More than Laboratories: Four Decisive Challenges Confronting Humanitarian Innovation[1]

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Abstract

When former Secretary General of the United Nations Ban Ki-moon encouraged the humanitarian sector to innovate and create a new paradigm to respond to people in crisis, the sector answered with an unbridled number of new enterprises and laboratories to create tools, products and new initiatives. As these emerged, so did the reality of the changing complexity of communities in need of humanitarian assistance. The deterioration of the natural physical environment, along with burgeoning population dynamics and threats to humanitarian workers themselves, has tipped the balance of complexity beyond the capability of the system to respond effectively. The humanitarian sector as a whole must urgently commit to reconciling four critical challenges to reinvent itself and its effectiveness: reconciling the meaning of innovation; developing an overarching strategy that addresses the radically changing global context in which communities require assistance; agreeing on an integrated structure to deliver innovation; and addressing how innovation is financed. Unless the sector addresses these four elements, the action and effect of innovation will fail to realise the transformational change necessary, to respond to communities in crisis now and in the future.

Keywords: humanitarian innovation, humanitarian innovation challenges

Introduction

Despite seventy years of UN programme interventions, the need for global humanitarian assistance has not been greater since the end of the Second World War (UNHCR, 2016a). In 2017, more than 201 million people living in 134 countries required humanitarian assistance, with a record 68.5 million people forcibly displaced by violence and conflict (Development Initiatives, 2018; UNHCR, 2017). The use of violence and conflict by state and non-state actors towards innocent civilians is increasing, along with deliberate targeting of humanitarian workers, operations and inventory used to help people trapped in conflict (Fouad *et al.*, 2017; Stoddard *et al.*, 2017; Stoddard *et al.*, 2018).

Amplifying this instability has been the slow progress towards changing the vulnerability of people living in many countries. Notwithstanding advances made in Millennium Development Goal (MDG) targets, an estimated 736 million people remained in extreme poverty (less than US$1.90 per day) in 2015, while nearly one in every two people in the world (46 per cent) were trying to live on less than US$5.70 per day (World Bank, 2018: 69). Global hunger, once in decline, has increased over the past three years, reaching a level in excess of 821 million people (WHO, 2018a), while Asia had the highest absolute number (515 million people), sub-Saharan Africa had the highest prevalence, with 23.2 per cent of people suffering from chronic food deprivation (FAO and UNICEF, 2018). In 2017, over 22 per cent of the world's children under five years of age were suffering the effects of stunting (FAO and UNICEF, 2018), and more than two billion people lived without access to safe drinking water (WHO, 2017).

The increased demand for assistance is coupled with the growing cost of providing the aid. Over the past decade, UN-coordinated appeals have increased by over US$17 billion to a record US$25.2 billion, and while not

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an indicator of aid-outcome efficacy or cost-effectiveness, it nevertheless represents a 23 per cent increase between 2016 and 2017 (Development Initiatives, 2018). Despite the largest funding commitment ever received in 2017, US$14.9 billion, there remained a funding gap of US$10.3 billion (Development Initiatives, 2018). Funding sought for humanitarian assistance at the commencement of the 2019 year was US$21.9 billion (UNOCHA, 2018).

None of this complexity is new. The sector has historically responded to emergencies where local conflict collides with weak social systems, high-threat pathogen outbreaks, natural hazard disasters and a shortfall in financial or moral will from the international community to act (Development Initiatives, 2018; Salama et al., 2004). What has changed, however, is the nature of this complexity. It has been inextricably shifted by forces that are beyond the current structural, technical or resource capacity of the humanitarian system to respond to people in crisis with any proven efficacy (Checchi et al., 2016; Colombo and Pavignani, 2017; Spiegel, 2017).

