



Message from Executive Director

Inherited and unchanging values

Noh is the oldest existing classical theater performance in the world. It was born in Japan about 650 years ago and has since kept the old scripts, direction, composition, choreography, and the vocalization and pronunciation of lines. Noh masks, costumes, and instruments from a long time ago are still used today. In 2001, UNESCO declared Nohgaku, meaning Noh and Kyogen, another classical theater performance, as a "Masterpiece of Oral and Intangible Heritage of Humanity."

According to Mr. NAKAMORI Kanta, who is a Noh main role of the Kanze school, a member of the Nohgaku Performers' Association and the Association for Japanese Noh Plays, and the Managing Director of the Kamakura Noh Theatre, Noh became a "theatrical performance that was forbidden to evolve" in the Edo period from 1603 to 1868. The Edo government practiced a strict governance system called "Sankinkotai," requiring each feudal lord to spend every other year in Edo, or current Tokyo, while also ordered to keep their wives and children all the time in the capital, as sort of "hostages." However, when staying in Edo, those lords from different parts of Japan could not communicate with each other as they wished because there was no "standard Japanese" at that time. The Edo government decided to introduce Noh as the solution to this problem. It was used as a "ruler's art" in which the lords had to learn Noh chanting, which became their common language after they mastered the vocalization, pronunciation, and meaning of the words. They also acquired a resonant voice and refined movements through the process. Thus, arbitrary changes to texts, directions, and such were forbidden.

Noh underwent challenging times after the Edo era in terms of preserving its original style. The samurai society, which happened to be Noh's long-term guardian, collapsed due to the Meiji Restoration. The control policies enforced in occupied Japan after the Second World War aimed to eliminate traditional cultures in the country. I am very impressed thinking about the extraordinary efforts they had to make to carry on the oldest classical theater performance in its original form in those hostile circumstances. I was also very surprised to learn from Mr. Nakamori about the length of the Noh time scale. For example, a Noh flute, characterized by a wide musical range of unique sounds, takes about 20 years to make. Moreover, it needs to be played for another 200 years to reach its optimal tuning. The same applies to Noh masks. The paint on the masks may not always be in the desired condition when one receives them, but they continue using them in the hope that they will look much better after 100 years as they are passed down from generation to generation.

Today, we are striving to create a sustainable and resilient society by integrating cutting-edge scientific knowledge and locally rooted wisdom in the midst of dynamic climatic and social changes and diversifying values. I find Noh's wisdom insightful in this context. It makes us revisit the importance of pausing to think about unchanging values and handing them down to the next generation.



with Mr. NAKAMORI Kanta, Noh Main Role of the Kanze school at the Kamakura Noh Theatre, Japan

能観世流シテ方の中森貴太氏と
一緒に
鎌倉能舞台にて

受け継がれる不変の価値

能は今からおよそ 650 年前に生まれた現存世界最古の古典演劇で、昔の台本・演出・作曲・振り付け・セリフの発声・発音が色濃く残り、舞台・能面・装束・楽器は今も使用できます。2001 年には、狂言とともに能楽として、ユネスコの「人類の口承及び無形遺産に関する傑作」として宣言されています。

能の観世流シテ方、能楽協会会員、日本能楽会会員で、鎌倉能舞台業務理事の中森貴太氏によれば、能は江戸時代に「進化を禁じられた演劇」となったということです。当時、統治の強化政策として「参勤交代」の制度が定められ、各藩の主である大名は 1 年おきに江戸に出仕し、妻子を江戸に住まわせることが義務付けられました。しかし、当時の日本には、いわゆる「標準語」は無く、江戸に集まった大名達は会話が思うにいかなかったということです。その打開策として、能の謡曲を大名が学ぶことによって、その発声・発音・語意を使って共通語とし、併せて豊かな声量と洗練された動作を身につけるための「支配者の芸能」として発達したのが、能であるとのことでした。したがって、文章・演出などの勝手な変更は禁じられたわけです。

明治維新による武家社会の崩壊、戦後の統制政策による伝統文化の排撃等の中で、最古の古典演劇をそのままの形で継承するには、並々ならぬ努力があったと拝察されます。また中森氏からお聞きしたその時間スケールの長さに驚きさえありませんでした。例えば、広い音域をもつ独特の笛は、制作に 20 年、使い続けて調子が良くなるのには 200 年を要するとのことでした。能面も、今は塗状態が満足いくものではなくとも、受け継いで 100 年後にはいい状態になるだろうと、使い続けるそうです。

現代社会にあって、私たちは、気候や社会がダイナミックに変化し、価値観の多様化が進む中で、先端の科学的知見と地域に根差す知恵を統合して、持続的でレジリエントな社会づくりを目指しています。その中において、不変の価値とその継承について、立ち止まって考えることの重要性を気づかせて頂きました。

January 31, 2024

KOIKE Toshio

Executive Director of ICHARM

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Jamyang Zangpo, Sr. Hydrology/Meteorology Officer, National Centre for Hydrology and Meteorology, Bhutan

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Special Topics

Honorary Professor awarded by IWHR

中国水利水电科学研究院から名誉教授の称号授与

On October 19, 2023, KOIKE Toshio, the executive director of ICHARM, was awarded the title of Honorary Professor from the China Institute of Water Resources and Hydropower Research (IWHR).

According to its official website, IWHR was founded in 1958 and is one of China's leading and largest research institutes in water resources and hydropower. At present, the institute has over 1,300 staff members and 32 laboratories under 12 research departments. It also serves as the secretariat of the International Conference on Flood Management (ICFM).

PWRI concluded the Agreement for Technical Co-operation with IWHR in February 2003.



Executive Director KOIKE (left) receives the Letter of Appointment (left photo) from LIU Yi, the vice president of IWHR and Ph.D. in engineering.

左：小池センター長 右：Dr. LIU Yi (Vice President of IWHR (Doctor of Engineering))

2023年10月19日、小池俊雄 ICHARM センター長が中国水利水电科学研究院 (China Institute of Water Resources and Hydropower Research: IWHR) の名誉教授 (Honorary Professor) の称号を授与されました。

IWHR は、1958年に設立され、中国の水資源と水力発電の分野でトップレベルかつ最大規模の総合研究機関です。現在、IWHR には1,300人を超えるスタッフ、12の研究部門と32の研究室があります。また、国際洪水管理会議 (International Conference on Flood Management: ICFM) の事務局を務めています (IWHR ホームページより)。

なお土木研究所は、IWHR と2003年2月に研究協力協定 (Agreement for Technical Co-operation) を締結しています。

(Written by KURIBAYASHI Daisuke)

Research

HyDEPP-SATREPS Updates: Fifth Joint Coordination Committee Meeting

HyDEPP-SATREPS プロジェクト活動報告：第5回合同調整会議の開催

ICCHARM has been involved in a project named the Hybrid Water-Related Disaster Risk Assessment Technology for Sustainable Local Economic Development Policy under Climate Change in the Republic of the Philippines (HyDEPP-SATREPS) and participated in its 5th Joint Coordination Committee Meeting (JCC), held on November 20, 2023, in Quezon City, Philippines. The meeting was attended by a total of 64 attendees (36 on-site and 28 online), mainly composed of the Japan and Philippine implementing teams, representatives from cooperative agencies, such as the Laguna Lake Development Authority (LLDA) and the Department of Science and Technology (DOST), as well as JICA and the Japan Science and Technology (JST).

The participants reviewed the activities conducted in the last six months and shared and discussed upcoming planned activities. The meeting also shared the JST mid-term review results, including the outstanding praise given to the project, and key suggestions that JCC should start discussing policy recommendations as soon as possible to propose to the local and national governments. In response, Side Project Leader OHARA Miho, who is also a professor at the University of Tokyo, Japan, presented the initial draft of the policy recommendations and the implementation strategy. Dr. Angeles Catelo of the University of the Philippines Los Baños shared the policy brief that his team developed in a project funded by the DOST on flood and drought impact assessment in selected municipalities in the Laguna region.

The project will accelerate activities to further elaborate the policy recommendations and move towards implementation in order to achieve the project goal, which is to develop a hybrid water-related disaster risk assessment technology for creating a practical policy to achieve sustainable local economic development.

ICCHARM が参画する「気候変動下での持続的な地域経済発展への政策立案のためのハイブリッド型水災害リスク評価の活用 (略称: HyDEPP-SATREPS)」プロジェクトの第5回合同調整会議 (JCC) が2023年11月20日にフィリピン・ケソン市にて開催されました。参加者は主に日本とフィリピンの実施チームと、現地協力機関 (ラグナ湖開発公社 (LLDA) および科学技術省 (DOST)) および JICA、科学技術振興機構 (JST) の代表者からなる計64名 (現地参加者36名、オンライン参加者28名) でした。会議では過去6か月間の活動のレビューと、今後の活動計画の共有、議論がされました。また、JST 中間レビューの評価、特に本プロジェクトが高く評価されている点や本プロジェクトが今後提案する政策提言の具体案の早期検討を行うべきとのコメントが共有されました。これを受けて、日本側研究代表者である東京大学の大原美保教授が、政策提言の草案と実施戦略を共有しました。一方、フィリピン大学ロスバニョス校のアンヘレス カテロ博士は、DOST の資金提供を受けて、ラグナ州の一部の自治体における洪水と干ばつの影響評価について策定した政策概要を共有しました。今後、

プロジェクトの最終成果物である気候変動下での持続的な地域経済発展への政策立案を実現するため、政策提言のさらなる具体化や実装に向けて活動を加速されることが期待されます。

5th Joint Coordination Meeting of HyDEPP-SATREPS

November 20, 2023 at Luxent Hotel
in Quezon City, Metro Manila

HyDEPP

SATREPS
Science and Technology Research Partnership
for Sustainable Development Program



Participants in the Fifth Coordination Meeting for the HyDEPP project held in Luxent Hotel, Quezon City, Philippines
フィリピン・ケソン市のルクセント・ホテルで開催された HyDEPP プロジェクトの第 5 回調整会議の参加者

(Written by Ralph Allen Acierto and NAITO Kensuke)

SATREPS Argentine domestic research meeting

SATREPS アルゼンチン国内研究会に参加

SATREPS(地球規模課題対応国際科学技術協力プログラム)アルゼンチンプロジェクト「気象災害に脆弱な人口密集地域のための数値天気予報と防災情報提供システム、研究代表：理化学研究所三好健正主任研究員」において、2023年12月7日～8日に静岡県掛川市のパレスホテルで国内メンバーによる研究会を行いました。研究代表の理研の他、大阪大学、科学技術振興機構、ICHARMから計16名の参加がありました。ICHARMからは、牛山朋来主任研究員、柿沼太貴研究員、内藤健介研究員、玉川勝徳専門研究員が参加しました。

1日目には、勉強会として、降水予測と水文予測のそれぞれの立場のすり合わせを行いました。理研側から降水予報を作る側からの説明、ICHARMから水文モデルに適用する側からの話題提供を行いました。また、10月に行われたJST年次報告会において、評価委員の先生方からのコメントに対する今後の対応方針について議論しました。

2日目には、各研究課題から研究の進捗報告がありました。大阪大学の第2課題からレーダーデータ解析手法の向上について、理研の第3課題からアンサンブル予測に関する進捗報告、ICHARMの第4課題から水文モデル構築と流出予測に関する進捗報告がありました。お互いの研究所から離れた場所で2日間の研究会を行い、深い議論を存分に行うことができました。

ICHARM has been involved in "The project for numerical weather prediction and warning communication system for densely populated and vulnerable cities (principal investigator: Dr. MIYOSHI Takemasa, senior researcher, RIKEN)," part of the Science and Technology Research Partnership for Sustainable Development (SATREPS), focusing on Argentina.



Group photo of participants
参加者集合写真

On December 7-8, 2023, Japanese project members gathered for a workshop at the Palace Hotel in Kakegawa City, Shizuoka Prefecture, Japan. In addition to the principal investigator from RIKEN, a total of 16 people from Osaka University, the Japan Science and Technology Agency (JST), and ICHARM participated in the workshop. The participants from ICHARM included Senior Researcher USHIYAMA Tomoki, Researchers KAKINUMA Daiki and NAITO Kensuke, and Research Specialist TAMAKAWA Katsunori.

On the first day, a study session was held to discuss what had been done and should be done from different viewpoints of precipitation forecasting and hydrological forecasting, two primary disciplines involved in this project. RIKEN spoke about issues concerning generating precipitation forecasts, while ICHARM addressed issues to consider in applying them to hydrological models. The participants also discussed how to field the comments made by the evaluation committee members at JST annual report meeting held last October.

On the second day, each Working Package (WP) presented a progress report on their research. Osaka University's WP2 reported on the improvement of radar data analysis methods, RIKEN's WP3 on ensemble forecasting, and ICHARM's WP4 on hydrological model building and runoff forecasting.

As the workshop took place outside their institutes, the project members could engage in in-depth discussions to the fullest extent.

(Written by USHIYAMA Tomoki)

Contribution to the government-led SIP program in its 3rd period 戦略的イノベーション創造プログラム（SIP）第3期への貢献

ICHARM has joined the Cross-ministerial Strategic Innovation Promotion Program (SIP) the 3rd period, "Development of a Resilient Smart Network System against Natural Disasters," which is a 5-year project starting in September 2023 and funded by the Cabinet Office of Japan.

ICHARM takes part in a sub-theme titled "Promotion of disaster prevention actions based on risk information," led by Professor YAMADA Tomohito of Hokkaido University, which aims to find effective ways of utilizing risk information to induce residents and private companies to take voluntary actions for disaster risk reduction and prevention. This sub-theme is composed of the following three research topics: 1) the development of weather-related damage prediction technology at a basin scale; 2) the development of water-related disaster damage visualization technology; and 3) the development of technology for evaluation and generation of real-time disaster risk information that promotes self-directed disaster prevention actions.

