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Biopreparedness field training exercises: national and international capacity-building

Submitted by Portugal

I. Introduction

1. States Parties are responsible for providing assistance and coordinating with relevant organizations in cases of alleged use of biological or toxin weapons.

2. Developing sound international capabilities to respond, investigate and mitigate disease outbreaks, including those due to alleged use of biological and toxin weapons, is fundamental to provide effective assistance. A key part of this is national preparedness, as States Parties have collectively acknowledged1 and individually reiterated.2

3. Successful mitigation of biological incidents requires multi-agency operational responses with coordination across government departments and agencies: police and law enforcement, fire and rescue services, public health and veterinary sectors, armed forces, civil protection, environmental agencies, meteorology, transport and communications.

4. Most of the national capabilities3 necessary to respond to deliberate disease outbreaks are the same as those required to respond to natural infectious disease outbreaks and other public health and animal health emergencies. But there may also be important differences. Responses to deliberate outbreaks may take place in hostile environments, imposing particular requirements to the experts involved, the operational procedures applied and the fielded equipment.4 Such responses will also likely take place alongside a

[1] In 2004 (BWC/MSP/2004/3, paragraph 21), 2006 (BWC.CONF.VI/6, Final Declaration, Article VII, paragraph 35), 2010 (BWC/MSP/2010/6, paragraph 22), and 2011 (BWC/CONF.VII/7, Final Declaration, Article VII, paragraph 39)

[2] For example: South Africa in BWC/MSP/2014/MX/WP.9, United Kingdom in BWC/MSP/2014/MX/WP.5 and BWC/MSP/2014/WP.1, USA in BWC/MSP/2014/WP.1, and Cuba in BWC/MSP/2015/MX/WP.22

[3] BWC/MSP/2014/WP.1 submitted by the USA

[4] BWC/MSP/2014/WP.9 submitted by Germany

subsequent national or international investigation of the incident with a need to collect and preserve forensic evidence.5

5. Regular exercises (table-top and field training) are essential tools in building and sustaining an effective national and international capability to contain the consequences of deliberate disease outbreaks, restore confidence and recover rapidly with minimal loss of life and disruption to daily life and the economic well-being of a country.[6] They enable states to validate plans and systems thoroughly, train frontline responders and highlight vulnerabilities.

6. This paper reports on a recent biopreparedness field training exercise carried out in Portugal to share experiences with other States Parties, highlight concrete actions to strengthen the United Nations Secretary-General's Mechanism for Investigation of Alleged Use of Chemical and Biological Weapons (UNSGM), and encourage the further development of multinational expert networks in investigating the alleged use of biological weapons.

II. CELULEX17 exercise 15-19 May 2017

7. In Portugal, biopreparedness field training exercises form part of an annual series of CBRN exercises conducted by the Portuguese Army. These 'CELULEX' exercises are civil support exercises, and their main objectives are to: (1) train CBRN defence teams to perform missions and tasks defined in standing operating procedures, operational plans, national directives and legislation in a civil-emergency environment at a tactical level, (2) implement a Warning and Reporting system at Command Level, and (3) integrate and coordinate the multiple institutions involved in planning and executing a response to CBRN incidents.

8. The CELULEX17 exercise took place at a coastal artillery battery outside Lisbon, Portugal on 15-19 May 2017. It was based on a realistic scenario involving cases presenting with plague-like symptoms in local hospitals and the discovery of a clandestine biolab in a disused bunker.

9. CELULEX17 involved several national institutions, including the Portuguese Army7, Portuguese Air Force8, National Authority for Civil Protection9, National Republican Guard10, Public Security Police11, Lisbon Fire Fighters Regiment12, Technological and Nuclear Institute13, Portuguese Environmental Agency14, Directorate General for Health15, Directorate General for Food and Veterinary16, and local public health authorities and officials.

10. The exercise trained various tasks involved in responding to a biological incident, including situation analysis, deployment, logistics, reconnaissance, epidemiological investigation, site investigation, sampling and identification of biological agents, transport and escort of samples from the field to a biodefence laboratory, laboratory analysis, warning and reporting, decision making, and medical countermeasures.

11. Effective command, control and coordination of multi-agency assets during an initial response, as well as throughout the mitigation operation, are crucial to a successful

[5] BWC.MSP/2015/MX/WP.1 submitted by the United Kingdom
[6] BWC/MSP/2010.MX/WP.7 submitted by the United Kingdom
[7] Exército Português
[8] Força Aérea Portuguesa
[9] Autoridade Nacional de Proteção Civil
[10] Guarda Nacional Republicana
[11] Polícia de Segurança Pública
[12] Regimento de Sapadores Bombeiros - Câmara Municipal de Lisboa
[13] Campus Tecnológico e Nuclear - Instituto Superior Técnico - Universidade de Lisboa
[14] Agência Portuguesa do Ambiente
[15] Direção-Geral de Saúde
[16] Direção-Geral de Alimentação e Veterinária

response.[17] Executing effective command and control under stressful conditions, especially where information is either lacking or is incomplete, requires that assistance teams have a special set of skills and considerable experience and capabilities. In Portugal, these specialized teams are primarily located within the Army, and while the CELULEX exercises are led by the Army, responsibilities for command, control and coordination during the exercises – and during incidents – lie with the National Civil Protection Authority. In the event of a biological incident, responsibility is handed over to the Directorate-General for Health.

