

Summary of National Activities during April 2016 – Oct. 2017



United Nations
Educational, Scientific and
Cultural Organization



Japanese National Committee
for the International
Hydrological Programme

IHP-Japan

Members of NatCom as of October 2017

	Name	Position
Chair *	TACHIKAWA Yasuto	Prof., Kyoto Univ.
	* UEMATSU Mitsuo	Director and Prof., CICAORI, Univ. of Tokyo.
	* KURODA Reiko	Prof. Tokyo Univ. of Science
	OKI Taikan	Prof., IIS, The Univ. of Tokyo
	KAZAMA Futaba	Prof., Univ. of Yamanashi
	SAWANO Hisaya	Deputy Director, ICHARM,PWRI
	KAWAMURA Akira	Prof., Tokyo Metropolitan Univ.
	TANIGUCHI Makoto	Prof., RIHN
	CHIKAMORI Hidetaka	Prof.,Okayama Univ
	TSUJIMURA Maki	Prof., Univ. of Tsukuba
	NAKAYAMA Mikiyasu	Prof., The Univ. of Tokyo
	HARUYAMA Shigeko	Prof., Mie Univ.
	HIYAMA Tetsuya	Prof., ISEE, Nagoya Univ.
	HORI Tomoharu	Prof., WRRC, DPRI, Kyoto Univ.
	MATSUKI Hiroshi	Manager, International affair division of River Bureau, MLIT
	WATANABE Tsugihiko	Prof., Kyoto Univ.

Status of IHP-VIII activities and funding to promote IHP activities

- **FA 1.1: Integrated Research Program for Advancing Climate Models: MEXT TOUGOU Project (2017-2021, PI: Prof. Nakakita at Kyoto Univ.)**
- **FA 2.1: UNESCO Chair on Sustainable Groundwater Management in Mongolia at the Institute of Geography and Geo-ecology, Mongolian Academy of Sciences, and the University of Tsukuba (PI: Prof. Tsujimura)**

New Climate Change Research Program TOUGOU Program, 2017–2021 supported by MEXT

Theme iv(a) Water-related hazard prediction for Southeast Asia and the Pacific

MRI provides multi-ensemble d4PDF 60km data for present and future climate projections, and will provide new GCM outputs simulated with 60km AGCM, 20km AGCM, and 5km NHRCM05 under RCP8.5 scenario for Southeast Asia and the Pacific.



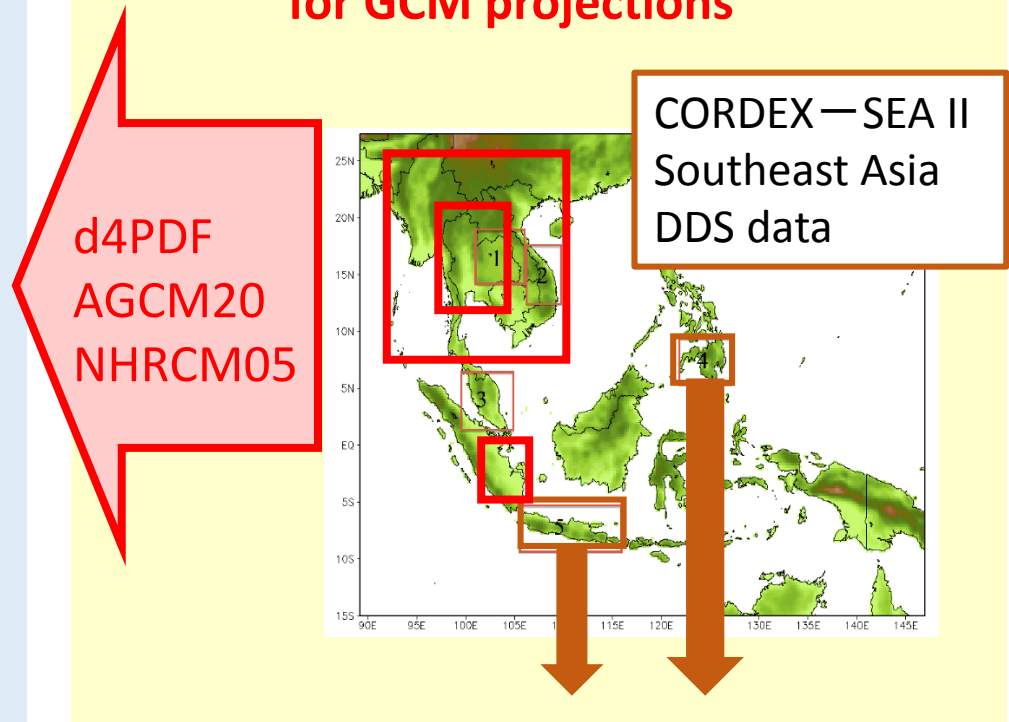
1. Detailed analysis of water-related hazard and water resources under climate change
2. Flood and drought hazard assessment
3. Flood and drought risk assessment

