

WETSKILLS EGYPT 2012

27-30 NOVEMBER, CAIRO



1 INDEX

- 1 INDEX..... 2
- 2 Introduction..... 3
 - 2.1 Objectives 3
 - 2.2 Learning Outcomes: 3
 - 2.3 Context..... 4
- 3 Assignments 4
 - 3.1 Pitch Poster 5
 - 3.2 Paper 5
 - 3.3 Blog 5
- 4 Cases..... 6
 - 4.1 Case 1 Promote the Application of Innovated Sanitation Facilities for Rural Areas in Egypt ... 6
 - 4.2 Case 2 Delta Coast Road 7
 - 4.3 Case 3 Use of Brackish Ground Water in Agriculture and Aquaculture in Egypt 8
 - 4.4 Case 4 Coastal protection and beach development in Alexandria..... 9
 - 4.5 Case 5 Reuse of wastewater for agriculture 10
- 5 Coordination..... 11
 - 5.1 Annex 1 Planning 12
 - 5.2 Annex 2 List of participants..... 13



2 INTRODUCTION

The Wetskills Water Challenge is a two-week event for students and young professionals from the Netherlands and Egypt. The participants develop their own innovative and creative concepts for water issues in a changing world. In multidisciplinary and intercultural groups, the participants gain more in-depth knowledge on different water problems. The program includes fieldtrips and workshops that are given by renowned water experts.. Participants practice their presentation skills and collaboration in intercultural and multidisciplinary groups. For both Dutch and Egyptian participants, the Wetskills Water Challenge provides an ideal opportunity to gain experience with international work and building (international) relationships.

Wetskills has already organized six challenges all over the world. Wetskills Water Challenges were held during the World Expo 2010 in Shanghai, in 400-year economic relations in Casablanca (2010), the International Water Week Amsterdam (2011), Delta Summit in Jakarta (2011) and was a programme during the Royal visit of the Dutch Queen in Sohar, Oman (2012). The last Wetskills Water Challenge was organized during the WISA2012 conference in Cape Town, South Africa. Wetskills is part of the project Human Capital Water & Delta, and is coordinated by the Netherlands Water Partnership (NWP).

2.1 Objectives

The objective of the Wetskills Water Challenge is to develop a broader understanding of water management issues. We will explore the water related problems in Egypt to get a broader understanding of water management problems. The program provides cases in which Dutch and Egyptian students work in mixed groups and formulate new, innovative ideas for existing challenges in the Nile delta.

In short, the Wetskills Egypt programme has the following aims:

- Give Dutch and Egyptian students the opportunity to gain more international experience and to build an international network
- Improve the ties between Dutch and Egyptian knowledge institutes
- Promotion of Dutch Water Education in Egypt and vice versa
- Bring energy and creativity to the EG/NL expert groups and inspire the advisory work of the Egyptian–Dutch High Level Water Panel

2.2 Learning Outcomes:

At the end of the programme, the participants have gained more knowledge on:

- The cooperation in the field of water between Egypt and the Netherlands,
- The importance of water management for the (economic) development of Egypt
- The importance attached by the international community to address the water management issues,
- The major stakeholders in the Netherlands and Egypt involved in water management at the national level.
- Awareness about pressing water management issues in the Nile delta in Egypt

2.3 Context

For more than 36 years, the Advisory Panel on Water Management (APP) contributed to Egyptian-Dutch development cooperation in the water sector. The Panel has always functioned as a think-tank and as a communication body between departments and on-going water and sanitation projects. The Egyptian side of the panel is represented by various Egyptian ministries and the Holding Company for Drinking Water and Sanitation. The Netherlands is represented by the ministry of Economic Affairs, Agriculture and Innovation, Ministry of Infrastructure and the Environment and the Netherlands Water Partnership.

In January 2011 the government of the Netherlands announced a new approach in Development cooperation, which will focus on a Global Water Program, implemented through Water Mondiaal agency and the Netherlands Water Partnership. The first cooperation began with five delta countries (Egypt, Indonesia, Bangladesh, Vietnam and Mozambique) that face to some extent similar water challenges as the Netherlands. This new mode of cooperation came at a time when Egypt was undergoing the January 2011 revolution, which brought not only civil and political unrest, but also an economic recession and budgetary austerity measures.

