

## **Incorporating Indigenous Knowledge into Disaster Policies**



There is a popular saying within the disaster management community that “all disasters are local”. If we, the population, accept this old bromide, then we must also consider its corollary: that the resources required to deal with them are also local. The disaster prediction technology that we have become accustomed to in the present did not exist in the past. However, communities around the world prepared for and worked together in response to natural hazards using methods passed on from one generation to the next. Globally, there have been numerous cases of local people predicting imminent earthquakes or storms by observing natural signs such as animal behaviour, changes in characteristics of ground water resources, and abnormal weather phenomena. Indigenous communities understood their local context, their people, and were the first to respond when disasters struck, and also worked within their environment to prevent disasters. While indigenous knowledge can be difficult to define, it refers specifically to that knowledge that people in a given community developed over a period of time, and continue to develop. It is based on the experience of that community, and is tested over centuries of use and adapted to the local culture and environment.

The community of indigenous persons comprises 5% of the world’s population, approximately between 250-300 million people, owning and occupying 22% of the global land surface, which in turn harbours 80% of the world’s biological diversity. Although they largely exist out of the public eye, indigenous people represent 10% of the population of Latin American and Caribbean. According to World Bank figures, there are approximately forty million people in Latin America and the Caribbean that belong to the almost 600 indigenous peoples of the continent; 12.76% of the entire American population and roughly 40% of the rural population are indigenous. Colombia has an indigenous population of approximately 1,450,000 persons; in Honduras and Mexico there are approximately 1.27 million and 15,703,474 indigenous persons respectively; and in Guatemala they comprise more than 60% of the country’s overall population. While representation within the insular Caribbean region is considerably smaller, there are an estimated 100,000 self-identified indigenous people. For instance, according to government censuses, this figure includes: 41,000 in Guyana, 26,000 in Belize, 6,000 in St. Vincent and 3,000 in Dominica.

The approach to the integration of indigenous knowledge into disaster risk reduction methodologies

needs to be based on universally applicable principles illustrated within locally contextual practices. Through the concept of Transferable Indigenous Knowledge (TIK), introduced by the Disaster Reduction Hyperbase Initiative (DRH), criteria have been identified for which this category of knowledge may be incorporated into disaster policies. The DRH states that TIK must be understandable to users; implementable; must have originated within communities, based on local needs and specific to culture, context, environment and economy; must provide core knowledge with flexibility for local adaptation in order to implement it; must utilise local knowledge, skills and materials based on local ecology; must have been proven to be time tested and useful in the field of disasters and finally, it must be applied or must be able to be applied in other communities or generations. Considerations must be made regarding what principles and methodologies should be transferred, to whom it must be transferred to - such as vulnerable communities and policy makers - and how it should be transferred - for instance via workshops, on-site visits or documentation. For example, transferable indigenous knowledge with respect to coastal zones in the Caribbean may include the maintenance of coastal defences through mangrove protection and coral reef protection, and using designated protected areas for mangroves, sea grass beds and fishing areas.

Globally, initiatives are being undertaken in this area as recognition of the importance of indigenous knowledge increases. In 2008, the International Workshop on Indigenous Knowledge and Disaster Risk Reduction: From Practice to Policy was held in Kyoto University, Japan. There, various points were presented for the integration of indigenous knowledge into regional and national agendas, as well as decision-makers regarding the field of disaster risk reduction. Priority themes such as mountain ecosystems, coastal zones, river basin management, water management and housing were acknowledged as thematic focus areas as a primary level of entry. In 2011, a project funded by the Japanese government through the UNESCO Funds-in-Trust, the Asia-Pacific Network for Global Change Research, and the UNESCO Jakarta Office, along with government agencies, research institutes and experts from all three countries was launched, focusing on local and indigenous knowledge related to hydro-meteorological hazards and climate change in Indonesia, the Philippines and Timor-Leste. It addressed the issue of the incorporation of indigenous knowledge into modern day disaster policies.

Not much research has been conducted in the Greater Caribbean region on the use of indigenous knowledge in disasters, however investigations carried out in other regions may be of relevance for this region. While anthropological research has shown that it is more precedent in certain regions, such as Asia and the Pacific, it can be applied internationally. A case study from the region of Assam, India, illustrates one of the numerous ways in which indigenous knowledge may be applied in the Western Hemisphere. The area experiences heavy rainfall and flooding, forcing villagers to abandon their homes and leaving them stranded. By applying knowledge practised for generations, traditional techniques used were able to prevent river beds and channels from becoming silted and producing excess run off during heavy rain. Some strategies which may be adopted from these studies and applied within the Latin American and Caribbean region include the application and modification of traditional knowledge, shifting resources bases, altering land use and settlement patterns, blending, management of ecosystem services, raising awareness and education, as well as increasing the use of social networking and policy development.

One of the key objectives of the Hyogo Framework for Action was the promotion of community-based training initiatives to enhance local capacities to mitigate and cope with disasters. Furthermore, a stated objective in the Development of the Post-2015 Framework for Disaster Risk Reduction is to ensure the use of traditional and local knowledge to complement, as relevant and appropriate, scientific knowledge in disaster risk assessment and the development and implementation of policies, plans and programmes. Countries can strengthen and enrich their national adaptive capacities by tailoring them to suit their individual vulnerabilities and local contexts. This is a

concept that is increasingly being incorporated within the region due to the realisation that this knowledge may teach local communities how to integrate the use of local materials, such as sand and thatch, how to utilise elements such as mangroves, coral reefs and rocky shores to combat risks. Some Latin American countries for example Colombia, Guatemala and Mexico have begun the process of acknowledging the importance of indigenous knowledge in finding sustainable solutions to climate change and disasters. Their indigenous people have highlighted the need for incorporating traditional knowledge in education and capacity building concerning the issue of climate change. Knowledge from indigenous people forms an integral part of their community's way of life and holds the potential to offer solutions for reducing disasters at many levels. Given the region's vulnerability to natural hazards, the use of indigenous knowledge within Latin America and the Caribbean may present significant opportunity to introduce new developmental approaches in order to reduce the risk of damages.

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