

Water – new challenges

Aidan A Cronin, Dinesh Shrestha and Paul Spiegel

The essential sectors of humanitarian relief will all see major changes in the way that assistance is delivered.

Water is undoubtedly at the heart of the climate change debate. The principal associated effects are all water-related: sea temperature and sea-level rise, increased frequency and intensity of precipitation and flooding, more severe heat-waves and droughts, and increased intensity of tropical cyclones. The other major expected impact of climate change – increased land temperatures – will also have severe ramifications in terms of water resources and quality. The need for clean water and effective sanitation will become even more important as water-related climate change impacts such as flooding and drought begin to affect an increasing number of people.

Those countries that currently have the most severe water shortages and lowest sanitation coverage are most at risk. Of the 47 nations regarded as being either water stressed or water scarce in 2007, 25 are regarded as facing a high risk of armed conflict or political instability as a consequence of climate change.¹

According to UN Secretary-General Ban Ki Moon in December 2007: “The consequences for humanity are grave. Water scarcity threatens economic and social gains and is a potent fuel for wars and conflict.”

A significant number of the world’s population currently exposed to water-related hazards will experience increased problems, and total numbers affected will certainly increase with the effects of climate change. The number of people living in water-stressed river basins is expected to increase from around 1.4 billion in 1995 to between 2.8 and 6.9 billion in 2050. It is estimated that 250 million Africans will suffer increased water stress by 2020.² It is also estimated that in developing countries, the incidence of diarrhoea will increase by approximately 5% per °C increase in temperature.³ These figures all underline the fact that small increases in global risk factors can impact and potentially displace large numbers of people.

In the East and Horn of Africa, refugee-hosting areas – such as Dadaab in north-eastern Kenya and Jijiga in eastern Ethiopia – are sited in semi-arid, water-scarce areas. In recent years these areas have seen significant changes to their climatic patterns, with lower rainfall and hence slower replenishment of underground water levels. This in turn increases the need for improved monitoring and protection of groundwater. The high population density on these vulnerable aquifers will surely pose major water challenges in the future.

Many refugee camps are increasingly subject to recurring water-induced disasters such as floods and landslides, particularly in tropical and semi-tropical regions. Such events have resulted in disruption of services for extended periods of time and in the forced relocation of refugees to safer areas. Furthermore, they not only involve additional costs for rehabilitation of infrastructure facilities and construction of flood protection works but also affect the health and well-being of the refugees during and after these events in addition to the huge social costs on these populations who largely depend on external assistance.

More and more humanitarian actors will have to ask how displaced persons can be hosted and provided for if regional water resources cannot support traditional camps and/or if the camps are subject to frequent and severe water-induced disasters. New and innovative solutions will have to be found to combat the effects of climate change on relief efforts.

Judicious use and protection of water resources must be central not only to mitigation and adaptation measures but also to relief planning. Water will remain a key triggering factor both in the area of flight and in the receiving area. This challenge requires a major rethink on how

