

# Tabletop Exercise (TTX)

## Countering the proliferation of chemical weapons

Science and Technology Centre in Ukraine (STCU)

2nd Seminar Targeted Initiative

Tbilisi, Georgia

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### Outline

#### Goals and framework

- The primary goal of the exercise is to stimulate reflection on the necessity of effective legislative and regulatory frameworks to prevent deliberate and inadvertent contribution to weapons programmes involving chemical, biological, radiological and nuclear (CBRN) materials and technologies. As the prevention of proliferation of CBRN weapons is a responsibility of both governments (as well as an obligation for states under different international and regional weapon control treaties and UN Security Council resolutions) and key stakeholder communities (industry and trade, scientists, academia, ...), this exercise aims to stimulate reflection among those different groups.
- Decision-making processes both for governments and the stakeholder communities have preventive and responsive dimensions. The *preventive dimension* concerns the steps taken ahead of a crisis to control the transfers of CBRN materials and technologies, criminalise and penalise violations, and to raise awareness about risks and threats among relevant stakeholder communities. The *responsive dimension* concerns evaluation of the consequences of failure of prevention and reflection on supplementary legislative and regulatory measures needed to prevent recurrence of the incident. Such reflection on prevention and response would cover (but not be limited to):
  - Which international and regional treaty obligations inform a country's technology CBRN transfer controls?
  - Which regulatory or awareness-raising tools to prevent inadvertent CBRN technology transfers exist within professional, scientific or academic communities, or indeed on the level of the individual company, research establishment or academic institution?

- Specific questions that need to be considered include (but are not limited to):
  - From the perspective of your current professional occupation or the sector in which you work, what key legislation and regulations should be in place before a CBRN proliferation crisis erupts?
    - With respect to export controls?
    - With respect to import controls
    - With respect to transit controls?
    - With respect to internal transfers (relevant to terrorism and crime)?
  - What areas should such preparatory measures cover?
    - To receive or facilitate receipt of international assistance?
    - To foresee and prepare for the impact of an outbreak on a country's social fabric (e.g., economy and trade, travel, schools, public events, fear, education and outreach concerning the crisis, etc.)?
  - In addition to formal legislative and regulatory frameworks, from the perspective of your current professional occupation or the sector in which you work, which additional measures would you consider necessary, e.g. (but not limited to):
    - Internal quality control?
    - Professional codes of conduct and/or ethical codes (company, sectorial or international levels)?
      - Who should take the initiative to frame such codes?
      - What types of activities do you consider necessary so that such codes modify attitudes and behaviour of staff?
    - Awareness raising, education training?
  
- The proposed scenario covers a hypothetical case study in which an international crisis erupts as a consequence of the discovery of a major secret chemical weapon (CW) production plant in a country located in a volatile region. The scenario plays out in two different contexts:
  - Either you belong to a country that has been directly implicated in the material support of the CW programme (with or without the knowledge of the government);
  - Or you belong to a country that is not directly implicated, but the crisis prompts your government to revise its national regulatory framework.
  
- The proposed scenario is not intended to be gamed. Its purpose is to focus on what regulatory measures are required and raise awareness about which additional measures or actions could benefit your country in view of the specific conditions in or affecting your country. In particular it seeks to stimulate thought on how to identify specific requirements and how to proceed with their development, adoption and implementation.

- In addition, the scenario also seeks to give some indication where you may find additional information on regulatory systems on the international, national and professional levels.

## Background

### *General setting*

**Earthland** is a continent comprising eight large and mid-sized countries. They are: Downside, Gondwana, Middle Earth, Nowhere, Pangea, Upside, and Vulcania (see map).

This scenario focuses mostly on **Vulcania**, **Downside** and **Pangea**.

**Vulcania** lies on the western edge of Earthland. It shares borders with **Nowhere** in the north, **Gondwana** and **Middle Earth** in the east and **Pangea** in the south. Rich in natural resources, especially in the northern region that is less affected by geological activity, the country now seeks to reduce the share of the extractive economy in favour of sustainable growth. The government aspires greater industrial and technological development and welcomes foreign investment, including in the areas of chemical industry and biotechnology.

