

Format for Biennial Reports by UNESCO's Water-related Centres on activities related to the IHP in the period (June 2014 – May 2016)

1. Basic information on the centre

Name of the Centre		Regional Centre for Training and Water Studies (RCTWS)
Name of Director		Eng. Zubaida Mohamed Fathalla Mahmoud
Name and title of contact person (for cooperation)		Dr. Khaled Roushdy khaled@rctws.org Dr. Mohamed Wahba M.Wahba@rctws.org
E-mail		Info@rctws.org
Address		6 October City, St. No.1, Fourth Industrial Zone, Egypt. P.O. Box 58, Zip Code 12566
Website		www.rctws.org
Location of centre		city/town 6 October City country Egypt
Geographic orientation *		<input type="checkbox"/> global <input checked="" type="checkbox"/> regional
Region(s) (for regional centers)		Arid and Semi Arid Regions
Year of establishment		2002
Year of renewal assessment		2021
Signature date of most recent Agreement		2015
Themes of activities during reporting period	Focal Areas ·	<input checked="" type="checkbox"/> groundwater <input type="checkbox"/> urban water management <input checked="" type="checkbox"/> rural water management <input checked="" type="checkbox"/> arid / semi-arid zones <input type="checkbox"/> humid tropics <input type="checkbox"/> cryosphere (snow, ice, glaciers) <input checked="" type="checkbox"/> water related disasters (drought/floods) <input type="checkbox"/> Erosion/sedimentation, and landslides <input checked="" type="checkbox"/> ecohydrology/ecosystems <input checked="" type="checkbox"/> water law and policy <input checked="" type="checkbox"/> social/cultural/gender dimension of water <input type="checkbox"/> transboundary river basins/ aquifers <input type="checkbox"/> mathematical modelling <input type="checkbox"/> hydroinformatics <input checked="" type="checkbox"/> remote sensing/GIS <input checked="" type="checkbox"/> IWRM <input checked="" type="checkbox"/> Watershed processes/management <input checked="" type="checkbox"/> global and change and impact assessment <input checked="" type="checkbox"/> mathematical modelling <input checked="" type="checkbox"/> water education <input type="checkbox"/> water quality <input type="checkbox"/> nano-technology <input checked="" type="checkbox"/> waste water management/re-use <input type="checkbox"/> water/energy/food nexus <input checked="" type="checkbox"/> water systems and infrastructure <input type="checkbox"/> other: (please specify) _____
	Scope of Activities ·	<input checked="" type="checkbox"/> vocational training <input type="checkbox"/> postgraduate education <input checked="" type="checkbox"/> continuing education <input type="checkbox"/> public outreach <input checked="" type="checkbox"/> research <input checked="" type="checkbox"/> institutional capacity-building <input type="checkbox"/> advising/ consulting <input type="checkbox"/> software development <input type="checkbox"/> data-sets/data-bases development

* check on appropriate box
· check all that apply

	<input type="checkbox"/> other: (please specify) _____
Support bodies ¹	Ministry of Water Resources and Irrigation
Hosting organization ²	Regional Training Sector for Water Resources and Irrigation
Sources of financial support ³	<ul style="list-style-type: none"> • JICA • Islamic Bank • GIZ • NICHE • IAM-Bari
Existing networks and cooperation ⁴	<ul style="list-style-type: none"> • G-WADI/UNESCO • NICHE • JICA • Islamic Bank • GIZ • IAM-Bari
Governance	<input checked="" type="checkbox"/> director and governing board <input type="checkbox"/> other: (please specify) _____ Link to election of board members to the IHP Intergovernmental Council (IGC) and hosting country IHP National Committee _____ Frequency of meetings: once every 1 year(s) <input checked="" type="checkbox"/> Existence of UNESCO presence at meetings
Institutional affiliation of director	Ministry of Water Resources and Irrigation
Number of staff and types of staff	total number of staff (full-time, or equivalent) : 150 number of staff who are water experts: 25 number of visiting scientists and postgraduate students: 25
Annual turnover budget in USD	200,000

2. Activities undertaken in the framework of IHP in the period June 2014 – May 2016

2.1 Educational activities (i.e., those with accreditation) that directly contributed to the IHP-VIII (Appendix 1) and WWAP
Please include here those activities which led to accreditation of degrees, or those held in formal school settings.

