Introduction

Disasters disrupt the functioning of communities, involving widespread human, health, material, economic or environmental losses and impacts. Disasters may result from natural or man-made causes, and have serious implications for health (including deaths, injuries, infectious diseases, chemical contamination and psychosocial effects) (UNISDR, 2015). Disasters, by definition, are events that exceed the ability of the affected community to cope using its own resources. The health effects that occur will depend on the type of disaster, where the disaster took place and the population’s capacity to cope.

According to Dominelli:

the aim of green social work is to work for the reform of the socio-political and economic forces that have a deleterious impact upon the quality of life of poor and marginalised populations, secure the policy changes and social transformations necessary for enhancing the well-being of people and the planet today and in the future and advance the duty to care for others and the right to be cared by others.

(Dominelli, 2012: 25)

This chapter seeks to link green social work and its implementation to the urgent need for disaster risk reduction that is so clearly articulated by the UN member states’ voluntary adoption of the Sendai Framework for Disaster Risk Reduction 2015–2030 in UN General Assembly resolution 69/283 (UNGA, 2015a).

The emergence of UN frameworks on disaster risk reduction and their links to social vulnerability

The United Nations (UN) has formally recognised the need to address the issues of disasters and their implications on social, health and environmental factors, and sustainable development over
the last four decades with relevant instruments adopted at the General Assembly. A summary of these by timeline is shown in Figure 3.1.

Structured programmes displayed in Figure 3.1 began with the 1989 launch of the IDNDR or International Decade for Natural Disaster Reduction (UNGA, 1989). From the outset, the IDNDR programme sought inclusion for resource-constrained and marginalised populations. At an international level, the IDNDR acknowledged: ‘the need for the United Nations system to pay special attention to the least developed, land-locked and island developing countries in that regard’ (UNGA, 1989: 2). Furthermore, the IDNDR included in its national policy recommendations the need to consider facilities which are crucial to the infrastructure of green social work. This was noted as follows:

To pay due attention to the impact of natural disasters on health care, particularly to activities to reduce the vulnerability of hospitals and health centres, as well as the impact on food storage facilities, human shelter and other social and economic infrastructures.

(UNGA, 1989: 3)

Five years later, the First Global Platform for Disaster Risk Reduction was held in Yokohama, Japan in 1994, the outputs of which formed the Yokohama Strategy and Plan of Action for a Safer World: Guidelines for National Disaster Prevention, Preparedness and Mitigation (UNGA, 1994). Within the document’s 20 pages was a coherent outlining of priorities and concerns for action in the context of disasters, with specific reference made to the same concerns addressed by green social work. This is clear from the document’s outset, as immediately following the introduction is the first point of affirmation that ‘those usually most affected by natural and other disasters are the poor and socially disadvantaged groups in developing countries as they are least equipped to cope with them’ (World Conference on Natural Disaster Reduction, 1994: 4). This is compounded by the concern that ‘some patterns of consumption, production and development have the potential for increasing the vulnerability to natural disasters, particularly of the poor and socially disadvantaged groups’ (World Conference on Natural Disaster Reduction, 1994: 9).
Addressing this was kept in mind in national policy recommendations, which also extended to the need to ‘stimulate genuine community involvement and empowerment of women and other socially disadvantaged groups at all stages of disaster management programmes in order to facilitate capacity building, which is an essential precondition for reducing vulnerability of communities to natural disasters’ (World Conference on Natural Disaster Reduction, 1994: 15). In 1999, the UN agreed to set up the International Strategy for Disaster Reduction (UNGA, 1999). This formalised global efforts to address disasters in a specific UN body, the United Nations International Strategy for Disaster Reduction (UNISDR). In the founding of UNISDR, previous social concerns ratified with ‘deep concern’ were expressed as: ‘massive losses of life and long-term negative social, economic and environmental consequences for vulnerable societies worldwide, in particular in developing countries’ (UNGA, 2000: 2).

