Recommendations

A set of recommendations relating to the hazards has been identified and is based on the three pillars of the DRMKC:

Partnership

Recommendation 1: multidisciplinary working and information-sharing is essential to reduce the impacts of these hazards. Collaboration and partnerships are necessary both between institutions and disciplines, and need to occur at the local, national and international levels. For example, with respect to institutions and disciplines, improvements in the forecasts of storms will in part be driven by the interaction between fundamental atmosphere and ocean science with operational forecasting, so continued collaboration between forecasting centres and universities and research centres is of key importance. Between the local and national levels, a systematic approach across all sectors involving state, private, voluntary and community actors is required to understand the wider societal impacts of temperature extremes. In relation to international alerting and response, countries are now legally bound by the International Health Regulations to report on potential transboundary risks of hazards such as infectious diseases, allowing the determination (if required) of a PHEIC. This has led to the overarching implementation across government and all sectors of the Sendai framework.

Knowledge

Recommendation 2: it is recommended that an enhanced understanding of the origin, behaviour and evolution of these hazards to facilitate local, national and regional risk assessment is needed. This is consistent with priority one of the Sendai framework, which states:
Policies and practices for disaster risk management should be based on an understanding of disaster risk in all its dimensions of vulnerability, capacity, exposure of persons and assets, hazard characteristics and the environment. Such knowledge can be leveraged for the purpose of pre-disaster risk assessment, for prevention and mitigation and for the development and implementation of appropriate preparedness and effective response to disasters.
For instance, climate change is predicted to exacerbate the frequency and severity of droughts; therefore, observed and projected trends in drought hazard need to be understood and considered in management plans.

Recommendation 3: the generation of knowledge and evidence to address research gaps around risk will enable a shift towards a more pro-active approach as opposed to the prevailing reactive approach. The influence of different socioeconomic and cultural contexts on risk and response should also be studied. With respect to wildfires, although there is a vast knowledge of wildfire risk, information varies according to the scale at which risk is assessed

and differs from local to regional or global scales. There is also a need to use standardised event documentation to enhance risk assessment where feasible.

Recommendation 4: EWSs often entail the collection, integration and analysis of different types of data, and so it is recommended to improve the interoperability of systems and exchange of data. Challenges to drought monitoring are the continuous availability of indicators covering the various hydro-meteorological components and their combined analysis into usable information for decision-making. In the context of storms, a greater understanding of how to interpret, use and communicate probabilistic forecasts is required.

Recommendation 5: preparedness plans should be clear, flexible and regularly tested in order to provide a timely, appropriate and effective response. Comprehensive preparedness planning involving multi-agency partnerships can also make the transition from disaster to recovery more effective. Managing temperature extremes can be approached from a number of perspectives, including using forecasting technology, the development of heat and cold plans, and urban design and town planning. The key essential elements that underpin robust epidemic and pandemic planning provide a useful example.

Recommendation 6: of critical importance is building knowledge on how to strengthen community resilience to hazards. For example, enhancing drought resilience in regions with high population vulnerability and low adaptive capacity should be reflected in relief aid programming, and knowledge of epidemics and pandemics should be used where possible to facilitate support and to implement population immunisation with relevant strains of vaccines.

Innovation

Recommendation 7: investment in research is needed in order for innovation to continue. For all the discussed hazards, new technologies are emerging that better assess their risk. Disasters can also act as a catalyst for innovation. The West African Ebola outbreak highlighted the need to fast-track the development of effective tests, vaccines and medicines. The final results of the targeted trial for the population at risk have just been published and confirm the protective efficacy of an Ebola vaccine, which may prevent future Ebola outbreaks from having such devastating consequences.

Recommendation 8: the internet revolution has significantly contributed to innovation; for example, syndromic surveillance to collect event-based data through social media, for instance, may assist in the early detection of disease outbreaks. The ability to draw on multiple sources of information from data networks, as encapsulated by the concept of 'the internet of things', also offers considerable potential for managing disaster risk related to temperature extremes