iv. Water-related hazard prediction for Southeast Asia and the Pacific

iv(a) Water-related hazard prediction (Kyoto University)

1. Indochinese Peninsula: Hydrologic prediction (low flow and high flow) applying a newly developed bias collection method,
2. Chao Phraya River basin (Thailand): Water resources prediction applying a new land surface model incorporating irrigation scheme,
3. Batanhari River basin (Indonesia): Flood prediction and development of flood hazard mapping,
4. **Red River basin (Viet Nam): Flood prediction and development of flood risk mapping.**

Collaboration with MRI for GCM projections



iv(b) Prototype development for supporting climate change adaptation measures (ICHARM)

Prototype development for supporting climate change adaptation implementation

1. Risk assessment of water-related disasters;
2. Field survey for needs and abilities for climate change adaptation; and
3. Supporting climate change adaptation for local stakeholders.

International Conference held in Japan



7th ICWRER

June 5-9, 2016 Kyoto, Japan

The 7th International Conference on Water
Resources and Environment Research

<http://wrrc.dpri.kyoto-u.ac.jp/icwrer2016/>
Email: icwrer2016@wrrc.dpri.kyoto-u.ac.jp

IHP Training Courses

- 26th IHP Training Course by Nagoya University on “Coastal Vulnerability and Freshwater Discharge” at Institute for Space-Earth Environmental Research (ISEE), Nagoya Univ., 27 November to 10 December, 2016.
- 27th IHP Training Course by Kyoto University on “Integrated Basin Management under Changing Climate” at DPRI Kyoto Univ., 4 December - 15 December 2017.



UNESCO Chair Proposal:



Kyoto UNESCO Chair on Water, Energy and Disaster Management for Sustainable Development (KUC-WENDI)

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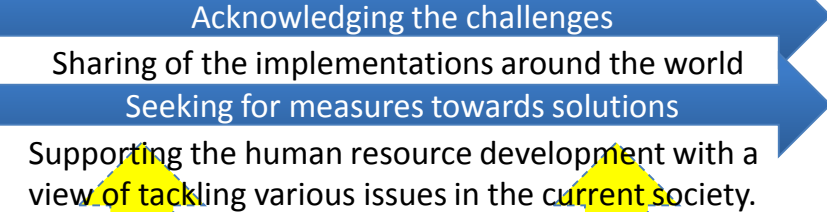
Overall objectives To promote multi-disciplinary and holistic approach for research implementation, knowledge transfer and capacity building in the fields of water, energy, and disaster management and linkages to other sectors (food, forestry, biodiversity, climate change and data science) by establishing a comprehensive and trans-disciplinary programmes on the Education for Sustainable Development (ESD) in graduate school-level and implementing international collaborative researches utilizing existing UNESCO-Sites such as Geoparks, Biosphere Reserves and Cultural, Natural and Mixed World Heritage Sites.

Goal / Rationale / Impact

- Establishment of "KU-Model of ESD", through implementing Graduate-school-level ESD as the first in Japan
- Expanding international collaborative researches utilizing UNESCO-Sites as the application field.

**UNESCO Chair
- KU-Model of ESD-**

Autonomous and Systematic
study in graduate school level



Field trainings / Internships

Common Global Issues
Tackling **global risks and challenges** by focusing **Water Energy Disaster** and linkages to other sectors (food, forestry, biodiversity, climate change and data science)

UNESCO Sites
Geoparks (Global:119 / Japanese:43)
Biosphere Reserves (669 sites)
World Heritage Sites (Cultural:814, Natural:203, Mixed:35)

KU's Network in and out of Japan
European Center at Heidelberg
North American Center at Washington D.C.
ASEAN Center at Bangkok

Implementation Structure and Partners

Kyoto UNESCO Chair for Water, Energy and Disaster Management for Sustainable Development (KUC-WENDI)

Government Bodies

MEXT
MLIT
CAO (tbc)
JWA (tbc)
etc.

International Organizations

UNESCO
UNISDR (tbc)
UNU (tbc)
WMO (tbc)
etc.

Institutions

RIHN
Nagoya Univ.
PRWI-
ICHARM
etc.

International Initiatives and Programmes

IFI
ICL
GADRI
IIWQ
etc.

Water
Related
DRR

Water
Resource
Management

Water
Quality

Energy

Food

Forestry and
Biodiversity

Climate Change

Data Sciences

Components

Kyoto University

Support by Center for the Promotion of
Interdisciplinary Education and Research
(C-PIER)

