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The Digital Age of HADR: Harnessing Technology for Relief Operations

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Synopsis

The advancement in technology has far reaching consequences for many sectors including Humanitarian Assistance and Disaster Relief [HADR]. Satellite and mobile technology has brought about revolutionary changes in the prospect of improving the speed and efficiency of HADR operations.

Commentary

BEFORE MAINSTREAM technology, Humanitarian Assistance and Disaster Relief (HADR) operations had to be manually operated only with traditional GPS; no satellite imagery was produced and communications were insubstantial and a hindrance to operations. Although HADR has military involvement, it mostly consists of civilian and private rescue workers.

Previously, accessing GPS satellites and SATCOM systems were very expensive. With mobile technologies, it is now much cheaper and faster and therefore, with the advent of technology, it is not only efficient but faster for rescue workers.

Impact on HADR

Technology is revolutionising the world. From space exploration to human treatments, technology has influence on everything. What helps the most in HADR is that technology is embedded in our daily life because it is of little use if they are not portable; smart phones these days takes care of this issue. Smart phones in combination with the internet have the power to unite interventions and operations on a national scale.

Communities – urban and rural - now have accesses to instant notifications of global and local catastrophes. Also, of particular assistance are smart phone apps; different apps have different purposes. Social Media, Communications, Disaster notifications, etc. can be accessed through these apps.

Aiding the smart phone is the Internet which opens up a whole new world of possibilities as once-distant spaces become within *easy reach*. People get instantly notified about global and local catastrophes. With the aid of GPS integration in smart phones, disaster struck people can upload their location and ask for help. HADR thus becomes an interactive operation.

The advantages of technology in HADR are vast. It can make rapid response more competent. It makes possible to have a crucial and critical risk assessment of the situation in real-time. General communication is more readily available allowing for better management. The key advantage for HADR in using technology is the reduction of the human risk element of entering into disaster zones. The use of robot and remote technology allows HARD operators to reach places which were impossible before.

The speed of reaching out to disaster-affected people is crucial. This requires speedy assessment of the disaster scene. Satellite imagery and drone photography has given this vital capacity to HADR operators that they never had. Planning an effective operation always requires accurate data and statistics which was always a scarce capacity. Modern technology has given the operators the ability to use correct data, access to deep data and even real time data, all of which has made HADR planning fast and effective.

Is The World Ready For Technology?

Technology can be very tedious to work with. Most of the current technologies are constantly evolving, and with the age gap amongst HADR workers, it can get very troublesome for general adoption. Although it can be very efficient to manage disasters with technology, some delicate work still cannot be done with the existing technology. Rescue works like human extraction and many others still need human involvement. Even when possible, there still needs to be human involvement to manage these technologies.

The technology gap that exists between countries and regions can create difficulty in international HADR operations. The ‘digital haves’ and ‘digital have nots’ are not operationally compatible in HADR situations. The cost of many of these cutting edge technologies are beyond the financial means of many nations.

Without access to technology transfer these nations are also unable to build capacity and be technology-ready operators in HADR situations. Developing human skills in technology-driven operations is another big challenge for most nations. In these modern operations not only the operators but even the affected population will also need to have some basic knowledge of the technology to make the most of the advancement.

The Future of Technology

The future has a lot to offer in terms of technological improvements and new developments. Current technologies can be updated further. Robotics and drones are being improved drastically to make them more rigid and fast. New technologies like Artificial Intelligence (AI) are underdeveloped. AI will be a revolutionary breakthrough in HADR. AI makes it possible for machineries and robotics to have critical and crucial decision-making skills, which is vital in HADR.

There are lot more things that technology has to offer that will help HADR operations, the Internet of Things (IOT) is the internal network of devices. With IOT they can communicate with each other, access the human internet and control other devices, one becoming primary and others becoming secondary. This will propel the world towards human-lite HADR operations.

There can also be some gadgets that boost human strength. For example, an exoskeleton could enhance human strength to lift heavy objects, which will aid in clearing rubble. Picking up objects is more natural by hand than lifting it with a crane, therefore rescue work will become faster and more efficient and also much safer as the exoskeleton might also protect the wearer from debris.

What Needs To Be Done

The potential of integrating technology must be comprehensively studied by all involved in planning and operations HADR. This will allow for a more inclusive technology regime to be realized. Technology must be embedded into all HADR planning and strategies. For that to happen, the cost of technology must become affordable for all countries.

A technology platform must be user friendly and portable for all groups of HADR workers, both rescuers and victims. Above all, it will require a change of attitude to adopt and harness the power of technology in HADR operations with the overall aim of benefiting the disaster-hit population anywhere in the world.

The advent of technology is a blessing for mankind. Although some might take a different view, others embrace it. The benefits of technology outweigh its drawbacks. We need to embed technology in HADR operations and use its capacity in all types of situations.

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