



United Nations
Educational, Scientific and
Cultural Organization



Malaysia
Fund-in-Trust

Upscaling Water Security to Meet Local, Regional, and Global Challenges: Project Results

Prof. Dr. Shahbaz Khan
Director and Representative
UNESCO Office, Jakarta

Langkawi, 10 July 2017





United Nations
Educational, Scientific and
Cultural Organization

Malaysia
Funds-in-Trust

Objective

Objective: to provide solutions to the current global water challenges require upscaling of existing local approaches and knowledge of the interrelations between environment conditions and the state of waters.

implemented through 3 components:

1. Research Component: Demonstration of ecohydrology biotechnologies;
2. Education Component: HELP and Ecohydrology training;
3. Water Management Component: Workshops on comparative studies of applying water footprints, Ecohydrology and IWRM in Asia and Africa through UNESCO category-2 water centres in Asia and Africa.

Targeted Beneficiaries

Focus on South-South Cooperation between Asia Pacific and Africa
Asia Pacific: Australia, Indonesia, Iran, Malaysia, Nepal, Pakistan, Thailand, the Philippines
Africa: Namibia, Nigeria, Sudan, Benin, Guinea, Liberia, Mali, Sierra Lone, Togo, Gambia, Senegal, Ethiopia

Duration

July 2014 – October 2017





United Nations



Malaysia

Implemented Activities

Activity 1: Research Component: Demonstration sites of ecohydrology biotechnologies in Langat River and Putrajaya Lakes

Activities:

- Study on “Demonstration of Ecohydrology Biotechnologies in Putrajaya Lake: Ecosystem Services Economic Assessment” 2015-2016
- Dissemination Workshop during international seminar titled: “Ecohydrology Management of Putrajaya Lake and Wetland: Ecosystem Services Economic Assessment” on 19 and 20 January, 2016, in Malaysia
- Partner: Perbadanan Putrajaya in collaboration with experts from Eco Development Facilities Sdn. Bhd. (EDFSB) and University Putra Malaysia (UPM)

Results:

- helped to advance 3 major areas:
 - The state of the art of the ecosystem services economic assessment;
 - Understanding the value of Putrajaya Lake’s ecosystem services;
 - Assessing the willingness of the local population, tourists, visitors and other stakeholders to pay for ecosystem services.
- Momentum for lake managers and experts to consider the establishment of an ASEAN Lake Network under the leadership of Putrajaya Lake



Implemented Activities

Activity 2: Education Component: HELP and Ecohydrology Scoping

Activities:

- Development of *Water Management Curricula using Ecohydrology and IWRM* for countries in Asia and Africa
- Partner: HTCKL in collaboration with a consortium of universities in Malaysia, including UTM, University Putra Malaysia (UPM), UNITEN, Infrastructure University of Kuala Lumpur (IUUKL), and UPM.

Results:

- 10 topics covered in 3 volumes
 - Volume 1: 3 topics (Tropical Forest and Oil Palm Hydrology; Freshwater Ecosystem, River Ecosystem, Lake Ecosystem; Understanding Lake Environmental Management and Expert System Monitoring)
 - Volume 2: 4 topics (Hydraulic Principles Governing Flow and Regulation of River Flows; Riverbank Erosion, Failure and Approaches for Riverbank Protection; Flood Control and Channelization; Morphometric Analysis of River System; Sensitivity of Flood Hydrographs to Different Rainfall Distributions Profiles Based on A Case Study)
 - Volume 3: 3 topics (Freshwater Ecosystem, River Ecosystem, Lake Ecosystem; Highland Drainage, Debris and Mud Flow, Sediment Erosion and Landslide Control; Erosion and Its Effect)
- Will be presented by Ir Rohani Ahmad, Director of HTC KL



Implemented Activities

Activity 3: Water Management Component: Workshops on comparative studies of applying water footprints, Ecohydrology and IWRM in Asia and Africa through UNESCO category-2 water centres in Asia and Africa

Activities and Results:

- Workshop on **“applying water footprints in Asia and the Pacific”**, 24 to 26 February 2015 in Malaysia.
→ introduced the concept of water footprint to selected participants from South East Asia
- Workshop on **“Comparative Studies of Applying Ecohydrology and IWRM for Upscaling Water Security in Asia-Pacific & Africa”** 7 to 9 March 2016 in Malaysia, lead by HTC-KL
→ discussed lessons learnt from curricular studies and implementation of relevant actions in the Asia-Pacific and Africa region & disseminated the key requirements of Curricular Modules for mainstreaming of adaptation into development plans and budgets at national, sectorial, and local levels





United Nations
Educational, Scientific and
Cultural Organization



Malaysia
Fund-in-Trust

Implemented Activities

Activity 3 (cont.): Water Management Component

Activities and Results:

- Development of “*Customising IWRM for Better Water Management at the River Basin Level: Comparative Perspectives*” led by HTC-KL
 - cover IWRM implementation in basins throughout the region (Davao city in the Philippines, Medan city of Indonesia, Turkey, Nigeria, and Sudan), as well as the efforts of Malaysia in mainstreaming the principles of IWRM and piloting the emerging applications of ecohydrology.
 - ecohydrology part will be presented by Dr Norlida binti Mohd Dom, HTC KL





Implemented Activities

Activity 3 (cont.): Water Management Component

Activities and Results:

- Development of “*IWRM, water challenges and water security in Africa*”, conducted by the UNESCO Chair on Water Resources Management
 - will be presented by Prof. Dr. Abdalla Abdelsalam Ahmed
- “Inter-Regional Workshop on South-South Cooperation for Upscaling Integrated Water Resources Management (IWRM) and Ecohydrology as Tools for Achieving Water security in Africa” in Abuja, Nigeria, on 24 – 26 January 2017 organized by UNESCO Office Jakarta, National Water Resources Institute Kaduna, and UNESCO Multi-sectoral Regional Office, Abuja. and in collaboration with RC-IRBM.
 - produced 28 recommendations and a work plan for upscaling IWRM and ecohydrology at country and river basin levels to achieve water security in Africa





United Nations
Educational, Scientific and
Cultural Organization



Malaysia
Fund-in-Trust

Way forward

Fostering collaboration through UNESCO category-2 water centres in Asia and Africa and other partners (policy makers, scientists, universities, NGOs)

→ water security platform for knowledge exchange and collaboration





United Nations
Educational, Scientific and
Cultural Organization



Malaysia
Fund-in-Trust

Thank you!

s.khan@unesco.org

