



United Nations
Educational, Scientific and
Cultural Organization



FOSTERING COLLABORATION BETWEEN UNESCO IN THE FIELD AND NETWORKS TOWARDS THE AGENDA 2030

In conjunction with
The 3rd Asia Pacific Biosphere Reserves Network (APBRN) Strategic Meeting
22 – 24 July 2016
BALI, INDONESIA

Presented by
MOHD NAZIM KELING
The Regional Humid Tropics Hydrology and Water Resources Centre
for Southeast Asia and The Pacific

THE CORE MISSION

UNESCO'S CATEGORY II WATER CENTRES
ESTABLISHED SINCE 1999



Yearly RSC MEETING

(Regional Steering Council)



PROF SHAHBAZ KHAN
Director and Representative
UNESCO Jakarta

To increase scientific and technological knowledge about the hydrological cycle

To promote a conducive atmosphere for collaboration through technology and information exchange, education and science.



DATO Ir ZULKIFLI HASSAN
Director General
Department of Irrigation and Drainage Malaysia
Chairman **UNESCO-IHP Malaysia**
Chairman **UNESCO-HTC Kuala Lumpur**

To promote and increase scientific and technological knowledge about urban stormwater management, ecohydrology, humid tropics and water education

HE IRINA BOKOVA
Director General
UNESCO PARIS



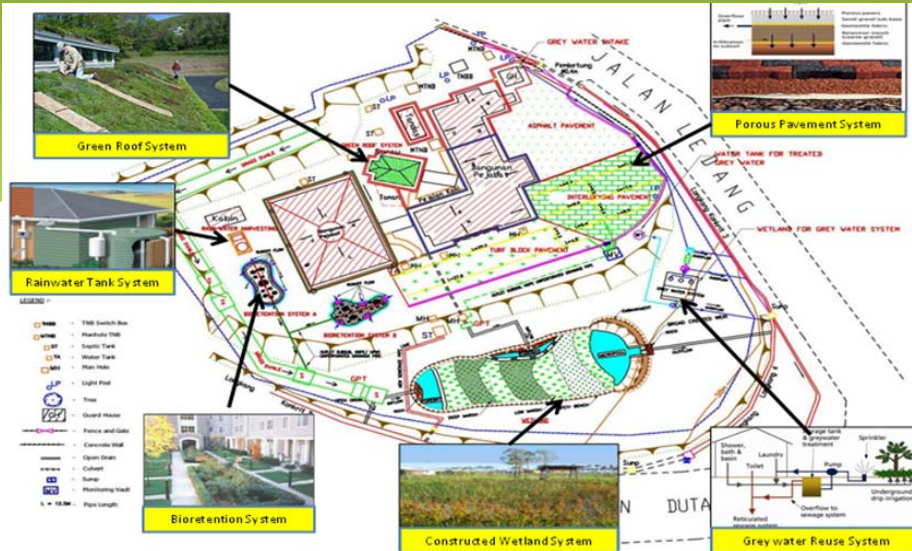
Biennial IGC Meeting

(Intergovernmental Council)



EVIDENCE OF THE CENTRES' IMPACTS

STORMWATER MANAGEMENT – ECOHYDROLOGY (SME)



Science Impacts (Major contributions to the science, technology, education, and regional and/or international cooperation in the field of water) :

- MSMA Stormwater Management Eco-hydrology (MSMA SME)
- MSMA Pro Software
- Public Outreached Program Outcome from Gross Pollutant Trapped Devices Analysis
- Phytoremediation Technique for River Pollutant
- Debris and Mudflow Model Software
- Porous and Permeable Pavement System
- Greywater Reuse System | Constructed Wetland System
- Rain Water Harvesting System
- Green Roof System
- Bioretention System

MSMA SME HTC KUALA LUMPUR is launched by HE Madam IRINA BOKOVA, Director General UNESCO during her visit on 21st May 2013



POLICY IMPACTS



TECHNICAL REPORT AND JOURNAL

Benefits to UNESCO-IHP Programme, Regionally and Internationally

List of 2014-2015 completed R&D activities :

Biennial Reports to 22nd IGC Meeting, UNESCO PARIS Jun 2016

2014-2015

PHASE IHP VIII SDG — Goal 6

Study On Artificial Bio-Macropore For Stormwater Management At Humid Tropics Center And Langat-Help River

Debris and Mudflow Warning System for Cameron Highlands (DMFWS Phase 1)

Application Of A Stepped Solar Still For Sea Water Desalination at PulauPerhentian

Study On River Water Quality Pasive River Water Quality Treatment Using Phytoremediation At Universiti Putra Malaysia

Research on Performance of Gross Pollutant Trap (GPT) Trapping Devices Versus Life Cycle Cost and Gross Pollutant Management Strategies Knowledge Portal Case Study River Of Life

Rural River Rejuvenation (R3), Jenderam River; a Tributary of Langat_HELP Basin.

