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## Why This newsletter?



*Drinking water quality monitoring is one major component of WHO program in emergencies*

Environment as a priority determinant of health had been recognized globally since decades. However despite the firm and promising steps from countries to achieve the Millennium Development Goals (MDGs), with two goals directly linked to health and environment, there are huge challenges for many countries in the Eastern Mediterranean Region (EMR) to even be on the right track to achieve these goals. The most recent data from WHO showed that in the EM Region, a quarter of the total Burden of Disease (BoD) is attributed to environmental factors. In addition to the already existing challenges to health posed by environmental conditions in the Region, conflicts and natural disasters com-

plicate the situation even more. A country like Syria was one of the countries in the region with very concrete steps towards achieving the MDGs, is suffering now from internal conflict for more than three years. The environmental health infrastructure is severely damaged in Syria due to conflict, and basic services such as drinking water and sanitation are suffering from destruction, sacristy and even used as weapons of war. Unfortunately, there are many active civil conflicts in the EM Region, in fact the region hosts more than one third of the whole displaced persons globally, this complex reality made the role of providing environmental health services in some of the countries in the region quite challenging. The WHO had contributed a lot towards the delivery of many environmental health services in countries with emergencies during the past year. The aim of this newsletter is to shed some light on the main component of the WHO environmental health program in countries with emergencies as well as the main achievements and challenges in this area.

## The challenge of safe drinking water in Syria

by: *Dr. Mohammad Kayyal*

In 2006, Syria met the Millennium Development Goal for public water supply whereby over 92% of the population were connected to piped networks. Four years into the Syrian conflict, the water and sanitation sector had undergone extensive disruption.

Today, over 50% of the Syrian population do not have access to safe drinking water, while 90% of wastewater goes untreated. This situation is further exacerbated by the fact that water is being used as a political weapon. In July 2014, the principal pumping station of the City of Aleppo was

bombed disrupting water supply for 2 million people for almost one month. This human impact was so immense to the extent that it gained global media spot for quite some time. Responding to the challenging water situation in the country, WHO Syria prepared an extensive emergency re-

sponse programme which entailed the highest budget among all environmental health programs implemented in the region. The financial volume as well as the interventions in this programme is illustrated in Figure 1. Most notable is the implementation of an integrated water supply project to drill and equip five 400-meter deep groundwater wells which supplies 35,000 m<sup>3</sup> of water on daily basis into Damascus public water supply network. WHO established a national water quality surveillance system; the first digitized on-line database and reporting system for water quality in Syria intended to coordinate actions and rapidly respond to water pollution cases. WHO cooperated also with a number of governmental bodies as well as NGOs and UN agencies in order to ensure the quality of drinking water. Support was provided to the Ministry of Water Resources with materials and equipment worth USD 4.2 million. This included complete water and wastewater quality testing laboratories and water treatment units. Mobile water testing kits were also provided to Ministry of Environment and Ministry of Health. The latter even received highly advanced equipment for detecting trace contaminants and pesticides in food items. Assistance was also provided to NGOs including chlorination chemicals, jerry cans and mobile water quality testing kits.

