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Humanitarian Technology: No Excuse for Complacency

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SYNOPSIS

New and emerging technologies continue to change the way humanitarian assistance is delivered. However, technology-driven solutions alone are insufficient to deal with the myriad challenges the sector faces. There needs to be commitment to change and sustained transformation of mindsets, to build community awareness and resilience to future crises.

COMMENTARY

The converging threats of a global pandemic and climate-induced hazards have been a clarion call for the humanitarian sector to rapidly scale its use of various technological tools and innovations. Many humanitarian organisations are now relying on digital innovations such as blockchain, predictive analytics, and digital payment systems to increase their operational effectiveness and efficiency. While we cannot deny the positive impact technology has had on the humanitarian sector, over-reliance runs the risk of breeding complacency through the assumption that technology can solve all problems — and aloofness — by neglecting the needs of affected populations.

Anticipatory Action: Tech is Not Enough

Developments in Artificial Intelligence and predictive analytics allow humanitarian agencies and governments to anticipate when and where disasters will strike. This in turn facilitates a more proactive, anticipatory approach to humanitarian action and enables delivery of more timely assistance to populations.

However, early warning tools and technology are only as effective as the systems they exist in. Instilling a culture of resilience in societies and communities must be prioritised. It is more important to develop structural and social systems that are fit for purpose and adept at recognising the technological developments in anticipatory humanitarian action.

In 2018, hundreds of people were killed after a tsunami hit the Indonesian island of Sulawesi. While there was a tsunami warning system in place, it failed to accurately gauge the scale of the tsunami. Of the 170 earthquake sensors positioned around the country, the Meteorology, Climatology, and Geophysical Agency (BKMG) only had maintenance budget for 70 of them. This meant that most of the sensors were not working, which affected the accuracy of available data. Moreover, the network of 21 buoys — donated by the US, Germany, and Malaysia after the devastating 2004 Indian Ocean tsunami — were also not operational prior to the Sulawesi tsunami, as the buoys were either damaged by vandals or stolen. Had the system been working, it would have sent advance warnings based on data gathered by deep sea sensors. Still, this alone would be insufficient as early warnings require public trust to turn them into anticipatory action.

It was this component that Germany lacked in 2021, when regional and federal early warning systems predicted record rainfall and expected floods in various parts of the country. However, local authorities in some towns were slow to respond, and many affected communities were either unaware of the risks or underestimated the severity of the flood warnings. The technology or infrastructure was not lacking; rather, the issue was in terms of how sensitive the authorities and the public were in their response.

This highlights the importance of committing to long-term maintenance for early warning systems and concurrently building community risk awareness.

Digital Divide

Besides ensuring that our systems are not constrained by complacency and inaction, we should also avoid excluding the most marginalised people during a crisis. The past two years have seen a shift towards greater use of digital technologies to help people deal and cope with crises.

The problem is that most technological solutions require, at a minimum, access to electricity, Internet, and mobile connectivity. In 2020, an International Telecommunication Union report found that only 27% of people in least developed countries (LDCs) had access to the Internet. Globally, about 940 million people also do not have access to electricity, with the majority residing in lesser developed countries that are prone to disasters.

This creates a digital divide which, coupled with an over-reliance on digital technologies, can exacerbate existing inequalities in the provision of aid. Affected populations who do not have the means to access such digital technologies will not have equal opportunities to receive assistance or important life-saving information during crises. Examples of this include early warnings, chatbots, or cash transfers that can only reach and be used by certain groups with the prerequisite hardware and

connectivity. This undoubtedly limits the positive impact that new technologies can have on affected populations and might even create new forms of inequalities in terms of access to information and assistance.

Furthermore, COVID-19 has also pushed the sector to rely more on digital applications to reach people in crisis. Use cases include contact-tracing, public health messaging, and vaccination bookings. This, however, runs the risk of marginalising and excluding those who do not have access to the necessary hardware, in most cases, a smartphone. Unequal access to technology therefore creates huge disparities in people's ability to access healthcare services and other essential health information.

Finding a way to bridge this gap is an important consideration for the humanitarian sector. The sector needs to strike a balance between using technology to improve operational efficiency and understanding their limitations. It needs to acknowledge that there is real risk of neglecting the needs of people who do not have access to such technology.

Building Community Preparedness Ethos

An over-reliance on novel technological ideas and innovations might actually undermine the sense of urgency and societal commitment to effect systemic change. There needs to be sustained cultural, social, and political transformation to create any lasting form of change.

Tsunami detection systems. Image courtesy of UNDRR. *The appearance of UNDRR visual information does not imply or constitute UNDRR endorsement.*

Instead of relying on technology-only solutions, societies should endeavour to build community awareness and resilience to disasters and other crises. One example of this can be found in Japan, where the notion of "everyday preparedness" — *seikatsu bosai* — aims to embed preparedness thinking and disaster risk reduction behaviour in everyday life. Practical manifestations of this concept include the conducting of disaster education programmes in schools as well as initiatives that serve to reinforce lessons learnt from previous disasters.

Fiji, which often bears the brunt of devastating tropical cyclones, has its own version of community resilience. *Solesolevaki* is part of indigenous Fijian ethos and espouses the idea that people should work together for the common good. This proved to be vital during the COVID-19 pandemic, where communities strictly adhered to lockdown protocols. In the aftermath of Tropical Cyclone Harold in 2020, communities also banded together to help with reconstruction and rehabilitation efforts.

Closer home, Singapore's Total Defence concept is another approach to building whole-of-society resilience. The concept encourages Singaporeans to deal with crises collectively while building a strong, secure, and cohesive nation. In his Total Defence Day message on 14th February 2022, Minister for Defence Ng Eng Hen, indicated that the collective efforts of the people in Singapore formed the strongest defence against COVID-19. While technology has definitely been critical to Singapore's COVID-19 response, community resilience is still an important aspect of the nation's defence against the pandemic.

Process Just as Important as Results

Technology should be seen as an enabler for transformation and change. Governments and aid agencies must be careful not to apply technology in a vacuum; rather, they need to engage with other stakeholders across society, particularly with members of the community who are directly affected by humanitarian crises. The following questions should be raised: Who has access to technology and information? Are they able to leverage such technologies to improve their lives? Is there a culture of resilience that is not solely dependent on tech-driven solutions? There is a need to evaluate how technology fits into the humanitarian landscape and acknowledge that there might be broader implications arising from its usage.

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