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Preparation Paper/Study Guide:

United Nations Office for Outer Space Affairs (UNOOSA)

Simulation of a Meeting of the
of the Committee on the Peaceful Uses of Outer Space (COPUOS)

"Use of Satellites for Global Security and Telecommunication"

Study Guide: UNOOSA

Introduction to the chairs

Chair: Erwin Kriegshammer

Hi, everyone! I will be your chair during the next few days and I cannot wait to meet you all. I had my debut as a delegate at VIMUN 2017 and it is always amazing to return to the prestigious Vienna International Centre for our conference. Since then, I have participated in 7 MUNs as both a delegate and chair.

I am currently writing my bachelor thesis in political science and next semester I'll start my master's in international relations abroad (I'm hoping Scotland). I am a member of the Academic Forum for Foreign Affairs, which is hosting this conference and co-chair of our weekly MUN club.

I do apologize for the tardiness of this study guide, and I hope this will not limit your preparedness. Remember; the better prepared everyone is, the less likely the discussion is to stall or rely on just a few delegates. I encourage especially those representing spacefaring nations and large players - USA, Russia, China - to prepare particularly well. If you need any help before or during the conference, do not hesitate to contact either one of us.

Co-Chair: Julia Hofer

A very warm welcome also from my side! I am already looking forward to meeting you all on the first day of VIMUN 2019. As your Co-Chair I am happy to help you with any questions you have during the conference. Erwin and I will guide you through the next days of fruitful discussions, which will lead to a resolutionat the end of the week.

I started my MUNcareer in 2018 at VIMUN. Last year I have also been to Sarajevo Model UN as a delegate of UN Women. In June I completed the third semester of my Masters in Political Science.Just like Erwin, I am also part of the Academic Forum for Foreign Affairs, where I participated at theGlobal Advancement Programme2018/19.

Introduction to the committee

"The United Nations Office for Outer Space Affairs (UNOOSA) works to promote international cooperation in the peaceful use and exploration of space, and in the utilisation of space science and technology for sustainable economic and social development. The Office assists any United Nations Member States to establish legal and regulatory frameworks to govern space activities and strengthens the capacity of developing countries to use space science technology and applications for development by helping to integrate space capabilities into national development programmes."

(http://www.unoosa.org/oosa/en/aboutus/index.html, 18.7.2019)

The United Nations Office for Outer Space Affairs was founded in 1958. It was initially created as a small expert unit within the United Nations Secretariat to service the ad hoc Committee on the Peaceful Uses of Outer Space. In 1962 the unit was moved to work under the Department of Political and Security Council Affairs. Later in that decade it was transformed into the Outer Space Affairs Division of that Department. In 1992, the Division was transformed into the Office for Outer Space Affairs within the Department for Political Affairs. One year later the Office was relocated to the United Nations Office at Vienna. (http://www.unoosa.org/oosa/en/aboutus/history/index.html, 18.7.2019)

To enable the orderly conduct of space activities, a number ofmultilateral treaties have been agreed on by the United Nations General Assembly.

The most important agreementis the Outer Space Treaty of 1967. "Among the principles embodied in the Treaty are the freedom of exploration and use of space for the benefit and interest of all countries, the non-appropriation of outer space, including the Moon and other celestial bodies, and the prohibition of the deployment of nuclear weapons or other kinds of weapons of mass destruction in outer space." (http://www.unoosa.org/oosa/en/aboutus/history/treaties.html, 18.7.2019)

To strengthen the framework designed by the Outer Space Treaty, four other treaties were adopted.

The Rescue Agreement of 1968 requires States to assist an astronaut in case of accident, distress, emergency or unintended landing.

The Liability Convention of 1972 establishes the standards of liability for damage caused by space objects.

The Registration Convention of 1975 requires States to register all objects launched into outer space with the United Nations.

The Moon Agreement of 1979 elaborates on the provisions of the Outer Space Treaty as they apply to the Moon and other celestial bodies.(ib.)

"Five sets of principles support that body of law. These are the declaration of legal principles governing the activities of States in Outer Space (1963), the principles relating to international direct television broadcasting (1982), the principles relating to remote sensing of the Earth (1986), the principles on the use of nuclear power sources (1992) and the declaration on international cooperation in the exploration and use of outer space (1996)."(ib.)