## Earthland



It regularly sends top students abroad to specialise in areas as part of the drive to expand the national knowledge base.

**Downside** is a mid-sized country on the eastern edge of **Earthland**. It is an economic powerhouse built on a solid scientific and technological foundations. As its domestic market is small, the government of **Downside** pursues expansive export-oriented policies. Its highly rated universities and professional schools welcome foreign students. Being culturally and religiously a rather homogenous society, foreigners find it generally difficult to integrate despite its otherwise welcoming attitude. As a rather small player on the international scene, its diplomatic corps primarily works in support of the international trade and investment objectives.

**Upside**, which until a few years ago formed with **Downside** the unitary federation of **Eastside**, is a multi-cultural society that has welcomed migrants from several other Earthland countries and continents. It is a relatively wealthy society, with an economy based on agriculture in the northeast and heavy industry in the south. Its economic fortunes are highly dependent on agricultural and industrial exports, but the service sector is slowly becoming the most important contributor to GDP.

**Somewhere** in the south is by far the largest country in Earthland. Its power and regional influence is enhanced by its seat on the UN Security Council.

**Gondwana**, **Middle Earth** and **Pangea** are relatively small political units, and with the exception of **Pangea's** narrow coastal strip, they are essentially land-locked states whose economies are highly dependent on the surrounding states.

Over past decade or two **Nowhere** has seen rapid economic expansion in its coastal cities, but overall development throughout the country is uneven. Despite its size, it has few natural resources and economic growth is highly dependent on foreign investment and services. Agriculture makes up a sizeable part of its gross domestic product (GDP). Price variations on the international commodities market greatly affect the country's financial health.

### *Geopolitics*

Earthland is a mostly peaceful continent, except in the northwest. **Vulcania** has a long-standing territorial conflict with **Nowhere**, which is characterised by regular skirmishes in the northern border area and occasional flare-ups leading to deep military raids or aerial bombardment by both sides. **Nowhere** claims part of **Vulcania's** northern territory, which is rich in mineral resources. The conflict, which seems to defy any diplomatic initiative at settlement, is a major drain on **Vulcania's** economy and finances, and hence on its broader domestic and regional ambitions.

The breakup of **Eastside** into **Upside** and **Downside** was a generally peaceful process in which two different cultures essentially chose to go their separate ways. The different

types of economic development and resulting geographic distribution of wealth within **Eastside** also contributed to the split. Today, both countries pursue different regional geopolitical goals. Being a neighbour, **Upside** tends to support **Nowhere** in its grievances against **Vulcania**. In contrast, **Downside** discerns many economic opportunities in **Vulcania** and avoids any controversy in bilateral relations.

**Gondwana** refuses to take sides in the regional conflict between **Vulcania** and **Nowhere**. However, lying to the east of the mineral-rich zone of contention, its government must regularly warn both governments not to violate its territorial integrity. Complicating the balancing act further is its reliance on **Upside** for much of its economy. Migrant workers are an important source of income and the country also relies on its eastern neighbour's harbours for many of its imports. **Gondwana** enjoys security guarantees extended by **Somewhere**, which also supplies the bulk of its military equipment and training of its army and air force.

**Middle Earth** and **Pangea**, which are farther removed from the conflict zone, are major transit countries between the east and west of **Earthland**. **Somewhere** generally tries to be a benevolent regional power. It strongly supports international norms and offers financial and material support for the other countries on the continent to be fully compliant with weapon control treaties and other regulatory mechanisms to prevent the proliferation of chemical, biological, radiological and nuclear (CBRN) weapons.

All states are party to the Chemical Weapons Convention (CWC). **Vulcania**, however, by and large ignores participation in meetings in The Hague, The Netherlands or regional seminars. While it does not comply with many of its political obligations—it also still has to submit its initial declaration on national legislation to the 1540 Committee under the terms of UN Security Council Resolution 1540 (2004)—there is little to suggest that it does not comply with the general prohibitions in the CWC.

