



A human-centered approach to outer space security: how to boost UN efforts in the near-term

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Cancelled postage stamp printed by United Nations, that promotes Exploration and Peaceful Uses of Outer Space, circa 1999.

Technological trends and the rapid expansion of activity in outer space are creating new urgency for the pursuit of effective measures to ensure peace and security in this crucial domain. Efforts by the United Nations in this area have traditionally been aimed at moderating strategic competition among the major military powers by preventing any arms race in outer space.

In this post, part of a series on *War, Law, and Outer Space*, Michael Spies, Senior Political Affairs Officer at the United Nations Office for Disarmament Affairs, explains how a human-centered approach to disarmament can accelerate progress toward agreements on outer space security.

ICRC Humanitarian Law & Policy Blog · A human-centred approach to outer space security: how to boost UN efforts in the near-term

In his 2021 report *Our Common Agenda*,^[1] the Secretary-General of the United Nations, António Guterres, called for a high-level political agreement on peaceful, secure and sustainable use of outer space to be an outcome of the Summit of the Future, which will be held in September 2024.^[2] His policy brief issued in May 2023, entitled *For all humanity – the future of outer space governance*,^[3] outlined major trends that are impacting space security and sustainability and it provided a set of governance recommendations for consideration by states at the Summit.

As described in the policy brief, the rapid increase in the number of objects launched into Earth orbit, including satellites with possible hostile applications, is increasing the risks of accidents, misperception, and miscalculation. Novel applications of space technology, such as debris removal, satellite inspection, and on-orbit servicing, are seen as potentially problematic in the absence of norms and measures to govern their use.

The targeting and destruction of space objects, either with ground-launched missiles or by other means, can produce significant amounts of space debris, which can collide with other objects causing a cascade of additional debris. The potentially catastrophic impact of such acts has been demonstrated by the

small number of states that have carried out direct ascent anti-satellite missile tests against their own assets.

Due to various reasons, including the increasing reliance of armed forces on space-based systems, outer space is emerging as a possible domain of military confrontation between major military powers. As described in the Secretary-General's policy brief, "a number of national security strategies, doctrines, concepts, and policies describe outer space as a warfighting or operational domain. These are not just theoretical concepts, they are being backed by the development of military capabilities to deny, disrupt, degrade, or destroy the space systems of adversaries. This can include direct-ascent missiles, manoeuvrable satellites, Earth or space-based laser systems, electromagnetic and cyber capabilities, or even the use of nuclear weapons." [4]

The policy brief goes on to note that "An armed conflict that extends into outer space would significantly increase the potential for space debris and the compromising of critical civilian infrastructure, disrupting communications, observation and navigation capabilities that are vital to the global supply chain. These conflict risks are particularly acute for emerging space nations as they may lack sufficient space situational awareness to detect possible threats or the manoeuvring capability to respond to them." [5]

The evolving objectives of the United Nations' efforts to address outer space security

The General Assembly, at its first special session devoted to disarmament, held in 1978, established the objective of preventing an arms race in outer space, which to this day remains the overarching frame for United Nations efforts to address outer space security. It envisaged measures and negotiations to be pursued in accordance with the spirit of the 1967 Outer Space Treaty. For many states, a primary objective has been to extend the prohibition on placing nuclear weapons or any other kinds of weapons of mass destruction in Earth orbit so that the placement of conventional weapons is also prohibited.

Responses submitted by states to the Secretary-General pursuant to General Assembly resolutions 75/36 and 76/230 revealed, however, an increasing variety of concerns relating to existing and potential threats and security risks to space systems. Many states referred in particular to deliberate acts intended to interfere with, deny, disrupt, degrade, damage or destroy space systems. Such acts could be carried out along four possible vectors: Earth-to-space, space-to-space, Earth-to-Earth, and space-to-Earth. Possible threats along these vectors can emanate from many sources, including the development and deployment of anti-satellite weapons, from threatening national laws and policies, and from rendezvous and proximity operations carried out without advance notification, coordination, or consent.

Human-centered disarmament

The Secretary-General also addressed outer space security in his policy brief on *A New Agenda for Peace*, which he issued in July 2023. In that policy brief, the Secretary-General calls for states to enact measures that foster "human-centered disarmament", including as a means to reduce the human costs of weapons, reduce military spending, prioritize prevention and cooperation based on the rule of law, and ultimately to ease reliance on militarized approaches to security.

Since 1978, the traditional focus of efforts to prevent an arms race in outer space has been to mitigate competition among major military powers. How then can a focus on human-centered disarmament be a useful frame for the pursuit of outer space security? And what is even meant by human-centered disarmament?

