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Rethinking Human Security after the 2011 Tohoku Earthquake, Tsunami and Nuclear Accident

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Abstract

Despite its strong international support for human security, Japan's adoption of the doctrine has been underwritten by an assumption that it is ultimately a concern for 'others'. Yet on the afternoon of Friday 11 March 2011 it was made terribly clear that human security also had great relevance for the people of Japan, as the Tōhoku region was hit by a massive earthquake, tsunami and nuclear accident at Fukushima Dai-ichi power plant. Japan's triple disaster showed with horrible force that the country is not immune from severe threats to human security. This paper demonstrates there is considerable value in utilising the human security approach to understand Japan's triple disaster. Notably, that the disaster occurred in the context of an economically advanced, stable democracy provides an important counter to the common assumption that human insecurity is only a problem in the Global South.

Introduction

Human security has had a rather eventful life since it was first announced twenty years ago in the 1994 UNDP Human Development Report. Initial hopes that it might become the master paradigm for understanding security in the post-Cold War era were quickly dashed, and its subsequent fate has been much more mixed. The broad manner in which it was originally conceived raised concerns for practitioners who worried about how exactly to apply it, while many scholars found it lacking in analytical rigour. Despite these and other questions raised, the human security approach has proven to be rather resilient, and there are signs that it is maturing and being further accepted. Notably, it has emerged as an important element in discussions on the post-2015 development agenda, and UN Secretary-General Ban Ki-moon (2013) has called for it to be more thoroughly integrated into the UN system.

When considering the fortunes of the human security it is difficult to ignore the prominent role played by Japan, its most significant international backer. Japan initiated the establishment of the United Nations Trust Fund for Human Security, and have contributed the vast majority of the budget: a bill totalling ¥39 billion by the fiscal year 2009 (MOFA 2010, p. 1). It also supported the Commission on Human Security, which was co-chaired by Sadako Ogata. Notably, human security was identified as a basic policy in the 2003 revision of Japan's Official Development Assistance (ODA) Charter. While human security has not been prioritized to the same extent in recent years, Japan has continued to support the approach, and certainly has not abandoned it in the way Canada did (Tan 2010; Edstrom 2011). Even Prime Minister Shinzo Abe has promoted human security, explicitly discussing it in his 2013 UN General Assembly address (Abe 2013b).

Despite its strong international support for human security, Japan's adoption of the doctrine has been underwritten by an assumption that it is ultimately a concern for 'others' (Sato 2007, p. 90). This is reflected in human security being a central part of Japan's ODA, while it remaining completely absent from domestic policy. Yet on the afternoon of Friday 11 March 2011 it was made terribly clear that human security also had great relevance for the people of Japan, as a magnitude 9 earthquake triggered a massive tsunami that struck the Tōhoku region, subsequently causing a major nuclear accident at the Fukushima Dai-ichi power plant. Insofar as human security is concerned with 'sudden and hurtful disruptions in the pattern of our daily lives' (UNDP 1994 p. 3), it certainly applies to Japan's 'triple disaster'. The tsunami resulted in more than 15,800 deaths and another 2,600 people remain missing (National Policy Agency of Japan 2014). Three years later there are still more than 154,000 evacuees as a result of the nuclear accident (Japan Reconstruction Agency 2013, p. 15).

The central aim of this paper is to demonstrate that there is considerable value in utilising the human security approach to understand the 2011 Tōhoku earthquake, tsunami and nuclear accident. There are a number of notable features about this complex disaster that make it an important case study. First, that it occurred in the context of an economically advanced, stable democracy provides an important counter to the common assumption that human insecurity is only a problem in the Global South. Second, while the risk posed by natural disasters was clearly identified in the 1994 UNDP report and by the Commission on Human Security, there has been little work to date on this threat to human security. Third, the nuclear accident at Fukushima Dai-ichi created a unique set of humanitarian issues, many of which had not been adequately considered and prepared for before (Calvi-Pariseti 2013). Furthermore, this case study also provides the opportunity to further sharpen the analytical utility of the human security approach.

The paper proceeds as follows: first, the human security doctrine will be outlined in more detail. It is suggested that the approach has suffered from misplaced expectations, and that its core focus on human vulnerabilities has value for scholars and policymakers. Having re-examined the human security approach, the remainder of the paper applies it to Japan's triple disaster. The focus is primarily on the nuclear accident, as it has created many of the most acute and long-lasting problems. Locating these events within a deeper socio-economic context, the paper identifies how the nuclear industry developed in relation to existing patterns of insecurity in Japan. When the meltdowns occurred, these pre-existing vulnerabilities were exacerbated and new ones appeared. Some of the most serious medium and long-term human security problems are then considered. The paper concludes by reflecting on the longer-term prospects for the theory and practice of human security.

