



*Theme 1 :Global Changes & Risk
Management
Topic 1.3: Managing Disasters*

*International Center for Water Hazard and
Risk Management (ICHARM),
Japan Water Forum (JWF)*



1. Introduction

- **Water** provides opportunities for new development
- **Water** is key for the aggravation or mitigation of disasters



-**Water** is direct/indirect cause of disasters

Global Changes

- Rapid population growth and economic concentration in urbanized areas, etc. increase vulnerability to water related disasters and create more demand for water resources
- Climate Change could augment the frequency and magnitude of water problems of “too little water” and “too much water”



1. Introduction

Overall Question of the Topic

“How can we mobilize and manage all available resources in a proper way to tackle disasters in a changing world?”

Objective

Create new momentum toward political commitment and leadership to bridge the divide between policy development and available technologies in the area of water-related disaster management.

Identified Problems

- Common understanding of various stakeholders to take concerted action for managing disasters;
- New concept for structural and non-structural design to adapt to changing risks;
- Utilization of technologies for managing disasters; and
- Provision of water and sanitation in vulnerable and/or conflict areas to prevent secondary effects.



2. Sessions

(1) Triologue Session

“How do we make the significant leap (or paradigm shift) needed to gain different levels of cooperation between Government, Society and Science in order to manage disasters?”

Triologue is discussion of appropriate forms of cooperation between three major actor-clusters.

Government with the task of making authoritative decisions that are applicable to society as a whole

Science with the task of developing certainty in their understanding of the drivers of natural disasters in order to make predictions with a high level of confidence

Society which consists of individuals, organizations and economic entities like corporations.

The important issue that needs to be understood in the context of a disaster management strategy is the way that these three actor-clusters interrelate.

The discussion highlights the role of science in developing a social-level understanding of the responses needed for managing disasters.



2. Sessions

(2) Technologies for Water-Related Disaster Management

“How should we enhance the use of existing technologies to manage disasters caused by climate change and population growth? Is there still need for the development of new technologies and innovations?”

In some countries, local measures with indigenous technologies saved thousands of lives from devastating disasters, and continuous efforts in implementing proper technologies greatly contributed to sustainable national development.

On the other hand, high technologies such as flood alert systems will enable evacuation warnings in basins without any observation system on the ground.

Various technologies must be properly combined, taking into account the regional characteristics, and available resources in a timely manner. Also accessibility of technology are key to reducing and preventing loss of life.

This session will focus on contribution of technologies in managing disasters.



2. Sessions

(3) New Design Criteria for Extreme Events/ Climate Change

“How can we make a paradigm shift from mitigation to mitigation and adaptation?”

Water-related disasters which seem to be triggered by climate change have already increased their frequencies and magnitudes. Adaptation measures to prepare for changing risks is urgently needed.

Water infrastructures and management rely on innovative structural and non-structural design concepts in order to be more resilient against future extreme events. It is important to mainstream new design criteria for the planning of various water infrastructures in IWRM for the management in this changing world.

The discussion will focus on how we should design new concepts for planning measures to tackle with climate change and how to generate political commitment for necessary policy development which could trigger the paradigm shift.



2. Sessions

(4) Emergency Water Management During and After Disasters/ Conflicts

“How to maintain key water infrastructures and appropriate living environmental condition before, during and after disasters and/or conflicts?”

The aim is to prevent the spread of epidemics and diseases before, during and after the crisis.

It is often difficult to rebuild water supply, sanitation and other facilities in a short period of time once they are destroyed. Therefore, there is a need for rapid solutions which could be used beyond the crisis itself.

The main challenge is to assess a given situation and coordinate the various players and provide the appropriate response in emergency situations. Transition between emergency and recovery is also important for preventing disaster damages from recurring.

This session will focus on the role of each group, from the highest political level to local communities and ordinary people. This would help smooth shift from an emergency response to a reconstruction phase to ensure future sustainability.