



Mission and Principles

Mission

To be the world centre of excellence to provide and assist implementation of best practicable strategies to localities, nations, regions and the globe to manage the risk of water related disasters including floods, droughts, landslides, debris flows, storm surges, tsunamis and water contamination.

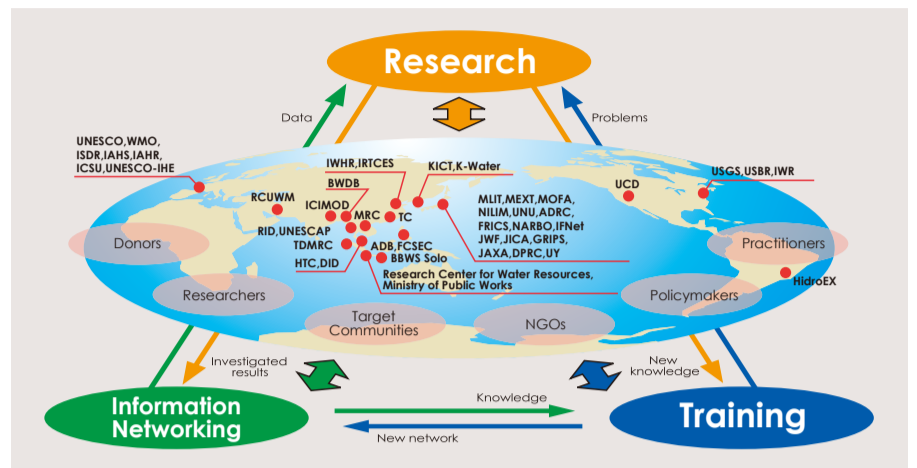
Guiding Principles

- To be needs driven rather than supply driven, responsive to respective local realities.
- To prescribe tailored strategies to realize integrated risk management (avoidance, reduction, transference and acceptance) under the multifaceted social, economical, institutional and cultural conditions as well as technological availability.
- To produce policy effective information and raise public awareness to promote societal action.
- To promote research development and capacity building jointly, to bring science where most needed.
- To work in alliance with all the related organizations of the world to mutually complement resources and expertise and to create synergy in implementation.
- To serve as a global think-tank in water hazard and risk management and play a central role in its strategic promotion.



ICHARM

Three Pillars of Activities



ICFM5 Floods: from Risk to Opportunity

27-29 September 2011, Japan

ICHARM is the main organizer of the International Conference on Flood Management (ICFM5) and, as a member of the ICFM ad-hoc committee, provides online archive services for the past ICFM conferences. In the belief that risk management efforts provide opportunities to establish effective as well as efficient institutional collaboration and promote living wisely with floods, ICFM5 has set its theme as "Floods: From Risk to Opportunity" to promote the continued trend towards a broader understanding of how we collectively make use of opportunity in coping with risk of potential floods and flooding.



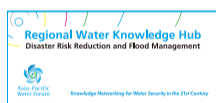
IFI Secretariat

ICHARM is serving as the Secretariat for the International Flood Initiative (IFI). IFI is a framework to promote collaboration on flood management among related international organizations such as UNESCO, WMO, UNU and UNISDR. IFI focuses on research, information networking, education and training, community empowerment and technical assistance and guidance for Integrated Flood Management. As the Secretariat, ICHARM organizes annual IFI advisory and management committee meetings, hosts and operates the IFI website, drafts IFI activity reports, and promotes discussions among IFI partners on flood-related topics, as well as some other services.