The most confronting factor is the magnitude of threat faced by communities from the deterioration of the physical environment and destruction of natural ecosystems on which their lives depend. The biological systems required to sustain human health and life are not recovering from growing environmental stress, natural disasters and climate-change impacts (IFRC, 2018; IPBES 2019; Myers et al., 2017; Whitmee et al., 2015). The World Health Organization (WHO, 2016) estimated that exposure to 'unhealthy environments' caused 12.6 million deaths in 2012, with South East Asia and Western Pacific bearing the highest burden, of 7.3 million deaths. In 2015, exposure to environmental pollution was responsible for 16 per cent of deaths worldwide, with 92 per cent occurring in low- and middle-income countries (Landrigan et al., 2017).

Similarly compelling is the speed at which the urban shift is advancing. The world's urban population is expanding and is projected to grow by a further 2.5 billion people by 2050, with Asia representing 90 per cent of this increase (UNDESA, 2014). Some urban spaces in Asia and Africa are already growing at an estimated 1.25 million people per week (Burkle et al., 2013). Such rapid growth adds greater strain to already limited local resources and increases the risk of harm from and vulnerability to natural hazard disasters and complex emergencies (NAS, 2018; UNODRR, 2019).

When UN Secretary General Ban Ki-moon convened the World Humanitarian Summit (WHS) in May 2016, he sought commitments from global leaders for new action, imperatives and direction for the humanitarian agenda. To deliver on the landmark agreement reached at the WHS, termed the 'grand bargain', and deliver more cost effective and efficient humanitarian aid would require the innovation of systems, processes and practice embedded at an unprecedented level across the entire sector (Ki-moon, 2016).

Innovation has long been an essential function of humanitarian work. Innovative products, approaches and processes are so commonplace that for functions like information communication technology (ICT) there are international guidelines for donors to standardise their implementation (Waugaman, 2016). Advances in technology and their distribution have been so profound that the Global Burden of Disease study estimated these innovations were responsible for more preventable deaths of children under five years of age than all other MDG interventions combined (Wang et al., 2014:14).

However, the approach to mainstream innovation successfully across the humanitarian system has remained elusive. While one of the four themes from the WHS was called 'transformation through innovation', the sector has yet to agree on the meaning of innovation, understand its implications or form any consensus on the process for advancing the practice. This includes creating the principles, overarching strategies, business structures and partnerships necessary to innovate beyond product development, which continues to dominate the focus and narrative for many organizations and 'innovation laboratories' today (Agenda for Humanity, 2017; Gates Foundation, 2019; IFRC, 2019; Obrecht and Warner, 2016; Oxfam America, 2014; Sandvik et al., 2014; WFP, 2019).

This article presents four critical issues for the humanitarian system to confront, overcome and advance, if 'transformation through innovation' is to be realized. It is written from a perspective of non-government actors involved in the implementation of humanitarian response programmes. The first challenge relates to the meaning of innovation itself and how the sector interprets and applies the action of innovating. The second challenge concerns the changing nature of humanitarian assistance. This article posits that humanitarian action is losing efficacy not because of poor design or implementation but due to the changing nature of the context that requires humanitarian assistance. The third challenge is the effect and influence of donor funding. Its policies and implementation act as 'push and pull' influences across the sector, causing dispersion of resources and ultimately a loss of efficiency and impact. The final challenge is described as structural, where 'top-down' innovation, community experimentation and donor constraints need to be addressed. Without resolution of these four challenges, real transformational change through innovation will remain elusive, to the greatest cost of vulnerable people and communities in crisis for which the system exists and proclaims to serve.

The Definition Challenge

There have been many different definitions of innovation used within the humanitarian response sector, along with attempts to develop a common language. It has been defined as 'a means of adaptation and improvement through finding and scaling solutions to problems in the form of products, processes or wider business models' (Betts and Bloom, 2014: 5). Elrha's Humanitarian Innovation Fund once described it as 'doing something different at a sector/system level; seeking improvement for the sector/system; iterative' (Obrecht *et al.*, 2015). Others have suggested the sector 'not to be focused on the written definition' but rather 'work on a shared understanding of the goals and ambitions' of innovation (Ramalingam and Bound, 2016: 69). The synthesis report of the WHS consultation process referred to innovation 179 times and on one occasion described it as 'a core activity to increase the responsiveness and effectiveness of humanitarian services' (WHS, 2015: 130). These relatively straightforward and practical meanings contrast starkly with that used by the single largest donor (in absolute dollars) of humanitarian aid globally. The United States Agency for International Development (USAID) (2016) refers to innovation as 'novel business or organizational models, operational or production processes, or products or services that lead to substantial improvements (not incremental "next steps") in addressing development challenges'.

