ROUNDTABLE ON HUMANITARIAN TECHNOLOGY AND INNOVATION

CRITICAL QUESTIONS AND IMPLICATIONS FOR SOUTHEAST ASIA

Event Report

11 June 2018

RSiS S. RAJARATNAM SCHOOL OF INTERNATIONAL STUDIES
Nanyang Technological University, Singapore

NANYANG TECHNOLOGICAL UNIVERSITY SINGAPORE

Event Report

ROUNDTABLE ON HUMANITARIAN TECHNOLOGY AND INNOVATION:
CRITICAL QUESTIONS AND IMPLICATIONS FOR SOUTHEAST ASIA

11 June 2018
Singapore

Organised by:
Humanitarian Assistance and Disaster Relief [HADR] Programme
Centre for Non-Traditional Security Studies (NTS Centre)

Rapporteurs:
Foo Yen Ne, Hnin Nu Wai

Editor:
Martin Searle

This report summarises the proceedings of the conference as interpreted by the rapporteurs and editor. This report adheres to a variation of the Chatham House Rule.

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EXECUTIVE SUMMARY

The Humanitarian Assistance and Disaster Relief Programme of RSIS's Centre of Non-Traditional Security Studies (NTS Centre) hosted a roundtable on 11th June. It discussed the critical questions that have arisen since humanitarian technology and innovation became a dedicated focus of the aid sector approximately ten years ago.

The first panel – comprising speakers from academia and the aid sector – raised three unintended side-effects stemming from the rapid adoption of new technologies in humanitarianism. These were first the legacy impact on local government/society relations of outside responders using new technologies to improve accountability towards those they are assisting. The second was the particular challenge of privacy when collecting data in conflict or disaster settings, both of which can render data acutely sensitive in ways that do not apply in ordinary contexts. The third challenge noted how new technologies are being deployed by civil society disaster response actors in China in a way that challenges government monopolies on emergency action. This introduces a novel, technology-based tension into the relationship between aid and politics.

The second panel – consisting of NGO and private sector practitioners – discussed specific experiences of innovating in East and Southeast Asian humanitarian response, and the lessons learned. These covered some of the pitfalls NGOs and private sector actors can face when collaborating with each other on innovative projects. Those challenges were particularly stark for smaller firms and aid organisations. There was also discussion of "solutionism" – of focusing excessively on particular answers instead of properly understanding the questions being presented to innovators – and how it can lead to innovations that at best do not respond to particular needs, and at worst undermine the effectiveness of aid operations. Paraphrasing one presenter, 90 per cent of time spent innovating should be dedicated to understanding the problem, and 90 per cent on proposing solutions.

EVENT BACKGROUND

Participants of the Roundtable on Humanitarian Technology and Innovation: Critical Questions and Implications for Southeast Asia

In February 2017, the Humanitarian Technology Survey hosted by the NTS Centre at RSIS introduced a range of innovations in both hardware and software being trialled for more efficient and effective humanitarian operations. One major conclusion of this survey noted the importance of critically investigating the impact of new technologies both on those affected by disaster and on humanitarian practice itself in Southeast Asia and beyond. That conclusion drove December 2017 RSIS policy report entitled, "Humanitarian Technology: New Innovations, Familiar Challenges and Difficult Balances." That paper identified four critical balances that require satisfaction in order for new technologies to improve humanitarian operations concretely: between aid provision and other public goods, between short- and long-term interests of disaster-affected populations, between the needs of disaster responders and those of the disaster-affected, and between centralising information to aid response co-ordination and decentralising information directly to those caught in disasters.

On 11 June 2018, the NTS Centre expanded this critical line of inquiry through a roundtable. The event sought to explore the extent to which critiques of humanitarian technology and humanitarian innovation made within European conceptions of humanitarian action are useful to frame the challenges and opportunities that technology and innovation present for humanitarian response in Southeast Asia. On a conceptual level, that Southeast Asian context includes a historical but evolving emphasis put on natural and manmade disasters underlying humanitarian thinking. On a practical level it

highlights the regions overlapping diasporic populations, with potential bearing on migrant/refugee needs; relatively high, but unevenly spread, internet penetration; and particular geo-political factors as they relate to technological use in humanitarianism such as China's rise and subsequent interest in "soft power" projection, conflict dynamics in the Philippines, intercommunal tensions in Myanmar, and the particular threat of climate change facing this region.

Welcome remarks by Associate Professor Mely Caballero-Anthony, Head, Centre for Non-Traditional Security Studies (NTS Centre), RSIS, NTU, Singapore.

SETTING THE SCENE

(L-R) Mr Lee Kay Lian, Mr Stefano Di Carlo, Ms Saleha Ali, Professor Pascal Vennesson, Dr Alistair D. B. Cook

By its very nature – working with limited means in destabilised, chaotic and unpredictable environments – humanitarianism is a field of constant improvisation and innovation. However, since 2009, when several path-breaking publications came out on the issue, and especially 2010, when a substantial number of innovations were deployed in response to the 2010 Haiti earthquake, there has been more methodical attention paid to the issue of humanitarian innovation. This timing suggests four key contextual elements that are crucial to understanding the environment in which the questions dealt with in this roundtable are evolving.

Ongoing critiques of the humanitarian system

The first of these concerns the evolving critiques of the humanitarian system. These experienced an inflexion point with the 1994 Rwandan genocide, which so completely overwhelmed the aid system. During this crisis, aid groups even found their guiding principles inadvertently resulting in their aid efforts supporting armed actors involved in the killings after those groups managed to take control of certain refugee camps. These criticisms solidified into a view that the terms by which the humanitarian system operates make it unable to resolve humanitarian crises, and may even exacerbate them. In subsequent

years more criticism followed, including that the aid system is unprofessional, undermines local institutions, subverts labour markets, and is poor value for money.

