

# STRIKING A BALANCE: DISASTER RESPONDERS' AND AFFECTED COMMUNITIES' INTERESTS IN NEW TECHNOLOGIES

Policy Report  
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**POLICY REPORT**

**STRIKING A BALANCE: DISASTER RESPONDERS'  
AND AFFECTED COMMUNITIES' INTERESTS IN  
NEW TECHNOLOGIES**

**HADR SERIES  
PART 2 OF 4**

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# TABLE OF CONTENTS

Executive Summary	1
Introduction	2
Findings and Analysis	3
Inadequate focus on demonstrating if innovations benefit assisted populations	3
Local innovators more open to re-appropriation of their innovations	4
Start-ups raise particular challenges and opportunities for balancing interests	6
Conclusion	8
Policy Implications	9
About the Author	10
About The Centre For Non-Traditional Security Studies	10
About The S. Rajaratnam School of International Studies	11

## **EXECUTIVE SUMMARY**

In December 2017 the Centre for Non-Traditional Security Studies at the S. Rajaratnam School of International Studies (RSIS) identified four policy balances that must be struck when using emerging technologies in humanitarian operations. This report specifically explores how to balance the needs of disaster responders with those of the disaster-affected when innovating. It presents three principal findings. First, innovators must do more to confirm if their innovations actually bring benefits. Second, local innovators may be more open to unforeseen uses of their ideas, resulting in more locally beneficial outcomes. Third, start-up companies are uniquely situated to co-innovate productively with local communities; however, this brings additional risks that need mitigating. The paper gives several policy recommendations in light of these findings.

# INTRODUCTION

In December 2017 the Centre for Non-Traditional Security Studies at RSIS identified four policy balances that must be struck when using emerging technologies in humanitarian operations.<sup>1</sup> Those are as follows:

1. Balancing humanitarian uses of emerging technologies and other public goods
2. Balancing the needs of disaster responders and those of the disaster affected when exploring uses of emerging technologies
3. Balancing the short- and long-term interests of those receiving aid
4. Balancing emerging technologies capacities to both centralise decision-making and facilitate individual autonomy during disasters

Each of these will be considered in a series of follow-up policy reports. This report explores how to balance the needs of disaster responders and those of the disaster-affected when using emerging technologies. It draws on 10 semi-structured interviews conducted in Manila, Philippines in August 2018 with purposefully selected interlocutors representing both government and non-government sectors. The outcomes of those interviews were then discussed with humanitarian workers in Japan in September 2018 to gain a comparative perspective between a developing and a developed economy, both of which routinely experience significant disasters.

This policy report relays the findings of the research and, where appropriate, situates those findings within broader debates in the literature on humanitarian innovation. It then provides some policy recommendations based on those situated findings.

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<sup>1</sup> Searle, M. *Humanitarian Technology: New Innovations, Familiar Challenges, Difficult Balances* (RSIS, Singapore, 2017 Report)

## FINDINGS AND ANALYSIS

### **Inadequate focus on demonstrating if innovations benefit assisted populations**

The theme of deprioritising the people innovators are seeking to assist arose in several interviews. This came in two forms. The first was a limited concern with whether a given innovation actually produces benefits. The second was ignoring negative community feedback if a given innovation benefits the disaster responder.

#### ***Methodologies sometimes do not authoritatively demonstrate innovation benefits***

According to one interviewee, too often it is an “article of faith that innovations will benefit communities,” as the research methodology is insufficiently rigorous to make an authoritative assessment.<sup>2</sup> In one cited example, an agency adopted a new platform to map feedback from people being assisted during the Typhoon Haiyan response despite staff asserting that the process could have been done just as well and more simply using Excel spread sheets. No methodology was deployed to determine the platform’s benefits over Excel.<sup>3</sup>

One informant with direct experience supporting innovations from academic, private, and humanitarian sectors noted “it can be difficult to get NGOs (non-governmental organisations) into the innovation mind-set. [Instead] they work in a development mind-set of ‘I said I would do this and I delivered it.’”<sup>4</sup> Humanitarians are accustomed to delivering programmes, and consequently tend to collect data to the extent required to run those programmes and report to their funders. This data is different to that needed to learn, improve, and re-test an innovation. This is again consistent with a de-prioritisation of determining whether a given innovation actually benefits those in need, this time in preference of donor reporting.