The other countries are more active in the fulfilment of their international obligations to prevent CBRN weapon proliferation. However, **Gondwana**, **Middle Earth** and **Pangea** generally lack the financial and personnel resources to develop and effectively implement the many regulatory requirements, despite considerable assistance by **Somewhere**.

## Setting the general scene

In its address to the UN General Assembly last year, a Permanent Member of the UN Security Council (UNSC) expressed its concern about the escalating conflict over natural resources between **Vulcania** and **Nowhere**. The latter country has seen an influx of military hardware and the **Nowhere** government has been escalating its rhetoric about how **Vulcania** is depriving its citizens the mineral riches that are rightfully **Nowhere's**. In her address, the Permanent Representative also said that her country is troubled by the rapid expansion of a chemical complex some 30 kilometres outside of Caldera, capital of **Vulcania**. She added that the size of the facility exceeds that expected for a pharmaceutical plant. The diplomat next congratulated a North African country on the finalisation of its chemical weapon (CW) destruction operations at the end of the previous year, in passing reminding the delegates in the room that now more than 30 years ago intelligence had first discovered the CW production plant hidden in the desert. She then turned to seemingly much larger issues, including climate change and its impact on migration.

Few people at the UN raised eyebrows about the one-sentence reference to the pharmaceutical plant in the long speech. The international press only made passing mention of the simmering conflict in northwest **Earthland**. Yet, when addressing the plenary session of the General Assembly a couple of days later, **Vulcania's** Foreign Minister not only condemned **Nowhere's** escalation of bilateral tensions, he also made a point of insisting that the plant near Caldera was for pharmaceutical purposes only and that his country was seeking self-sufficiency for certain types of medication not just for **Vulcania**, but also for the region.

The rebuttal surprised many people. In initial reactions to journalists' queries, some diplomats and several regional experts speculated on a looming conflict between **Vulcania** and the UNSC Permanent Member over medicine patents and proprietary rights.

Disarmament and international security experts, however, were drawn to the juxtaposition of the comment about the pharmaceutical plant's size and the felicitation of the North African country's CW disarmament milestone.

In the ensuing days, initial speculation about whether **Vulcania** was indeed setting up a chemical warfare programme in violation of its CWC obligations turned into accusations with experts and officials from countries offering 'evidence' that the so-called pharmaceutical factory indeed had a nefarious purpose. Moreover, fingers started being pointed at **Downside** as the source of most of the technology used in the construction of the factory. An international crisis was brewing ...

## **First breakout session: *A rising international proliferation crisis***

### ***[Downside – Teams 1 and 2]***

The Government of **Downside** is stunned by the allegations that one of its major chemical engineering companies is at the centre of the international controversy concerning the supposed CW production plant in **Vulcania**. It has protested reports in the press, pointing out that **Downside** is a party to the CWC, as is **Vulcania**. Therefore it has confidence that all technology transfers have been legal.

In response to suggestions that its aggressive export-oriented economic and trade policies make a mockery of export controls, government officials point out that it has adopted necessary technology transfer regulations. However, they add that in any case those transfer regulations concern chemicals listed in Schedules 1 and 2 of the CWC, and not to plans, personnel and equipment. They once again insist that Vulcania is a CWC party in good standing.

### *Task*

You are member of an advisory board to your government with the responsibility to provide concrete options for decision-making. Your government expects a request for clarification under the CWC and therefore instructs you (*taking into account your country parameters in the narrative above*):

- To provide a summary of national legislation and regulations pertinent to suspect technology transfers;
- To review which treaties **Downside** is party to and which other international instruments impose obligations concerning the transfer of dual-use goods on **Downside**; and
- To review how professional, scientific and academic associations, as well as companies and institutions inform or instruct their members or staff about risks relating to sensitive technology transfers.



