



Egypt contribution to the Action Team on Lunar Activities Consultations.

A Framework for Cooperation and capacity building for Sustainable Lunar Activities: – Perspective of Developing Space Country

The Moon has been a focal point for scientific curiosity and exploration. the recent increase of potential lunar activities became crucial to adopt a set of principles that ensure the sustainability multilateral operations on the Moon.

The main principles of relevant United Nations treaties and the peaceful uses of outer space should drive the discussions on coordinating Lunar activities. The universal and equitable access to outer space should be ensured for all States without discrimination. The established principle of non-appropriation of outer space must be honoured and maintained. Outer space cannot be claimed by sovereignty or by means of use and occupation. It is essential to note that any regulation of outer space should aim at improving the outer space environment for the use of all states and should not, in any way, limit the full utilization of outer space activities and applications by any other state.

The key principles that should guide sustainable lunar exploration, emphasizing international cooperation and coordination, benefit sharing, knowledge-sharing, inclusion of developing countries, the central role of the Outer Space Treaty as well as relevant international space treaties, the peaceful usage of outer space, and the contribution of the private sector while consolidating the responsibility of States in Outer Space activities.

Sustainable lunar exploration encompasses not only the scientific, economic, and technological aspects but also the political, ethical, and environmental perspective. the cooperation and coordination is pivotal asset of international lunar activities,



allow sharing of expertise, the involvement of developing countries, and the establishment of legal frameworks to preserve space for peaceful purposes.

The complexity of lunar exploration can be facilitated by a strong cooperative, coordinated international approach. It is obvious that no single nation or entity can accomplish the scope of lunar activities alone, and the Moon is, a common heritage of mankind . This includes preventing overcrowding of lunar landing sites, protecting valuable scientific assets, and ensuring that lunar exploration benefits all parties equally.

There is a need to consolidate sharing of knowledge and experience as it plays a central role in the sustainable development of lunar activities. Given the rapid pace of technological advancements in space exploration, it is essential that nations and organizations make their findings, research, and technological developments available to all.

Outer space is a common heritage of humankind, and a common asset that belongs to humanity as a whole. Hence, there is a need to ensure benefit sharing of space technologies and applications, particularly for the benefit of developing countries, in accordance with the Outer Space treaty as well as the UNGA resolution 52/122 on the “Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries”. One of the most important principles of sustainable lunar exploration is benefit sharing among all States and the inclusion of developing countries.

Reflecting the UN basic principle of “leaving no one behind”;, it is essential that emerging space nations are not left behind. The economic and technological divide between developed and developing countries should not prevent participation in space activities. Developing countries can contribute significantly to lunar exploration, not only through the application of their own scientific and technological expertise but also by participating in international space initiatives and



sharing in the benefits of lunar resources. Key to this effort is capacity-building, where nations receive training and educational resources to develop their own space programs. Encouraging international partnerships and collaboration with countries at different stages of space development ensures that no nation is excluded from contributing to or benefiting from the exploration and utilization of the Moon. There is a need to identify streams through which developing countries can benefit from efforts of lunar exploration including participation in research projects, participation in lunar missions, and equitable sharing of benefits of and possible applications of lunar resources.

A robust and clear legal framework, based on the Outer Space Treaty and relevant international treaties and United Nations resolutions, is essential for the sustainable exploration of the Moon. The 1967 Outer Space Treaty forms the foundation in this regards, in particular article II thereof, which states that “outer space, including the moon and other celestial bodies is not subjected to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means” as well as declaration that space is free for exploration and use by all countries. the treaty also mandates that space activities be conducted for the benefit of all countries and that exploration should avoid harmful contamination of celestial bodies.

For sustainable lunar activities additional challenges should be addressed posed by lunar exploration, including exploration and scientific investigation of lunar resources, environmental protection, and the regulation of space debris.

Moreover, as private companies become more involved in lunar exploration, there will be a need for new international rules that outline the rights and responsibilities of both governmental and commercial sectors. **The increased role of private sector and non-governmental entities in space activities** necessitate the collective adherence to **Article six of the Outer Space Treaty**, particularly the responsibility of States Parties to the Treaty for national activities in outer space, whether carried on by governmental or non-governmental entities, and that the activities of non-



governmental entities in outer space shall require authorization and continuing supervision by the appropriate State Party to the Treaty, while adhering to its principles.

Additionally, the Moon Agreement, which entered into force in 1984, can provide an appropriate guidance during the upcoming discussion on the lunar activities coordination on the exploration, investigation and use of lunar resources and the commitment to using space for peaceful purposes. Future legal instruments could build on this framework to ensure equitable access to lunar resources,

The private sector has already begun to play an increasingly important role in space exploration, and its involvement in lunar activities is likely to grow in the coming decades. Private companies can bring innovation, efficiency, and investment to lunar exploration, especially in areas like resource extraction, transportation, and infrastructure development. These contributions can significantly enhance the capabilities of national space agencies and expand the overall scope of lunar exploration.

However, it is essential that the private sector's involvement aligns with international legal rules and ethical standards agreed under the auspices of the United Nations, including article six of the Outer Space Treaty as previously mentioned. While private companies should be encouraged to innovate, their activities must be carefully regulated to ensure they are in full adherence to UN international rules and norms and they do not harm the lunar environment. There is a need to consolidate private sector collaboration with government agencies in order to ensure shared goals of lunar sustainability, and operate transparently.

There is a need to establish innovative support framework to consolidate the principles of benefit sharing in outer space and long term sustainability. One potential mechanism to explore is a levy or contribution system, whereby major



spacefaring nations, nontraditional donors, and private commercial sector space actors contribute to a fund that supports developing countries. Such mechanism and fund can be under a trust fund administered by the UN Office of Outer Space Affairs. By integrating such measures into the broader governance on space activities and space resources nations can promote a fair and sustainable future where all humankind—regardless of their economic standing—can access and benefit from the opportunities that outer space offers.

Sustainable lunar activities offer unprecedented opportunities for scientific discovery, economic development, and international cooperation. To ensure the success of these activities, it is imperative that all nations work together, share knowledge, and prioritize equitable participation, particularly for developing countries. Additionally, robust frameworks, based the Outer Space Treaty and the Moon Agreement, must be explored to address the unique challenges of lunar exploration. By maintaining the peaceful usage of outer space and engaging the private sector under the responsibility of States , humanity can ensure that lunar activities benefit all of humanity, while protecting the Moon's environment for future generations.
