



ANNEX

GUIDE

International Criminal
Police Organization



19



UNIÃO NORTE-RIOGRANDENSE DOS ESTUDANTES DE DIREITO INTERNACIONAL
SIMULAÇÃO DE ORGANIZAÇÕES INTERNACIONAIS
INTERNATIONAL POLICE CRIMINAL ORGANIZATION

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ABSTRACT

This annex guide aims to stimulate research on the relations of each country here presented with biological weapons, and it must serve only as a base material for the preparation of delegates to Mini SOI. Starting from this objective, the guide describes general informations of the countries that will be present at the INTERPOL meeting, addresses the historical aspects of countries related to biological weapons, their international commitment with the Biological Weapons Convention (BWC), the possibility of the existence and production of these weapons, as well as current information on research institutes on the subject. Along this guide, an exploratory research methodology was adopted, as well as a descriptive and didactic language to make the theme more accessible to high school students, despite the technicality of it.

Keywords: INTERPOL. Mini SOI. Countries. Bioweapons. Biological Weapons Convention.

LIST OF ABBREVIATIONS

BW - Biological Warfare.

BWC - Biological Weapons Convention.

CBRN - Chemical, Biological, Radiological and Nuclear Centres of Excellence.

CBW - Chemical and Biological Weapons.

CCHF - Crimean-Congo Hemorrhagic Fever.

CIA - Central Intelligence Agency.

CIGB - Centro de Ingeniería Genética y Biotecnología.

CPC - Communist Party of China.

CWC - Chemical Weapons Convention.

CWS - Chemical Warfare Service.

DRDE - Defense Research and Development Establishment.

DRDO - Defense Research and Development Organization.

EU - European Union.

GDP - Gross Domestic Product.

HDI - Human Development Index.

HRW - Human Rights Watch.

IIBR - Israeli Institute for Biological Research.

NATO - North Atlantic Treaty Organization.

NBC - Nuclear, Biological and Chemical.

NPT - Treaty on the Non-Proliferation of Nuclear Weapons.

OIC - Organization of Islamic Cooperation.

PPP - Purchasing-Power-Parity.

PRC - People's Republic of China.

SSRC - Scientific Studies Research Center.

UN - United Nations.

URSS - Union of Soviet Socialist Republics.

U.S. - United States of America.

USA - United States of America.

USAMRIID - Army Medical Research Institute of Infectious Diseases.

WHO - World Health Organization.

WMD - Weapons of Mass Destruction.

WTO - World Trade Organization.

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1 INTRODUCTION

Initially, the purpose of this document is to be a guide to the delegate's research in relation to the particular information of each country that will be represented at the INTERPOL meeting. For this to happen, an exploratory research methodology was adopted, as well as a descriptive and didactic language to make the theme more accessible to high school students, despite the technicality of it.

Along this document, the guide describes general informations of the countries that will be present at the INTERPOL meeting, addresses the historical aspects of countries related to biological weapons, their international commitment with the Biological Weapons Convention (BWC), the possibility of the existence and production of these weapons, as well as current information on research institutes on the subject.

Therefore, this document is based on the collection of data and research on the subject, providing technical and objective information of each country that will be represented, in order to serve as a basis for a more in-depth investigation from the delegations. Finally, it is important to say that this guide contains essential information to understand and predict the position of each country at the meeting, as well as assist in the initial research for the preparation of the country reports, which should be delivered until the opening ceremony of the XIX SOI.

2 AFGHANISTAN

The Islamic Republic of Afghanistan is a country located in South-Central Asia, bordered by Pakistan, Iran, Turkmenistan, Tajikistan and China. It has many official languages like Dari, Pashto, Uzbek, Turkmen, Balochi, Pashai, Nuristani and Pamiri. With a population of more than 34 million people, Afghanistan is a unitary presidential Islamic republic, composed by many ethnics. Besides that, the country is also a member of the United Nations (UN), the Organization of Islamic Cooperation (OIC), the Group of 77, the Economic Cooperation Organization and others. About funds, they have the 108th largest economy in the world's, ranking 167th out 186 countries in the International Monetary Fund.¹

Located in an area of major political tension and the scene of, at least two major wars in recent decades – 1979² and 2001³ – including during the Cold War period, Afghanistan became a signatory of the Biological Weapons Convention (BWC) in 1972, having ratified it in 1975, with the incorporation of these international norms in its internal legislation⁴. Besides that, more recently it has developed, through organizations such as the Afghanistan National Public Health Institute, training and workshops on biosafety and biosecurity, like the recent trainings from February to March 2019,⁵ in partnership with the Centres of Excellence (CBRN),⁶ an initiative of the European Union.

This program, specifically – inaugurated by the Director of Diagnostic Services of the Ministry of Public Health – consists of training more than one hundred professionals from different areas and specialties (technical, managerial levels, supervisor, surveillance and biosafety), attending practical and theoretical training about biosafety, with participants from

¹ INTERNATIONAL MONETARY FUND. **Report for Selected Countries and Subjects**. Retrieved from: <https://bit.ly/2V0teHP>. Accessed in May 18, 2019.

² BRITANNICA. **Soviet invasion of Afghanistan**. Retrieved from: <https://www.britannica.com/event/Soviet-invasion-of-Afghanistan>. Accessed in May 18, 2019.

³ BRITANNICA. **Afghanistan War**. Retrieved from: <https://www.britannica.com/event/Afghanistan-War>. Accessed in May 18, 2019.

⁴ OPBW. **Status of the Convention**. Retrieved from: <http://www.opbw.org/convention/status.html>. Accessed in May 24, 2019.

⁵ CBRN. **Afghanistan National Public Health Institute conducts three Biosafety and Biosecurity training workshops in Kabul, Afghanistan in February – March 2019 as part of European Union CBRN Centers of Excellence Project 53**. Retrieved from: <https://bit.ly/2WUKOXk>. Accessed in May 18, 2019.

⁶ CBRN. **About CoE**. Retrieved from: <http://www.cbrn-coe.eu/>. Accessed in May 18, 2019.

hospitals, laboratories and regional and provincial public biological study centers, consisting of a huge practice of compliance⁷ with international standards of biological control.⁸

⁷ Compliance, in general terms, represents procedural rules to prevent any conduct that may lead to liability in some legal area. Criminal compliance, for example, deals with rules of conduct that companies follow, through their legal advisors, acting with transparency and responsibility in the market, in order to avoid possible criminal liability, like environmental crimes practiced, or virtue of any conduct that would sound in dissonance with the legal rules adopted by that country. BUSATO, Paulo César; GUARAGNI, Fábio André. **Compliance and Criminal Law**. São Paulo: Atlas, 2015.

⁸ Ibidem.

3 BRAZIL

The Federal Republic of Brazil, with a population of almost 209 million in 2018, remains South America's most influential country, with a rising economic power and being one of the World's biggest democracies.⁹ This Latin American country is known for having a policy of aversion to weapons of mass destruction, even though it has developed its nuclear energy sector considerably in the past decades, and is an avid researcher on gene sequencing.¹⁰ Hence, in the Fifth Review Conference of the Biological Weapons Convention (BWC), Brazil declared that the only truly effective defense against this kind of weapons would be its total elimination.¹¹

Concerning to Brazil's history of biological weapons, scholars claims that the nation has already used it in the past. The first victims were the indigenous groups, as for example in 1815, when local authorities gave, to the Canelas Finas Indians, clothes and gifts previously contaminated with the smallpox virus.¹² More than one century after, in the 1960s years, the Brazilian Ministry of the Interior disclosed evidences about the deliberate use of the agents chickenpox, tuberculosis, influenza, and others, on several Indian tribes in the state of Mato Grosso, because of the rubber extraction.¹³

Besides, during the Paraguay War, extracted evidences of a possible letter from the Duke of Caxias, shows that Brazilian army would have used cholera-infected bodies against the Paraguayans.¹⁴ There is also, in the years of 1980 from 1990, the suspicion that the introduction of the disease known as "witch's broom", in southern Bahia, was an act of bioterrorism.¹⁵ Despite that, there are no confirmations that any of these acts actually happened, making them all just suspicious.

⁹ BBC. **Brazil country profile**. Retrieved from: <https://www.bbc.com/news/world-latin-america-18909529>. Accessed in Apr. 18, 2019.

¹⁰ NTI. **Brazil**. Retrieved from: <https://www.nti.org/learn/countries/brazil/>. Accessed in Apr. 18, 2019.

¹¹ UNITED NATIONS. **Permanent Mission of Brazil to the United Nations and other International Organizations in Geneva**. Retrieved from: [https://www.unog.ch/80256EDD006B8954/\(httpAssets\)/1C4DE41E51B64748C125719B004714CD/\\$file/BWC_CONF.V_STATEMENT_BRAZIL.pdf](https://www.unog.ch/80256EDD006B8954/(httpAssets)/1C4DE41E51B64748C125719B004714CD/$file/BWC_CONF.V_STATEMENT_BRAZIL.pdf). Accessed in Apr. 21, 2019.

¹² RAMBAUSKE, D.; DE OLIVEIRA CARDOSO T. A.; ALBUQUERQUE NAVARRO M. B. M. **Bioterrorism, biological risks and biosafety measures applicable to Brazil**. Retrieved from: <https://www.scielosp.org/article/physis/2014.v24n4/1181-1205/pt/>. Accessed in Apr. 18, 2019.

¹³ HAWLEY, Robert J.; EITZEN JUNIOR, Edward M. **Biological Weapons: a Primer for Microbiologists**. Annual Reviews, v. 55, p.235-253, oct. 2001. Retrieved from: <https://www.annualreviews.org/doi/full/10.1146/annurev.micro.55.1.235>. Accessed in Apr. 21, 2019.

¹⁴ DIRANI, Claudio. **Bacilos no rio: As Armas Biológicas do Brasil**. Retrieved from: <https://aventurasnahistoria.uol.com.br/noticias/acervo/bacilos-rio-armas-biologicas-brasil-436062.phtml>. Accessed in Apr. 21, 2019.

¹⁵ RAMBAUSKE, D.; DE OLIVEIRA CARDOSO T. A.; ALBUQUERQUE NAVARRO M. B. M. **Bioterrorism, biological risks and biosafety measures applicable to Brazil**. Physis: Revista de Saúde Coletiva. Rio de Janeiro, v. 24, n. 4, 2014. Retrieved from: <https://www.scielosp.org/article/physis/2014.v24n4/1181-1205/pt/>. Accessed in Apr. 18, 2019.