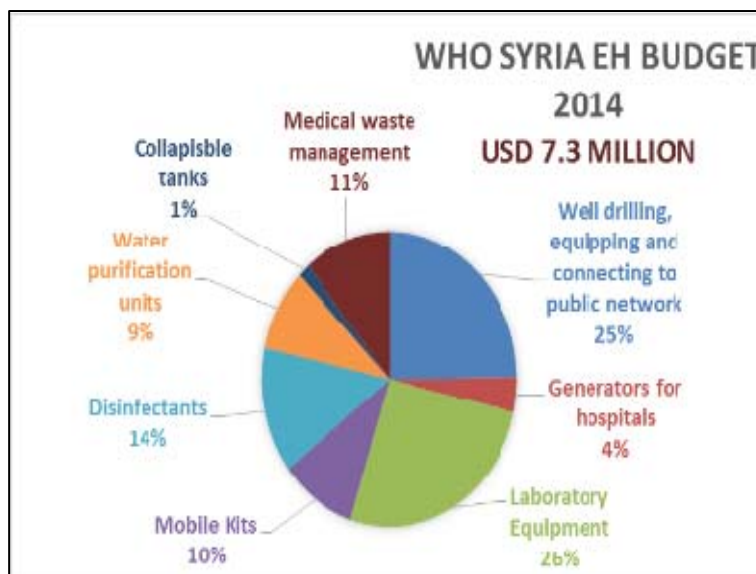


Figure 1 Budget distribution of EH program in Syria

**D**URING THE PAST YEAR SYRIA ENVIRONMENTAL HEALTH PROGRAM HAD THE HIGHEST BUDGET IN THE REGION AND THE PROGRAM WAS ACKNOWLEDGED AS THE AGENCY MANDATED FOR DRINKING WATER QUALITY BY ALL HUMANITARIAN ACTORS

Dr. Mohammad Kayyal EH program manager at WHO Syria

## WHO leads the WASH cluster in Afghanistan

By: Frederic Patigny

Since April 2014 to December 2014 and based on agreement with WASH cluster partners, the WHO was appointed as the WASH cluster lead. During this period, a Strategic Advisory Group (SAG) was formed, together with four Technical Working Groups on the main component of WASH programs. In January 2015 UNICEF, the global WASH cluster lead, retook the Cluster Coordination task whereas WHO was designated as the Deputy Cluster Coordinator. WHO will also chair the Inter Agency Contingency Plan (IACP) for the current year.



*Figure 2 Disaster seasons in Afghanistan*

The leadership of the WASH cluster in Afghanistan had given an opportunity to the WHO to take the lead in many of the processes of emergency management of environmental health services, for instance needs assessment and contingency and recovery planning. Capacity building was one of the major components of the WHO interventions to support the members of the WASH cluster as well as government partners. WHO conducted a workshop for members of the WASH cluster to illustrate the functions of the WASH cluster, deliverables and success indicators. There was also a workshop on Inter Agency Contingency Planning for the WASH cluster partners. The WASH cluster in Afghanistan had succeeded to achieve 98.8% of the total target set for providing emergency water supply system, however the cluster managed to achieve only 58.3% of the total target set for emergency sanitation. It was very natural that the WHO would dedicate its effort for cross cutting issues in particular these concerning the linkage between Health and WASH cluster. During the past year, WHO contributed to cross cluster

lifesaving interventions for 210,000 conflict affected Internally Displaced Population (IDPs) and returnees through appropriate and timely emergency WASH intervention. While leading the WASH cluster efforts in Afghanistan, WHO provided support to national authorities on priority basis, and through the Environmental Health Directorate (EHD) reviewed and monitored the implementation of the National Environmental Health Strategy. WHO is looking forward to even more contribution to the efforts of the WASH cluster and will be of a strong assistance to UNICEF as the new cluster lead.

## Linking epidemiology and environment in Pakistan

*By: Nosheen Usman*

Within the complex context of Pakistan environmental health services, an estimated 44% of the population is without access to safe drinking water, especially in rural areas, where up to 90% of the population lacks such access and sanitation facilities are available to only 30% of rural and 65% of urban areas of the total population. Adding to that an estimated 60% to 90% of the water supplies for drinking water are contaminated (Source: PCRWR 2008). As a result, about 250,000 children die every year in Pakistan due to diarrheal diseases alone (USAID, 2009). The Disease Early Warning System (DEWS) is a strong and established system for outbreak prediction and response.



Figure 3 Hand Washing Day in Pakistan

There is a response mechanism to outbreak in place based on data analysis from the DEWS that includes an essential component of environmental health. From January to December 2014, alerts for potential outbreaks were investigated and responded to and majority of these were being controlled prior to becoming an outbreak. This approach demonstrates the power of environmental health interventions such as water disinfection and hygiene promotion to reduce morbidity and mortality during emergencies and disasters. The WHO had concentrated its efforts on environmental health interventions for infection control in health care facilities and provided supplies to health care facilities that comprised, equipment for safe segregation, collection and disposal of solid medical wastes for critical units of 7 DHO hospitals (autoclaves, waste collection bags, needle cutters with safety boxes, disinfectants, waste collection and segregation equipment). Developing the national environmental health strategy is on the top of the agenda for WHO-Pakistan work during the current year after finalizing the four provincial ones. The country office will ensure that the strategy will promote the linkage between the environment and health as it is the main theme for its work in Pakistan.