With such disparate meanings, there is little surprise the sector was once criticised for failing to achieve any real innovation for two decades, 'limiting efforts to increase coverage, quality and value' (DFID, 2012: 10). The sector embraced the 4Ps for innovation, developed by Bessant and Tidd, explaining the translation to product, process, position and paradigm (ACFID, 2016). The 4Ps provided a simplistic interpretation of how such a model could be applied retrospectively to humanitarian sector activities (WHS, 2015). Unfortunately, the promotion of its application to the humanitarian sector (Ramalingam *et al.*, 2009) failed to emphasise that the 4Ps act as one part of an overall business strategy. Without the strategy that articulates the intent, business structure and plan, the 4Ps become simply another process activity to perform.

By contrast, the meaning and use of innovation within the private sector evolved over decades, and research studies began emerging as a separate field in the 1960s (Fagerberg, 2004). An early definition from the private sector described innovation as the 'generation, acceptance and implementation of new ideas, processes, products or services' (Thompson, 1965: 36). This clear and concise meaning was advanced to incorporate concepts of creativity (Amabile *et al.*, 1996: 25), profitability and value adding (Damanpour, 1992; Johannessen *et al.*, 2001), differentiating between process or discrete event (Cooper, 1998), distinguishing within business functions and practices (Mortensen and Bloch, 2005: 46) and even classifying innovation by type and creation of nomenclature (Garcia and Calantone, 2002). The private sector understood innovation as an imperative and priority for 'successful' business practice, critical for cutting costs, opening markets, improving customer value and effectively managing competitive risk (Keohane, 2013; Quitzau, 2010; Tidd *et al.*, 2001).

There are many parallels between the evolution of innovation practice within the private sector and that of the humanitarian sector. Chesbrough (2006) used the term 'open innovation' to explain the shift in the way companies had been innovating. Historically, businesses attempted to internalise the creative and innovative process, funding large research, development and design laboratories by selling market successes at high margins (Chesbrough and Crowther, 2006; Van de Vrande *et al.*, 2009). The humanitarian sector followed a similar path. It promoted and created new products in laboratories for data collection, financing and communication technology, seeking to fund product development through pilot projects in the hope that success would land larger grants and enable wider use and application, often described as 'scale' (WHS, 2015).

Arguably the most pressing issue related to the meaning of innovation for the sector to resolve is the question 'who is the customer we are trying to provide value for'? The answer to this question may first appear obvious but in reality is a paradox. For most NGO emergency-response agencies, the donor is the customer and the community where the innovation is applied is the beneficiary. As such, response organisations are expected to provide the best value proposition for the customer, as for any customer who 'purchases' a product or service. The chance of repeat business then increases, either from the existing opportunity or another opportunity in the future. If the value proposition solely focuses on the donor, where does this leave the beneficiary, and how can the humanitarian system reorientate itself to provide better value to the community in crisis? For example, of all the innovations developed specifically for application in humanitarian emergency responses, such as ICT, drones, remote sensing tools, data capture, near real-time processing, emergency communication and mapping, how many actually added 'user' value for the community (Betts and Bloom, 2014; Ramalingam and Bound, 2016; Ramalingam *et al.*, 2009)? This distinction between customer and beneficiary is not unique to the humanitarian sector. However, the difference in humanitarian assistance is that the 'product and service' are life-saving interventions, not choices made by customers formed on value propositions.

The private sector learned from trial and error that innovation of business models was critical to success and advanced in times of major disruption and dislocation (Lindgardt *et al.*, 2009). The humanitarian sector faces a similar period of disruption caused by environmental, climate and population pressures. To succeed in the goal of transformation through innovation, humanitarian actors now need to realign the meaning and practice of innovation towards strategic business models that fit the current and future context complexities, rather than those of the past.