In 1973, Brazil ratified the BWC, however, only three years later, by the Decree No. 77,734, when the President Ernesto Geisel promulgated the Treaty, making it have the force of Law inside the country.¹⁶ Moreover, in 1991, Brazil also signed the Mendoza Agreement, which aimed to prohibit the development, stockpiling and transfer of biological and chemical agents.¹⁷

Nevertheless, the Government adopts a somewhat dubious policy to prevent the international development of biological weapons. This is because, although the country supports the creation of a mechanism to monitor the commitment with BWC, Brazil also has not provided its required funding to the Convention for the past 12 years, which difficult annual meetings and, therefore, inhibits decision-making to prevent biological warfare.¹⁸

Lastly, although this Latin American Nation is against the development of biological weapons, its population does not have easy access to information about what to do if a biological attack happens, and even the possibility of this type of terrorism within the country is not widely publicized.¹⁹ The proof of this situation is that only the site of the National Secretary of Civil Defense has an informative portal with easily understood language, despite there is not any specifically concern about bioterrorism.²⁰

¹⁶ NTI. **Brazil**. Retrieved from: <https://www.nti.org/learn/countries/brazil/>. Accessed in Apr. 21, 2019.

¹⁷ Ibidem.

¹⁸ JENKINS, Bonnie. **The Biological Weapons Convention at a crossroad**. Brookings, Sept. 2017. Retrieved from: <https://www.brookings.edu/blog/order-from-chaos/2017/09/06/the-biological-weapons-convention-at-a-crossroad/>. Accessed in Apr. 21, 2019.

¹⁹ PEREIRA, Maria Eveline Castro; SILVA, Ana Clara Pecego; JURBERG, Claudia. **The Brazilian Government's information and security system in the face of bioterrorist threats**. Revista Eletrônica de Comunicação, Informação e Inovação em Saúde, [S.l.], v. 6, n. 2, june 2012. ISSN 1981-6278. Retrieved from: https://www.reciis.icict.fiocruz.br/index.php/reciis/article/viewFile/479/pdf_316. Accessed in Apr. 21, 2019.

²⁰ Ibidem.

4 CANADA

Localized at the North of the American Continent, Canada is the world's second-largest country by surface, and its population is almost 36 million, with a life expectancy around 82 years old.²¹ Nowadays, it is believed that Canadians have a sense of communitarian individualism in political issues, prefer a center government, and in international affairs, the nation usually acts as a peacemaker, in addition to have pluralistic and respectful ways of seeing global problems.²²

Nevertheless, Canada's history about bioweapons was not always so peaceful. During World War II (WWII), it may had conducted researches on biological warfare, studying varied forms of applications of anthrax, rinderpest, and tularemia, at its territory known as Grosse Ile Island.²³ At that time, Canada, United Kingdom and United States formed an alliance, the Tripartite Biological and Chemical Weapons Agreement²⁴, which aimed cooperation between scientists of these three countries to develop weaponized pathogens for possible use against the Axis Countries.²⁵

Furthermore, during the Cold War, researches on biowarfare were conducted at the Canadian military base in Alberta, and along with the Americans, Canadians participated in Project 112, which tested biological weapons in Alaska and Alberta.²⁶ This may mean that great quantities of toxins have been stockpiled in the regions concerned until at least the late 1980s.²⁷

Another case, now outside the country, was the Canadian's construction of a high-security biological laboratory in Kyrgyzstan, conveniently surrounded by other laboratories that had anthrax, cholera, brucella and an Ebola-like hemorrhagic fever.²⁸ It aimed to stop that the area became a mall for potential weapons of mass destruction (WMD). However, a revolution

²¹ INFOPLEASE. **Canada**. 2007. Retrieved from: <https://www.infoplease.com/world/countries/canada>. Accessed in Mar. 30, 2019.

²² ENCYCLOPAEDIA BRITANNICA. **Canada**. Retrieved from: <https://www.britannica.com/place/Canada>. Accessed in Mar. 30, 2019.

²³ NTI. **Canada**: Overview. Retrieved from: <https://www.nti.org/learn/countries/canada/>. Accessed in Mar. 30, 2019.

²⁴ AVERY, Donald. **Pathogens for War: Biological Weapons, Canadian Life Scientists, and North American Biodefence**. Toronto; Buffalo; London: University of Toronto Press, 2013. Retrieved from: <http://www.jstor.org/stable/10.3138/j.ctt5hjxv4>. Accessed in Mar. 30, 2019.

²⁵ WALKOM, Thomas. **Canada played key role in U.S., U.K. biological weapons programs**: Walkom. The Star, 2013. Retrieved from: https://www.thestar.com/news/canada/2013/06/26/canada_played_key_role_in_us_uk_biological_weapons_programs_walkom.html. Accessed in Mar. 30, 2019.

²⁶ Ibidem.

²⁷ Ibidem.

²⁸ NATIONAL POST. **'Death lab'**: How a revolution destroyed Canada's \$30M plan to build a high-security bio-lab in Kyrgyzstan. Retrieved from: <https://nationalpost.com/news/canada/death-lab-how-a-revolution-destroyed-canadas-30m-plan-to-build-a-high-security-bio-lab-in-kyrgyzstan>. Accessed in Mar. 30, 2019.

in the region prevented the project from moving forward, because of the population's fear of an accident or the use of the pathogens against them.²⁹

Despite all those situations, Canada, in September 1972, ratified the BWC, starting to research and develop defenses against a number of weapon systems, one of them being the biological type.³⁰ However, when all the actions of Canada during the Wars in relation to the biowarfare came to the public, Canadians began to demand to know the real position of the country in the realm of chemical and biological warfare.³¹

Therefore, Canada is always helping the global efforts to reduce biological threats; its officials have tended to help train experts in laboratory best practices and detection policies in several developing countries, as well as funding aid in other countries to prevent the development of biological weapons³². For example, in 2016, Canada subsidized projects to secure all remaining samples of the Ebola virus from the 2013-16 outbreak in West Africa, and to project to map and monitor infectious disease vectors in Southeast Asia.³³

Consequently, it is becoming a priority of Canada to improve science and technology within the Convention, besides promoting effective national implementation of the Treaty.³⁴ However, in a way that can permit biological, medical and pharmacological sciences researches to continue.

²⁹ Ibidem.

³⁰ NTI. **Canada**: Overview. Retrieved from: <https://www.nti.org/learn/countries/canada/>. Accessed in Mar. 30, 2019.

³¹ AVERY, Donald. **Pathogens for War**: Biological Weapons, Canadian Life Scientists, and North American Biodefence. Toronto; Buffalo; London: University of Toronto Press, 2013. Retrieved from: <http://www.jstor.org/stable/10.3138/j.ctt5hjxv4>. Accessed in Mar. 30, 2019.

³² KELSEY, Johnson. **Canada to prioritize biological threat reduction during G7 presidency**. iPolitics, 2017. Retrieved from: <https://ipolitics.ca/2017/11/06/canada-to-prioritize-biological-threat-reduction-during-g7-presidency/>. Accessed in Mar. 30, 2019.

³³ GOVERNMENT OF CANADA. **Biological security programming**. 2017. Retrieved from: https://international.gc.ca/world-monde/issues_development-enjeux_developpement/peace_security-paix_scurite/wmd-adm/biological-biologique.aspx?lang=eng. Accessed in Mar. 30, 2019.

³⁴ UNITED NATIONS. **Canada Statement**: Chemical and Biological Weapons First Committee of the 71st Session of the United Nations General Assembly. Retrieved from: <https://www.un.org/disarmament/wmd/bio/1925-geneva-protocol/>. Accessed in Mar. 30, 2019.

5 CHINA

The People's Republic of China (PRC), whose capital is Beijing, is the largest East Asian country in territory and, by far, the most populous in the world, with more than 1.38 billion inhabitants, representing something like 25% of the world's population. Although it is a socialist republic ruled by the Communist Party of China (CPC), the country is currently the second largest economy in the world, surpassed only by the U.S., and has the largest purchasing-power-parity (PPP)³⁵ of the world, with approximately 22.64 trillion dollars available, surpassing the European Union (EU) and any other nation.³⁶

Also, it has the highest economic growth in the world in the last 25 years, with an average of 10% annual gross domestic product (GDP), and about 8% per year of *per capita* growth rate income in the last 30 years³⁷. A fact that, strange as it may seem, has contributed to the increase in inequality of income distribution in the country, although it allowed a high military and biosafety investment power, which is our focus here.³⁸

With this high military investment power, China possesses military weapons with very high ranges of distance, and even biological weapons that can be developed and fired at a distance, even though it's a signatory to most of the international agreements on regulation of biological weapons, such as Geneva Protocol and the BWC.³⁹

About the country's cooperation with international standards for biological weapons control, China has a compliance system with the BWC, although it has already been accused by nations like the U.S. of having transferred control of biological weapons and similar technology to such nations as Iran, receiving sanctions from the U.S. for non-proliferation of this type of war material.⁴⁰

However, the official position of the Chinese government has been the defense of multilateral support and effort to strengthen the effectiveness of the BWC standard, having already established a legislative system considered "comprehensive" for the implementation of

³⁵ According with the Investopedia, PPP is a "popular macroeconomic analysis metric to compare economic productivity and standars of living between countries". In fact, is a theory that measures something like the gross domestic product. INVESTOPEDIA. **What is Purchasing Power Parity - PPP?**. Retrieved from: <https://www.investopedia.com/updates/purchasing-power-parity-ppp/>. Accessed in Jun. 17, 2019.

³⁶ INTERNATIONAL MONETARY FUND. **Report for Selected Countries and Subjects**. Retrieved from: <https://bit.ly/30w1Ugr>. Accessed in May 18, 2019.

³⁷ Ibidem.

³⁸ NTI. **CHINA**. Retrieved from: <https://www.nti.org/learn/countries/china/>. Accessed in May 18, 2019.

³⁹ SRIVASTAVA, Anupam. **China's Export Controls: Can Beijing's Actions Match Its Words?. Arms Control Today**. Retrieved from: https://www.armscontrol.org/act/2005_11/NOV-China. Accessed in May 18, 2019.

⁴⁰ GERTZ, Bill. Albright Concedes 'Concern' Over China-Iran Transfers. **Washington Times**, Washington, 24 Jan. 1997, p. 6.

the convention in its laws⁴¹ and received a recent U.S. compliance report, colluding for “the BWC compliance issues raised between the United States and China”,⁴² demonstrating the effort of the Asian nation to comply with international agreements.

⁴¹ MINISTRY OF NATIONAL DEFENSE PEOPLE’S REPUBLIC OF CHINA. **Arms Control and Disarmament**. Retrieved from: <http://eng.mod.gov.cn/Database/ArmsControl/index.htm>. Accessed in May 18, 2019.

