

Strengthening governance and investment for water-related disaster resilience under climate change in Asia

*Toshio Koike¹

1. International Centre for Water Hazard and Risk Management

The number of geophysical events, such as earthquakes and tsunamis, have not changed so much, while the number of water-related disasters, such as floods, cyclones and droughts, have been increasing very rapidly, by more than three times, since 1980. The overall economic losses are also rapidly increasing. Almost half of the events are reported to occur in the high or upper-middle income countries, and more than three-quarters of the economic losses are accounted for in these countries. In contrast, more than 80% of the human losses occurred in the lower-middle or low income countries.

In Japan, we are now experiencing very serious flood and sediment disasters that occur more frequently and affect a wider area than before. In 2018, the historical maximum 48-hour rainfall was recorded at 124 automatic weather stations located in western Japan. In 2019, the historical maximum 12-hour rainfall was recorded at 120 stations in eastern Japan. In the two consecutive years, 2018 and 2019, we experienced historical maximum heavy rainfall events all over Japan. Serious damage was caused by those events, including more than 2500 sediment disasters in 2018 and 140 bank breaches in 2019. Very regrettably, the casualties reached triple-digits in the two consecutive years.

As much effort as possible should be made for recovery, rehabilitation and reconstruction from recurring severe water-related disasters due to climate change. Still, equally important is to present a basic policy which shows the necessity of governance and investment in water-related disaster risk reduction for further growth at all levels. To promote the implementation of essential proactive measures, we need to explore and discuss initiatives and efforts for strengthening governance and investment for water-related disaster resilience under climate change in Asia through transdisciplinary dialogue and collaborative work between the science and technology community and other stakeholders.

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