Humanitarians responded to these challenges in several waves. In the 1990s the system professionalised to improve management, administration and overall effectiveness of humanitarian operations. In the build-up to the founding of the International Criminal Court, some groups began embracing broader human rights agendas. With the US-led invasions of Afghanistan and Iraq in the early 2000s, humanitarian organisations further embraced state-building and more extensive development, sustainability, and resilience agendas. But each of these responses brought their own criticisms. Professionalisation created organisational and career interests that can exist in tension with the interests of those in need of help. Human rights, state building and development agendas brought an often explicit politicisation of aid. Sustainability has sometimes privileged market-based solutions to the detriment of the state, undermining its capacity to meet the needs of its people.

In many ways, the current innovation turn in humanitarianism is the next of these waves. It is a new set of responses to a familiar set of challenges and critiques. As a result, humanitarian innovation is an area in which exuberance around the potential to improve efficiency, effectiveness, transparency and accountability, often exists in parallel with heavy scepticism. A key challenge for those engaged in this conversation is to ensure it remains constructively critical. That fine balance is crucial to ensure new ideas realise their potential to benefit people in need of help.

Different "humanitarianisms," differing appraisals of humanitarian innovation

The second contextual characteristic to highlight is the growing importance of rival framings of humanitarianism, which produce slightly different assessments of particular humanitarian innovations. While the imperative to help those in most serious need is common across these framings, that imperative does not alone account for the humanitarian system as it exists today. Many of that system's elements, ranging from particular organisations to some of the guiding principles of the system, arose out of a largely European historical experience that led humanitarianism to focus on people excluded from state protection, often by war. That particular genealogy is evident in the prevailing critical discourse around humanitarian innovations, which often draws on notions of neutrality and independence, or the principle of "do no harm." Those principles are not always shared, or at least not in the same way. In the Southeast Asian region, humanitarianism is historically associated more with transnational issues like pandemics, environmental

degradation, and natural disasters, rather than inter-state clashes. Those issues are conceptualised as threatening to individuals, communities, and crucially states as well. This gives a more central role to the state in humanitarian work, producing different views regarding independence and neutrality. Even the principle of doing no harm may function differently given this widening of the security referent – the entity to whom no harm should be done – to include communities and states, as well as individuals. Critical discussions on new technologies in humanitarianism citing these principles, therefore, may resonate differently.

This is important since humanitarian actors from outside Europe are growing in importance. The ASEAN Coordination Centre for Humanitarian Assistance was created in Jakarta, Indonesia, in 2011; the Regional HADR Coordination Centre opened in Changi, Singapore, in 2014; and national governments, particularly China and Japan, are spending substantially on humanitarian aid. This increased interest includes, and perhaps even emphasises, innovation. Various remote sensing technologies, real-time disaster mapping interfaces, artificial intelligence, biometrics, even cyborgs, are being trialled for humanitarian uses in this region, often ahead of their trialling elsewhere. This necessitates a broader critical discourse around innovation and technology that engages these different frames in use. This is why events like this roundtable that bring together humanitarian thinkers and practitioners from Southeast Asia, East Asia and Europe are so important.

Private sector innovation

The third characteristic is the particular relationship of the private sector with innovation. Since the 1990s, private sector actors have engaged strategically in philanthropy, including in humanitarianism. This has split opinions within the humanitarian sector. Some have welcomed the injection of expertise and funding. But others are concerned that the underlying motivations for it cannot be fully detached from money-making, which undermines the humanitarian imperative.

The innovation debate modifies this divide. The logic of the private sector incentivises innovation in a way that the logics of the public and the non-profit sectors – including humanitarianism – do not. This has two relevant consequences. First, more innovations occur in the private sector in general. Some, although clearly not all, could have humanitarian applications. Second, the different structural incentives that underlie private sector innovation mean it has far greater experience of the *process* of innovating. That experience could benefit humanitarians as they try to scale up ideas, achieve buy-in from various internal gate-keepers, and seek to justify “constructive failures” that use resources that could have gone directly to field operations. These are all areas in which aid organisations currently struggle.

Fourth industrial revolution

The final contextual element to highlight is the so-called "fourth industrial revolution" (4IR), which intersects with the three previous elements highlighted. The crossing of the physical, chemical and biological domains with cyberspace that characterises 4IR is producing fundamentally new technological abilities with particular implications for humanitarianism. Social shifts exemplified by the extent to which people conduct their daily lives in cyberspace, coupled with new capabilities such as drone surveillance, biometrics, machine learning, and Internet-of-Things systems, mean humanitarian operations are accessing more data and from it producing more comprehensive and strategically usefully information. That information, and the technology that helps create it, are both dual use – in a civil-military sense – to a much more profound extent than many technological advances that have gone before. What are the implications of this, particularly given the different conceptual framings of humanitarianism noted above? Meanwhile, digitisation of information makes it replicable, visible, and malleable to an extent we have never experienced before. While this affects all of us, what particular risks does that bring to people caught in disasters and conflict? Do promised benefits justify those risks? This digitisation has further given rise to what has been termed "surveillance capitalism" – the exploitation of personal data for money – which again prompts issues that intersect with the involvement of the private sector in humanitarian innovation noted above.

Together, these four elements provide the context for the discussion by roundtable panellists of the side-effects technology and innovation can introduce into humanitarian settings, and the lessons learned of particular innovation experiences in this region.

