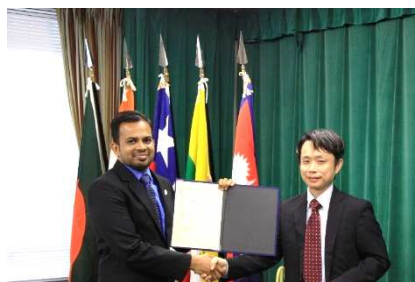
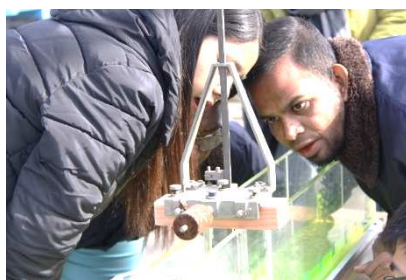


JICA “Knowledge Co-Creation Program”

FLOOD DISASTER RISK REDUCTION

Program Period in Japan:
From October, 2021 to September, 2022



International Centre for Water
Hazard and Risk Management
under the auspices of UNESCO



Public Works Research Institute,
National Research and Development
Agency, Japan

Alumni

Graduates from this master's degree program are very active working on important tasks for their home countries.



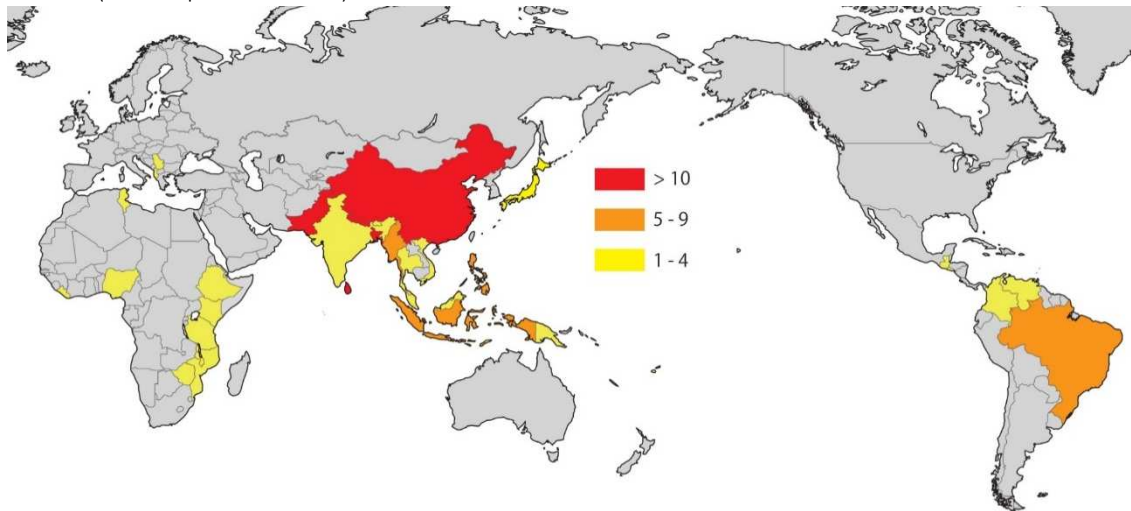
A graduate leading a national training course on flood hazard assessment using the Rainfall-Runoff-Inundation (RRI) Model (Myanmar)



A graduate holding a seminar for high school students about hazard and how to create hazard maps (Philippines)

150 graduates from 34 countries in 13 years

(as of September 2020)



Country \ Year	Number of students conferred degree)																																													
	Algeria	Bangladesh	Bhutan	Bosnia-Herzegovina	Brazil	Cambodia	China	Colombia	El Salvador	Ethiopia	Djibouti	Fiji	Guatemala	India	Indonesia	Japan	Kenya	Laos	Malaysia	Malawi	Madagascar	Mozambique	Myanmar	Nepal	Netherlands	Nigeria	Pakistan	Papua New Guinea	Philippines	Republic of Albania	Serbia	Sri Lanka	Tajikistan	Tanzania	Thailand	Timor-Leste	Tunisia	Venezuela	Vietnam	Zimbabwe	Liberia					
2007-2008		2				3							1		3									1				1																10		
2008-2009		2				2			1					1										1											2										7	
2009-2010		2				1			1						3	1							1					1					2		1											12
2010-2011		2				2	1						1		1								1	3				1																		12
2011-2012		2				2						1			2									2			6		1									1			1				19	
2012-2013		2					1												2				1	1		1			1	1	1													12		
2013-2014		2				1	1										1						1				1		2															12		
2014-2015		1										1		2				3					1				2		2																13	
2015-2016		2			1															1			1	1			2	1		1			2				1							13		
2016-2017					1															1		1	1				2	1	1															8		
2017-2018		2			1							1		1											2		2	1									1							14		
2018-2019		1												1										1	1		1	1																7		
2019-2020		2	2		2																		2	2			1																		11	
Total	0	22	2	0	5	0	11	3	1	2	0	3	1	5	7	4	4	0	2	1	1	1	10	14	0	1	18	1	9	1	1	1	13	0	1	3	2	1	2	4	1	1	150			