The panel will meet in Egypt during the last week of November to discuss the way forward of the Egyptian/Dutch water cooperation. Goal of the meeting is to take a decision on concrete projects for future cooperation. In the previous panel meeting, in June, it was agreed to continue the cooperation in three thematic areas: Future projects will be developed within these thematic areas.

In preparation of the panel meeting three expert groups will further prioritize the thematic areas and prepare concrete proposals for future activities. An important precondition for these proposals is that they are business driven and spark a sustainable cooperation in the future. The expert groups started their work in September and will present their results during the panel meeting in November.

The cases for the Wetskills water challenge are formulated within the thematic areas that were agreed upon in the panel meeting in June: (1) integrated coastal zone management, (2) more crop per drop and (3) wastewater management. The case studies are to a large extent the same cases as the senior experts are working on. By doing so we hope that the junior experts will inspire the senior experts to come up with more innovative ideas and different viewpoints. At the same time the senior experts can help the students to improve their cases and will be available to answer questions. We hope that the ideas developed during the Wetskills Challenge will inspire the continuation of the Egyptian-Dutch water cooperation.

3 ASSIGNMENTS

The Wetskills participants work on five real-life cases within three thematic areas. In groups of four the participants will do research on the background of the cases and create innovative concepts to solve the challenge. Finally the solutions will be presented on a poster and a pitch.

The case studies must be solved following an integrated approach. Besides technical solutions, social issues laws and regulations, plans for implementation, stakeholder analysis, capacity building and financing must also be included. We are looking for multidisciplinary and fully integrated solutions.

The innovative solutions of the case studies will be presented to the Dutch and Egyptian representatives of the Egyptian/Dutch Water panel during a special event hosted by the Netherlands Embassy. The presentation will be done in a short 5-minute pitch and a poster presentation. The best pitch will be awarded by a special jury, that is composed of Dutch and Egyptian water experts. The

cases will be judged based on creativity, feasibility, adaptation in the social and environmental context of Egypt, exportability and the quality of the pitch & poster.

In short, we expect all the groups to deliver the following products:

1. A short 5 minute pitch for the EG/NL water panel
2. A poster with graphical overview of your solution
3. A short paper (around 6 pages)
4. Blogs 3.3

3.1 Pitch Poster

Your solution will be visualised into a poster. The poster will be printed on a standing banner. During the final presentations, each group will have two minutes to present the innovative solution before the jury and the Dutch-Egyptian Advisory Panel on Water Management.

The digital poster should be submitted on time to the organizers, so that the banners can be printed in time. We will let you know at least two days before the final pitch, when to submit the digital poster.

3.2 Paper

The Wetskills organisation would like to receive a small paper (around 6 pages) on each assignment. Each group should submit this report before December 17. Send your file to t.h.heikoop@hr.nl. Some students do also need the report to get their credit point from their course. It is advised to start working on the report while you are in Egypt and make arrangements for writing the final report.

The final report should consist no more than 6 pages (excluding frontage, table of contents, annexes). The following criteria shall be used to rate the final report:

- Quality of use of English language
- Number of pages
- Statement of the problem
- Analysis of the problem
- Quality of recommendations
- Use of literature and resources
- Quality of maps and figures
- Quality and input of cooperation with Egyptian counterparts

3.3 Blog

A Wetskills blog will be created. Each participant is requested to post at least once at the blog. The link to the blog is <http://wetskillsegypt2012.blogspot.nl/>. See for more examples of a wetskills blog; www.wetskills.com. For each day of the Wetskills program two participants will be asked to write an article for the blog and to upload pictures. A schedule will be handed out separately.