(L-R) Mr Massimo Marelli, Dr Lin Peng, Dr Nicole Curato, Dr Alistair D. B. Cook

RIPPLES AND SIDE-EFFECTS IN ACCOUNTABILITY, SECURITY, AND POLITICS

The technology and innovation being deployed in humanitarian settings is not going into a vacuum. Instead, it enters a complex web of relationships between individuals, between communities, and between the state and the society it governs. Introducing anything into that network creates ripples that must be identified and understood for any true assessment of the humanitarian value derived from a given technology or innovation to be made. This point was illustrated through three particular focuses on the first panel of the roundtable: on using technology to improve aid accountability to those receiving it, on data collection technologies, and on the domestic politics of disaster response.

Technology-enabled accountability and governance legacies

Improving the accountability of humanitarian responders to those in need of assistance remains a central objective for improving the humanitarian sector in general. The unavoidable power imbalance between those desperately needing assistance, and those providing it, enables inefficiency and even abuse. Fostering accountability towards people affected by disasters is an important mitigation of these risks.

The roundtable began with a presentation and discussion of several communication technologies used in the Philippines to improve this downward accountability following Typhoon Haiyan. This included SMS messaging services through which disaster-affected people could communicate with aid agencies. A year-long ethnography studied their impact, noting that they certainly opened up communications avenues for giving feedback to aid groups that did not exist before. But the accountability achieved was defined as “narrow,” allowing only short and bilateral feedback. This was contrasted with “expansive” accountability, which would facilitate collective complaints and their resolution, and demand answers from decision-makers. The use of these technologies for accountability was also reported to have produced several unintended side-effects. Three are highlighted here.

First, consistent with media theory, the particular technology through which communication occurs impacted the message being relayed, essentially by limiting how it can be formulated. In the SMS message example, the character restrictions certainly facilitate simple communication, but not any more complex deliberation. This impacts the “voice” of people seeking to hold aid agencies to account by requiring it to be expressed in certain ways but not others. At worst, it can silence those voices who are unable to access the

technology, either through price or lack of coverage – a particular problem in disasters. However, humanitarian staff also tended to privilege feedback received via SMS over that given in other ways, including face-to-face meetings that naturally enable more complex forms of communication. This preference exacerbates a second reported observation that communication technology can distort voices by introducing space to misinterpret messages. Some feedback observed via these communication technologies contained significance that was not understood by aid workers receiving it, often because it was left implicit. This might be because the permanent nature of these communications, which are digital and so leave records, may discourage explicit communication for fear it could cause problems for the sender later. Or it may be that implicit communication may simply be a local norm. Either instance would represent an example of context interacting with a particular innovation to alter outcomes in unforeseen ways.

Second, these feedback mechanisms were reported to discourage negative feedback. This is particularly important not only because it undermines the search for accountability, but also because it exacerbates the aid system's tendency to encourage disaster-affected people to "perform" as idealised victims. In this instance, they do this by appropriating the technology to express the gratitude expected of them, rather than pursue the accountability for which it was intended. This further makes data drawn from those communications unrepresentative, and so any conclusions reached unreliable. The vast majority of all messages were reported to have expressed thanks. This can further play into funding drives, allowing organisations to package their efforts as an "accountability project" for donors to fund, knowing that when they report their results back they will be overwhelmingly positive. Once more, accountability suffers.

Third, there was discussion on how the introduction of accountability mechanisms may channel community organisation in directions that it may not have otherwise gone. This can create legacies that impact local politics, despite the deliberately apolitical stance of the humanitarian organisation introducing them. This could be positive – allowing previously disempowered groups to lobby more effectively in furtherance of their own interests – or negative if already powerful groups develop means that increase their influence further, or if marginalised groups are prompted to depoliticise. Sometimes this is directed back at humanitarian groups, with those assisted using technological opportunities in ways other than the humanitarian group intended to achieve accountability. The jamming of aid agencies' Facebook pages with demands for redress was one such example cited. The nature of those legacies depends on context and were presented as extremely hard to predict.

Particular risks of using data collection technologies on vulnerable people

Technology is giving humanitarians more data on those they seek to help than ever before, due to a combination of their own use of new technologies, and the generalised penetration of data-producing technologies into everyone's daily routines. More data is often considered a pre-requisite for devising more efficient and effective ways to protect people's lives and dignity: the core of humanitarian work. This has created a reflex among humanitarians to produce as much of their own data as possible, and access whatever data is held by others, in order to maximise the chance of identifying operationally relevant details or patterns. This already poses challenges for confidentiality, which is critical to respecting individual dignity. Similarly, when that data feeds a machine learning process that results in certain decisions being made, there are concerns over accountability of those decisions given the opaque nature of machine learning processes. Accountability too is part of respecting dignity. But beyond these two concerns, there are pressing concerns over privacy, which was a second focus of our first panel discussion.

Data points, and the patterns identified through their mass collection and analysis, will not only be useful to humanitarians. In one example given involving metadata – the data produced about data, for example when following protocols to ensure electronic communications are routed properly – former CIA Director Michael Hayden has stated that the US military "kills people based on metadata." Such is the certainty attributed to conclusions reached through this form of intelligence. While perhaps innocuous when taken individually, a constellation of metadata points can lead to quite substantive inferences. This has urgent significance for humanitarianism, where again the imperative to protect life and dignity has produced a widely acknowledged principle of "Do no harm." Furthermore, in a practical sense, humanitarians rely on neutrality and independence to gain the trust of those they seek to help, and power groups capable of obstructing aid. If metadata produced by humanitarians is used for non-humanitarian ends, that trust risks evaporating.