⁴² U.S. DEPARTMENT OF STATE. **2018 Report on Adherence and Compliance with Arms Control, Nonproliferation, and Disarmament Agreements and Commitments**. Retrieved from: <https://www.state.gov/2018-report-on-adherence-to-and-compliance-with-arms-control-nonproliferation-and-disarmament-agreements-and-commitments/>. Accessed in May 18, 2019.

6 CUBA

Cuba is a small country located in Central America which homes 11 million citizens. Comparing with the rest of Latin America, Cuba is off the charts: over 99% of alphabetization rate, life expectancy of 79 years, a Human Development Index (HDI) of 0.77 (comparable with high-developed countries) and one of the best educational systems, which makes Cuba one exception in South American scenario.⁴³

Since the establishment of the embargo in 1958, Cuba has been isolated in terms of economy and diplomacy.⁴⁴ In 2016, the Obama administration changed the relation between U.S. and Cuba and slowly removing some restrictions, so the relation Cuba-world is being established and this allowed the development of diplomatic and economic relations between other nations and Cuba.⁴⁵

Generally speaking, there is no proof that Cuba develops and keeps WMD in their territory. Since 1980s, Cuba has signed protocols about the proliferation of nuclear, biological and chemical weapons and most recently has ratified these treaties, as the Treaty on the Non-Proliferation of Nuclear Weapons (NPT) and the BWC⁴⁶.

Despite this fact, Cuba has one of the most powerful biological industries and genetic research centers even comparing with First World countries. The Centro de Ingeniería Genética y Biotecnología (CIGB), which is specialized in several areas of experimental biotechnology, such as molecular biology and immunology. Fortunately, this power is used in medical researches and production of vaccines, making Cuba an international reference in public health.⁴⁷

The technology of advanced chemistry and biology is an attractive field to the world. The Cuban government wouldn't compromise the integrity and the credibility of CIGB by producing biological weapons, but the U.S. knows the potential Cuba has in developing this kind of weaponry⁴⁸.

⁴³ Central Intelligence Agency. **Cuba**. Retrieved from: <https://www.cia.gov/library/publications/the-world-factbook/docs/notesanddefs.html#207>. Accessed in May 11, 2019.

⁴⁴ BBC. **US-Cuba relations**. Retrieved from: <https://www.bbc.com/news/world-latin-america-12159943>. Accessed in May 11, 2019.

⁴⁵ Ibidem.

⁴⁶ NTI. **Cuba**: Overview. Retrieved from: <https://www.nti.org/learn/countries/cuba/>. Accessed in May 11, 2019.

⁴⁷ Time. **Inside Cuban Bioterrorism**. Retrieved from: <http://content.time.com/time/world/article/0,8599,237765,00.html>. Accessed in May 11, 2019.

⁴⁸ Ibidem.

7 FRANCE

The French Republic, or France, is located in Western Europe and its capital as well as most populous city is Paris. France entered the European Union in March 1957 as a founding member and is considered a great power with considerable influence not only in Europe but throughout the world.⁴⁹ The French Republic has its ideals based on the declaration of the rights of man and of the citizen, and has by privilege a high standard of living, with good schooling rates and, according to the World Health Organization (WHO), possesses the best public health system in the world.⁵⁰

The high destructive power of biological agents has long been known to the France. It is known that in 1763 in the war between France and United Kingdom (UK), the UK sent to the French Allies blankets that had been used by patients infected with smallpox, killing a huge amount of people in a short period of time.⁵¹ In addition, during the First World War the French Republic invested in the production of chemical and biological weapons, reusing resources in those areas throughout the 1930s.⁵² The country discontinued such practices by adhering to the BWC⁵³ but contributed to advances in research involving anthrax, cholera, rinderpest, and other pathogens, as well as investigations of ricin and botulinum toxin.⁵⁴

France has a great history of protection for the issue of bioterrorism, taking care to make frequent studies on the subject. Therefore, it is well known that France has a great history of protection on the issue of bioterrorism, and it carefully addresses this issue, including being a member of the Australia group⁵⁵, which is fighting for the promotion of global security, preventing its signatories from investing resources potential chemical and biological weapons. In this way it is interesting that this country can contribute to the debate before the international community, helping them to solve or soften this delicate issue.

⁴⁹ FREITAS, Eduardo de. **França**. Retrieved from: <https://brasilecola.uol.com.br/geografia/franca.htm>. Accessed in May 19, 2019.

⁵⁰ World health report. **WORLD Health Organization Assesses the World's Health Systems**. Retrieved from: https://www.who.int/whr/2000/media_centre/press_release/en/. Accessed in May 19, 2019.

⁵¹ Rambausk, D.C. **Bioterrorismo: dados de uma história recente de riscos e incertezas**. Retrieved from: <http://www.cienciaesaudecoletiva.com.br/artigos/bioterrorismo-dados-de-uma-historia-recente-de-riscos-e-incertezas/3791>. Accessed in May 19, 2019.

⁵² NTI. **France**. Retrieved from: <https://www.nti.org/learn/countries/france/>. Accessed in May 19, 2019.

⁵³ NTI. GLOSSARY: Biological and Toxin Weapons Convention (BTWC). Retrieved from: <https://www.nti.org/learn/glossary/#biological-and-toxin-weapons-convention>. Accessed in May. 20, 2019.

⁵⁴ NTI. **France**. Retrieved from: <https://www.nti.org/learn/countries/france/>. Accessed in May 19, 2019.

⁵⁵ The Australia Group. **AUSTRALIA Group Participants**. Retrieved from: <https://australiagroup.net/en/participants.html>. Accessed in May 20, 2019.

8 GERMANY

The Federal Republic of Germany is a democratic parliamentary country⁵⁶ with an area of 357,104 km² and a population of 84,156,000 million people⁵⁷, which makes it the largest population in Europe and 16th most popular country in the world.⁵⁸ It is divided in 16 constituent states, the capital city is Berlin, the official language is German and the currency is the euro⁵⁹, since it is one of the founding and current members of European Union since the creation in 1958.⁶⁰

In 18th September 1973, both the “Federal Republic of Germany” (West Germany) and the “German Democratic Republic” (East Germany) were admitted as full members of the United Nations and after the merge of the two countries in 1990, and until this day, Germany is still a member nation.⁶¹

During World War I (1914-1918) the Germans had an active biological weapons program but it could be best described as a sabotage program, because its target was to destroy the enemy’s economic capacity to wage war, instead of human personnel, so it focused only in anti-crop and anti-animal pathogens.⁶² The attacks were directed to neutral nations that supplied the Allied Powers.⁶³ There was an agreement that anti-human pathogens should not be meddled with and there is no evidence that the Germans attempted to infect humans with bioagents of any kind.⁶⁴

After WWI Germany continued its research and development program and pursued rearmament despite the prohibitions following the war but, although it was assumed that the

⁵⁶ TOURISM IN GERMANY. **Germany at a glance**. Retrieved from: <https://www.germany.travel/en/travel-information/germany-at-a-glance/germany-at-a-glance.html>. Accessed in May 11, 2019.

⁵⁷ ENCYCLOPAEDIA BRITANNICA. **Germany**. Retrieved from: <https://www.britannica.com/place/germany>. Accessed in May 11, 2019.

⁵⁸ COUNTRIES OF THE WORLD. **Top 100 most populous countries**. Retrieved from: <https://www.countries-ofthe-world.com/most-populous-countries.html>. Accessed in May 11, 2019.

⁵⁹ TOURISM IN GERMANY. **Germany at a glance**. Retrieved from: <https://www.germany.travel/en/travel-information/germany-at-a-glance/germany-at-a-glance.html>. Accessed in May 11, 2019.

⁶⁰ EUROPEAN UNION. **Countries**. Retrieved from: https://europa.eu/european-union/about-eu/countries_en. Accessed in May 11, 2019.

⁶¹ DEUTSCHLAND.DE. **Germany in the united nations**. Retrieved from: <https://www.deutschland.de/en/topic/politics/global-issues-law/germany-in-the-united-nations>. Accessed in May 11, 2019.

⁶² GLOBAL SECURITY.ORG. **German biological weapons**. Retrieved from: <https://www.globalsecurity.org/wmd/world/germany/bw.htm>. Accessed in May 11, 2019.

⁶³ Ibidem.

⁶⁴ Ibidem.

program was fully active, the efforts were sporadic at best.⁶⁵ It remained active during the interwar years and also through World War II (1939-1945).⁶⁶

During WWII the Nazi intelligence worked to gain information about the Allied Power biological weapons programs but only to prepare defensive countermeasures to any possible biological attack against Germany, as Hitler was opposed to biological warfare even as a retaliation.⁶⁷ In the other hand, the Nazis had no problem using the concentration camps prisoners as subjects to be infected with bioagents to research the development of preventive vaccines, adding biological experiments to the horrors committed during the Nazi Regime.⁶⁸

Consequential to the biological warfare damage caused in WWII the “Biological Weapons Convention” was created in 10th April 1972 and went into force in 26th March 1975.⁶⁹ Germany signed and ratified the BWC later in 7th April 1983.⁷⁰

Nowadays, the German Federal Foreign Office, under the keeping of the G7 Global Partnership against the Spread of Weapons and materials of Mass Destruction⁷¹, launched in 2013 the German Biosecurity Programme that aims to implement long term biosecurity projects in various countries to help them tackle biosecurity threats. The program was extended, in 2016, to remain until the end of 2019.⁷²

⁶⁵ GLOBAL SECURITY.ORG. **German biological weapons**. Retrieved from: <https://www.globalsecurity.org/wmd/world/germany/bw.htm>. Accessed in May 11, 2019.

⁶⁶ Ibidem.

⁶⁷ Ibidem

⁶⁸ Ibidem.

⁶⁹ GERMAN FEDERAL FOREIGN OFFICE. **The biological weapons convention (bwc)**. Retrieved from: <https://www.auswaertiges-amt.de/en/aussenpolitik/themen/abruestung/uebersicht-bcwaffen-node/-/218610>. Accessed in May 11, 2019.

⁷⁰ Ibidem.

⁷¹ GLOBAL PARTNERSHIP AGAINST THE SPREAD OF WEAPONS AND MATERIALS OF MASS DESTRUCTION. **Home**. Retrieved from: <https://www.gpwm.com/>. Accessed in May 11, 2019.

⁷² GERMAN FEDERAL FOREIGN OFFICE. **The german biosecurity programme**. Retrieved from: <https://www.auswaertiges-amt.de/en/aussenpolitik/themen/abruestung/uebersicht-bcwaffen-node/-/239362>. Accessed in May 11, 2019.

