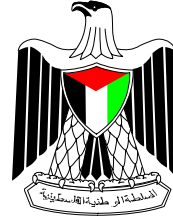




**EUROPEAN-COMMISSION
EURO-MEDITERRANEAN
PARTNERSHIP**



**Palestinian National Authority
Environmental Quality Authority
EQA**

**Development of Tools and Guidelines for the Promotion of the
Sustainable Urban Wastewater Treatment and Reuse in the
Agricultural Production in the Mediterranean Countries
(MEDAWARE)**

**Training for Farmers on the Urban Wastewater Reuses Technologies in
Palestine**

6th May, 2006

Introduction

The training program for farmers on the urban wastewater treatment and reuse technologies has been organized by the Environment Quality Authority (EQA) in cooperation with the Palestinian hydrology group (PHG). The training program was organized based on the signed memorandum of understanding (MOU) between EQA and PHG to cooperate and implement the training of farmers for one day.

The training program included lecture presentation and visit to Gaza treatment plant and field visit to the farm where the treated wastewater reuse techniques are applied. According to signed (MOU), EQA staff is responsible on organizing short workshop in EQA office and preparing the lectures for presentation. While PHG staff is responsible on organizing and gathering farmers from the southern governorates and arranging the visit to Gaza treatment plant and to the farm where the treated wastewater is used for irrigation.

The workshop was held on the 6th of May 2006. The main objective of the workshop was Enlightenment the farmers to the wastewater treatment and reuse techniques. Relevant stakeholders and farmers were invited to attend and participate in the training program. The workshop was divided into two sections:

1. Lecture Presentation

1.1 Activities:

The workshop started at 9:00 am in EQA's office. The attendance was from the selected farmers and different sectors in EQA's Directorates.

First, Eng. Taysir Abu Hujair "Director of Projects" in EQA, welcomed the attendance and thanked the farmers who came from southern governorates (Khanyounis and Rafah cities) for their presence and their concerns. He also thanked the PHG for their cooperation and efforts for the success of this program.

He defined the objective and significant of the workshop and explained how this workshop give the farmers an idea about the importance of utilization of treated wastewater and how it can be applied for agriculture irrigation in the southern governorates.

Dr. Mohamed Eila "Deputy Director General of Projects" welcomed the attendance and talked about the importance of developing the wastewater treatment and reuse techniques and taking the experience of previous similar projects. Thus, the needs of the farmers in this field will be identified in this meeting to exploit it for applying next projects.



1.2 Presentations:

Eng. Salam Al Agha (EQA) presented the current status of water and wastewater in Gaza Strip and the opportunities to reuse the treated wastewater in agriculture irrigation. The presentation included the following main points:

- Water Resources in the earth
- Hydraulic cycle
- Water scarcity
- Wastewater identification
- Wastewater classification and reuse
- impact of wastewater on Environmental
- Wastewater treatment technologies and reuse
- Benefits of Wastewater reuse
- Treated wastewater reuse Islamic Legislation point of view
- Health instruction guidance for wastewater reuse

Dr. Ihab Lubad. Presented in more detail the used technologies for the treatment of wastewater and situation of wastewater treatment in Gaza. The presentation includes the following points:

- Wastewater identification and classification (gray wastewater and black wastewater)
- Wastewater pollutants (physical, chemical, biological)
- Wastewater treatment plants in Gaza Strip
- Wastewater treatment stages
- Wastewater reuse techniques



1.3 Discussion:

The important point that is discussed by the farmers was the lack of the public awareness concerning the reuse of treated wastewater in agriculture. The farmers accepted and appreciate the idea of using treated wastewater in agriculture irrigation.

The farmers talked about the benefits they and the society will gain through utilization of the wastewater for the agricultural purposes taking in consideration water scarcity especially in Gaza Strip. However, the farmers expressed their interest and concerns in treated wastewater reuse for irrigation but the main problem in the southern governorate is the unavailability of treated wastewater because southern governorates have no treatment plants. The farmers urge the concern authorities to work for construction treatment plant as soon as possible. One of the main problem that faces the farmers in reuse at the agriculture is the lack of the public awareness. This causes negative effects on the products marketing that are irrigated by the treated wastewater. The farmers also mentioned that the lack of the public awareness could have negative impact on the products irrigated by treated wastewater in the market.

Eng. Ihab Ashour "Palestinian hydrology Group" explained that, number of awareness program of reuse of treated wastewater in irrigation already conducted for farmers and public and some other program will be conduct in the future. This

will influence the citizen who purchases these products. Although numerous neighboring countries use the treated wastewater for the irrigation, we begin to import numerous products from them without any problem.

He referred to the visit of the treatment plant and the farm which used treated wastewater for the last three years. Eng. Ashour added, the visit will provide the farmers an actual knowledge for the use of treated wastewater in agriculture.



Eng. Taysir added that, there is a huge development and improvement in this field. Moreover, the ongoing projects of treatment plants which are implemented by Gaza and other municipalities played an important role on awareness, and gave citizens good idea about these projects.

2. Treatment plant Field visit for Farmers:

After finishing the short workshop in EQA's office, the trainee farmers have been moved to Gaza wastewater treatment plant; the visit gave them an idea about treatment technologies in more details. The wastewater engineer of Gaza treatment plant gave explanation to all treatment stages and answered the questions of the farmers. Moreover, there were rehabilitation processes for the treatment plants; it was a good opportunity to be at this stage and take more knowledge and experience.



After finishing the visit to the treatment plant, there was another visit to the farm where the treated wastewater is used in irrigation. The reuse technologies in this farm were applied for the last three years and followed by the Palestinian Hydrology Group. Eng. Ihab Ashour (PHG), explained the process of using treated wastewater in irrigation, the collection of treated wastewater, irrigation network, and irrigation systems. In addition, he talked about the production and the quality of olives and citrus which irrigated by treated wastewater. He compared between the crops irrigated by treated wastewater and crops which irrigated by fresh water.



Finally, the trainees expressed their interest to use these technologies taking into account the benefit on both economic and social sides.