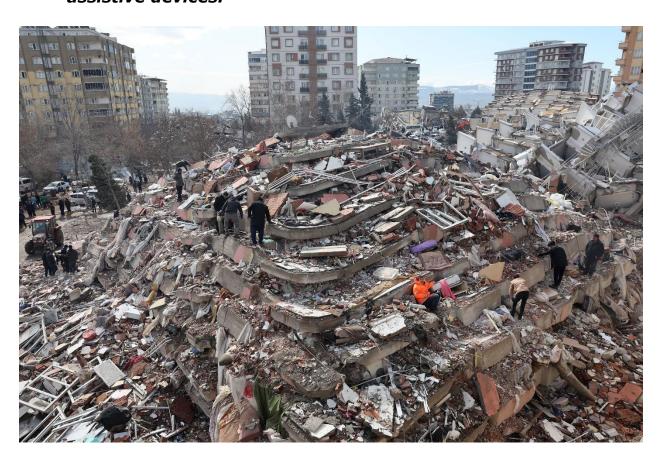

Photo Credit: Adem Altan, AFP

Effective Management of Emergencies and Crises

One of the important things is to rely on ICT accessibility and sharing across all levels of government, between the public and Organizations of Persons with Disabilities (OPDs), and within communities to protect people with disabilities. This can be understood in the following ways:

- *In today's digital age, communication, and information-sharing are critical during emergency situations. People with disabilities often face barriers to accessing information, which can put them at greater risk during crises. By ensuring that ICT systems are accessible and inclusive for people with disabilities, they can receive timely and relevant information during emergencies and take appropriate actions to protect themselves.*

- *Emergency situations require coordination and collaboration between various levels of government, including national, state, and local authorities. By sharing information and resources, governments can ensure that people with disabilities are included in emergency planning and response efforts. This can also help identify areas where support is needed for people with disabilities, such as accessible shelters or transportation options.*

- *People with disabilities often rely on disabled organizations and community groups for emergency support. By fostering partnerships between these organizations and the wider community, people with disabilities can receive greater support and assistance during crises. This can include sharing information, resources, and expertise to ensure that people*

with disabilities are included in emergency planning and response efforts.

Communities can play a crucial role in protecting people with disabilities during emergency situations. By raising awareness about the needs of people with disabilities and providing training and support to community members, people with disabilities can receive assistance during crises. This can include identifying and removing physical barriers, providing support with daily tasks, and ensuring that emergency plans consider the needs of people with disabilities. Overall, effective emergency management requires a collaborative and inclusive approach that ensures the participation of people with disabilities at all levels. By promoting ICT accessibility, sharing information and resources, and fostering partnerships between organizations and communities, we can protect the rights and safety of people with disabilities during crises.

Steps to Ensure Inclusive ICT Accessibility During Crises and Emergencies

To ensure that people with disabilities have access to information and resources during emergencies, several measures can be taken. Here are some steps that can help:

- **Ensure Accessibility in ICT Infrastructure:**
  Governments and organizations should ensure their ICT infrastructure is accessible to all individuals, including people with disabilities. This may include providing alternative formats for information dissemination, such as audio or video recordings, captioning, or sign language interpretation.

- **Ensure digital accessibility**: Ensure digital communication channels are accessible to people with disabilities, including those who are deaf, blind, or have mobility impairments. This includes accessible websites, mobile apps, and social media platforms.
  Ensure that use accessible digital communication tools compatible with assistive technologies such as screen readers, magnifiers, and alternative input devices.
  Make sure that text, images, videos, and other multimedia are accessible to people with disabilities.

- **Use plain language**: Use clear and concise language in digital communication, avoiding jargon or technical terms that may be difficult to understand. Use simple language that is easy to read and understand for all audiences.

- **Conduct Outreach to People with Disabilities**: Outreach efforts should be made to people with disabilities to inform them of available services and resources during a crisis. This can be done through targeted communication, such as accessible websites, social media, or text messaging, that can provide real-time updates.
  Accurate information during crises and emergency situations is so important when providing updates regularly and ensuring that the information is relevant and up-to-date.

- **Conduct accessibility testing**: Conduct regular accessibility testing of digital communication channels to ensure they are accessible to people with disabilities. Use user testing to identify and address accessibility issues.

- **Provide Accessible Transportation**: Governments and organizations should ensure that transportation services are

accessible for people with disabilities during a crisis. This may include providing accessible transportation options, such as adapted vehicles or shuttle services, to help individuals with disabilities reach essential services. Providing digital communication content in multiple languages is vital to cater to the population's diverse needs.

- **Ensure Accessibility of Emergency Shelters**: Emergency shelters should be designed to meet the needs of people with disabilities. This may include providing accessible facilities, such as wheelchair ramps, accessible bathrooms, and shower facilities.

- **Collaborate with Disability Organizations**: Collaborating with disability organizations can help governments and organizations identify the needs and requirements of people with disabilities during a crisis. This can help ensure the resources and services are relevant and meet the community's needs.