*[Pangea - Teams 1 and 2]*

**Pangea** has not yet been mentioned in the context of the unfolding proliferation crisis. However, the Government is concerned that it may eventually become implicated in view of the fact much of the trade between **Downside** and **Vulcania** travels across its territory. In such a case, it wishes to assert that the country is in full compliance with the CWC.

*Task*

You are member of an advisory board to your government with the responsibility to provide concrete options for decision-making. Your government request an urgent review of the practices that govern the transit of dual-use technologies across its territory (*taking into account your country parameters in the narrative above*). More specifically, it asks:

- To provide a summary of national legislation and regulations pertinent to the transit of dual-use technology;
- To provide a summary review of the types of documents and credentials needed for the goods to enter the country and the types of documents and credentials needed for the goods to leave the country; and
- To establish the degree of practical cooperation with **Middle Earth** respecting technology transfers from **Downside**.

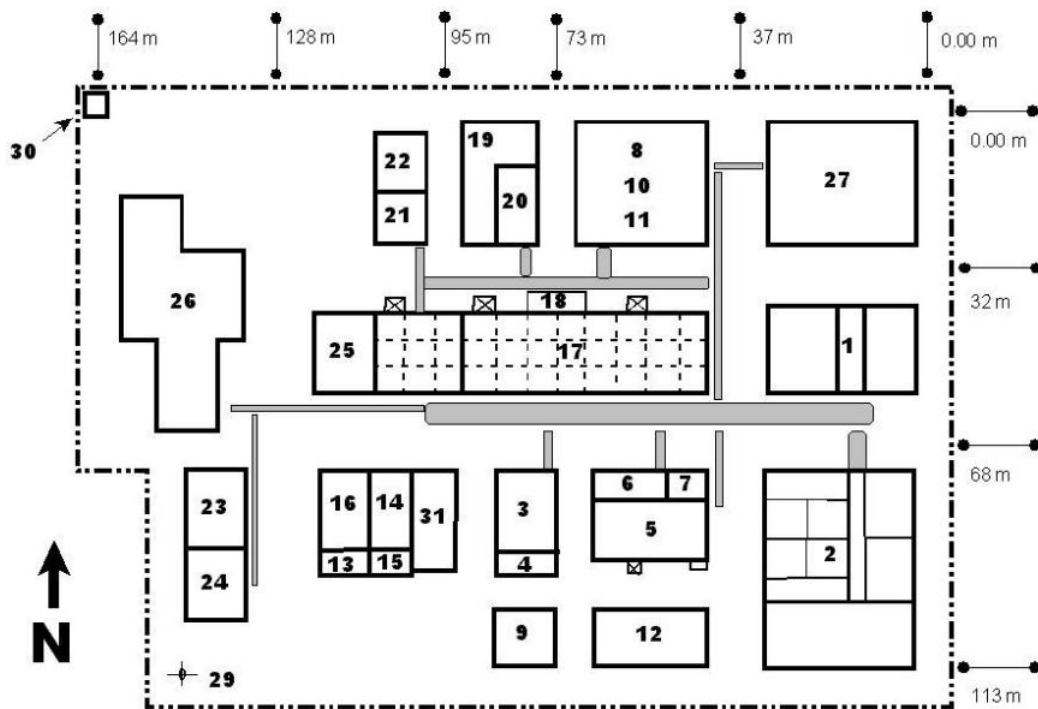
## **Second breakout session: *The proliferation crisis deepens***

After the initial allegations, the international controversy about the chemical plant in **Vulcania** subsided. In discussions in the Executive Council of the OPCW questions put to both **Vulcania** and **Downside** were answered in considerable detail. The answers by and large seemed to satisfy States Parties, even though some issues clearly remained unresolved.

Today, however, the allegation returns centre stage. A foreign international newspaper, clearly drawing on leaked intelligence assessments, provides details of the chemical plant near Caldera, Vulcania and even publishes a detailed floor plan of the chemical complex (see next page).

