



Disaster Risk Reduction and the Freshwater Cycle

When considering Disaster Risk Reduction it is of immense importance to consider recent disasters, identify future disasters based on past experience and forward thinking and take effective preventative action to reduce the scale of devastation and loss of life caused by them.

Water is a key variable in the causes and impacts of many natural disasters. A large percentage of disaster events are caused by water or climate-related hazards, such as floods, droughts and landslides. As climate change increases the frequency and intensity of extreme weather, the number of water-related disasters is expected to rise.

We at Active Remedy Ltd have applied our focus considering DRR by looking through a water security lens and contemplating what would happen if the global freshwater cycle, which is already compromised, reaches a tipping point and no longer functions effectively and its effects on increasing disasters and loss of life. The UN Water Security Task Force emphasized this point in its Analytical Brief released in March 2013:

***“Maintaining the integrity of ecosystems before they become compromised is an essential component of achieving water security and reducing the potential for conflicts. The continuous pace of human development is threatening the capacity of ecosystems to adapt, raising concerns that ecosystems will reach a tipping point after which they are no longer able to provide sustaining functions and services, and will become unable to recover their integrity and functions.*”**

Unlike finite resources such as coal, oil and gas the freshwater cycle is an infinite renewable. It has regenerative and re-charge functions, giving it the ability of being constantly replenished. However this cycle is utterly dependent upon healthily functioning ecosystems such as mountains with their snows, glaciers and mixed forests. The critical importance of this issue was acknowledged as the central factor in achieving water security in the UN Water Analytical Brief. The Task Force also gave advice based upon intensive research on how to deal with the situation:

“Ensuring that ecosystems are protected and conserved is central to achieving water security – both for people and for nature. Ecosystems are vital to sustaining the quantity and quality of water available within a watershed, on which both nature and people rely. Maintaining the integrity of ecosystems is essential for supporting the diverse needs of humans, and for the sustainability of ecosystems, including protecting the water-provisioning services they provide.”

UN Analytical Brief: http://www.unwater.org/UNW_ABWS_launch.html

This matter was also given recognition and highlighted at the United Nations Sustainable Development Conference in Rio in 2012 and was endorsed in the government signed document: 'The Future We Want'. Paragraph 122 states:

"We recognize the key role that ecosystems play in maintaining water quantity and quality and support actions within the respective national boundaries to protect and sustainably manage these ecosystems."

In the light of this substantial knowledge, it is immensely important that the key roles that ecosystems, especially mountains, glaciers, mountain forests and wetlands play in maintaining fresh water quantity and quality globally are recognized and that all supportive efforts that protect, sustainably manage and restore these ecosystems are given immediate attention. In the 'World Mountain Conference' in Lucerne in October 2011 Dr Ashok Khosla stated:

"Healthy mountain ecosystems are the foundation of healthy people, both in the mountains above and in the plains below. To save civilization, there is no greater urgency today than to regenerate and conserve our mountains. Their role in regulating our climate and water systems is fundamental to the sustenance of our life on this planet"

We all generally understand the temporary crisis we would experience if the water tanks in our homes were not operational. In this case however, we are talking about the water towers of Earth and global freshwater cycle and the potential long-term global crisis that would occur, if they should cease to function. This situation needs to be both addressed and dealt with in relation to DRR and Climate Change mitigation.

Regardless of status or species nearly all life on Earth is presently threatened by the same looming freshwater crisis. Unless solutions are applied related disasters, which induce water and food shortages, flooding, drought and conflict will inevitably increase. This will not only happen in developing countries, it will also happen in places, which are presently enjoying relative stability. It has been predicted by reputable scientists that the majority of mountain glaciers and snows could vanish within 50 years. The effects this will have on the climate and hydrological cycle is virtually unimaginable.

The content of the SDG's and Post 2015 agenda could establish the way, by which we use our highest intelligence to work together collectively, in a concerted manner on a global plan of action in a DRR context to save the renewable functions of the global freshwater cycle, while it is still conceivably possible.

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