

Promoting Space Sustainability

JCLTSOSA

RCSSTEWA

7 July 2021

Implementation of the Guidelines for the Long-term Sustainability (LTS) of Outer Space Activities of the Committee on the Peaceful Uses of Outer Space

Operational Case Studies

I. Short description of the outer space activity

Background:

The Hashemite Kingdom of Jordan, a member state of the United Nations Committee on the Peaceful Uses of Outer Space (UN-COPUOS) since 2011, had participated in the discussions that took place back in 2016 within the COPUOS, which resulted in a first set of guidelines for the long-term sustainability of outer space activities. Consequently, an ad-hoc committee, named the Jordanian Committee for the Long-Term Sustainability of Outer Space Activities (JCLTSOSA), was formed in 2018 under the umbrella of the Regional Center for Space Science and Technology Education for Western Asia (RCSSTEWA), which is a specialized and independent organization operating under the auspices of the United Nations Office for Outer Space Affairs (UNOOSA), and enjoys a legal personality that is financially, administratively and academically independent. Amman, the Capital of the Hashemite Kingdom of Jordan, is the permanent headquarters of the Center. RCSSTEWA has no affiliation with any local or regional government institution.

Objectives of the JCLTSOSA Committee:

The main objective of JCLTSOSA is to prepare Jordan, and subsequently other member states of the Regional Center (RCSSTEWA), to take measures to ensure that the “Guidelines for the Long-term Sustainability of Outer Space Activities of the Committee on the Peaceful Uses of Outer Space” are implemented—though those Guidelines were only officially adopted in June 2019.

Ways of achieving the objectives of JCLTSOSA:

- Awareness-raising and capacity-building activities related the Guidelines (through lectures, seminars, workshops, training courses, conferences, articles ... etc.).
- Preparing the legal and administrative framework in Jordan and the member states of the Regional Center (RCSSTEWA), especially in those countries in which no such a legal-administrative framework exists.

Some activities and events organized so far (in chronological order):

- Event: Making the Case for the Human Exploration of Outer Space: A Unique Opportunity for Jordan in Future (Lecture)
Lecturer: Mr. Michael Suffredini (Axiom Space, USA)
Date: 21 February 2019
Venue: RCSSTEWA, Amman, Jordan
- Event: The United Nations-Jordan Workshop: Global Partnership in Space Exploration and Innovation
Date: 25 – 28 March 2019
Venue: RCSSTEWA, Amman, Jordan
Overview: The Regional Center (RCSSTEWA) hosted during the period 25-28 March 2019 the scientific workshop on “Space Exploration and Innovation” in cooperation with the United Nations Office for Outer Space Affairs (UNOOSA), which brought together scientists and engineers teachers, policy makers, and local, regional and global experts to discuss and develop thinking on the global partnership in space exploration and innovation, the workshop included strategic and capacity building elements and aimed to benefit from the efforts of entities that are already cooperating in the field of space exploration and innovation.
- Event: Space Debris: Hazards and Mitigation Techniques (Lecture)
Lecturer: Dr. Hanna Sabat (RCSSTEWA & JAS)
Date: 27 June 2019
Venue: The Cultural Forum of the Jordanian Astronomical Society, JAS, Amman
- Event: GNSS Civil Liability (Lecture)
Lecturer: Dr. GAO Qi (Beihang University, China)
Date: 26 June 2020
Venue: Virtual Platform of RCSSTEWA

-
- Event: International Legal Rules for Space Environment Protection (Online Course)
Lecturer: Prof. WU Xiaodan (Central University of Finance and Economics, China)
Date: 29-30 June 2020
Venue: Virtual Platform of RCSSTEWA
Overview: This course was held in coordination with the Regional Center for Space Science and Technology Education in Asia and the Pacific / China and presented by Prof. WU Xiaodan from the Central University of Finance and Economics, China, during the period 29-30 June 2020, where a large number of trainees from various Arab countries participated in it. The following objectives were set for this course:
 - Introducing the principles of space law.
 - Introducing the United Nations General Assembly resolutions related to the protection of the space environment.
 - The role of the United Nations Office for Outer Space Affairs (UNOOSA) in protecting the space environment.
 - Event: Series of Seminars on Space Science, Technology & Legislations
Organizers: The Regional Center for Space Science and Technology Education for Western Asia (RCSSTEWA), the Arab Union for Astronomy and Space Science (AUASS), and the Inter-Islamic Network on Space Sciences & Technology (ISNET)
Lecturer(s): Many specialists.
Date: 2-4 March 2021
Overview: This 3-day series of specialized seminars on space science, technology and its legislations was the fruit of collaboration between the above-mentioned three institutions (RCSSTEWA, AUASS & ISNET), where a number of specialists from various institutions gave specialized talks in these fields, in the framework of training and capacity building on the long-term sustainability of outer space activities. The talks varied from basic space science, to technological applications of satellites, to legal aspects of space science and technology.

