
**Committee on the Peaceful Uses of
Outer Space**
Scientific and Technical Subcommittee
Forty-fifth session
Vienna, 11-22 February 2008
Agenda item 6
**Implementation of the recommendations of
UNISPACE III**



**Promoting greater participation of young people in space science
and technology**

At the forty-fourth session of the Scientific and Technical Subcommittee, the Working Group of the Whole agreed that member States of the Committee, entities of the United Nations system and other organizations having permanent observer status with the Committee should continue to report to the Working Group of the Whole on their efforts to promote education and opportunities for greater participation of youth in space science and technology. The annex to this document contains the reports received by the Secretariat.

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Annex

Promoting greater participation of young people in space science and technology

I. Japan

[Original text: English]

Japan led the Action Team on Capacity Building in the follow-up to UNISPACE III Conference, and places importance on the matters relating to capacity building as it pursues space activities. