Concept Note

Workshop for the Drafting of Water Management Curriculum for Africa

24-25 July 2019, Jakarta Indonesia

Background

During a UNESCO-organized session at the 2016 Africa Water Week, participants took note of the importance of ensuring access to relevant and applicable scientific water information and data, and therefore calling for a broad dissemination of the ecohydrological methodology that are innovative, low energy/low cost and advanced scientific approach to address water-related challenges. The *ecohydrological methodology* identifies water-biota interactions can increase carrying capacity of water resources, biodiversity, ecosystem services, and resilience – and in turn ensuring sustainable water resources management in Africa.

The Integrated Water Resource Management (IWRM) addresses water management in a holistic manner, integrating the management of water resources with ecosystem services, human health, ecological sustainability, economic growth, poverty alleviation, gender equality, employment and other aspects of sustainable human development. By enhancing knowledge and practice of water management in Africa using ecohydrology and IWRM through curricula development and dissemination, key stakeholders and their communities will be empowered in identifying sustainable solutions for addressing water management challenges in Africa.

Under the project "Upscaling Water Security to Meet Local, Regional, and Global Challenges", the Regional Humid Tropics Hydrology and Water Resources Centre for Southeast Asia and The Pacific (HTC-KL), a Malaysian Category 2 Centre under the auspices of UNESCO, has published a three-volume of "Water Management Curricula using Ecohydrology and Integrated Water Resources Management". The curricula focus on watershed management with particular focus on river basins, and includes recommendations on best management practices, innovative storm water and water quality management technologies, and policy options to address negative water-related impacts of urbanization. The curricula are targeted for subprofessional and professional (including engineers, landscape architects), local authorities, lecturers and students in higher institute of education. The curricula provides the necessary scientific information for understanding ecohydrology approaches to enable the holistic understanding of the issues and strategies required, through a total of thirteen topics across three volumes.

Although the curricula have been designed to be applicable in Asia Pacific and Africa, they draw most of their practical examples, case studies and general frame of reference from the Malaysian context. In order to ensure that the curricula provide the greatest possible contribution towards sustainable development in Africa, there is a need to develop a localized version of the resources that draws on and refers to the African context.

The adaptation of *Water Management Curricula Using Ecohydrology and Integrated Water Resources Management (IWRM*) with African contexts is implemented under the new project "Upscaling Water Security to Meet Local, Regional, and Global Challenges - Designing local ecohydrology and IWRM educational resources for Africa". The project serves to supplement and further advance the outcomes of the original Upscaling Water Security to Meet Local, Regional, and Global Challenges project. The overall purpose of the new project is to ensure that the Water Management Curricula produced under the original project are as relevant, applicable and

appropriate to the African as well as the wider Asian context as possible, in turn enabling their widespread use and appreciation in relevant contexts. UNESCO Office Jakarta is closely working with UNESCO Office Abuja in the implementation of this project.

This project is funded by the Government of Malaysia, through UNESCO–Malaysia Funds in Trust (MFIT) programme. It marks as a significant contribution towards UNESCO-IHP's phase 8 and its Strategic Plan for 2014-2021: "Water Security Responses to local, regional and global challenges", as well as the 2030 Agenda and Sustainable Development Goal 6: "Ensure availability and sustainable management of water and sanitation for all".

Objectives

1. to discuss the current state of water education in sub-saharan Africa
2. to share, discuss and advance the development of a draft water management curricula that includes the concepts of ecohydrology, IWRM, and gender, and is tailored to African contexts and circumstances, particularly sub-saharan Africa

Expected outputs

- Data on water education and best practices from the African region collected and regional gaps in water curricula identified;
- A draft water management curricula for Africa is advanced

Expected participants

The workshop will bring together UNESCO key partners in the development of the Water Management Curriculum, particularly UNESCO Category II Centres in Africa It is expected that around 10 participants will attend the workshop.