Human Security

The fundamental move that human security makes is rather straightforward: it shifts the focus of security from the state to people. The reasoning, as Anthony Lake (2013), executive director of UNICEF, explains is that, 'in reality, nations are collections of human beings and it's the security of those human beings that defines whether or not a nation is secure.' This may seem self-evident, but it stands in contrast to the longstanding tendency of identifying the state as the primary referent of security. By focusing instead on the 'legitimate concerns of ordinary people ... in their daily lives' (UNDP 1994, p. 22), a different set of concerns are emphasised. It suggests that for most people the most serious threats to their wellbeing do not come from interstate war, but more immediate problems such as hunger, disease, displacement, civil conflict and environmental degradation. This approach thus seeks to realign our understanding of security with the actual threats that most severely and commonly impact people in their daily lives.

Incorporating the full range of pressing threats that people must face meant that human security's remit is unavoidably large. According to the UNDP report, human security entails 'safety from such chronic threats as hunger, disease and repression' and 'protection from sudden and hurtful disruptions in the patterns of daily life' (UNDP 1994, p. 23). It further set out seven main categories of human security threat: economic security, food security, health security, environmental security, personal security, community security, and political security (UNDP 1994, pp. 24-5). This is a rather comprehensive list, and understandably raised concerns that almost anything could potentially fall under the rubric of human security (Krause 2007). The Commission on Human Security hardly helped matters when they came up with a formulation that was even more vague, defining human security as being about the 'the vital core of all human lives', while refusing to identify what counts as 'vital' (CHS 2003, p. 4).

The broad, open manner in which human security was originally formulated has strongly shaped its fortunes. This conceptual ambiguity has been an important factor in limiting its uptake in the UN system (Martin and Owen 2010). As the Deputy Director-General of the International Organization for Migration explains, practitioners have been hesitant to use it because of a 'lack of clarity and common understanding ... of the concept of human security and its implications at the practical level' (Thompson 2013). Within academia, concerns over the extensive scope of human security triggered a long and often tiresome debate between 'narrow' and 'broad' definitions. The former tried to bring the agenda back to a manageable size by focusing on physical violence, with the hope that by defining human security 'more narrowly, it would accrue greater analytical and policy value' (Thomas and Tow 2002, p. 178). Yet if one accepts the basic premise of human security, it is unclear

why death or vulnerability caused by physical violence should be seen as more problematic than when triggered by a natural disaster, hunger, or disease. Recalling that the original rationale for the approach was to develop an understanding of security that reflects the most serious day-to-day threats that people face, it makes little sense to arbitrarily limit the focus to 'freedom from organized violence' (MacFarlane and Khong 2006, p. 245). Reflecting this, the 'broad' definition of human security first set out in the 1994 UNDP report has been reaffirmed by the 2003 Commission on Human Security report, the UN Secretary-General's reports of 2010 and 2012, and the UN General Assembly in 2012 (UNGA 2012).

The comprehensive range of threats identified as falling with human security's remit can create problems, but it is certainly not enough to discount the approach. If a more limited perspective of what a human security approach can and cannot do, it can still have considerable utility. In this regard, one should not underestimate the significance of the simple move of placing people at the centre of our policies and analysis. As Gasper (2010, p. 27) notes, 'combined with "human", "security" conveys a visceral, lived feel, connecting to people's fears and feelings or to an observer's fears and feelings about others' lives. "Human security" thus evokes a sense of real lives and persons.' This offers a powerful reminder about what should be driving our work. Foregrounding the everyday concerns of people may seem rather obvious, but this basic starting point is too often lost or forgotten.

Human security's dual concern with vulnerability and empowerment offers a valuable perspective for considering policy options and analysing situations. As Ryerson (2010, p. 176) notes, it 'provides an effective framework that tells policymakers both where to look (at people inside of the state) ... and what to look for in broad terms (things that threaten, risk or impoverish people).' This entails recognising the vulnerabilities that exist and are exacerbated in a certain context, while also looking for what kind of agency is possible and how it can be further supported. Meanwhile, the seven categories of human security threat outlined in the 1994 report – economic security, food security, health security, environmental security, personal security, community security, and political security – offer a useful way of clarifying, categorising and identifying the most severe forms of insecurity that may exist, and potentially interact, within a given context.

Operating as a lens that brings into focus certain forms of human vulnerability and harm that are often overlooked or insufficiently prioritised, human security also examines how immediate threats are connected to deeper social structures. Human security is not interested in abstracted individuals, but in real people whose identities are shaped by being part of a society. One of the strengths of the way human security was defined in the 1994 UNDP report was

its conscious use of 'people', and its emphasis that human security 'is concerned with how people live and breathe in a society' (UNDP 1994, p. 23). This reflects that security and insecurity are social phenomena; these conditions are generated through people interacting with each other. As O'Brien, St. Clair, and Kristoffersen (2010, pp. 4-5), human security is an 'inherently an integrative and relational concept that draws attention to present and emerging vulnerability that is generated through dynamic social, political, economic, institutional, cultural and technological conditions and their historical legacies.'