The Context Challenge

Complex humanitarian crises have historically involved multiple factors, including conflict, disease outbreaks, natural hazard disasters and displaced people (Toole and Waldman, 1997). In 2017, of the thirty-six countries with the highest number of people requiring assistance, complex crises occurred in twenty-nine of them (Development Initiatives, 2018: 18). However, two emerging forces and one historical reality are now converging and challenging the capability and capacity of NGOs to alleviate ongoing suffering and strengthen community preparedness and resilience. New and innovative systems, methods and approaches are urgently needed by the humanitarian system to mitigate the effects of these context dynamics on communities in crisis.

The first context dynamic is the deterioration of the physical environment and damage to natural ecosystems which maintain human life and on which the humanitarian response system relies to rebuild sustainable livelihoods and resilience. Human activity has so damaged the planet's ecosystems that deforestation, freshwater degradation, ocean acidification, environmental pollution and biodiversity loss are singularly and cumulatively causing unprecedented and premature mortality, threatening the very existence of people (Corvalen *et al.*, 2005; IPBES, 2019; McMichael *et al.*, 2006; McMichael and Bennett, 2016; Whitmee *et al.*, 2015).

In 2015, pollution was responsible for 'three times more deaths than from AIDS, tuberculosis, and malaria combined and fifteen times more than from all wars and other forms of violence' (Landrigan *et al.*, 2017: 1). The Intergovernmental Panel on Climate Change (IPCC) (Smith *et al.*, 2014) published an evidence-based health-risk and hazard-management blueprint to prepare for climate change. The burden of disability-adjusted life years caused by air pollution in 2010 was 7.6 per cent of all DALYs lost, higher than all twelve other risk factors, including malnutrition, smoking and high blood pressure.

The damage to the planet's physical environment is worsening, and the causes responsible, including urban growth, energy production, primary and secondary industrialised processes and the global spread of toxic chemicals, are increasing, not abating (Landrigan *et al.*, 2017). Human societies are in jeopardy, along with a further one million species at risk from extinction from the accelerating decline in the planet's physical environment (IPBES, 2019). The UNHCR (2013) predicted that within thirty years, between 50 and 350 million people would be displaced due to environmental stress. Consider the 2015 equatorial Asian smoke-haze disaster, where an estimated 103,000 excess deaths (95 per cent CI, 26,300–174,300) occurred across Indonesia, Malaysia and Singapore (Koplitz *et al.*, 2016). The excess all-cause mortality due to short-term exposure to particulate matter (PM2.5) polluting the air was estimated at 11,880 deaths (95 per cent CI, 6,153–17,270) (Crippa *et al.*, 2016). Local NGOs and multilateral agencies based in Indonesia responding to people suffering the choking haze had little knowledge, understanding or guidance of how to reduce the impact for the community in need.

The second context challenge confronting humanitarian response organisations is the rapid growth in urbanisation. Population densities are changing from rural to urban living, with estimates that the 54 per cent of the global population currently living in urban areas is projected to increase to 66 per cent by 2050 (UNDESA, 2014). In South Asia, 190.7 million people reside in urban slums, and in Dhaka the proportion of people living in slums is 40 per cent of the total urban population (BBS, 2014; UNDESA, 2014). Across Africa, the demographic pressure created by the urban shift has been linked to instability and increasing conflict and inter-communal violence (Fortune *et al.*, 2015; Raleigh, 2015). This rapid population expansion both increases pressure on existing local resources and the demand for assistance in the event of natural hazard disasters. For example, the 2017 south Asian flood crisis resulted in 40 million people requiring emergency assistance, including 31 million in India, 8 million in Bangladesh and 1.7 million in Nepal, with 1.5 million homes destroyed and more than 2.4 million hectares of croplands lost (UNICEF, 2017).

