



ICWRE

International Conference on
Water Resources & Environment in a Changing World



GIWEH



Report

International Conference on Water Resources and Environment (ICWRE):
Water and Environment in a Changing World

Marrakech, Morocco 20-24 November, 2011

I-Introduction

Water scarcity is being experienced in different parts of the world especially in arid and semi-arid regions of the Arab world due to natural and man-made environmental stresses in the depletion of sources and increasing pollution levels. The impact on the environment and human wellbeing is attributed to the natural physical scarcity of water variability in time and space exacerbated by the climate change phenomenon and scarcity from human induced activities resulting in un-sustainable consumption and environmental degradation to meeting the accelerated socio-economic development and ecosystem equilibrium requirements. Water scarcity becomes more acute when considering demand and supply in the context of future socio-economic and natural changing environment especially climate change impact. Beside the challenge of scarcity there are the hydro-political and trans-boundary considerations.

The major challenges lie in meeting the MDG targets of adequate and clean water supply and sanitation and food requirement, for the growing population and accelerated urban expansion, enhanced water use efficiency while reducing pollution load and improved environmental and water governance. Management of the environment and water sources requires revisit of the traditional approach that has focused on short term solution of supply provision in favor of the innovative Integrated Water Resources Management (IWRM) approach that was adopted at the 2000 Johannesburg which called for the use of integrated supply-demand management measures supported by effective and enforceable legal and institutional framework and stakeholder participation within the IWRM approach.

The management of the environmental and water sources poses major challenges to decision makers, water and environmental professionals and stakeholders that requires a participatory approach in order to contribute towards meeting the future water requirement, conserve the environment and enhance the wellbeing of different segments of the society especially the poor. Debates take place in different parts of the world including the Arab region to increase pressure on decision makers to place water and environmental management high on the development agenda and also increase awareness at local, national and regional levels.

The management challenge is more pronounced in the Arab region due to its arid harsh, fragile and delicate ecosystem that limits renewable resources availability in conjunction with the high population growth and un-sustainable consumption patterns. These factors have been exerting substantial stress on the environment and present major constraints to

sustainable socio-economic development. The adoption of an effective management approach is urgently needed to meet the future water, sanitation and food challenges. In order to contribute toward such debate, the Global Institute for Water, Environment and Health (GIWEH), Geneva, Switzerland has taken the initiative to organize an international conference to address the issues of water resources and environmental management within the context of changing environment of accelerated socio-economic development, climate change and green growth.

II- Organization of Work

The International Conference on Water Resources and Environment was held at the Atlas Asni Hotel, Marrakech, Morocco during the period 20-24 November, 2011. The conference was organized by the Global Institute for Water, Environment and Health (GIWEH), Geneva, Switzerland in cooperation the Ministry of Energy, Mines, Water and Environment-Morocco and co-sponsored by the Global Network for Right and Development (Switzerland) and the Korea Green Growth Initiative (Korea). The conference represents a series of continuous-cycle of symposium, workshops and conferences of GIWEH program with the aim to bridge the gap between practical policy, strategy and science in the management of water resources and environment fields as well as to inspire the water and environmental communities to share knowledge and best practices in a changing environment.

The four-day conference was structured so as to allow for in depth discussion and experience sharing on water resources and environmental management with focus on key issues related to the adoption of integrated approaches, technological advances and transfer, mitigation of environmental pollution, climate change impact, water and green growth and hydro-diplomacy of shared water sources. The conference themes were addressed through main sessions supported by complementary sessions that tackled emerging issues, poster session and technical field trip as shown in the conference agenda (Annex I). The main themes of the conference were addressed through three main sessions and four special sessions as;

i- Water and Environment Technology (Session 1)

ii- Water and Environment Security and Diplomacy (Session 2)

iii- Integrated Water Resources Management Approach-IWRM (Session 3)

The four special sessions addressed the following issues

i-Climate Change

ii-World Intellectual Property (WIPO) Patent Information

iii-Water and Green Growth the Four Rivers Restoration project as a Model of Green Growth in Korea

iv-Water and Environment of Iraq

The conference target group was composed of academia; government agencies, local government, NGOs, private sector and water and environment networks from different parts of the world. The conference was attended by a large number of water and environment professionals, NGOs and students from the Arab world, Europe, Asia and United States. The different sessions provided a platform to debate the challenging issues, share experience on best practices and networking through presentations, panel discussion and one to one face deliberation.