2.2 Research activities that directly contributed to the IHP-VIII activities
Concerning IHP-VIII new strategic plan, and the strategy of the Regional Center for Training and Water Studies of Arid and Semi-Arid Zones (RCTWS) – (Category 2 Centre under the auspices of UNESCO.

RCTWS cooperate with National Water Research Center NWRC, Egypt by scientific studies and researches which was published in an international conferences and journals related to the following Topics to ensure the eighth phase of IHP:

- WATER-RELATED DISASTERS AND HYDROLOGICAL CHANGE
- GROUNDWATER IN A CHANGING ENVIRONMENT
- ADDRESSING WATER SCARCITY AND QUALITY
- WATER AND HUMAN SETTLEMENTS OF THE FUTURE

¹ please specify bodies that cover the operational costs of the centre, and other essential costs such as salaries and utility bills, and that provide institutional support to ensure centre's sustainability

² if different from support bodies

³ please specify sources of main budgetary and extrabudgetary funds to implement projects

⁴ please write international networks, consortiums or projects that the centre is part of, or any other close links that the centre has with international organizations or programmes, which are not already mentioned above

- ECO HYDROLOGY, ENGINEERING HARMONY FOR A SUSTAINABLE WORLD
- WATER EDUCATION, KEY FOR WATER SECURITY

Attached you will find the list containing the researches and scientific paper which is published through the period 2008 until now by NWRC, Egypt related to the above topics as we wish to exchange and share the ideas/ studies with the same sisters institutes Category II.

Please include research/applied projects outputs such as publications that directly contributed to the IHP-VIII and WWAP objectives

- 2.3 Training activities that directly contributed to the IHP-VIII and WWAP objectives

Regional courses held in RCTWS

Many regional courses have been successfully implemented in RCTWS for Arab and African countries. The main titles of these courses are as following:

1. On-farm Water Management "irrigation-drainage"
2. Ground Water Management in the framework of Integrated Water Resources Management.
3. Untraditional Water Resources in Geographical Information Systems and Remote Sensing Arid and Semi-Arid Regions.
4. The Joint Development of Water Resources Management.
5. Role of the Artificial Feeding of Ground Water.
6. Woman Participation in Water Management.
7. Geographical Information Systems and Remote Sensing.

Regional workshops and seminars held in RCTWS

Many regional workshops and seminars have been successfully implemented in RCTWS for Arab and African countries, they included the following subjects:

1. Participation of Private Sector
2. Assessment of Water and Cost Recovery.
3. Gender Related Issues.
4. Decentralization and Institutional Reform.
5. Water Ethics.
6. Crops Water Requirements and Water Strategy.
7. Water as a Right of Each Human.
8. Ground Water Protection and Modeling.
9. Knowledge Mapping of Human Resources.
10. Water in Urban Areas and Modeling in Different Climates.
11. Sustainable Development of Water and Waste Water Management.

National Training Courses by RCTWS

The training courses which organized by the training sector is tailored courses to serve all employees of MWRI in all its sectors to raise their technical and administrative efficiencies with the way which guarantees sustainability.

The training courses on national level are divided into:

- Technical courses for engineers which include: integrated water resources management, water quality and how to conserve, design-operation-maintenance of irrigation structures and channels, mechanics and electricity and methods of control, hydrology of surface and ground water, climate and environment change, administration and assessment of projects, and using of computer in fields of geographical information systems, designing of structures and engineering drawings and graphs.
- Technical courses for technicians and sailors.
- Courses for trainees to be qualified on Computer.
- English courses.
- Management and planning for intermediate and high leaders.
- Financial, administrative and contractual affairs courses.

- One-day seminars which discuss different issues upon current needs.

3. Collaboration and linkages

- 3.1 Participation in major international networks, programmes, partnerships with other UN or other International Agencies, media and professional bodies
- 3.2 Participation in meetings related to the IHP and UNESCO (e.g. the UNESCO General Conference, the UNESCO Executive Board, the IHP Intergovernmental Council and/or other meetings organized by IHP)

2 meetings on: G Wadi Network, Arabic Networking Organization for Water Resources Management in Arab region; Muscat, Oman June 2015, Sharm Elshaikh, Egypt Nov 2015.