4 CASES

4.1 Case 1 Promote the Application of Innovated Sanitation Facilities for Rural Areas in Egypt

Problem definition

The drains network in Egypt was initially planned to comprise the irrigation drainage and the treated domestic and industrial wastewater. The major sources of inferior water quality of drains in Egypt are untreated (or partially treated) sewage from cities/villages effluents into drains. Specifically amongst these sources, raw sewage effluents are the most critical, especially in the rural areas of the Nile Delta. The polluted drains that pass through highly dense residential areas and discharge very close to drinking water intakes as well as the direct use of this heavily polluted water for irrigation have caused severe healthy corollaries. This situation leads to health impact on the people that live nearby the polluted drains; farmers reuse this drainage water mixed with untreated wastewater unofficially and the crop consumers.

Objective

The main goal is to improve quality of life through treating the wastewater effluents for the rural areas of Egypt so that the health risk will be reduced and potential for wastewater reuse increased.

Special Points of attention

- Most suitable techniques
- Centralized/decentralized
- Institutional set up for operation and maintenance
- Use of effluents for energy
- Reuse of nutrients
- Social acceptance

Contact person: Bart Pastor – Waterboard AA & Maas (BPastor@aaenmaas.nl)

Team members

- 1
- 1
- 1
- 1



4.2 Case 2 Delta Coast Road

Problem definition

More than 100 km of the Nile Delta needs to be protected from the possible risk of flooding due to sea level rise to protect the local population, the International Coastal Road of Egypt and sensitive resources bordering its inland side.

One opportunity to do so is by re-alignment of the coastal zone. The rationale behind the proposed intervention is simple, to return land to the sea, and allow intertidal habitats to develop landwards of those that are already in existence. This is a useful tool since it allows natural processes to continue, and allows environment to develop in a naturalistic fashion providing flood defence and habitat creation opportunities. Re-alignment is however only possible provided there is no issue with development or usage of the hinterland that would be required for flooding. It is therefore not an appropriate technique where there are constraints upon land usage, such as areas where significant natural habitat value, infrastructure or development is in proximity to a proposed restoration site.

Objective

The main goal is to find solutions to sustainably combine the reinforcement of the Nile delta coast with nature development, agriculture, tourism and economic development.

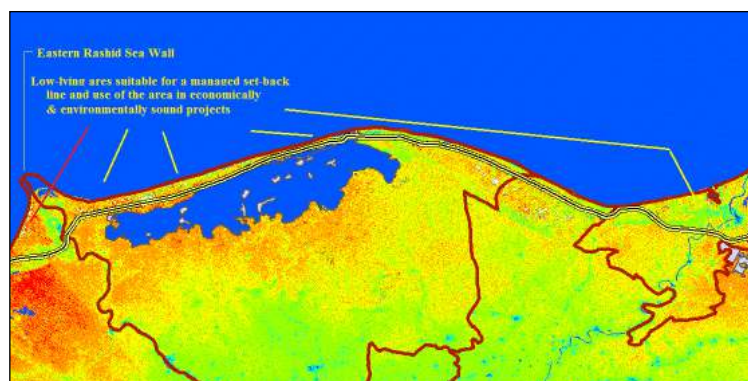
Special points of attention

- Possible methods of coastal protection
- Economic viability
- (possible) functions of the coastal zone
- Possibility for combination of functions
- Stakeholders
- Environmental impact

Contact person: Bert van der Valk – Deltares (Bert.vanderValk@deltares.nl)

Team members

- 1
- 1
- 1
- 1



Part of the project area visualizing the shoreline and the Coastal Road

4.3 Case 3 Use of Brackish Ground Water in Agriculture and Aquaculture in Egypt

Problem Definition

In Egypt the amount of fresh water is limited, the only sources are the river Nile and some rain in the north. The need for water is increasing largely due to the expansion of agricultural areas (Sinai, Toshka, and Western Desert) in order to cope with the needs of the growing population.

There are large brackish aquifers in the west of the Nile Valley, in the Sinai Peninsula, and along the Red Sea. These brackish groundwater resources are not yet being exploited. Quantitative and qualitative data are available; the salinity levels are too high for irrigation of conventional crops, but many of the barren lands of Egypt could be made productive if suitable salt-tolerant crops or special culture techniques could be identified.