Features

[1] Participants study practical measures for water hazard management

- The curriculum is designed to **meet the needs of the country of each participant**.
- Each participant will **study issues of water hazards that are currently relevant to their country**, and write a graduating thesis that is directly related to their work so that they can immediately propose and implement practical measures for their countries.
- The program is designed for participants to complete all graduation requirements within **a single year**. They will be awarded a master's degree in disaster management by GRIPS.

[2] The program is managed by two internationally recognized institutes

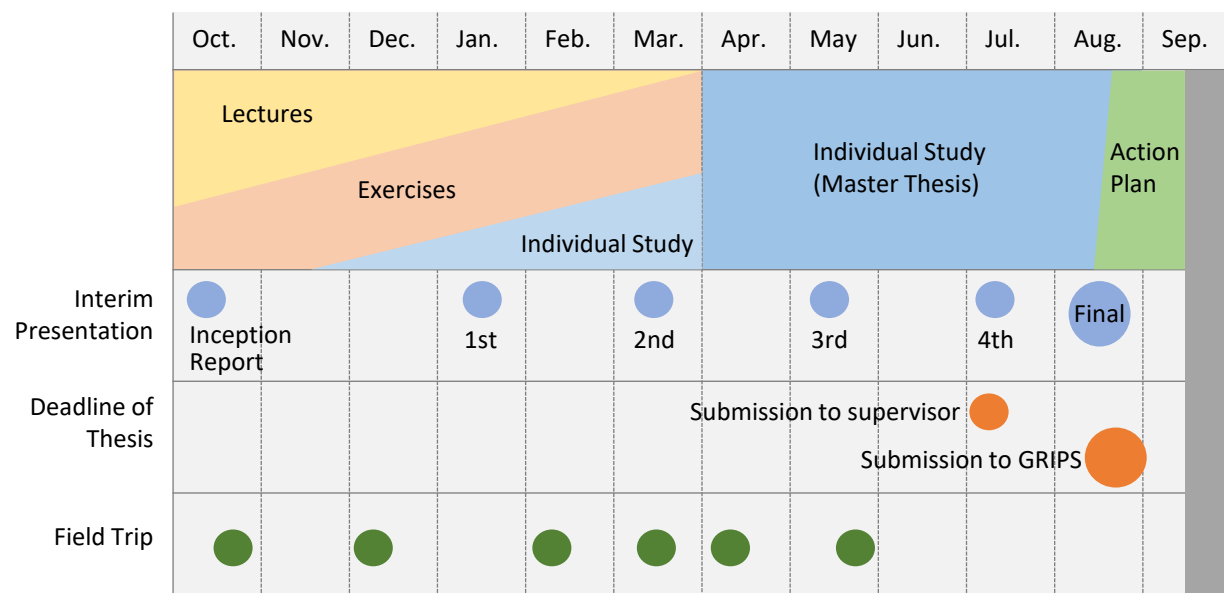
- Many of the classes of this program are conducted by **ICHARM**, which is established as a **UNESCO category II center** specialized in water-related hazard and risk management.
- **GRIPS** is an **international premier policy school** with the aim of contributing to the betterment of democratic governance around the world. It excels at providing interdisciplinary education for future leaders in the public sector.

[3] Participants learn Japan's experience and knowledge firsthand

- The instructors are **professors** and experts who are **eminent in the field** of disaster management and have **plenty of experience** in training experts **both inside and outside Japan**.
- Field trips are planned several times in this program for them to learn from actual cases of river management and other practices. Field trips are also great opportunities to learn from firsthand experience told by technical officers of the Ministry of Land, Infrastructure, Transportation and Tourism (MLIT).

Schedule

This program consists of Lecture, Exercise, Discussion, Presentation, Field trip, and Individual Study.



Introduction



2011 Thai Flood

A natural hazard can easily turn into a disaster when a community, country or region lacks adequate coping capacity. It is for this reason that the world should seriously consider the recent trend: flood disasters have been increasing in number and scale.

