Technological advancements to support humanitarian aid

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Abstract: Technological advancements have created new possibilities to improve the efficiency and timeliness of humanitarian operations. First, advancements can improve gathering data (e.g., drones for damage assessments after floods) as well as creating and sharing information thus contributing to effective communication, cooperation and coordination between various stakeholders within national and international humanitarian contexts. Second, incorporating advancements in ICT can increase cross-sectorial collaboration and resource sharing addressing shortcomings in the field, such as using blockchain to leverage partnerships between private sector and humanitarian organization. Third, advancements in ICT may enable resolving barriers and bottlenecks in humanitarian aid, contributing to increased local involvement and use of local resources (e.g., using 3D-printers to produce relief items locally instead of shipping items to very remote locations). Last, but not least, with advancements in ICT, decision support systems based on models and simulations are becoming more and more accessible and intelligent (e.g., using reinforcement learning to rapid provision of food, shelter, and healthcare in disaster affected areas). Building models from empirical data allows collaboration across disciplinary domains, and the use of modeling and simulation allows for systematically experimenting with potential humanitarian policies in silico. Therefore, several actors in humanitarian aid are interested to explore technological advancements. Yet, technology is not neutral. Understanding the potential use of technological advancements thus also entails a critical exploration of how it is contextually embedded, its gendered dimensions and impacts, as well as its power dimension.

The session calls for papers that explore and investigate technological advancements in humanitarian aid from different perspectives. The focus is on evidenced-based studies that use qualitative or mixed method research designs. Simulation studies that examine cause and effects or elaborate impacts are also welcome.

Keywords: Humanitarian aid, Technology, Circular economy, Distributed ledger technologies,

1. Topics of interest

Topics may include but are not limited to:

- Circular economy in humanitarian aid

- Distributed ledger technologies in humanitarian aid

- Unmanned aerial vehicles in humanitarian operations

- Augmented reality and virtual reality to support training in humanitarian aid

- Additive manufacturing in humanitarian supply chains

- Digital cash-based assistance

- Robots in search and rescue and automation in humanitarian supply chains