In less dramatic examples, the use of data by private companies for profit was raised, including using it to feed into decisions to deny people financial services either now or in the future, or target them with high risk, high interest credit products. This underscores how "do no harm" functions somewhat differently in cyberspace, and again any perception that an agency is conforming to a non-humanitarian agenda challenges its neutrality. Meanwhile, the number of other actors gaining access to data collected by humanitarians is growing, often though partnerships. Data collected for cash

transfer programmes is particularly susceptible to this, especially since many are done in partnership with global financial institutions. The importance of exploring the motivations of partners was stressed: in this example, financial inclusion – a laudable objective all else being equal – means more bank accounts, and so the promise of more data. It is important to ask what downsides financial inclusion might, therefore, bring.

In many ways, this discussion parallels a more general one on protecting individual privacy at a time when individuals are producing ever-more data about themselves, and government and other organisations are producing ever-more data about them. However, the implications of violating privacy were suggested to be significantly more serious in humanitarian settings because of the elevated pre-existing vulnerability of anyone caught in them. Furthermore, the disempowerment inherent in needing urgent assistance makes efforts to restore autonomy all the more urgent. That includes autonomy over data held about oneself. That short-term dependency on aid also makes getting meaningful consent to collect data at the same time much harder.

Here the question arose of whether the risks are the same in conflict and non-conflict settings. Many of the most serious security implications in a conflict zone of collecting data – which could be used to target individuals or otherwise influence the conduct of hostilities in violation of both do no harm and neutrality principles – seem not to apply in a non-conflict setting. But it was thought too hasty to conclude that humanitarians can treat the two contexts differently when devising privacy protocols. Perhaps the central challenge humanitarian groups face in working in both conflict and non-conflict environments is gaining and maintaining trust. Aid groups need the confidence of both the authorities who have the power to block their access, and the communities they are trying to help, if they are successfully to deliver assistance. Violations of privacy represent an effective way to lose that trust in any setting.

Despite these often unique, or uniquely acute, risks to data management in humanitarianism, the panel noted that the sector has been extremely slow to recognise these dangers and take action. Many struggle to recognise the ways they are producing data, and are unable to track who outside the organisation may have access to it. Without that knowledge, what hope is there of making informed decisions about risk? Beyond this, there is clear scope for humanitarian groups – particularly those not afforded legal immunities as international organisations – to come under severe pressure to share data they possess with the authorities in the jurisdictions in which they work. Efforts are ongoing to codify principles and norms for humanitarian organisations collecting data. The ICRC has produced a Data Protection Handbook, and are already working on a second version as the issue is

evolving so fast. They are also collaborating with Privacy International on the implications of metadata production in humanitarian settings.

New technologies and the politics of disaster response in China

In China, disaster response has conventionally been considered the exclusive purview of the state. However, this has been challenged by several civil society organisations, who are relying on their expertise with new technologies to rival and perhaps exceed the state's effectiveness in this area. This directly implicates humanitarian innovation and technology in the negotiation of the relationship between state and civil society in China. This brings an unusual political element to a sector that elsewhere strives – as much as is possible – to stay out of politics. The third presentation on our first panel mapped the history behind this.

This history began with the rise of Activist Crisis Mapping (ACM). This was presented as a participatory effort at crisis response management using online mapping software, performed mainly by the young mobilising separately from state machinery into a clear and organised community. This community coalesced in four stages following four separate earthquakes. The first of these is the 2008 Wenchuan earthquake, which prompted one of the earliest uses of crowd-based disaster mapping not just in China, but globally. It was run by volunteers from Douban – a Chinese social networking company – and Google. One-third of civic organisations involved in relief efforts reported using the map to plan and execute their activities, attesting to the impact and effectiveness of this use of technology. This success cemented the value of ACM and provided the motivation to maintain the ACM community.

The second stage followed the Yushu earthquake in 2010, which triggered a substantial popular response precipitating the emergence of more formal partnerships between the ACM community and non-governmental relief organisations. This enabled greater transference of online cooperation into the offline world. This coincided with both a steep rise of the microblog in China, which facilitated further entrenchment of this community and the ties between its members, and a reported shift to professionalise civil society disaster responders.

Stage three occurred with the 2013 Lushun earthquake, which saw the institution of specialised mapping NGOs – Zhuo Ming and Yiyun – who sought to expand their remit beyond disaster mapping to more general crisis mapping. These specialised groups developed relationships with Chinese tech companies with more mobile and interactive mapping technologies. They were also able to institutionalise their relationships with frontline non-government responders further, offering more services through these new technologies including online meetings and live broadcasts.

Stage four came with the 2015 Nepal earthquake, which was presented as the first participation of this non-governmental Chinese disaster response network abroad. This brought new challenges such as collecting primary data with non-Chinese volunteers, mobilising a community to engage in translation of coordination documents and online platforms issued by the UN system into Chinese, and engaging with the UN Cluster System.

Each of these four stages faced challenges related to the inherent renegotiation of relations between state and civil society. There was reported to be a very restrictive regulatory environment undermining the possibility of voluntary mapping and suppressing any shift to the sort of open source platforms that have catalysed further community growth and innovation in other parts of the world. There was also said to be a relatively weak volunteer spirit in Chinese technical circles, which may be related to the attitudes of the Chinese state. Meanwhile, furthering the appearance of rivalry, the state appears to be responding with its own competing data aggregation system centralised within the newly created Ministry of Emergency Management. This worries non-governmental disaster groups, who see it as an attempt to limit public participation again. This would appear to produce two notable results, which together highlight the complexities of this crossing of political developments with humanitarian innovation. First, civil society efforts to assert itself in this domain may be waning. Some of those crisis mapping groups that professionalised in 2013 have already vanished. Here the intersection of political and humanitarian objectives has perhaps delivered political gains to the benefit of civil society that were not ultimately sustainable. Meanwhile, by adopting similar innovations to those used so effectively by civil society, state humanitarian action has presumably improved also. Thus, the humanitarian gains of this intersection may still endure, albeit in a format heavily linked to the state.