APWF KnowledgeHub

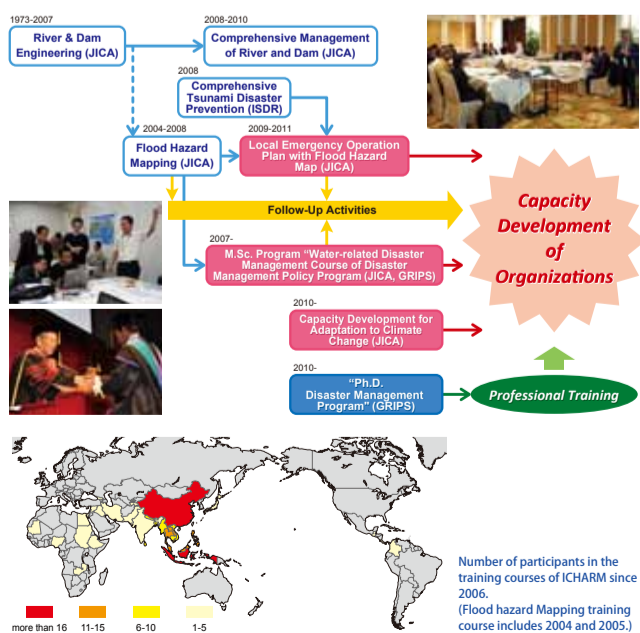
KnowledgeHubs, developed under the framework of the Asia-Pacific Water Forum (APWF), is a network of centers committed to improve water security in the Asia-Pacific region by promoting knowledge sharing and championing feasible solutions. In June 2008, ICHARM was officially acknowledged as a KnowledgeHub with particular focus on "Disaster Risk Reduction and Flood Management". In the capacity of a regional water knowledge hub and under the slogan of "Localism", ICHARM has been trying hard to put value-added know-how and research achievements to practical use in each locality.



Capacity Development

To cope with major water-related disasters, it is important to train individual members of disaster management organizations. Equally important is organizational capacity development because there is a limit to what each individual can do. Well aware of that fact, ICHARM provides training programs hoping to help improve individual problem-solving capacity and organizational coping capacity.

ICHARM also offers graduate degree programs. In October 2007, a one-year master's program, "Water-related Disaster Management Course of Disaster Management Policy Program," started in cooperation with the Japan International Cooperation Agency (JICA) and the National Graduate Institute for Policy Studies (GRIPS) and enrolled a total of 44 students during 2007-2010. In October 2010, ICHARM jointly started a doctoral program called "Disaster Management Ph.D. Program" with GRIPS. It is planned to accept one to three students every year.



ICHARM Commitment

Through the integration of the three-pillar activities, ICHARM will promote the development and dissemination of "Capacity Development" and "Advanced Technology" to implement "Local Practices".

In this context, ICHARM will vigorously carry out these listed priority activities during the next biennium.



Water-related Disaster Mitigation Project by ADB and ICHARM

Since signing the Partnership Agreement in November 2009, ICHARM has been an implementing partner of the Asian Development Bank (ADB) for a project named "Capacity Development Technical Assistance for Supporting Investments in Water-Related Disaster Management (CDTA7276-REG)". The project aims to help prepare and implement flood management projects through knowledge and capacity development services that will reduce vulnerability to water-related disasters with national- and regional- level assistance. It will provide technical assistance for Bangladesh, Indonesia and the Lower Mekong Basin countries (i.e., Vietnam, Cambodia and Laos) so that each country can make effective investment in disaster management in the future. This ICHARM-ADB joint project will implement different types of national- and regional- level intervention mainly through application of the Integrated Flood Analysis System (IFAS) to the Solo River basin in Indonesia, pilot implementation of community-based flood management approaches in Indonesia, technical review of the existing early warning system and recommendation of most feasible interventions in Bangladesh, development of flood vulnerability indices in the Lower Mekong Basin, and capacity development through practical training and knowledge-sharing programs for target as well as other countries in the region.

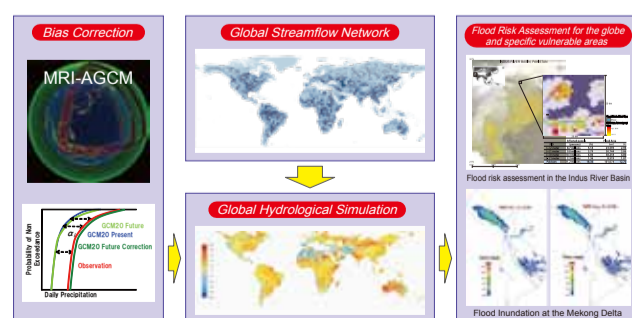


Stakeholders' workshop on screening a long list of flood early warning issues. (Dhaka, Bangladesh, December 2010.)

Participation in the KAKUSHIN Program

To address worldwide concerns over global warming and its potential impacts on water-related disasters, ICHARM has been engaged in a research project entitled "Assessment of the Impact of Climate Change on Flood Disaster Risk and Adaptation Measures for the Globe and Specific Vulnerable Areas" under "Innovative Program of Climate Change Projection for the 21st Century (KAKUSHIN Program)" of the Japanese Ministry of Education, Culture, Sports, Science and Technology (MEXT).