A Novel Approach To Reuse Alum Sludge In Manufacturing Of Soil Erosion Protection Blocks/Bricks And Building Material Using Admixtures And Thermal Curing

Decision Support System (DSS) For Msma Integrated Stormwater Management Ecohydrology

Upscaling Water Security To Meet Local, Regional And Global Challenges

- Comparative Studies for customizing IWRM for better management at river basin level
- Water management curricula using eco-hydrology and IWRM
- Proceeding of dissemination workshop for LDCs in Asia and Africa, Universities and category II centers

THEME 1 : Water related Disasters and Hydrological Change

THEME 3: Addressing Water Scarcity and Quality

THEME 4: Water and Human Settlements of the future

THEME 5: Ecohydrology, Engineering Harmony for a Sustainable World

6.5 Implement integrated water resources management

6.6 Protect and restore water-related ecosystems

6.1 Achieve universal and equitable access to safe and affordable drinking water
6.3 Improve water quality

6.3 Improve water quality
6.5 Implement integrated water resources management

6.3 Improve water quality
6.6b Support and strengthen the participation of local communities

6.5 Implement integrated water resources management

6.3 Improve water quality

6.5 Implement integrated water resources management

6.5 Implement integrated water resources management
6.6a Expand international cooperation and capacity-building



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Malaysia
Funds-in-Trust

CAPACITY BUILDING PROGRAMMES DIRECTLY CONTRIBUTED TO THE IHP- VIII AND SDG OBJECTIVES

2014

Best Thesis Award (PhD; Masters; Undergraduate) in Hydrology and Water Resources for Malaysia's Universities in conjunction with Malaysia World Water Day 2015

The 13th International Conference on Urban Drainage (ICUD 2014) in Borneo Convention Centre Kuching, Sarawak

2015

Best Thesis Award (PhD; Masters; Undergraduate) in Hydrology and Water Resources for Malaysia's Universities in conjunction with Malaysia World Water Day 2015

The 3rd International Conference on Water Resources (ICWR2015) be held at the Bayview Hotel Langkawi

2016

- Workshop on Comparative Studies of Applying Ecohydrology and Integrated Water Resources Management for Upscaling Water Security in Asia and Africa through UNESCO Category II Water Centre with the collaboration of UNESCO in JAKARTA Office, 7-9 March 2016 at Berjaya Times Square Hotel, Kuala Lumpur.

- Best Thesis Award (PhD; Masters; Undergraduate) in Hydrology and Water Resources for Malaysia's Universities in conjunction with Malaysia World Water Day 2016 on 24th March 2016 at Putrajaya.
- Seminar On Water Resources Security In The Context Of Sustainable Development Goals 2016, 25 May 2016 at Palm Garden Hotel, Putrajaya
- Malaysia UNESCO Day, 28 – 29 May 2016 at Putrajaya Wetland Park

APPLICATION NEW PROJECT

2017

HTC Kuala Lumpur was requested by Ecohydrology Coordination Office, Ethiopia on Transfer of Technology in Urban Stormwater Management (MSMA Pro) for their centre in Ethiopia . MSMA Pro Trainer Training was presented to UNESCO Jakarta Office during the Experts' Consultation Meeting for Advancing Water Education in Asia and the Pacific, 24 – 25 May 2016 in Medan, Indonesia.

UPSCALING WATER SECURITY TO MEET LOCAL, REGIONAL AND GLOBAL CHALLENGES

Organised by



Supported by



In collaboration with



7-9 MARCH 2016
WORKSHOP ON COMPARATIVE STUDIES OF APPLYING ECOSYDROLOGY & IWRM FOR UPSCALING WATER SECURITY IN ASIA & AFRICA
Manhattan III, Level 14
BERJAYA TIMES SQUARE HOTEL
KUALA LUMPUR

PROJECT OUTPUT

- Comparative studies for customizing IWRM for better management at river basin level
- Water Management curricular using eco-hydrology and IWRM
- Proceeding of dissemination for LDCs in ASIA and Africa, Universities and Category II centers.