III-Opening of the Conference

The conference was formally opened by Mr Mohamed BELKHIRI the Minister of Energy, Mines, Water and Environment – Morocco at the Marrakesh Conference Centre. He welcomed the participants to Morocco and elaborated on his Ministry effort to manage the water resources. He stressed on the needed to achieve integrated planning to accommodate all related sectors water requirements. He elaborated on the objectives and plans for the development of all sectors that fall under the mandates of his Ministry. At the end he wished the participants a successful deliberation on all conference issues which represent priority in Morocco.

The Governor of La Wilaya: Tansift El Haouz, Mr Mohamed Boumhidia, Addressed the audience by congratulating the organizers of the conference in the historical Marrakesh. He elaborated on the problem of natural resource exploitation and environmental degradation impacting the ecological imbalance and the socio-economic development. He discusses Morocco effort on the environment conservation and protection since Rio 1992 submits including the ratification of many international conventions.

Mr. Boumhidia also stressed the Morocco commitments toward advancing environmental issues as it organized the Marrakech COP7 conference on climate change in 2001. He reflected on Morocco achievement regarding different programs that addressed combating desertification, creation of basin water plans,

rationalization of water uses, liquid and solid waste management and air pollution control.

Dr. Loai Deeb, the president of the Global Network for Rights and Development (GNRD), Genève- Switzerland, one of main Sponsor of the conference elaborated on the focuses of its program in different parts of the world in support of technology transfer patents registration. He discussed the issues of research and development regarding the technological advance in the fields of water and environment.

A welcome speech was made by Dr. Nidal SALIM, Director and founder of GIWEH- Global Institute for Water Environment and Health. He thanked the Minister of Energy, Mine, Water and Environmental for his Ministry sponsoring the conference and the provision of logistic support and also thanked the Governor of Marrakesh for sponsoring and hosting the conference in the historical city of Marrakesh. He welcomed the participants who came from different parts of the world and appreciated the effort made by a larger number of participants from the Arabic Region in attending and contributing importantly in addressing water and environmental priority issues.

He elaborated on the objective of the conference which is organized at a critical junction in time where the water sources and the environment is experiencing major stresses from accelerated socio-economic developmental activities, the high pollution growth and the associated needs for adequate water supply and sanitation services, the increased pollution levels and its associated health impact, the unsustainable water consumption pattern and its high depletion rates, the increased water and food securities risks and its climate change impact.

Dr. Nidal Salim reflected on the major water and environmental challenges faced by the decision makers that require placing these issues high on the development agenda and commit to the needed planning and institutional arrangement reforms, financial and human resources. He indicated that these challenges are more pronounced in the arid and extreme arid regions of many countries of the Arab world characterized by fragile environment and random variability of its ecosystem components and requiring careful sustainable socio-economic developmental activities.

He reflected on the need for resilient long term plans and strategies to accommodate future freshwater and environmental vulnerability to natural and manmade induced pressure. Dr. Nidal Salim wished the participants a successful deliberation and stressed on the need to draft practical and feasible recommendations and looked forward for more active participations in the next conference.

Following the conference opening speeches by imminent personalities, three key note presentations were made by; His Excellency Mr. Myung Pil Shim, Minister, Office of National River Restoration, on Korea Green Growth Initiative on The Four Rivers Restoration Project as a Model of Green Growth in Korea. Mr. Shim described the project components which covers one of the largest drainage basins in Korea and the prior states of the degraded environment including the pollution levels from the developmental activities. He elaborated on the different state of planning the rehabilitation of the ecosystem, commitment made by the government and different stallholders. He elaborated in detail on the different programs that were implemented to restore the environment to a level that can serve the communities and conserve the ecosystem.