Human security remains a valuable approach that offers a nuanced framework for considering how human vulnerabilities are created, exacerbated, and ideally reduced. To date, however, most work has centred on the Global South, despite a core premise being that 'human security is relevant to people everywhere, in rich nations and in poor' (UNDP 1994, p. 3). Certainly what human insecurity looks like differs significantly from one part of the world to another, but one can still find serious vulnerabilities existing even in wealthy, stable democracies. Work has also been unnecessarily limited by the narrow-broad debate, which has resulted in a tendency to focus either on issues related physical violence (narrow) or development (broad). This imbalance has begun to be addressed in recent years, notably through an emerging literature focusing on human security and environmental change, which shows how climate change and extreme weather events are generating serious human security threats across the globe (Matthew et al. 2010; O'Brien, St. Clair, and Kristoffersen 2010; Sygna, O'Brien and Wolf 2013). Natural disasters, such as Hurricane Katrina and Japan's triple disaster, offer further evidence of how even people in highly industrialised and stable democracies can be profoundly vulnerable. Looking at cases such as these offer a way of developing a more balanced and nuanced interpretation of human security, one that is better equipped to recognizing and responding to vulnerabilities in a wider range of socio-economic contexts.

Having outlined the human security approach, the remainder of the paper seeks to further develop and utilise it through considering Japan's triple disaster, and specifically the consequences of the nuclear accident at Fukushima Dai-ichi.

Human Insecurity in the "Nuclear Village"¹

During the height of the crisis at Fukushima Dai-ichi Fox News used a map of Japan that mistook a nightclub in the Shibuya district of Tokyo for a nuclear power plant ('Fox News' Japan Map' 2011). Beyond the obvious reason why this must have been incorrect, it should have been immediately obvious that it was inaccurate, as the vast majority of the fifty-four nuclear reactors then in operation were

located nowhere near Japan's centre of power. This was hardly a coincidence. Nuclear plants 'bring with them diffuse benefits but highly focused costs' (Aldrich 2008, p. 4). People want cheap electricity, but they do not want the reactor generating it to be in their backyard. As a result they are built mainly in rural, isolated communities and staffed by socio-economically vulnerable people. Indeed, it would not be a great overstatement to suggest that the Japanese nuclear industry has been partly built on exploiting vulnerable individuals and communities.

Using the language of human security, the siting of nuclear reactors is a deeply contentious issue that is closely connected with 'community security'. In Japan almost half of all attempts to site a nuclear plant have failed (Aldrich 2008, p. 6). Aldrich (2008) has persuasively argued that the level of social capital has played a determinative role in deciding which communities in Japan were more likely to become hosts for these 'public bads'. Authorities actively targeted fragmenting communities suffering from depopulation, ageing, and revenue shortages. Aldrich explains that 'by selecting the geologically suitable villages seen as most likely to be cooperative, given their weak or weakening local civil society, state agencies seek to avoid costly delays, demonstrations, and stalemate' (Aldrich 2008, p. 8). In the case of Fukushima, its hosting of nuclear power plants reflected the relative weakness of the prefecture. It is worth recalling that all of the electricity generated by the Dai-ichi plant went to Tokyo, which had outsourced the risk to the more isolated and poorer region.

A combination of being socio-economically vulnerable, lacking information about the possible risks, not being privy to secret discussions and decisions, and a fragmented civil society without the cohesiveness to resist meant that these communities only had the freedom to choose whether to accept nuclear facilities in a rather restricted sense. In some cases even this more limited form of choice was absent, with the necessary land being bought and agreements being made secretly in advance, often with the help of organised crime (Suzuki 2013). In the case of Ōkuma, one of the towns closest to Fukushima Dai-ichi, a secret special committee was formed by the town assembly in order to prevent information relating to the possible plant becoming public (Onitsuka 2011). As a result, residents did not find out until two years after the decision to accept the plant had already been taken.

Hosting nuclear plants offered fresh income and sources of employment. This was an artificial and unsustainable way of maintaining these communities, however, as it did not address the underlying problems that made them vulnerable in the first place. Indeed, their freedom of choice was not enhanced, but restricted, through the building of a nuclear plant. Communities became dependent on subsidies and income from hosting the plants, creating what some observers have described as an 'addiction'. This

also encouraged the clustering of reactors. Once a community has accepted one nuclear reactor, the chances of it accepting another one drastically increase (Aldrich 2008, pp. 46-7). The dangers of clustering were exposed by the Fukushima accident, as the problems at different reactors were compounded and risked, in the words of Yukio Edano, then chief cabinet secretary, a 'demonic chain reaction' that may have led to the evacuation of Tokyo (Fackler 2012).