PROJECT CONTRIBUTION

- Showcasing and synthesizing best environmental management principles and practicing through demonstration projects in the ASEAN member
- Develop Water Expert Networking including South-South Cooperation and Focus on LDCs and/SIDS (ASPAC/Africa).
- Assisting the Member States in the creation and enhancement enabling policy environments for science, technology and innovation for sustainable development including the strengthening of the science, policy and society interface.

LOCAL PRESENTER

No	Name	Agency
1	Dr. Md. Nasir Bin Md. Noh	HTCKL
2	Dr. Norlida Bt. Mohd. Dom	HTCKL
3	Dato' Ir. Azmi Bin Ismail	DID
4	Prof. Nor Azazi Zakaria	USM
5	Prof. Dr. Munirah Bt Ghazali	RCE
6	Dr. Siti Nurhidayu Abu Bakar	UPM
7	Dr. Rahmah Elfithri	UKM
8	Dr. Mohd. Sofiyan Sulaiman	IUKL
9	Dr. Nur Asmaliza Mohd. Nor	UNITEN
10	Prof. Ir. Dr. Lariyah Mohd Sidek	UNITEN
11	Prof Dr. Mohamed Roseli Zainal Abidin	UNITEN
12	Dr Kalithasan A/L Kailasam,	GEC
13	Datin Zaharah Bte Hj. Mahmud Asia	ASPEC
14	Prof. Sobri Bin Harun	UTM

INTERNATIONAL PRESENTER

No	Name	Country
1	Prof Shahbaz Khan	UNESCO
2	Alain Michel Tchadie	UNESCO
3	Mr. Abdalla Abdelsalam Ahmad	Sudan
4	Mr. Omogbemi O. Yaya	Nigeria
5	Mr. Ali Chavoshian	Iran
6	Mr. Yohannes Zerihun Negussi	Ethiopia
7	Mr. Anthony Sales	Philippine
8	Mr. Sutedi Raharjo	Indonesia

WORKSHOP FINDINGS

WORKSHOP FOR COMPARATIVE STUDIES OF APPLYING ECOHYDROLOGY AND IWRM FOR UPSCALING WATER SECURITY IN ASIA AND AFRICA , KUALA LUMPUR ON 7-9 MARCH 2016



- **Further collaboration and networking** within policy makers, stakeholders and NGOs need to be strengthened through adaptation and implementation of Ecohydrology and IWRM
- The comparative studies for customizing IWRM for better water management at river basin level were fully elaborated in the workshop.
- Meanwhile the presentation of the development of modular curricula for water education in Asia-Pacific and Africa, using Ecohydrology principles and IWRM guidelines shown that there were few enhancement need to be done especially in the curricula framework itself

