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PROTECTION | PREVENTION | PREPAREDNESS | RESPONSE | RESILIENCE | RECOVERY

TRAVEL SAFETY

RECOGNISING RISKS & HOSTILE SITUATIONS

Humanitarian cargo logistics; Interviews with Waze & DJI; Social media & resilient communities; Data breaches & reporting dilemmas; Modelling critical infrastructure interdependencies; Maritime future of urban disaster response; Situational prevention & terrorism; Urban resilience in Skopje; Fake alarms & mass alerts; Hybrid attacks

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comment

The UK's Digital, Culture, Media and Sport Committee has published its first interim report on its *Disinformation and Fake News Inquiry*, with its findings confirming the creeping, yet acute malaise that so many have been feeling for so long. Damian Collins, MP, Chair of the Committee, noted: "We are facing nothing less than a crisis in our democracy – based on the systemic manipulation of data to support the relentless targeting of citizens, without their consent, by campaigns of disinformation and messages of hate."

We all know rumours and fake news are easily spread and rapidly amplified online, and they can have appalling consequences – on p3 you can read how false allegations spread on a social messaging app, have contributed to mob attacks and murders in India.

The interim report notes that murky forces have attempted to influence many elections around the world. Indeed, disinformation has been called an "active threat" and is a tactic of unconventional warfare in its use of technology to disrupt, magnify and distort our views of the truth. On p43 Ørjan Karlsson discusses such hybrid warfare and attacks.

There are even more disturbing implications to this manipulation and malign influence, as Lina Kolesnikova notes on p46. She reveals how false alarms in mass warning systems could create panic, mistrust or even galvanise specific groups into acts of civil unrest or revolution. Whether accidental or deliberate, the consequences could be dire.

Along with the documented human tragedies of this pernicious trend, the values of trust and truth are also significant casualties.

So, what can be done to counter this tsunami of disinformation and misinformation? As a start, we *all* need to rediscover our natural scepticism. We need to question, check facts and overcome our ingrained biases to believe what we want to believe. The Committee report is correct to say that digital literacy should become the "fourth pillar of education" alongside reading, writing and maths.

No single body can reclaim the narrative of truth and transparency alone. It behoves us all – governments, organisations, institutions, service providers, the media and, critically, individuals– to work together. Or else we risk entering an age of denialism, characterised by sociologist Keith Kahn-Harris as: "A dystopian vision of a world unmoored, in which nothing can be taken for granted and no one can be trusted." And this truly would be a global crisis of epic magnitude.

Rohingya refugee crisis

James McArthur and **Jörg Szarzynski** look at how geospatial technology has provided time saving information and key guidance for all those involved in preparedness during this refugee crisis

The outbreak of violence against the minority Rohingya people in Myanmar's Rakhine in August 2017 led to an unprecedented refugee crisis. According to the Inter-Sector Co-ordination Group (ISCG), more than 706,000 Rohingya refugees have arrived in neighbouring Bangladesh as of June 2018. The latest figures from the International Office for Migration (IOM) Needs and Population Monitoring (NPN) team estimate the total Rohingya refugee population to be over 918,000 in the Cox's Bazar District. The Kutupalong-Balukhali extension, also known as the 'mega camp', hosts more than 610,000 refugees.

This mass exodus to Bangladesh is a crisis of its own and the response is further complicated by the high exposure of the refugee population to natural hazards, such as landslides and floods tied to seasonal rains. The dual nature of this situation has led the humanitarian community to refer to it as a 'crisis within a crisis'.

The physical landscape of the refugee camps is characterised by steep hills and narrow valleys, which have witnessed severe deforestation owing to the spontaneous construction of informal settlements and improvised shelters. One of the major threats is the risk of landslides and flash flooding, as this region experiences some of the most intense monsoon rains in the country. Persistent heavy rain and high winds could turn out to be disastrous to the already congested camps and saturated lands.

The people and the government of Bangladesh have been praised for keeping their borders open and continuing to receive those in need of international protection. However, there is currently no agreed evacuation plan to relocate the extremely exposed and vulnerable refugees in the event of a natural disaster. While the Rohingya wait for a political solution, and with little option to move to safer lands, there is an immediate need for disaster risk reduction (DRR) and emergency preparedness across the refugee camps in order to prevent further suffering and deaths.

With major efforts undertaken across the humanitarian community to assist in the mitigation and preparedness of the refugee camps leading up to the monsoon season, there was a heavy responsibility in being tasked to contribute to such efforts. As a lack of time and funding limited the possibility of carrying out structural reinforcement for every shelter and community facility, the question of prioritisation and risk assessment was grave. Information and data was needed to prioritise efforts and, hopefully reduce the risk of floods or landslides. Yet, informing high level decision-makers and actors on how to respond to such a crisis carries significant importance and requires timely and high quality data analysis.

