As the 20s approach it would be auspicious to examine where will weapons of mass destruction and arms control and disarmament of said weapons go in this decade and beyond. The Intermediate-Range Nuclear Force Treaty is in the bin and the New START treaty expires in 2021 with the very real possibility that it will not be renewed and there will be now new equivalent treaty to take its place. A more dangerous world is likely on the horizon. Dangerous not necessarily in that there will be an increase in wars, terrorist attacks, and the like or in that worldwide violent deaths will increase, although these are acute possibilities (particularly the potential effects of climate change are worth examining and preparing for), but rather in that the chances for a major war between superpowers, and for global catastrophe may be increased as is the potential for WMDs to be used during the 20s. I do not mean to say that either of these things are likely and I do not expect to reach the high tension points of the cold war, but I do think that during the coming decade tensions will increase such that there is likelihood of a new cold war with potential for turning hot in the coming decades. I would not be surprised although I cannot say that I predict and I certainly do not hope for, continued use of chemical weapons in the 20s. Continued use in Syria would be a failure for the international order and law and for the OPCW and CWC. Some thought, not too unrealistically that there would be no chemical weapons by 2020. This is now shown to be folly and expecting chemical weapons to disappear anytime soon is an even greater one. But of particular interest, and what I hope to discuss here, is the near future for biological weapons, the less talked about WMDs.

I do not expect that biological weapons will be used in the 20s. But it is an acute possibility. I plan to examine the current state of biological weapons and who possess them, the threat level posed by them, how the status of disarmament of biological weapons currently looks and how total disarmament might be achieved (this decade even), and how this might all change.

Biological warfare had been around for since antiquity. However a definite shift can be seen in the period before the First World War. Germ theory and an increase in scientific understanding and manipulation of bacteria led to increased understanding and refinement of biological weapons. Biological weapons include bacteria, mycoplasma, rickettsiae, viruses, yeasts, fungi meant to kill or incapacitate humans, animals, or plants as an act of war.[[1]](#footnote-1) Of course this means that biological weapons meant to cripple a state’s agricultural sector (potentially leading to starvation and the collapse of a state) are of prime consideration and indeed these sorts of weapons saw heavy development during the 20th century.

**BWC**

The Biological Weapons Convention (BWC), formally The Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction, entered into force in 1975 and prohibits production, stockpiling, and development of all biological weapons. It is the earliest disarmament treaty to enter into force and could be considered one of the most successful by some given that biological weapons have not been used on any scale since then. However I would disagree. Rather the nature of biological weapons has limited their use as well as programs developing them. The BWC lacks proper verification procedure and states in the 20s, and I suspect throughout the 20s, have and will continue to have biological weapons programs not just for defensive purposes. Many nations deny having a biological weapons program though they are alleged to have one. In order to ascertain the future of biological weapons we must first examine the current state of biological weapons programs.

**Biological Weapons around the World**

*Peoples Republic of China*

China certainly had the infrastructure and now how to develop biological weapons even though it officially states that it has never had a BW program and complies with the BWC. I am inclined to agree with many American experts in saying that China has an extensive BWC, including for potentially offensive operations.

*Russian Federation*

The Soviet Union had an extensive offensive BW program and Russia is probably far from this level. However it certainly should not be assumed that Russia does not have programs that violate the BWC.

*United States of America*

The USA has a decent biodefense program but despite publically giving up offensive biological weapons in the 60s and 70s it has been alleged that some of the USA’s research is questionable under the BWC.

*Syria*

In 2014 Syria declared existence of production facilities for ricin and stockpiles. Given the civil war in the country it is unknown if these still exist although I would assume so. If the Syrian government has not used any of this material yet then I do not think the risk that they would is high.

*North Korea*

North Korea almost certainly has the capability to produce a few biological weapons and may have stockpiles with the real potential to consider them as a military option.

*Israel*

Israel probably has a BW program although it is not known if it is offensive (it likely was in the past). Israel is also a non-signatory to the BWC.

*Iran*

Iran likely has a dual-use biological weapons program but it would be limited and likely still be in compliance with the BWC at this stage. They could probably only produce small quantities of biological agents and weaponizing them would be a challenge.

*Egypt*

Egypt is not a party to the BWC and has increased biotechnology infrastructure but even though it is increasingly capable it likely does not violate the BWC.

*Cuba*

Cuba had been alleged to have a limited offensive biological weapons program although there is no hard data to support this allegation or any non-compliance with the BWC.

1. <https://www.jhsph.edu/research/centers-and-institutes/johns-hopkins-center-for-public-health-preparedness/tips/topics/Biologic_Weapons/BioWeapons.html> [↑](#footnote-ref-1)