ICHARM will mainly contribute to the second topic and develop and implement technologies capable of performing quantitative assessments of water-related disaster risks to which the companies may be exposed and risks that may be reduced owing to disaster prevention activities. It will also continue studying practical approaches to guiding people in taking voluntary risk reduction actions, such as early evacuation, by providing an opportunity to experience a simulated flood situation using virtual reality technology.

Public expectations are high in these projects since it has been pointed out that changes in individual and corporate behavior comprise core part of the project outcome and directly contribute to the increase of local and national resilience to disasters. ICHARM is determined to do its best to accomplish the project goals in cooperate with other partner organizations.

ICHARM は、令和5年9月から5か年で実施される内閣府の戦略的イノベーション創造プログラム（SIP）第3期に位置付けられた課題「スマート防災ネットワークの構築」を構成するサブ課題の一つである「リスク情報による防災行動の促進」に共同研究機関として参加しています。

本サブ課題は、北海道大学の山田朋人教授を研究開発責任者とし、水災害のリスク情報を住民・企業等の「ジブンゴト化」につなげる研究開発を行うものです。同サブ課題は1) 流域スケールの風水害影響予測技術の開発、2) 水災害リスク・被害影響可視化技術の開発、3) 防災行動を促すリアルタイム災害リスク情報の評価・生成技術の開発、の3つの研究開発テーマから成り立っています。

ICHARM は主として研究開発テーマ2)において、将来にわたって直面する水災害リスクや、事前の防災対策によって軽減されるリスクを企業等が定量的に評価する技術や、仮想洪水体験システムを用いて住民の水災害に対する経験値を上げる技術の開発および実装を通して、水災害が「ジブンゴト」として捉えられ、事前の防災行動が促進される社会づくりに取り組んで参ります。

住民や企業等の行動変容は、SIPの本課題全体の成果ひいては地域や国土の強靱化にも直結することから大きな期待が寄せられており、ICHARM としても他の共同研究開発機関等と連携しながら最大限の努力をして参ります。



Figure 1 Outline of the SIP project (The English version is not available.)

図1 本SIPでの研究開発の概要

(公表資料から抜粋: https://www.nied-sip3.bosai.go.jp/news/2023-news/attachment/Presentation_05.pdf)

(Written by NAITO Kensuke)

Introduction of ICHARM research projects / 研究紹介

ICHARMは、その使命を果たすため、世界及び地域での災害の傾向及び経験と災害対応に関する地域のニーズ、重要課題、開発段階等を踏まえつつ、自然、社会及び文化といった地域の多様性を考慮する原則というローカリズムを念頭に、研究、能力育成及び情報ネットワーク構築の3本柱を有機的に連携させて、現地実践活動を実施しています。

そのうち、研究としては

- (1) 水災害データの収集、保存、共有、統計化
 - (2) 水災害リスクのアセスメント
 - (3) 水災害リスクの変化のモニタリングと予測
 - (4) 水災害リスク軽減の政策事例の提示、評価と適用支援
 - (5) 防災・減災の実践力の向上支援
- の5つの柱のもと、革新的な研究活動を行っています。

本号では、(2)に関する取組例として原田大輔専門研究員より「豪雨時に流域から流出する水・土砂・流木の一体的解析 — 降雨-土砂流出(RSR)モデルの開発 —」を紹介します。

ICHARM sets three principal areas of activity: research, capacity building, and information network. It plans and implements projects in these areas in order to fulfill its mission, always keeping in mind “localism”, a principle with which we respect local diversity of natural, social and cultural conditions, being sensitive to local needs, priorities, development stage, etc., within the context of global and regional experiences and trends of disasters.

At present, ICHARM conducts innovative research in the following five major areas:

- (1) Data collection, storage, sharing, and statistics on water related disasters
- (2) Risk assessment on water related disasters
- (3) Monitoring and prediction of changes in water related disaster risk
- (4) Proposal, evaluation and application of policy ideas for water related disaster risk reduction
- (5) Support in constructing the applicability of water-related disaster management

This issue introduces a researcher as listed below:

HARADA Daisuke, Research Specialist

Integrated analysis of water, sediment, and driftwood runoff from a basin during heavy rainfall: Development of a rainfall-sediment runoff (RSR) model



Integrated analysis of water, sediment, and driftwood runoff from a basin during heavy rainfall: Development of a rainfall-sediment runoff (RSR) model

豪雨時に流域から流出する水・土砂・流木の一体的解析 — 降雨 - 土砂流出 (RSR) モデルの開発 —

HARADA Daisuke, Research Specialist

原田大輔 専門研究員

大雨が降ると、山地で多くの斜面崩壊・土石流が発生し、土砂や流木が河道に流入することがあります(写真1)。これらが洪水流で下流に流出すれば、2017年の九州北部豪雨災害(写真2)に代表されるように、下流域に多くの被害をもたらすことがあります。このような災害を事前に予測し、ハード・ソフトの対策を実施できれば、被害を軽減できる可能性があります。ICHARMではこのような多量の土砂・流木を含む洪水災害を予測するために、降雨-土砂流出モデル(Rainfall-sediment-runoff, RSR model)を開発してきました。RSRモデルは、①降雨-流出過程の解析、②崩壊・土石流や斜面侵食によって河道に流入する土砂・流木の解析、③合流点間を単位河道とする河道モデルによる土砂・流木の流出解析、により構成され、これらを一体的に解析することで、流域の任意地点における土砂の量、その粒度分布、流木の流出を時系列で求めることができます(図1)。流域から流出する土砂量を求めるために、これまで多くの経験式に基づくモデルが提案されてきましたが、本モデルは力学に基づいて流域から流出する水・土砂・流木の流出を一体的に解析するモデルであり、災害予測のみならず、ダム堆砂や海岸侵食など、流域の土砂輸送に関する課題に広く活用することができます。RSRモデルはICHARMが開発してきたRRIモデルに組み込まれており、近々イン

During heavy rainfall, if a series of landslides and debris flows occurs in mountainous areas, a large amount of sediment and driftwood can flow into river channels (Photo 1). If such sediment and driftwood are transported downstream by flood flows, they can cause significant damage there, as exemplified by the 2017 torrential rain disaster in northern Kyushu (Photo 2). ICHARM has developed a rainfall-sediment-runoff (RSR) model to predict such flood disasters involving large amounts of sediment and driftwood. The RSR model analyzes three types of processes simultaneously: ① the rainfall-runoff process using the RRI model developed in ICHARM; ② the sediment and driftwood runoff entering the river channel due to landslides, debris flows, and slope erosion; and ③ the sediment and driftwood runoff process using a unit river channel model, in which a river channel is modeled from a confluence to a confluence. Through integrated analyses of these processes, the amount of sediment, its particle size distribution, and the discharge of driftwood at any point in a watershed can be estimated in a time series (Figure 1). This is the model that analyzes the



Photo 1 A large amount of sediment and driftwood carried by debris flows. The photo was taken just after the Akatani River flood disaster in 2017.

写真1 土石流により流出した土砂と大量の流木(2017年赤谷川災害の直後に撮影)



Photo 2 A section of the Akatani River damaged during the 2017 torrential rain disaster in northern Kyushu. The photo was taken by the Geospatial Information Authority of Japan.

写真2 九州北部豪雨で被災した赤谷川の状況(写真は国土地理院より)

discharge of water, sediment, and driftwood runoff from a watershed based on dynamics and can be widely used not only for disaster prediction but also for issues related to sediment transport in a watershed, such as dam sedimentation and coastal erosion. The RSR model has been incorporated into the RRI model developed by ICHARM, and the interface will be developed and made available for public use in the future.

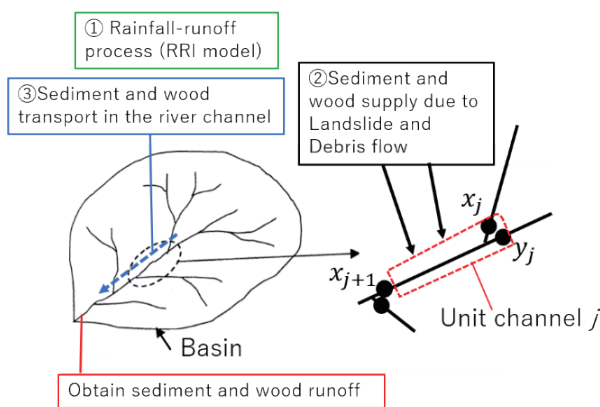


Figure 1 The concept of the RSR model
図1 RSRモデルの概要

To ensure the reliability of this model, it is necessary to investigate the validity of the calculation results using data on sediment and driftwood discharge during disasters. Although such observation data are seldom available in general, in the case of the Terauchi Dam, whose upstream area was damaged by the 2017 torrential rains in northern Kyushu, the amount of sediment deposited in the dam was measured to be about 1.1 million m³ and the amount of driftwood about 10,000 m³. Therefore, we applied the RSR model to the Terauchi Dam basin and investigated the characteristics of the model by varying the parameters. The results indicated three important characteristics. First, the boundary between the area analyzed as debris flow and the area analyzed as sediment transport in the river channel should be set as a slope of about 10 degrees. Second, since there is an upper limit to the sediment transport capacity of a river channel, the amount of sediment discharge increases only up to a certain point according to the limit, even when the amount of debris flow is significantly huge. Third, the amount of driftwood runoff through the channel is almost proportional to the amount of debris flow. As a next step, we will test this model with other cases to make it more applicable to practical river management and evacuation planning.

References;

HARADA Daisuke, EGASHIRA Shinji; *Studies on flood hazard prediction based on rainfall- sediment and driftwood runoff model*, *Advances in River Engineering*, Vol.29, pp.281-286, 2023.

ターフェースを整備し、公開する予定です。

このモデルの信頼性を担保するためには、災害時の土砂・流木流出に関するデータを用いて計算結果の妥当性を示す必要があります。そのような観測データは滅多にありませんが、2017年の九州北部豪雨で上流域が被災した寺内ダムでは、ダムに堆積した土砂量が約110万m³、流木量が約1万m³であることが計測されています。そこで、寺内ダム流域にRSRモデルを適用し、様々なパラメータを変化させながらモデルの特徴について検討しました。その結果、(1)崩壊・土石流として解析する領域と河道の土砂輸送として解析する領域の境界を勾配10°程度に設定するのが良いこと、(2)河道の土砂輸送能力には上限があり、土石流の流出量が一定程度を超えると、それ以上土砂流出量は多くならない、(3)流木の流出量は土石流の流出量にほぼ比例して増加すること、などが分かりました¹⁾。今後、モデルの適用事例を増やし、河道計画や避難計画の実務に活用できるように、検討を続ける予定です。

参考文献：

1) 原田大輔、江頭進治：降雨・土砂・流木流出モデルに基づくハザード予測に関する研究、*河川技術論文集*、第29巻、pp.281-286, 2023.

Training & Education

Educational program updates

教育・研修活動報告

Since 2007, ICHARM, in cooperation with the Japan International Cooperation Agency (JICA) and the National Graduate Institute for Policy Studies (GRIPS), has provided a master's program, "Water-related Disaster Management Course, Disaster Management Policy Program (JICA Knowledge CO-Creation Program on Flood Disaster Risk Reduction)," which is mainly designed for foreign government officers to obtain a degree in one year. The students learn theories and practices in the first half from October to March and work on their theses in the second half from April to August. The program has started its 17th year, welcoming 13 new students on October 2, 2023.

In addition, ICHARM has been accepting doctoral students in collaboration with GRIPS since 2010. In 2015, the doctoral program upgraded its financial support, including a scholarship from JICA. In October, three new students joined, which adds up to a total of 10 students enrolled in this three-year program.

●Opening ceremony

On October 2, the 16th opening ceremony of the master's course for the academic

ICHARMでは、2007年以降、(独)国際協力機構(JICA)及び政策研究大学院大学(GRIPS)と連携して、主に外国人行政職員を対象として、約1年間で学位を取得できる修士課程「防災政策プログラム水災害リスクマネジメントコース」(JICA研修「洪水防災」)を実施しています。例年、10月から翌年3月までの6カ月は主に講義や演習が行われ、4月から8月にかけて学生は論文執筆に取り組みます。今年度は第17年目を迎え、2023年10月2日より新たに13名の修士学生が本コースに参加しております。

また、ICHARMでは、2010年からGRIPSと連携して、博士課程の学生も受け入れており、2015年からはJICAによる奨学金制度の導入がなさ

<https://facebook.com/icharmtrainingcourse/>



れるなど財政的サポートも充実させてきました。今年度は10月2日より3名の博士学生が加わり、三学年合わせて10名となりました。

● 第17期研修 開講式

10月2日にICHARM講堂において、2023年度修士コース開講式を実施しました。JICA 筑波からは睦好絵美子所長、GRIPSからは片山耕治教授、土木研究所から藤田光一理事長及び幹部職員が出席し、それぞれ歓迎の挨拶を述べました。また、学生を代表して、Ms. AZIZAH Tanjung Luthfi (INDONESIA) が挨拶を行いました。

<竹内邦良山梨大学名誉教授による特別講義>

10月4日に竹内名誉教授による二宮尊徳に関する特別講義が行われました。二宮尊徳は、19世紀の著名な社会改革者で、その豊富な農業知識、土木の才能及び独特な管理能力により、洪水、飢饉等で荒廃した多くの町村を復興させた人物であります。学生は、二宮尊徳の精神が、ICHARMの使命である「ローカリズムとヒューマンエンパワーメント」にどのように受け継がれているのかについて学びました。また、翌日には栃木県真岡市にある二宮尊徳資料館を訪れ、資料館の解説員及び竹内名誉教授から尊徳の教えである「至誠」「勤労」「分度」「推譲」など、豊富な資料をもとに説明を受けました。

● 視察<10月25日~27日 鬼怒川流域視察>

3日間の現地視察において、国土交通省関東地方整備局の職員、ICHARMから牛山朋来主任研究員及び原田大輔専門研究員同行のもと、学生は、渡良瀬川流域と鬼怒川流域を訪れました。渡良瀬川流域では、足尾銅山で採掘された銅による日本の経済発展と、それによる環境破壊、そして砂防事業を含む復興や渡良瀬遊水地の整備など、渡良瀬川流域の歴史が紹介されました。鬼怒川流域では、最上流部のダム建設及びダム群連携事業、上流部の霞堤、下流部の連続堤防による整備、さらに2015年の堤防決壊と洪水氾濫そしてその復興やソフト水防災対策について学びました。また、利根川改修の祖である徳川家康を偲び、日光東照宮を参拝し、日本の文化についても触れました。視察後に、学生は自国の状況と比較しながら今回の視察で学んだことをレポートとして提出しました。その一部を以下、掲載します。

【学生からの声】

渡良瀬川と鬼怒川の現地訪問では、ダム、堤防、緊急避難用の公園の建設など、河川管理の高度な技術とインフラについて貴重な洞察を得ることができました。直面するさまざまな自然災害を考慮した日本の災害対応やインフラ整備への積極的な取り組みは、他国の模範・模範となると思います。(東ティモール修士学生)

year 2023 was held at the ICHARM auditorium. JICA Tsukuba Deputy Director General MUTSUYOSHI Emiko, GRIPS et KATAYAMA Koji, and PWRI President FUJITA Koichi, as well as some other PWRI executives, attended the ceremony and gave a warm welcome speech to the new students. In return, Ms. AZIZAH Tanjung Luthfi from Indonesia spoke on behalf of the students.