UNISDR supported continued progression and global engagement in 2005 at the Second World Conference on Disaster Reduction in Kobe, Japan. This resulted in the adoption of the Hyogo Framework for Action 2005–2015: Building the Resilience of Nations and Communities to Disasters (UNGA, 2006). Concern for outcomes of vulnerable communities continued and was augmented in the Hyogo Framework, with an increased focus on engagement processes. Of particular note were broader aspects of resilience included in the reduction of underlying risk factors, such as to:

- Strengthen the implementation of social safety-net mechanisms to assist the poor, the elderly and the disabled, and other populations affected by disasters. Enhance recovery schemes including psycho-social training programmes in order to mitigate the psychological damage of vulnerable populations, particularly children, in the aftermath of disasters.  
  
(UNISDR, 2005: paragraph 19(g))

The Hyogo Framework’s ‘General considerations’ were coherent with green social work goals, advocating that ‘a gender perspective should be integrated into all disaster risk management policies, plans and decision-making processes, including those related to risk assessment, early warning, information management, and education and training’. Importantly, the Hyogo Framework included a common accepted definition for vulnerability, defining it as ‘The conditions determined by physical, social, economic, and environmental factors or processes, which increase the susceptibility of a community to the impact of hazards’ (UNISDR, 2009: 16). In sum, coherence with the aims of green social work has existed within disaster risk reduction mechanisms for some time, and will continue to do so under the current guidance provided by the Sendai Framework for Disaster Risk Reduction 2015–2030 (Sendai Framework). This successor to the Hyogo Framework was produced in March 2015 at the Third UN World Conference on Disaster Risk Reduction hosted in Sendai, Japan (UNGA, 2015a). The following section outlines in further detail the aspects of the Sendai Framework which apply to and support the aims of green social work programmes.

**Green social work in the context of the Sendai Framework for Disaster Risk Reduction 2015–2030**

From the outset, the Sendai Framework recognises the complex and uneven impact of disasters and the non-uniform distribution of risk within and between societies. This is a worrying reality, compounded further by exposure to disaster risk which is greater than the effect of measures that reduce vulnerability:

Disasters, many of which are exacerbated by climate change and which are increasing in frequency and intensity, significantly impede progress towards sustainable development.
Evidence indicates that exposure of persons and assets in all countries has increased faster than vulnerability has decreased, thus generating new risks and a steady rise in disaster related losses, with a significant economic, social, health, cultural and environmental impact in the short, medium and long term, especially at the local and community levels. Recurring small-scale disasters and slow-onset disasters particularly affect communities, households and small and medium-sized enterprises, constituting a high percentage of all losses. All countries – especially developing countries, where the mortality and economic losses from disasters are disproportionately higher – are faced with increasing levels of possible hidden costs and challenges in order to meet financial and other obligations. 

(UNISDR, 2015: Paragraph 4)

Within this context, the goal of the Sendai Framework is to:

prevent new and reduce existing disaster risk through the implementation of integrated and inclusive economic, structural, legal, social, health, cultural, educational, environmental, technological, political and institutional measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience.

(UNISDR, 2015: Paragraph 17)

The stated aim of the Sendai Framework is all-encompassing by design. In this respect, it is similar to the goal of green social work (Dominelli, 2012).

In the section on Guiding Principles (Section III), the Sendai Framework notes that the implementation of the Framework will be guided by principles, which take into account national circumstances, and that these should be consistent with domestic laws as well as international obligations and commitments. Within this section, the need to promote and protect all human rights including the right to development is recognised:

Managing the risk of disasters is aimed at protecting persons and their property, health, livelihoods and productive assets, as well as cultural and environmental assets, while promoting and protecting all human rights, including the right to development.