The pernicious relationship between the nuclear industry and vulnerable communities was replicated at an individual level in the way plants were staffed. Just as isolated, poor communities were prime locations for reactors, men from these rural areas with limited job prospects were the ideal workforce. And the labour system they had to participate in was structured in such a way that it actively preyed on their socio-economic vulnerability. Only a small proportion of those in the nuclear industry — the most elite and well educated — are directly employed by the power companies. The remainder are part of a complex subcontracting system in which they are often employed by groups at five or six removes from the actual plant operator. In 2010, at Fukushima Dai-ichi 89 percent of the workers were contractors, almost exactly the same as the industry as a whole: 88 percent of the approximately 83,000 nuclear workers in Japan were contractors (Tabuchi 2011a). In this hierarchical system the small group employed by the major utilities receive the highest pay and benefits, with conditions becoming poorer with each layer of sub-contracting. Before the nuclear accident a TEPCO employee would receive on average \$94,000 per year, more than three times what many contractors would receive, who were often paid under \$30,000 per year (Tabuchi 2011b).

The subcontracting system has also resulted in workers regularly receiving insufficient health and safety training, as well as poorer quality protective gear. Contractors must risk their health for limited financial reward, and do so with considerably less protection and rights. There is a clear hierarchy, with employees of the energy companies undertaking the safest duties, while those at the bottom — the newest people subcontracted at the furthest remove — receiving the most dangerous tasks. Describing the situation in France — which adopted the Japanese subcontracting system — Thébaud-Mony (2011, p. 230) observes that contract workers 'take on the unavoidable danger of their activity — the danger of losing health and life — so that others ... are protected from deadly exposure to ionizing radiation.' In this regard, studies indicate that contractors have absorbed 96 percent of the harmful radiation at nuclear plants in Japan, and at Fukushima Dai-ichi they have received doses sixteen times higher than TEPCO employees (Glionna 2011). This 'radiation fodder' is recruited from acutely vulnerable groups like the urban homeless, and in some cases the yakuza (Japanese mafia) have been known to use strong arm tactics to force people to work (Jobin 2011, p. 37; Adelstein 2012). The socio-economically weak

positioning of these men leave them with few alternatives, hence the provocative description that the subcontracting system is effectively a form of 'nuclear servitude' (Thébaud-Mony 2011).

What this discussion has sought to illustrate is that when the tsunami hit on 11 March 2011, it was not only the physical structure of the Dai-ichi plant that was vulnerable. Indeed, at both an individual and societal level the nuclear industry in Japan has been partly predicated on the existence and exploitation of human insecurities. Weak and vulnerable communities are needed for hosting the plants, weak and vulnerable men are needed for running them. Serious forms of human insecurity were hidden in plain sight. What the nuclear accident did was expose and greatly exacerbate these pre-existing problems, while creating many new ones.

Human Security in Crisis²

Despite Japan's long history with earthquakes and tsunamis, and it being regarded as a world leader in disaster preparation, it was not ready for what happened on 11 March 2011. Naoto Kan, prime minister at the time, later reflected that, 'the cause of this catastrophe is, of course, the earthquake and the tsunami but, additionally, the fact that we were not prepared. We did not anticipate such a huge natural disaster could happen' (Biello 2013). In the case of the Fukushima Dai-ichi plant, it was over 40 years old, making it much more vulnerable to natural hazards. The Diet commission into the accident concluded that:

...researchers repeatedly pointed out the high possibility of tsunami levels reaching beyond the assumptions made at the time of construction, as well as the possibility of core damage in the case of such a tsunami. TEPCO overlooked these warnings, and the small margins of safety that existed were far from adequate for such an emergency situation (NAIIC 2012, p. 27).

This left Dai-ichi ill-prepared when the massive earthquake and tsunami struck. The plant soon lost all power, which meant there was no way to cool the reactors.³ The plant was seriously damaged and 'even worse, there was no plan for what to do next because nobody in TEPCO had ever predicted total loss of power at a nuclear plant' (Birmingham and McNeill 2012, p. 64). This ultimately resulted in meltdowns in three of the reactors, and spent fuel becoming dangerously exposed in the fourth reactor.

A key component of human security is a strong emphasis on prevention, and this was sadly lacking in the case of Fukushima Dai-ichi, as the interests of the nuclear village were prioritised ahead of the wellbeing of people. The development and propagation of the 'nuclear safety myth' — that nuclear power is risk-free — was meant to help maintain

support for nuclear power, but it actually worked to create greater insecurity. Downplaying the possible dangers contributed to insufficient preparation for a disaster. Risk was defined more in terms of how an accident might impact TEPCO's business interests, not how it might affect the host community and other people (NAIIC 2012). This mentality persisted even as the crisis unfolded. As the reactors at Dai-ichi went into meltdown, TEPCO tried to delay for as long as possible the use of seawater to cool the reactors, as this would render them unusable in the future (Maeda 2012). And in the months that followed, TEPCO avoided dealing with the problem of contaminated groundwater at the plant because of concerns over how the stock market would assess this considerable financial liability ('TEPCO delayed' 2013). In situations such as these, TEPCO repeatedly placed its own interests ahead of the wellbeing and safety of people that had been affected.