#### ***Benefits to responders can outweigh affected community interests***

When innovations’ benefits were assessed, in several cases the preferences of those being assisted were minimised. One innovation to gather beneficiary

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<sup>2</sup> Interview with local scholar, Manila, Philippines, 21 August 2018

<sup>3</sup> This parallels experiences elsewhere. See Elrha. (2017) ‘Global Prioritisation Exercise for Research and Innovation in the Humanitarian System’. Phase One: Mapping. (Elrha: Cardiff)

<sup>4</sup> Interview local NGO employee, Manila, Philippines, 24 August 2018

feedback via SMS was implemented despite the community expressing a preference to give face-to-face comments, which allowed them to share more nuanced feedback.<sup>5</sup> The fact that its digitised nature made compiling data and reporting to donors far easier was considered more compelling. This prioritisation of responders' interests matches research conducted elsewhere into the use of drones and remote sensing in humanitarianism.<sup>6</sup>

## Local innovators more open to re-appropriation of their innovations

There may be an important divide in attitudes towards humanitarian innovation between response organisations from disaster-affected countries themselves, and international aid actors. This seems to interact with the ongoing debate on aid localisation concerned with increasing the amount of money given directly to local NGOs, and furthermore devolving more operational decision-making power to them. This has implications on balancing the interests of the disaster-affected with those of disaster responders. While further research would be required to confirm this definitively, an initial case is laid out below.

Geographical Information System (GIS) mapping technologies provide one example. One GIS expert noted a reflex among governments and international NGOs to use GIS to create vast, centralised maps with such detailed resolution that only fully-trained mapping experts – like the ones they employ – can use them.<sup>7</sup> This was often reported to be for purposes of accountability and top-level coordination.<sup>8</sup> In the view of the GIS expert, such “maps are useful, but less so for communities themselves,” in essence because they require an exclusionary level of expertise to understand. She contrasted this reflex with efforts among local NGOs to show that “GIS does not have to be too technical,” and can be used by community members to plan evacuations and reduce their own disaster risk. The result

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<sup>5</sup> Interview with local scholar, Manila, Philippines, 21 August 2018

<sup>6</sup> See for example: International Human Rights and Conflict Resolution Clinic (Stanford Law School) and Global Justice Clinic (NYU School of Law), *Living Under Drones: Death, Injury and Trauma to Civilians from US Drone Practices in Pakistan* (September 2012), <http://chrgj.org/wp-content/uploads/2012/10/Living-Under-Drones.pdf>; John R Emery, “The possibilities and pitfalls of humanitarian drones,” *Ethics & International Affairs*, 30, no. 2 (Summer 2016): 162-4; Donini A, Maxwell D (2013) From face-to-face to face-to-screen: implications of Remote Management for the effectiveness and accountability of humanitarian action in insecure environments. *Int Rev Red Cross* 95(890): 384-413; Karlsrud J, Rosén F (2013) In the eye of the beholder? UN and the use of drones to protect civilians. *Stab Int J Sec Dev* 2:2;

<sup>7</sup> Interview local NGO employee, Manila, Philippines, 22 August 2018

<sup>8</sup> Interview with employee of international organisation, Manila, Philippines, 22 August 2018; Interview with employee of international organisation, Manila, Philippines 24 August 2018



is highly localised maps specifically for covered communities to use. Those communities are trained and responsible for map maintenance and usage. The result is a locally useful mapping mechanism that exists in parallel to the highly centralised maps noted above. Communities have subsequently been able to devise better evacuation plans tailored accordingly to different types of disasters.

One local academic captured this reflex: “This is our philosophy: we’re more or less just ‘downloading’ a tool kit to those folks [and saying] you can do with it what you want.”<sup>9</sup> In one example, he described developing a technology by which digital images can be broadcast as sound waves, meaning anyone with a broadcast radio such as a walkie-talkie can send an image, perhaps of a disaster-struck area or a missing person. He said: “If you give a capability, people will find a way to use it. Just leave them alone with it day-to-day. And then, when a disaster hits, it quickly morphs into a local disaster response network.”

This position of simply “downloading” an innovation and then letting the community use it as they see fit is supported by other research. In another example, an SMS-based accountability innovation deployed following Typhoon Haiyan was re-appropriated by the local community instead to share well-wishing messages and even send song requests and dedications to a local radio station.<sup>10</sup> This may appear initially to be tangential to disaster recovery; however, analysis suggests this rebuilds community bonds and restores a sense of normality to daily life, both of which are extremely important to rebuilding after a disaster has struck.