The report also includes some detail about the purchasing network. In particular, it says that *M. E. Chemical Engineering International* is at the centre of a purchasing network that operates in several countries in **Earthland**, but also on other continents. *M. E. CEI* is headquartered in **Middle Earth**. A key partner is the **Downside International Chemical Company**, which has extensive business dealings in **Vulcania**. *ICC* participates in several high-technology ventures, but one of its most active branches partners in mineral extraction and ships the raw materials for processing in **Downside**. *ICC* has ordered engineering tools and advanced factory equipment from separate suppliers to avoid that any single company might suspect that the supplies are destined for an illicit project. *M. E. CEI* has contracted an international transporter in **Pangea** to ship the factory equipment and engineering tools to **Vulcania**, according to the report.

In a separate development, a senior official from the country that first hinted at the possibility of a CW plant in **Vulcania** has intimated that the factory is close to completion and may start production soon. She added that her country is weighing the possibility of requesting a challenge inspection under the CWC provisions as soon as the plant becomes operational.



**Legend:**

- |   |   |
|---|---|
| 1. Underground storage tank               | 21. Cylinder filling station                  |
| 2. Above ground storage tank              | 22. Storage for liquid products               |
| 3. Solid compounds - Drying               | 23. Warehouse                                 |
| 4. Solid compounds - Storage              | 24. Open-air equipment storage                |
| 5. Distillation                           | 25. Measuring observatory                     |
| 6. Solid or liquid compounds              | 26. Laboratories and social building          |
| 7. Nitrogen tank                          | 27. Oil tank                                  |
| 8. Vapour installation                    | 28. Burst pipes [Not indicated on floor plan] |
| 9. Water processing installation          | 29. Torch                                     |
| 10. Compressed air installation           | 30. Porter's house                            |
| 11. Refrigerant installation              | 31. Cold water installation                   |
| 12. Cooling water installation            |   |
| 13. Electricity installation              |   |
| 14. Brine installation                    |   |
| 15. Emergency electricity installation    |   |
| 16. High and low voltage distributor      |   |
| 17. Production                            |   |
| 18. Vacuum installation                   |   |
| 19. Waste water and dilution installation |   |
| 20. Exhaust gas absorption installation   |   |

***[Downside]***

The Government of **Downside** strongly rejects the allegations and asserts that *International Chemical Company* has had business dealings with **Vulcania** for many years, none of which involve CW. It adds that the company's involvement in the controversial factory had been clarified during the meeting of the Executive Council of the OPCW last year. It repeats last year's assertion that national trade regulations are fully compliant with international disarmament and non-proliferation obligations, and that these are fully enforced.

*Task Team 1*

As a member of the advisory board to your government you are requested:

- To provide an overview of the national agencies responsible for authorising the export of sensitive technologies, as well as the process flow of such an authorisation;
- To provide an overview of how the industry processes a commercial request for particular types of technology with a view of ascertaining the legitimacy of the foreign trading partner; and
- To review how professional, scientific and academic associations, as well as companies and institutions inform or instruct their members or staff about risks relating to sensitive technology transfers.

*Task Team 2*

As a member of the advisory board to your government you are requested:

- To prepare a list of all economic actors involved in an export of strategic or dual-use goods;
- To identify which government departments or agencies are responsible for the verification of the accuracy of the submitted documents;
- To describe the process through which the responsible government departments and agencies approve the export licence for strategic and dual-use goods, as well as the criteria they apply in their decision-making; and
- To describe the process through which foreign students and workers are vetted to be able to take part in research or other activities with dual-use potential.

*[Pangea]*

**Pangea** has now been named in the unfolding proliferation crisis. Moreover, one of its international transportation companies has been named as key in the technology shipments from **Downside** to **Vulcania**.