Another key note presentation was made by Mr. Ali Jazairy, Head of Innovation and Technology Transfer Section in the World Intellectual Property (WIPO) on "Innovation and its Potential for Regional Intellectual Property-Based Collaboration in the Development and Transfer of Water Technologies". He discussed research and development opportunities in the field of wastewater treatment and desalination technologies as well as the current effort to promote green technologies. Mr. Jazairy elaborated in detail on WIPO programs in the Arab World and on the opportunities that exist for research centers to take advantage in promoting and transfer environmental friendly technologies

The final presentation was made by Lahcen Benaabidate, member of the ICWRE Scientific Committee. Dr Benaabidate briefed the participants on the scientific, poster and field trip programs that covered the four-day period. He also elaborated on the major objectives of the conferences to strengthen cooperation and networking among water and environmental professionals in the Arab world and rest of the world

IV-PRESENTATION AND DISCUSSION

A-Water and Environment Technology Session

There were ten presentations addressing the issues; water resources assessment, groundwater recharge and of water pollution in the Arab region. The water resources assessment issues were presented by

i- Contexte hydrogéologique des sources du complexe Ribaa-Bittit de l'Oued Mikkes (Maroc)

ii- Impact de l'exploitation des carrières de la zone de Casablanca – Mohammedia sur l'environnement et leurs réhabilitation

iii- Role of Satellite Remote Sensing and GIS in Hydrologic Models: Case Studies From Arid Environments An Integrated Approach for the Assessment of Groundwater Potential in Arid Terrains: Case Studies from Egypt, Saudi Arabia, and Africa.

The recharge issues were addressed by presentations on the:

i- Positive aspects of Groundwater Artificial Recharge in Arid Region

ii- Ebauche de simulation de la recharge par les eaux de surface de la nappe phréatique plio-quaternaire du N'Fis (Haouz- Maroc),

iii- Building Opportunity Out of Science and Technology (BOOST): Enhancing Capacity for Water-Resource Studies in Egypt, Morocco, and the MENA region,

The water pollution was discussed in:

i- Using ERT to delineate contamination plume in the uncontrolled landfill of BeniBouayach (Al Hoceima Province, Morocco),

ii- Electron beam treatment of antibiotic agents and antibiotic resistant bacteria in aquaculture effluent, sources of the Tigris river water deterioration and suggestions

B- Water and Environment Security and Diplomacy

Four keynote papers supported by a panel discussion focused on

i- The Legal Framework of the Euphrates and Tigris Rivers,

ii- Hydro- diplomacy for the Management of Shared Groundwater Resources of the Gulf Cooperation Council Countries

iii- Overview of Water Cooperation at Tigris, Euphrates Region

iv- Overview and Future Prospective at the Nile Basin.

The presentation on hydro-diplomacy of shared groundwater sources briefly discussed Saq/Disi-sandstone between Saudi Arabia and Jordan, Dammam and Um Err Radomma and Rus- carbonate with Jordan and Iraq and Wajjid/Tawilah between Saudi Arabia and Yemen. Development of these layered and sometime interconnected aquifers has the political, technical, social and economic implications

on the water quantity and quality as well as present a future disputes among countries of the region

The presentation suggested many appropriate hydro-diplomacy dispute management tools that focus on sharing of information, joint development and management, funded projects, training programs and exchange of experience. The suggested dispute management measures relay on existing entities such as the Gulf Cooperation Council (GCC) Secretariat, the Leagues of Arab States (LAS), bi-lateral cooperation or use of regional United Nations and regional organizations in order to facilitate and enhance coordination mechanisms

C-Integrated Water Resources Management Approach

i- Possible Utilization of Wastewater effluent from Jeddah Waste Water

Treatment Plant for Agricultural Reuse in Saudi Arabia

ii- Impact of Desalination of Seawater on the Environment in the Station MAINIS. CHLEF. Algeria

iii- Modélisation de l'écoulement turbulent aéré à l'aval du point d'incéption par la méthode des volumes finis

iv- Minimizing Floods Risk in Ephemeral IWadis: A Case Study of Eastern Jeddah's Watershed – Western Saudi Arabia

v- Hydrogeology of Wadi Turbah, Saudi Arabia

vi- A national GIS system for estimating Evapotranspiration, irrigation water requirements in Saudi Arabia

vii Hydrologie du bassin versant de Tensift Approche spatiales et approche par simulation (Tensift- Marco)

Water quality pollution impacts were addressed by;

i- Partitioning of Fe and heavy metals in sediments from the Odiel and Tinto Estuary (SW Spain)

ii- Migration of pollutants in A.M.D. Rivers. Characterization of the Tinto River in the generating source & receiving environment

iii-. Properties of the ochre-precipitates formed during passive treatment of acid mine drainage – potential for reuse

vi- Rapid method of field for preliminary characterization of contaminant capacity for waters in A.M.D. sources. Valorization of incineration residues in industrial wastewater treatment.