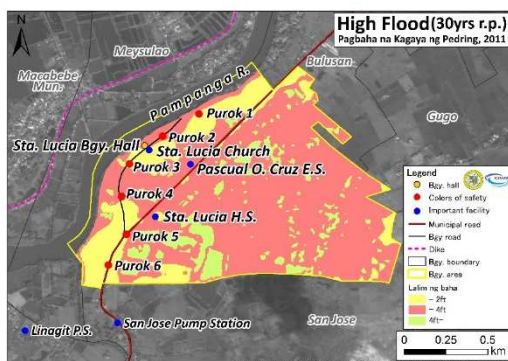
To reduce flood disaster risk, the Sendai Framework for Disaster Risk Reduction, the Sustainable Development Goals (SDGs), and the Paris Agreement should be strongly promoted and urgently implemented, and for this purpose, capable disaster management professionals must be fostered in all countries.

Having a wealth of experience in coping with floods and other natural disasters, Japan can contribute greatly to countries in their development stage by providing assistance and expertise in disaster prevention and management.

This program aims to support such countries in capacity building in disaster management by inviting local experts and practitioners to well-designed training, with an additional hope that they will in turn share the knowledge they have gained with colleagues and other professionals inside and outside their organizations; thereby they can contribute to upgrading individual, institutional and national capacity to cope with water-related disasters.

The program is offered jointly by the Japan International Cooperation Agency (JICA), the National Graduate Institute for Policy Studies (GRIPS) and the International Centre for Water Hazard and Risk Management (ICHARM) of the Public Works Research Institute (PWRI), and administered as a JICA Knowledge Co-Creation Program (KCCP*) and a GRIPS master's degree program in "Water-related Disaster Management Course" of "Disaster Management Policy".

* http://www.jica.go.jp/english/our_work/types_of_assistance/tech/acceptance/training/



Detailed Hazard Map by ICHARM (top) and Flooding (bottom) in Calumpit, Pampanga River Basin, Philippines



2015 Jyoso City, Ibaraki Prefecture (top) and 2017 Asakura City, Fukuoka Prefecture (bottom) in Japan

Alumnus' Voice



Samuel Joseph Gama

*Principal Mitigation Office
Office of the President and Cabinet
Department of Disaster Management Affairs, Malawi*

In 2016, I was given a rare opportunity to attend a one year Master Program on Disaster Management Policy, jointly organized by GRIPS and PWRI/ICHARM, with support from the JICA. I successfully graduated in 2017. In the course of my study at ICHARM, I had learned valuable scientific measures of reducing flood-related disasters that were delivered by the most proficient ICHARM Professors. The knowledge gained, coupled with hands on experiences during field studies that were organized as part of the training course, I developed a need to combine scientific and social knowledge in order to address the water related disasters that are most common in Malawi. I was greatly influenced by Professor Koike through sharing of his experiences in the field of deep science and his commendable scientific research work at global level and in Northern Africa in particular. I tried to contextualize his philosophies to Malawi scenario and in the course of our interaction, he had shared me reading materials, some of which was the HFA (2005-2015) which contains a statement that reads “the starting point for reducing disaster risk and for promoting a culture of disaster resilience lies in the knowledge of the hazards and the physical, social, economic and environmental vulnerabilities to disasters that most societies face, and of the ways in which hazards and vulnerabilities are changing in the short and long term, followed by action taken on the basis of that knowledge”. This gave me a great conviction to use science in order to address the social problems as well as highlighting progression to vulnerability factors in order to enhance understanding of vulnerability and risk to flooding of rural communities in Malawi for the purpose of supporting decision making for effective flood risk management.

After I had gone back to my country, I was promoted from Mitigation Officer to Principal Mitigation Officer. I am now in charge of the Green Climate Funded Project which aims to strengthen the use of modernized early warning systems that would be implemented from December 2017 to June, 2021. The project is covering 21 out of 28 districts of Malawi.

I am also one of the Technical Team Leader for the United Nations Development Program Disaster Risk Management Support Program which is being implemented by the Disaster Management Affairs from 2018 to 2021.

I would like to thank ICHARM for making me to think outside the box. I am now able to use knowledge on natural sciences in order to solve some of the factors that make communities in some of the disaster prone areas of Malawi to be vulnerable.



Lucas Mikosz

*Infrastructure Analyst - Geologist
National Center of Risk and Disaster Management, Brazil*

In 2016-2017, with JICA support, I had the opportunity to participate in the PWRI/ICHARM & GRIPS Flood Disaster Management Program. My group was composed of 11 students from 9 different countries, each with incredible previous experiences, stories and cultures.