Another opportunity for the use of brackish groundwater could be for the production of fish in aquaculture. Fish production is mainly located in the north, along the Coastal Lakes, uses brackish drainage water and was estimated at 1.092.888 tonnes in 2009, of which 705.490 tonnes were produced from fish farms (about 65% of the total fish production), providing a cheap source of protein for the country.

Objective

Find innovative solutions to make use of brackish groundwater in agriculture and aquaculture.

Special points of attention

- (non-conventional) salt tolerant crops that can be grown
- Possibility of smart combinations/cooperation between agriculture with aquaculture
- Optimize economic return
- Food safety
- Possible locations
- Capacity building

Contact Person: Koen Roest – Altera Wageningen University and Research Center (k.roest@wur.nl)

Team members

- 1
- 1
- 1
- 1



4.4 Case 4 Coastal protection and beach development in Alexandria

Problem definition

Alexandria is one of the major cities on the Mediterranean Sea, and plays an essential role in Egyptian economy and cultural life as the country's oldest and largest port. Its population is more than 4.5 million. The population density is about 1,750 per square kilometer, and the Gross National Income per capita is approximately \$1,570 (2005). The city hosts five harbors: three commercial harbors, the western harbor, El-Dekhaila harbor and Abu Quir harbor and two fishing harbors: Eastern harbor and Abu Quir harbor. Most of Egypt's foreign trade passes through its harbors, which has 75 percent of the total capacity of Egypt's Mediterranean harbors. Also, the city hosts about 40% of Egypt industries. The pleasant climate and sandy beaches make Alexandria a favorite tourist spot, more than one million local summer visitors together with about 4.0 million residents enjoy the summer season at Alexandria every year.

Alexandria coast is characterized by a rocky shoreline with complex bathymetry of reefs, rock outcrops, and rocky islets extending more or less parallel to shoreline. The beach of Alexandria consists of pocket and embayment beaches with narrow beaches not exceed 50 m wide. The rapid population growth coupled with ambitious development, industrialization policies and climatic changes have put a heavy pressure on the city's natural resources in the form of air, water, and soil pollution. Sea level rise will lead to infiltration of salt water in this perched water table adversely affecting archaeological sites and underground infrastructure networks. Increasing groundwater salinity damages plaster, stucco and frescoes. On the other hand, no action is taken till now to solve the problem of beach disappearance, which affect the tourism sector in the city, and the stability of the Cornish road.

Objective

Find innovative solutions to combine coastal protection with other (potential) functions of the coastal region (e.g. tourism, transport, business, etc.).

Special points of attention

- Types of coastal protection suitable
- (possible) functions of the coastline
- Building with nature concept applicable?
- Awareness building
- Economic development
- Reuse of old materials
- Environmental impacts

Contact person: Bert van der Valk – Deltares (Bert.vanderValk@deltares.nl)

Team members

- 1
- 1
- 1
- 1



4.5 Case 5 Reuse of wastewater for agriculture

Problem definition

In Egypt the amount of fresh water is limited, the only sources are the river Nile and some rain in the north. The need for water is increasing largely due to the expansion of agricultural areas (Sinai, Toshka, and Western Desert) in order to cope with the needs of the growing population. One solution for the shortage of water could be to reuse wastewater for agricultural purposes.

In the past decades, there has been a notable increase in the use of wastewater for irrigation, especially in arid and seasonally arid areas of both industrialized and developing countries. In Egypt around 11 BCM of wastewater will be available by year 2030 representing 20% of our water share. Potentially, most of the generated treated wastewater could be used, for example in agriculture.

In Egypt, potential and acceptance of treated wastewater reuse is not yet fully exploited:

- the increasing scarcity of alternative waters for irrigation exacerbated by increasing urban demand for potable water supplies and the growing recognition by water resources planners of the importance and value of wastewater reuse;
- the high cost of chemical fertilizers and recognition of the value of nutrients in wastewater. Moreover, the effect of using fertilizers on the groundwater quality;
- the demonstration that health risks and soil damage are minimal if necessary precautions are taken;
- the high cost of wastewater treatment plants; and
- the sociocultural acceptance of the reuse practice

Objective

Come up with innovative methods for the use of wastewater for agricultural purposes.