Approximately two thirds of a million Rohingya people – more than half of them children – have sought refuge in neighbouring Bangladesh. Unicef and its partners have been working to provide for the needs of this enormous refugee population, who are all the more vulnerable during the monsoon season, which lasts from June to September. In May 2018, Unicef estimated that more than 100,000 people, including approximately 55,000 children, were at risk owing to floods and landslides

Roger LeMoyne | Unicef

Information gaps

Impact Initiatives, a leading Geneva-based humanitarian organisation, through its joint inter-agency initiative Reach, its sister-organisation Acted, and the United Nations Operational Satellite Applications Programme (Unosat) deployed to Cox's Bazar in September 2017. The aim was to support the humanitarian community in filling information gaps regarding the refugees' needs and vulnerabilities.

Reach was created in 2010 to facilitate the development of information tools and products that enhance the humanitarian community's decision-making and planning capacity. The need for an actor like Reach was emphasised by the critical gaps in the humanitarian system, in particular those between the supply and demand of humanitarian information in emergencies. In conflict and disaster contexts, aid actors face serious challenges in collecting data in a systematic and comprehensive way, often resulting in significant gaps in the information required for designing, planning and evaluating aid. Reach was therefore created to support the evidence-based designing of humanitarian action.

Reach, through its partner Unosat, acquired satellite imagery of the border areas between Myanmar and Bangladesh in the Upazilas of Teknaf and Ukhia of Cox's Bazar, then digitised tens of thousands of shelter footprints. This improved the understanding of the extent of camps across the region, defined camp boundaries accurately and contributed to assessing population estimates and the spatial patterns and trends of settlements. Reach also maps camp infrastructure

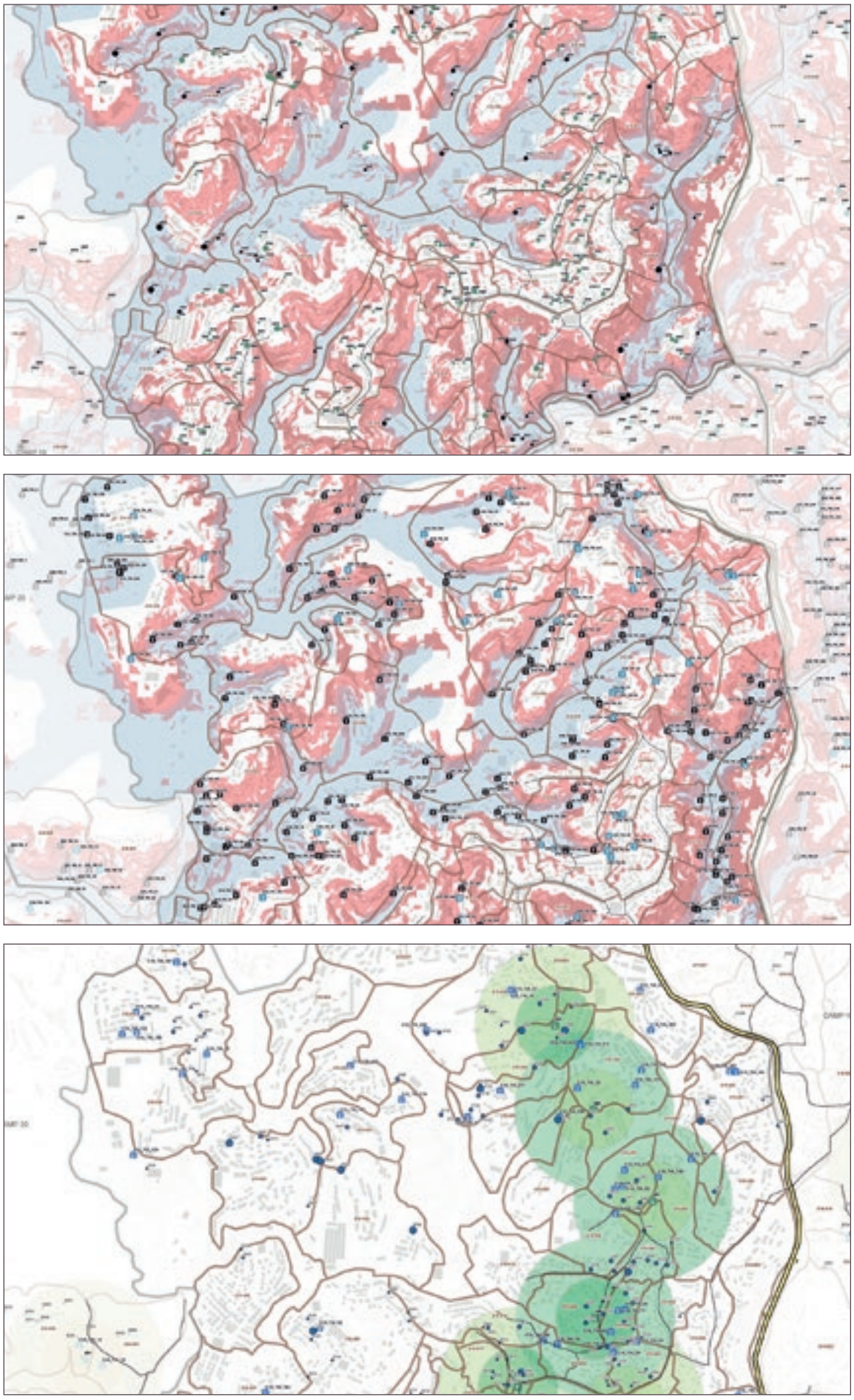

Figure 1: Kutupalong Camp 18 infrastructure exposed to flood and landslide hazards, Top: Latrines Middle: Hand-pump tube wells. Bottom: Some of the optimal facilities for community shelter reinforcements that were identified

Reach

through field data collection to keep up with changes in the settlements and continually updates the ISCG.