<Special lecture by Professor Emeritus TAKEUCHI Kuniyoshi>

On October 4, Yamanashi University Professor Emeritus TAKEUCHI Kuniyoshi gave a special lecture on NINOMIYA Sontoku, Japan's famous social reformer in the 19th century. He restored many towns and villages devastated by floods and famines using his extensive agricultural knowledge, civil engineering talent, and unique administrative skills. The students learned how the spirit of Sontoku has been inherited in ICHARM's mission of "Localism and Empowerment." The following day, they visited the Ninomiya Sontoku Museum in Moka City, Tochigi Prefecture. The students learned a lot from museum staff and the professor emeritus, as well as from leaflets and other documents, about Sontoku and his accomplishments, including his four teachings: "Act sincerely to others," "Work hard to repay for the virtue of others," "Keep the living standard within your income," and "Invest the residuals for the future."



In front of the Ninomiya Sontoku Museum
二宮尊徳資料館前にて

<Field Trip>

During the three-day field trip, the students visited the Watarase and Kinugawa river basins, accompanied by Chief Researcher USHIYAMA Tomoki, Research Specialist HARADA Daisuke, and officials from the Kanto Regional Development Bureau of the Ministry of Land, Infrastructure, Transport and Tourism.

In the Watarase River basin, the students were briefed about the basin's history, which included copper mining in the Ashio area, which contributed to Japan's rapid economic development after the second world war, its resulting environmental destruction, erosion control and other reconstruction projects, and the development of the Watarase Retarding basin.



In the Ashio Environment Study Center
足尾環境学習センターにて

In the Kinugawa River basin, they learned about dam projects in its uppermost reach, including dam construction and the Kinugawa Dam Network, which aims to coordinate multiple dams to control water storage for effective water use. They were also given an overview of river improvement projects installing open levees in the upper reach and continuous levees in the lower reach. In addition, they received explanations about the 2015 levee breach and flood inundation and the subsequent restoration project, as well as about non-structural flood control measures.

The trip was also a good opportunity to learn about Japanese culture. The students



At the top of Kawaji Dam
川治ダムのダム頂にて



At the monument placed where the Kinu River breached the levee in 2015
2015年鬼怒川決壊の碑を囲んで

visited the Nikko Toshogu Shrine, which enshrines Tokugawa Ieyasu, the founder and first shogun of the Tokugawa Shogunate of Japan, who started the Tone River Improvement project.

After the trip, the students submitted a report on what they learned during the visits, including how they may be able to use it to solve problems in their countries. The following comments are taken from their reports.

Comments from students

Student from Timor-Leste:

The site visit to the Watarase and Kinugawa Rivers provided us with valuable insights into advanced techniques and infrastructure for river management, including the construction of dams, levees, dikes, and parks for evacuation emergencies. Japan's proactive approach to disaster response and infrastructure development, considering the various natural disasters it faces, serves as a model for other countries.

Student from Pakistan:

The dam monitoring mechanism was excellent. Especially when there is an earthquake, drone technology is used by the dam staff to monitor landslides in the reservoir periphery. Real-time monitoring of the dam and reservoirs with observation cameras also amazed me. I accessed their monitoring website using the QR code that the dam staff gave us. Pakistan also needs such steps to make the monitoring mechanism effective.

Student from Malawi:

The Joso 2015 levee breach was due to a flood overflow. The same scenario happened in Malawi during Cyclone Freddy. The breaching of dikes was caused by torrential rains and mudslides and affected 15 districts in the Southern region. We also learned from the Joso case that the government has been improving flood prevention measures, such as raising and reinforcing the levees and installing gates and pumps.

● Lectures

The regular lectures started with "Hydrology" by Executive Director KOIKE Toshio and Senior Researcher MIYAMOTO Mamoru, "Hydraulics" by Research and Training Advisor EGASHIRA Shinji and Research Specialist HARADA Daisuke, "Flood Hydraulics and River Channel Design" by Professor FUKUOKA Shoji of Chuo University, and "Basic Concepts of Integrated Flood Risk Management" by Professor Emeritus TAKEUCHI Kuniyoshi of Yamanashi University and Mr. WATANABE Masayuki, the president of the Institute for International Social Development Cooperation.

The GRIPS intensive lectures were held face-to-face from November 1 to 15. The students attended the lectures while staying at JICA Tokyo, together with students from the International Institute of Seismology and Earthquake Engineering (IISEE) of the Building Research Institute, and Japanese students from other organizations.

In late November, "Mechanics of Sediment Transportation and Channel Changes" by the research and training advisor started.

In December, Professor Emeritus TANAKA Shigenobu of Kyoto University began lecturing on "Urban Flood Management and Flood Hazard Mapping," with Professor SUGAI Toshihiko, of the University of Tokyo, and Dr. NAGUMO Naoko, who also teaches at Waseda University as a part-time lecturer. "Practice on the Integrated Flood Analysis System (IFAS)" also began, with lectures given by Senior Researcher Abdul Wahid Mohamed RASMY and other ICHARM researchers.

<December 15-17: River basins in the Shikoku region>

In mid-December, accompanied by ICHARM Executive Director KOIKE Toshio and Senior Researcher MIYAMOTO Mamoru, the students took a four-day study trip to the Shikoku island, consisting of four prefectures: Kochi, Kagawa, Tokushima, and Ehime.

On the first day, they visited Mt. Godai Observation Deck in Kochi City, Kochi Prefecture. At the deck offering a panoramic view of the city, officials from the prefectural office explained the triple protection measures, i.e., breakwaters, outer levees, and inner levees, installed to protect the city from tsunamis assumed likely to follow a Nankai Trough mega-earthquake. The students were given an explanation of how the city

ダム監視システムはとても優れていると感じました。特に地震が発生した場合、ダム管理事務所職員はドローン技術を活用して貯水池周辺の地滑りを監視するなど、ダムや貯水池のリアルタイムモニタリングは素晴らしいです。早速QRコードからインターネット検索してみました。パキスタンもこのような監視システムを効果的に構築することが必要だと思いました。(パキスタン修士学生)

2015年の常総市の堤防決壊は堤防を洪水がオーバーフローしたことが、原因とのことでしたが、同じシナリオがサイクロン「フレディ」の際にマラウイでも起こりました。堤防の決壊は豪雨と土砂崩れによって引き起こされ、南部地域の15地区が被害を受けました。また、行政が堤防のかさ上げや補強、ゲートやポンプの設置など治水対策の充実に取り組んでいることも分かりました。(マラウイ修士学生)

● 講義

通常講義は、小池俊雄センター長及び宮本守主任研究員による「Hydrology」、江頭進治研究・研修指導監及び原田大輔専門研究員による「Hydraulics」、福岡捷二中央大学研究開発機構教授による「Flood Hydraulics and River Channel Design」、竹内山梨大学名誉教授及び国際社会開発協力研究所の渡辺正幸先生による「Basic Concepts of Integrated Flood Risk Management」から始まりました。

また、11月1日から11月15日までGRIPS集中講義が対面で開催されました。学生たちはJICA東京に滞在しながら、建築研究所国際地震工学センター(IISEE)の学生や他所属機関の日本人学生と共に、出席しました。

11月の終わりからは江頭研究・研修指導監による「Mechanics of Sediment Transportation and Channel Changes」が始まりました。

12月には田中茂信京都大学名誉教授による「Urban Flood Management and Flood Hazard Mapping」の講義が始まり、須貝俊彦東京大学教授や、南雲直子早稲田大学非常勤講師にも講義を担当していただきました。また、「Practice on Integrated Flood Analysis System (IFAS)」も始まり、Abdul Wahid Mohamed RASMY主任研究員ほか、ICARM研究員が講義を行いました。

<12月12日～15日四国河川流域視察>

12月中旬、学生は、小池センター長、宮本主任研究員同行のもと、3泊4日で四国地方を訪れました。1日目は、高知市内を一望できる五台山展望台において、高知県職員により、南海トラフ巨大地震から高知市内を津波から守る防波堤、外縁部堤防、内部護岸等からなる三重防護に

よる対策について、1946年の昭和南海地震津波での高知市の浸水状況を展望台から撮影された写真と現地とを照らし合わせながら、説明を受けました。その後、高知新港及び高知海岸耐震補強現場を見学しました。

2日目は、日高村にて仁淀川に架かる名越屋沈下橋を視察したのち、高知河川国道事務所の職員による説明のもと、本年6月から運用を開始した三本目の放水路となる新日下川放水路の現場を見学しました。日下川の河床勾配が約1/3,000と極めて緩いことから洪水時には仁淀川本川に流下しにくいという地形特性によって浸水被害が頻発していたものです。その後、近代土木の礎を築いた廣井勇の生誕地で記念像がある佐川町を訪れました。

3日目は水資源機構の職員より、四国の水がめとして昭和48年に多目的ダムとして完成した早明浦ダムの役割及び、吉野川の治水能力向上対策のための放流能力増加を含むダム再開発事業について、説明を受けました。その後、早明浦ダムで蓄えた水資源を配分するための池田ダム、香川用水東西分水工も見学しました。

4日目は、香川県に移動し早明浦ダムからの水により潤っている丸亀市を丸亀城天守閣から一望したのち、香川県職員及び満濃池土地改良区事務局長より日本最大級のそして歴史的建造物でもあるため池である満濃池の説明を受けました。

最後に、現地訪問にご対応頂いた関係者の皆様に深い感謝の意を表します。

was flooded when the 1946 Showa Nankai Earthquake and Tsunami occurred, while comparing old photos of the inundated cityscape from the deck with the current view in front of them. They also toured Kochi New Port and the construction sites along the Kochi Coast to increase its earthquake resistance.

On the second day, the students visited the Nagoya chinka-bashi bridge, a type of submersible bridge, over the Niyodo River in Hidaka Village, Kochi Prefecture. After that, they toured the New Kusaka River Floodway, which began operation in June 2023, where they listened to explanations provided by the staff of the Kochi River and National Highway Office of the Ministry of Land, Infrastructure, Transport and Tourism. Since the slope of the Kusaka River is extremely gentle at about 1/3,000, floodwaters do not flow down easily to the mainstream of the Niyodo River, and the area has suffered frequent inundation damage. Afterwards, they visited Sagawa Town, the birthplace of HIROI Isamu, where his commemorative statue stands. He is said to have laid the foundation for Japan's modern civil engineering.



At the Godai Observation Deck viewing the Urado Bay
五台山公園から浦戸湾を望む



At the New Kusaka Floodway
新日下川放水路にて

On the third day, the students visited the Sameura Dam, a multi-purpose dam completed in 1973 to serve as a water source for Shikoku. Officials from the Japan Water Agency provided a brief lecture about the dam's roles, as well as its redevelopment project, which aims, for example, to increase the dam's storage capacity so as to improve the Yoshino River's flood control capacity. They also toured the Ikeda Dam in Tokushima Prefecture and the Kagawa Irrigation East-West Diversion Works in Kagawa Prefecture, both built to distribute the water stored at the Sameura Dam.



At the Sameura Dam
早明浦ダムにて

On the final day, the students visited the Marugame Castle in Marugame City, Kagawa Prefecture, and enjoyed a panoramic view of the city from its top tower. The city is one of the municipalities utilizing the Sameura Dam's water supply. Afterwards, they went to Manno Pond, an over-1000-year-old reservoir recognized as one of Japan's largest and historic structures, where they received explanations from Kagawa prefecture officials and the executive director of the Mannou-ike Land Improvement District. ICHARM was very thankful to all the staff and officials for their excellent cooperation during the field trip.



At the Kagawa Irrigation East-West Diversion Works
香川用水東西分水工にて



At the Mannou-ike pond
満濃池にて

(Written by FUJIKANE Masakazu and ONARI Rikako)

Comments from new doctoral course students

博士課程 新入学生からのコメント

Three students joined the 2023-2025 doctoral program in October. They would like to say a brief hello to the readers around the world.

2023年10月、2023-2025年度博士課程に3人の研修員が加わりました。彼らからのコメントをここに紹介いたします。



Bromand Mohammad Tayib

Supervisor: KOIKE Toshio and Abdul Wahid Mohamed RASMY

My name is Bromand Mohammad Tayib from Afghanistan. Before joining ICHARM, I was an employee of CTI Engineering International Co., Ltd, working as a water resources engineer in Tokyo's main office, responsible for developing of flood-hydrological model based on observed and simulated datasets for the Kabul, and Indus River Basin. I obtained my master's degree in civil and environmental engineering from Ritsumeikan University, Japan in 2015.