* **Builds on Malaysia expertise/capacity**

Mobilization of experts from HTC-KL, UNITEN, USM, UTM, IUKL, LESTARI UKM and UPM

* **Responds to priority of beneficiary country**

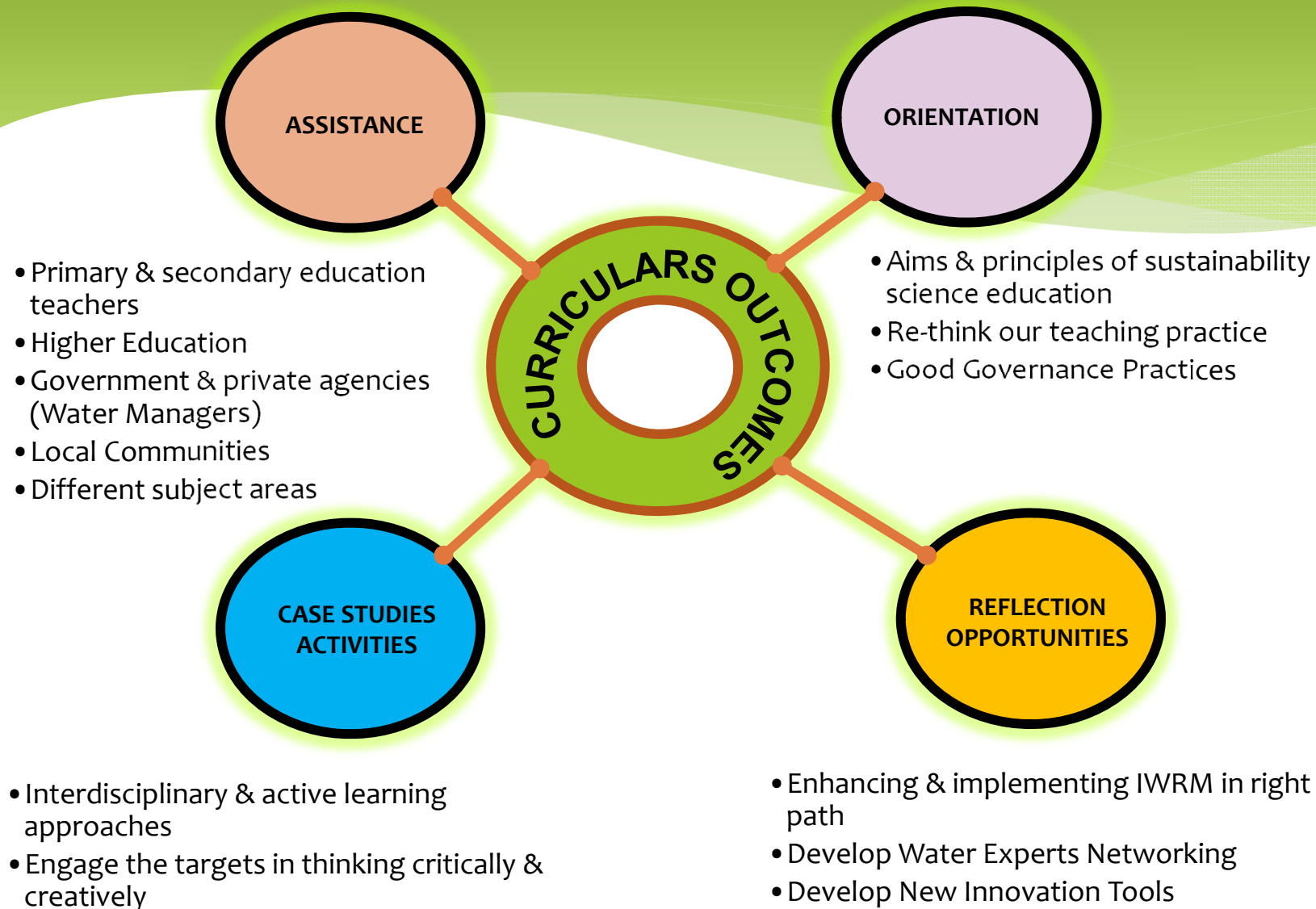
Contribute to UCPD Programme 4: International Hydrological Programme, and 10th Malaysian Plan for 2011-2015: “Developing a Long-Term Strategy for Water Resource Management to Achieve Water Security”

* **Possible co-financing available**

Indonesian FIT and UNESCO Regular Budget

SUMMARY and CONCLUSIONS

Upscaling Water Security in Asia and Africa through UNESCO Category II Water Centre





BRIEF OF APPLICATION FOR NEW PROJECT

Transfer of Technology in Urban Stormwater Management for Ethiopia

BACKGROUND

- Requested by by Ecohydrology Coordination Office, Ethiopia
- Mobilize expert to Ethiopia
- Focus on Integrated MSMA SME

PROJECT OUTPUT

Training for Trainer

- Software
- Manual

PROJECT OUTCOMES

- Exchanges of Expertise
- Knowledge Transfer
- Networking & Collaboration

OBJECTIVE

To transfer Knowledge & Technologies on Integrated Urban Stormwater Management and Ecohydrology, MSMA SME

PROJECT CRITERIA	YES	NO
In line with UNESCO's mandate	✓	
South-south cooperation	✓	
Focus on LDCs and/or SIDS (ASPAC/Africa)	✓	
Builds on Malaysia expertise/capacity	✓	
Responds to priority of beneficiary country	✓	
Possible co-financing available	✓	

Cost of Project : USD 80,000 – USD 200,000

Package Training for Trainer (ToT)

Note : Manual Saliran Mesra Alam (MSMA) Urban Storm Water Management



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THANK YOU