9 HUMAN RIGHTS WATCH

The Human Rights Watch (HRW) is a non-governmental organization that seeks to guarantee the human rights all over the world whether in wars or in any situation that could violate those rights.⁷³ It was created in 1978 and since then works to protect people from all kind of abuse. Every year the HRW produces impartial reports about investigations and uses the media to sensitize and spread to the public its causes.⁷⁴

A variety of professionals such as lawyers, journalists and doctors work for this organization, helping it to achieve its objectives. It is important to mention that some local organizations and also governments work with HRW to propose political changes, new public policies and legal reforms to protect rights and ensure redress for victims of past violations.⁷⁵ Furthermore, this organization has another objective: bring justice to victims of rights violation, carrying the cases to international courts or to the international justice.⁷⁶

This delegation is very relevant to the debate about Bioterrorism because, as it is known, the use of Biological Weapons can cause great disaster and tragic consequences to people lives. Then, in the context of conflicts involving Biological Weaponry, the Human Rights Watch could act by denouncing to the international community the violations caused by this this type of weapon and also to draw the attention of the world population to such a situation extremely harmful to a dignified and quality life.

⁷³ HUMAN RIGHTS WATCH. **About the Human Rights Watch**. Retrieved from: <https://www.hrw.org/pt/sobre-human-rights-watch>. Accessed in May 07, 2019.

⁷⁴ Ibidem.

⁷⁵ Ibidem.

⁷⁶ Ibidem.

10 INDIA

India is a very populous country with 1.3 billion people, located in South Asia, that has been progressing economically in the past few years. Its population is expected to overtake China's in 2028 and become the biggest population in the world, as UN estimates. The capital of Republic of India is New Delhi and the most spoken languages there are Hindi and English. It is important to remember that the country has emerged as a relevant regional power and, because of that, has been facing some social, economic and environmental problems.⁷⁷

Concerning Bioterrorism, it is possible to mention India has ratified the BWC in 1974 and there is no clear evidence that the country has a Biological Weapons program. India has never made any kind of attack using this weaponry, even though it has been making great progress in the pharmacological industry development and in the research on countering various diseases.⁷⁸

Yet, although India has not demonstrated to be a potential threat in the field of Bioterrorism, in 2018 its Defense Minister Manohar Parrikar said that is important for the country to be well prepared to deal with possible attacks involving Biological and Chemical Weapons. He also said that India must have an effective biosecurity system in order to prevent and avoid these kind of attacks.⁷⁹

In relation to that, the dense population, the poor conditions of hygiene and sanitation facilities and also the climatic characteristics of India are factors that could favor the spread of infectious diseases caused by biological agents. Because of that, India invests a lot in the biodefense industry, centered at the Defense Research and Development Organization (DRDO), and its primary lab, the Defense Research and Development Establishment (DRDE), which is located in Gwalior, Madhya Pradesh.⁸⁰

⁷⁷ BBC. **India country profile**. Retrieved from: <https://www.bbc.com/news/world-south-asia-12557384>. Accessed in May 06, 2019.

⁷⁸ NTI. **Biological**. Retrieved from: <https://www.nti.org/learn/countries/india/biological/>. Accessed in May 06, 2019.

⁷⁹ THE ECONOMIC TIMES. **India must be prepared for biological warfare**: Manohar Parrikar. Retrieved from: <https://economictimes.indiatimes.com/news/defence/india-must-be-prepared-for-biological-warfare-manohar-parrikar/articleshow/57435338.cms>. Accessed in May 06, 2019.

⁸⁰ NTI. **Biological**. Retrieved from: <https://www.nti.org/learn/countries/india/biological/>. Accessed in May 06, 2019.

11 IRAN

The Islamic Republic of Iran, geographically known as Persia, is an ethnically diverse country, localized in southwestern Asia, between the Caspian Sea in north, the Persian Gulf and the Gulf of Oman in the south.⁸¹ Having a theocratic government, in which the Chief of the State is a Supreme Leader who exerts ideological and political control, Iran nowadays is the most advanced nation in the production and use of industrial chemicals and biotechnology, in relation to the Muslim world.⁸²

The history of this country, related to the biological warfare, began in 1985, during the Iran-Iraq War. At that time, it is believed that Iran initiated a secret research complex in the Teheran's Pasteur Institute, with the aim to study on toxic fungus, as the aflatoxin, and microbial substances.⁸³ When the mass production of microbial material succeeded, the government decided to move these production's centers to a military facility.⁸⁴ Since then, the oldest research centers, like the Pasteur's Institute, have been used only for biological researches.⁸⁵

Iran ratified the BWC on August 1973 and, right away, it has publicly decried all WMD.⁸⁶ In addition, in the documents of UN Security Council Resolution 1540 of Iran, it proclaimed that the State considered acquiring, developing, and using WMD as inhumane, immoral, illegal, and against its very basic principles.⁸⁷

However, even after these declarations and ratification of the Treaty, nations that oppose the government remained denouncing the theocratic country's possible desire to develop hazardous biological activities, because the purchase of biotechnology materials could serve both for research on vaccines and other means of combating diseases, but also for the development of biological weapons.⁸⁸ As an example, several are the Central Intelligence

⁸¹ ADVANTOUR. **Iran**: Iran overview. Retrieved from: <https://www.advantour.com/iran/general.htm>. Accessed in May 19, 2019.

⁸² CORDESMAN, Anthony H; SEITZ, Adam C. **Iranian Weapons of Mass Destruction: Biological Weapons Programs**. Center for Strategic & International Studies, 2008. Retrieved from: https://csis-prod.s3.amazonaws.com/s3fs-public/legacy_files/files/media/csis/pubs/081028_iranbw_chapterrev.pdf. Accessed in Apr. 5, 2019.

⁸³ JAFARZADEH, Alireza; SAMSAMI, Soona. **Iranian Regime's Programs for Biological and Microbial Weapons**. Iran Watch, 2003. Retrieved from: <https://www.iranwatch.org/library/ncri-iranian-regimes-programs-biological-weapons-5-15-03>. Accessed in Apr. 5, 2019.

⁸⁴ Ibidem.

⁸⁵ Ibidem.

⁸⁶ NTI. **Iran**: Biological. 2017. Retrieved from: <https://www.nti.org/learn/countries/iran/biological/>. Accessed in Apr. 5, 2019.

⁸⁷ Ibidem.

⁸⁸ CORDESMAN, Anthony H; SEITZ, Adam C. **Iranian Weapons of Mass Destruction: Biological Weapons Programs**. Center for Strategic & International Studies, 2008. Retrieved from: https://csis-prod.s3.amazonaws.com/s3fs-public/legacy_files/files/media/csis/pubs/081028_iranbw_chapterrev.pdf. Accessed in Apr. 5, 2019.

Agency (CIA) reports, since the 1980s, believing that some of Iran's commercial activities, with respect to biological materials, would be for the development of such weapons.⁸⁹

Even though, the fact is that none of these reports have concrete evidences. The reason for this situation is the fact that any nation, with even modestly sophisticated biopharmaceutical industrial capabilities, has the ability of producing biological agents and, as they can be used both health and war, it is quite difficult to see how the materials are actually being used.⁹⁰ Therefore, the more recent assessments have tended to avoid such definitive claims, and instead, they emphasize the dual-use capabilities inherent to Iran's great civil biotechnology sector.⁹¹

⁸⁹ Ibidem.

⁹⁰ Ibidem.

⁹¹ NTI. **Iran**: Biological. Retrieved from: <https://www.nti.org/learn/countries/iran/biological/>. Accessed in Apr. 5, 2019.

12 IRAQ

The Republic of Iraq, or simply Iraq, is located in the Middle East, has a population of 38.27 million inhabitants, its capital is Baghdad and they speak three languages: Arabic language, the Kurdish language and the modern Arabic standard. Iraq derives from the ancient region known as Mesopotamia, which is considered the cradle of civilization, where humanity began to organize in society, read and create laws⁹². According to the current constitution, Iraq is a federal, parliamentary and democratic republic, constituted by the three powers: legislative, executive and judiciary⁹³.

Iraq is one of the countries that the international community believes has developed programs of studies on biological weapons. Under the dictatorial regime of Saddam Hussein, the development of *B. anthracis*, as well as a number of other viruses, biological weapons that have never been used directly by the country. But during that government Iraq invested heavily in chemical weapons and mass destruction, even using them in attacks during the war against Iran between the years 1980 and 1989⁹⁴.

It is noteworthy that Iraq abandoned its programs of weapons of mass destruction after the Gulf War, but the great fears fueled by the international community that it could resume such programs served as a justification for the invasion and occupation of Iraq by the United States in 2003⁹⁵. In addition, a stigma has been developed about the possibility of linking Iraq with a constant involvement with biological weapons, such as training of terrorist groups, even though the country is a signatory to the non-proliferation treaty and the Biological and Toxin Weapons Convention (BTWC) since 1972⁹⁶.

In addition, by agreeing to sign UN Security Council resolution 687, several positions were adopted by Iraq, and one of them was the destruction of its entire arsenal of biological weapons, declaring itself harmless⁹⁷. However, in 1995, Husayn Kamil's testimony confirmed that Iraq still had biological arsenal for offensive purposes. Moreover, the bonds between Iraq and the Soviet Union in the development of botulinum toxin as a biological weapon are known. Being extremely fatal, a small amount of its product would have the power to kill millions of people⁹⁸.

⁹² GASPARETTO JUNIOR, Antonio. **História do Iraque**. Retrieved from: <https://www.infoescola.com/iraque/historia-do-iraque/>. Accessed in May 19, 2019

⁹³ Ibidem.

⁹⁴ NTI. **Iraq**. Retrieved from: <https://www.nti.org/learn/countries/iraq/>. Accessed in May 19, 2019.

⁹⁵ Ibidem.

⁹⁶ Ibidem.

⁹⁷ Ibidem.

⁹⁸ Ibidem.

Lastly, Iraq no longer poses a threat when we talk about biological weapons, but since Iraq has a long history of links and a relationship with biological weapons, there is a need for greater care and debate on how the international community can act against potential threats and seek better global harmony.