It is an outstanding opportunity for me to pursue my Ph. D. course in the Disaster Management Program at GRIPS, and work as a Research Assistant in ICHARM. My research topic is developing an integrated modeling approach for managing the water-food-energy nexus toward sustainability and disaster risk reduction in the data scarce region of The Western Himalayas, Kabul Basin, Afghanistan. I am fully thankful to ICHARM and PWRI for providing me the opportunity to carry out research and studies in this globally recognized research center to strengthen my knowledge and skills, in order to contribute to the progress of my country and the region.



Serrano Jonathan Suba

Supervisor: OHARA Miho

I am Jonathan Serrano, a PhD student taking up the Disaster Management program offered by GRIPS and ICHARM. Back in the Philippines, I was a research assistant in the National Hydraulic Research Center of the University of the Philippines (UP) who usually conducted hydrologic and hydraulic analysis using numerical simulations. I got my Bachelor's and Master's degree in UP Diliman in 2014 and 2023, respectively. I was part of the Water Resources Engineering group but more specifically, I focused on the field of flood modelling and flood hazard mapping, since I wanted to contribute to the continuous problem the Philippines is facing every time a strong typhoon comes.

Grateful for this opportunity, I aim to maximize the knowledge that I can acquire in my field of interest. I believe this program will also widen the scope of my knowledge and skills since disaster management also includes policy making, which is crucial in disaster risk mitigation. This will enable me to help my fellow Filipinos in a more significant way than before.



KURIHARA Yuta

Supervisor: MIYAMOTO Mamoru

My name is Yuta Kurihara, and I'm from Japan. I work as a disaster risk management engineer at Oriental Consultants Global Co., Ltd. in Japan. I completed my master's degree in global engineering for development, environment and society at the Tokyo Institute of Technology.

Currently, I'm pursuing a PhD in Disaster Management at GRIPS. My main interest is in flood risk management. I'm working on improving flood risk assessment methods that take into account both societal factors and climate change. My goal is to help make better decisions for building a sustainable society.

I'm excited about this opportunity to learn and share ideas with water hazard and disaster management experts at ICHARM.

Comments from new master's program students

修士課程 新入学生からのコメント



I am Khoshnoor Tabassum. I have been working in the Bangladesh Water Development Board (BWDB) as a sub-divisional engineer under the Ministry of Water Resources (MoWR), which deals with the management and development of water resources in our country. In BWDB, I have been involved in the design and planning of projects regarding the improvement of drainage and irrigation and preventive countermeasures to manage disasters. The scholarship provided by JICA has been a great opportunity to conduct research in the field of disaster risk reduction (DRR) to learn advanced DRR knowledge and technologies through the Disaster Management Policy Program at ICHARM, PWRI, and GRIPS. Japan is considered one of the world's leading countries in disaster management, and ICHARM is a global center of excellence for water-related disaster management research. Flooding and riverbank erosion pose a continuous challenge to the sustainable development of our country. So, I am looking forward to serving my nation by applying the knowledge gained on the best practices and the latest technology available for sediment-related disaster management.



Hello! I am Eduardo José Caballero Figueroa from Honduras, and I am thrilled to be the first representative from my country to join the Water Related Disaster Management Program. For the past three years, I have been working for the Honduran Government at the Sula Valley Study and Development Center (SVSDC) under the Infrastructure and Transport Secretary as a project coordinator. In this role, I coordinate and oversee the implementation of river flood control works in the Sula Valley, a flood-prone region of my country.

As a young civil engineer, I have always aspired to gain knowledge in river management from a leading country like Japan. This opportunity feels like a dream come true, and I firmly believe that God has great plans to bless my country through my life and this program. I extend my heartfelt gratitude to God, JICA, GRIPS, PWRI, ICHARM, and all the staff members involved in making this experience better each day. I am confident that the knowledge gained from this master's program will be effectively applied in my country.

"Education is the most powerful weapon which you can use to change the world." - Nelson Mandela



I am Tanjung Luthfi Azizah from Indonesia. I work as a water resources engineer at the Directorate of Rivers and Coasts, the Ministry of Public Works and Housing. My current position involves evaluating river infrastructure projects and formulating applicable engineering designs to cope with flood disasters in the regions of Sumatra and Kalimantan.

I would like to express my gratitude to JICA, GRIPS, and ICHARM for this great opportunity to study in Japan. Japan is a beautiful country consisting of various natural terrains, in which its people have been displaying admirable resilience in overcoming natural disasters. And this is a great opportunity for me to gain knowledge from Japan's expertise in this particular field. This program is a valuable opportunity to be with colleagues from various countries who have experience with various water-related disasters so we can share different insights regarding experiences in our respective countries.

After completing this program, I will return to my country and engage in river management to reduce flood disaster risk in many strategic areas. I am looking forward to implementing the knowledge, skills, and experience acquired from this program.



I am Ephod Kachigwada, working for the Malawi Government in the Department of Disaster Management Affairs in the Disaster Preparedness & Response (DP&R) section as the principal disaster response officer responsible for coordinating humanitarian interventions and directing disaster risk management programs in the country. It is a great opportunity to study Disaster Management Policy-Flood Disaster Risk Reduction at the master's degree level and learn from world-renowned researchers in ICHARM, PWRI, and GRIPS. This will enhance my capacity to design and implement various disaster management programs. Upon the completion of the study, I intend to use the knowledge in my daily work activities to come up with science-informed flood disaster risk reduction interventions that will help to reduce the vulnerability of the population affected by climate-related hazards, as well as achieve the Malawi agenda (2063) goals, which support disaster risk reduction and resilience building of the country.



I am Romatchinga Nkhata from Malawi. I work as a disaster risk management officer under the Department of Disaster Management Affairs. I'm responsible for coordinating, developing, implementing, and identifying disaster risk management measures, programmes, and frameworks in the Nkhotakota district. I'm honored and grateful to study with GRIPS and ICHARM. These research and education centers, focusing on water-related disasters and policy formulation and management, are ideal institutions for me to learn advanced practical knowledge and technologies through practice and research in a broader context, which are required for practical risk reduction and policy development and implementation to address floods and other water-related disasters. This is a great opportunity for me and my nation as we are working to build a resilient Malawi through acknowledging, prioritizing, intensifying and systematically integrating risk reduction into policies and programmes. As I believe in holistic learning, I look forward to learning from esteemed professors, researchers, and fellow students who share my devotion to making a positive impact in disaster-prone zones.



I am Faith S Longwe, a Malawian local government employee working with the Department of Disaster Management Affairs as a disaster risk management officer stationed at the Mmbelwa District Council. It is a great privilege to be pursuing a master's degree program in water-related disasters at ICHARM, a world-renowned, engineering-based research institute with significant expertise in engineering and management technologies. ICHARM is an institution dedicated to assisting developing countries like Malawi in dealing with water-related disasters such as floods, droughts, and storms, which are the root causes of poverty and increase the vulnerability of households and communities in general. These disasters, which have become common in Malawi in recent years, have caused significant damage and displacement of people. This opportunity, I believe, will provide me with valuable skills and knowledge that will help the Malawi government reduce vulnerability and increase the resilience of its people and the environment to disasters by identifying better sustainability strategies. Thanks a lot, JICA, for the wonderful opportunity.



My name is Fatima Ezzahra El Hamri. I come from Morocco. I am an engineer at the Department of Infrastructure and Water, more precisely in the Directorate of Roads and Road Operations. I work mainly on bridges. As I majored in hydraulics, I was recruited to help with the hydrological and hydraulic aspects of bridge design.

Coming to ICHARM was motivated by the need to deepen my understanding of hydrology and hydraulics from a research point of view, which will help with my practical use of these disciplines. Also, I wanted to observe the Japanese experience and perspective on different hydrological and hydraulics problems. Although they can be vastly different from my country's, it is very useful to understand Japanese reasoning and try to learn from them. And lastly, I wanted to discover new technologies and solutions being developed and used to answer the same questions that so many countries around the world have. I am looking forward to applying both the theoretical and practical knowledge accumulated here in ICHARM to a variety of cases of my country in order to help my organization to overcome the difficulties it faces.



I am Engr. Salah Ud Din, a professional engineer currently serving as a deputy director at the Pakistan Council of Research in Water Resources (PCRWR), an apex national research organization under the Ministry of Water Resources (MoWR). PCRWR holds the mandate to conduct, organize, coordinate, and promote research on all aspects of water. Presently, I am pursuing a master's degree in disaster risk reduction at GRIPS, ICHARM, and PWRI, with the support of the JICA training program for disaster risk reduction (DRR). Previously, I earned my master of science in civil engineering, majoring in water resource engineering, from the University of Engineering and Technology, Peshawar, Pakistan.

My research interests primarily revolve around hydrological modeling. Within my department (PCRWR), I am responsible for tasks such as surface water modeling, hydraulic modeling, groundwater recharge projects, and conducting discharge measurements using acoustic doppler current profilers (ADCP).

I anticipate that my journey at ICHARM will be a significant turning point in my career as a water resource engineer specializing in flood disaster risk reduction with a focus on hydrology and hydrological modeling.



Mabuhay! I am Samuel Gat-onen Maskay. I was born and raised in the mountain ranges of Dalican, Bontoc, and Mountain Province, located in Northern Luzon in the Philippines, where the Igorot tribes are found.

As a Civil Engineer in the Maintenance Section, I championed my works in upkeep and maintenance of the National Roads, Bridges, Flood Controls and Other Public Infrastructures in the Area of Responsibility of our District Engineering Office.

I am very thankful to DPWH for giving me this opportunity and the trust in nominating me for this course. My heartfelt gratitude also goes to JICA, ICHARM-PWRI, and GRIPS for this once-in-a-lifetime privilege to be considered one of the scholars for the master's course. Lo and behold, I am in the right place with the right people and at the right time to learn as well as to experience life in Japan. I count it as a blessing to be taught by the subject experts from ICHARM. Learning in ICHARM has opened for me a new horizon and connectivity with people from other developing countries. Above all, I give Glory and Honor to God for this incomparable opportunity. God Bless ICHARM, God Bless JICA, God Bless the Philippines, and God Bless Japan.



Hi there! My name is Madhura Jayawardhana, and I am from Sri Lanka. I work as a civil engineer for the Sri Lanka Land Development Corporation. Specifically, I am part of the Research and Design Division, where I work on urban stormwater drainage design and hydrological study projects for flood mitigation and low-lying land development.

I am incredibly grateful to have been given the opportunity to pursue my master's degree in the Flood Disaster Risk Reduction Program offered by JICA, GRIPS, ICHARM, and PWRI in 2023-2024. This will allow me to expand my knowledge about theories, strategies, and research surrounding water-related disasters. ICHARM provides an optimal learning environment with all necessary facilities, and its members are very cooperative and supportive.

I am excited to spend a year in Japan, which will allow me to experience its rich culture and advanced technology. After the completion of this program, I plan to return to Sri Lanka and apply all the knowledge and experiences gained here for the benefit of my native country.



I am Markandu Mauran. I have been working in Sri Lanka as chief engineer under the Irrigation Department since 2022. Before becoming a chief engineer, I worked in the Irrigation Department in various positions at the divisional and district levels for 12 years. I'm very much interested in water resources development in my country. ICHARM is one of the leading institutions in the world doing research in this field. Some of the tools developed in the institution help researchers to predict future climate changes and make plans according to the results. I hope the knowledge I will gain in this institution will help me to pursue my career and create significant improvements to hazard mitigation in my country.



I am Abdul Samad Mohamed Ziyath. I have been working in the Disaster Management Centre as an assistant director (District) for Batticaloa District in Sri Lanka under the Ministry of Defence. My work mainly focuses on coordinating disaster preparedness, mitigation, recovery, and relief activities within the district in addition to acting on emergencies. Integrating disaster risk reduction strategies into regular development plans of various departments of governmental and non-governmental organizations is also the prime duty vested in me.

I strongly believe that studying in the master's course at GRIPS and ICHARM with the support of JICA would be the best opportunity to conduct research in the field of flood disaster risk reduction (FDRR) to learn advanced FDRR knowledge and technologies. ICHARM is the global center of excellence for water-related disaster management under the auspices of UNESCO, and I am very happy to be a part of this prestigious institution. I am looking forward to gaining all knowledge and skills, giving them back to my country by addressing our problems with flooding, and developing a closer relationship between my country and Japan.



I am Simao Teles Fernandes from Timor-Leste, and I graduated with a degree in meteorology. Since 2020, I have worked as a meteorologist at the National Directorate of Meteorology and Geophysics in Timor-Leste. My duties and responsibilities are providing weather and climate forecasts to the public, civil protection, and various stakeholders.

I want to express my heartfelt gratitude to JICA, GRIPS, ICHARM, and PWRI for providing me with this opportunity to be part of a master's degree program in water-related disaster management. This experience has allowed me to learn and gain valuable experience not only in terms of professional knowledge but also in terms of culture, technology, and science. I appreciate the chance to contribute to the field and apply the knowledge I've learned and gained to better serve my country, Timor-Leste, and make a positive contribution to my institution.

Action Reports from ICHARM Graduates

ICHARM provides graduate-level educational programs for foreign government officers in charge of flood risk management in collaboration with GRIPS and JICA: a one-year master's program, "Water-related Risk Management Course of Disaster Management Policy Program," and a three-year doctoral program, "Disaster Management Program."

Since their launches, over 180 practitioners and researchers have completed either of the programs. They have been practicing knowledge and experience acquired through the training in various fields of work after returning to their home countries. This section is devoted to such graduates sharing information about their current assignments and projects with the readers around the globe. Jamyang Zangpo (Bhutan), who graduated from the master's program in 2021, has kindly contributed the following article to this issue.