In early 2018, the humanitarian community stressed the hazards faced with the impending monsoon season and the Emergency Management Preparedness and Response Task Force (EMPRTF) was established in Cox's Bazar. In March and April of 2018, Reach deployed a small team, including Geographic Information Systems (GIS) specialists, to assist the EMPRTF.

With extensive camp infrastructure data on facilities, latrines, and hand-pumps and tube wells, along with geospatial analytical capacity, Reach was quickly tasked by the EMPRTF and the Water Sanitation and Hygiene (WASH) and shelter clusters to identify makeshift shelters, facilities, and WASH infrastructure exposed to flooding and landslides.

Crucial decisions

In co-ordination with the Asian Disaster Preparedness Centre (ADPC), UNHCR, and the International Organisation for Migration (IOM) – which provided hazard data on floods and landslides – it was possible to identify exposed infrastructure as shown in Figure 1. This analysis led to WASH infrastructure being decommissioned and relocated to less exposed areas.

The EMPRTF needed to make crucial decisions quickly to allow preparedness planning for informing camp managers and community leaders on suitable locations for community shelters. The managers and leaders also had responsibility for making decisions on investment into reinforcing facilities.

Using criteria established by the major humanitarian responders, the spatial variables outlined in Table 1 (right) were applied to rank the optimal facilities to be used as community shelters.

This analysis looked at over 1,000 facilities in the mega camp, including community centres, mosques, madrassas, child friendly spaces, women friendly spaces, info hubs, and field offices. The analysis filtered down a list of facilities that would meet the minimum criteria and prove to be the most optimal for the specific requirements of these camps.

These sites were mapped at camp level and specific site locations were provided for further inspection in order to determine the feasibility of structural reinforcement or other preparedness and mitigation efforts that could be implemented to improve conditions. CRJ

1	The facility is not within a flood hazard zone or a high risk landslide hazard zone
2	Number of functional latrines that are not exposed to a flood or landslide hazard within 50m of the facility (WASH access)
3	Number of functional water access points not exposed to a flood or landslide hazard within 100m of the facility (WASH access)
4	Distance to a road accessible by vehicle
5	Distance to the nearest distribution centre point
6	Facility feasibility (capacity and structural design obtained through photo analysis from field data collection)

Table 1: Spatial variables ranking the optimal facilities to be used as community shelters

The Master of Science (MSc) programme in Geography of Environmental Risks and Human Security

This programme is jointly offered by the United Nations University Institute for Environment and Human Security (UNU-EHS) and the Department of Geography at the University of Bonn as an international degree programme with a research-oriented profile. The two-year programme educates students in an interdisciplinary and trans-disciplinary manner on how to investigate and manage various resources related to environmental hazards by implementing science-based principles and methodologies to disaster risk management. It offers an in-depth introduction to problem-oriented research methods, theories and concepts, as well as real life challenges and problems that international and UN organisations are facing. The curriculum draws from research areas such as vulnerability assessment, resilience analysis, risk management and adaptation strategies within linked social-ecological systems, and environmentally induced internal displacement and transboundary migration.

In addition, the programme dives into best practices and challenges in international disaster risk management, along with humanitarian response and concepts and theories of vulnerability, risk and human security. It prepares graduates for the complexities of humanitarian co-ordination, the magnitude of an international crisis, and how to work efficiently with, and contribute to, the various efforts of UN agencies, cluster sectors, governmental bodies, and NGOs. For instance, under the lead of Professor Jörg Szarzynski (right), excursions are organised on a regular base to visit the EU's Emergency Response Co-ordination Centre (ERCC) in Brussels. In addition, a training seminar is offered together with the German Federal Office for Civil Protection and Disaster Assistance (BBK) through its Academy for Crisis Management, Emergency Planning and Civil Protection (AKNZ). Among others, this simulation exercise provides insights into the work of the Undac mechanism and major elements, such as the On-Site Operations Co-ordination Centre (Osocc). These experiences also enabled some master students in 2016 to support a real-life joint IOM/Undac disaster response preparedness mission to the Republic of Vanuatu (see CRJ 12:1; Mass evacuation mission). Using geospatial analysis, the students provided remote support to the mission teams with detailed hazard risk maps for each of the islands visited, where critical infrastructure and potential community shelters were identified. The mission was to identify gaps in the existing mass evacuation planning and provide appropriate recommendations to the government, including the drafting of national and sub-national contingency plans for specifically targeted areas.

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