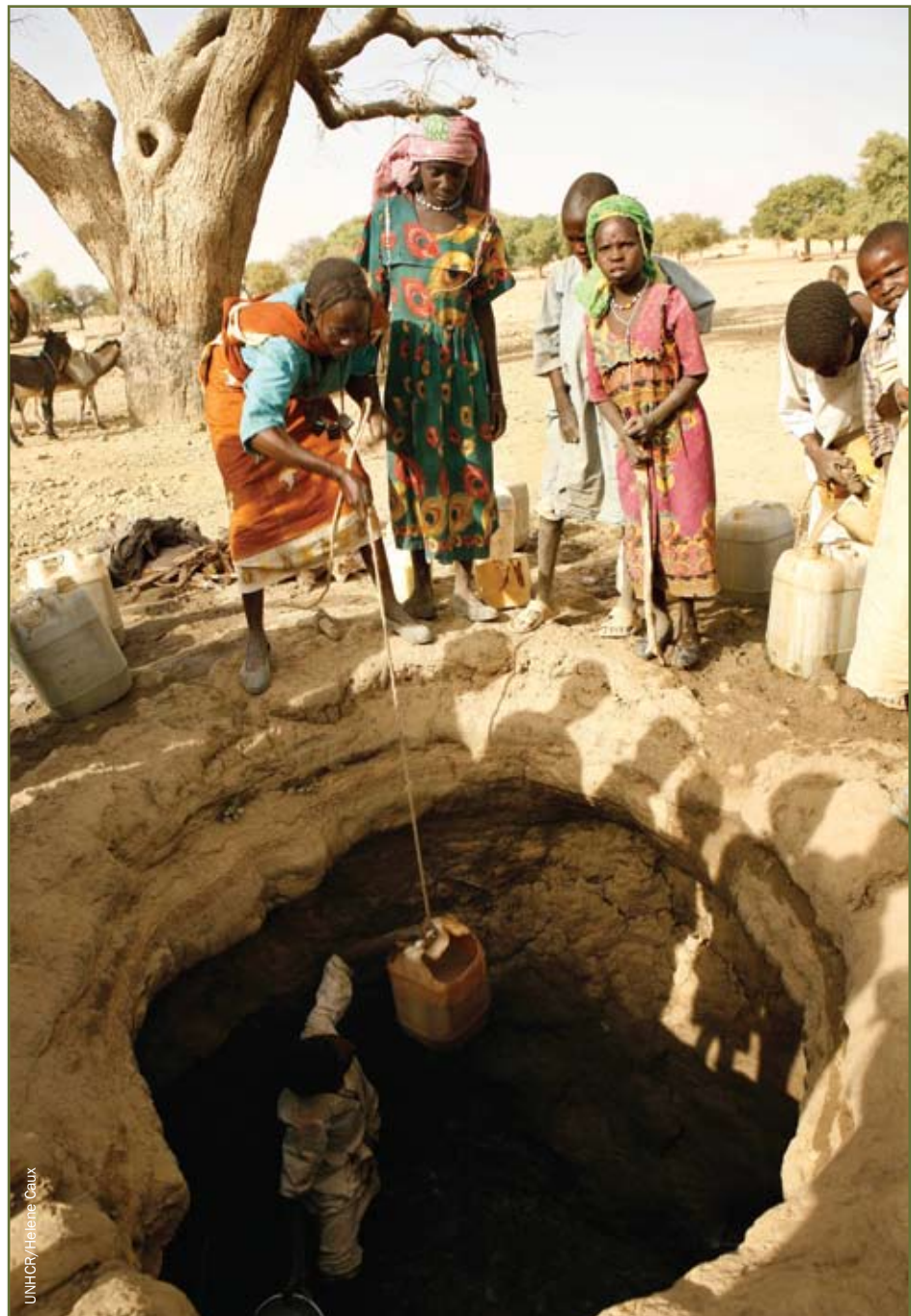
contingency planning, preparedness measures and emergency response have traditionally been undertaken. Addressing the assistance needs of the displaced in the face of climate change requires a holistic approach that is built on the principles of Integrated Water Resources Management, poverty reduction programmes and national socio-economic development strategies.

Aidan Cronin (aacronin@gmail.com) is a former Water and Sanitation Officer, Division of Operational Services, UNHCR. Dinesh Shrestha (shresthd@unhcr.org) is Senior Water and Sanitation Officer

and Paul Spiegel (Spiegel@unhcr.org) Chief of Section in UNHCR's Public Health and HIV Section.

The views expressed are those of the authors and do not necessarily reflect the views of UNHCR or the UN.

1. Smith, D, Vivekananda, J (2007) 'A Climate of Change: the links between climate change, peace and war', International Alert.
2. UNDP Human Development Report 2007/2008, Fighting Climate Change: Human Solidarity in a Divided World. <http://hdr.undp.org/>
3. Campbell-Lendrum D, Woodruff R (2007) Climate change: quantifying the health impact at national and local levels, WHO Environmental Burden of Disease Series No. 14. http://whqlibdoc.who.int/publications/2007/9789241595674_eng.pdf
4. Shrestha, D, (2000) 'Bio-engineering to mitigate water-induced hazards', *Environment in UNHCR*, Vol 5, Issue 2, www.unhcr.org/protect/PROTECTION/3b039e1d7.pdf



UNHCR/Helene Cauix

Darfur refugees near Seneit, Birak area, Chad, 2008.