(UNISDR, 2015: Paragraph 19c)

By taking into account the experience gained through the implementation of the Hyogo Framework for Action, and in pursuance of the expected outcome and goal, the Sendai Framework identified four priorities for action within and across sectors by UN States at the local, national, regional and global levels. These priorities are:

**Priority 1:** Understanding disaster risk.
**Priority 2:** Strengthening disaster risk governance to manage disaster risk.
**Priority 3:** Investing in disaster risk reduction for resilience.
**Priority 4:** Enhancing disaster preparedness for effective response and to ‘Build Back Better’ in recovery, rehabilitation and reconstruction.

(UNISDR, 2015: Paragraph 20)

Within each priority are statements requiring actions that are applicable to the green social work model. In **Priority 1:** Understanding disaster risk at national and local levels, the Framework
has identified the need to systematically document disaster losses and understand their social and health impacts:

To systematically evaluate, record, share and publicly account for disaster losses and understand the economic, social, health, education, environmental and cultural heritage impacts, as appropriate, in the context of event-specific hazard-exposure and vulnerability information.

(UNISDR, 2015: Paragraph 24 d)

Thus in Priority 2: Strengthening disaster risk governance to manage disaster risk at national and local levels, the Framework has identified that governance itself is essential. Within green social work and other domains such accountability is of import if the following call for action is to be implemented:

To adopt and implement national and local disaster risk reduction strategies and plans, across different timescales, with targets, indicators and time frames, aimed at preventing the creation of risk, the reduction of existing risk and the strengthening of economic, social, health and environmental resilience.

(UNISDR, 2015: Paragraph 27 b)

In Priority 3: Investing in disaster risk reduction for resilience at national and local levels, the Framework has identified the need for inclusive policies and social safety-net mechanisms that need to be inclusive. It advocates:

To strengthen the design and implementation of inclusive policies and social safety-net mechanisms, including through community involvement, integrated with livelihood enhancement programmes, and access to basic health-care services, including maternal, newborn and child health, sexual and reproductive health, food security and nutrition, housing and education, towards the eradication of poverty, to find durable solutions in the post-disaster phase and to empower and assist people disproportionately affected by disasters.

(UNISDR, 2015: Paragraph 30 c)

Additionally in Priority 3: Investing in disaster risk reduction for resilience at global and regional levels, the Framework has identified that it is necessary to develop social safety nets, such as social development and welfare programmes, in order to ensure resilience at household and community levels:

To promote and support the development of social safety nets as disaster risk reduction measures linked to and integrated with livelihood enhancement programmes in order to ensure resilience to shocks at the household and community levels.

(UNISDR, 2015: Paragraph 31 g)

In Priority 4: Enhancing disaster preparedness for effective response and to ‘Build Back Better’ in recovery, rehabilitation and reconstruction at national and local levels, the Framework has identified the crucial need for socially and culturally relevant early warning systems:

To invest in, develop, maintain and strengthen people-centred multi-hazard, multi-sectoral forecasting and early warning systems, disaster risk and emergency communications
mechanisms, social technologies and hazard-monitoring telecommunications systems; develop such systems through a participatory process; tailor them to the needs of users, including social and cultural requirements, in particular gender; promote the application of simple and low-cost early warning equipment and facilities; and broaden release channels for natural disaster early warning information.

(UNISDR, 2015: Paragraph 33 b)

In Section VI of the *Sendai Framework*, addressing international cooperation and global partnership, it is important that green social workers note the similarities in the call for improving the social, health and economic well-being of individuals, communities and countries by using partnerships across the world. It is articulated as follows:

North-South cooperation, complemented by South-South and triangular cooperation, has proven to be key to reducing disaster risk and there is a need to further strengthen cooperation in both areas. Partnerships play an additional important role by harnessing the full potential of countries and supporting their national capacities in disaster risk management and in improving the social, health and economic well-being of individuals, communities and countries.