This parallels the general localisation agenda being pursued by the humanitarian sector; however, it raises slightly different questions regarding the interests of those affected by disasters. As well as unexpected innovation successes, there are also examples of unforeseen negative side effects. Some particularly interesting research traces the governance legacies that can stem from introducing novel technologies during times of crisis.<sup>11</sup> This can provide tools for previously marginalised groups to get their interests recognised. But those tools might also conversely strengthen the influence of already powerful political groupings. Whether an impact is positive or negative will depend on a myriad of contextual factors that are difficult to

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<sup>9</sup> Interview with local scholar and humanitarian innovator, Manila, Philippines, 23 August 2018

<sup>10</sup> Curato, N., presentation at Roundtable on Humanitarian Innovation: Critical Questions and Implications for Southeast Asia (RSIS, Singapore, Conference Report). Available at <https://www.rsis.edu.sg/wp-content/uploads/2018/07/NTS-EventReport-HUMTECHRoundtable-11june2018.pdf>

<sup>11</sup> Curato, N. “From authoritarian enclave to deliberative space: governance logics in post-disaster reconstruction” *Disasters* 42(4): 635-654

forecast. While outside innovators may be just as likely as local ones to provoke such unintended side-effects with their innovations, the more hands-off approach reported by these local innovators leaves greater space for these side-effects precisely as it increases the margins for unexpected uses to appear.

## **Start-ups raise particular challenges and opportunities for balancing interests**

Many interviewees highlighted the role of start-ups in humanitarian innovation. Two particular implications arose. The first concerned the acute tension of business-related and humanitarian motivations to engage in innovation that can arise with start-ups. The second concerned the practice of “co-innovation” with local communities.

### ***Tension of business-related and humanitarian motivations for innovating***

Start-ups have a peculiar motivation to gather “use cases” with which to market their products.<sup>12</sup> One interviewee reported several instances when start-ups negotiated free use of their innovations on condition that the humanitarian groups using them would promote their product.<sup>13</sup> As such, while start-ups remain motivated by genuine concern for the well-being of others, the use of their innovations in humanitarian settings can be extremely helpful within their general business strategy.<sup>14</sup> Donors, aid organisations, and governments must remember this when determining which ideas are worth funding or partnering to implement, and determine whether hype around a given innovation is justified, or simply part of gathering more use cases.

### ***Start-ups’ flexibility has mixed implications for balancing interests***

Despite these potential negatives, a strong reason to prioritise partnering start-ups still came out in interviews. Informants unanimously agreed start-ups innovate more flexibly than other actors. In the words of one international organisation employee contrasting his own experience, “[we

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<sup>12</sup> Interview local NGO employee, Manila, Philippines, 22 August 2018; Interview local NGO employee, Manila, Philippines, 24 August 2018

<sup>13</sup> Interview with local scholar, Manila, Philippines, 21 August 2018

<sup>14</sup> This parallels other documented examples of private companies testing new products in humanitarian settings before releasing them in more developed markets. See, Katja Jacobsen, *The Politics of Humanitarian Technology: Good Intentions, Unintended Consequences*, (London: Routledge, 2015)

should be able to] at least look at it [emerging technology] and not be bound by policy.”<sup>15</sup> Two implications of this flexibility were highlighted. First, the private sector in general is regulated more lightly, which frees up the innovation process. However, this may come at the cost of reduced protections for people subject to those innovations.<sup>16</sup>

The second implication concerns “co-innovation” – a strategy raised several times by interviewees for balancing organisational and beneficiary interests when innovating. Co-innovation is essentially the inclusion of local community members when devising, testing, and revising an idea. In this way it differs from, but is often used, to complement the “downloading” of innovations discussed above. A series of interviewees characterised the approach of start-ups, and local and international NGOs, to co-innovation differently. The co-innovation practiced by international NGOs was thought to be motivated predominately by sustainability, understood by those NGOs to mean successfully handing over their innovation to a local partner who can continue the project.<sup>17</sup> Meanwhile, the co-innovation practiced by local NGOs was characterised as done to maintain relationships, rather than purely to improve an innovation. In contrast, start-ups are spared the expectations placed on local and international NGOs respectively; as a result, they were considered freer to co-innovate purely in pursuit of a better, more marketable product.

The result here is a paradox. On the one hand, start-ups are more able to innovate purely to meet the needs of end users. However, they are simultaneously predisposed to de-prioritise those users’ interests in pursuit of their own business viability.