Photo Credit "Scott Strazzante - The Chronicle 2018"

Emergency Preparedness: Ensuring Accessibility for All

Photo Credit: International Institute for Sustainable Development. ANTOINE TARDY/UNDRR

Natural disasters can strike at any time, and being prepared is essential. When infrastructure and accessibility tools are in place, it can help ensure that people with disabilities are not left behind during emergencies. Inclusive disaster preparedness and response can save lives and ensure everyone can access essential resources and services.

We need to address the need for preparedness in emergencies and crises through:

- **Prioritize accessibility in emergency response planning: Emergency response planning should prioritize accessibility. Emergency managers should consider the unique needs of people with disabilities when developing emergency**

plans, procedures, and communications strategies. This may include providing accessible formats for emergency alerts, ensuring accessible transportation, and providing accessible shelter options.

- **Use accessible communication methods:** In emergencies, communication is critical. Emergency alerts and warnings should be provided in accessible formats, such as sign language, captions, or audio descriptions, to ensure that people with disabilities receive the information they need. Communication methods should also be flexible, allowing for different modes of communication, including speech-to-text, text-to-speech, and video conferencing.

- **Ensure accessible ICT infrastructure:** During emergencies, access to technology is critical. Emergency managers should ensure that the ICT infrastructure, including websites, mobile applications, and other digital tools, is accessible to people with disabilities. This may include providing alternative text for images, providing closed captioning for videos, and ensuring the website is navigable using assistive technologies.

- **Provide assistive technologies:** Emergency managers should provide assistive technologies to support people with disabilities. This may include devices such as hearing aids, screen readers, magnifiers, and accessible ICT software, such as speech recognition software or alternative keyboards.

- **Train emergency responders on disability inclusion:** Emergency responders should be trained on disability inclusion to ensure that they can effectively support people with disabilities during emergencies. Training should cover disability

etiquette, accessible communication methods, and assistive technologies.

- **Collaborate with disability organizations**: Emergency managers should collaborate with disability organizations to ensure that emergency planning and response efforts are inclusive. Disability organizations can provide valuable insight into the unique needs of people with disabilities and help to identify barriers to accessibility.

From Planning to Action: Best Practices for Managing Disasters

There have been several successful experiences using Accessibility and Assistive Technology to protect people with disabilities in emergencies and crises that affected the world, such as earthquakes, volcanoes, storms, etc. Here are some practical examples:

- **Earthquake in Mexico City (2017):** Following the devastating earthquake that struck Mexico City in 2017, the government worked with disabled organizations to develop a response plan that would ensure the safety of people with disabilities. The project included using accessible communication technologies like video conferencing and social media to share information and coordinate rescue efforts. Additionally, emergency shelters were made accessible for people with disabilities, with accessible toilets, ramps, and other assistive devices provided.
- **Hurricane Katrina (2005):** The hurricane that struck New Orleans in 2005 highlighted the importance of accessible transportation in emergencies. Many people with disabilities

could not evacuate the city due to a lack of accessible transportation options. Following the disaster, the government developed a program to provide accessible transportation for people with disabilities during emergencies.

- **Typhoon Haiyan (2013):** The Philippines government worked with disabled organizations to develop an emergency response plan for people with disabilities in the aftermath of Typhoon Haiyan. The project included the provision of accessible shelters, accessible communication technologies, and the deployment of trained personnel to assist people with disabilities.

- **Wildfires in California (2018):** During the wildfires that struck California in 2018, the government worked with disabled organizations to ensure that emergency shelters were accessible for people with disabilities. Additionally, emergency communication systems were made accessible for people with hearing and visual impairments, and assistive technology devices, such as braille displays and screen readers, were provided to ensure that people with disabilities had access to critical information.

- **COVID-19 pandemic (2020):** The pandemic highlighted the importance of accessible communication technologies for people with disabilities. Many governments and organizations developed accessible information resources, such as sign language interpreters, captions, and audio descriptions, to ensure that people with disabilities could access critical information about the pandemic. Additionally, assistive technology devices, such as telehealth platforms and remote monitoring devices, were used to provide healthcare services

to people with disabilities who could not attend in-person appointments.

These examples demonstrate the importance of accessibility and assistive technology in emergencies. By ensuring that emergency response plans include people with disabilities and providing accessible communication technologies, transportation options, and emergency shelters, we can better protect the rights and safety of people with disabilities during emergencies and crises.

Conclusion

Ensuring inclusive digital communication during crises and emergencies is essential for everyone to access accurate information and necessary resources. By using ICT-accessible communication tools, providing multilingual content, ensuring digital accessibility, using plain language, providing timely and accurate information, and conducting accessibility testing, we can ensure that our digital communication channels are accessible to everyone, including people with disabilities.

The recent earthquakes in Syria and Turkey are a stark reminder of the challenges faced by people with disabilities during natural disasters. We must unite as a global community to create a more inclusive and accessible world where everyone has equal opportunities and access to critical resources and services. Doing so can create a more just and equitable society that works better for all people, including people with disabilities.

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Link to new guidance on CRPD Article 11- Situations of Risk and Humanitarian Emergencies

Three Questions about Inclusive Emergency Preparedness for People With Disabilities