Use of space technology for socioeconomic development

Among other approaches, space technologies are currently being deployed for disaster management, environmental monitoring, urban planning, health applications and communications. If some of these subjects are combined, space technologies can be used for socioecological development. To make that happen, the United Nations have set up "three unique global Conferences on the Exploration and Peaceful Uses of Outer Space - UNISPACE Conferences - to engage States and international organizations to further their cooperation in the peaceful uses of outer space." (http://www.unoosa.org/oosa/en/aboutus/history/unispace.html, 22.7.2019)

The first UNISPACE conference was held in 1968, the second one in 1982 and the third one in 1999. All three conferences aimed to "provided a platform for a global dialogue on key issues related to space exploration and exploitation that have yielded tremendous scientific as well as economic and societal benefits for humankind." (ib.) Beside fostering international cooperation, the conferences always focused on benefits for developing countries. One outcome of the first conference was the creation of the UNOOSA Programme on Space Applications. "Throughout the 1970s, the Programme implemented trainings and workshops, using space technology in such diverse areas as telecommunications, environmental monitoring and weather forecasting, remote sensing for disaster mitigation and management, agricultural and forestry development, cartography, geology and other resource development applications."(ib.)

Particularly the second UNISPACE conference in 1982 was attended by non-governmental and intergovernmental organizations. They contributed to the effort of building regional

centres for space science and technologyeducation. These centres "focus on building human and institutional capacities for exploiting the immense potential of space technology for socio-economic development." (ib.) Beside establishing regional centres, developing countries were fostered to raise their indigenous capabilities in the use of space technology applications.

UNISPACE III was organised because of the rapid development in space exploration and technology. The most important approaches were to protect the global environment and manage natural resources, increase the use of space applications for human security, development and welfare and to increase developing countries' access to space science and its benefits. "UNISPACE III concluded with the Space Millennium: Vienna Declaration on Space and Human Development (Vienna Declaration), which contained 33 recommendations as elements of a strategy to address new challenges in outer space activities." (ib.)

As outlined before, outer space can bring many benefits to humanity, chiefly through technology and innovation. It is important that these benefits reach beyond those countries that have the means to explore space. Under the Access to Space 4 All initiative, UNOOSA works with a variety of partners to increase opportunities for more member states, in particular developing countries, to access space. (Annual Report 2018: p. 5)

The initiative Space 4 All was launched in 2018. The goal is to help especially developing countries to access thebenefits of space research andtechnology. "Theinitiative offers a wide range of opportunities in microgravity research, satellite development and deployment,in-orbit research and access to laboratories in low Earthorbit, such as the ISS and the future China Space Station." (ib, p.20) To make this project happen, a wide range of stakeholders such as governments,space agencies, private space entities, civil society andacademia had to be brought in.

The approach of the Space 4 All initiative is in a wide sense capacity-building of states. "It comprises researchopportunities to develop the technologies needed to sendhardware into space, orbital opportunities and a project toincrease access to space data." (ib.) In order to achieve the best possible effect, UNOOSA pursues collaborations with regional and national institutions, but also with intergovernmental organisations such as the European Space Agency.

"UNOOSA and the European SpaceAgency (ESA) laid the ground for afuture cooperation agreement toprovide capacity-building to developing countries for accessing and usingspace-

based technologies to plan,measure and monitor their actionsunder Agenda 2030. A joint statementdeclaring mutual interest was signedin 2018, and the agreement isexpected to be signed in 2019." (ib)

Use of space technology for global security by predicting environmental disasters

Space technology provides unique images, data and navigation services, among other applications, that can be used for predicting environmental disasters. Already existing technology provides real-time, homogenous information from any location, including remote areas, upon which strategic policymaking decisions can be based on. Beside improving resilience to disasters, space technologies can be used for increasing agricultural output and profitability; fight the spread of diseases; foster innovation, education and research in science, technology, engineering and mathematics (STEM) fields, and expand opportunities for women in these fields; promote industrialization, productivity improvements through innovation and economic growth; achieve better water management; support clean energy transition; promote sustainable infrastructure and cities; analyse natural resources and ecosystems for sustainable consumption and production; monitor and devise strategic responses to climate change and the risks to life and biodiversity under water and on land; combat illegal trade and other criminal activities, foster peace and justice; and promote international cooperation and partnerships across nations. (Annual Report 2018, p. 36)

To promote the use of space technologies and applications for better water management, UNOOSA has launched the Space4Water portal. (Annual Report, p. 38) The goal is to enable all stakeholders involved in the space and water communities to access data and knowledge, to be creative and to realize their full potential in contributing to a world in which the availability and sustainable management of water and sanitation for all has become a reality. (https://www.space4water.org/, 19.7.2019) This can help to forecast shortages of water which could lead to upheaval and insecurity among the population.

