

2022

CHEMICAL SECURITY SUMMIT

August 23-25, 2022

#ChemicalSecurity



The Academe as Catalyst in Promoting and Chemical Security CULTURE through National and International Collaboration

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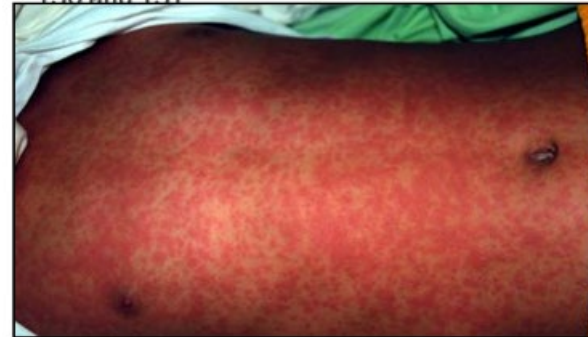
University of the Philippines Manila



Some Trigger events to explore the need for Chemical Safety and Chemical Security

- **Chemical incidents in schools**
 - (Mercury Spill in a Private School that required the US EPA team to assist in the Clean-up operations)
 - Multiple Chemical Spill in School laboratory that generated 1,855 kilogram of chemical wastes
- **Bohol Pesticide Poisoning Incident that activated the National Disaster Risk Response with then President Arroyo resulting in the death of children**

On February 16, 2006 an UNQUANTIFIED amount of Mercury were spilled in SAS rooms 130 and 131



Skin lesions found hours after the mercury vapor exposure Photo courtesy of Dr. Clarissa Villarama from UP Department of Medicine Section of Dermatology



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Newspaper _____
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DoH still mystified by mass poisoning tragedy in Bohol

By JENNY MANONGDO & MARS MOSQUEDA JR.

The Department of Health (DoH) is still mystified on the real cause of the tragedy in Bohol that caused the deaths of 27 schoolchildren after consuming cassava food products last Wednesday.

Health Secretary Manuel Dayrit said that the DoH is now looking into two possible causes for the deaths: Cyanide poisoning for ill-prepared cassava or pesticide contamination.

Dayrit told reporters yesterday that blood and food samples have been collected and have been sent to the UP laboratory. Furthermore, an autopsy is being conducted on two victims to determine the cause of deaths.

"The issue here is still speculative," Dayrit said.

He added that the team of epidemiologists has already begun col-

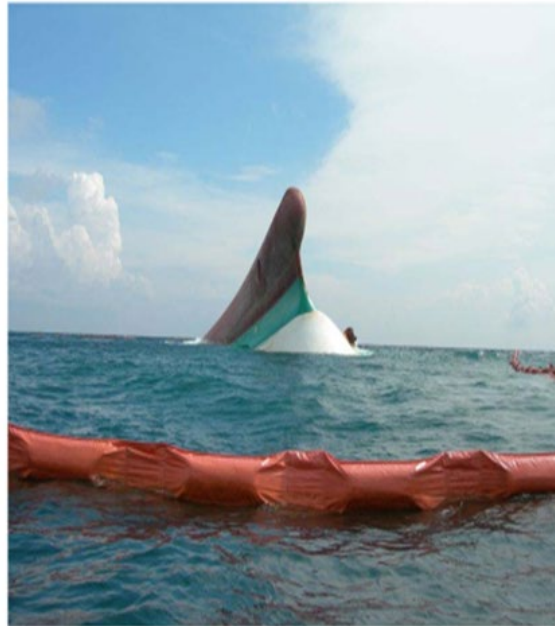
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Chemical Security and the need for transportation security Legislation

LESSONS FROM THE SUNKEN MV PRINCESS OF THE STARS

The MV Princess of the Stars ferry capsized about three kilometers from the shore of Sibuyan Island, in central Philippines, on 21 June 2008 during the passage of Typhoon Fengshen. Less than 60 of over 850 passengers survived the disaster

During rescue and recovery operations, it was discovered that the ferry carried a substantial amount of highly toxic pesticides in its cargo. It appears that these and many other chemicals were packed in a 40-foot container and a 10-foot container. The capsized ship also contained 100,000 liters of fuel for the engines



- **What is the existing Philippine legislation in relation to toxic cargo?**
- **Control of chemical transportation and storage – regulations of hazardous chemicals should include major transportation routes**
- **The transportation vessel of hazardous chemicals should be subjected to strong inspection.**
- **Review of international conventions related to the sunken ferry – Basel convention, Rotterdam convention and the Stockholm convention**