Although undefined in the *New Agenda for Peace*, "human-centered disarmament" can be understood as prioritizing the well-being of the human population of the state in international peace and security considerations. This would entail the incorporation into disarmament agreement and action measures that advance as the primary consideration humanitarian principles, human rights, sustainable development, environmental remediation, public health, and other considerations essential for the well-being of people.[6]

A human-centered approach differs in some aspects from a state-centric approach, which may be primarily concerned with the interest of the state as a whole or of its governance institutions. A state-centric approach can entail measures that preserve the territorial integrity and political independence of a state, maintain international stability or otherwise advance what the state regards as its national interests.

These two seemingly contending approaches, one focused on the security of the state and the other on the security of its human population, can be understood as two sides of the same coin.[7] While the goals of each approach may be distinct in some cases, they will overlap in others. For example, both the state and its human population benefit from measures that protect critical infrastructure from attack.

How can human-centered disarmament be applied to outer space and how does it meaningfully advance the outer space security agenda?

Recent proposals by states for possible legally binding or non-legally binding measures to reduce space threats by states to space systems[8] have been put forward specifically because they would enhance the protection of civilians and civilian objects. Many of these proposals address core concepts that have been discussed over decades in connection with the prevention of an arms race in outer space, such as limits or prohibitions on the use of force.

In particular, many states consider that deliberate and non-consensual acts that interfere with, deny, disrupt, degrade, damage, or destroy the space systems of others could jeopardize the provision of key space-based services to the civilian population.[9]

Therefore, any measures aimed at preventing the damage and destruction of space objects, the use of space objects as weapons or interference with the normal and safe operation of space objects, would benefit both the security of states and their human populations.

Other recent proposals have been put forward with the primary aim of protecting the well-being of people or protecting the civilian population. These include measures that would project critical space-based service and human spaceflight.

In this connection, it has been proposed that states should refrain from any acts that would impair the provision of critical space-based services to civilians.^[10] Such services can include those critical to the production and maintenance of objects indispensable to the survival of the civilian population and to persons and objects specifically protected under international law. It can also include services that support humanitarian operations and the safety of installations containing *dangerous forces* such as nuclear power plants or infrastructure containing hazardous or toxic materials. In addition, it has been proposed that states should avoid activities that would endanger space objects crewed by humans and enhance the registration of, mark or otherwise indicate space objects that provide critical space-based services to civilians.^[11]

At this moment in history, a human-centered approach can boost the prospects for current and future work within the United Nations on preventing any active hostilities or an arms race in outer space. A focus on prioritizing the well-being of humans could avoid grounding multilateral deliberations exclusively on the often zero-sum logic of strategic security and contemporary geopolitics, which may continue to hinder efforts to achieve consensus under the current international circumstances. Instead, it offers an approach based on building agreements around existing international norms and already widely accepted principles.

As an immediate next step, the further development of international rules in this area could benefit from building a common understanding of the nature and scope of limitations and restrictions that already constrain state action through the application of existing international law. Such an analysis could identify gaps, which might be more easily filled than a process that starts to build a new and comprehensive legal regime without a full consideration of how international law currently applies. A human-centered approach could thus facilitate quicker agreement on measures that would have the greatest immediate impact, without prejudice to the pursuit of complementary approaches, including those that prioritize state-centric aspects of outer space security.

While state-centric concepts of strategic security remain a basis for international efforts to prevent an arms race in outer space, the proliferation of actors, activities and potential threats to space systems requires a diversified set of governance responses. The proposal by the Secretary-General of the United Nations for a human-centered approach to disarmament can provide a basis for identifying and elaborating norms and effective measures that can be developed and implemented in the near-term, to prevent any active hostilities or arms race from extending into or occurring in outer space.

[1] <https://www.un.org/en/content/common-agenda-report/>

[2] See General Assembly resolution 76/307 of 8 September 2022 and decision 77/568 of 1 September 2023, see: <https://press.un.org/en/2023/ga12523.doc.htm>

[3] A/77/CRP.1/Add.6

[4] A/77/CRP.1/Add.6, paragraph 46

[5] A/77/CRP.1/Add.6, paragraph 48

[6] The concept of human-centered disarmament was discussed at the second session of the Geneva Disarmament Conversation Series, organized by the United Nations Office for Disarmament Affairs on 21 September 2023.

[7] See also *Securing our Common Future: An Agenda for Disarmament*, page 12, released by the Secretary-General of the United Nations in May 2018.

[8] See the Chairperson's Summary of the Open-ended working group on reducing space threats through

norms, rules and principles of responsible behaviours, established pursuant to General Assembly resolution 76/231, A/AC.294/2023/WP.22.

[9] A/AC.294/2023/WP.22, paragraph 34

[10] A/AC.294/2023/WP.22, paragraph 49 (g)

[11] A/AC.294/2023/WP.22, paragraph 49 (f)

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