

Agenda Item 5 – “Space technology for sustainable socioeconomic development”

Madam Chair, Distinguished Delegates,

Japan would like to reiterate the importance of the Sustainable Development Goals for ensuring that “no one will be left behind”. The unprecedented crisis caused by the COVID-19 pandemic has given the space community an opportunity to rethink the sustainability of our space activities, and reconsider how space technology could contribute to existing social issues. Last June, the Japanese government updated the Basic Plan on Space Policy to include Japan’s contribution to the SDGs by leveraging space technology. Also, last December, the SDGs Promotion Headquarters of the Japanese government established the “SDGs Action Plan 2021”, which includes R&D and utilization activities aboard the Japanese Experiment Module “Kibo” of the ISS, development of space food, and utilization of satellite data for contributing to the SDGs.

Madam Chair,

Japan has been promoting the utilization of “Kibo” for maximizing its outcomes, and various experiments have been conducted aboard “Kibo,” including material/physical science, medical science, life science, and capacity building. Such experiments are expected to contribute to SDGs 3, 4, 9, and 17.

One example is the high-quality protein crystal growth experiment aboard “Kibo.” The detailed information of protein crystals obtained from this experiment is expected to contribute to the design of innovative drugs such as for infectious diseases, cancer, and lifestyle-related diseases.

Another example is the long-term mouse habitation experiment. The fifth experiment was conducted in March/April last year for 28 days, and six mice were brought back to the Earth alive. The results from this experiment are expected to contribute to medical research of humans for future human space exploration and aging research on the ground.

In addition to this, Japan is contributing to the capacity building of developing and emerging countries by supporting “access to space” for these countries. One example is providing opportunities of deploying CubeSats from “Kibo” through programs such as “KiboCUBE.” Another example is providing educational opportunities to students in the Asia-Pacific region. In 2020, JAXA conducted a new educational program called “Kibo Robot Programming Challenge” in

collaboration with NASA. It is an educational programming competition using JAXA and NASA's free-flying robots in the ISS, and over 1000 students from 7 countries in the Asia-Pacific region participated. The second programming competition is planned in 2021.

Madam Chair,

Japan is conducting R&D on space food not only to improve the quality of life in confined spaces like the International Space Station or a future moon base, but also to contribute to the sustainable food production on Earth. Such R&D activities are expected to contribute to SDGs 2, 3, 8, 11, and 12. Under the public-private partnership program named "SPACE FOODSPHERE," Japan promotes R&D activities on food production and resource circulation technology such as the development of a plant factory, as well as research for improving the quality of life through food.

Madam Chair,

Japan is promoting the utilization of satellite data to address global challenges such as rice crop production, water management, air pollution, coastal eutrophication, and forest preservation, which are expected to contribute to SDGs 2, 3, 6, 11, 13, 14 and 15.

Leveraging the knowledge of utilizing L-band radar and optical Earth observation satellite data, Japan has been publishing the annual global mangrove map, called "Global Mangrove Watch." Japan expects that these data can be used to support the decision making for sustainable conservation of mangroves, and last year, this map was designated by UNEP as the official mangrove dataset for SDG 6.6.1 reporting.

Another example is an international cooperative project for disaster monitoring in the Asia-Pacific region, known as "Sentinel Asia." This is a collaborative project among the countries in the region to reduce the damage caused by natural disasters by sharing disaster-related information acquired from satellite images and other data with 94 organizations from 28 countries and regions and 17 international organizations over the Internet.

Also, Japan promotes research and development for a range of earth observation satellites to contribute to forest monitoring, estimation of sink and sources of CO₂ and other greenhouse gases, and prevention of health hazards caused by air pollution through the release of aerosol data. In addition to the

above, Japan will develop and promote the use of satellites especially for contributing to the fight against climate change.

Madam Chair,

Japan firmly believes that space technology has a high potential to support sustainable socioeconomic development and will continue to contribute to this important issue.

Thank you for your attention.