One of the most serious problems as the crisis at Dai-ichi unfolded was the inconsistent and limited information provided by TEPCO and the Japanese government. Indeed, the fact that meltdowns occurred was not admitted to the public for months, as were worst case scenarios that included the evacuation of Tokyo. Rather than calming people, conflicting reports exacerbated fears, and made it much more difficult for people to make decisions about what to do. Meanwhile, the lack of clear guidance provided by TEPCO and the government created immediate problems insofar as people were making decisions – such as where to go, what to eat, whether to stay outdoors – on incomplete or incorrect information. Data from SPEEDI, a computer system that estimates radiation dispersal, was not used, nor was it given to the Prime Minister's office or made available to the public. As a result of these failures of communication, some evacuees moved from safe areas to radiation 'hot spots' and people were unnecessarily exposed (Onishi and Fackler 2011). This happened to the residents of Namie village, whose mayor, Tomatsu Baba, pointedly states: 'what were they thinking when it came to the people's dignity and lives? I doubt that they even thought about our existence' (Cleveland 2014). The Commission on Human Security emphasised that 'human security starts from the recognition that people are the most active participants in determining their well-being', and that 'human security must also aim at developing the capabilities of individuals and communities to make informed choices' (CHS 2003, p. 4). This was certainly not possible during the nuclear crisis.

People in evacuation shelters and stranded in the exclusion zone were perhaps the most obvious cases of human insecurity, but an acutely vulnerable group of people that were largely overlooked were the remaining workers who had the herculean task of stabilizing the failing nuclear plant. This skeleton crew came to be known as the 'Fukushima Fifty', even though the actual number was in the hundreds. They were also victims of the tsunami and nuclear accident,

and despite losing loved ones and their homes they had to continue working in incredibly difficult conditions. At this time when radiation levels were at the highest, workers were without proper safety equipment, as most of the radiation monitors had been swept away or rendered unusable by the tsunami (WHO 2013, p. 48, pp. 67-68).⁴ One worker later explained that, 'it felt like we were being sent on a death mission', and another recounted that his manager used a military term – 'final battle orders' – when instructing him (Birmingham & McNeill 2012, pp. 72-73). Here it is worth recalling that the majority of these men – who received the highest radiation doses, increasing their chances of suffering from cancer or leukaemia in the future – were contract workers, the same socio-economically individuals the nuclear industry had already been exploiting.

Much emphasis has been placed on Fukushima being a 'manmade disaster' (NAIIC 2012); but it also worth remembering that there was a manmade solution.⁵ Due to the tireless efforts and sacrifices of the 'Fukushima Fifty' the worst scenarios were averted. The plant has been stabilised and reached a state of cold shutdown, but Japan is still dealing with the fallout from the accident, literally and figuratively.

The Nuclear Crisis Ends, the Human Security Crisis Continues

Central to the human security approach is the basic assumption that people should be able to live their lives with a reasonable degree of confidence in their safety, both in the present and future. This is precisely what the nuclear accident has taken away from the approximately 154,000 people that are still displaced, and the many others who have been affected. For those still displaced it remains unclear when, if ever, they will be able to return to their homes. For the people who have lost their employment as a result of the accident they do not know how they will be able to provide for themselves and their loved ones once the compensation ends. For mothers and fathers, they do not know when they will be able to feel sure that the area is safe and free of contamination, and many will watch their children growing up fearful that they may become ill.

Radiation levels are now much lower, many areas have been deemed safe, but there is still great uncertainty over the prospect of returning. Progress in clearing radioactive debris and waste has been slow and problematic, with the contracted companies often more concerned with cosmetic improvements to satisfy inspectors ('Crooked Cleanup' 2013). Such cases further erode the trust of former residents that it is safe for them to return. And the longer people are away from their homes and towns, the less these places feel like home. This period of limbo wears down family and community bonds, with many people tiring of waiting and going their separate ways. Some see

no future in Fukushima and move elsewhere, while others have yet to give up the hope of being able to return but are increasingly concerned about what will be left. Meanwhile, these communities still must face the same problems that existed before – aging and decreasing populations, limited municipal revenue, declining economies – only now on a much greater scale. Young people, especially those with families, are moving elsewhere due to economic and health concerns. At a community level this brings into question the longer-term viability of these towns composed largely of elderly citizens, which will be much more vulnerable to future disasters.

The nuclear accident has had a major impact in terms of the economic security. This is most clearly evidenced in the many people who have lost their livelihoods: businesses have closed down, companies have reduced staff or relocated, self-employed people have lost their customers, and those surviving on daily wages have found it much more difficult to find new employment. The accident severely impacted the region's most important sources of revenue (outside of nuclear energy): agriculture, fishing, and tourism. Fears over radiation have kept many tourists away and these losses have not been adequately compensated. TEPCO initially stated it would pay 80% of lost income to tourist companies, but later withdrew the offer and has not provided clear guidance as to the amount of compensation that will be offered (Mori et al 2013, pp.57-8). Meanwhile, a region that was once considered one of Japan's 'bread-baskets' now struggles to sell its produce, even when it has been checked and confirmed as safe. Many of the affected people are elderly farmers, and they have now lost their lifelong source of work, and are left with few options so late in their lives. The economic hardships affected people face also leave them much more vulnerable to any future shocks, be it another natural disaster or an economic downturn.

