



## Enhancing Laboratorians Ability to Identify, Safely Handle, and Control Biological Toxins such as Ricin, Abrin, and Botulinum in Jordan and Morocco

### Project Information

- ◆ Department: Public Health Programs
- ◆ Unit: Disease Control and Prevention

### OBJECTIVES

This project aims aim of strengthening the detection, disruption, and attribution of “low effort” toxins attack plots, specifically potent like Abrin, Ricin, and Botulinum through awareness-raising, educational and technical packages for the laboratory technicians, providing the laboratories with the necessary equipment and supplies

### BENEFICIARIES

The main beneficiaries of this project are laboratory technicians and concerned professionals at the Ministry of Health in Morocco and the Jordanian Army Forced (JAF), along with enhancing the accessibility of their laboratories with the.

### PROJECT DESCRIPTION

GHD in collaboration with Middle East Scientific Institute For Security (MESIS) will conduct a series of trainings in order to raise awareness and build capacity among laboratory technicians and concerned professionals at the Ministry of Health in Morocco and the Jordanian Army Forced (JAF), along with enhancing the accessibility of their laboratories with the aim of strengthening the detection, disruption, and attribution of “low effort” toxins attack plots, specifically potent like Abrin, Ricin, and Botulinum through awareness-raising, educational and technical packages for the laboratory technicians, providing the laboratories with the necessary equipment and supplies. GHD will undertake the following activities to attain tangible results to achieve the desired project goals.

### REGIONS OF WORK

This project will be implemented across key laboratory facilities in Jordan and Morocco.

### PROJECT PHASES

The project will be implemented as follows:

Phase I – Preparation: Communicate with targeted countries and Conduct consultation meetings for representatives from Jordan and Morocco to support and facilitate project implementation, training curriculums, and assessment tools development.

Phase II – Implementation: Conduct needs assessment to identify current technical and logistical capacities regarding biological toxin detection and prevention, Provide laboratories with supplies and the needed test kits (Bio-Threat Alert), capacity building training workshops.

Phase III – Documentation: training and meeting reports, assessment reports



<b>Project Start and End Date</b>	<b>01/01/2021 – 12/31/2022</b>
<b>Partner Organizations</b>	<b>NA</b>
<b>Funded by</b>	<b>U.S. Department of State (DOS) Bureau of International Security and Nonproliferation, Office of Cooperative Threat Reduction's (ISN/CTR) Global Threat Reduction Programs, including the Biosecurity Engagement Program (BEP) Biosecurity Engagement Program</b>
<b>Collaborators</b>	<b>Middle East Scientific Institute for Security (MESIS)</b>

## Currently . . .

Toxins such as (Abrin, Ricin, and Botulinum) have always been on the top list of bioweapon candidate agents because of their severe high toxicity, which represents a problem of national and international concern in public health. Abrin and ricin can be prepared as a crude impure plant extract, purified crystals, powder forms, or solubilized in liquids. Deliberate dissemination may occur as an aerosol, through addition to food or water, or by direct parenteral injection.<sup>1,2</sup> Botulinum toxin is produced by the bacterium *Clostridium botulinum*. While bacteria are easy to grow, toxin on the other hand, is relatively easy to produce in large quantities.

## What is next...

Understanding the global profile of these toxins is crucial for health and risk assessment to develop effective medical countermeasures, in order to minimize the adverse health effects and prevent fatalities. This project will raise awareness and build capacity among laboratory technicians and concerned professionals at the Ministry of Health, along with enhancing the accessibility of their laboratories with the aim of strengthening the detection, disruption, and attribution of “low effort” toxins attack plots, specifically potent like Abrin, Ricin, and Botulinum.

## By the Numbers

40

Lab Technicians will raise their awareness and benefit from capacity building workshops under this project

2

Countries are targeted through this project and will be provide laboratories with supplies and the needed test kits (Bio-Threat Alert)

**GHD|EMPHNET Information:** Global Health Development (GHD) and Eastern Mediterranean Public Health Network (EMPHNET) works at achieving its mission by responding to public health needs with deliberate efforts that allow for health promotion and disease prevention.

- ◆ Abdallah Ben Abbas St, Building No. 42, Amman, Jordan
- ◆ Email: [comm@emphnet.net](mailto:comm@emphnet.net)

- ◆ Tel: +962-6-5519962
- ◆ Fax: +962-6-5519963
- ◆ [www.emphnet.net](http://www.emphnet.net)

<sup>1</sup> Ujváry I (2010). Krieger R (ed.). Hayes' Handbook of Pesticide Toxicology (Third ed.). Elsevier, Amsterdam. pp. 119–229. ISBN 978-0-12-374367-1.

<sup>2</sup> CDC – "The Emergency Response Safety and Health Database: Biotoxin: RICIN – NIOSH". [cdc.gov](https://www.cdc.gov). Retrieved 2015-12-31.