13 ISRAEL

The State of Israel is a country of the Middle East, along the eastern coastline of the Mediterranean Sea.⁹⁹ It holds the 33rd position by nominal GDP and their HDI is 0,903.¹⁰⁰ This country aims to overcome diplomatic isolation and to achieve recognition and friendly relations with as many nations as possible, and throughout its history Israel has simultaneously practiced open and secret diplomacy to obtain its main national goals.¹⁰¹

In relation to biological weapons, its research is made by the Israeli Institute for Biological Research (IIBR)¹⁰², whose scientists openly publish their research, which is presumably defense-related.¹⁰³ Meanwhile, Israel maintains reticence and ambiguity about its biological weapons capabilities or intentions.¹⁰⁴ Although, there is no evidence regarding the existence of or biological weapons programs, it is notable that Israel possesses a sophisticated bioscience knowledge, which would make be easier to this country initiate an offensive biological weapons program.¹⁰⁵ It adds to this concern that Israel has not signed the BWC, however it has recently adopted national export control regulations for biological materials consistent with the standards of the Australia Group^{106, 107}.

The IIBR officially realizes research on vaccines against bacteria and viruses; however, it is obvious that with their biological knowledge it is possible to develop new pathogens for war use.¹⁰⁸ In fact, this institute is one of most secret organizations from Israel, and theirs greatest secret is related to the research on biological weapons, bacteria and viruses that can trigger epidemics, including the bacteria of the bubonic plague and the Ebola virus.¹⁰⁹

⁹⁹ ISRAEL. **Land of milk and honey**. Retrieved from:

<https://embassies.gov.il/UnGeneva/AboutIsrael/Pages/AboutIsraelgeneralinfo.aspx>. Accessed in May 01, 2019.

¹⁰⁰ COUNTRY ECONOMY. **ISRAEL**. Retrieved from: <https://countryeconomy.com/countries/israel>. Accessed in May 01, 2019.

¹⁰¹ COUNTRY STUDIES. **FOREIGN RELATIONS**. Retrieved from: <http://countrystudies.us/israel/106.htm>. Accessed in May 01, 2019.

¹⁰² “ A database search of IIBR's publications reveals research on several select agents and toxins, including plague bacterium (*Yersinia pestis*), typhus bacterium (*Rickettsia prowazekii*), staphylococcal enterotoxin B (SEB), rabies, anthrax bacterium (*Bacillus anthracis*), botulinum bacterium (*Clostridium botulinum*), botulinum toxin, and Ebola virus” NTI. **Israel Biological**. Retrieved from:

<https://www.nti.org/learn/countries/israel/biological/>. Accessed in Apr. 29, 2019.

¹⁰³ NTI. **ISRAEL**. Retrieved from: <https://www.nti.org/learn/countries/israel/>. Accessed in Apr. 29, 2019.

¹⁰⁴ Ibidem.

¹⁰⁵ Ibidem.

¹⁰⁶ The Australia Group was established in 1985 to limit the spread of chemical and biological weapons (CBW) through export controls on chemical precursors, equipment, agents, and organisms. NTI. **GLOSSARY**. Retrieved from: <https://www.nti.org/learn/glossary/#australia-group-ag>. Accessed in May. 01, 2019.

¹⁰⁷ NTI. **ISRAEL**. Retrieved from: <https://www.nti.org/learn/countries/israel/>. Accessed in Apr. 29, 2019.

¹⁰⁸ GLOBAL RESEARCH. **Israel's Secret Nuclear Biological and Chemical Weapons (NBC)**. Retrieved from: <https://www.globalresearch.ca/israels-secret-nuclear-biological-and-chemical-weapons-nbc/5352454>. Accessed in May 01, 2019.

¹⁰⁹ Ibidem.

Therefore it is evident the growth of biotechnology in Israel, and the increasing possibility to develop bioweapons in a huge scale. Moreover, the absence of any international Israeli commitment not to produce biological weapons plus the great knowledge of the IIBR collaborate with the international concern of the potential biological warfare power of that country.

14 JAPAN

Japan is an island country located at Eastern Asia, which is composed by 6,852 islands, including Honshu (Main Island), Hokkaido (North Island), Kyushu, Shikoku and the Okinawa Islands.¹¹⁰ It has the 3rd largest economy by nominal GDP and their HDI is 0,909¹¹¹. This country is an active member of the UN since 1956, and since then aimed to promote peace and prosperity for their people.¹¹²

In relation to biological weapons, Japan had an active biological warfare (BW) program prior to 1945.¹¹³ It had, as the principal point of the program, the Unit 731 formed by the notorious Gen. Shiro Ishii (chief medical officer of the Japanese army) and operated under the cover name “Epidemic Prevention and Water Purification Department of the Kwantung Army”.¹¹⁴ Although, it was not used to prevent epidemics, in fact it was responsible for spreading them.¹¹⁵

In this secret unit experiments were made on Chinese civilians (including women and children) and Allied prisoners of war with various biological agents, such as plague, cholera, and hemorrhagic fever.¹¹⁶ Additionally, during Japan’s invasion of China, biological attacks were made in more than twenty provinces and cities,¹¹⁷ and caused more than a half million of deaths.¹¹⁸

It is important to know that Japan was not punished by their biological attacks in the end of WWII, in reason of a deal made by Ishii and the other members of Unit 731 with United States government that guaranteed immunity from prosecution to the Japanese in exchange for the delivery of their research to the Americans.¹¹⁹

¹¹⁰ JAPAN EXPLORER. **FACTS OF JAPAN – GENERAL INFORMATION**. Retrieved from: <https://www.japanexplorer.com.au/facts-of-japan-general-information/>. Accessed in May 01, 2019.

¹¹¹ COUNTRY ECONOMY. **JAPAN**. Retrieved from: <https://countryeconomy.com/countries/japan>. Accessed in May 01, 2019.

¹¹² GLOBAL SECURITY. **Japan Foreign Relations**. Retrieved from: <https://www.globalsecurity.org/military/world/japan/forrel.htm>. Accessed in May 01, 2019.

¹¹³ NTI. **JAPAN**. Retrieved from: <https://www.nti.org/learn/countries/japan/>. Accessed in Apr. 29, 2019.

¹¹⁴ PECK, Michael. **Don’t Forget, Japan Used Biological Weapons on China**. Retrieved from: <https://medium.com/war-is-boring/dont-forget-japan-used-biological-weapons-on-china-71ce4a8a303a>. Accessed in Apr. 29, 2019.

¹¹⁵ Ibidem.

¹¹⁶ NTI. **JAPAN**. Retrieved from: <https://www.nti.org/learn/countries/japan/>. Accessed in Apr. 29, 2019.

¹¹⁷ HUAQUI, LIU. **Arms Control and Disarmament Book**. Beijing: National Defense Industry Press, 2000. p. 368.

¹¹⁸ NTI. **JAPAN**. Retrieved from: <https://www.nti.org/learn/countries/japan/>. Accessed in Apr. 29, 2019.

¹¹⁹ PECK, Michael. **Don’t Forget, Japan Used Biological Weapons on China**. Retrieved from: <https://medium.com/war-is-boring/dont-forget-japan-used-biological-weapons-on-china-71ce4a8a303a>. Accessed in Apr. 29, 2019.

After those tragic events, Japan signed the Biological Weapons Convention in 1972 and ratified it in 1982, and has increased its focus on bio-terrorism defenses.¹²⁰ Nowadays, Japan presents a growing biotechnology industry; however, it is subject to a comprehensive set of export controls in reason of the association of this country with the Australia Group.¹²¹

¹²⁰ NTI. **JAPAN**. Retrieved from: <https://www.nti.org/learn/countries/japan/>. Accessed in Apr. 29, 2019.

¹²¹ Ibidem.

15 LIBYA

Libya is an oil-rich country in North Africa bordering the Mediterranean Sea and Egypt, Tunisia, Algeria, Chad, Niger and Sudan, with a population of 6.4 million people.¹²² Its capital is named Tripoli and its predominant religion is Islam.¹²³ Nowadays, this country has been known for the 42-year rule of Colonel Muammar Qadhafi and the chaotic facts that happened after his departure from the government.¹²⁴ In addition, it is important to mention that Libya has been receiving a lot of migrants heading for Europe and also is a place of international concern over the increase of jihadist groups.¹²⁵

Regarding to Biological Weapons and bioterrorism, the country does not have an offensive BW program and also does not represent a potential risk concerning to this kind of weaponry, because it has a poor biotechnology and industrial base.¹²⁶ Nevertheless, the international media speculated during Libya's uprising in 2011 that Qadhafi had used Biological Weapons against rebel forces, even though it was not confirmed.¹²⁷

Between 1980 and 1990, some reports indicated that an attempt at a BW program took place in Libya in the form of masked projects, which included the General Health Laboratories, Health Research Center, and Microbiological Research Center.¹²⁸ Supportive facilities included the High Institute of Technology in Brack, the Biotechnology Research Center in Tajura, and the Tripoli and al Fattah universities.¹²⁹

In 1990s, a secret project code named "Ibn Hayan" was led by Iraqi experts and aimed to produce bombs and war equipment filled with anthrax germs and botulinum toxin.¹³⁰ Saddam allowed them to assist Libya and the project was directly linked to the Libyan presidency bureau.¹³¹ Unfortunately, there is a lack of information about BW in Libya and about "Ibn Hayan" project, which probably dealt with anthrax.¹³²

¹²² CNN. **Libya fast facts**. Retrieved from: <https://edition.cnn.com/2013/09/20/world/libya-fast-facts/index.html>. Accessed in May 06, 2019.

¹²³ Ibidem.

¹²⁴ Ibidem.

¹²⁵ BBC. **Libya country profile**. Retrieved from: <https://www.bbc.com/news/world-africa-13754897>. Accessed in May 06, 2019.

¹²⁶ NTI. **Biological**. Retrieved from: <https://www.nti.org/learn/countries/libya/>. Accessed in May 06, 2019.

¹²⁷ ACA. **Chronology of Libya's Disarmament and Relations with the United States**. Retrieved from: <https://www.armscontrol.org/factsheets/LibyaChronology>. Accessed in May 26, 2019.

¹²⁸ Institute for Defence Studies and Analyses. **Chemical and Biological Weapons in Egypt and Libya**. Retrieved from: https://idsa.in/cbwmagazine/CBWinEgyptandLibya_DanyShoham. Accessed in May 06, 2019.

¹²⁹ Ibidem.

¹³⁰ SHOHAML, Dany. **Libya: the first real case of deproliferation in the Middle East?**. Disarmament Diplomacy, pp. 40-46, May-June, 2004.

¹³¹ Ibidem.

¹³² Ibidem.

To finish, it is relevant to say that Libya has acceded to the Biological Weapons Convention in 1982 and, even with the existence of speculation on the subject, it is unlikely that the country has made great progress in the development of biological weaponry.¹³³

¹³³ FAS. **Libya Special Weapons**. Retrieved from: <https://fas.org/nuke/guide/libya/index.html>. Accessed in May 06. 2019.