Q&A from the floor

LESSONS LEARNED: IMBALANCED RELATIONSHIPS AND DISTRACTION FROM NEEDS

There is significant interest in innovation among those engaged in humanitarian response in East and Southeast Asia. Those stakeholders who have trialled new approaches to humanitarian projects are learning from their experiences in ways from which others would also benefit. Sharing those lessons gives an opportunity for all to feed them back into their innovation approaches and thus progress them. Some of these lessons were shared by three representatives of organisations that are exploring new ways to deliver humanitarian aid. Two central themes emerged: the first was about the challenges that can arise from imbalanced partnerships, and the second concerned unexpected difficulties that can arise in keeping innovations centred on the needs of those caught in conflict or disaster.

Imbalanced partnerships

Partnerships – between humanitarian organisations, government, private sector, and sometimes all three together – have become a central feature of the innovation turn in humanitarianism. There is clear logic to this. An abundance of innovation expertise exists in the private sector, and government and NGOs are wise to tap into it. But the innovation contexts are fundamentally not the same, meaning a direct transplant of innovations or the process for creating innovations is not appropriate. Perhaps the most important difference highlighted is that the "customers" for humanitarian innovation are not the same as those at whom the innovation is ultimately targeted. Customers bear the impact of new product or process innovations (perhaps through user experience or price change) and, if they do not like the outcome of those innovation, they can shop elsewhere. In the humanitarian setting, those at whom new ideas are aimed – the individuals caught in conflict or disaster – certainly bear the impact of innovative ideas, but invariably have no ability to shop elsewhere for assistance if it proves negative. The customers in this sense are the aid agencies, but they do not bear the impact of innovations in nearly the same way. This is understood in the aid sector, and there is a growing literature on its implications. However, it underscores the importance of partnerships being equal. Several challenges emerged from the roundtable that occur when this is not the case. This report recounts the two mains ones raised.

The first challenge stemming from an unequal partnership was the gap that can grow between what is needed on the ground and what is developed by for-profit companies. If a company's involvement in humanitarian innovation has other motivations in addition to the desire to do good – perhaps to perfect

a specific product or process innovation – the chances of a gap growing are greater. Experiences were reported of this being exacerbated as needs in the field evolved, which is particularly likely in a humanitarian environment. If the humanitarian group is dependent on the company for the project – perhaps through receiving funding directly or from a donor conditioned on entering into a partnership – then it becomes even harder to counter this.

Financial dependence was not the only dependency raised. Another was reliance on expertise. Importantly, this was presented as a challenge both to aid groups partnering with others, and vice versa. Private firms can be dependent on aid organisations' expertise in order to create an appropriate design brief. An excessively jealous guarding of that expertise can prevent an accurate brief being created, undermining the chance of developing an appropriate solution to a given problem.

On the other hand, when aid groups use new technologies developed by private firms, they rely on that firm to provide the required expertise to deploy, maintain and perhaps even run that technology. That dependency can limit the role of the aid agency in decisions regarding how the technology is set up and run, reducing their capacity to highlight default decisions about deployment that might be acceptable in ordinary circumstances, but could be problematic in a humanitarian context. One example given concerned a block purchasing scheme run by a small aid group partnering with a global financial firm. The scheme sought to reduce costs for a community through buying essential goods in bulk at lower prices and then setting up a cash-transfer points system through which the goods were distributed to members. Profits were fed into the next bulk purchase to make the system sustainable. However, the aid group's dependence on the expertise of the financial firm was reported to have resulted in a system that the aid agency simply could not administer over the longer term. Assumptions were made in the design and set up of the system that the aid agency did not have an opportunity to question.

It was suggested dependency may be a bigger problem for smaller aid groups. Larger agencies are more likely to have sufficient expertise in-house to engage with partners on an equal footing, rather than simply be "innovation takers." One suggestion here was that smaller organisations may need to pay particular attention to what they can realistically and responsibly achieve when innovating than larger ones. At the very least, the discussion raised a need to differentiate between small and large aid agencies when researching and prescribing best innovation practices in the humanitarian sector.

Keeping innovations needs-centred

The needs of those seeking humanitarian assistance are uncontroversially

placed at the centre of discussions of humanitarian innovation. This stems from the humanitarian imperative itself to save life, alleviate suffering and restore dignity. However, the second central theme that emerged from the roundtable was the number of factors that can coax innovation away from this focus. This report highlights three of the main ones.

The first concerns the challenges that flow from aid agencies' need to improvise when confronted with problems. Creative improvisation is a critical part of running programmes in what are, by definition, unpredictable, unstable, and even hostile environments. It can be the difference between success and failure. However, it was noted that repeated improvisation when faced with the same or similar problems can make those problems invisible, when their reoccurrence ought to attract more structured research and development of solutions. In a sector widely considered to manage and transfer knowledge extremely poorly, failing to see reoccurring problems to meeting people's needs becomes more likely.

The second challenge raised to keeping innovation needs-centred was the flexibility and increasing sustainability that it requires of proposed solutions. Again due to the changeable and unpredictable nature of humanitarian crises, and the various social, economic and political contexts in which they can occur, innovation must be adaptable if it is to remain responsive to needs. However, displacement crises are often no longer transitory, with the average duration reported to be seventeen years. Examples were given of how these needs for sustainability and flexibility apply to shelter construction, with a particular solution presented that emphasised versatility and robustness within the design brief. As a result, the modular technology presented is not only useable by disaster-affected people for shelter, but is also easily sterilised for housing medical clinics, and tough enough to host a school. This represents a noticeable shift in acknowledged needs with particular importance in the current climate of unprecedented displacement coupled with refugee push-backs both in Europe and Southeast Asia.