- 3.3 Collaboration and networking with other UNESCO category 1 or 2 institutes/ centres
 - 3.3.1 cross-appointment of directors of the category 1 or 2 institutes or centres on the governing board
 - 3.3.2 exchange of information on activities such as training/educational materials, and funding opportunities
 - 3.3.3 exchange of staff, most notably professionals and students
 - 3.3.4 implementation of joint activities, such as workshops, conferences, training programmes, joint projects, field visits, software and data sharing, knowledge exchange and publications
- 3.4 Relationships with the UNESCO field and regional office whose jurisdiction covers the country of location
- 3.5 Relationship with the UNESCO National Commission and the IHP National Committee in the country of location and with other organizations of other countries
- 3.6 Relationship with other UNESCO-related networks, such as UNESCO Clubs, ASPnet, and UNESCO chairs

4. Communication

- 4.1 Communication and knowledge dissemination activities undertaken in the framework of IHP
- 4.2 Policy documents and advice

5. Update on Centre Operations

- 5.1 Membership of the Board of Governors between designated period
- 5.2 Key decisions made (attach minutes of meetings)

6. Evidence of the Centre's Impacts

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

Some technical training courses have been implemented through the cooperation with JICA. The titles of these activities are as following:

- Training courses for Iraqi engineers in fields of (Operation and Maintenance of Pump Stations, ARC GIS, ERDAS and CAD application).
- A training course on Training-Of-Trainers (TOT) in the field of "Integrated Water Resources Management: Ground Water" which attended by 20 participants from Yemen.
- A training course for engineers in the field of "On Farm Water Management: Irrigation and Drainage" which attended by 20 participants from Nile Basin Countries. This course is holding each year started from 2004. Ministry of Foreign Affairs in Japan approved to continue implementing this course for other three years started from March, 2010.
- Training Courses for NB water professional in the various fields related to water management
- A workshop for Somalia water professionals in water management and institutional development aspects

6.2 Knowledge Transfer Impacts (Major achievements in the dissemination of knowledge and technology transfer)

The plan of the regional training sector depends on the different needs of all organizations, societies, sectors related to MWRI as well as the needs of other special units of the ministry such as: Water Quality Unit, Contractual Unit, Institutional Reform Unit, Water Awareness Unit and Information System Centre.

The information which the sector needs to put its plan can be collected through: questionnaire forms, meeting with heads of these sectors and units, meeting with the training officials in different places.

This policy results in very fruitful achievements in developing the assessment methods to coincide with the objective of the ministry in capacity building and in preparing cadres to measure the influence of the introduced training courses on the performance of organizations, societies, sectors related to MWRI through the experience and knowledge gained by their staff members who attended these courses.

The methods of training needs assessment were also developed to match with the objectives of the MWRI strategy and the needs of all organizations, societies, sectors related to MWRI which changed to coincide with the ministry strategy. That matching was done through accurate analyses of the training process items during the last 5 years and studying their technical, administrative, financial, institutional and organizational point of views.

The training courses which organized by the training sector is tailored courses to serve all employees of MWRI in all its sectors to raise their technical and administrative efficiencies with the way which guarantees sustainability.

The assessment is done through evaluation sheets which indicate the following levels:

- The training program evaluation.
- The instructors evaluation and to what extent the trainees benefit from them.
- Evaluation of accommodation, entertainment facilities and training methods and facilities.

Further assessment has been conducted through contacting with officials from the different sectors, organizations and institutions of the ministry.

Moreover, there are other evaluation forms which have special elements filled by the direct manager to indicate the influence of the training course on the trainer performance in his work.

The training effectiveness is measured regularly within a period from 6 months to one year after holding the training course. This measuring is done by visiting the trainee in his work place to insure from him and from his manager that he can apply in the field of work what he has studied in the training course.

6.3 Policy Impacts (advice sought by government and other bodies and evidence of inputs into policy arena)

7. Future activities that will contribute directly to IHP and/or to WWAP

7.1 Operational Plan (attach if available)

7.2 Strategic Plan linked with IHP-VIII (Appendix 1). Focal areas within IHP-VIII the centre plans to contribute to and specific actions the centre will undertake to align its activities with the strategic plan for IHP-VIII

RCTWS strategy towards the focal areas and the alignment of its activities with IHP VIII is assuring continuity while addressing new challenges. So, RCTWS aims to offer a courses related to the following topics to ensure the eighth phase of IHP:

- WATER-RELATED DISASTERS AND HYDROLOGICAL CHANGE
- GROUNDWATER IN A CHANGING ENVIRONMENT
- ADDRESSING WATER SCARCITY AND QUALITY

- WATER AND HUMAN SETTLEMENTS OF THE FUTURE
- ECO HYDROLOGY, ENGINEERING HARMONY FOR A SUSTAINABLE WORLDWATER
- EDUCATION, KEY FOR WATER SECURITY

At the same side, the communication between scientists and stakeholders is an important step toward development of community understanding and ownership of risk. Scientists have a responsibility to educate the community they serve regarding the risks for that community, and possible actions the community can take to reduce those risks. Likewise, stakeholders and policy makers have a responsibility to work closely with scientists in the social learning process.