16 NORTH KOREA

North Korea, formally known as Democratic People's Republic of Korea, is a country located in the peninsula of Korea, making land border with South Korea and its capital is Pyongyang. It is the seat of a dictatorial communist government, under the control of Kim Jong-un, still counting with the world's fourth largest army, with almost 10 million soldiers, including assets, reserves and paramilitaries.¹³⁴

With all this military power, the nation has an active and increasingly sophisticated industry of nuclear weapons and ballistic missile programs, with a massive capability to possess chemical and biological weapons, and although it is not a party to the Chemical Weapons Convention (CWC), it is a state member to the BWC and Geneva Protocol.¹³⁵ Despite that, some evidences appoint that the country may maintain a biological weapons program, in total dissonance with the non-proliferation agreements.¹³⁶

As previously stated, North Korea signed the Geneva Protocol and BWC in 1987, despite U.S. intelligence sources still “capable of biological weapons production and weaponization”¹³⁷, danger posed by the country's high military capacity, demonstrated over the last few years.

However, real information about the status of biological weapons production and program in North Korea varies, mostly because of the country's political isolation. However, based on the “2016 Defense White Paper” by South Korea's Ministry of National Defense, it is possible to estimate that North Korea may possess some biological agents like anthrax, smallpox, cholera, among others.¹³⁸

In a similar sense, the U.S. has been claiming that North Korea may consider the use of biological weapons as an option, not complying with the terms of the BWC¹³⁹, and more recently, military analysts are increasingly concerned about the “advanced, underestimated and

¹³⁴ U.S. DEPARTMENT OF STATE. **North Korea**. Retrieved from: <https://www.state.gov/countries-areas/north-korea/>. Accessed in May 19, 2019.

¹³⁵ NTI. **NORTH KOREA**. Retrieved from: <https://www.nti.org/learn/countries/north-korea/>. Accessed in May 19, 2019.

¹³⁶ Ibidem.

¹³⁷ CIA. **Unclassified Report to Congress on the Acquisition of Technology Relating to Weapons of Mass Destruction and Advanced Conventional Weapons**. Retrieved from: https://www.cia.gov/library/reports/archived-reports-1/721report_jan-june2002.pdf. Accessed in May 19, 2019.

¹³⁸ REPUBLIC OF KOREA MINISTRY OF NATIONAL DEFENSE. **2016 Defense White Paper**. Retrieved from: www.mnd.go.kr. Accessed in May 18, 2019.

¹³⁹ FAS. **Military and Security Developments Involving the Democratic People's Republic of Korea**. 2015. Retrieved from: <https://fas.org/irp/world/dprk/dod-2017.pdf>. Accessed in May 19, 2019.

highly lethal” bioweapons program of the country.¹⁴⁰ According to the New York Times, the deadliest arms of all time are the biological ones, that may, as the newspaper said, “end human life on Earth” with just a single gallon of anthrax, if suitably distributed.¹⁴¹

Also, the Middlebury Institute of International Studies affirms that North Korea is also collaborating with foreign researchers to build biological weapons, being more likely to use biological weapons than nuclear ones, characterizing the North Korea’s biological program as “advanced, underestimated and highly lethal”.¹⁴²

¹⁴⁰ THE NEW YORK TIMES. **North Korea’s Less-Know Military Threat: Biological Weapons**. Retrieved from: <https://www.nytimes.com/2019/01/15/science/north-korea-biological-weapons.html>. Accessed in May 19, 2019.

¹⁴¹ Ibidem.

¹⁴² Ibidem.

17 PAKISTAN

Pakistan is a country located in South Asia with a large territory and culture, very populous and large-sized. Its economy is based mainly in services and has been developed rapidly over the years. The official language is English despite there are more than sixty idioms around the country. Pakistan shows a HDI of 0.58, very low compared with developed countries.¹⁴³

The energy sector is mostly based in petrol derivatives, but also use enriched uranium as source of 6% of the country's energy which is considerable.¹⁴⁴ Pakistan is part of a group composed by four nations, including India, North Korea and Israel that do not sign the Treaty on the Non-Proliferation of Nuclear Weapons, despite it is a member of International Atomic Energy Agency, which aims to use the nuclear technology in a non-aggressive way.¹⁴⁵

Pakistan signed the BWC in 1970s, which means the country was in accord with the terms of production and development of biological weapons.¹⁴⁶ In 2015, during an inspection, the organ responsible of checking the existence of this kind of weaponry signed a report confirming there was no evidence of disrespect to BWC resolutions.¹⁴⁷

Despite the fact Pakistan respects the terms of the BWC, the U.S. State Department noted an odd aspect: high technology laboratories and qualified interns.¹⁴⁸ This makes the country a potential developer of this kind of agents. It also leads to another conclusion: the creation of dual-use agents, which are defined by a technology that can satisfy military and civilian interests.¹⁴⁹

In 2015, Pakistan endured a crisis when one death was related to the Crimean-Congo Hemorrhagic Fever (CCHF) and also three related to *Naegleria fowleri* (known as brain-eating amoeba).¹⁵⁰ Beyond this, other diseases like Polio are endemic in the country, which means Pakistan doesn't have an efficient biosecurity protocol, making this a great lack to the national and international security.¹⁵¹

¹⁴³ Pakistan Bureau of Statistics. **Home**. Retrieved from: <http://www.pbs.gov.pk/>. Accessed in May 11, 2019.

¹⁴⁴ *Ibidem*.

¹⁴⁵ Reuters. **Nuclear-armed Pakistan chairs board of U.N. atom body**. Retrieved from: <https://www.reuters.com/article/us-nuclear-iaea-pakistan/nuclear-armed-pakistan-chairs-board-of-u-n-atom-body-idUSTRE68Q1MN20100927>. Accessed in May 11, 2019.

¹⁴⁶ NTI. **Overview: Pakistan**. Retrieved from: <https://www.nti.org/learn/countries/pakistan/>. Accessed in: May 11, 2019.

¹⁴⁷ *Ibidem*.

¹⁴⁸ *Ibidem*.

¹⁴⁹ *Ibidem*.

¹⁵⁰ JASPAL, Zafar Nawaz. **BIOSECURITY AND PAKISTAN: A CRITICAL APPRAISAL**. NDU Journal, Pakistan, p. 1-10, 30 jan. 2015. Accessed in May 11, 2019.

¹⁵¹ JASPAL, Zafar Nawaz. **BIOSECURITY AND PAKISTAN: A CRITICAL APPRAISAL**. NDU Journal, Pakistan, p. 1-10, 30 jan. 2015. Accessed in May 11, 2019.

18 RUSSIA

The Russian Federation is the 9th most popular nation¹⁵² with 144,825,000 million people that live in the 17,125,000 km² that stretches through Europe and Asia and makes Russia the largest country in the world.¹⁵³ Its capital is Moscow, the currency is the ruble and Russian is its official language.¹⁵⁴

Russia was still called the Union of Soviet Socialist Republics (USSR) in 24th October 1945, when the United Nations was created, participating as one of the 51 founding members and is until this day one of the current 193 member nations.¹⁵⁵

The modern Russian history with biological agents and weapons dates since 1928 when the Soviet Union launched a full-scale offensive biological warfare program.¹⁵⁶ After the dismantlement of the Soviet Union (1922-1991), the Russian Federation inherited not just most of the weapons of mass destruction arsenal, including the biological ones, but also the status as signatory member of the "Geneva Protocol" (1925) and as signatory and depository state of the "Biological Weapons Convention" (1972).¹⁵⁷ However, the treaty was immediately violated when the Soviets reorganized, expanded and modernized their existent offensive biological warfare program, instead of complying with the BWC.¹⁵⁸

After 1973, the Soviets continued to research and develop anti-crop and anti-livestock agents and enhanced pathogens to use against human personnel.¹⁵⁹ The USSR experimented with anthrax, brucellosis, glanders, Marburg fever, melioidosis, plague, Q fever, smallpox, tularemia and Venezuelan Equine encephalitis and developed delivery systems that comprehend cluster submunitions for aerial cluster bombs and also airplane spray tanks.¹⁶⁰

Even though Russia admitted and exposed the existence of the Soviet offensive and large biological weapons program in 1992 after the USSR demise, and is still a current

¹⁵² COUNTRIES OF THE WORLD. **Top 100 most populous countries**. Retrieved from: <https://www.countries-ofthe-world.com/most-populous-countries.html>. Accessed in May 11, 2019.

¹⁵³ COUNTRIES OF THE WORLD. **Top 100 largest countries by area**. Retrieved from: <https://www.countries-ofthe-world.com/largest-countries.html>. Accessed in May 11, 2019.

¹⁵⁴ ENCYCLOPAEDIA BRITANNICA. **Russia**. Retrieved from: <https://www.britannica.com/place/russia>. Accessed in May 11, 2019.

¹⁵⁵ UNITED NATIONS IN THE RUSSIAN FEDERATION. **Un in Russia**. Retrieved from: <http://www.unrussia.ru/en/un-in-russia>. Accessed in May 11, 2019.

¹⁵⁶ NTI. **Russia country overview**. Retrieved from: <https://www.nti.org/learn/countries/russia/>. Accessed in May 11, 2019.

¹⁵⁷ NTI. **Russia**. Retrieved from: <https://www.nti.org/learn/countries/russia/biological/>. Accessed in May 11, 2019.

¹⁵⁸ NTI. **Russia country overview**. Retrieved from: <https://www.nti.org/learn/countries/russia/>. Accessed in May 11, 2019.

¹⁵⁹ Ibidem.

¹⁶⁰ Ibidem.

member of the BWC, the program's extent was never fully disclosed and dismantled. It is still not clear until this day if Russia has fulfilled all the treaty's obligations and eliminated or converted to peaceful purposes all its biological agents, weapons and components as required by the Article II of BWC.¹⁶¹

¹⁶¹ NTI. **Russia country overview**. Retrieved from: <https://www.nti.org/learn/countries/russia/>. Accessed in May 11, 2019.