TEPCO's concerns over staying financial viable, and its desire to circumscribe the liability claims they may be open to, has resulted in the adoption of a very limited and incomplete compensation system, which fails to address the economic insecurity it helped to first create, and the government has not done enough to protect the interests of affected people. TEPCO has sought to limit damages it must pay, which has severely impaired people's abilities to restart their lives. TEPCO initially made compensation procedures slow and complicated, as well as restricting the amount of money people were eligible for. TEPCO has stopped compensation payments to affected women who subsequently married, arguing that their husbands can support them instead ('TEPCO criticized' 2012). In another case, more than 100 TEPCO employees affected by the nuclear accident have had their compensation payments stopped, and at least 15 of them have been requested to return money, totalling more than 100 million yen ('TEPCO seeks refunds' 2014). TEPCO has even refused to pay more

than 30 billion yen the environment ministry claims it is owed for clean-up costs (Nagata 2013). Despite TEPCO being widely identified as being primarily responsible for the nuclear accident, they continue to prioritize their own recovery ahead of the people whose lives they impacted.

One of the only remaining sources of income left in Fukushima is working at the Dai-ichi plant, which is now being decommissioned. Many of the vulnerabilities that defined the conditions of nuclear workers remain, and can be found in a particularly acute form at the plant. Contractors suffer from the same problems as before: lower wages, limited rights and greater health risks. Workers must undertake difficult, thankless work for little reward, with many receiving \$9 per hour, less than what day labours can earn elsewhere in the country (Saito, Takenaka and Topham 2013). While radiation levels have dropped significantly, they obviously remain higher than usual and dangerous areas and hot spots remain. There have been reported cases of contractors receiving poorer quality protective gear and being pressured by superiors to conceal the full amount of radiation they are being exposed to. Yet after examples of problematic hiring and work practices at Dai-ichi were exposed, including yakuza links, the head of TEPCO responded that moving away from the subcontracting system would be difficult, concluding that, 'it could even hurt the industry' (italics added, Yamaguchi 2012). This perfectly encapsulates the problem from a human security perspective: the subcontracting system may not hurt the nuclear industry, but it does hurt the vulnerable people who take these jobs out of necessity. These workers are not staying there for the 'good of the nation' or some other abstract notion, but because they have few options. Indeed, many are people who lost their livelihoods as a result of the tsunami or nuclear disaster. The way that the socially vulnerable position of these men has left them lacking the resources to avoid such dangerous work is a further example of how disasters amplify pre-existing insecurities.

The considerable economic costs of the accident closely connect to problems of 'personal security' and 'community security'. People are afraid of nuclear radiation, and remain deeply sceptical of the assurances given by the TEPCO and the government (Mori et al 2013, p. 40). During the crisis TEPCO and the government withheld important information, and mainstream Japanese media failed to challenge official accounts that the situation was under control. After the true nature and scale of the crisis was revealed, there was a major 'breakdown in trust toward the government, toward the media' (Cleveland 2014). This is reflected in one survey, which indicates that there were significant decreases in levels of public trust towards government, media, and business (Edelman 2012, p. 5). The situation is made more difficult by the fact that the science surrounding radiation remains heavily contested, especially in the public sphere. There is considerable disagreement over what a 'safe' level of radiation is, or indeed if there is a 'safe' level at all. One

Fukushima resident notes that, 'if there's one thing we've learned, it's that the government and scientists don't have all the answers', which is a sentiment echoed by a mother who now closely monitors what her children eat and drink: 'nobody trusts the government any more... You can only trust yourself' (Haworth 2013).

'Health security' has also been seriously impacted by the nuclear accident. While much has been made of the possible physical health consequences, 'the psychological impact of the Fukushima accident may outweigh other health consequences' (WHO 2013, pp. 90 – 92). Mental health problems are common after a disaster, with anger, anxiety, depression, fear, hopelessness, and survivor's guilt being some of the feelings that people must deal with. And the uncertain, on-going nature of nuclear accidents leads to 'a high incidence of psychosomatic symptoms, psychological distress and psychiatric disorders', with 'parents with young children, pregnant women, children, elderly persons, emergency workers, people with pre-existing mental disorders, clean-up workers, evacuees' being most at risk (WHO 2013, p. 90). This is echoed by the United Nations Special Rapporteur on the right to health emphasized the impact it has had on people's mental wellbeing:

The precise health implications of radiation exposure are still not clear, as long-term health effects of low-dose ionising radiation are still being studied. The evacuation has caused the breakdown of families and communities, giving rise to mental health concerns, especially among first responders, older persons, mothers and children. (Grover 2013, p. 7)

There has also been a notable increase in alcohol abuse in the affected region, and tragic cases of people committing suicide because of the trauma associated with losing their homes and businesses after the nuclear accident ('Alcoholism on the rise' 2013; Willacy 2013).