The program was rich and intense, guided by highly trained and internationally renowned researchers, allowing students to learn the latest and most advanced in the field of flood disaster management in Japan and the world, both in technical aspects and social and political variables.

In addition to the valuable knowledge acquired, the friendships we made in this period and the life-changing experience of living in Japan are also an integral part of this program, which allowed us to grow not only as professionals but also as human beings.

Curriculum

1. Lectures :

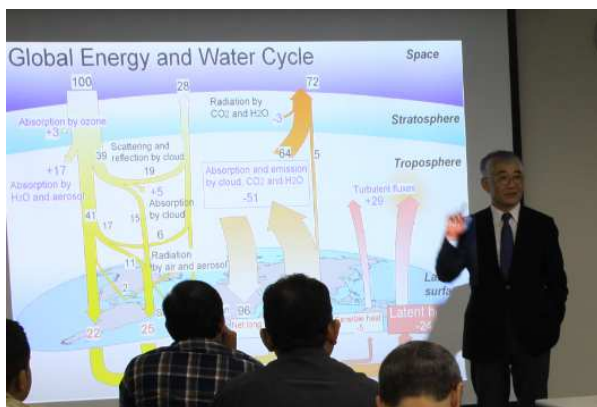
- Basic Concepts of Integrated Flood Risk Management (IFRM)
- Urban Flood Management and Flood Hazard Mapping
- Disaster Management Policies A: from Regional and Infrastructure Aspect, and B: from Urban and Community Aspect
- Hydrology
- Hydraulics
- Flood Hydraulics and River Channel Design
- Mechanics of Sediment Transportation and Channel Changes
- Control Measures for Landslide & Debris Flow
- Socio-economic and Environmental Aspects of Sustainability-oriented Flood Management
- Computer Programming
- Practice on GIS and Remote Sensing Technique
- Practice on Open Channel Hydraulics
- Practice on Flood Forecasting and Inundation Analysis

2. Field trips :

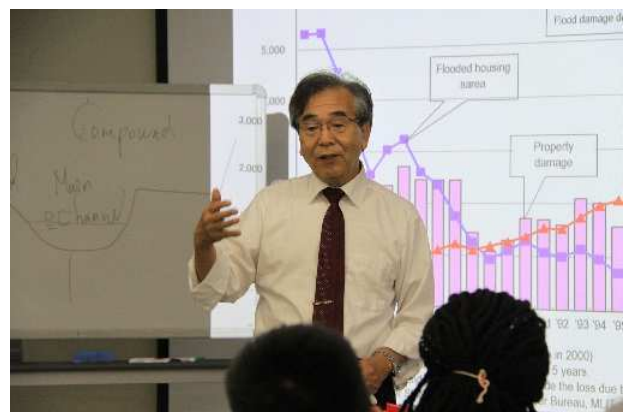
- Several visits to river management offices and other relevant places to learn water-related disaster management currently in practice in Japan

3. Individual study :

- Master's thesis (April-August)



Lecture by Prof. Toshio Koike



Lecture by Prof. Shoji Fukuoka of Chuo Univ.



Field Trip to Katsura River Basin



Final Presentation of student theses

Thesis

- Comparative analysis of flood forecasting techniques using RRI, HEC-RAS & Gauge-to-Gauge correlation method for Delhi, India (2015, SYED Mohd Faiz, India)
- Prediction of sediment transport processes in Nzoia river using rainfall runoff model (2015, OTIENO George Chilli, Kenya)
- Sedimentation and its countermeasure at the off-take area of New Dhaleswari river (2016, AHMED Tanjir Saif, Bangladesh)
- Method for predicting sediment runoff processes and channel changes during floods in West Rapti river, Nepal (2016, SHARMA Gopal, Nepal)
- Integrated water resources management for eastern dry zone of Sri Lanka Study of Mundani river basin (2016, BABARANDE GURUGE Thanura Lasantha, Sri Lanka)
- Sendai Framework Indicators for Disaster Risk Reduction In Brazil: Initial Conditions, Feasibility Analysis, and Understanding the Risks (2017, MIKOZ Lucas, Brazil)
- Effective Reservoir operation by introducing dam pre-release water in A Vuong dam basin, Quang Nam Province, Vietnam (2017, NGUYEN Van Hoang, Vietnam)
- Real time flood and inundation forecast in trans-boundary river basin using multi-model high resolution precipitation forecast (2018, Asghar Malik Rizwan, Pakistan)
- Development of an integrated research method for effective water resource management in a complex watershed system: the case of Mahaweli river basin (2018, Jayasinghe Roshan Indika, Sri Lanka)
- Development of effective water usage plan for dry zone in Sri Lanka. Case study : - Malwathuoya river basin (2018, MAHESWARAN Myuran, Sri Lanka)
- Development of integrated water resources management plan for eastern dry zone in Sri Lanka case study: Gal Oya river basin (2019, Mohamed Thajudeen Mohamed Zuhail, Sri Lanka)
- RRI model-based flood evacuation timeline of city and LGUs in Pampanga river basin, Philippines (2019, Valencia Christian Darwin, Philippines)
- Flow pattern and associated bed deformation in the off-take region of Gorai river, Bangladesh (2020, Md. Shahinur Rahman, Bangladesh)
- Comprehensive evaluation of flood mitigation measures based on climate change impact assessment in the Wangchhu basin (2020, Tashi Phuntsho, Bhutan)
- Flood impact assessment in the Itapocu river basin, Brazil (2020, Rafael Silva Araújo, Brazil)