The final challenge raised to keeping innovation needs-centred concerned the attraction to, and risks of, technology-centred innovation. One participant recounted several instances in which his innovation unit had been approached by colleagues presenting a problem together with a proposed technological solution. For them, innovation was about how to realise their pre-determined solution. Yet often humanitarian outcomes remained the same because the technological solution originally proposed did not take full account of the nature of the problem. It was suggested that it is extremely easy to come up with several solutions to any given problem; indeed, the less one knows about the specifics of a problem, the easier it is to imagine plausible ways to solve it. With this in mind, it was suggested that 90 per cent

of the time dedicated to innovation should be spent deconstructing the problem. With greater understanding of the issue, the field of plausible solutions shrinks and the likelihood of the remaining ideas having a positive impact increases. This was tied back to the earlier issues of partnerships, specifically of external partners arriving with “solutions seeking problems.” Interestingly, it was further linked to the humanitarian sector’s enthusiasm for decentralised, “bottom-up” innovation. While in many ways those on the ground are in an excellent position to understand a problem, this perhaps should not be assumed. There is an important role for innovators – who will often be more centralised in organisational headquarters – to push back against this sort of “solutionism” and ensure a proper innovation process that stresses problem analysis is followed.

Panel session in progress

Q&A from the floor

Q&A from the floor

EVENT PROGRAMME

Time	Activity	Speaker
09:00 -09:20	**Registration**	
09:20 -09:25	Welcome	**Associate Professor Mely Caballero-Anthony** *Head, Centre for Non-Traditional Security Studies (NTS Centre), RSIS, NTU, Singapore.*
09:25 – 09:30	Introduction to HADR Programme	**Dr Alistair D. B. Cook** *Coordinator of Humanitarian Assistance and Disaster Relief [HADR] Programme, Research Fellow, NTS Centre, RSIS, NTU, Singapore.*
09:30 – 09:45	Setting the Scene	**Mr Martin Searle** *Associate Research Fellow, Humanitarian Assistance and Disaster Relief [HADR] Programme, NTS Centre, RSIS, NTU, Singapore.*
09:45 -10:45	Panel 1: Humanitarian Technology and Innovation: Critical Questions	**Panelists** **Dr Nicole Curato** *Research Fellow, Centre for Deliberative Democracy and Global Governance, Institute for Governance and Policy Analysis, University of Canberra, Australia.*

Time	Activity	Speaker
		Mr Massimo Marelli *Head of Data Protection Office, International Committee of the Red Cross and Red Crescent Societies (ICRC), Geneva, Switzerland.* **Dr Lin Peng** *Research Fellow, Institute of Politics and Law, Guangzhou Academy of Social Sciences, People's Republic of China (PRC).* **Moderator** **Dr Alistair D. B. Cook** *Coordinator of Humanitarian Assistance and Disaster Relief [HADR] Programme, Research Fellow, NTS Centre, RSIS, NTU, Singapore*
10:45-11:15	Morning Break	
11:15- 12:15	Panel 1 Discussion	**Moderator** **Dr Alistair D. B. Cook** *Coordinator of Humanitarian Assistance and Disaster Relief [HADR] Programme, Research Fellow, NTS Centre, RSIS, NTU, Singapore*
12:15-13:30	Lunch	

Time	Activity	Speaker
13:30-13:45	Setting the Scene:	**Dr Alistair D. B. Cook** *Coordinator of Humanitarian Assistance and Disaster Relief [HADR] Programme, Research Fellow, NTS Centre, RSIS, NTU, Singapore.*
13:45 – 14:45	Panel 2: Humanitarian Technology and Innovation: Implications for Southeast Asia	**Panelists** **Mr Lee Kay Lian** *Chief Operating Officer, POD Structures, Singapore* **Ms Saleha Ali** *Head, International Programmes, Mercy Relief, Singapore* **Mr Stefano Di Carlo** *Head of Innovation, Médecins Sans Frontières (MSF) Japan, Tokyo, Japan.* **Moderator** **Professor Pascal Vennesson** *Institute of Defence and Strategic Studies (IDSS), RSIS, Singapore.*
14:45 – 15:15	Afternoon Tea	
15:15 – 16:45	Panel 2: Discussion	**Moderator** **Professor Pascal Vennesson** *Institute of Defence and Strategic Studies (IDSS), RSIS, Singapore*

Time	Activity	Speaker
16:45 – 17:00	Closing Session	**Dr Alistair D. B. Cook** *Coordinator of Humanitarian Assistance and Disaster Relief [HADR] Programme, Research Fellow, NTS Centre, RSIS, NTU, Singapore* **Mr Martin Searle** *Associate Research Fellow, Humanitarian Assistance and Disaster Relief [HADR] Programme, NTS Centre, RSIS, NTU, Singapore.*

ABOUT THE SPEAKERS

Ms Saleha Ali

Saleha has more than seven years of working experience with Singapore's leading independent disaster relief agency, Mercy Relief, established in 2003 to respond to human tragedies and disasters in Asia Pacific. Currently, she serves as the Head of International Programmes and is responsible for overseeing the overall implementation of disaster preparedness, response and recovery programmes in more than 8 countries.

She was actively involved in several humanitarian operations including the Nepal Earthquake 2015; Aceh Earthquake 2016 and the Bangladesh Refugee Crisis last year.