12. Broad lessons emerging from CELULEX17 echo those of earlier exercises:[18]

(a) Effective coordination between the institutions and individuals involved in biological incidence response and mitigation, especially between the health and security sectors broadly understood, is central to fulfilling preparedness cycle objectives. Exercises provide a framework, in a safe environment, to develop strong working relationships with colleagues in a multiagency environment.

(b) The baseline for coordination in a shared responsibility context are comprehensive directives, contingency and operational plans, standing operating procedures and other relevant normative documents, protocols or memoranda of understanding, that comprise all relevant stakeholders and include processes of information-sharing between institutions. The health community is used to working in a consensus rather than a command and control environment, and exercises help to identify and reinforce training needs within the health community to enable, for example, more effective strategic leadership during a crisis situation.

(c) All institutions involved must be sensitive to the importance of evidence, evidence-gathering, and the evidence chain in a deliberate release incident, and the constraints and limitations that this imposes.

(d) Risk assessment activities must rely on solid multidisciplinary scientific advice, and this must be provided in a timely and easily understandable way to support the decision-making process. It is important that decision-makers know where and how they can access appropriate expert advice rapidly.

(e) Placing trained liaison officers in institutions involved in response, improves the effectiveness of interagency communication and information flow.

13. Outreach and dialogue to the international community formed an important component of CELULEX17, and several international observers were invited to take part in the exercise. They included experts from the World Health Organization, King's College London, and NATO's Joint Chemical, Biological, Radiological and Nuclear Defence Center of Excellence. During the exercise, the international observers were embedded in the biological investigation team, wearing personal protective equipment, and with full access to the Hot Zone. As part of their visit, the international observers were also given on-site visits to the BSL3 laboratories of the following entities:

- National Institute of Health *Doutor Ricardo Jorge*[19]
- National Institute for Agricultural and Veterinary Research[20]
- Biodefense Laboratory of the Portuguese Army[21]

14. The exercise was complemented with a public Open Day. The outreach activity comprised a static display, a live demonstration of response capacities during a confined CBRN incident, and presentations by international experts in the field of biological threats

[17] Also highlighted in BWC/MSP/2014/MX/WP.5 and BWC/MSP/2015/MX/WP.2, both submitted by the United Kingdom

[18] See, for instance, BWC/MSP/2010.MX/WP.7 submitted by the United Kingdom

[19] Instituto Nacional de Saúde Doutor Ricardo Jorge

[20] Instituto Nacional de Investigação Agrária e Veterinária

[21] Laboratório de Defesa Biológica do Exército

and health security: Dr. Filippa Lentzos (King's College London); Mr. Glenn Lolong (World Health Organization).

III. Feedback from international observers

15. The international experts expressed their appreciation to the Portuguese Army for the invitation to participate in CELULEX17 and for the on-site visits to the three BSL3 laboratories. They commended the professionalism of all participants in the field training exercise, and thanked the institutions and staff involved in the on-site visits for their time and insightful presentations.

16. The experts noted that CELULEX17 provided a helpful example of national biopreparedness efforts, and that its value is increased as its outcomes are reported, lessons shared and best practice disseminated. It was felt that the exercise can usefully contribute to future discussions in the framework of the BWC on preparedness, response and assistance under Articles VI, VII and X.

17. The experts also noted that the visit provided Portugal with an opportunity to demonstrate transparency in a more interactive way than through its annual submission under the Confidence-Building Measures (CBM) mechanism. Each State Party needs to find ways to reassure that it is complying fully with its obligations, and the visit was considered a welcome addition to CBM submissions and to recent States Parties initiatives around compliance assurance, implementation review and peer review.

IV. Conclusions

18. Biopreparedness exercises provide excellent opportunities to develop strong working relationships with colleagues in a multiagency environment, and this strengthens command, control and coordination in a real incident, both nationally and internationally.

19. National biopreparedness exercises contribute to international capacity-building in responding to biological incidents, and form concrete actions that strengthen the UNSGM. Outreach to, and dialogue with, the international community, and cooperation, through sustainable partnerships, to build and support capacities in other states, are important aspects of this.

20. Biopreparedness exercises encourage the further development of multinational expert networks in investigating the alleged use of biological weapons. In recent years, Portugal has participated in a variety of international biopreparedness field exercises including the FELINO2010 exercise held in Angola, a practical exercise organised by Germany in 2014 in support of the UNSGM that focused on the functional subunit approach, and several cooperation activities in the field of health security within the framework of the Community of Portuguese Speaking Countries: *Comunidade dos Países de Língua Portuguesa (CPLP*). Portugal is exploring future options for how best to build on these exercises to strengthen multinational expert networks.