ICHARMでは、政策研究大学院大学（GRIPS）、国際協力機構（JICA）と連携して、世界各国から洪水対策の行政官を対象として、1年間の修士課程「防災政策プログラム 水災害リスクマネジメントコース」を実施するとともに、3年間の博士課程「防災学プログラム」を実施しています。これまで180名を超える実務者・研究者の方々が各課程を修了し、帰国後、本研修で習得された知識や経験を生かして、様々な分野において活躍されています。

ICHARMニュースレターでは、こうした卒業生の方々からご活躍の様子を寄稿していただいています。本号では2020-2021年（14期）修士課程卒業生であるJamyang Zangpo氏（ブータン）の寄稿文をご紹介します。



Jamyang Zangpo

**Sr. Hydrology/Meteorology Officer
National Centre for Hydrology and Meteorology, Bhutan**

The global disruption caused by the COVID-19 pandemic affected people worldwide. Amidst the widespread despair and the challenging period, I seized a unique opportunity to pursue a master's degree and enhance my qualifications. This was made possible through the Knowledge Co-Creation Program (KCCP) funded by the Japan International Cooperation Agency (JICA) in 2020. The program, a collaboration between the International Centre for Water-Hazard and Risk Management (ICHARM) and the National Graduate Institute for Policy Studies (GRIPS), offers an intensive one-year master's course. In September 2021, I successfully completed the course, earning a master's degree in disaster management with a focus on flood disaster risk reduction.

During my study at ICHARM, my master's thesis was research entitled "Impact assessment on extreme floods due to climate and social changes in the Amochu basin, Bhutan," conducted with the guidance of Dr. MIYAMOTO Mamoru, a senior researcher of ICHARM and an associate professor of GRIPS. The study area is located in the westernmost part of the country, and the river basin is transboundary, partially shared by China in the north. The Phuntsholing Township Development Project (PTDP) is underway in the downstream part of the basin, which necessitates such studies. The findings of my research suggest that extreme floods would increase in both magnitude and frequency. Thus, improving the flood resiliency of the upcoming town requires constructing adequate embankments (structural measure) and installing an early warning system (non-structural measure) with a well-designed drainage system.

After earning my master's degree in Japan, I rejoined the National Centre for Hydrology and Meteorology (NCHM), an autonomous agency addressing hydro-meteorological service needs. Over the past two years at NCHM, I've focused on various flood-related activities to mitigate flood risk in the country. Notably, I participated in conducting flood risk assessment across the country, which is a component of the Strengthening Risk Information for Disaster Resilience in Bhutan project, funded by the World Bank from 2021 to 2025. Presently, I'm actively engaged in developing flood hazard maps using drone-surveyed high-resolution digital terrain models at NCHM.

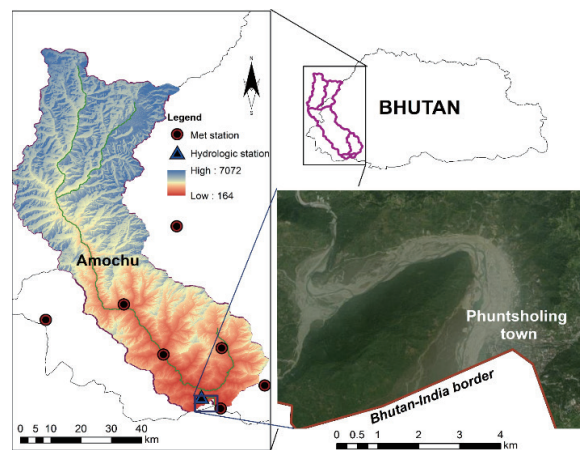


Figure 1 Amochu river basin, Bhutan

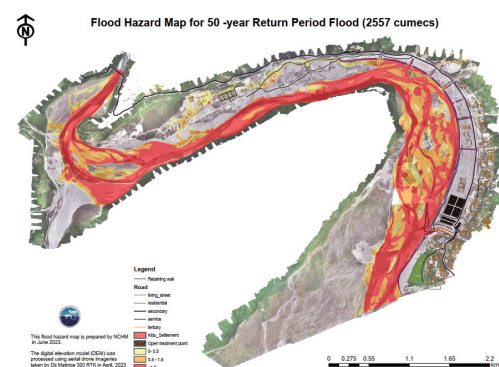


Figure 2: Amochu flood hazard map for 50 yr RP flood

Another major activity in which I was involved extensively was developing a flood forecasting system called the Flood Forecasting and Early Warning System (FFEWS), which was piloted in the Amochu basin and would soon be scaled up for the other remaining river basins of the country. The system integrates the existing hydrologic and early warning stations, both manual and automatic, and produces hourly discharge forecasts at various predetermined forecasting locations.

Currently, I am working in close collaboration with JICA experts on the development of an early flood warning system in the Wangchu basin funded under the JICA TCP-II project. The project is in full swing, and by the end of it, Thimphu and Paro, two of the biggest towns in Bhutan, will be well prepared to deal with flood risk.

I would like to conclude this with a renewed sense of gratitude to ICHARM and the amazing faculty for extending this wonderful opportunity to share a few things through which I, as an alumnus of this renowned institution, am contributing to reducing flood risk in my country. Moreover, to both ICHARM and GRIPS, I extend my deepest appreciation for conferring me with a master's degree. Finally, I wish both institutes the best in whatever steps you take forward in the future.

Information Networking

MoC on Water Resilience and Disasters with VNMHA

ベトナム天然資源・環境省気象水文総局（VNMHA）と覚書締結

2023年10月26日、ICARM とベトナム天然資源・環境省気象水文総局（以下VNMHA）は、水レジリエンスと災害に関する覚書を締結しました。

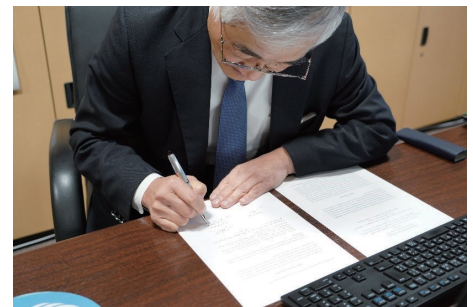
VNMHA は、ベトナムの首都・ハノイ市に所在する、ベトナム天然資源・環境省傘下の組織で、日本の気象庁と同様に天気予報や長期気候予報などを公表しています。また、VNMHA は水文気象観測、調査、測量活動を管理する任務と権限を持っており、法律の規定に従って水文気象情報およびデータを監視および提供する必要のある事業所の水文気象活動を、管理および指導します。

2023年4月に、VNMHA の高官がICARM を訪問して意見交換を行った際、双方で覚書を締結することが提案され、この度の締結に至りました。今後、本覚書に基づき、研究や人材育成活動などを実施していく予定です。

On October 26, 2023, ICHARM concluded a Memorandum of Cooperation (MoC) on water resilience and disasters with the National Center for Hydro-Meteorological Network of the Vietnam Meteorological and Hydrological Administration (VNMHA).

VNMHA, located in Hanoi, the capital of Vietnam, operates under the Ministry of Natural Resources and Environment of Vietnam and has the overall responsibility for managing hydro-meteorological observation, investigation, and survey nationwide, including issuing weather forecasts and long-term climate forecasts and supervising branch offices that are legally designated to monitor and provide hydro-meteorological information and data.

The idea of this MoC was first proposed in April 2023, when the directors of VNMHA visited ICHARM, and both sides finally agreed to sign it in October. In the future, we will be cooperating in carrying out various activities in research and capacity development, based on this MoC.



ICARM Executive Director KOIKE signs the MoC.
覚書に署名を行う小池 ICHARM センター長

(Written by KURIBAYASHI Daisuke)

30th UNESCO-IHP Regional Steering Committee

第30回 UNESCO-IHP アジア太平洋地域運営委員会に参加

2023年11月8日～9日にマレーシア・プトラジャヤにてユネスコ政府間水文学計画（UNESCO-IHP）アジア太平洋地域運営委員会（RSC-AP）が開催され、ICARMからは森範行グループ長が出席し、ICARMの活動状況や成果の報告等を行いました。RSC-APは、UNESCO-IHPに関わる東南アジア・太平洋地域の政府機関やUNESCOカテゴリー2センターの代表者が集まり、各機関の活動状況報告やUNESCO-IHPの戦略プランについての議論を行う場であ

The UNESCO Intergovernmental Hydrological Programme (UNESCO-IHP) Asia-Pacific Regional Steering Committee (RSC-AP) was held in Putrajaya, Malaysia, from November 8 to 9, 2023. Deputy Director MORI Noriyuki attended from ICHARM and reported on the status of its activities and achievements. RSC-AP is convened annually for the representatives of government agencies and UNESCO Category 2 Centers in the Southeast Asia and Pacific region involved in UNESCO-IHP to gather and report on their activities and discuss strategic plans.

Since this year marks the 30th anniversary of RSC-AP, the special session to celebrate the occasion was organized on November 8, the first day of the conference. This commemorative session began with the opening remarks from Ahmad Nual bin Othman,

the director-general of the Irrigation and Drainage Department of Malaysia's Ministry of Natural Resources, Environment and Climate Change and Kwansue JUNG, the chairperson of RSC-AP. It then continued with

lectures and panel discussions by those deeply involved in the launch of RSC-AP, including Professor Emeritus TAKEUCHI Kuniyoshi of Yamanashi University, who was the founding executive director of ICHARM. Listening to the pioneers, the participants learned that since the establishment of RSC-AP, the building of professional networks and the sharing of knowledge in this region have gradually progressed through joint activities, such as annual RSC-AP meetings, and the creation of various technical reports.

The special session was followed by the second session entitled "IHP RSC-AP's Impact on Water Science and Governance." Three representatives, the deputy director and two others from the Tonga Ministry of Land and Natural Resources and Malaysia's Regional Humid Tropics Hydrology and Water Resources Center, made presentations and answered questions regarding the activities of each organization.

On the second day, the 30th RSC-AP regular session took place, and a total of 17 countries presented a country report, followed by reports from 16 organizations, including UNESCO Category 2 Centers, such as ICHARM, and UNESCO Chairs. ICHARM reported on its research, training, and international networking activities in line with the priority items of the UNESCO-IHP 9th Strategic Plan, focusing on last year's activities. In addition, discussions were held in preparation for the 10th World Water Forum, and a representative from Indonesia shared the summary of the results of the 2nd Stakeholder Consultation Meeting held in Bali last October. ICHARM provided related information, presenting the proposed session topics for the forum's "Sub-Theme 3: Disaster Risk Reduction and Management of Thematic Process," for which ICHARM Executive Director KOIKE Toshio has been appointed as a coordinator.

At this RSC-AP anniversary session and the 30th regular session, ICHARM actively gave presentations and showed its presence. These events were also excellent opportunities for ICHARM to strengthen its network with the countries and organizations involved in UNESCO-IHP, which is particularly important and expected to be very advantageous in promoting the platform activities of the International Flood Initiative and other projects.



Professor Emeritus TAKEUCHI (center), the former ICHARM executive director, at the panel discussion during the 30th anniversary session
30周年記念セッションでのパネルディスカッション
(写真中央が竹内・元 ICHARM センター長)



Deputy Director MORI (second from right in both photos) at the 30th anniversary session presentation and panel discussion
30周年記念セッションでの森グループ長（写真右から2番目）のプレゼン・パネルディスカッション

(Written by MORI Noriyuki)

り、毎年1回開催されています。

特に今回は RSC-AP 設立 30 周年の節目にあたることから、初日の 11 月 8 日には 30 周年記念セッションが実施されました。この記念セッションでは、マレーシア天然資源・環境・気候変動省の Ahmad Nual bin Othman 灌漑・排水局長や RSC-AP の Kwansue JUNG 議長からの開会挨拶に引き続き、竹内邦良・元 ICHARM センター長をはじめとして RSC-AP の立ち上げに深く関与した関係者による講演とパネルディスカッションが行われました。その中で、1993 年の RSC-AP 設立以前にはアジア太平洋地域での UNESCO-IHP に係る活動の加盟国間の情報共有や連携が全く取れていない状態だったものが、RSC-AP 設立後は年次会合や各種レポート作成といった活動の積み重ねによって、この地域での人的なネットワーク構築や知見の共有が徐々に進んでいった経緯が報告されました。

その後の「Session 2: IHP RSC-AP's Impact on Water Science and Governance」では、トンガ土地・天然資源省、マレーシア Regional Humid Tropics Hydrology and Water Resources Centre の各代表者と ICHARM の森グループ長が登壇し、これまでの各機関での活動実績等についての発表と質疑が行われました。

また 2 日目の第 30 回定例セッションでは、各政府機関による Country Report が計 17 か国から順次行われ、その後、ICHARM を含む UNESCO カテゴリー 2 センターおよび UNESCO Chair からの報告が計 16 機関から行われました。ICHARM からは過去 1 年の活動を中心に、UNESCO-IHP 第 9 次計画の Priority 事項に沿って、その研究・研修・国際ネットワーキングについての活動報告を行いました。また、第 10 回世界水会議に向けての議論が行われ、インドネシアの代表者から先月のバリでの第 2 回 Stakeholder Consultation Meeting の結果概要の報告が行われ、ICHARM からは小池俊雄センター長が Coordinator を務める Thematic Process の Sub-theme 3: Disaster Risk Reduction and Management についてのセッショントピックス案等について、報告を行いました。

今回の RSC-AP 設立 30 周年記念セッションおよび第 30 回定例セッションでは ICHARM から積極的に発表を行い、そのプレゼンスを示したとともに、UNESCO-IHP 関係各国・機関とのネットワークは、特に IFI のプラットフォーム活動などに活かせるものと期待されます。

