Efficacy of Sirens, Warnings and Alert Systems

By Cecilia Kisanga, WID & GADRA Emergency Disaster and Climate Resilience Intern at Tel Aviv University

The acceleration of man-made, natural and hybrid disasters across the globe and inaccessible infrastructure in our environments, can exacerbate and prolong, or even delay pre-disaster planning, mitigation, response and recovery for people with disabilities. Marginalized populations like people with disabilities, people who are aging, and children are impacted even more, therefore having effective, reliable, functioning and updated sirens and alerts & warning systems is imperative for effective communication. The early warning systems improve preparedness. They include organizational emergency alert systems, mass notification systems, color-code alerts, wireless emergency alerts, outdoor public warning systems and text-SMS systems and many more. However, most systems still do not provide accommodations for people with a disability. Using the social model, we need to design all communication systems so that they are accessible for everyone. According to the International Classification of Functioning, Disability and Health (ICF), assistive technology (AT) solely improves body activities, functions, participation and structure. Therefore, these ATs should create a sense of autonomy, independence and safety for them. The use of visual or tactile stimuli for people who are Deaf/deaf or hard of hearing. Speech and auditory displays allow instant notification without any distraction for people who are blind or who have low vision. Public warning systems like Tsunami alert towers in Japan have spoken instructions that augment non-speech alert sirens. However, noise pollution could be a great distraction. Assistive Technology is required to make alerts accessible to those with intellectual, sensory, psychosocial and cognitive impairments, and can help to reduce stress, anxiety and uncertainty that have additional prolonged psychological consequences for survivors. Early alert systems providers, AT companies, and other entities should provide adequate information on where to access personalized alert tools, assistive technology and augmentative devices, and to raise awareness to their importance. As the frequency and intensity of disasters continues to increase, new technologies that are inclusive of and accessible to people with disabilities also need to increase. We will continue to collect innovative solutions to effective disaster communication, where they are being implemented,

challenges with the innovation, and universal accessibility and usefulness to disability-led organizations (DLOs) around the world and the people they serve.