The third challenging dynamic involves the growing risk of violence directed towards the humanitarian mission and the approach now required to protect all people involved in the response programme. Civilians are being targeted and used as human shields or forced into the field of battle and crossfire as they flee, as reported in Falluja (Amnesty International, 2016a). The UN/Syrian Arab Red Crescent aid convoy, intended for 78,000 people in Aleppo, was targeted and bombed, effectively obliterating any aid for the people in the city (Amnesty International, 2016b). In October 2015, a US

air strike destroyed a hospital in Kunduz in Afghanistan, run and operated by Médicins Sans Frontières (MSF), killing twenty-four patients, fourteen staff and four carers (MSF, 2016a). In August 2016, a strike on a hospital run by MSF in Yemen left eleven dead and nineteen injured (MSF, 2016b). The bombing of al-Quds hospital in Aleppo killed at least twenty people (Al Jazeera, 2016a), and a terrorist bombing targeting a hospital in Quetta in Pakistan killed at least seventy people (Al Jazeera, 2016b). In 2015, 287 humanitarian aid workers were estimated to have been attacked, 109 killed and sixty-eight kidnapped, and these figures rose in 2017 to 313 attacked, 139 killed and seventy-two kidnapped (Humanitarian Outcomes, 2017; Stoddard et al., 2018).

The Donor Challenge

The donor financing landscape is imperative to drive and deliver an agenda of transformation through innovation. The challenges facing NGOs seeking to innovate humanitarian response programmes are not related to the spread or breadth of donor funding available. Instead, the challenges relate to inadvertent constraints created by donor funding policies, their application and implementation.

The humanitarian innovation agenda started long before the WHS. Years earlier, NGOs such as Oxfam, Internews and World Vision had generated the finance to establish innovation laboratories to mix knowledge, experience, creativity and entrepreneurship and kick-start innovation-pipeline thinking (Betts and Bloom, 2014; Huffington Post, 2016; McClure and Gray, 2015). The Last Mile Mobile Solution (LMMS), developed by World Vision International during that process, has subsequently been applied in over thirty countries, reaching 10 million beneficiaries each year (USAID, 2019a; WVI, 2016). By 2015, multilateral, bilateral, not-for-profit, private-philanthropy and private-sector organizations had equally created a 'drive for change' towards innovation. A snapshot of the donor landscape at that time included the DFAT (Department of Foreign Affairs and Trade) innovation Xchange (AU$140 million), the DFAT Pacific Sports for Development Partnership Innovation Fund (AU$29 million), Elrha's Humanitarian Innovation Fund (co-sponsored by DFID (Department for International Development), the Dutch Ministry of Foreign Affairs and SIDA) (GB£50,000–150,000 per recipient), the UNICEF Innovation Fund (raised US$9 million), the WFP Cooperating Partners Innovation Fund (US$1 million), Google Impact grants (AU$4.5 million across ten organisations), the GSK healthcare innovation awards (US$ 1million), the Global Innovation Fund (US$200 million over 5 years), the OCHA Humanitarian Research an Innovation Grant (US$4,000), Verizon's Powerful Answers Award (US$6 million), Bill and Melinda Gates' Grand Challenges (up to US$1 million per award) and the MacArthur Foundation grant (US$100 million) awarded to one single recipient (McArthur Foundation, 2016; UNHCR, 2016b).

This donor financing has been essential in promoting creativity to discover new and better ways of delivering humanitarian responses. However, policies that underpin the funding have also inadvertently pushed and pulled NGO responders towards practices that inhibit, restrict or stifle innovation. The current donor enthusiasm for scalability is a case in point (Cooley and Linn, 2014; DFAT, 2019; USAID, 2019b). Donors often emphasise the importance of achieving scale with innovations and yet rarely define their expectation of scale or the metrics to be used to test whether scale has been reached. For innovative approaches or interventions to achieve scale in a local application or across the system as a whole requires an evidence base that demonstrates the effectiveness and value of the innovation. Rarely have donors provided the funding flexibility or time necessary to test implementation variables around uptake, penetration, barriers or the applicability of the innovation across different clusters.