Special points of attention

- Suitable crops
- Cultural issues
- food safety issues
- food/non food crops?
- Laws and regulations
- Purification techniques
- Capacity building



Contact person: Ivo Walsmit – DLG (I.A.H.Walsmit@dlg.nl)

Team members

- 1
- 1
- 1
- 1



5 COORDINATION

Role project teams (students)

The research teams will operate in this project as international consultancy firms with branches in Netherlands and Egypt. The project team presents itself internal and external as an international consultancy firm with logo and name that will be mentioned in documents and the pitch. The working teams are composed of Dutch and Egyptian students.

Role contact person

Each case study has a Dutch contact person that can – incidentally- answer specific questions regarding the case studies. See case studies for name of the contact person. You should of course also try to find Egyptian experts.

Organizing committee

The following persons can be contacted during the Wetskills event for all questions that might arise.

1. Bas Botermans, Netherlands Water Partnership / Egypt Platform
2. Rick Heikoop, Rotterdam University of Applied Sciences
3. Achmed, Waterboard Aa en Maas

5.1 Annex 1 Planning

Day no.	Tentative Programme Wetskills Egypt
Saturday 17 Nov.	15:00 (NL Time zone) - Departure Flight to Cairo (Dutch participants): Egyptair 758 ± 22:00 - Check in Flamengo Hotel Hotel Zamalek (Egyptian and Dutch participants)
Sunday 18 Nov.	8:00 – Breakfast in hotel 9:00 - Morning: Meet & Greet EG/NL Students, Introduction of the Cases 11:00 - Cultural Excursion to Giza Pyramids (bus departs from hotel at 11:00) 19:00 – Joint Dinner
Monday 19 Nov.	6:30 – breakfast 7:00 – Excursion to water related sites in and around Fayoum, Wastewater Treatment & Irrigation Project (bus departs from hotel at 7:00) 19:00 – Joint Dinner
Tuesday 20 Nov.	8.00 – breakfast 9:30 – Libra Egypt Simulation Game at Ministry of Water Resources (transport to ministry t.b.c.) 19:00 Joint Dinner
Wednesday 21 Nov.	9:30 - Working Day 1 at hotel meeting room Presentation: overview of the Egyptian Water Sector and Egyptian Dutch water cooperation + Q&A Erik Zoetmulder (Independent Consultant) & Tarek Morad (Dutch Embassy)
Thursday 22 Nov.	8:00 – breakfast 9:00 - Working Day 2 at Cairo University (transport to Cairo University t.b.c.) - Poster Training (Rick Heikoop)
Friday 23 Nov.	Free Day
Saturday 24 Nov.	9:30 - Working Day 3 at hotel meeting room 19:00 Joint Diner and Cultural Activity in Cairo
Sunday 25 Nov.	9:30 - Working Day 4 at hotel meeting room - Presentation Skills Training (Bas Boterman)
Monday 26 Nov.	9:30 - Working Day 5 at hotel meeting room - Prepare posters and presentations
Tuesday 27 Nov.	9:30 - Working Day 6 at hotel meeting room - Try out presentations and meeting with senior experts
Wednesday 28 Nov.	9:30 - Adjusting the presentations and print posters 19:00 Official diner and final presentations (Diner is hosted by the Dutch Embassy)
Thursday 29 Nov.	9:30 -13:00 Finalize project papers and evaluation 19:00 - Last Joint Dinner
Friday 30 Nov.	Free Day
Saturday 1 Dec.	6:00 – breakfast 7:00 – departure from hotel to airport 10:00 Departure Flight to Amsterdam (Dutch Participants) Egyptair 757


* When no joint diner is scheduled the participants are free to arrange diner themselves (a fixed amount of compensation is provided through the organization)