Partnerships with US department of State on chemical security

- ❑ Chemical Security Engagement Program – started in 2007 through a multistakeholder consultative workshop held in Makati City
- ❑ April 19-21, 2010 Interagency Training Workshop Chemical Safety and Chemical Security for the Philippines Anti Terrorism Council (thru ATC Head Secretariat, Director General Cabuay) coordinated by UP College of Medicine Department of Pharmacology and Toxicology
- ❑ July 19-21, 2010 Southeast Asia Workshop on Chemical Safety and Chemical Security - hosted by ATC and UPCM in partnership with US DOS, OPCW, Australia
 - ❑ As a follow-up activity there was a workshop with arranged by US DOS CSP to have a briefing with the Department of Homeland Security on the Chemical Facilities Anti-Terrorism Standards

EXECUTIVE ORDER NO. 39, S. 2011

- BY THE PRESIDENT OF THE PHILIPPINES
- EXECUTIVE ORDER NO. 39
- DESIGNATING THE ANTI-TERRORISM COUNCIL AS THE PHILIPPINE NATIONAL AUTHORITY ON THE CHEMICAL WEAPONS CONVENTION AND OTHER DISARMAMENT ISSUES

SECTION 1.

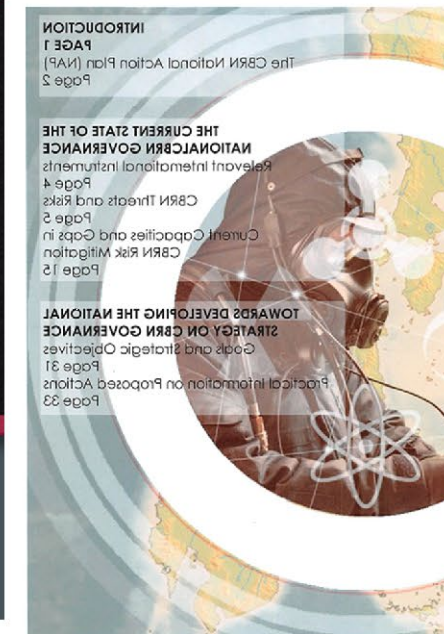
- **National Authority.** The Anti-Terrorism Council (ATC) is hereby designated as the Philippine National Authority on Chemical Weapons Convention, hereinafter referred to as PNA-CWC, to be headed by the Executive Secretary as Chairperson of the ATC. The PNA-CWC shall serve as the national coordinating body for effective liaison with the Organization for the Prohibition of Chemical Weapons (OPCW) and other States Parties to the Chemical Weapons Convention, and shall be the lead agency in the implementation of the provisions of the Convention.

LINKING CHEMICAL SECURITY TO THE CBRN NATIONAL ACTION PLAN

A SYSTEMATIC APPROACH TO THE IDENTIFICATION OF VULNERABILITIES AND THREATS RELATED TO CBRN THROUGH A COMPREHENSIVE CBRN POLICY ON RISK MITIGATION AND ACTION PLAN

The Philippine National Action Plan was approved as the **Anti-Terrorism Council Resolution 40** – it is a living document that will periodically be reviewed and revised as necessary to address the needs of the Philippines. It is based on a vision of nation safe and secure from CBRN threats through a whole of society approach

The
National CBRN
Action Plan



Chemical Specific Objectives under the Philippine Nap CBRN 2018-2022

REDUCE	the accessibility of high-risk chemical materials
STREGTHEN	implementation of the Chemical Weapons Convention in the country and other related international obligations
ENHANCE	intelligence-sharing and threat analysis on high risk chemicals of concern
STRENGTHEN	collaboration with other agencies and countries (operational sharing of information and good practices)
STRENGTHEN	collaboration with academia, scientific organizations and the private sectors, such as the chemical industry, on responsible care procedures and risk analysis (criminal and accidental)



Why are we concerned about chemical security?

● Legitimate Use

Many chemicals used legitimately every day in laboratories and factories are hazardous and have the potential to be used maliciously.

● Terrorist Interest

Trends in terrorism tactics suggest terrorists are now, more than ever, interested in mass casualty attacks, including renewed attention on the potential for using chemicals as weapons.