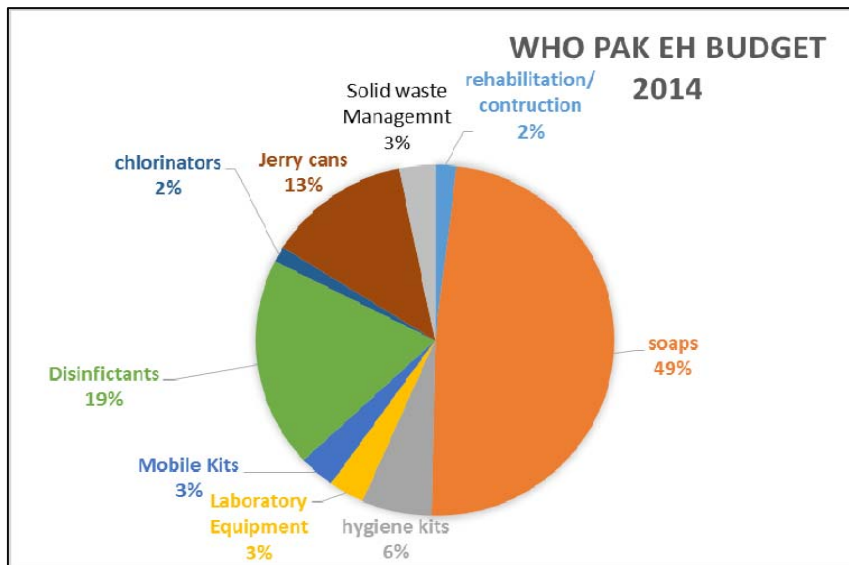


Figure 4 the total budget for Pakistan EH program of 1.5 million US Dollars

## Camp management in Iraq

*By: Mohammad Hamasha*

With the current complex security situation in Iraq both internally and as a result of the conflict in Syria, many camps had been established inside Iraq to accommodate displaced people. In particular for the IDPs inside Iraq, many "transitional" camps have been established. Transit camps are used to accommodate people for short periods until they are relocated to more safe areas in the country. These transitional camps require a different type of service delivery, since the population utilizing these camps are only there for short time, few days at most, and relief workers must be extra cautious so the camps will not be fertile ground for disease spread, due to overcrowdings of such camps. The WHO was entrusted by partners to use its strong capabilities to regularly monitor supply of clean drinking water in these camps. The WHO collaborated with local authorities in Northern Iraq by providing the Directorate Of Environment with a Mobile Water Quality Monitoring Laboratory which is fully equipped for conducting all chemical and physical tests. The WHO also gave support to the inter-agency Cholera Prevention and Response Plan. In addition to that the WHO provided District of Health (DoH) Dohuk with Cholera kits.

In camp settings disease vectors can pose a challenge to the health of displaced population. This is why the WHO is working closely with DoHs at Erbil and Dohuk to support vector control activities for IDPs camps including schools, unfinished buildings, and Syrian refugees camps to avoid any vector borne disease. Last year the environmental health program worked very closely with DoHs at Ninawa, Erbil, Suleimaniya and Dohuk through hiring 24 sanitary inspector teams for water quality monitoring and ensuring that water supplied to the IDPs, Syrian refugees and host communities is in compliance with Iraqi Drinking Water Quality Standards and WHO Guidelines for Drinking Water.



*Figure 5 Spraying team from DOH supported by WHO in Syrian refugee's camp*

## Chemical incidents and Ebola Environmental Health Preparedness

By: Osama Ali Maher

There have been tremendous efforts globally to respond to the recent Ebola virus outbreak in West Africa. Last year there was one suspected case reported from Karachi, Pakistan. This is why WHO/EMRO had initiated serious efforts to assist the Member States in preparing for this wild virus. Many preparedness missions took place, established guidelines and Standard Operating Procedures (SoPs) and even simulations. CEHA contributed to the overall process by bringing onto the table the importance of environmental factors to control the spread of the virus as well as an infection control measure. CEHA translated some of the guidelines on Ebola control in Arabic. On national level, Pakistan and Afghanistan environmental health unit had developed models for Ebola Treatment Units (ETU) based on the WHO guidelines. In Pakistan the WHO provided technical support for establishing Ebola treatment units in all 4 provinces of Pakistan. The WHO EH assessed all health care facilities and designed ETU for all hospitals nominated by respective provinces. The Health Facility Comprehensive Assessment Tool (CAT) was used for feasibility of establishing EBOLA isolation units in the designated hospitals. The CAT included water supply, excreta disposal, waste water and site drainage, waste management, disease vector control, infection control, hand washing, staff training & awareness raising on Ebola Virus Disease and basic facility hygiene situation for technical evaluation and assessment.