Optimization of a Sustainable Energy and Water Production System Integrating Renewable Energy

Special session 1: Climate Change

i- Salinisation des nappes phréatiques côtières : cas de la nappe de la Côte Orientale au Nord Est de la Tunisie

ii- Bilan d'eau du barrage de Hammam Grouz et mise en évidence de fuites d'eau dans un contexte karstique (Oued Rhumel, Algeria)

iii- Diagnostic de la qualité des eaux de surface et souterraine du bassin versant de l'oued Soummam, Algérie

iv- Quantification of the degree of inorganic and organic pollution of Bejaia harbor

v- Enregistrement et effets du climat sur les stocks d'eau de l'échelle globale à celle de la zone méditerranéenne et de quelques bassins versants situés au Maghreb

vi- Nouvelle stratégie de gestion des ressources en eau souterraines au Maroc

v- Outil Méthodologique Pour la Détection d'Eventuels Changements Climatiques dans la Serie Hydrologique et Climatique au Niveau du Bassin de Tensift (Maroc)

vi- Apport du SIG à l'affinement des études hydrologiques: Cas du bassin versant de Rheraya (Maroc)

Special session 2: World Intellectual Property (WIPO) Patent Information

Two presentations were made on:

i- WIPO's Patent Landscape Report Project on Desalination technologies and the use of alternative energies for desalination, in cooperation with IRENA and GIWEH

ii-"Open Innovation Exercise"

Special session 3: Water and Green Growth

i- Establishment of concept for water and green growth / Paradigm shift for green growth / Case Study on Water and Green Growth / Future Strategies for Water & Green Growth/ Crisis of Water Resources and Green Growth

Specially session 4 on Water and Environment in Iraq

Sand and dust storms in Iraq
Optimal use of the Great Zab River's water in Kurdistan/Iraq
Assess the hydrological conditions and build a mathematical groundwater model for al Hadar dam in Iraq
River pollution problem in al Najaf / Iraq
The importance of rivers, it's sources, and the treatment methods

V-RECOMMENDATIONS

1. Recommend the establishment of a database for the Arab water experts with the initiative to be implemented by GIWEH supported by the provision of back ground information by national team networks and individual water experts.
2. Emphasis on the need for free and easy flow of information and best practices through appropriate means including web pages at the national level and among countries of the region in order to enhance governance aspects .
3. Call for the exchange of experiences and best practices and the documentation of success stories including field visits in the Arab region and globally to promote the application of the different techniques and methodologies in the planning, formulation and implementation of appropriate water resources environmental management approaches that can take in consideration the environmental, social, economic, and cultural aspects of the Arab world
4. Reaffirm that priority should be given to manage the water sector through the application of the integrated water resources management approach in order to enhance the sustainability of water under semi, arid and extreme arid environment.
5. Call for effective use of water resources through supply and demand management measures including water harvesting programs.
6. Call on experts to actively participate in the debate and drafting of definition of appropriate water needs criteria and water demand principles to be initiated by GIWEH and submit a draft document paper for discussion at GIWEH-ICWRE 2013.
7. Recommend the strengthening of water and environmental governance aspects (coordination and cooperation, transparency, accountability, legislation, easy and

free dissemination of information and stakeholder participation) at the national and regional levels represent priority issues to manage the water sector and environment in a sustained manner and achieving ecological system integrity.

8. Call on water and environment experts to contribute towards increasing awareness on the need to manage shared water sources through water conventions or agreements including benefiting from water convention at the UNECE under the condition of equitable water use taking into account the needs of the downstream countries.

9. Request from the governments especially the Arab and Islamic worlds to initiate dialogue and sign the trans-boundary non-navigation water agreements.

10. Recommend the establishment of a water diplomacy academy, where it can play a role of mediation at the high sensitivity areas like the Nile Basin, Tigris and Euphrates, the Palestinian – Israeli water dispute and in Asia, (China-India- Pakistan).