Participating Graduate Schools and Institutes

Advanced Integrated Studies
in Human Survivability

Asian and African
Area Studies

Agriculture

Economics

Education

Energy
Science

CER

CSEAS

DPRI

Engineering

Global Environ-
mental Studies

Informatics

Management

Medicine

Science

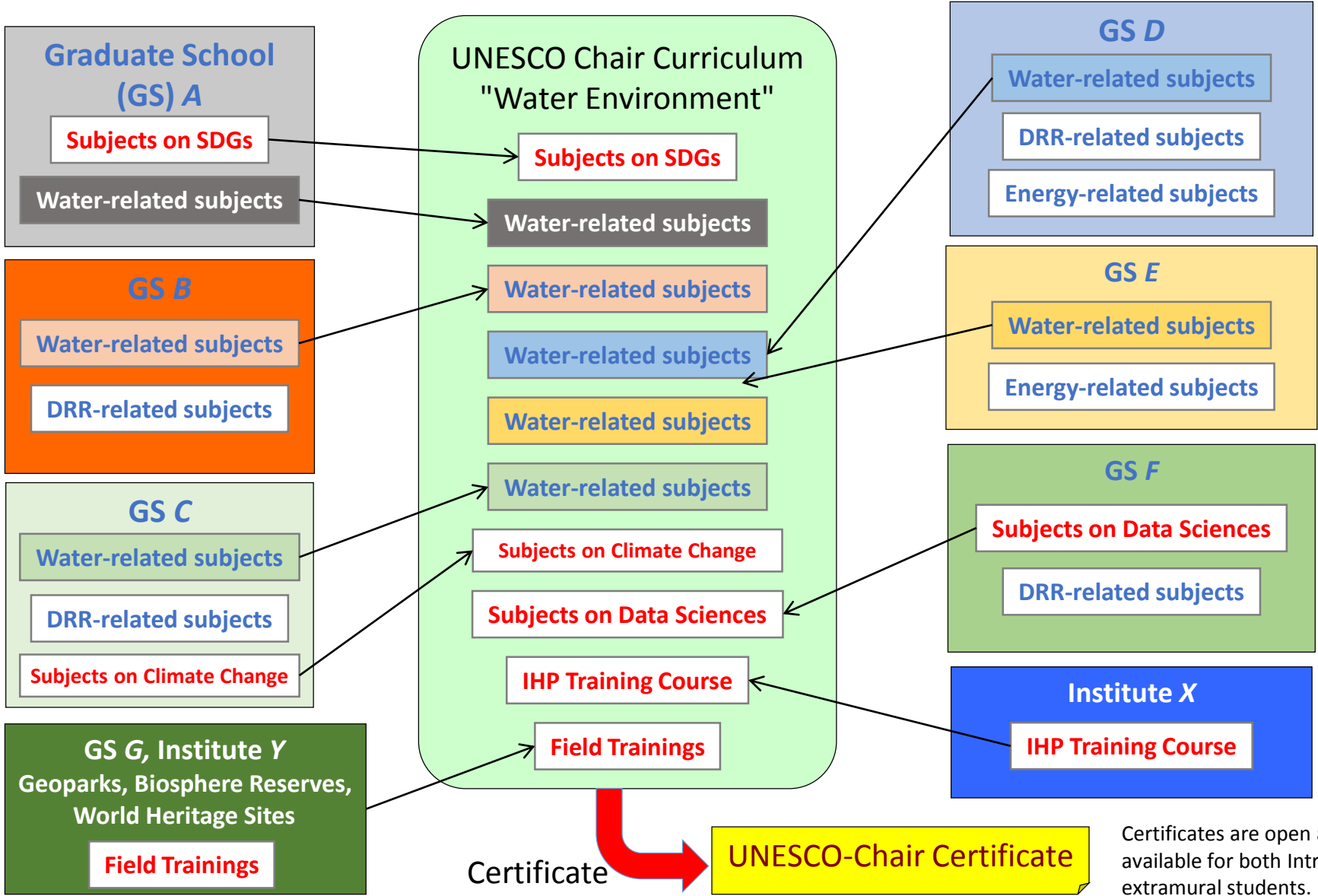
IAE

KIER

PRI

RISH

**Expected structure of systematic and interdisciplinary curricula under the Chair
(In case of the water environment course, as an example)**



Certificates are open and available for both Intra- and extramural students.

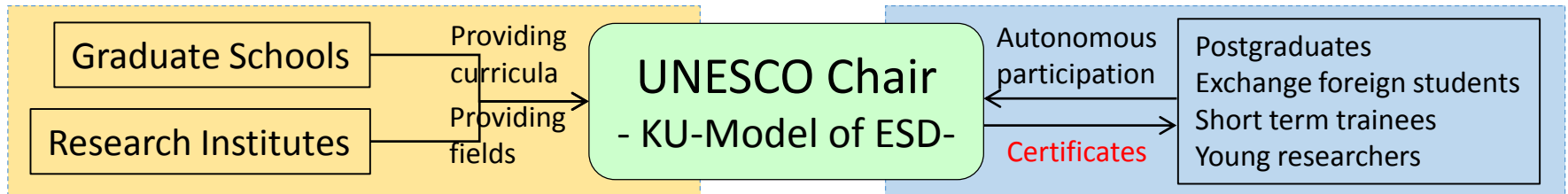
Implementation Strategy

Take full advantage of KU

- Water: Numerous university-wide water-related professors
- Energy: Energy-related graduate school and institute
- Disaster: Department and institute focusing on DRR

Overall strategy

Providing systematic and interdisciplinary educational field to the younger generations including postgraduates and foreign students by getting researchers and educators together under the UNESCO-Chair



- * "Water Environment Course", "DRR Course" and "Energy Course" will be opened respectively and research and education programmes will be established in systematic and interdisciplinary manner.
- * Certificates are open and available for both Intra- and extramural students.

Expected Outcomes

- 1) Establishment of a standard model of intersectional and trans-disciplinary education at the graduate school level based on the collaboration of university-wide researchers in the fields of water, energy and disaster management and its related fields.
- 2) International and nationwide acknowledgement as a core of graduate school level ESD, which enhances the capacity for leadership of KU as the leading institution.
- 3) Enhancement of new academic excellence regarding UNESCO-related sites including Geoparks, Biosphere Reserves and World Heritage Sites towards further clarification of scientific and cultural significance, developability and sustainability of those sites through international collaborative researches or field workshops all over the world.

Objectives

This project aims to develop human resources with a holistic view beyond a single specialized field to solve complex social and environmental challenges in the real world.

The primary objective is to develop human resources with a broader perspective to actively work at different levels, including the international framework. In addition, the project expects to contribute directly to society through developing a network between scientists and policy makers, governmental organizations and policy institutes to achieve a sustainable and safe society.

To achieve the long term objectives, the project will develop a comprehensive and trans-disciplinary Education for Sustainable Development (ESD) programme for graduate school level and to establish 'KU-Model of ESD'.