Water scarcity is in particular a problem for developing countries, which aren't able to compensate occurring shortages of water. Water resources will become more important in the next few years, not only in developing countries. Shortages of water can cause conflicts and global insecurity. It is therefore important to enhance "capabilities of countries in the use of space-related technologies, applications, services and information for identifying and

managing water resources" (General Assembly, 2013: p. 2) to predict shortages of water and take counteractions.

Use of space technology by non-state actors

To get an overview of current global security challenges, read this article in Foreign Affairs Magazine (subscription needed):

https://www.foreignaffairs.com/articles/space/2015-04-20/democratization-space

Unlike the 1950s, when space exploration began, space has become increasingly accessible. Due to incredible leaps in technology, manufacturing and launching, Earth's orbit has been democratized: While merely 30 years ago, space was essentially the domain of three governmental space agencies of the USA, Russia and China, today we observe a wide range of non-state actors challenging that monopoly.

Crucially, the democratization of space will pose new challenges for policymakers, given that the existing legal framework has effectively applied to only a handful of states. The Outer Space Treaty outlined four basic concepts:
- the parties agreed to keep space open for exploration and use by all states,
- take responsibility for all activities conducted from within their borders (whether carried out by governmental or nongovernmental entities),
- assume liability for damage caused by their space objects, and cooperate with one another and
- provide mutual assistance.

Due to newly established accessibility, other non-state actors now have access to space. "Nongovernmental organizations may start pursuing missions that undermine governments' objectives. An activist billionaire wanting to promote transparency could deploy a constellation of satellites to monitor and then tweet the movements of troops worldwide. Criminal syndicates could use satellites to monitor the patterns of law enforcement in order elude capture, or a junta could use them to track rivals after a coup." (ib.)

The aforementioned article argues that the current system lacks "situational awareness". There are currently thousands of objects in orbit.

"But these objects are not actively tracked 24 hours a day; instead, they are tagged whenever they pass over a network of optical and radar sites on the ground, after which their orbits areentered into a catalog. When satellites suddenly alter their orbits—which they do as part of regular maneuvers or for clandestine purposes—the network has to search for these objects anew and update the catalog with their latest positions." (ib.)

As the number of players in space increases, situational awareness will become even more important. Basically, it is in everyone's best interest to share data in order to prevent collisions. The US has so far been tasked with that tracking; however, recently other countries and non-state actors have started programmes of their own.

Should this tracking and sharing of data be centralized or not? How would it work (accountability, sanctioning and dispute resolution, distribution of power, reliability, standardization)?

Another security-relevant aspect of civilian spacecraft is them potentially being "dual-use technologies": they can be used for both peaceful and military purposes.

"An imaging satellite, for example, can monitor crop production as easily as it can spy on submarine bases. As more private actors enter the space business, it may be more important to distinguish between intended and unintended purposes. A fleet of small camera-equipped satellites may be launched for the purpose of providing more accurate weather data, but once the constellation of satellites enters orbit, operators may discover that it is also capable of monitoring the police. It will be up to the operators whether to declare this use." (ib.)

Who should be in charge of clearing launch, monitoring behaviour and sanctioning of violations for civilian spacecraft? How can we make sure that private companies and other non-state actors actually do use their spacecraft for the intended use? How can they be protected from state interference (a government misappropriating a civilian craft for military use)?

Finally, in regard to accidents and liability involving non-state actors, it will become necessary to add new norms to the Outer Space Treaty. Although the treaty holds countries responsible for the nongovernmental activities that initiate from within their borders, until recently, technical barriers meant that governments never had to worry about the prospect of such activities. As those barriers fall, policymakers will need to establish norms concerning risk-assessment, liability, accidents and misappropriation.

Who should legislate and govern these norms? Who enforces them?

Use of Space technology to limit orbital debris

Given the growing commercialization of space, particularly through the development of ever smaller satellites, global security also concerns orbiting debris and decommissioned assets. A growing number of objects in orbit means a growing chance of impact, which potentially produce hundreds of fragments. While the risk of collisions and even an irreversible chain reaction (see: Kessler syndrome) remain disputed, even among academics, the principles outlined in the previous chapter highlight another challenge for the international community: what if a decommissioned Soviet-era satellite collides with a private Indian mini-satellite? Currently, the Russian Federation is liable. What if a US-based company purposely steers a satellite at the end of its lifespan into an new one of their competitor? Who is liable, especially for damage caused by fragments resulting from the collision, since it may be impossible to determine where a fragment originated from?

Who should legislate, govern and enforce measures to prevent collisions, minimize decommissioned spacecraft in orbit and determine liability in case of collisions?