11. Call for increased investment in research and development and promote intellectual property right activities to address priority issues that account for the prevailing natural environment, economic, social and cultural conditions

12. Support the private sector participation and request the governments to formulate Public Private Partnership (PPP) and the involvement of civil society in the development and management as well as investment in research and development, implementation of projects and training activities in the water resources and environment fields

13. Stress on the need to give priority on the development and implementation capacity-building programs for the Arab region to enhance technical and managerial capacities and development of future water and environmental managers and taking into account existing training expertise at national and regional levels.

14. Support the youth leadership programs, strengthen the role of national NGOs and encourage partnership with academic sector to promote conservation of the environment as well as linkage with regional and International NGOs and the role of NGOs in the development process

15. Emphasis on the needs to exert pressure on the Arab governments, especially the Ministry of Education and also High Education to revise or update their programs at all levels to accommodate for all aspects water resources and environment management and promote sustainable water resources and environment cultures.

VI- Conference Agenda

Sunday, November 20

15h00-17h00 Registration Atlas Asni Hotel (Jardin room – for more information contact the reception desk)

18h00 - 20h00: Reception and Welcome Speech –Atlas Asni Hotel (for more information, contact the reception desk)

20h00: Dinner

Monday, November 21

8h30-9h30: Registration (for more information, contact the reception desk)

9h30- 10h30: Opening Ceremony: Palais de Congress- Centre of Conferences- Marrakech- Morocco.

Opening Speech: Mr Mohamed BELKHIRI: Secretariat d'état charge de l'Eau et de l'Environnement, *Minister of Energy, Mines, Water, and Environment - Morocco.*

Opening Remarks: Mr Mohamed BOUMHIDIA, Governor of La Wilaya: Tansift El Haouz, - *Morocco.*

Welcome and background:

Dr. Nidal SALIM, Director and founder of GIWEH- Global Institute for Water Environment and Health, Genève-Switzerland.

Dr. Loai Deeb, President of the Global Network for Rights and Development, Genève-Switzerland, Main Sponsor of the conference.

10h30-11h00: Refreshments, Coffee Break

11:00-12:30: Keynote Speech.

- ***Korea Green Growth Initiative, H.E. MyungPil SHIM, Minister, Office of National River Restoration, The Four Rivers Restoration Project as a Model of Green Growth in Korea.***

- ***WIPO, World Intellectual Property- Mr. Ali Jazairy, Head, Innovation and Technology Transfer Section, Title "Open Innovation and its Potential for Regional Intellectual Property-Based Collaboration in the Development and Transfer of Water Technologies".***

- ***Dr.Lahcen BENAABIDATE: ICWRE Scientific Committee***

12:30-14:00 Luncheon – Atlas Medina Hotel

14:00-16:00: Session- 1: Water and Environment Technology**Room “Salle Tichka”: Emerging water technologies**

Moderator: Dr.Saleh Boujabaa, King Abdulaziz University, Jeddah-Saudi Arabia

Dr. Alan Fryar, Kentucky University at Lexington USA

14h00-14h15	Wasim Ali ¹ , Ali Sawarieh ¹ , Marwan Ghanem ² , Julian Xanke ¹ , Adil SALHI	Using ERT to delineate contamination plume in the uncontrolled landfill of Beni Bouayach (Al Hoceima Province, Morocco) Positive aspects of Groundwater Artificial Recharge in Arid Regions
14h15-14h30	A. SAAD, N. LAFTOUHI et K. TAJ-EDDINE	Ebauche de simulation de la recharge par les eaux de surface de la nappe phréatique plio-quaternaire du N’Fis (Haouz- Maroc)
14h30-14h45	Tak-Hyun Kim	Electron beam treatment of antibiotic agents and antibiotic resistant bacteria in aquaculture effluent
14h45-15h00	Muath H. Mustafa Al-Sultan	Sources of the Tigris river water deterioration and the suggestion treatment
15h15-15h30	K. BELHASSAN	Contexte hydrogéologique des sources du complexe Ribaa-Bittit de l’Oued Mikkes (Maroc)
15h30-15h45	Nawal EZZIRARI, Lahcen BAH, Nadia BARHOUN	Impact de l’exploitation des carrières de la zone de Casablanca – Mohammedia sur l’environnement et leurs réhabilitations