Visit by Dutch professionals

オランダ若手専門家訪日団と意見交換を実施

2023年11月15日（水）午前、インフラ・水管理省などオランダの5つの政府機関（Ministry of Infrastructure and Water Management, Department of Waterways and Public Works, PBL Netherland Environmental Assessment Agency, Human Environment and Transport Inspectorate, and Authority for Nuclear Safety and Radiation Protection）からなる約40名の若手専門家（行政官や研究者）訪日団との意見交換を行いました。

意見交換は栗林大輔上席研究員の司会で進められ、訪問団の団長である Jeroen Deurloo 氏から訪問団の紹介を受けた後、森範行グループ長から ICHARM の概要を説明しました。次いで ICHARM の4名の研究員から、長期間の流出解析システム（モハメッドラスミーアブドゥルワヒド主任研究員）、インドネシアにおける気候変動下の農業リスク評価（シュレスタバドリバクタ専門研究員）、日本の中小河川での洪水予測（柿沼太貴研究員）、およびフィリピンで実施している知の統合オンラインシステム（宮本守主任研究員）それぞれの研究内容を紹介しました。

オランダ側を代表してインフラ・水管理省の Louise-Anne Zaat 氏より「Water management in Dutch Rivers and future challenges」と題した講演をいただきました。氏からは、自らが担当しているマース川（River Meuse）を例にとり、気候変動により流量の多い冬期はより水量が多く、水量の少ない夏期はより少なくなることが予想されていること、そのため堰上げをして乾期のために利水容量を増やすことや、河道掘削による流積を拡げることなどの対策が紹介されました。

各発表に対して、参加者からは熱心な質疑応答が行われ、予定していた時間を大幅に超過しましたが、最後は光橋尚司特別研究監から閉会の挨拶を行い、意見交換は終了しました。

なお、午後は同じく土木研究所の研究センターである CAESAR（構造物メンテナンス研究センター）と iMaRRC（先端材料資源研究センター）との意見交換も行われました。土木研究所が、このような大規模なオランダからの来訪を受けるのは近年ありませんでしたが、オランダと日本で共通の課題があることを改めて理解することが出来ました。

On November 15, 2023, a group of about 40 young professionals from the Netherlands visited the Public Works Research Institute (PWRI) and discussed views and ideas on various issues with their Japanese counterparts. They are currently working at five government organizations: the Ministry of Infrastructure and Water Management, the Department of Waterways and Public Works, the PBL Netherland Environmental Assessment Agency, the Human Environment and Transport Inspectorate, and the Authority for Nuclear Safety and Radiation Protection.

The meeting with ICHARM, taking place at its auditorium and moderated by Chief Researcher KURIBAYASHI Daisuke, began with Mr. Jeroen Deurloo, the leader of the Dutch delegation, introducing the visiting group to ICHARM researchers. Deputy Director MORI Noriyuki followed, outlining the organization and activities of ICHARM. After that, four ICHARM researchers took turns presenting their research: Senior Researcher Mohamed Rasmy Abdul Wahid on the long-term runoff analysis system; Research Specialist Shrestha Badri Bhakta on agricultural risk assessment under climate change in Indonesia; Researcher KAKINUMA Daiki on flood forecasting for Japan's small- and medium-sized rivers; Senior Researcher MIYAMOTO Mamoru on the Online Synthesis System for Sustainability and Resilience implemented in the Philippines.

Representing the Dutch delegation, Ms. Louise-Anne Zaat of the Ministry of Infrastructure and Water Management spoke about water management in Dutch rivers and future challenges. Taking the Meuse River, for which she is in charge, as an example, she explained that a further increase in river flow is predicted due to climate change during the winter when the flow is usually high, while a further decrease is projected during the summer when it is usually low. To reduce such impacts, they plan to expand the cross-sectional area of flow by river excavation and heighten the levees to increase the river's flow volume for the dry season.

The participants on both sides asked each speaker many questions, and the meeting lasted far longer than scheduled. Director for Special Research MITSUHASHI Hisashi ended the event by thanking them for their active participation.

The Dutch visitors also spent the afternoon having meetings with the researchers of two other research centers of PWRI: the Center for Advanced Engineering Structural Assessment and Research (CAESAR) and the Innovative Materials and Resources Research Center (iMaRRC). It was the first time in a long time that PWRI had received such a large group of Dutch professionals. The exchange of views and ideas with them was an excellent opportunity for Japanese researchers to realize that both sides share common issues.



Group photo with Dutch professionals
オランダ若手専門家訪日団とのグループ写真

(Written by KURIBAYASHI Daisuke)

Visit by World Bank officials

世界銀行グローバル水本部長と意見交換を実施

On November 20, 2023, with support by the Japan Water Forum, three World Bank officials visited PWRI and discussed views and ideas with PWRI President, ICHARM Executive Director, MLIT HQs Director, Japanese experts for disaster risk management, and ICHARM students. The group included Mr. Saroj Kumar Jha, the global director of Water Global Practice, Ms. Sarah Nedolast, the program manager of Global Water Security and Sanitation Partnership, and Ms. Eileen Burke, the global lead of Water Resources Management. Mr. Jha is an experienced expert in water and disaster management and participated in establishing the Global Facility for Disaster Reduction and Recovery (GFDRR), which the Japanese government supports as a partner.

The meeting was held in two parts. In the first part, the visitors had discussions with Japanese experts including FUJITA Koichi, the president of the Public Works Research Institute (PWRI), KOIKE Toshio, the executive director of ICHARM, and KONAMI Takahiro, the head of the International Affairs Office of the River Planning Division, the Water and Disaster Management Bureau, the Ministry of Land, Infrastructure, Transport and Tourism. The ICHARM executive director began the meeting by outlining the research, project, and other activities of ICHARM, followed by the World Bank staff asking questions and speaking about related issues. The following are some of the points Mr. Jha mentioned in the meeting:

- The world has recognized Japan as a global leader because it recovered from the devastation after World War II by utilizing support from the World Bank and other nations and because the country has shared such experiences with other governments. In this sense, the World Bank has tremendous respect for Japan.
- In Africa, many people have no access to drinking or clean water. Projections have suggested that the number of such people will reach 100 million in Eastern South Africa alone.
- The World Bank has set a new vision, "World Free of Poverty on a Livable Planet." It defines a "livable planet" as a place where everyone has access to clean water and that is equipped with irrigation to prevent extreme flooding or drought.
- The new vision of the World Bank includes a reference to water, which never happened in its history. The World Bank has listed water security among its six global issues. The organization is profoundly aware of climate change, which worsens the worldwide crises in water security and access.
- Even though the World Bank prioritizes water in its mission, the effort will only be worthwhile if political leaders in developed countries see water as a priority issue.
- Every national government needs to enhance water-related efforts, such as more investment. However, more importantly, they need to encourage the private sector to invest more in water issues. It is only possible to solve the water security problem with the investment from the private sector.

In response to Mr. Jha's comments, agreeing that water is a crucial issue to most countries, Mr. Konami mentioned that close cooperation with the World Bank in this area can be an excellent opportunity for Japan. He said that it would demonstrate to the world that



Participants from Japan side
日本側参加者



Mr. Saroj Kumar Jha
サロージ・クマール・
ジャー本部長



Ms. Eileen Burke
アイリーン・ブルケ
グローバル・リード



Ms. Sarah Nedolast
サラ・ネドラスト
プログラム
マネージャー

2023年11月20日、特定非営利活動法人 日本水フォーラム協力のもと、世界銀行グローバル水本部から、サロージ・クマール・ジャー本部長、サラ・ネドラスト プログラムマネージャー（グローバルセキュリティ・衛生パートナーシップ）、アイリーン・ブルケ グローバル・リード（水資源管理担当）の3名が土木研究所を訪問し、意見交換（第一部・第二部）を行いました。なお、ジャー本部長は、水・防災分野の専門家であり、日本政府も支援している世界銀行防災グローバルファシリティ（GFDRR）の創設に携わった経験もお持ちです。

第一部では土木研究所藤田光一理事長、ICHARM 小池俊雄センター長、国土交通省水管理・国土保全局河川計画課国際室小浪尊宏室長をはじめとする日本側関係者と意見交換を行いました。まず、小池センター長から ICHARM の活動紹介を行い、次いで世界銀行の参加者から質問やスピーチが行われました。ジャー本部長からは以下の言及がありました。

- 日本は、第二次世界大戦後に世界銀行や他国からの支援により自ら復興を成し遂げただけでなく、その経験を他国と共有する点で世界的なリーダーとなった。世界銀行は日本に対して絶大な尊敬を抱いている。
 - アフリカでは、多くの人が、飲み水や衛生的な水にアクセスできない。2030年までに東南アフリカだけでもそのような人は1億人に達すると予想している。
 - 今、世界銀行の新しいビジョンは「world free of poverty on a livable planet」である。「livable planet」とは、清潔な飲み水や灌漑にアクセスでき、極端な洪水、渇水などもない場所である。
 - 世界銀行グループの新しいビジョンの概念には、以前にはなかった水が含まれている。世界銀行の6つの世界的課題の一つは、水の安全保障（water security）である。また、水の安全保障危機や水アクセスの危機を悪化させている気候変動の問題でもある。
 - 世界銀行だけが水を優先事項に位置づけても、途上国の政治的指導者が水を優先事項にしない限り意味がない。
 - すべての国の政府が水への投資を増やすなど水への取組をさらに強化する必要があるが、より重要なことは、可能な場合には水部門により多くの民間部門の資金を導入することを支援することである。民間資本がなければ水の安全保障問題を解決することはできない。
- 上記発言に対し、小浪室長からは、「多くの国において水は重要。この分野で日本と世界銀行が協力することにより、水の重要性に対する日本側の認識の高さを世界に示すとともに、日本国内の一般市民に対して

も、水の重要性への認識が高まる。」と発言され、藤田理事長からは「技術だけではなく、政治プロセスが非常に重要だというお話が非常に印象に残った。技術的側面と政治的側面の両方が必要であることは明らかであり、それらの間にどのような相互作用が存在するかが、我々が実施できる最も重要なシミュレーション要素であるように思った。このような相互作用については、技術的な側面に焦点を当てるだけでなく、政治的なマネジメントも同時に考慮する必要があるため、さらに研究したい。」との発言がありました。

第二部では、世界銀行側と ICHARM の博士学生 10 名・修士学生 13 名が参加する意見交換を実施し、うちアフガニスタン、モロッコ、ネパール、フィリピン、スリランカ各国の学生が代表して発表を行いました。彼らは、自国における世界銀行の協力に感謝を示しつつ、自らが ICHARM で行っている研究活動を紹介し、本部長からアドバイスを受けていました。

特に最初に博士課程 1 年のプロマンド モハマド タイブ氏（アフガニスタン）が、自国の洪水被害の現状、特に技術者やデータが不足している状況を説明しました。偶然にもジャー本部長は最近カブールにおける水資源開発プロジェクトにかかわっていることから、イラン、パキスタンなどと流域を接するアフガニスタンの水文関連の研究が少ないことが問題であり、また、水というのは科学技術だけでなく政治的問題でもある等の深い議論がなされました。

そして、「世界銀行は、あなた方の組織である」と激励していただきました。

Japan is highly aware of the importance of water and help raise public awareness of the issue among Japanese people as well. PWRI President Fujita added another point. He said that Mr. Jha's comments made him realize how deeply politics is involved in this issue besides technology.

Pointing out the significance of considering both technological and political factors to solve water issues, he showed an interest in seeking possible solutions by investigating how these factors affect each other and should be dealt with to achieve the goals.



Presentation by ICHARM Director KOIKE
小池センター長からの発表



Group photo
集合写真（第一部）

In the second part of the meeting, the World Bank officials had discussions with 13 ICHARM master's students and 10 doctoral students. The students from Afghanistan, Morocco, Nepal, the Philippines, and Sri Lanka delivered presentations about their research projects while also mentioning their gratefulness for the support of the World Bank in their home countries. Mr. Jha kindly gave them some advice after each presentation.

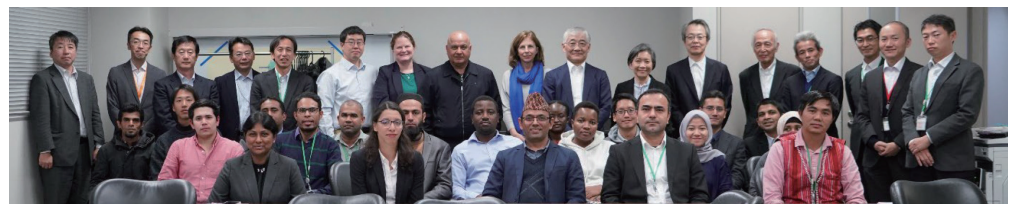
In particular, Mr. Bromand Mohammad Tayib, a first-year doctoral student from Afghanistan, explained the current state of flood damage in his country and emphasized the lack of engineers and data. Coincidentally, since Mr. Jha has recently



Discussion with ICHARM students
ICHARM 学生との意見交換

been involved in a water resources development project in Kabul, he explained that the problem is that little research has been done related to hydrology in Afghanistan and also that the water issues that the country faces tend to be highly political since it shares a basin with countries such as Iran and Pakistan.

In the end, Mr. Jha encouraged the students by saying, "The World Bank is your organization."



Group photo
集合写真（第二部）

(Written by KURIBAYASHI Daisuke)

The 18th Integrated Workshop and the 4th Training and Research Coordination Group Forum of the Typhoon Committee

台風委員会における第18回統合部会および第4回研修・研究調整部会フォーラムへの参加

The Typhoon Committee (TC) jointly held the 18th Integrated Workshop (IWS) and the 4th Training and Research Coordination Group (TRCG) Forum from November 28 to December 1, 2023, at the United Nations Conference Center (UNCC) in Bangkok, Thailand. TC's four working groups, Meteorology (WGM), Hydrology (WGH), Disaster Risk Reduction (WGDRR), and TRCG, gathered together to discuss typhoon-related research, technical presentations, the progress and operational plans of the Annual Operation Plan (AOPs), and other agenda items.



