



ICIS - INSUBRIA CENTER ON INTERNATIONAL SECURITY  
CENTRO SPECIALE SULLA SICUREZZA INTERNAZIONALE  
University of Insubria - Università degli Studi dell'Insubria

***Program of re-training and reorientation of  
Iraqi experts in the field of bio-chem technology  
for peaceful application***

*Managed by*



INSUBRIA CENTER  
ON INTERNATIONAL SECURITY

The Insubria Center on International Security, Como, Italy

*with the support of*



*Ministero degli Affari Esteri*

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**Project Summary**

## Introduction

Following the request of the Iraqi Ministry of Science and Technology (MoST) for a program of cooperation in the field of bio-chem retraining, as well as preliminary fact-finding missions and meetings with members of the Government of Iraq (GoI) held by the representatives of Insubria Center for International Security (ICIS) in close coordination and with the support of the Italian Embassy in Baghdad and the competent office of the Italian Development Cooperation – Ministry of Foreign Affairs (DGCS), the present bilateral cooperation program has been formulated.

The initiative consisted of re-training activities aimed to meet the specific needs and demands presented by the Iraqi counterpart to retrain and upgrade former weapon-related biological and chemical scientists as well as former specialists with 'dual use knowledge'. The project has been structured in two integrated approaches: i) intensive high-level courses to be organized in Italy; ii) preparatory didactic stages and follow up initiatives in Iraq held by Italian experts aimed to assess the progress achieved and to evaluate the sustainability of the program.

## Main Objectives

The Iraqi representatives highlighted the importance of establishing cooperation programs for the redirection of experts on bio-chemical weapon agents/technologies in order to meet the obligations stemming from the international treaties recently signed by Iraq.

More specifically, the following topics have been identified as relevant:

- Chemical and Biological Pesticides;
- Chemical and Biological Fertilizers;
- Detection of: pesticide and hydrocarbon residues, biological and chemical toxins, heavy metals, dioxin;
- Implementation of organic farming;
- Soil restoration and reclamation;
- Detection of genetically modified organisms (GMOs);
- Implementation of International and European Union standard quality and security certifications (such as: EU Reach certification, ISO, etc.).

This human-capacity building program could help to create a new generation of scientists aware of the existing threats and of the best international practices, to

be convened in an already planned Iraqi Center of Excellence in the field of bio-chem technologies.

## Structure of the programme

The program was organized in two main intensive courses addressed to maximum twelve specialists, for a total of twenty four Iraqi participants.

Each course was be structured in three phases:

*-Phase one:* the preliminary phase of basic training (several months at low intensity taking place in Iraq) dedicated to acquiring fundamental theoretical elements and basic bibliography through computer tests as well as numerical exercises under the remote supervision of competent experts and the presence/support in loco of Italian tutors for 2 weeks.

*-Phase two:* three-week intensive courses as well as practical and technical training in Italian laboratories aimed to equip the participants with the required instruments, knowledge and methodology.

*-Phase three:* conclusive phase dedicated to the evaluation of the participants progresses (to be carried out in Iraq) through the analysis of their reports and through a final test under the remote supervision of competent experts and the presence/support in loco of two tutors for brief periods.

Moreover, the project included an Iraqi-led sustainability program, i.e. either fact-finding studies and projects aimed to implement EU standards certification. The implementation of the sustainability program included the organisation of seminars held by the Iraqi participants with the aim of disseminating the knowledge acquired to other Iraqi bio-chem specialists.

## Conveyed teaching

The program consisted of two connected, but different projects, which aimed to updating and re-training the participants, through specialized and intensive courses:

1) Intensive course “*Agricultural derived products and environmental contamination*” (managed by the University of Milano, Dept. of Biology, Milan);

2) Intensive course “*Prevention, evaluation and management of environmental contamination: contaminated sites and cleanup/remediation techniques*” (managed by the Insubria University at Como – School of Sciences, Department of Chemical and Environmental Sciences).

## Results

The results, linked to the aim of re-orientation e scientific re-training in the chemical and biological field, were the followings:

1. Refocusing the skill of the Iraqi scientists with the aim to meet the needs of the Iraqi government’s programs in agriculture and environmental sectors;
2. Learning the best practices and standards in the bio/chem-security and safety;
3. Enhancing Iraqi *human-capacity building* to cope with the possible creation of an Iraqi Center of Excellence in the field of bio-chem technologies.