JICA “Knowledge Co-Creation Program”

FLOOD DISASTER RISK REDUCTION

Program Period in Japan:
From October, 2019 to September, 2020
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”.  


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.

Introduction

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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.
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)
- Flood risk assessment under the climate change in the case of Pampanga basin, Philippines (2014, FERRER Santy Bumali, Philippines)
- 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)
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)

Graduates in a meteorological department conducting flood forecasting using the Integrated Flood Analysis System (IFAS) and the RRI model (Pakistan)

132 graduates in 11 years
(as of September 2018)
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 a human beings.

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

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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.

See the General Information (GI) JFY 2019 for details.

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, 2019.

See the General Information (GI) JFY 2019 for details.