With her extensive field experience on humanitarian assistance, Saleha has also lectured on Humanitarian Affairs at the Singapore Polytechnic and has facilitated more than 500 youths on overseas humanitarian missions since 2009.

She holds a BSc with Hons degree in Psychology from the National University of Singapore and has also received postgraduate training on humanitarian logistics, emergency supply chain management and Community Managed Disaster Risk Reduction (CMDRR).

Associate Professor Mely Caballero-Anthony

Mely Caballero-Anthony is Associate Professor and Head of the Centre for Non-Traditional Security Studies (NTS Centre) at the S. Rajaratnam School of International Studies (RSIS), Nanyang Technological University, Singapore. Until May 2012, she served as Director of External Relations at the ASEAN Secretariat. She also currently serves in the UN Secretary-General's Advisory Board on Disarmament Matters and Security and is a member of the World Economic Forum (WEF) Global Agenda Council on Conflict Prevention.

Dr Alistair D. B. Cook

Alistair D. B. Cook (@beancook) is Coordinator of the Humanitarian Assistance and Disaster Relief [HADR] Programme, and Research Fellow at the Centre for Non-Traditional Security Studies (NTS Centre), S. Rajaratnam School of International Studies (RSIS), Nanyang Technological University

(NTU), Singapore. In 2012–2013, he was a visiting research fellow at the East Asian Institute of the National University of Singapore.

Dr Nicole Curato

Nicole Curato (@NicoleCurato) is a Senior Research Fellow at the Centre for Deliberative Democracy and Global Governance at the University of Canberra. She is the recipient of Australian Research Council's Discovery Early Career Award Fellowship for her research on democratic innovations in post-disaster contexts. Her work on disasters has been published in academic journals including Critical Asian Studies, Disasters, and Current Sociology, among others. She is the Editor of the book Duterte Reader: Critical Essays on Rodrigo Duterte's Early Presidency (2017, Ateneo de Manila University Press/Cornell University Press), and currently serves as Associate Editor of the journal Political Studies.

Mr Stefano Di Carlo

Stefano is Head of Innovation Unit MSF Japan. He is a biologist by academic training, and has worked for Médecins Sans Frontiéres/Doctors Without Borders (MSF) in the field since 2008 as Project Coordinator and Head of Mission. This has included placements in Haiti, DRC, Niger, Nigeria and Italy.

Mr Lee Kay Lian

Kay Lian is a registered practicing architect in Singapore, graduating with a Master's Degree in Architecture from the National University of Singapore (NUS) Department of Architecture in 2001. Kay Lian co-founded POD Structures in 2015, to explore and expand the role of pre-fabrication and modular building technologies, while pursuing an interest in architecture's contribution in humanitarian and disaster relief projects. POD Structures collaborated on the design and prototyping of a collapsible disaster-relief capsule at the 2016 Venice Architectural Biennale. The project received Honourable Mention for the 2016 Red Dot Design Awards.

Kay Lian also presented on technology and sustainability aspects at Singapore Red Cross Humanitarian Conference in 2017, and the Regional Consultative Group (Second Session, Humanitarian Civil-Military Collaboration, Asia and the Pacific, 2017).

Currently, Kay Lian is leading research projects related to pre-fabricated construction methods supported by the Building and Construction Authority, implementing disaster recovery projects in the region with the Singapore Red Cross, and also serving as an Associate Lecturer at Ngee Ann Polytechnic's School of Design and Environment."

Mr Massimo Marelli

Massimo Marelli is the Head of Data Protection Office at the International Committee of the Red Cross (ICRC). Before taking this role, Massimo held several positions as a Delegate in the field and legal adviser at the ICRC. Prior to joining the ICRC, Massimo worked as lawyer at the UK Office of Fair Trading, Referendaire at the EU General Court, and as a lawyer in private practice.

Massimo is a member of the Advisory Board of the European Centre on Privacy and Cybersecurity at the University of Maastricht, and of the Brussels Privacy Hub at the Vrije Universiteit Brussels.

With Dr Christopher Kuner he is the Co-Editor of the Brussels Privacy Hub/ICRC “Data Protection in Humanitarian Action” Handbook.

Dr Lin Peng

Dr Peng is current working at government think tank in the city of Guangzhou, China. He has a background in comparative politics and public policy. His research and teaching focus on civic engagement in China, with particular strong expertise in social activism in the fields of disaster management and environmental protection. He has been following the development of the nongovernmental disaster response in China since 2012 and is currently studying the digitalization of civic engagement in China’s crisis management and its political and policy impacts.

Mr Martin Searle

Martin Searle (@MartinSSearle) is an Associate Research Fellow at the Centre Non-Traditional Security Studies (NTS Centre), S. Rajaratnam School of International Studies (RSIS), Nanyang Technological University (NTU). Martin worked 6 years with the international medical humanitarian organisation Médecins Sans Frontiéres/Doctors Without Borders (MSF). During that time, he worked in South Sudan, Central African Republic, Kenya, India, Bangladesh, Myanmar and Malaysia on a mixture of conflict

response, healthcare exclusion, HIV and TB treatment, and migrant and asylum issues. He also worked at MSF headquarters on communications and advocacy for the South and Southeast Asia operational portfolio.