19 SOUTH AFRICA

The Republic of South Africa is the largest country of Southern Africa, located in the tip of the African continent and surrounding the enclaved country of Lesotho¹⁶². Its 1.220.813 km² make it the 25th largest country¹⁶³ and the 57.73 million people that inhabit there make it the 24th most populous¹⁶⁴ nation in the world. South Africa has three capital cities being Cape Town the legislative, Pretoria the administrative and Bloemfontein the judicial¹⁶⁵. Also, it is divided into 9 provinces and has all its 11 spoken languages recognized as official ones.¹⁶⁶

South Africa is one of the 51 original members¹⁶⁷ of the United Nations since its foundation in 24th October 1945. Regarding biological weapons, the country has currently no official BW programs and is a signatory member of the BWC since it was signed in 1972.¹⁶⁸

However, South Africa had an extensive and top secret biological and chemical warfare program to develop weapons of mass destruction during and sponsored by the former apartheid regime (1948-1994), the South African Defence Force's "Project Coast". The program was exposed and dismantled in 1993 by the South African president of the time, Frederik Willem de Klerk, giving in to the international pressure from the United States and other western countries.¹⁶⁹

Therefore, there are no evidences that South Africa developed, produced or researched any biological agents or weapons before the creation of Project Coast or after it was dismantled.¹⁷⁰

¹⁶² SOUTH AFRICA. **What you need to know**. Retrieved from:

<https://www.southafrica.net/gl/en/travel/category/what-you-need-to-know>. Accessed in May 11, 2019.

¹⁶³ COUNTRIES OF THE WORLD. **Top 100 largest countries by area**. Retrieved from:

<https://www.countries-ofthe-world.com/largest-countries.html>. Accessed in May 11, 2019.

¹⁶⁴ COUNTRIES OF THE WORLD. **Top 100 most populous countries**. Retrieved from:

<https://www.countries-ofthe-world.com/most-populous-countries.html>. Accessed in May 11, 2019.

¹⁶⁵ "The process of formation of capitalists markets requires the centralization of political power, originating the concept of capital, which functions as a single political center and the seat of the Executive, Legislative and Judiciary Powers of nations. However, there are countries where this does not happen and more than one capital is adopted." NOVA ESCOLA. Why some countries have more than one capital?. Retrieved from: <https://novaescola.org.br/conteudo/2250/por-que-alguns-paises-tem-mais-de-uma-capital>. Accessed in May 19, 2019.

¹⁶⁶ SOUTH AFRICAN GOVERNMENT. **South africa at a glance**. Retrieved from: <https://www.gov.za/about-sa/south-africa-glance>. Accessed in May 11, 2019.

¹⁶⁷ UNITED NATIONS IN SOUTH AFRICA. **About us**. Retrieved from: <http://www.un.org.za/about/>. Accessed in May 11, 2019.

¹⁶⁸ ARMS CONTROL ASSOCIATION. **Biological weapons convention signatories and states-parties**. Retrieved from: <https://www.armscontrol.org/factsheets/bwcsig>. Accessed in May 11, 2019.

¹⁶⁹ NTI. **South africa**. Retrieved from: <https://www.nti.org/learn/countries/south-africa/biological/>. Accessed in May 11, 2019.

¹⁷⁰ Ibidem

20 SOUTH KOREA

South Korea, officially named Republic of Korea, is an independent nation located in the Korean peninsula, making land border only with North Korea, a nation that, historically, accumulates moments of military and political tension with it. Relatively young, formed in 1945, this country already is the 13th largest economy in the world, the 12th HDI of the planet.¹⁷¹ Its capital, Seoul, is the second most populous metropolitan region in the world, the place of some of the biggest companies and technology conglomerates of the planet, like Kia, Hyundai and Samsung, with massive investments in the development of computers, software, cars, shipbuilding industry and especially in weapon's technology¹⁷².

The Republic of Korea is also part of all the major non-proliferation treaties, although it has a high level of military technology, mainly in cooperation with the missile defense system of the U.S.¹⁷³, much because of its strategic territorial position and continuing conflicts with his neighbor, North Korea.

In June 1987, the country ratified the BWC, incorporating it into its national legislation, and joined the Australia Group in October 1995¹⁷⁴, a forum established in 1985 to combat and limit the spread of chemical and biological weapons (CBW) by discussing national export controls of precursors, equipment, agents and biological organisms.¹⁷⁵

Moreover, while Korea has an extremely well-developed biotechnological and pharmaceutical industry, as a compliance practice to BWC, we can see in the “2016 Defense White Paper” of the Ministry of National Defense that the nation has committed to using such technology only for defensive BW research and development.¹⁷⁶

¹⁷¹ INTERNATIONAL MONETARY FUND. **Report for Korea**. Retrieved from: <https://bit.ly/2w6uEOL>. Accessed in May 18, 2019.

¹⁷² NATIONS ENCYCLOPEDIA. **Korea, South - Infrastructure, power and communications**. Retrieved from: <https://bit.ly/2RPobUW>. Accessed in May 19, 2019.

¹⁷³ NTI. **KOREA**. Retrieved from: <https://www.nti.org/learn/countries/south-korea/>. Accessed in May 18, 2019.

¹⁷⁴ U.S. DEPARTMENT OF STATE. **2018 Report on Adherence and Compliance with Arms Control, Nonproliferation, and Disarmament Agreements and Commitments**. Retrieved from: <https://www.state.gov/2018-report-on-adherence-to-and-compliance-with-arms-control-nonproliferation-and-disarmament-agreements-and-commitments/>. Accessed in May 18, 2019.

¹⁷⁵ THE AUSTRALIA GROUP. **Home**. Retrieved from: <https://australiagroup.net/en/>. Accessed in May 18, 2019.

¹⁷⁶ REPUBLIC OF KOREA MINISTRY OF NATIONAL DEFENSE. **2016 Defense White Paper**. Retrieved from: www.mnd.go.kr. Accessed in May 18, 2019.

21 SYRIA

The Syria Arab Republic is a country located in the Western Asia, at the region of the Middle East, between the nations of Lebanon and Turkey, bordering the Mediterranean Sea.¹⁷⁷ Syria is currently suffering a civil war, which started in 2011 and caused the need of humanitarian assistance for, at least, 13 million people across the country.¹⁷⁸

The history of this Arabic Nation regarding biological warfare can refer, initially, to the 6th century B.C., when the Assyrians poisoned their enemy water sources.¹⁷⁹ In 1968, Syria ratified the 1925 Geneva Protocol, and four years after, it signed the Chemical Weapons Convention and the BWC. Despite it, until today, the country has not yet ratified the BWC's treaty.¹⁸⁰

As many countries in the Middle East, with unstable governments and suffering from humanitarian crises, its destabilized government makes it difficult for Syria to develop complex WMD, such as nuclear ones.¹⁸¹ Thus, as a way of increasing military power, chemical and biological weapons have gained the reputation as a more accessible means of defense, deterrence and offense.¹⁸²

Moreover, the importation and production of biotechnology does not necessarily mean the existence of a biological weapons program. Proof of this is that in the late 1980s, Syria started to invest heavily in the development of its industrial pharmaceutical and biotechnology sectors.¹⁸³ However, a 2011 report, from the Official U.S. Government, notes that, even though Syria's infrastructure could support the production of biological agents, no definitive comment was made on whether or not a program actually exists.¹⁸⁴

It is a fact that the Civil War itself hampers the existence of biological weapon development in Syria. This is because, although in 2010 the country has been the home of more

¹⁷⁷ CENTRAL INTELLIGENCE AGENCY. **The World Factbook: Syria**. Retrieved from: <https://www.cia.gov/LIBRARY/publications/the-world-factbook/geos/sy.html>. Accessed in Apr. 18, 2019.

¹⁷⁸ Ibidem.

¹⁷⁹ EAVES, Elisabeth. **A form of biological warfare in Syria and Yemen**. Bulletin of the Atomic Scientists, 2013. Retrieved from: <https://thebulletin.org/2018/11/a-form-of-biological-warfare-in-syria-and-yemen/>. Accessed in Apr. 18, 2019.

¹⁸⁰ SCHWARTZ, R. **Case Study - Syria's Chemical and Biological Weapons Program and the Use of These Weapons**. International Institute for Counter-Terrorism, 2013. Retrieved from: <https://www.ict.org.il/Article/694/Case%20Study-Syrias-Chemical-and-Biological-Weapons-Program#gsc.tab=0>. Accessed in Apr. 18, 2019.

¹⁸¹ NTI. **Syria: Biological**. Retrieved from: <https://www.nti.org/learn/countries/syria/biological/>. Accessed in Apr. 18, 2019.

¹⁸² Ibidem.

¹⁸³ NTI. **Syria: Biological**. Retrieved from: <https://www.nti.org/learn/countries/syria/biological/>. Accessed in Apr. 18, 2019.

¹⁸⁴ Ibidem.

pharmaceutical companies than any other Arab country, including large firms practicing modern production techniques, it is believed that, from 2014, these statistics have considerably diminished as the Syria's health industry capabilities have been gravely harmed by the ongoing Civil War.¹⁸⁵

In summary, Syria has a number of health-related companies with great productive potential, as well as high-level biological research centers, such as the Scientific Studies Research Center (SSRC). Yet, the war that the country faces, and the natural difficulties of perceiving production of biological weapons, make it impossible to draw any concrete conclusions about the existence or absence of biological weapons in Syria.¹⁸⁶ As a result, the last time that Syria was listed with BWC-related concerns, in the U.S. Department of State reports, was in 2015.¹⁸⁷

¹⁸⁵ Ibidem.

¹⁸⁶ Ibidem.

¹⁸⁷ ARMS CONTROL ASSOCIATION. **Arms Control and Proliferation Profile: Syria**. Retrieved from: <https://www.armscontrol.org/factsheets/syriaprofile#Biological>. Accessed in Apr. 18, 2019.

22 UNITED KINGDOM

The United Kingdom is considered a Sovereign State Island, that is, its territory consists of a group of islands. It is composed of the political union of England, Scotland, Wales and Northern Ireland, being governed by a parliamentary monarchy regime based in London, whose queen Elizabeth II remains as head of state¹⁸⁸.

It was a pioneer in the positions of industrialized country and world power, but it had a great fall due to the cost of two great World Wars. Despite this, it remains a developed country, and is a member of the European Union, of the North Atlantic Treaty Organization (NATO), has a permanent seat in the United Nations Security Council, the World Trade Organization (WTO) and Community of Nations¹⁸⁹.

During the 1930s the British embarked on studies and development in a chemical and biological arsenal. For example, several experiments involving anthrax, which was used for military purposes, as well as research on botulinum toxin, and pathogens capable of cause plague and typhoid fever¹⁹⁰.

It is known that after World War II, many powers continued with their biological weapons programs during the Cold War period, which culminated in a great development of these products during that time. However, in the 1950s all offensive biological material was extinguished in the United Kingdom, although, in the case of defensive material, the country remains active until the present day¹⁹¹.

In addition, the United Kingdom also has the Safety Unit, an institution charged with maintaining research and developing specialized studies in aerobiology, biocontainment and biosafety¹⁹². The Biosafety Unit conducts tests in the most diverse areas that relate to chemical and biological safety, as well as entering the most diverse sectors such as health and even space exploration. In their laboratories, they are able to offer the most diverse type of services, from technology evaluation to expertises¹⁹³.