Similarly, the implementation of some donor funding policies significantly limits the discovery of an innovation's efficacy or demonstration of its impact. In humanitarian emergency responses, donor funding requirements typically include programme-progress indicators on the inputs and outputs achieved. Rarely is funding provided for the longer-term assessment of the actual outcomes delivered for the people or community by or through the innovation. The inadvertent effects of such policies inhibit the potential for discovering remarkable or unforeseen impacts created by innovations, and they restrict the measurement of efficacy or comparisons of effect achieved by the innovation compared with former approaches (Blanchet et al., 2017; Waldman and Toole, 2017).

Lastly, innovative donor policies and approaches need to be implemented carefully so as not to restrict the potential for the innovation to be successfully tested. This restriction was observed with an innovative donor funding policy aimed at driving cost efficiencies through incentive dividends. Five months after the 2015 Gorkha earthquake, the Nepal–India border remained blocked, severely restricting the supply of fuel and emergency-aid supplies desperately needed by affected communities (PLAN, 2015). Aid-delivery programmes and project-design budgets costed and funded on pre-blockage pricing required radical amendments to accommodate the price changes, which subsequently affected the design, reach and impact parameters (WVIN, 2015).

The cost efficiency could no longer be achieved at the funding level, reducing the number of people reached and affecting the objective measurement of the innovation's success.

A similar consequence occurred during the same humanitarian emergency with the innovative policy approach of direct funding to local NGOs (Knox Clarke and Obrecht, 2015; Spiegel, 2017). During the 2015 Gorkha earthquake response, all response organisations were required to partner with local NGOs. Unfortunately, this caused major time delays and paralysis in response activities because few local NGOs were registered or had staff with the basic skills necessary to support the emergency response (PLAN, 2015). Further, the natural hazard disaster occurred within a context of deeply entrenched views of social hierarchy. Given that a high proportion of people affected by the earthquake were from vulnerable and marginalised groups (Dalits, Indigenous peoples, female-headed households and senior citizens), the capacity of the international humanitarian response system to reach these groups was significantly affected (Ferretti et al., 2016; STC, 2015).

The Structural Challenge

The fourth aspect limiting the potential for innovation to be transformative within the humanitarian system is best described as 'structural', including the historical method used to design and implement specific programme responses, often referred to as the 'top-down' approach.

There is widespread recognition of the importance of community engagement across the sector, emphasised by Ban Ki-moon's commitment to ensure humanitarian action will be 'as local as possible and as international as necessary' (WHS, 2015). Despite advocating and understanding the practice of community-centred engagement and participation (Aaronson and Zimmerman, 2006; ADCAP, 2018; Bedelu et al., 2007; Sphere Project, 2016; Whaites, 1999), the sector continues to struggle to recognise the point along the innovation cycle at which to engage and collaborate with the community.

This said, community-centred innovation design methods and humanitarian action are not mutually exclusive and have been successfully applied all over the world. For example, the American Red Cross established fire-detection sensors in informal settlements in Nairobi (American Red Cross, 2016) and Digital Democracy (2014) partnered with the Indigenous Wapichana people of Guyana to build and operate drones to monitor environmental degradation. UNICEF designed and delivered a crisis-response trauma programme to train Rwandese 'trauma advisors', 'who in turn trained 6193

social agents who provided support for 145,000 children and their families all over the country' (Parkes, 2014: 363), achieved without a single piece of ICT. World Vision International adapted the UNICEF-initiated community-based performance-monitoring approach to create a local social accountability model (CVA) now used in over fifty countries (Walker, 2016).

The second structural challenge relates to solving the difficulty of trialling experimental aspects within programme designs without compromising the ethical standards and humanitarian charter to which the system holds itself accountable (ICRC, 2016; Sphere Project, 2016) – for example, in a health-programme response the use of specialist prophylactic medication, or the use of protective apparel for children, the efficacy of which has not been tested for use in that application or for that specific risk group. The sector has been hesitant to adopt programme-impact modelling to explore the potential of and flaws in innovative interventions, or to create radical programmatic solutions, which, despite their uniqueness, adhere to strict programme ethical standards. One recent example of such a breakthrough occurred with the emergency response to the Ebola crisis and the development of a vaccine against the Zaire ebolavirus and implementation of a vaccination programme. The vaccine was developed within a fractional time envelope and administered to 27,000 people in the Democratic Republic of Congo (DRC) as the first-time use of an investigational therapeutic drug (WHO, 2018b).