● Devastating Effects

The release of chemical agents may cause casualties, fear and shock in a population, and have extensive economic impacts due to investigative and clean up costs.

● Wide Availability

Many chemicals are readily available and/or relatively inexpensive.

Philippine-US DTRA Chemical Security Project as presented by Pacific Northwest Laboratory Feb 2019 – on-going project with US DTRA



Chemical Security Framework (CSF)

- Consolidate int'l guidance, synthesize State best practices in chemical security
- Pilot that effort through the DTRA partnership with the Philippines



Chemicals of Concern (CoC) and Chemical Industry Mapping

- Consolidate and update Philippines chemical control lists for security purposes
- Jointly develop Philippines IT platform to track chemical activity of concern and potential threats

Chemical Security Framework Project: Goals

Distill best practices, develop substantive **Chemical Security Recommendations**



Develop **Regulatory Implementation Toolkit**



Assess Philippines framework, develop **Gap Analysis Report**

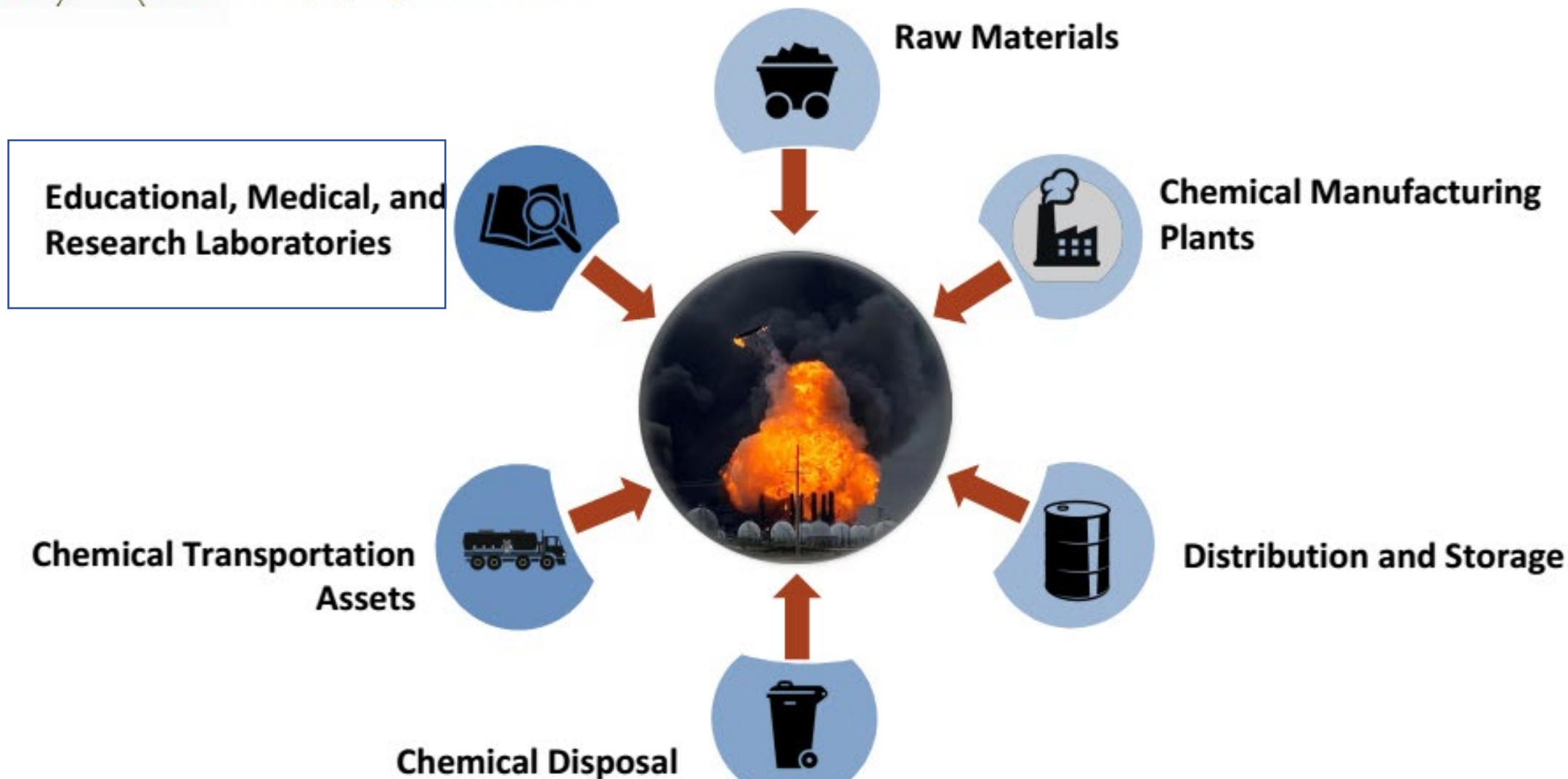


Assist in development and implementation of **Regulatory Action Plan**





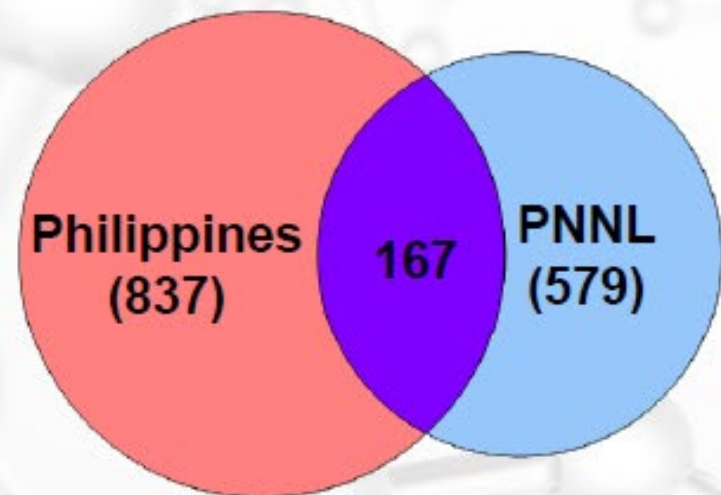
Industrial Vulnerabilities Along the Chemical Supply Chain