(UNISDR, 2015: Paragraph 44)

The *Sendai Framework* places unprecedented emphasis on the role of science and technology and the building of partnerships and networks including health in disaster risk reduction and calls for a strengthening of platforms, and research summarised as follows:

To enhance the scientific and technical work on disaster risk reduction and its mobilization through the coordination of existing networks and scientific research institutions at all levels and in all regions, with the support of the United Nations Office for Disaster Risk Reduction Scientific and Technical Advisory Group, in order to

- strengthen the evidence base in support of the implementation of the present Framework;
- promote scientific research on disaster risk patterns, causes and effects;
- disseminate risk information with the best use of geospatial information technology;
- provide guidance on methodologies and standards for risk assessments, disaster risk modelling and the use of data;
- identify research and technology gaps and set recommendations for research priority areas in disaster risk reduction;
- promote and support the availability and application of science and technology to decision-making;
- contribute to the update of the publication entitled 2009 UNISDR Terminology on Disaster Risk Reduction;
- use post-disaster reviews as opportunities to enhance learning and public policy;
- disseminate studies.

(UNISDR, 2015: Paragraph 25 g)

The emphasis on health and science and technology evidence and partnerships building is applicable for demonstrating the value of green social work and offers an opportunity and challenge as a valuable outcome.
The Sendai Framework also includes for the first time in 25 years of international commitments to disaster risk reduction, a series of global targets. Each country’s national targets and indicators will contribute to the achievement of the outcome and goal of the present Framework and will feed into the determination of the seven global targets, which are:

(a) Substantially reduce global disaster mortality by 2030, aiming to lower the average per 100,000 global mortality rate in the decade 2020–2030 compared to the period 2005–2015;
(b) Substantially reduce the number of affected people globally by 2030, aiming to lower the average global figure per 100,000 in the decade 2020–2030 compared to the period 2005–2015;
(c) Reduce direct disaster economic loss in relation to global gross domestic product (GDP) by 2030;
(d) Substantially reduce disaster damage to critical infrastructure and disruption of basic services, among them health and educational facilities, including through developing their resilience by 2030;
(e) Substantially increase the number of countries with national and local disaster risk reduction strategies by 2020;
(f) Substantially enhance international cooperation to developing countries through adequate and sustainable support to complement their national actions for implementation of the present Framework by 2030;
(g) Substantially increase the availability of and access to multi-hazard early warning systems and disaster risk information and assessments to people by 2030.

(UNISDR, 2015: Paragraph 18)

Science and technology are needed to deliver the agreed global targets and their indicators. Of the seven targets, four address disaster losses (A, B, C and D), which in an overarching sense are coherent with the goals of green social work. Target B is particularly relevant, due to its focus upon the reduction of the number of people affected by disasters globally. The component indicators by which progress will be assessed were confirmed by the UN General Assembly in February 2017, following working group efforts in 2015 and throughout 2016 (UNGA, 2017). These are as follows:

B-1 (compound) Number of directly affected people attributed to disasters, per 100,000 population.
B-2 Number of injured or ill people attributed to disasters, per 100,000 population.
B-3 Number of people whose damaged dwellings were attributed to disasters.
B-4 Number of people whose destroyed dwellings were attributed to disasters.
B-5 Number of people whose livelihoods were disrupted or destroyed, attributed to disasters.

(UNGA, 2016: 5)

Given that the term ‘affected’ encompasses a large swathe of eligible variables, it is emphasised that no indicator can provide an absolutely precise, accurate and exhaustive measure of affected populations.

In the agreed terminology summarised in the recommendations of the open-ended intergovernmental expert working group on terminology relating to disaster risk reduction (UNGA, 2017), ‘affected’ is defined as:
Affected

‘People who are affected, either directly or indirectly, by a hazardous event. Directly affected are those who have suffered injury, illness or other health effects; who were evacuated, displaced, relocated or have suffered direct damage to their livelihoods, economic, physical, social, cultural and environmental assets. Indirectly affected are people who have suffered consequences, other than or in addition to direct effects, over time, due to disruption or changes in economy, critical infrastructure, basic services, commerce or work, or social, health and psychological consequences.

