

Summary report on the

Regional training workshop on sanitation/ wastewater safety planning

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Amman, Jordan
24–27 July 2017



**World Health
Organization**

Regional Office for the Eastern Mediterranean

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1. Introduction

The WHO Regional Centre for Environmental Health Activities convened a regional training workshop on sanitation/wastewater safety planning (SPP) in Amman, Jordan, from 24 to 27 July 2017.

The objectives of the meeting were:

- to provide an in-depth understanding of SSP key concepts and principles;
- to enhance skills in applying SSP for safe wastewater use tailored to the regional context; and
- to identify potential new trainers among participants who can assist in future national and subnational training sessions on SSP.

Twenty-seven officials attended the meeting, including representatives from ministries of health and ministries responsible for water, sanitation and agriculture, professors from teaching and research institutes and other representatives from organizations engaged in the use of wastewater in agriculture. A field trip to Madaba Wastewater Treatment Plant was also organized for the participants. Countries represented were: Egypt, Islamic Republic of Iran, Jordan, Morocco, Oman, Sudan and Tunisia.

Countries in the Eastern Mediterranean Region are among the most water-stressed countries in the world. Therefore, recovering water, nutrients and energy from liquid and solid wastes (sewage sludge) generated in sanitation systems is a high priority, especially where resources for agricultural production are already limited and competition for clean water, nutrients and energy is increasing. However, inadequate sanitation and unsafe use of wastewater and

excreta poses important public health risks through exposure to a range of microbial and chemical contaminants.

This workshop was held in response to the request of several countries for training on the SSP manual. The training was to introduce SSP as a risk-based management tool for the safe use and disposal of wastewater in agriculture and aquaculture to countries in the Eastern Mediterranean Region. SSP provides a stepwise process for the implementation of the *WHO Guidelines for Safe Use of Wastewater, excreta and Greywater 2006*, and can be used in sanitation planning and operation as it is designed to focus attention on public health protection. In addition, Sustainable Development Goals (SDG) indicators: SDG 6.2 and 6.3 on sanitation require countries to report on the safe management and treatment of wastewater and sludge. Therefore, it was timely to provide training on the use of the SSP manual as its use will help countries to attain the targets of the SDGS.

In his opening address, Dr A Basel Al-Yousfi, Director, WHO Centre for Environmental Health Action, highlighted the purpose of sanitation interventions in protecting public health, and emphasized the importance of intersectoral cooperation when implementing SSP to identify health risks in the sanitation system and agree on improvements and regular monitoring.

Mr Darryl Jackson and Dr Mirko Winkler, authors of the *Sanitation safety planning manual for safe use and disposal of wastewater, greywater and excreta* facilitated the training.

2. Summary of discussions

Participants identified the challenges in the use of treated wastewater for irrigation in the Region as:

- safe management of the use of treated wastewater in the irrigation of food crops;
- application of over-stringent regulation in some countries which require very high levels of treatment prior to irrigation can be resource wasteful;
- effective monitoring of the health effects of the use of recycled wastewater in irrigation of food crops;
- identification of lead organization as nearly all aspects of the sanitation chain downstream of the treatment plant in applying the SSP concept in agricultural applications are outside of the direct control of the wastewater authority;
- the need for more support and guidance in relation to chemical aspects in the use of treated wastewater in irrigation.

Use of waste water in agriculture and importance of applying SSP when irrigating with treated waste water

Irrigation of food crops with wastewater is reported as common in participating countries and is often unregulated. This practice is expected to increase with increasing water scarcity due to climate change. Sources of wastewater for use in agriculture include:

- irrigation water mixed with treated wastewater
- treated wastewater directly from treatment plants
- untreated wastewater disposed into dry *wadis*
- use of untreated or partially treated wastewater drawn from unguarded wastewater treatment plants.

The use of treated wastewater is reported in irrigating mainly fodders, grains and vegetables.

Participants expressed concerns over irrigation with wastewater included food safety issues and the health of agricultural workers and their families. They also expressed concern over economic implications due to refuted exported crops uncompliant with importing countries' standards.

They recognized that application of SSP, as a risk-based approach applying multiple barriers, when applied to safe use of wastewater in irrigation, will reduce the risks to safety of crops, farm workers and food handlers. Adoption of the farm safety planning concept when applying SSP can address the hazardous risks along the sanitation of the food chain. SSP principles can be usefully applied to the use of biosolids.

In growing urban areas where sewers exist to a limited extent only or where this may grow in the future given increasing urban migration, faecal sludge management (non-sewered systems) is likely to become very much part of the new norm of urban sanitation. In this context, SSP offers a very powerful tool to help manage the safety of this along all elements of the sanitation chain.

Training of trainers on SSP followed by spread of knowledge to other concerned stakeholders will facilitate introduction and adoption of the approach within the countries represented in the workshop.

Participants discussed the roadmap to introduce and scale up the risk-based management of the SSP roadmap to support country-level implementation of water safety plans, which provides guidance towards similar implementation and scale up of SSP.

3. Recommendations

To Member States

1. Develop a national vision and a roadmap to introduce and scale up the risk-based management of sanitation safety.
2. Build capacity in application of SSP to safe wastewater use in irrigation by:
 - advocating and sensitizing stakeholders on SSP
 - facilitating further training of concerned stakeholders on SSP based on the received training and using the training package provided by WHO
 - implementing pilot applications of sanitation safety plans at the farm level.

To WHO

3. Provide technical support to ministries of health and other stakeholders in developing a national vision and roadmap on introducing and scaling up application of SSP.
4. Support training for ministry of health staff and other stakeholders on SSP application when using recycled wastewater for irrigation.
5. Develop a farm safety plan template to guide countries in listing and addressing risks along the sanitation/food safety chain.
6. Provide technical support and guidance and resources to ministries of health on their regulatory and surveillance role in sanitation safety when using treated wastewater in agriculture.



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