15h45-16h00: Refreshments, coffee break

Moderator: Dr.Nour-Eddine LAFTOUHI, Morocco

16h00-16h30	Alan Fryar	Building Opportunity Out of Science and Technology (BOOST): Enhancing Capacity for Water-Resource Studies in Egypt, Morocco, and the MENA Region
16h30-17h00	Adam Milewski	The Role of Satellite Remote Sensing and GIS in Hydrologic Models: Case Studies From Arid Environments
17h30-18h00	Dr. Mohamed Sultan	An Integrated Approach for the Assessment of Groundwater Potential in Arid Terrains: Case Studies from Egypt, Saudi Arabia, and Africa

18h00-18h45: Special BOOST Team discussions**19h00: Dinner****Tuesday, 22 November****9h00- 10h30: Session 2: Water and Environment Security and Diplomacy**

Room “Salle Tichka”– Round-table discussion: Global, regional and local challenges (Trans-boundary issues)

Moderator: Dr. Muhamed Jameel Abdulrazzak – Former Director of UNESCO Cairo, Taibah University, Saudi Arabia

9h00-9h15	Mr. NajiHaraj	The Legal Framework of the Euphrates and Tigris Rivers
9h15-9h30	Dr. Mohamed J.Abdulrazzak, Nassir S. Alamri	Hydro- diplomacy for the Management of Shared Groundwater Resources Of the Gulf Cooperation Council Countries
9h30-9h45	Dr. H.E. Latif Rashid	Overview of Water Cooperation at Tigris, Euphrates Region
9h45-10h00	Dr. NidalSalim	Overview and Future Prospective at the Nile Basin
10h00-10h30	Open discussion	

Room “Ourika” (Hotel Atlas Medina) – Special Session: Global change and climate change

Moderator: Dr. Ahmed Fekri, University Hasan II. FSBM Casablanca, Morocco

8h30-8h45	NoureddineGaaloul, MoncefRekay, Benoit Laignel	Salinisation des nappes phréatiques côtières : cas de la nappe de la Côte Orientale au Nord Est de la Tunisie
8h45-9h00	Naouel MIHOUBI, Azzedine MEBARKI & Benoit LAIGNEL	Bilan d'eau du barrage de Hammam Grouz et mise en évidence de fuites d'eau dans un context karstique (Oued Rhumel, Algeria)
9h00-9h15	Nadir Benhamiche1, Samira Messai-Maane1, Khodir Madani1, Benoit Laignel2	Diagnostic de la qualité des eaux de surface et souterraine du bassin versant de l'oued Soummam, Algérie
9h15-9h30	K. MADANI*, F. BENMEZIANE, F. ALOUI	Quantification of the degree of inorganic and organic pollution of Bejaiah harbour
9h30-10h00	Benoit Laignel1, Nour-Eddine Laftouhi2, Khodir Madani3, Noureddine Gaaloul4, Azzedine Mebarki5, Zeineddine Nouaceur6, Nicolas Massei1	Enregistrement et effets du climat sur les stocks d'eau de l'échelle globale à celle de la zone méditerranéenne et de quelques bassins versants situés au Maghreb
10h00-10h15	Foud Amraoui, Jalal Moustadraf	Nouvelle stratégie de gestion des ressources en eau souterraines au Maroc
10h00-10h15	Z. ZAMRANE1, N. LAFTOUHI1, B. LAIGNEL2 et N. MASSEI2	OutilMethodologique Pour laDeretecion d'Eventuels Changements Climatiquesdans laSerie Hydrologiqueet Climatiqueau Niveaudu Bassinde Tensift (Maroc)

10h15-10h30	AIT EL MEKKI Ouassil, LE PAGE Michel et LAFTOUHI Nour-Eddine, and L.Hanich	Apport du SIG à l'affinement des études hydrologiques : Cas du bassin versant de Rheraya (Maroc)
-------------	--	--

10h30-10h45: Refreshments, coffee break

11h00 – 13h00: Session 3 – Side Event: WIPO Patent Information Section

Room “Salle Tichka”

-Ms. Irene Kitsara, Project Coordinator. Title "WIPO's Patent Landscape Report Project"

-Presentation of WIPO's Report on Desalination technologies and the use of alternative energies for desalination, in cooperation with IRENA and GIWEH