The following components have been developed in this research project: 1) a simple statistical bias correction method for the precipitation output of the super high-resolution Atmospheric General Circulation Model of the Meteorological Research Institute of Japan (MRI-AGCM), 2) a global streamflow network as the basis for global hydrological simulation and hazard analysis, 3) a hydrological (BTOP) model applicable to any river basin in the world, and 4) a new flood risk assessment method based on globally-available extreme river discharge (with the global BTOP model), geophysical and social data. All these components will be compiled to assess the effect of climate change on flood risk over the globe and specific vulnerable areas.



Development and Dissemination of IFAS



Areas where many people are affected by flooding are desperately in need for flood forecasting technology for early evacuation. However, flood analysis is often difficult in such areas due to insufficient hydrological data. Hoping to provide an alternative solution, ICHARM has jointly developed the Integrated Flood Analysis System (IFAS) with the Infrastructure Development Institute and civil engineering companies to help predict the time and scale of flooding and reduce its damage by promoting safe evacuation.

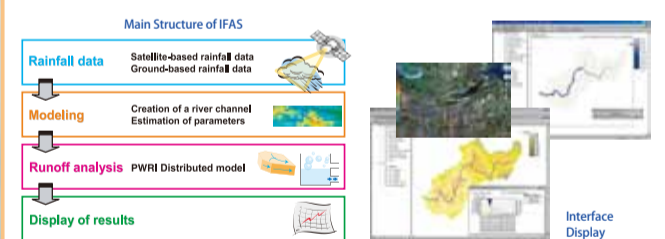
IFAS is designed to easily create a run-off analysis model by using topographic data and land use data all over the world. It can also use satellite-based rainfall data. These data are largely available free of charge via the Internet. With IFAS alone, it is possible to conduct a series of tasks necessary for flood forecasting including data acquisition, model creation, run-off calculation and result display.

In FY2010, the system was further upgraded with several additional functions such as automatically downloading satellite rainfall data, importing external data, executing run-off analysis and sending a flood alert. In flood-vulnerable areas, it is often difficult to download large data at once due to a limited internet environment, and an attempt to do so may even interrupt daily work. The new functions were added to avoid those problems by automatically collecting data and conducting calculation on a regular basis so that run-off analysis and flood forecasting and warning will be possible even in areas with limited internet access without creating a large network load.

In recent years, ICHARM has started providing its expertise in practical technical assistance projects in cooperation with other organizations. IFAS projects are typical in that sense where ICHARM offers training for local engineers about the system and assists them in implementing it over local rivers. Such training helps local engineers become able to operate the system by themselves. ICHARM is hoping that, in the near future, they will eventually be able to independently collect data and carry out calculation with IFAS, develop and maintain a flood forecasting and warning system, and continue improving their technical capabilities.

ICHARM will be further upgrading IFAS based on problems found through the projects and feedback from training participants.

The IFAS execute file is downloadable free of charge at the ICHARM website (<http://www.icharm.pwri.go.jp/research/ifas/index.html>).



Model application of IFAS to Solo River Basin as an ADB Project

ICHARM is working on a collaborative project with ADB to implement a flood early warning system based on IFAS in Indonesia's Bengawan Solo River basin. In addition to the warning system implementation, the centre is also providing practical training to develop local engineers' capacity to cope with water-related disasters. ICHARM will further advance this project to improve the early warning system at the Bengawan Solo River office of Indonesia's Public Works Ministry.

Partnership with WWAP

Since even before its official establishment, ICHARM has contributed to the World Water Assessment Programme (WWAP), a UNESCO effort to address global water issues with other UN water organizations. For instance, ICHARM has worked together with WWAP in production of the World Water Development Reports (WWD), other major reports, case studies and side-publications.

In the last publication (i.e., WWD3), ICHARM was mainly responsible for "Chapter 12 Evolving hazards-and emerging opportunities" and also for a side-publication entitled "Global Trends in Water-Related Disasters: an insight for policymakers". The WWD series is published every three years and reports on all aspects of water. It is beneficial for all sectors and groups in the water community, including the general public, governments at all levels, and especially developing nations.

For more information, visit the Publication page of the ICHARM website at: <http://www.icharm.pwri.go.jp/publication/book.html>