¹⁸⁸ Brasil Escola. **REINO Unido**. Retrieved from: <https://brasilescola.uol.com.br/geografia/reino-unido.htm>. Accessed in May 22, 2019.

¹⁸⁹ Ibidem

¹⁹⁰ NTI. **United Kingdom**. Retrieved from: <https://www.nti.org/learn/countries/united-kingdom/>. Accessed in May 22, 2019.

¹⁹¹ Ibidem.

¹⁹² ENGLAND, Public Health. **Biosafety unit**. 2010. Retrieved from: <https://www.gov.uk/guidance/biosafety-unit>. Accessed in May 22, 2019.

¹⁹³ Ibidem.

Moreover, it is worth remembering that in 1975 it became a signatory to both the Biological and Toxin Weapons Convention (BTWC)¹⁹⁴ and the Australian group, committing itself to other countries to ensure the non-proliferation of biological arsenal in the world, in order to to maintain a harmonious coexistence among nations¹⁹⁵.

¹⁹⁴ NTI. **GLOSSARY: Biological and Toxin Weapons Convention (BTWC)**. Retrieved from: <https://www.nti.org/learn/glossary/#biological-and-toxin-weapons-convention>. Accessed in May 22, 2019.

¹⁹⁵ The Australia group. **AUSTRALIA Group Participants**. Retrieved from: <https://australiagroup.net/en/participants.html>. Accessed in May 22, 2019.

23 UNITED STATES

The United States of America (USA) has about 328 million inhabitants, representing nearly 5% of the world's population, and is the country with the greatest economic and military power nowadays.¹⁹⁶ As a result, the U.S. enjoys enormous diplomatic and political relevance to the rest of the world, ratifying the Geneva Protocol of 1925 and the BWC in 1975.¹⁹⁷

The history of the U.S. with biological weapons initiates after World War I, when the Country researched about the ricin, and its Chemical Warfare Service (CWS) explored adhering the toxin to bullets in order to disseminate it as an aerosol.¹⁹⁸ In 1942, the fear of Japan and Germany developing biological weapons made the U.S. government create its first biological warfare program, supported by the National Academy of Sciences, which aimed to develop biological weapons as well as to explore the vulnerability of the USA to this type of attacks.¹⁹⁹

Therefore, in 1945, the details of the program were shown: the use of pilot plants to mass-produce, among other pathogens, anthrax and *Brucella melitensis* (brucellosis); the development of a new cluster bomb, as well as the creation of facilities for the large-scale production of several pathogens.²⁰⁰ The costs for the development and research of the program reached about US\$ 40,000,000. Subsequently, in 1948, a Committee on Biological Warfare was established, and there were several “open air tests” to simulate how would be the effects of a realist biological warfare attack.²⁰¹

Hence, during the Cold War, even though the U.S. BW program had developed a wide range of biological weapons, utilizing botulinum toxins, *Coxiella burnetii* (Q-fever) *Bacillus anthracis* (anthrax), the Government started to question whether it should continue to develop such weapons.²⁰² As a result, the Project 112 was created, with the objective to examine the strategic impact of both chemical and biological warfare.²⁰³ In 1969, President Nixon of USA

¹⁹⁶ BBC. **United States country profile**. Retrieved from: <https://www.bbc.com/news/world-us-canada-16761057>. Accessed in Mar. 31, 2019.

¹⁹⁷ RIEDEL, Stefan. **Biological warfare and bioterrorism: a historical review**. PMC, 2004. Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1200679/>. Accessed in Mar. 31, 2019.

¹⁹⁸ NTI. **United States: Biological**. Retrieved from: <https://www.nti.org/learn/countries/united-states/biological/>. Accessed in Mar. 31, 2019.

¹⁹⁹ PRICEONOMICS. **How the U.S. Government Tested Biological Warfare on America**. Retrieved from: <https://priceonomics.com/how-the-us-government-tested-biological-warfare-on/>. Accessed in Mar. 31, 2019.

²⁰⁰ NTI. **United States: Biological**. Retrieved from: <https://www.nti.org/learn/countries/united-states/biological/>. Accessed in Mar. 31, 2019.

²⁰¹ Ibidem.

²⁰² Ibidem.

²⁰³ Ibidem.

announced that the Nation would no longer be making offensive biological weapons, which culminated in the ratification of BWC a few years later.²⁰⁴

However, after the bioterrorist attack in 2001, with the use of anthrax in letters to harass politicians and members of the U.S. media, the Country adopted a new position on the development of pathogens, now for the medicinal use and production of vaccines, to prevent more catastrophic effects of such attacks.²⁰⁵ This situation of biodefense shifted the priorities at the US National Institutes of Health (Bethesda, MD, USA) and the propagation of numerous government counter-bioterrorism projects.²⁰⁶

As a result, the Army Medical Research Institute of Infectious Diseases (USAMRIID), created in 1969, after the disestablishment of biological warfare laboratories, provides diagnostic and epidemiological support to federal, state, and local agencies, as well as foreign Governments.²⁰⁷ Therefore, the United States play an important role in furthering global norms against the proliferation of biological weapons,²⁰⁸ as well as its participation is crucial in the development of medicines and vaccines to reduce mortality from pathogens used in biological warfare.

²⁰⁴ W.T., Whitney Jr. **Criminal Behavior**: US May be Developing Biological Weapons. Counterpunch, 2018. Retrieved from: <https://www.counterpunch.org/2018/11/21/criminal-behavior-us-may-be-developing-biological-weapons/>. Accessed in Mar. 31, 2019.

²⁰⁵ GUILLEMIN, Jeanne. **Scientists and the history of biological weapons**: A brief historical overview of the development of biological weapons in the twentieth century. European Molecular Biology Organization, [S. l.], v.7, Jul. 2006. Retrieved from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1490304/>. Accessed in Mar. 31, 2019.

²⁰⁶ Ibidem.

²⁰⁷ Ibidem.

²⁰⁸ NTL. **United States**: Biological. Retrieved from: <https://www.nti.org/learn/countries/united-states/biological/>. Accessed in Mar. 31, 2019.

24 UZBEKISTAN

The Republic of Uzbekistan is a country from Central Asia, located between the rivers Amu Darya and Syr Darya.²⁰⁹ It holds the 86th position by nominal GDP and their HDI is 0,710.²¹⁰ This country established diplomatic relations with the U.S. since its independence from the Soviet Union, is those relations Uzbekistan is important to U.S. to ensure stability, prosperity, and security in the broader Central Asian region, and in return the U.S. provides security assistance to the country to achieve these goals.²¹¹

In relation to biological weapons, this country inherited several biological weapons facilities from the Soviet Union, and some of them still contain extensive collections of microorganisms. The largest facility was an open-area test site located on Vozrozhdeniye Island, in which tests were made with tularemia, plague, brucellosis, Q fever, Venezuelan encephalitis and Anthrax. It was officially closed in 1992, however, after this, there were still concerns about the decontamination. Due to this, Uzbekistan and the United States agreed to realize a project to decontaminate Vozrozhdeniye Island and to dismantle approximately 20 biological weapons facilities.²¹²

In fact, in May 2002, a team from the U.S. Defense Threat Reduction Agency (DTRA) opened 11 concrete-lined pits containing anthrax slurries and mixed the soil with a decontamination agent and also constructed two Regional Diagnostic Laboratories in order to help Uzbekistan detect and monitor disease outbreaks. Furthermore, it is important to note that Uzbekistan is a party to the Biological Weapons Convention.²¹³

²⁰⁹ ADVANTOUR. **UZBEKISTAN**: key country facts. Retrieved from: <https://www.advantour.com/uzbekistan/general.htm>. Accessed in May 01, 2019.

²¹⁰ COUNTRY ECONOMY. **UZBEKISTAN**. Retrieved from: <https://countryeconomy.com/countries/uzbekistan>. Accessed in May 01, 2019.

²¹¹ U.S. DEPARTMENT OF STATE. **U.S. Relations With Uzbekistan**. Retrieved from: <https://www.state.gov/r/pa/ei/bgn/2924.htm>. Accessed in May 01, 2019.

²¹² NTI. **UZBEKISTAN**. Retrieved from: <https://www.nti.org/learn/countries/uzbekistan/>. Accessed in Apr. 29, 2019.

²¹³ Ibidem.

25 VIETNAM

Vietnam is an extensive country in Southeast Asia located next to Oceania and with a large coast extension. The roots of Vietnamese culture and economic systems are Chinese and still have impact in their scenario, like the rice agriculture, cooking and market. Its HDI is 0.69 and increasing, but it is still low compared to developed countries. The official language is Vietnamese and the population is almost 95 million.²¹⁴

There is no evidence of selling and developing of neither nuclear biological weaponry by Vietnam seeing as the country does not have any governmental development program and they are in agreement with the BWC since 1980. Despite this, Vietnam was suspect of receiving a supplement of a fungal agent for military reasons, known as trichothecene mycotoxin, a biological danger to humans, domesticated animals and domesticated plants.²¹⁵

Since the 1990s, the Vietnamese government has defined biotechnology as priority since 20% of Vietnam economy is based on agriculture, which means national laboratories were capable of developing modified crops more resistant and with a higher quality. The decision of invest in this area will make Vietnam able to have its own agriculture domain, capable of modifying, creating and manipulating grains, crops, plants, pesticides and others. Seeing this, Vietnam aims to establish new directions to their biosecurity regulamentation, becoming more attractive to investors and opening centers to capacitate professionals to deal with this kind of technology.²¹⁶

²¹⁴ Country Studies. **Vietnam:** Population. Retrieved from: <http://countrystudies.us/vietnam/34.htm>. Accessed in May 11, 2019.

²¹⁵ NTI. **Vietnam:** Overview. Retrieved from: <https://www.nti.org/learn/countries/vietnam/>. Accessed in May 11, 2019.

²¹⁶ Ibidem.

26 CONCLUSION

From information exposed in this guide, we are capable to explore relations between nations and the developing of bioweapons. Also, we could analyse the advance of scientific areas in these countries we have been studying and even define interesting conclusions in many aspects.

Despite this, the main objective of this guide is not to lead the discussion of the committee to a specific point or resolution, but to be a practical handbook, allowing you to take more solid directions and do your own research and explore more information about the delegations, their diplomacy and the theme itself.

In this way, the INTERPOL deeply hope that all delegations are encouraged to contribute to this great meeting, in order to discuss the prerogatives and consequences of this grim face of bioterrorism, and debating so that global harmony and security is more and more tangible and concrete.

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