-Followed by the presentation of Mr.Jazairy: "Open Innovation Exercise"

13h00-14h00: Luncheon

14h00 – 15h45: Session 4 – Side Event: Water and Green Growth

Room “Salle Tichka”

Moderator: Dr. Nidal Salim, GIWEH, Switzerland

- Establishment of concept for water and green growth/ Paradigm shift for green growth/ Case Study on Water and Green Growth/ Future Strategies for Water & Green Growth/ Crisis of Water Resources and Green Growth

- Discussions

15h45-16h00: Refreshments, coffee break

16h00 – 18h00 – Session 5

Room “Salle Tichka” – Poster Session AND Integrated Water Resources Management

Moderator: Ms. Amira Laribi, GIWEH

16h00-16h15	Dr. S.Salimani and Dr. M.Balkhyour	Possible Utilization of Wastewater effluent from Jeddah Waste Water Treatment Plant for Agricultural Reuse in Saudi Arabia
16h15-16h30	Ms. Chenaoui Bakhta	Impact of Desalination of Seawater on the Environment in the Station MAINIS. CHLEF. Algeria
16h30-16h45	Saâdia Benmamar	Modelisation de l'écoulement turbulent aéré à l'aval du point d'inception par la methode des volumes finis
16h45-17h00	Dr. Mahmoud I. Al-Doaan	Minimizing Floods Risk in Empemeral Wadis: A Case Study of Eastern Jeddah's Watershed – Western Saudi Arabia

17h00-17h20	Open discussion
17h20-18h00	Poster Session:
Yousef. A. Al-Rumikhani	A national GIS system for estimating Evapotranspiration, irrigation water requirements in Saudi Arabia
Dr. Saleh Amer Bajabaa	Hydrogeology of Wadi Turbah, Saudi Arabia
B. Carro et al	1. Partitioning of Fe and heavy metals in sediments from the Odiel and Tinto Estuary (SW Spain) 2. Migration of pollutants in A.M.D. Rivers. Characterization of the Tinto River in the generating source & receiving environment 3. Properties of the ochre-precipitates formed during passive treatment of acid mine drainage – potential for reuse 4. Rapid method of field for preliminary characterization of contaminant capacity for waters in A.M.D. sources
Zineb Salem	Valorization of incineration residues in industrial wastewater treatment
F. Fniguire et N. Laftouhi	Hydrologie du bassin versant de Tensift Approche spatiales et approche pas simulation (Tensift- Maroc)
Boudier Djamel, Mohamedi Kamal, Sadi Abdelkrim, Bouziane Abdelkader	Optimization of a Sustainable Energy and Water Production System Integrating Renewable Energy
Y.S. Mok, K.T.Hyun, D.L.Jang	Four Posters

Room “Ourika” (Hotel Atlas Medina) Integrated Water Resources Management

16h00-16h15	Mr. Karim Hawa	Sand and dust storms in Iraq
16h15-16h30		Optimal use of the Great Zab River's water in Kurdistan/Iraq
16h30-16h45	Mr. Sabar abduh Saleh, Geology department /Tikrit University	Assess the hydrological conditions and build a mathematical groundwater model for al Hadar dam in Iraq
16h45-17h00	Mr. Kifah Saleh Al Asadi. Al Koufa University/ Literature faculty. Geography department	River pollution problem in al Najaf / Iraq
17h00-17h15	Mr. Mohammed Jawad Abbas Shabea. Al Koufa University/ Literature faculty. Geography department	The importance of rivers, it's sources, and the treatment methods
17h15-18h00	Open discussion	

Moderator: Dr. Muath Sultan

Wednesday, 23 November 2011

Room "Salle Tichka"

9h30-11h00: Poster Session (continuation)

9h30-10h00: Certificates

10h00-11h00: Conclusions and Recommendations

Thursday, 24 November

Field trip to the Yacoub El Manspour Dam

Inquiry

For further information and inquiry, please contact

Ms. Cristina ZOGG

Speaker Coordinator

Program Officer of GIWEH-ICWRE

CP 116, Rue de Varembe, 3

1211 Genève 20, Switzerland

Tell: +41 22 733 75 11, Fax: +41 22 740 00 11

Email: info@giweh.ch

Annex I List of Participants'