*Task Team 1*

As a member of the advisory board you are tasked to:

- To provide an overview of the national agencies responsible for authorising and verifying the transit of sensitive technologies (including verification of the aforementioned documents), as well as the process flow of such an authorisation;
- To provide an overview of how the transport sector processes a commercial request for the transit of particular types of technology with a view of ascertaining the legitimacy of the foreign trading partners;
- To describe which legal tools are available to the Government to investigate and prosecute possible malfeasance in the transit of dual-use goods by (1) legal or natural persons registered in **Pangea** and (2) legal and natural persons, including Pangeans, involved in the transaction but operating abroad.

*Task Team 2*

As a member of the advisory board you are tasked to:

- To identify which international treaties and other legal instruments govern the transit of dual-use goods and create obligations for **Pangea**;
- To assess the degree to which **Pangea** is in compliance with those international obligations;
- To assess the degree to which violations of these international obligations have been criminalised and feature in penal legislation; and
- To assess the degree to which the pertinent administrations are able to fulfill their responsibilities to prevent the proliferation of dual-use technologies.

### **Third breakout session: *Policy crisis – emergency actions required***

Doubts about the real purpose of the chemical plant in **Vulcania** persist. The government has provided design details and planning documents to the Technical Secretariat of the OPCW, but has so far resisted to invite inspectors to the country on the principle that the installation is not yet producing anything and that – as demonstrated in the documents handed over to the Technical Secretariat – the plant will not produce any chemicals listed in the three Schedules annexed to the CWC.

Other countries dismiss this explanation. The CWC is based on the General Purpose Criterion and not on the three Schedules, so they argue. Furthermore, they say that given modern modular production processes, it will be fairly easy to set up the manufacture of warfare agents under the cover of legitimate activities. The call for a challenge inspection is becoming louder, but such a decision would also be politically fraught.

Meanwhile, the crisis is fast becoming a public relations disaster for **Downside**. Its aggressive export-oriented economic policies are more and more being presented by other states and commentators as being ‘loose’ with export controls. In addition, its foreign investments are also coming under intense scrutiny as they seem primarily designed to extract natural resources for its domestic industry with scant concern for economic or social benefits for the local population. Opposition parties are clamouring for an inquiry.

**Pangea** meanwhile is overwhelmed by events. The government found that the local transport company could easily avoid various reporting requirements concerning the transport of dual-use commodities, not the least of which was that certain key forms could be submitted after the transaction had been completed. Moreover, it also discovered that it lacks the authority to start up an investigation into malfeasance directly related to the transfer of dual-use technologies. At best, it has been able to indict company management for fraud.

*[Downside – Teams 1 and 2]*

The Government of **Downside** is under great pressure to alter the foundations of its export-driven economy, especially as regards the sale of technologies with potential dual-use application.

In view of the parliamentary investigative committee convening next week, as a member of the advisory board to your government you are urgently requested:

- To provide recommendations on the relevant issue areas that should be covered by domestic criminal and penal law;
- To provide an overview of international treaties and other legal instruments that govern the international trade in CBRN-relevant dual-use technologies or that could be a source of inspiration for domestic legislation;
- To consider options with regard to the governance of scientific research that could potentially be of a dual-use nature so as to prevent inadvertent contributions to illicit weapon programmes; and
- To consider options to prevent inadvertent intangible dual-use technology transfers, including the enrollment of foreign students in sensitive research areas.

*[Pangea – Teams 1 and 2]*

The Government of **Pangea** has come to the realisation that merely being party to a treaty is insufficient to meet that treaty's implementation requirements. To remedy the situation, it is looking at options for international assistance to help develop its legislative framework and to implement the necessary controls.

To this end, as a member of the advisory board to your government you are requested:

- To compile a list with sources of international legislative assistance and training of personnel responsible for reviewing and authorising applications to transit dual-use technologies across the territory of **Pangea**; and
- To list the types of needed measures so as to be aware of potential dual-use transports before they enter the territory of **Pangea**; and
- To recommend measures to ensure that of any dual-use transport entering the territory of **Pangea**, the credentials of the companies shipping and receiving the dual-use technologies can be verified.