Some future activities and collaborations scheduled for late 2021 and 2022:

- Collaboration between RCSSTEWA and some local universities:
 - Amman Arab University, AAU: A diploma program in satellite-based remote sensing (RS) and geographic information system (GIS) was approved, and will start in October 2021, in collaboration with AAU.

-
- Al al-Bayt University, AABU: A master in science (M. Sc.) program in astronomy and space science was approved, and will start in October 2021, in collaboration with AABU.
 - Jordan University of Science and Technology, JUST: A master in science (M. Sc.) program in astrophysics and space science is in preparation.
 - Collaboration with the United Arab Emirates (UAE) Space Agency:
 - A memorandum of understanding (MOU) was signed between the UAE Space Agency and the RCSSTEWA concerning bilateral cooperation in training, education and research.
 - The Arab Space Coordination Group was created as an offshoot of the UAE Space Agency in March 2019, establishing a partnership between a number of Arab nations, including the United Arab Emirates, Jordan, Bahrain, Algeria, Saudi Arabia, Sudan, Lebanon, Kuwait, Morocco and Egypt.
 - Collaboration with the Egyptian Space Agency:

A memorandum of understanding (MOU) was signed between the Egyptian Space Agency and the RCSSTEWA concerning bilateral cooperation in training, education and research. Many collaborations in this regard will start in 2022.
 - Collaboration with Beni Suef University (Egypt):

A cooperation protocol was signed recently between Beni Suef University (Egypt) and the RCSSTEWA concerning bilateral cooperation in training, education and research. Many collaborations in this regard will start later this year (2021).
 - Various upcoming activities:
 - Training Course on Space Diplomacy; approximate date: October 2021.
 - Seminar on Space Debris and Mitigation Methods; approximate date: February 2022.
 - Summer School on Outer Space Laws and Legislation; approximate date: June 2022.

II. Connection with the LTS Guidelines

The above-mentioned activities by JCLTSOSA fits well with the following LTS Guidelines:

C. International cooperation, capacity-building and awareness, particularly for Guidelines C.3: Promote and support capacity-building and C.4: Raise awareness of space activities.

D. Scientific and technical research and development, particularly Guideline D.2: Investigate and consider new measures to manage the space debris population in the long term.

III. Lessons learned

Training, capacity-building and raising awareness on the long-term sustainability of outer space activities should be a long and continuous process. Even for developing countries with limited financial and technical resources, the spread of the COVID-19 pandemic has given those countries an important lesson through obliging them to enhance their telecommunications and Internet infrastructures, in order to provide distance learning and education to their schools, colleges and universities.

We, at the Regional Center for Space Science and Technology Education for Western Asia (RCSSTEWA), have made extensive use of online tools in teaching and conferencing right away (starting from March 2019), before many other Jordanian schools, universities and research-educational institutions.

We should also bear in mind that such tools would not have been available without satellites and space technologies.

A further step should be taken—apart from capacity building and awareness, which is to develop a national legal framework for space activities that would take into consideration long-term sustainability of such activities, especially with the advent of some private start-up space companies in Jordan and other Arab countries.

For any Further Information about the Committee (JCLTSOSA) or the Center (RCSSTEWA), please contact:

Dr. Eng. Awni Kasawneh, Director General of the Regional Center for Space Science and Technology Education for Western Asia (RCSSTEWA)

Email: kawni@yahoo.com

Official Homepage: <http://rcsstewa.com/>

Tel.: +962772009800 & +96277955070941