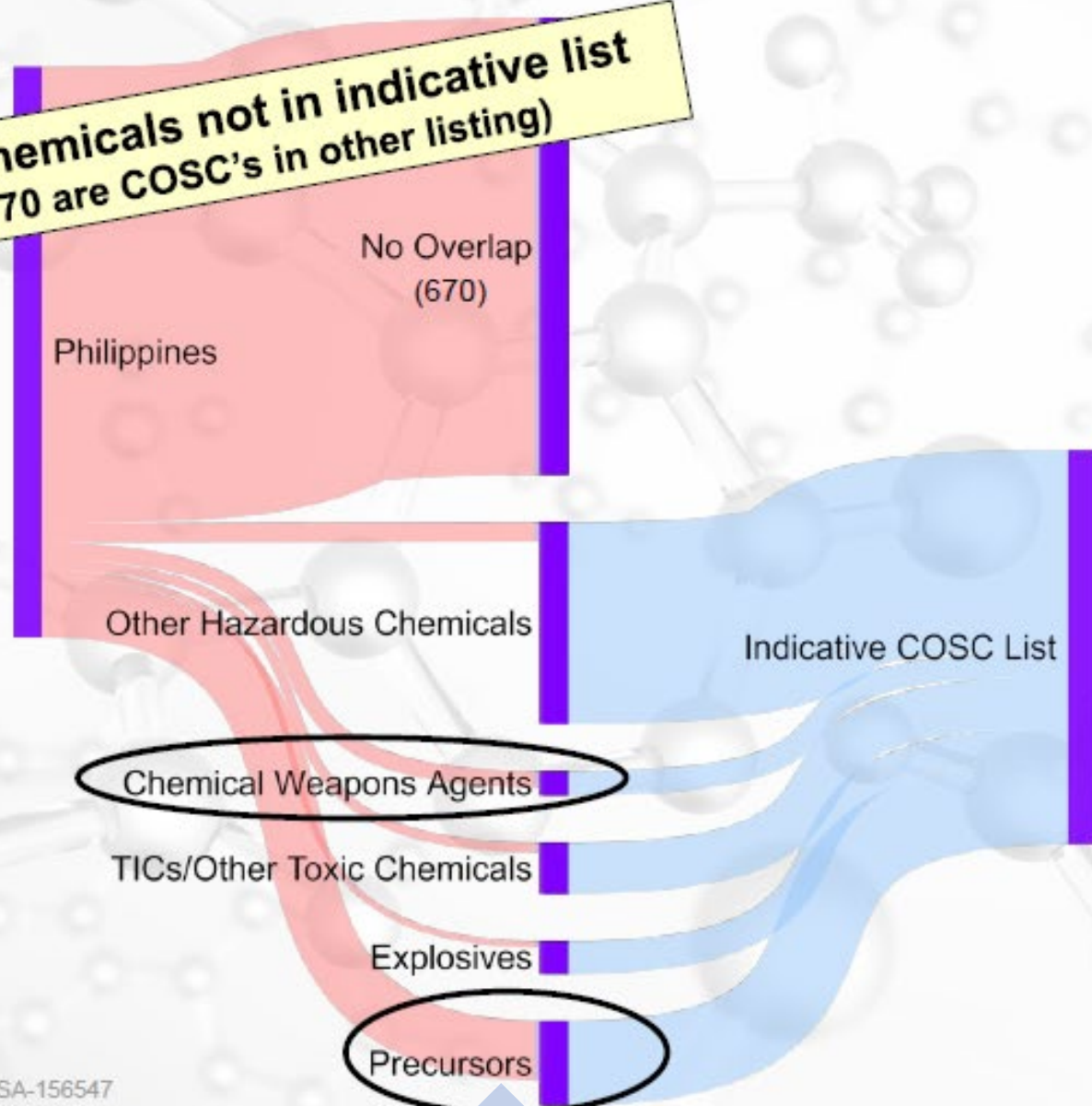
TIER	EXPLANATION
<p>Tier 1: Very high degree of chemical security risk</p>	<p>Chemicals suitable for weaponization that can be used to maim or kill Includes:</p> <ul style="list-style-type: none"> • Chemical Weapons Convention Toxic Chemicals (found on Schedules 1A, 2A, 3A) – chemicals of highest risk to the intent and purpose of the CWC representing chemicals associated with historical military programs (Type 1-A) • Toxic Industrials Chemicals and Other Chemicals with UNRTDG “Any Amount” Security Threshold Criteria (excluding precursors for chemical weapon agents and explosives) – chemicals not on the CWC schedules that have been identified as possessing significant hazardous properties and low barriers to weaponization (Type 1-B) • Explosives – chemicals that can be used to produce explosive devices (Type 1-C)
<p>Tier 2: High degree of <i>chemical security</i> risk</p>	<p>Other UNRTDG “bulk” security criteria threshold chemicals (excluding precursors for chemical weapon agents and explosives) Chemicals in this tier meet UNRTDG security threshold criteria when in bulk amounts. These include industrial chemicals that are frequently transported in large volumes for use in a diversity of sectors and applications.</p>
<p>Tier 3: Moderate degree of security risk</p>	<p>Precursors for chemical weapon agents and explosives While many chemicals in this tier have hazardous properties, the primary security concern they present is that they would enable an adversary to produce Tier 1 chemicals that can maim or kill.</p>

Source: Proposed Criteria for COSC (DRAFT not to be circulated -PNNL RP US DTRA cooperation project)

Philippines List and the Tiered Indicative COSC List



670 chemicals not in indicative list
(~70 are COSC's in other listing)