Such innovative programmatic responses are now urgently needed for crises requiring the safe transportation of populations under siege from violence or for those communities in peril from the deteriorating physical environment. Organisations such as MSF and UNICEF have well-developed codes of conduct specifically to address innovation within their work practice (Sheather et al., 2016; UNICEF, 2016) and create the starting point for the broader sector to tackle and overcome the issue. MSF have arguably developed the most advanced code, explicitly recognising the risks from pre-existing research and ethical frameworks. They have developed new processes that protect the most vulnerable in the community, while at the same time promoting and enabling innovation within their operation (Sheather et al., 2016).

The third structural challenge relates to the interplay between donor financing and sectoral-cluster silos. The humanitarian emergency response system has narrowed its programme orientation towards standardised programme interventions based on sub-specialty clusters (security, protection, agriculture, shelter, health, WASH, food, education, economic recovery) that form silos of programmatic practice (Fan, 2013; Ferretti et al., 2016; Steets et al., 2010; Stoddard et al., 2015).

Typically, grant-programme design parameters prescribed by donors are not negotiable, such as the periodicity of response or the breadth of cluster-programme approaches that might be incorporated. While this limitation serves the donors' interest, it reinforces the silo effect. If donor financing is explicitly earmarked for emergency-response and relief phases, or restricted to specific cluster programmes, there is little scope to create innovations to tackle longer-term systemic needs or test the sustainability of programme design. Similarly, there is limited ability to broaden the potential for programme impact by combining clusters or sub-speciality approaches. For example, this might be achieved through funding a child-protection programme that incorporates nutrition, WASH, livelihoods and maternal-care outcomes, all of which are related to the protection of children. The term 'multi-sector integration' is widely used and promoted throughout the sector, yet practical experience shows that few cluster programmes ever achieve integration. Barriers such as the different disciplines' languages, different sector intervention approaches, agency priorities and network-governance gaps continue to limit integration, but this problem can be readily resolved. UNOCHA leads the process of operational coordination during humanitarian emergencies, including priority setting, strategy development and creating the humanitarian response programme objectives (UNOCHA, 2019). Such objectives could establish the imperative and drive for innovation and integration, through multidimensional and cross-sector integrated programme design and implementation. Plans made to achieve these objectives would provide the necessary restructuring of clusters, the process for engagement and the funding necessary for humanitarian response actors to create innovative solutions quickly. These objectives would also provide the basis for the vital test of whether a proposed process or programme is an 'innovation' or merely an alternative design solution for a complex situation.

Conclusion

Ban Ki-moon challenged the humanitarian sector to transform with creativity and innovation. It is now the responsibility of all actors to respond to this call. The system has already reached unchartered waters in contending with context complexities for communities in crisis, with even greater complexity expected from climate-change effects (IPCC, 2018; Steffen *et al.*, 2018).

Innovation must now be framed from the strategy-development standpoint, where a sector-wide business strategy drives structure, planning, process and action. Such strategies will unite the sector and enable organizations to understand their collective and unique role and responsibility (technical and otherwise) to deliver a holistic humanitarian response. Only then will the sector reinvent itself and develop the capacity to respond to the new humanitarian complexity through successful partnering with the community, knowledge holders, creators and drivers of innovation. Such strategies cannot be stand-alone, organisation-specific or sector/cluster derived. Defaulting to historical perspectives and views of the past will only serve to reinforce the problems plaguing humanitarian action for decades. The task requires a monumental shift in thinking, especially around viewing success through a lens of bottom-line funding growth. Success needs to be measured through innovation creation and significant improvement in whole systems and new operational and policy indicators and outcomes.

The speed and magnitude with which these new forces are threatening humanity should be all the urgency needed for humanitarian action to address and resolve them.

Notes

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