PARTICIPANTS Wetskills Egypte

NL

<p>Sabrina Doetjes</p> <p>University of Groningen International Relations and International Organizations</p> <p>sadoetjes@saafconsult.com</p>		<p>Bryan Hogerheide</p> <p>Rotterdam University of applied sciences Spatial planning and urban design</p> <p>bryanis@live.nl 06-5253913</p>	
<p>Tim van de Staaij</p> <p>Rotterdam university of applied science Watermanagement</p> <p>tvdstaaij@gmail.com 06-11649331</p>		<p>Ashwin Karis</p> <p>Rotterdam University of applied sciences Urban and Regional Planning</p> <p>ashwin.karis@gmail.com 06-22595348</p>	
<p>Iris Houthof</p> <p>Wageningen University Environmental Technology</p> <p>i.houthoff@gmail.com 06-42163665</p>		<p>Calga Kirmit</p> <p>Wageningen University Environmental Sciences</p> <p>cagla.kirmit@wur.nl 06-14739194</p>	
<p>Tjalling Vlieg</p> <p>Wageningen University International land and water management</p> <p>tjallingvlieg@gmail.com 06-17523975</p>		<p>Pieter van Hout</p> <p>Wageningen University Climate Studies</p> <p>pietervhout@gmail.com 06 - 21621496</p>	
<p>Marcelle van der Waals</p> <p>University of Utrecht Earth surface and water, track hydrology, Earth Sciences</p> <p>j.m.vanderwaals@planet.nl 06-30316870</p>		<p>Tom den Ouden</p> <p>Rotterdam University of applied sciences Water management</p> <p>tomdenouden@msn.com 06-53554689</p>	

EG

<p>Rasha Ramadan</p> <p>Cairo University Agriculture Sciences, Organic and Bio fertilization (Ph.D)</p> <p>rasha_351@hotmail.com (+2) 0100-5106634</p>		<p>Ahmed El Kut</p> <p>University of Alexandria Mathematics and physical oceanography</p> <p>corielkut@gmail.com (+2) 01221012673</p>	
---	--	--	---

<p>Alia Ahmed Abdel Aziz Amer</p> <p>Cairo University Agriculture Sciences (Ph.D)</p> <p>dr_aliaamer@yahoo.com (+2) 010 034 80 892 (+2) 012 11335521</p>		<p>Ahmed Abdel-Mohsen</p> <p>Ain Shams University Civil Engineer</p> <p>Ahmed.ragab@HCWW.com.eg</p>	
<p>Ahmed Hassan Khalifa</p> <p>Cairo University Agricultural Engineering</p> <p>Ahmedkhalifa31@cu.edu.eg (002)011 946 5785</p>		<p>Amal Mohamed Abd El-Hameid</p> <p>Cairo University Agricltre Engineering</p> <p>amal_mohamed89@yahoo.com +201147336576</p>	
<p>Osama Mubarak Mohammed Moustafa</p> <p>Ain Shams University Agriculture Science</p> <p>osama.mobarak@yahoo.com (002)01019799554</p>		<p>Abd El rahman Ali Ibrahim</p> <p>Mansoura university Agricultural engineering</p> <p>eng_abdoali2010@yahoo.com (+2)01281293155</p>	
<p>Wafaa Mahmoud Abd El- Bary Ismail</p> <p>Ain Shams University Agriculture Science</p> <p>wafaa_mahmoud1990@yahoo.com +201285227526</p>		<p>Shreen Samy Ahmad</p> <p>Cairo University Biochemistry (Ph.D)</p> <p>shreenashraf@gmail.com +2001006242407</p>	
<p>Organisation</p>			
<p>Rick Heikoop Rotterdam University of applied sciences</p> <p>t.h.heikoop@hr.nl 06-49610646</p>		<p>Bas Boterman Netherlands Water Partnership b.boterman@nwp.nl 06-47619814</p>	
<p>Ahmed Mohammed Waterschap AA & Maas</p> <p>amoustafa@aaenmaas.nl 06-23666992</p>		<p>Koen Overkamp Netherlands Water Partnership K.overkamp@nwp.nl 06-30601989</p>	