Annotation: People can be affected directly or indirectly. Affected people may experience short-term or long-term consequences to their lives, livelihoods or health and to their economic, physical, social, cultural and environmental assets. In addition, people who are missing or dead may be considered as directly affected’ (UNGA, 2016: 11).

Individual estimations of directly affected can be subjective, dependent on the methodology and criteria used in data collection. For these reasons, ‘directly affected’ is assessed rather than ‘indirectly affected’, as a proxy for the number of persons impacted by disasters.

Furthermore, it is important to note that the Sendai Framework adopted an ‘all-hazards’ approach to disaster risk reduction (UNISDR, 2015). This implies that hazards of all types and scales are included in vulnerability reduction practices, a strategy which encompasses the plethora of projects which fall under the banner of green social work. Any efforts that directly affect the well-being of individuals are present in Target B of the Sendai Framework.

Indicator B-5 provides the strongest hook for aligning the purposes of the Sendai Framework with support for green social work practices. It is consistent with the people-centred approach of the Sustainable Development Goals (UNGA, 2015b). It addresses one of the long-term multiplier effects of disasters and offers a proxy for individuals’ well-being. It also offers project funders and policymakers a global standard against which to assess progress.

The Sendai Framework and health impacts

Though general themes have clear roots in the disaster risk reductions frameworks and strategies that have been put in place since 1989, connections made to health have been scarce. Of the original strategy documents prior to the Sendai Framework there is little, if any, direct reference made to ‘health’. However by 2015, following sustained and significant effort to do so, ‘health’ has taken up a far greater role in disaster risk reduction strategy; ‘health’ appears 38 times in the published version of the Sendai Framework for Disaster Risk Reduction 2015–2030, and is specifically targeted within two of the seven global targets, namely Targets A and B.

This weight of inclusion of ‘health’ in the Sendai Framework is in recognition of the need for a holistic approach to the management of risks associated with natural and human-induced hazards. This approach ensures that individuals and societies are resilient to shocks of all kinds. Furthermore, in keeping with the Sendai Framework’s focus upon actionable statements, the following excerpts are noted for their relationship with health and also to ensure that such actions are effectively carried out within green social work:

Paragraph 18: Inclusion of health related global targets – Target A and Target B – for monitoring and reporting on disaster risk management.
Paragraph 30(i): Recommended at national and local levels:

To enhance the resilience of national health systems, including by integrating disaster risk management into primary, secondary and tertiary health care, especially at the local level; developing the capacity of health workers in understanding disaster risk and applying and implementing disaster risk reduction approaches in health work; promoting and enhancing the training capacities in the field of disaster medicine; and supporting and training community health groups in disaster risk reduction approaches in health programmes, in collaboration with other sectors, as well as in the implementation of the International Health Regulations (IHR, 2005) of the World Health Organization (WHO).

Paragraph 30(i): Recommended at national and local levels:

To strengthen the design and implementation of inclusive policies and social safety-net mechanisms, including through community involvement, integrated with livelihood enhancement programmes, and access to basic health-care services, including maternal, newborn and child health, sexual and reproductive health, food security and nutrition, housing and education, towards the eradication of poverty, to find durable solutions in the post-disaster phase and to empower and assist people disproportionately affected by disasters.

Paragraph 30(k): Recommended at national and local levels:

People with life-threatening and chronic disease, due to their particular needs, should be included in the design of policies and plans to manage their risks before, during and after disasters, including having access to life-saving services.

Paragraph 33(c): Recommended at national and local levels:

To promote the resilience of new and existing critical infrastructure, including water, transportation and telecommunications infrastructure, educational facilities, hospitals and other health facilities, to ensure that they remain safe, effective and operational during and after disasters in order to provide live-saving and essential services.

Paragraph 33(o): Recommended at national and local levels:

To enhance recovery schemes to provide psychosocial support and mental health services for all people in need.

Paragraph 33(n): Recommended at national and local levels:

Establishing a mechanism of case registry and a database of mortality caused by disaster in order to improve the prevention of morbidity and mortality.