Photo 1 The participants in the IWS meeting
写真1 第18回統合部会全体写真

The events were held in a hybrid format, attended by approximately 150 participants (120 in person, 30 online) from 11 of the 14 member nations and territories (China, Hong Kong, Macao, Japan, Lao PDR, Malaysia, the Philippines, the Republic of Korea, Thailand, Vietnam, and the United States) and representatives from the Economic and Social Commission for Asia and the Pacific (ESCAP), the World Meteorological Organization (WMO), and the TC Secretariat. The Japanese participants included four keynote speakers, Professor KITAMOTO Asanobu from the National Institute of Informatics, Professor TEBAKARI Taichi from Chuo University, Associate Professor SAWADA Yohei from Tokyo University, and Professor ONO Yuichi from Tohoku University, as well as two researchers from ICHARM, Senior Researcher MIYAMOTO Mamoru, who is also the chairperson of WGH, and Researcher KAKINUMA Daiki, and representatives from the Ministry of Land, Infrastructure, Transport and Tourism (MLIT), the Japan Meteorological Agency (JMA), and the Infrastructure Development Institute (IDI).

On the first day, the TRCG forum took place with the opening speeches by the chairpersons and directors of TC, TRCG, WMO, and ESCAP. This was followed by keynote lectures from the four Japanese speakers, which garnered significant interest among the participants.

2023年11月28日から12月1日にかけて、台風委員会（TC）の第4回研修・研究調整部会（TRCG）フォーラムおよび第18回統合部会（IWS）が、タイ・バンコクの国連会議センター（UNCC）で開催されました。期間中は、台風委員会の4つの部会（気象（WGM）、水文（WGH）、災害リスク削減（WGDRR）、研修・研究調整）が一堂に会し、TRCGフォーラムでは台風関連研究の基調講演や技術発表が実施され、統合部会では各部会のメンバーが議論したAOP（Annual Operation Plan）の進捗や運営計画などについて報告がなされ、各議題について台風委員会全体で議論されました。

一連の会議は対面とオンラインのハイブリッド形式で行われ、14のメンバー国・地域のうち11（中国、香港、マカオ、日本、ラオス、マレーシア、フィリピン、韓国、タイ、ベトナム、アメリカ）とESCAP、台風委員会事務局から総勢約150人（対面120人、オンライン30人）が参加しました。日本からは、国土交通省水管理・国土保全局、気象庁、国際建設技術協会、キーノートスピーカー（国立情報学研究所：北本朝展教授、中央大学：手計太一教授、東京大学：澤田洋平准教授、東北大学：小野裕一教授）、および ICHARM から水文部会議長を務める宮本守主任研究員と柿沼太貴研究員の2名が参加しました。

会議初日には、台風委員会事務局長のオープニングスピーチによりTRCGフォーラムが開始されました。その後のキーノートレクチャーでは、日本から4名のスピーチがあり、いずれの講演も参加者からの高い関心が得られました。

会議2日目には、3つのテーマに分かれてブレイクアウトディスカッションが行われ、ICHARM および国交省が参加するグループでは、インパクトベースのリスク評価や不確実性の表現方法について活発な議論が行われ、日本の水害リスクマップ等の事例が特に注目されました。また、柿沼研究員が中小河川の水位予測システムに関するテクニカルプレゼンテーションを行い、そのアプローチが高く評価されました。

会議3日目には、引き続きテクニカルプレゼンテーションが実施され、午後は各部会の個別会議が開かれました。宮本主任研究員が議長を務める水文部会では、今年度年間実行計画9件の実績に関する報告があり、来年度のプランについても活発な議論が行われました。最終日には全体会議があり、宮本主任研究員が水文部会会議の成果と来年度以降の方向性を報告しました。

なお、台風委員会の統合部会に合わせて、世界気象機関（WMO）アジア地区（RA-II）水文調整パネル第2回会合も11月27日から12月



Photo 2 The participants in the WGH meeting
写真2 WGH 全体写真



Photo 3 Professor TEBAKARI (left) and Associate Professor SAWADA delivering keynote lectures
写真3 手計教授（左）、澤田准教授（右）によるキーノートレクチャー（水文部会から推薦）

1日にバンコクのUNCCで開催されました。水文調整パネル会合では各専門家チームの活動の進捗が共有され、今後の取り組みに向けての議論が交わされました。さらに、台風委員会水文部会とWMO RA-IIの協力促進を目的とした合同セッションも実施され、双方の協力に基づく10個のアクションが特定されました。

今回の一連の会合は、各国・地域の専門家が台風リスク軽減と持続可能な開発のための多角的なアプローチを強化する貴重な機会となるとともに、土木研究所 ICHARM は国際的な連携と技術交流を強化し、台風に関連する災害への対応能力を積極的に高めるための重要な役割を担うことができました。ICHARM は、台風委員会やWMO RA-IIなどの国際的枠組みを通して、水災害リスク軽減やレジリエンス強化のための地域間協力を引き続きリードしていく所存です。

The second day featured breakout discussions on three different themes. ICHARM and MLIT joined the group that discussed impact-based risk assessment and uncertainty representation and presented Japan's flood risk maps, which drew significant attention. Kakinuma delivered a technical presentation on a water-level forecasting system for small- and medium-sized rivers, which was also well-received.

The third day continued with more technical presentations in the morning and moved on to working group meetings in the afternoon. In WGH, chaired by Miyamoto, the participants reported this year's achievements of the nine AOP projects and discussed plans for the next year's AOP. On the final day, Miyamoto summarized the outcomes of the WGH meeting, including its future plans, at the post-meeting plenary session.

In parallel with TC's IWS, the 2nd meeting of the WMO Regional Association II (RA-II) Coordination Panel for Hydrology was held from November 27 to December 1 at the same venue. The participants shared the progress of the activities of the individual expert teams and discussed future initiatives. In addition, a joint session took place to promote cooperation between TC's WGH and WMO RA-II and agreed on 10 actions to be achieved through the joint effort.

This series of meetings served as valuable opportunities for experts from various countries and regions to strengthen multi-faceted approaches employed for typhoon risk reduction and sustainable development. They were also meaningful occasions for ICHARM as they could play a vital role in providing necessary support for the committee in stepping up international collaboration and technical exchange and thereby improve the national and regional preparedness for typhoon-related disasters. ICHARM is committed to continuously leading such cooperation to reduce water-related disaster risks and increase resilience through international frameworks such as TC and WMO RA-II.

(Written by KAKINUMA Daiki)



Photo 4 Researcher KAKINUMA (at the podium) making a technical presentation

写真4 テクニカルプレゼンテーションにおいて柿沼研究員による発表



Photo 5 Senior Researcher MIYAMOTO, the WGH chair, reporting the meeting outcomes at the final-day plenary session

写真5 全体会議における宮本主任研究員による水文部会の総括報告

Public Relations

Outreach program about water-related disaster risk reduction for a community study group 東京都豊島区で世界の水災害軽減に向けた取組と課題を紹介



Mr. MITSUHASHI talking about flood-related issues for the Chitosebashi Community School.
(Source: Zoshigaya Community Cultural Creation Center)
ちとせ橋コミュニティ塾の様子
(写真提供: 雑司が谷地域文化創造館)

The Public Works Research Institute (PWRI) offers an outreach program in which staff members visit schools and community groups to deliver talks on their respective fields of expertise. As part of this program, MITSUHASHI Hisashi, the director for special research of ICHARM, spoke about global efforts and challenges in mitigating water-related disaster risks on November 8, 2023, at the Zoshigaya Community Cultural Creation Center in Toshima City, Tokyo, for the Chitosebashi Community School consisting of people who live, work, or go to school in the ward.

Mr. MITSUHASHI opened his talk by pointing out various water issues currently faced around the world, including floods, droughts, water pollution, and coastal erosion, while showing photos of the Bagmati River in Nepal, the Syr Darya River in Uzbekistan, and the Volta River in Ghana.

Following the introduction, the speaker moved on to the first topic of his presentation, "Relationship between People and Rivers in Japan." He explained that Japanese rivers have a much higher flood peak flow rate than those in Europe and America and that Japan's population and industries are concentrated in alluvial plains, which are often exposed to high flood risk. Taking the Ara River as an example, he then introduced various flood control measures used for Japanese rivers and major projects under the new policy, River Basin Disaster Resilience and Sustainability by All.

In the second topic, titled "Kanda River: Now and Future," he talked about the most locally well-known river in Toshima City, the Kanda River. He discussed the Kanda River Improvement Plan, including how river improvement projects would reduce the flood risk. He also suggested what the residents should do in time of flooding by showing them a video created by the Tokyo Metropolitan Government.

The speaker concluded his talk with the third topic, "Global Initiatives and Challenges for Water-related Disaster Reduction." He first addressed three key concepts in disaster risk management: "mainstreaming of disaster risk reduction," "pre-disaster investment," and "build back better in reconstruction." He then explained that Japan has been practicing disaster management policies based on these concepts and emphasizing their importance in various international settings, which has been internationally recognized today. He also presented an ongoing project conducted in the Philippines based on the three concepts.

The audience attentively participated in the two-hour-long session. Some seemed to learn new information by taking a fresh look at the Toshima City Flood Hazard Map, while others asked questions about the definition of the first class river and whether any flood prevention measures had been in place for the underground shopping center in Ikebukuro. All these indicated that the participants were highly interested in floods, as well as other water-related disasters.

While informative for the audience, the program was also a great opportunity for ICHARM and PWRI to help people understand the contribution their work makes to society. It was grateful for the occasion and thanked the Zoshigaya Community Cultural Creation Center for giving us this opportunity.

PWRI is ready to deliver this outreach program on an as-needed basis for a wide variety of audience from elementary students to the general public. For details on how to ask for one, visit the following PWRI website:

<https://www.pwri.go.jp/eng/results/tec-instruction/index.html>

(Written by MITSUHASHI Hisashi)

土木研究所では、職員が学校や公共施設を訪れ、それぞれの得意分野について講演をする「出前講座」を実施しています。その一環として、2023年11月8日、光橋尚司 ICHARM 特別研究監が東京都豊島区の雑司が谷地域文化創造館を訪問し、豊島区にお住まいや勤務・通学しておられる方々を対象にした「ちとせ橋コミュニティ塾」の皆様へ世界の水災害軽減への取組と課題を紹介しました。

はじめに、ネパールのバグマティ川、ウズベキスタンのシルダリア川、ガーナのボルタ川などの写真をご覧いただきながら、洪水のみならず干ばつや水質汚濁、海岸侵食といった世界各地が現在抱えている様々な課題を紹介しました。

続いて『1. 日本における人と川の関わり』では、日本は洪水比流量が欧米諸国に比べて格段に大きいことや洪水氾濫リスクが高い沖積平野に人口や産業が集積していることに触れた後に、荒川を事例に日本の川で採られている様々な治水手法や、流域治水に関する主な取組を紹介しました。また、『2. 神田川のいまとこれから』では、豊島区の皆様にとって最も身近な神田川について、河川整備計画や東京都が作成された動画を用いて、氾濫水害のリスクが河川改修でどのように軽減されるのか、氾濫の際にはどのように対応すべきかを紹介しました。

最後に、『3. 世界の水災害軽減への取組と課題』では、日本がこれまでに実践し、国際社会に重要性を訴えてきた「防災の主流化」や「事前防災投資」、「より良い復興」が国際社会でも認められたことを紹介し、それを実行するための課題と対策をフィリピンを事例をもとに提案しました。

会場の皆様は、約2時間の長丁場にも関わらず最後まで熱心に聴いておられ、豊島区洪水・内水ハザードマップを見て大きくうなずかれたり、「一級河川の意味は？」とか「池袋の地下街はどのように浸水対策されているのか？」といったご質問をいただいたりと、水災害に高い関心を持っておられることを窺い知ることができました。

最後になりましたが、本出前講座の実施にご協力いただいた雑司が谷地域文化創造館の皆様へ深く感謝申し上げます。

土木研究所では、小中高校生や一般の方々等への「出前講座」を随時行っていますので、ぜひご利用ください。お申込み方法など詳しくは次の土木研究所 HP をご覧ください。

<https://www.pwri.go.jp/jpn/results/tec-instruction/lecture/index.html>

Outreach program about water-related disasters for fifth-grade students

小学5年生を対象に理科の出前講座を実施

2023年12月1日、つくば市立竹園西小学校の5年生の児童約130名を対象に、栗林上席研究員が「世界の水災害軽減への取り組みと課題」と題して出前講座を行いました。これは、小学5年理科の単元「流れる水のはたらき」の単元末に、世界の水災害とその軽減への取り組みについて理解を深めるために、小学校からご要望を受けたものです。

約40分の講座は、時折クイズも行いながら以下の4つから構成されました。

『1. 「流れる水のはたらき」の復習』では、「けずる（しん食）、はこぶ（運ばん）、積もる（たい積）」をおさらいし、『2. 雨が多すぎると洪水災害が起こる』では実際の洪水災害事例として、つくば市近郊の洪水被害として甚大だった2015年の常総市洪水や、2021年に発生した中国河北省鄭州地下鉄浸水の様子を動画で視聴し、その様子に驚いていたようでした。また、『3. 洪水災害による被害を減らすための世界の取り組み』では、国連、ユネスコや世界気象機関などの国際機関、あるいは日本政府やICHARMによる洪水災害軽減の世界的取組などについて紹介しました。最後に『4. みなさんができる洪水対策』では、小学生5年生が出来る対策として、「洪水ハザードマップ」を確認することや、国土交通省が進める「マイ・タイムライン」や「川の防災情報」、「逃げなきゃコール」などを紹介しました。

講座後にお願いしたアンケートでは、約68%が「とてもおもしろかった」、約26%が「まあまあおもしろかった」との回答が寄せられました。その理由（複数回答）として、約80%が「自分の知らない内容が多く含まれていたから」、約67%が「動画やクイズが含まれていたから」と回答され、参加された生徒の皆さんの多くに満足して頂けたことがうかがえます。

最後になりましたが、本出前講座の実施にご協力いただいた竹園西小学校の先生方、つくば市生涯学習推進課の皆様へ深く感謝申し上げます。

On December 1, 2023, Chief Researcher KURIBAYASHI Daisuke visited Tsukuba City's Takezono-nishi Elementary School and delivered a short lecture entitled "Efforts and Challenges to Reduce Water-related Disaster Damage around the World" for its 130 fifth-grade students. This outreach program took place in response to the request

made by the elementary school. The fifth graders had been studying how flowing water affects the surrounding environment, and the school set up the event to provide an opportunity for them to learn more about water-related disasters around the world and various efforts to reduce the damage caused by them.