Professor Pascal Vennesson

Pascal Vennesson is Professor of Political Science at the S. Rajaratnam School of International Studies (RSIS), Nanyang Technological University. His research and teaching lie at the intersection of the fields of international relations and strategic studies. Before joining RSIS, he held the Chair "Security in Europe", at the European University Institute, Robert Schuman Center for Advanced Studies. He also taught "Strategy and Policy" for ten years at The Paul H. Nitze School of Advanced International Studies (SAIS)-Bologna Center and at the College of Europe. He is the author, co-author and editor of six books and his refereed articles have been notably published in Armed Forces and Society, International Relations, Journal of Strategic Studies, Review of International Studies, Revue Française de Science Politique (French Political Science Review) and Security Studies (forthcoming). He is a member of the editorial boards of Revue Française de Science Politique (French Political Science Review), Security Studies, Armed Forces and Society and the European Journal of International Security. Professor Vennesson was a fellow at Stanford University's Center for International Security and Arms Control, at Ohio State University's Mershon Center and a Centre National de la Recherche Scientifique (National Center for Scientific Research) fellow at Harvard University's Belfer Center for Science and International Affairs, John F. Kennedy School of Government. He received his MA from the University Paris I Panthéon-Sorbonne and his Ph.D. from Sciences-Po Paris.

ABOUT
HUMANITARIAN ASSISTANCE AND DISASTER RELIEF PROGRAMME

The **Asia Pacific** is the most disaster prone region of the world. Between 2004 and 2013, more than **40% of natural disasters** occurred in the Asia-Pacific region. In the last ten years, **80% of deaths due to disasters** happened in Asia and the Pacific (ADB). By 2025, seven of the world's top ten mega-cities will be in Asia. Rabid urbanization and **climate change have led to more frequent and recurring disasters** with greater impact. (McKinsey & Co.)

RSIS established the Humanitarian Assistance and Disaster Relief (HADR) Programme on 21 July 2015 to facilitate and enhance cooperation on preparedness and response strategies to the fragile and unpredictable situations we face in the Asia-Pacific.

Aside from comprehensively investigating regional emergency response frameworks, governance issues, disaster preparedness strategies and the identification and development of response niches for civilian and military actors, the programme also seeks to develop the next generation of global leaders in HADR through roundtable sessions, dialogues and workshops. **For more information, visit our website at http://www.rsis.edu.sg/research/nts-centre.**

Foreign military forces assisted the Philippine government's relief efforts in the aftermath of Typhoon Haiyan in 2013.

Typhoon Haiyan killed at least 7,000 people and flattened many impoverished communities, triggering massive international humanitarian relief operations in the Philippines in 2013.

Natural Disasters: Humanitarian Response in ASEAN

Key Mechanisms:

- ASEAN Agreement on Disaster Management and Emergency Response (AADMER)
- ASEAN Coordinating Centre for Humanitarian Assistance on disaster management (AHA Centre)
- ASEAN Disaster Emergency Response Simulation Exercises (ARDEX)
- Emergency Rapid Assessment Team (ERAT)
- Changi Regional Humanitarian Assistance and Disaster Relief (HADR) Coordination Centre
- Disaster Emergency Logistic System for ASEAN

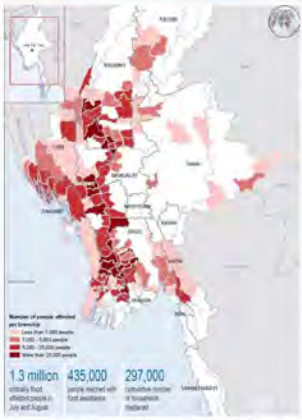

Figure 1. Number of people affected by recent flood in Myanmar
Source: www.unocha.org/myanmar

Myanmar Flood 2015

Heavy rains have caused floods and landslides in several parts of the country during the last two weeks of July. Cyclone Komen, that made landfall in Bangladesh on 30 July, has brought strong winds, heavy rains resulting in floods and landslides in several states and regions in Myanmar.

Photos of recent flood in Myanmar. The flood is regarded as one of the worst disasters in decades(Credit: www.channelnewsasia.com, www.flickr.com)

ABOUT THE CENTRE FOR NON-TRADITIONAL SECURITY STUDIES

The **Centre for Non-Traditional Security Studies (NTS Centre)** conducts research and produces policy-relevant analyses aimed at furthering awareness, and building the capacity to address NTS issues and challenges in Asia. The centre addresses knowledge gaps, facilitates discussions and analyses, engages policymakers and contributes to building institutional capacity in the following areas: Humanitarian Assistance and Disaster Relief; Food, Health and Energy Security; Climate Change, Resilience and Sustainable Development; and Peace and Human Security. The NTS Centre brings together myriad NTS stakeholders in regular workshops and roundtable discussions, as well as provides a networking platform for NTS research institutions in the Asia Pacific through the NTS-Asia Consortium.

More information on NTS Centre and a complete list of available publications, policy briefs and reports can be found here:
http://www.rsis.edu.sg/research/nts-centre

ABOUT THE S. RAJARATNAM SCHOOL OF INTERNATIONAL STUDIES

The **S. Rajaratnam School of International Studies (RSIS)** is a professional graduate school of international affairs at the Nanyang Technological University, Singapore. RSIS' mission is to develop a community of scholars and policy analysts at the forefront of security studies and international affairs. Its core functions are research, graduate education and networking. It produces cutting-edge research on Asia Pacific Security, Multilateralism and Regionalism, Conflict Studies, Non-Traditional Security, International Political Economy, and Country and Region Studies. RSIS' activities are aimed at assisting policymakers to develop comprehensive approaches to strategic thinking on issues related to security and stability in the Asia Pacific.

For more information about RSIS, please visit http://www.rsis.edu.sg

RSiS S. RAJARATNAM SCHOOL OF INTERNATIONAL STUDIES
Nanyang Technological University, Singapore

Nanyang Technological University
Block S4, Level B3, 50 Nanyang Avenue, Singapore 639798
Tel: +65 6790 6982 | Fax: +65 6794 0617 | www.rsis.edu.sg