Fear of radiation – an amorphous danger that you cannot see, touch or smell – is causing increased stress and anxiety. Parents fear for the current and future health of their children. Even the smallest rise in the number of children in Fukushima with thyroid cancer is widely reported, despite the likelihood that these increases are due to the extremely sensitive screening techniques being used ('High thyroid cancer rates' 2013). People are scared that they may later become sick with leukaemia or cancer. Nuclear workers worry that their current employment may impact their future chances of having a family. Young women are concerned that the stigma of being from Fukushima will threaten their chances of finding a spouse. Fishermen wonder if ever they will be able to catch fish to sell, and not just for radiation monitoring. Farmers ask what they need to do to restore consumer trust in their produce. And, in turn, people across Japan remain doubtful about whether it is safe to consume goods from Fukushima prefecture.

The fear and anxiety created by the nuclear accident, and the consequences it is having on people's wellbeing, is emerging as one of the biggest human security problems after the triple disaster.

The kinds of insecurities triggered and exacerbated by the nuclear accident defy easy solutions and will plague Japan for decades to come. In the case of Chernobyl, the most severe consequences have been social: the impact it has had on the wellbeing of communities and their members. A major challenge will be trying to avoid a similar situation occurring after Fukushima.

The Future for Human Security in Japan

Despite many examples of situations of extreme vulnerability generated by the triple disaster, it appears that the assumption that human security is an approach only relevant for 'others' has not greatly changed. Japanese policymakers continue to identify it as something specific to its ODA, as evidenced in recent speeches by Prime Minister Abe (2013a; 2013b) and the proceedings of the 'High Level Symposium on Human Security' held in Tokyo in June 2013 (MOFA 2013b). Not only does this undermine their support for the human security approach by making its claims to universality appear superficial and hypocritical, it also means that Japan is missing important lessons they could draw on.

As a result of Japan making human security a core component of its ODA, and through funding the UN Human Security Trust Fund, it has considerable experience in developing assistance programs that seek to reduce human vulnerability. The rebuilding process could benefit greatly from Japan acknowledging the human security challenges it faces and utilising this existing knowledge. Of particular relevance here is a project funded and supported by Japan that sought to assist and empower people affected by the Chernobyl nuclear accident, which the Ministry of Foreign Affairs (MOFA) identifies as a key example of 'good practices on human security' in Japan's ODA. The need for the assistance is explained in the following manner:

The residents in the areas affected by the nuclear accident ... are in need of psychological care as a result of the damage to their health and stress they suffered from the forced emigration. Moreover, the affected areas are also facing difficulties in economic recovery ... and the effects of an aging of the population and depopulation. They are also struggling to overcome poverty. (MOFA 2013a)

With the references to Chernobyl removed this description is equally applicable to the current situation in Fukushima.

MOFA (2013a) highlights how the project adopted a hu-

man security perspective through supporting community organizations to develop and execute their own recovery plans, which improved their living conditions and helped them 'regain dignity as human beings'. Along similar lines, the UNDP's 'Chernobyl Recovery and Development Programme' has sought to build 'self-reliance and dignity' and promoted 'human security through local information provision' by supporting the creation of more than 200 community organizations, with approximately 20,000 members, to address local needs and promote the wellbeing of people (Matsuki 2009). The community centres established in the Ukraine through these programs have proven remarkably successful (Kushnarov 2014). These efforts stand in stark contrast to the ineffective and passive 'Decontamination Information Plaza' established in Fukushima city, which has failed to become a useful conduit for disseminating information to residents of Fukushima (Mori et al 2013, pp. 50-52). In this regard, while the Ukraine has been a recipient of Japan's ODA, now Japan could benefit from a more equal and reciprocal relationship, where experience and expertise gained from the Chernobyl disaster is better utilised to help Fukushima recover.

Conclusion

Just before a tsunami hits, it sucks up the water by the shore and exposes what lies underneath. In much the same way, a disaster exposes hidden inequalities and vulnerabilities that help to structure societies. This was certainly the case with Japan's triple disaster, which showed with horrible force and clarity that the country is not immune from severe threats to human security. Indeed, many of these vulnerabilities existed before the tsunami struck and helped to determine the way the disaster has unfolded. The Tōhoku region was already suffering from an ageing and shrinking population, and a declining economy, which left it acutely vulnerable to the consequences of the tsunami and nuclear accident. This was reflected in 65% of the people killed by the tsunami being 60 years or older, and this statistic does not include other deaths from family members who died while trying to save their elderly relatives (Sawai n.d., p. 5). Indeed, that multiple nuclear reactors were located in Fukushima was a reflection of the prefecture's weakness and limited resources. Tragically the events of 11 March 2011 has greatly exacerbated these existing problems and created many new difficulties. If the vulnerabilities of Tōhoku and its residents were hidden before, they are now immediate and evident.