Another key issue here is tracking; the aforementioned situational awareness is key to predicting trajectories and governing launches. Currently, this awareness is partly provided by the US. Could this be improved? Think of other global coordination systems, like air traffic control (national governance with international standards), stock exchange (self-regulation, market-based) or international organisations (bureaucratic, slow).

Who should oversee such a system, who can sanction infractions by both state and non-state actors?

Practical tips

How to do your research

Especially if you are a first-timer, you might be thinking: well.. what now?

One of the objectives on MUNs is to teach you how to establish and defend your own position. This position has to be reasonably similar to the real world position of the country you represent and may be vastly different from your personal opinion - but it is ultimately your creation. But you cannot know how a nation will behave in the future. So what do you do?

Look at how they have behaved in the past, what agreements they have signed and, crucially, which they haven't. Google, Press and YouTube Videos may be a decent starting point to get an overview of the topic, but remember that these sources need to generate attention and thus may be biased or sensationalist. Once you have some general knowledge, look for academic releases and articles. They are likely a hard read, but they give you the professional knowledge you require to have an informed discussion. Next, you should look up the home pages of UNOOSA and the space agency (or responsible ministry) of your country. Look for press releases, statements and speeches from conferences. **How is your country behaving?**

Once again, I apologize for the late study guide but if you can, try to dedicate one or two afternoons to this. There is a handy guide to doing your research generally on https://bestdelegate.com/research/

Position Paper

So, you have done your research and you are now both an expert in the topic and a representative of your country. You're done, right? Wrong.

In order to present your delegation's interests well, you are highly recommended to write a position paper. It is essentially what the name suggests: the positions you are entering the

discussion with. You may formulate entire statements of approximately one minute (standard speaking time) you can read or just take notes you can use while speaking freely. The most important thing is, that it reflects that you have understood the problem, your country's approach to it and what you would like to see in a resolution.

Think of your position paper as a collection of statements that your country would like UNOOSA to say. The resolution we will negotiate is essentially a joint statement of all countries in this committee and your job is to get as many positions of yours in there as possible. Therefore, it is critical that you have a prepared set of concise, convincing positions and arguments to throw into the ring. While you will still have to "wing it" from time to time, having to do so all the time is exhausting and really hard, especially for first-timers.

A common mistake among first-timers is trying to cram as much as possible into your statement. Remember, usually you have 1 or 1,5 minutes to speak; which is shorter than you think. You don't have to say everything at once and you will have ample time to use all your arguments. You should rather focus on one argument and I have found it to be most effective if you apply this basic structure:

1. Claim (Argument): a crisp and short statement - captures the attention of your audience
2. Warrant (Evidence/Proof): explain the factual/logical basis for your argument; keep your language clean and sentences short. People won't be able to follow if you blather.
3. Impact (So What? Why does this matter?): Validates your argument by giving it meaning and relevance. You can for example argue logically, that the sky is blue, but what does that have to do with the peaceful use of space?
4. Repeat claim (if there is time): People have a limited attention span. By repeating your claim, you not only remind people what your statement is about, but also wrap up your statement.

Again on bestdelegate.com (which is generally recommend), you can find a few handy guides for writing a good position paper in general:

https://bestdelegate.com/a-formula-for-the-perfect-position-paper-solution-oriented-research/

https://bestdelegate.com/how-to-write-a-winning-position-paper/

https://bestdelegate.com/how-to-write-a-position-paper-part-1-topic-background/

Opening Statement

Every delegate must deliver an opening statement. It the first speech you give which is often intimidating for inexperienced speakers. A formal conference room full of strangers in suits, all eyes on you and English may not be your first language. Don't worry, you will get a hang of it. However, a common mistake is to just deliver some superficial blathering or - on the other side of the spectrum - jumping right into arguments and technical details. That is not what this part of the discussion is here for.

Think of your opening statement as a summary of all the claims (see chapter above) in your position paper. It is intended to give your fellow delegates an idea where you stand, not to educate them on details or bore them with nondescript idealistic pleasantries. This is where you tell people: "This is what we want. This is what you can expect from us.". You go from one claim to another, demonstrating your agenda. Only later, during the actual discussion, you go into each of them one by one. Everybody in the room needs to find allies at some point and opening statements are the first opportunity to see who they are. Again, be concise, to the point and clear.

There is a helpful framework here, quite similar to the one mentioned earlier, that you can use in both the opening statement and sometimes later in the discussion:

- Hook: A question, quote, statistic, story, anything that grabs the attention of your audience
- Point: The content of your speech, in this case your central policy positions for the debate
- Action: a call for action; what do you want the committee to do?

Bibliography

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