US DTRA Cooperation Project with the Philippines includes but not limited to

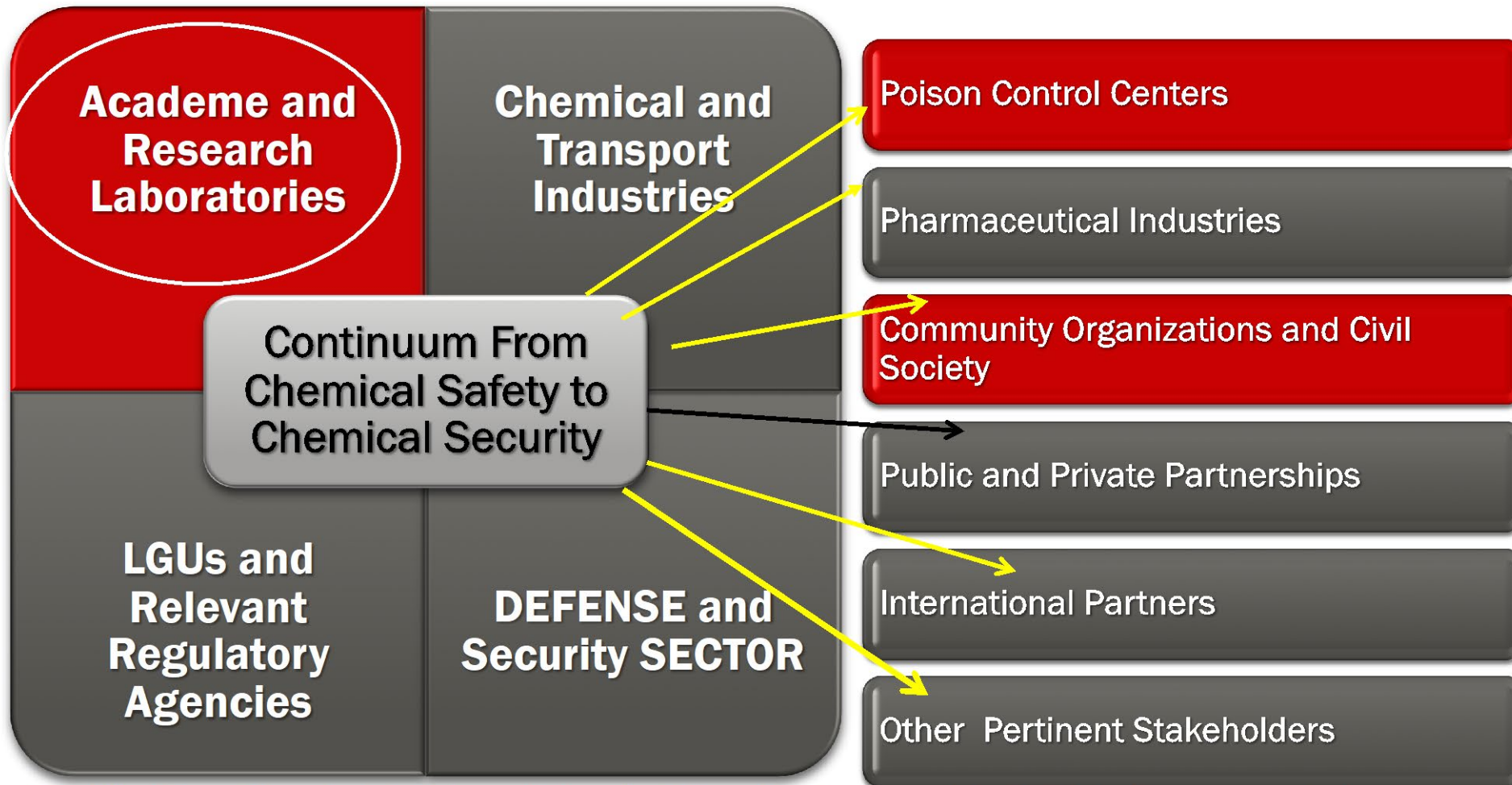
- Chemical Security Framework
 - Involvement of US Department of Homeland Security in one of the virtual webinars on threat and risks –topics included CFATs, Development of risk scoring methodology and risk evaluation tools
- National Virtual Training Center

Global Congress on
Chemical Security and
Emerging Threats
Identified Chemical
Security threats during
its first
Inaugural Meeting of
the Steering
Committee

1. **Lack of a Global “Chemical Security Culture” and Awareness**
2. **Cybersecurity and Cyber Threats**
3. **Chemical Security Regulations and Enforcement Challenges:** The third highest priority ranked by Steering Committee members was the need to improve measure for enforcement of chemical security regulations.
4. **E-Commerce:** Steering Committee members agreed that a lack of oversight and tools for enforcement for e-commerce sites, online retailers, and resellers allows for uncontrolled sales of explosives, poisons, and explosives precursors.
5. **Emerging Technologies**
6. **Porous Borders & Import and Export Concerns:**
7. **Delivery systems / Illicit Procurement**
8. **Orphaned Chemicals**

The Challenge of Empowering Relevant Players towards a Chemical Security Network

Conceptual Framework created by IRMA R, MAKALINAO



Modified from Chemical Safety and Chemical Security Framework by IR Makalinao presented in an OPCW sponsored International Meeting on Chemical Safety and Security Tarnow Poland November 2012

A lush green forest with a dirt path leading through ferns and tall trees. The scene is misty and serene, with sunlight filtering through the canopy. The path is made of dark brown earth and is flanked by vibrant green ferns and other forest floor vegetation. Tall, slender trees stand in the background, their trunks partially obscured by the mist.

Protecting our Common FUTURE

**TAKING ACTION THRU
EDUCATION AND
REGULATION**