(UNISDR, 2015)

Strengthening and integrating public health and disaster management measures will increase the resilience of those at risk. Health strategies must be developed to reduce the health impacts of disasters, both before (preparedness), during and after (response) an event occurs. Issues associated with the stages of the disaster management cycle in: prevention, preparedness, early warning and detection, response and recovery all require planning for disaster prevention. Health planning and relief measures are essential in order to minimise the impacts of disasters on vulnerable populations.
Ensuring that green social work is recorded and reported

Opportunity to implement coherence in action has been ever-present in global agreements that preceded the *Sendai Framework*. The founding document of the International Decade for Natural Disaster Reduction stressed the need for ‘concerted international action’ (UNGA, 1989). Through the lens of history, green social work has coherence with themes outlined in the common goals and priorities of the international disaster risk reduction community for almost three decades. The *Sendai Framework* offers more than the most recent iteration of this. Rather, it coherently outlines the strategy for disaster risk reduction and areas to address which can lead to goals that can be assessed. Though a voluntary agreement, it has been signed up to by heads of UN member states, and activities ensuring its completion are to the benefit of domestic prosperity and international reputation.

Efforts to improve community resilience and response to disasters fall closely in line with green social work, and it is important to understand the impact that these efforts have. This makes technical guidance for collating activities absolutely critical. In turn, a lack of agreed standards prevents the sharing and reliable comparison of information and evidence. Thus, it is recommended that common data principles are used in implementation and assessment by green social work, and that a common database of projects is developed and maintained to ensure due assessment and understanding can take place to ensure effective efforts are sustained and augmented. To ensure the protection and augmentation of information quality, it is recommended that National Statistics Offices are functionally autonomous, and independent of sector ministries and political influence.

In light of this call to action, it is recommended that green social work projects are carried out with common reporting principles and characteristics including, but not limited to being:

- **Useful** – Data collected must be applicable to any country in the world and, to the maximum degree possible, allow comparison among countries or regions. Results should be usable not only for measuring achievement, but also for strategy planning and related policies. It should meet the needs of users in a timely manner (ONS, 2017).
- **Feasible** – Data should be easy to collect regardless of the level of development or income of each country. Data collection should not pose an impossible burden to countries. Existing systems should be used as much as possible to maximise efficiency (ONS, 2017).
- **Transparent** – The method used for collecting data should be well established, with any caveats or limitations declared. Underlying design of sampling, methods, tools and datasets should be explained and published alongside findings (IEAG, 2014). Moreover, this extends to data being ‘open by default’ when projects are carried out using public funds, with narrow exemptions for genuine security or privacy concerns. This implies both technical and legal openness being present with respect to accessibility and sharing protocols. Ultimately this will enable greater scrutiny, understanding and independent analysis of information as it produced.
- **Consistent** – In order to robustly compare interventions over time and across countries, data must be recorded and reported in a consistent way. A continuous view of implementation effects is essential to avoid biases and other inconsistencies that can reduce the reliability of information (ONS, 2017).
- **Relevant** – In order to ensure data are relevant, users and their expectations need to be identified (UNSTATS, 2002).
- **Complete** – Areas for which statistics are available should reflect the needs and priorities expressed by the users (UNSTATS, 2002). Completeness is an extension to relevance, for
completeness does not only mean that statistics should serve user needs but also they should serve them as completely as possible, taking restricted resources into account.

Furthermore, it is recommended that green social work reporting adopts a clear definition of standards in coordinating efforts at national and international levels. Definition standards would take the form of taxonomies in this field of work, which are established and controlled vocabularies of precise and agreed terms, ideally structured in a hierarchical relationship. Data standards such as these extend to the use of common terminologies (controlled vocabularies) and constructing agreements as to how the data are represented and encoded in reporting.