The lecture was about 40 minutes, consisting of four themes, including some fun quizzes: 1. Flowing water affects the environment; 2. Too much rain causes flooding; 3. The world works together to reduce flood damage; and 4. Everyone can help reduce flood damage.

In the first theme, the speaker reviewed what the students had learned about flowing water: eroding land and transporting and accumulating soil. In the second theme, he let the children watch movie clips about two past flood cases: the 2015 flood that caused significant damage near Tsukuba City and the 2021 flood that inundated the Zhengzhou subway in Hebei Province, China. They were amazed to see how violent water can be. In the third theme, the students learned about worldwide cooperation in flood damage reduction. They learned that international organizations, such as the United Nations, UNESCO, and the World Meteorological Organization, and domestic organizations, such as Japan's government agencies, including ICHARM, have been working together in this effort. In the fourth theme, the speaker talked about what children can do to protect themselves from flooding. He advised them to check a flood hazard map and informed them of some other tools they can use for the purpose, such as "My Timeline (a tool to plan one's action in time of flooding)," "River Disaster Prevention Information (a portal site about river disaster information)," and the "'Run for life' alert system (a push-type alert system to encourage early evacuation)."

After the lecture, the students answered a simple questionnaire. Of them, 68% found the lecture "Very interesting," and 26% "Fairly interesting." When asked about why they chose these answers (they were allowed to select multiple answers), 80% selected "The lecture was very informative," and 67% "The lecture included video clips and quizzes." Overall, their positive responses suggested that the lecture successfully provided the young students with a meaningful learning experience.

This event also provided ICHARM with an excellent outreach opportunity. It was grateful for the occasion and thanked the teachers of the Takezono-nishi Elementary School and the Tsukuba City Lifelong Learning Promotion Section for their cooperation in making it happen.

(Written by KURIBAYASHI Daisuke)



130 students listen the lecture.
講座の様子

Miscellaneous

Personnel change announcements 人事異動のお知らせ

Leaving ICHARM

- **NAGUMO Naoko**: Research Specialist
Project Researcher,
Interfaculty Initiative in Information Studies,
the University of Tokyo

○南雲 直子 専門研究員
東京大学大学院情報学環
特任研究員

Awards / 受賞リスト

* October - December 2023

- **KOIKE Toshio**, the executive director of ICHARM, was awarded the title of Honorary Professor from the China Institute of Water Resources and Hydropower Research (IWHR). *See **Special Topics** on page 3.

Business trips / 海外出張リスト

* October - December 2023

- October 9-15, **KOIKE Toshio**, Bali, Indonesia, (1) preparation meeting for 10th WW with Indonesian Government (2) HELP Advisor meeting (3) 2nd Stakeholders Consultation Meeting of the 10th WWF
- October 16-20, **KOIKE Toshio**, Wuhan and Beijing, China, (1) to deliver a keynote speech at International Forum on Urban Flood Control and Drainage Capacity (IFUFC2023) (2) to visit Chinese Institute of Water Resources and Hydropower Research (IWHR) and introduce our recent activities
- October 10-14, **MITSUHASHI Hisashi**, Bali, Indonesia, to participate in the preparatory meeting for the 10th World Water Forum (10WWF)
- October 16-20, **MIYAMOTO Mamoru** and **KAKINUMA Daiki**, Bangkok, Thailand, to attend the SATREPS Area-BCM Project workshop and conduct field surveys on regional resilience enhancement through establishment of Area-BCM at industry complexes in Thailand
- November 4-10, **TAMAKAWA Katsunori**, Cape Town, Republic of South Africa, to introduce the flood prediction and warning system and discuss its use and development at the workshop of GEO WEEK 2023
- November 7-11, **MORI Noriyuki**, Putrajaya, Malaysia, to attend The 30th IHP Regional Steering Committee (RSC) Meeting for Asia and the Pacific
- November 13-18, **KOIKE Toshio**, Chongqing and Chengdu, China, (1) to deliver a keynote speech and the International Symposium on Third Pole Environment 2023 (2) to attend the meeting of AoA Steering Committee
- November 14-17, **QIN Menglu**, Chengdu, China, to attend and to have a presentation at WDWE2023 (Nov.15-17) in China
- November 19-24, **Abdul Wahid Mohamed RASMY** and **MIYAMOTO Mamoru**, November 19-23, **NAITO Kensuke**, November 18-25, **Ralph Allen Acierto**, and November 18-27, **Ballaran Vicente Jr. De Guzman**, (1) to attend the 5th Joint Coordinating Committee of HyDEPP-SATREPS (2) to attend HELP22 Meeting (3) RRI training at UPLB (4) to visit DENR and DPWH (5) to conduct field surveys in Laguna lake (6) to visit Candaba Municipal Hall and meet the Mayor
- November 20-24, **KOIKE Toshio**, Manila, the Philippines, (1) to participate in ADB-HELP Ministerial Roundtable on Water and Disasters, HELP Advisor's meeting and HELP22 Meeting (2) to hold a meeting on the IFI Platform
- November 26-December 5, **MIYAMOTO Mamoru** and **KAKINUMA Daiki**, Bangkok, Thailand, to participate Typhoon Committee's 18th Integrated Workshop and 4th Training and Research Coordination Group Forum
- December 20-29, **Abdul Wahid Mohamed RASMY**, Pakistan, Pakistan Flood Damage Survey

Visitors / 訪問者リスト

* October - December 2023

- Visited by Public Work (PWD), Sabah, Malaysia, the Institution of Engineers, Malaysia, DPPC, MJIT, Universiti Teknologi Malaysia (UTM), October 10, 2023
Purpose: study on countermeasures of sediment related disaster in slope areas



- Visited by a group of young professionals from the Netherlands, November 15, 2023
Purpose: to obtain and exchange knowledge on Water-Related Disaster Research and to connect with Japanese organizations that work on one or more of these focus fields *See **Information Networking** on page 18.
- Visited by World Bank officials, November 20, 2023
Purpose: to exchange opinions on the theme of "Japan and World Bank cooperation in the water sector." *See **Information Networking** on page 19.

Publications / 対外発表リスト

* October - December 2023

1. Journals, etc. / 学術雑誌 (論文誌、ジャーナル)

- Sanjeewa Illangasingha, Toshio Koike, Mohamed Rasmy, Katsunori Tamakawa, Hirotada Matsuki, and Hemakanth Selvarajah, A holistic approach for using global climate model (GCM) outputs in decision making, *Journal of Hydrology*, vol. 626, No. PB, p. 130213, 2023, doi: 10.1016/j.jhydrol.2023.130213.
- Daisuke Harada and Shinji Egashira, Method to evaluate large-wood behavior in terms of the convection equation associated with sediment erosion and deposition, *Earth Surface Dynamics (ESurf)*, Vol.11, issue6, pp.1183-1197, 2023
- Rie Seto, Toshio Koike, and Misako Kachi, Feasibility of liquid water path estimation of over land using satellite-based Ka-band passive microwave data, *IEEE Transactions on Geoscience and Remote Sensing*, pp.1-20, Vol.62, 2024

2. Oral Presentations (Including invited lectures) / 口頭発表 (招待講演含む)

- Kohei Hosonuma, Koki Homma, Vicente Ballaran, Jr., AIDA Kentaro, Tsuyoshi Sumita, and Naoko NAGUMO, Detection of rice cropping by SAR imagery in the flood-prone area in Pampanga River Basin, Philippines, 6th International Rice Research Congress 2023, October 16, 2023
- Koki Homma, Kohei Hosonuma, Abdul Wahid Mohamed RASMY, AIDA Kentaro, Vicente Ballaran, Jr., Aurelio A. Delos Reyes Jr., Rubenito M. Lampayan, and Tsuyoshi Sumita, Simulation trial of drought and flood damage on rice production in Pampanga River Basin in Philippine, 6th International Rice Research Congress 2023, October 16, 2023
- MITSUHASHI Hisashi, Research on flood hazard risk analysis and online synthesis system for sustainability and resilience, Greece – Japan Flood Mitigation Online Workshop 2023, The Greek Government and NIED, October 27, 2023
- 大原美保, 会田健太郎, 南雲直子, Vicente Ballaran, Jr., 広域水害時の迅速な被害状況把握に向けた Google Earth Engine の活用 – フィリピン共和国での活用事例 –, 日本災害情報学会第27回学会大会, 2023年10月28日
- 光橋尚司, 世界の水災害軽減への取り組みと課題, ちとせ橋コミュニティ塾, 雑司ヶ谷地域文化創造館, 2023年11月8日
- Qin Menglu, HARADA Daisuke, and EGASHIRA Shinji, PREDICTION OF FLOOD AND SEDIMENT HAZARDS IN WATERSHEDS FOCUSING ON RAINFALL RUNOFF AND SEDIMENT TRANSPORT PROCESSES, 3rd International Symposium of Water Disaster Mitigation and Water Environment Regulation (WDWE2023), November 15, 2023

3. Poster Presentations / ポスター発表

- Sanjeewa Illangasingha, Toshio Koike, Mohamed Rasmy, Katsunori Tamakawa, Hirotada Matsuki, and Hemakanth Selvarajah, Introduction to five principles for using the Global Climate Model (GCM) outputs in consensus development and decision making, AGU23 (American Geophysical Union Fall Meeting 2023), San Francisco, USA, December 11 - 15 2023.

4. Magazines, Articles / 雑誌、記事 (土技資含む)

- 森範行, 水のレジリエンスと災害に関するプラットフォーム構築活動の実践, pp.6-7, 第65巻, 第12号, 2023年12月号

5. PWRI Publications / 土研刊行物 (土研資料等)

None / 該当者無し

6. Other/ その他

None / 該当者無し

編集後記

Happy New Year!

I am writing this editorial note in mid-December. Although it is still relatively warm during the daytime, the temperature in Tsukuba City is gradually dropping, and I see beautifully colored ginkgo trees here and there around the city.

The world has steadily returned to pre-Corona daily life after the long pandemic. What kind of year was 2023 for you?

On a personal note, I was transferred from Hokkaido to Tsukuba City last April. Staying busy, while sometimes bewildered by various changes in the new environment and sometimes refreshed by them, I felt like the year had ended in the blink of an eye.

Speaking of changes in the environment, ICHARM welcomed new doctoral and master's students last October, as mentioned in the educational program updates reported in a newsletter section in every issue. I assume that they might be going through a lot of confusion and worries as they study in a new environment in Japan, far away from their home countries. All staff at ICHARM hope that their daily endeavors will blossom in the future. We will continue to update the readers on their efforts through our newsletter.

We hope that 2024 will be a wonderful year for all of you.

ICARM Newsletter Editorial Committee
ONARI Rikako

新年あけましておめでとうございます。

この編集後記を執筆している12月半ば、つくば市は徐々に温度が下がりにながらも、日中は暖かい日が続き、美しく色づいた銀杏をよ目にします。

世の中はコロナ禍から少しずつコロナ前の日常に戻ってまいりましたが、皆様にとって2023年はどうな1年だったのでしょうか。

私事ながら、私は4月に北海道からつくば市に転勤し、様々な環境の変化に時に戸惑い、時に新鮮に思いながらも、あっという間に年末を迎えました。

環境の変化と言えば、このニュースレターで欠かさず掲載しております、教育・研修活動報告でご紹介したとおり、ICARMでは10月に新しい博士課程、修士課程の学生を迎えました。祖国から遠く離れて、日本で勉強する彼らは、きっと多くの戸惑いや不安があることと思いますが、日々の努力が将来大きな花を咲かせることを祈り、これからも彼らの奮闘を紹介してまいります。

2024年が皆様にとって素晴らしい1年になることをお祈り申し上げます。

Request to participate in online survey on ICHARM Newsletter

ICARMニュースレター読者アンケートのお願い

Thank you for subscribing ICHARM Newsletter. ICHARM has been publishing the quarterly newsletter since its establishment in March 2006 to deliver the latest news about research, projects and other activities to readers around the world. As we are currently working on the improvement of the newsletter, we would be grateful if you could spare time to answer the following questions and let us hear your voices about our publication.

ICARMでは、2006年3月の設立以降、最新の動向をお知らせする「ICARMニュースレター」を、年4回発行しています。

ついでに、一層の内容の充実を図るべく、読者の皆様にアンケートをさせて頂きたく以下のサイトにアクセス頂き、アンケートにお答え頂ければ幸いです。

<https://forms.gle/YGzwyBtwC6q8ciDr7>

回答期限：2024年4月29日まで

回答時間（目安）：5分程度

Survey posted at: <https://forms.gle/YGzwyBtwC6q8ciDr7>

Survey to be done by: April 29 2024

Time required: about 5 minutes

メーリングリストへ登録ご希望の方は、下記 ICHARM ホームページの登録フォームか QR コードからご登録ください。

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We welcome your comments and suggestions.