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<sup>15</sup> Interview with employee of international organisation, Manila, Philippines, 22 August 2018

<sup>16</sup> For detailed discussion see, Searle, M., (2019) Striking a balance: Emerging Technologies, Humanitarian Needs and Other Public Goods (Policy Paper, Singapore, RSIS)

<sup>17</sup> In the words of one interviewee: “because otherwise you are just imposing.” Interview local NGO employee, Manila, Philippines, 24 August 2018

## CONCLUSION

Three principle conclusions are suggested by this research. First, humanitarian responders and private companies each have motives for deploying new technologies that can undermine the interests of those caught in disasters. For humanitarian responders, two particular challenges arose from experiences in the Philippines. First, research methodologies can be insufficiently rigorous, expanding space for organisational interests to obstruct a proper determination of whether new ideas actually deliver benefits to those in need. Second, when an innovation makes humanitarian responders' work easier, community concerns about it may be minimised. For private corporations, product development ahead of deployment in mainstream markets, or straightforward business viability and profit, all potentially undermine innovating in the interests of those in need.

One way to mitigate the risk of this occurring is to review all technological trials in humanitarian settings routinely via a standing review board. Models for this exist in medical and social science research, both of which entail experimenting on human beings.<sup>18</sup>

The second conclusion suggests localising innovation may result in more effective satisfaction of community needs. The inherent unpredictability of innovating can produce successes that innovators themselves are unable to see. There may be a greater willingness among local innovators to step back and allow space for communities to re-appropriate ideas for whatever needs they consider most urgent or suitable. In practical terms, creating this space requires two things. The first is humility on the part of innovators; they invariably know less about the context in which they are working than the local community they are seeking to help. Second, evaluations – both internal reviews and evaluations requested by external funders – require dedicated sections that consider unforeseen potential uses that come to light during testing or deployment. However, the potential for unforeseen success comes together with possibilities of unintended negative side effects. Creating more space for one likely leaves more space for the other.

Third, start-ups are perhaps uniquely free to co-innovate purely to ensure an innovation better meets community needs. However, this in turn provides fewer protections to those same communities from the potential downsides of experimentation and the risk of innovators prioritising their own business interests. This again could be mitigated via a standing review board.

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<sup>18</sup> This possibility is discussed further in Searle, M., (2019) *Striking a balance: Emerging Technologies, Humanitarian Needs and Other Public Goods* (Policy Paper, Singapore, RSIS)

## POLICY IMPLICATIONS

All donors, and NGO, private sector and state actors engaged in humanitarian innovation should:

- Consider creating standing review boards as standard when conducting any innovation project to mitigate the risks of tangential motivations for innovation undermining the interests of people in need of assistance.
- Formally include representatives of communities who have consented to partake in any innovation experimentation to ensure community concerns are fully represented when assessing an innovation.

The higher education sector should:

- Make its expertise in developing ethical guidelines for experimentation involving human subjects more available to humanitarian innovators.
- Spur Singaporean institutions in particular to develop this capacity given their location within a highly innovative jurisdiction attracting significant interest from start-ups in close proximity to a severely disaster-prone region.

State governments should:

- Consider requiring evidence that a relevant review board has been created to oversee an innovation's trial before granting permission for the trial to proceed within their jurisdictions.
- Encourage innovation hubs, including Singapore, to consider requiring such evidence before organisations based within their jurisdiction test humanitarian innovations abroad.

NGOs should:

- Consider emphasising innovation partnerships with start-ups. While start-ups may initially have a more limited understanding of the reality of humanitarian operations than other actors, making their first pitch of ideas often wide of the mark, they are structurally incentivised to reiterate faster and better than other innovation actors.

Government, NGO, and private sector innovators should:

- Create space in their innovation processes for unintended uses of their ideas to arise.
- Include formal evaluations and analysis of unintended uses of innovations in reports to stakeholders.

## ABOUT THE AUTHOR

**Martin Searle** is an Associate Research Fellow on the Humanitarian Assistance and Disaster Relief [HADR] Programme, Centre for Non-Traditional Security Studies (NTS Centre), S. Rajaratnam School of International Studies (RSIS), Nanyang Technological University (NTU) in Singapore. He previously spent 6 years with the international medical humanitarian organisation Médecins Sans Frontières/Doctors Without Borders (MSF), including 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.

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**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 the Asia Pacific region and beyond. 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; Climate Security and Migration. 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.

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