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Draft report

Addendum

Chapter II

Recommendations and decisions

J. Space exploration and innovation

1. The Committee considered the agenda item entitled “Space exploration and innovation”, in accordance with General Assembly resolution 78/72.

2. The representatives of Belarus, Brazil, Canada, China, Germany, India, Italy, Japan, Luxembourg, Mexico, the Republic of Korea, Romania, the Russian Federation, Saudi Arabia, Thailand, the United Kingdom and the United States made statements under the item. The observers for APSCO and SGAC also made statements. During the general exchange of views, statements relating to the agenda item were also made by other member States.

3. The Committee had before it the conference room paper entitled “Reports of the Moon Village Association” submitted by the Moon Village Association (A/AC.105/2024/CRP.22).

4. The Committee heard the following presentations under the item:

(a) “Lunar mineral resources and international challenges in their exploration, exploitation and utilization”, by the representative of the Russian Federation;

(b) “Lessons learned for safe and sustainable lunar exploration: The case of KPLO operations”, by the representative of the Republic of Korea;

(c) “Smart lander for investigating Moon (SLIM): results from the Moon landing”, by the representative of Japan;

(d) “The Italian approach to Moon exploration”, by the representative of Italy;

(e) “Space technologies as supporting tools for the mitigation of the disaster in Rio Grande do Sul”, by the representative of Brazil;

(f) “India’s space exploration road map”, by the representative of India;

(g) “Supervision shapes order, order brings development”, by the representative of China;

(h) “The second International Moon Day: results and outlook for 2024”, by a representative of the Moon Village Association;

(i) “Climate change and lunar exploration interaction”, by a representative of the Moon Village Association.

5. The Committee recalled the origin of the present agenda item and the work of the Action Team on Exploration and Innovation, which had produced the first-ever United Nations report emphasizing the importance of human space exploration beyond low Earth orbit (see A/AC.105/1168).

6. The Committee noted with appreciation that delegations had, at the current session, shared information and updates on space exploration and innovation endeavours, including details of national activities, programmes and achievements, as well as examples of related bilateral, regional and multilateral cooperation.

7. The Committee noted that, in the course of the discussions, information had been provided on, inter alia, research and development activities; space object launches; developments in human space flight programmes; the use of probiotics and lactoferrin in foods for astronauts using 4D bioprinting; studies in gravitational physiology; activities and cooperation opportunities related to the International Space Station, including outreach through radio communications from the International Space Station to promote scientific education, carry out microgravity experiments on physiology, the brain and the nervous system, and build expertise in the construction of space station modules; the first successful crewed test flight of the NASA Starliner to the ISS; the move to normalized operation mode of the China Space Station; the deployment of new orbital stations; robotic exploration activities on near-Earth asteroids and other celestial bodies, including with miniaturized robotics and nanotechnology; numerous missions to the Moon, including many successful landings; the Moon to Mars initiative; the development of the Lunar Surface Habitation Module and Multi-Purpose Habitation Module; lunar polar exploration missions to investigate water ice and resource utilization; missions to Mars, including the release of global image maps of Mars, and the confirmation of liquid water on Mars, the search for life on Mars and the mapping of ice on Mars; missions to the moons of Mars and to Jupiter’s icy moons; the Sun and monitoring solar radiation; missions to asteroids; data-sharing initiatives on numerous lunar and deep space missions; astronomical projects from Earth and the Moon, and X-ray observatory projects; the growing entrepreneurial space ecosystem and the transfer of mature technologies to drive innovation; the development of a lunar lander vehicle with an emphasis on interoperability; funding for accelerator projects for the development of new technologies; water purification challenges for technologies to support lunar and deep space missions; oxygen extraction from lunar regolith and in situ utilization of lunar resources; the collection and return of samples; the planned Lunar Gateway outpost; the planned International Lunar Research Station, and its growing number of international partners; position, navigation and timing on the Moon; long-duration power sources; systems for demonstrating in situ resource utilization; cloud seeding from low Earth orbit, with potential lessons for artificial rain on the Moon and Mars; a centre for innovation and space resources; a space resources challenge; a space resources week; public support for commercial start-ups in the field of space resources; education initiatives in space exploration; the development of spaceports and other essential infrastructure to support space flight; planetary protection initiatives; a China Space Day; successes of space start-up companies; efforts to foster entrepreneurship and innovation in the space sector; and the increasing human and financial resources being committed to space exploration and innovation.

8. The Committee noted the importance of collaboration among all stakeholders in space exploration and innovation activities, including Governments and government agencies, non-governmental entities, academic institutions, scientific and technical research centres, industry and the private sector.

9. The Committee noted with appreciation the organization of the first United Nations Conference on Sustainable Lunar Activities, which had taken place on 18 June 2024, noting that representatives from international lunar programmes and missions had exchanged views about goals, priorities and approaches for safe and sustainable lunar exploration, with a view to identifying common ground among all parties. The Committee further noted that, inspired by the foundational principles of the Outer Space Treaty, the Conference, through a think tank approach, had promoted constructive, insightful and inclusive exchanges, identifying the existence of common understanding in critical areas of international cooperation, information-sharing, capacity-building, consultation, interoperability, long-term sustainability, due regard and scientific investigation.

10. The view was expressed that the Conference on Sustainable Lunar Activities had revealed common ground among signatories to the Artemis Accords and partners in the International Lunar Research Station that space activities should be conducted in accordance with international law and in a safe, sustainable and peaceful manner. The delegation expressing that view also expressed the view that the Conference had highlighted that information exchange was an important means for international cooperation and would be crucial for avoiding interference and enabling appropriate international consultations on lunar activities.

11. Some delegations expressed the view that the establishment of the Action Team on Lunar Activities Consultation would be an important step towards facilitating international consultations in order to ensure that lunar activities were conducted in a safe, peaceful and transparent manner.