Japan has long promoted human security abroad, while neglecting it at home. The ultimate conclusion reached by the Diet investigation into the nuclear disaster is particularly revealing: 'this accident was a "manmade disaster" that stemmed from the lack of a sense of responsibility in protecting the lives of the people and the society by present and past government administrations, regulators and

TEPCO' (NAIIC 2012, p. 3). Put differently, the disaster was a result of the nuclear village prioritising its own interests. There was a fundamental failure to respect and protect the human security of people in Japan. Human security entails 'an expanded understanding of security where the protection and empowerment of people form the basis and the purpose of security' (UNSG 2010, p. 6), and this was precisely what was lacking in the case of Fukushima Dai-ichi.

Whether Japanese policymakers realize it or not, human security is relevant for their country. The nuclear crisis at Dai-ichi may have subsided, but the human security crisis in Fukushima continues. In Fukushima prefecture more people have died due to stress and other illnesses following the tsunami and nuclear accident than from the disaster itself ('Post-quake illnesses kill more' 2014). The unique problems caused by the nuclear accident is reflected in the number of indirect deaths in Fukushima prefecture (1,656 people) being considerably higher than in the two other prefectures most directly affected by the tsunami (Iwate: 434 people, Miyagi: 879 people). The complex, multifaceted disaster that Japan must recover from is certainly without precedent, but it does have experiences and knowledge that it can draw on and better utilise. As noted, through its ODA Japan has helped enhance the human security of people affected by the Chernobyl nuclear accident. Another important component of Japan's ODA is its peacebuilding work. In this regard, Fukushima (forthcoming) has suggested that many of the approaches used in peacekeeping to help people overcome trauma are directly transferable to dealing with post-disaster contexts like in Tōhoku. Simply put, through recognising that human security is relevant for Japan, it would foreground the serious human vulnerabilities that remain, while also pointing to other relevant experiences that may be useful to draw on during the recovery process.

A defining feature of the human security approach is that it is meant to have universal relevance. Despite this claim, there has been a strong tendency to focus primarily on developing states. Certainly what human insecurity looks like differs significantly from one part of the world to another, and problems are often more severe in the Global South, but one can still find serious instances of major insecurity existing even in wealthy, stable democracies. This was noted in the second report of the UN Secretary-General on human security:

As evidenced by the recent earthquake and tsunami in east Japan and the financial and economic challenges in Europe and the United States of America, today, people throughout the world, in developing and developed countries alike, live under varied conditions of insecurity. (UNSG 2012, p. 5)

In this regard, this paper has aimed to demonstrate how the human security approach does have considerable

relevance in the context of a stable democracy like Japan, and that there is value in examining cases like the triple disaster.

Reflecting on their plight, a Fukushima evacuee observed, 'the hardest thing is that we can no longer do the things that seemed so natural before' (Bird 2013). This perfectly encapsulates what human security is about, and how it is presently lacking in Fukushima. Human security entails a basic feeling of safety, it is about people being free from severe threats and living their lives with a certain degree of regularity and continuity. It is about maintaining and protecting the 'pattern of our daily lives' (UNDP 1994, p. 3). This reflects that human security is meant to entail a fuller existence than simply 'bare life'. As the Commission on Human Security notes, 'protecting a core of activities and abilities is essential for human security, but that alone is not enough', it is also about providing the 'building blocks of survival, livelihood and dignity' (CHS 2003, p. 4). These conditions are lacking for most of the 154,000 evacuees

from Fukushima that remain in limbo. As Japan moves forward, it must recognise that human insecurity also exists at home, and recovery must be directed towards restoring the daily lives and dignity of those affected by the triple disaster.

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Notes

- 1 "The "nuclear village" is the term commonly used in Japan to refer to the institutional and individual pro-nuclear advocates who comprise the utilities, nuclear vendors, bureaucracy, Diet (Japan's parliament), financial sector, media and academia. This is a village without boundaries or residence cards, an imagined collective bound by solidarity over promoting nuclear energy." (Kingston 2012)
- 2 It would be possible to write a whole paper on the human security problems that appeared immediately after the tsunami and nuclear accident, but one of the aims of this paper is to focus at some of the current and longer term human security threats that have emerged. As such, only a small selection of issues is considered here.
- 3 A particularly useful and detailed account of how the accident unfolded, which synthesizes all the major inquiries, is provided by Kushida (2012).
- 4 The health ministry has subsequently identified that at least sixty-three workers were exposed to levels higher than what had been recorded, and by the end of 2012 more than one hundred and sixty workers had exceeded the maximum exposure limit of 100 millisieverts over five years (Myers 2013).
- 5 Gendered language is most appropriate here: the 'Fukushima Fifty' were composed solely of men, as all women had been ordered to leave the plant (Willacy 2013). This matched the gendered state of the nuclear industry. Indeed, TEPCO did not appoint its first female executive until 2013 (Torres 2013). As such, gendered language is consciously used here and throughout this piece.

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