Workshop details

The event will take place on 24-25 July 2019 in Grand Kemang Hotel, with the below address:

Jl. Kemang Raya 2H, Jakarta 12730 - INDONESIA

List of Participants

1. Dr Norlida binti Mohd Dom, Deputy Director & UNESCO Head Of Coordination, Humid Tropics Centre Kuala Lumpur / Department of Irrigation and Drainage, Malaysia
2. Dr Omogbemi Omoloju Yaya, Director, Regional Centre for Integrated River Basin Management (RC-IRBM), Kaduna Nigeria
3. Mr Yohannes Zerihun, Coordinator, Ecohydrology Coordination Office, Ministry of Water, Irrigation and Energy, Ethiopia
4. Dr. Makarius C. S. Lalika, Department of Geography and Environmental Studies, Solomon Mahlangu College of Science and Education, Sokoine / University of Agriculture, Morogoro, Tanzania
5. Dr. Ignasius Sutapa, Executive Director, Asia-Pacific Centre for Ecohydrology (APCE), Indonesia
6. Prof. Hidayat Pawitan, Dept. of Geophysics and Meteorology, Bogor Agricultural University, Indonesia
7. Ms. Maria Yustiningsih, Lecturer, Faculty of Teacher Training and Education, Universitas Timor, East Nusa Tenggara, Indonesia

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8. Dr. Hans Dencker Thulstrup, Senior Programme Specialist, UNESCO Jakarta
9. Ms. Trita Katriana, National Project Officer, UNESCO Jakarta
10. Mr. Bustamam Koetapangwa, Project Assistant, UNESCO Jakarta
11. Ms. Ade Ayu Kurnia, Admin Assistant, UNESCO Jakarta
12. Ms Jeeyoun Choi, intern, UNESCO Jakarta

Annex I – Tentative Programme

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Day 1

Time	Agenda	Speakers
09.00 - 09.30	Opening Remarks	UNESCO Jakarta Office
09.30 – 09.45	Overview of "Upscaling Water Security to Meet Local, Regional, and Global Challenges - Designing local ecohydrology and IWRM educational resources for Africa" project	UNESCO Jakarta Office
09.45 – 10.15	Current state of Ecohydrology and IWRM curriculum for higher education in Nigeria	Dr Omogbemi Omoloju Yaya, RC-IRBM, Nigeria
10.15 – 10.45	Current state of Ecohydrology and IWRM curriculum for higher education in Ethiopia	Mr Yohannes Negussie, ARCE, Ethiopia
10.45 - 11.00	*Coffee break*	
11.00 – 11.30	Ecohydrology and IWRM curriculum for higher education in Indonesia	Prof Hidayat Pawitan, Bogor Agricultural University, Indonesia
11.30 – 12.00	Integrating Ecohydrology into Syllabus in East Nusa Tenggara: Perspectives for higher education	Ms Maria Yustiningsih, University Of Timor, Indonesia
12.00 – 12.30	Ecohydrology and water education: lessons and perspectives from Asia and the Pacific	Dr Ignasius Sutapa, APCE, Indonesia
12.30 – 13.30	Lunch	
13.30 – 14.00	Overview of process and lessons learned in the development of Water Management Curriculum	Dr Norlida, HTCKL, Malaysia
14.00 – 15.30	Setting the scene *Drafting session* TOPIC 1: Introduction to Ecohydrology and freshwater management TOPIC 2: Introduction to IWRM and principles of IWRM	Workshop participants Lead by: Dr Makarius Lalika
15.30 – 15.45	*Coffee break*	
15.45 – 17.15	*Drafting session (cont.)* TOPIC 3: River basin management and ecology of lakes TOPIC 4: Potentials for Ecohydrology in watershed management	Workshop participants Lead by: Dr Makarius Lalika
17.15 – 17.30	Conclusion of Day 1	UNESCO Jakarta Office

19.00 onwards	Dinner

Day 2

Time	**Agenda**	**Speakers**
09.00 - 09.15	Summary of Day 1	UNESCO Jakarta Office
09.15 – 10.45	*Drafting session (cont.)* TOPIC 5: IWRM and aquatic ecosystem management TOPIC 6: Introduction to limnology, estuarine and coastal wetlands	Workshop participants Lead by: Dr Makarius Lalika
10.45 – 11.00	Coffee break	
11.00 – 12.30	*Drafting session (cont.)* TOPIC 7: Wetland ecology and management for supply of ecosystem services TOPIC 8: Integrating Ecohydrology and environmental economics	Workshop participants Lead by: Dr Makarius Lalika
12.30 – 13.30	Lunch	
13.30 – 15.00	*Drafting session (cont.)* TOPIC 9: Riparian vegetation and river health assessment TOPIC 10: Marine resources, pollution and integrated coastal zone management	Workshop participants Lead by: Dr Makarius Lalika
15.00 – 15.15	Coffee break	
15.15 – 16.45	*Drafting session (cont.)* TOPIC 11: Water resource management and gender involvement/participation TOPIC 12: Ecohydrology, biotechnology and water resources	Workshop participants Lead by: Dr Makarius Lalika
16.45 – 17.00	Way forward and closing	UNESCO Jakarta Office