(Awarded Thesis in the last six years)

Graduates of 2019-2020 course

Life in Japan

Besides the busy schedule with the coursework, participants enjoy life in Japan, including people, culture and nature.

Accommodation:

JICA will arrange the following accommodations for the participants in Japan basically:

“JICA Tsukuba Center”

<https://www.jica.go.jp/tsukuba/english/office/index.html>



Participants enjoy SAKURA (cherry blossoms) viewing every April.

Expenses:

The following expenses will be provided to the participants by JICA:

- (1) Allowances for accommodation, meals, living expenses, outfit, and shipping
- (2) Expenses for study tours (basically in the form of train tickets) etc.

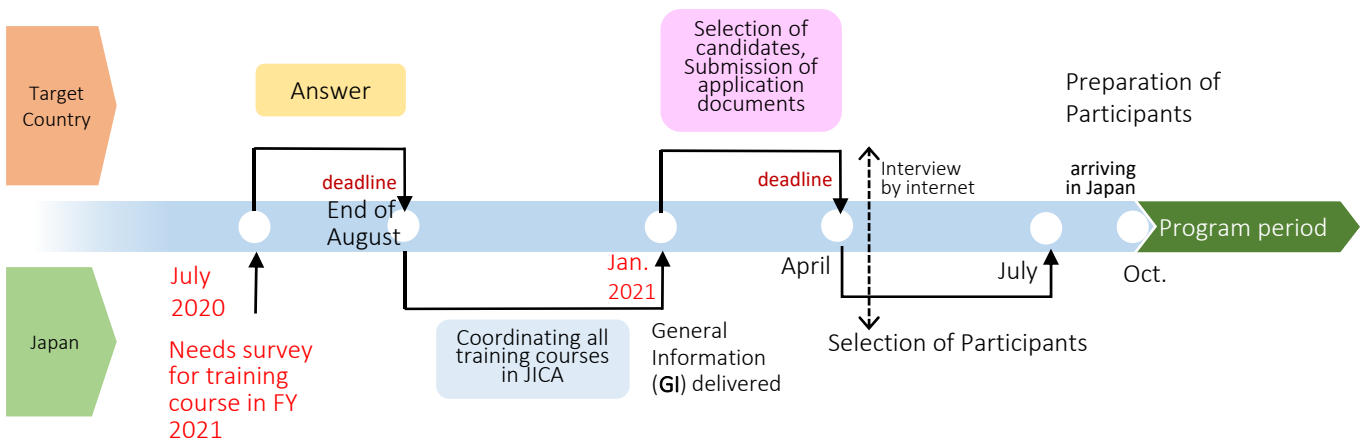
Additionally, **the round-trip air ticket** between an international airport designated by JICA and Japan, and **travel insurance** will be paid by JICA.



JICA Tsukuba Center

Admission

The admission procedures regarding this program must follow Japan’s ODA scheme.



Main Qualifications for Nominees

Nominees must:

- ✓ be nominated by their governments.
- ✓ be technical officials, engineers or researchers who have three or more years of experience in the field of river management or flood disasters in governmental organizations.
- ✓ be university graduates, preferably in civil engineering, water resource management, or disaster mitigation, or related department.
- ✓ be proficient in basic computer skills.
- ✓ have a competent command of spoken and written English ---with a minimum test score of
 - TOEFL iBT: 79
 - IELTS Academic 6.0 or its equivalent
- ✓ Generally, be over twenty-five (25) and under forty two (42) years of age as of Oct. 1, 2021.

For more information, please visit our webpage and Facebook!
http://www.icharm.pwri.go.jp/training/master/master_index.html