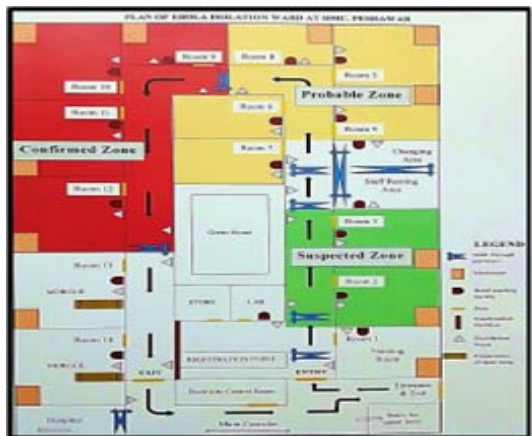


Figure 6 layout of an Ebola Treatment Center produced by WHO Pakistan

On more than one occasion, the threat of usage or allegation of using chemical weapons dominated the news in the region and globally. WHO EMRO called for immediate steps towards the preparation for such possible event. The preparation included the development and translation of materials in local languages of the region. One major achievement during the past year and within the efforts of CEHA was to develop standard training packages for management of chemical incidents for various target groups including the WHO staff. The role of CEHA was to provide participants knowledge on various chemical agents and the initial environmental response to such incidents. WHO's Regional Center for Environmental Health Action (CEHA) went into partnership with England based NGO UK-MED and the UK International Emergency and Trauma Register (UKIETR) to develop a standard curricula which deals with both the environmental aspects of the chemical incidents as well as the trauma management part. It is within this context that the Chemical Exposure and Trauma Care (CeTC) course was developed. Moreover a standardized capacity-building



Figure 7 Course participants during simulation

course had been conducted to train a number of stakeholders throughout the region on the management of chemical incidents, including hospital management of patients. Over the past year and a half, the course had been conducted four times in Jordan, for local and international health personnel from the

Syrian Arab Republic, Jordan, Lebanon, Iraq, Oman, Palestine, Sudan and Egypt. More than 200 health professionals, decision makers as well as environmental health specialists from the ministries of health in the region were trained during the five rounds of the course. The course was entirely hands on and simulation based teaching environment and during one round in Dohuk, Iraq it included a multi-agency drill where ambulance services, police and fire brigade participated in the drill.

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**For further Information**

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## Final Words

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*All above activities were carried out with the enthusiasm of a very dedicated capable and competent group of environmental health specialists in the countries, throughout the levels of the WHO country offices including staff on subnational levels. The regional office showed a firm commitment to the area by providing support to the first ever revolving stock of environmental health items such as water testing kits, disinfectants for drinking water, drinking water filters, and water treatment units. CEHA team and the rest of the focal points in the countries are looking for new challenges during the current year to better serve population in need by using environmental services as a mean to improve the public health during their difficult times. Environmental health experts in the emergency affected countries are doing various activities in the field. However, this newsletter is intended as part of information and experience exchange of emergency affected countries and WHO Environmental Health Experts. Also the newsletter provides insight of other WHO staff on what Environmental Health Staff are doing in emergency affected countries. It is worthwhile noting that WHO/EH emergency staff are lacking in the following countries: Somalia, Yemen, Libyan, and without personnel to contact immediately, hampers some of our collective efforts.*

*I hope you will be with us in understanding for appreciating the difficult environment in which we are operating and delivering services for public health and prevention of diseases.*

### **Dr Mohamed Elmi**

*Coordinator*

*Environmental Health Risk & RA/FCS*



In sudden onset disaster, drinking water might be the first thing people will need after shelter!