Green social work shares a core aim of the international frameworks and agreements developed to guide practice in the Sustainable Development Era, that local, poor and marginalised populations are actively engaged in the production and carrying out of policy platforms. Data disaggregation is therefore essential to reporting of activities. Just as established taxonomies are needed for data reporting in general, they are of further importance and coherence in the disaggregation of data. Example categories for disaggregation include: hazard type, geography, income, sex, age, disability, type of subject of impact (i.e. livelihoods, specific types of livelihoods).

With these principles in mind, common issues with data sources and data collection should also be taken into account in reporting green social work practices in the context of disasters. The following framing principles are listed to provide an insight into the considerations necessary for practitioners to make to ensure that the health and wider impacts of their work is efficiently recorded, analysed and reported:

- **Temporal** – Periods of time need to be clearly defined for which disaster loss and damage data is recorded and reported. This accounts for improvements in loss estimates over time following disasters, augmented through increased amounts of information and more accurate data. Defining time periods is critical, especially in the accurate recording of slow-onset disasters losses (e.g. drought).
- **Thresholds** – There is no common international standard used for reporting thresholds in metadata (i.e. disaggregation by age). This needs to be taken into account in reporting practices.
- **Attribution** – Indirect and multiplier effects from disaster losses can make attribution challenging (Stanke et al., 2013).
- **Coverage** – Systematic collection of data is not a given, and methods to assess impact may need to be developed to understand baseline data from which impact can be assessed. Furthermore, gaps in coverage offer clear indications of where strengthening is required.
- **Precision** – Uncertainty and bias can arise in data collection. Basic but systemic problems such as double-counting (between disaggregated groups), should be accounted for and have verified methods of address (ONS, 2017).
- **Reporting lag** – The time between registration and reporting of data can decrease data validity. It is also connected with other reporting challenges such as temporal and threshold framing, whose validity are connected closely with time of record.

**Way forward for green social work**

Collaboration between green social work and the work to implement the three landmark UN 2015 agreements, a group which includes the *Sendai Framework*, will help ensure more rapid progress. By leveraging global support for capacity development, the green social work community along with healthcare professional partners, academia, and a range of other stakeholders
will help ensure that all countries can produce, access and effectively use scientific information for disaster risk reduction in terms of lives, livelihoods and health.

The *Sendai Framework* puts unprecedented emphasis on the role of science and building partnerships in understanding and delivering risk reduction. It reflects shifts in scientific thinking over the last 20 years, with a powerful message that disasters are not natural events against which human societies are powerless, but are the result of the interaction between hazards (natural and human-made), exposure levels and pre-existing vulnerability, some of which may be related to human behaviours and actions.

Important recommendations of the *Sendai Framework* to the scientific community and its partners, including emerging groups such as the green social work community, are to improve the scientific and public understanding of risk and optimise the use of science for decision-making. The *Framework* highlights the importance of outbreaks and epidemics, chronic disease management, psychosocial interventions and rehabilitation as part of disaster recovery and makes several references to the International Health Regulations (IHR). The IHR have been designed to assist the global community in preventing and responding to acute public health risks that have the potential to cross borders and threaten people worldwide (WHO, 2005).

The *Sendai Framework* is a strong call to action for improving decision-making through a stronger science–policy–practice nexus with one expected outcome: ‘The substantial reduction of disaster risk and losses in lives, livelihoods and health’, and one goal to: ‘Prevent new and reduce existing disaster risk through the implementation of integrated and inclusive measures that prevent and reduce hazard exposure and vulnerability to disaster, increase preparedness for response and recovery, and thus strengthen resilience’.

Some consider that reconnecting science and emerging groups such as the green social work community with policy and practice are among the important tasks in implementing the *Sendai Framework*, particularly to support people in low- and middle-income countries and especially minority groups and women. A large body of research exists to support political and financial investment in the eradication and disruption of both the intergenerational transmission of poverty and the perpetuation of socioeconomic inequalities. With rising vulnerability and exposure through urbanisation and demographic change, the importance of disaster preparedness can no longer be ignored, and the green social work community are needed to help us deliver on this vital agenda.

### References