RCTWS cooperates with the National Water Research Centre, Egypt (NWRC) in the field of water researches and studies related to the IHP strategy.

8. Annexes

- 8.1 List of publications released by the centre (there can be overlap with those listed in 2.3 above)

Attached you will find the list containing the researches and scientific paper which is published through the period 2008 until now by NWRC, Egypt related to the above topics

- 8.2 List of training courses conducted (there can be overlap with those listed in 2.1 above)

Attached List of Training courses by RCTWS

Appendix 1

Overview of the Core Programme Themes of the Eighth Phase of the IHP (2014-2021) WATER SECURITY: ADDRESSING LOCAL, REGIONAL, AND GLOBAL CHALLENGES

THEME 1: WATER-RELATED DISASTERS AND HYDROLOGICAL CHANGE

- Focal area 1.1 - Risk management as adaptation to global changes
- Focal area 1.2 - Understanding coupled human and natural processes
- Focal area 1.3 - Benefiting from global and local Earth observation systems
- Focal area 1.4 - Addressing uncertainty and improving its communication
- Focal area 1.5 - Improve scientific basis for hydrology and water sciences for preparation and response to extreme hydrological events

THEME 2: GROUNDWATER IN A CHANGING ENVIRONMENT

- Focal area 2.1 - Enhancing sustainable groundwater resources management
- Focal area 2.2 - Addressing strategies for management of aquifers recharge
- Focal area 2.3 - Adapting to the impacts of climate change on aquifer systems
- Focal area 2.4 - Promoting groundwater quality protection
- Focal area 2.5 - Promoting management of transboundary aquifers

THEME 3: ADDRESSING WATER SCARCITY AND QUALITY

- Focal area 3.1 - Improving governance, planning, management, allocation, and efficient use of water resources
- Focal area 3.2 - Dealing with present water scarcity and developing foresight to prevent undesirable trends
- Focal area 3.3 - Promoting tools for stakeholders involvement and awareness and conflict resolution
- Focal area 3.4 - Addressing water quality and pollution issues within an IWRM framework - improving legal, policy, institutional, and human capacity
- Focal area 3.5 - Promoting innovative tools for safety of water supplies and controlling pollution

THEME 4: WATER AND HUMAN SETTLEMENTS OF THE FUTURE

- Focal area 4.1 - Game changing approaches and technologies
- Focal area 4.2 - System wide changes for integrated management approaches
- Focal area 4.3 - Institution and leadership for beneficitation and integration
- Focal area 4.4 - Opportunities in emerging cities in developing countries
- Focal area 4.5 - Integrated development in rural human settlement

THEME 5: ECOHYDROLOGY, ENGINEERING HARMONY FOR A SUSTAINABLE WORLD

- Focal area 5.1 - Hydrological dimension of a catchment– identification of potential threats and opportunities for a sustainable development
- Focal area 5.2 - Shaping of the catchment ecological structure for ecosystem potential enhancement – biological productivity and biodiversity
- Focal area 5.3 - Ecohydrology system solution and ecological engineering for the enhancement of water and ecosystem resilience and ecosystem services
- Focal area 5.4 - Urban Ecohydrology – storm water purification and retention in the city landscape, potential for improvement of health and quality of life
- Focal area 5.5 - Ecohydrological regulation for sustaining and restoring continental to coastal connectivity and ecosystem functioning

THEME 6: WATER EDUCATION, KEY FOR WATER SECURITY

- Focal area 6.1 - Enhancing tertiary water education and professional capabilities in the water sector
- Focal area 6.2 - Addressing vocational education and training of water technicians
- Focal area 6.3 - Water education for children and youth
- Focal area 6.4 - Promoting awareness of water issues through informal water education
- Focal area 6.5 - Education for transboundary water cooperation and governance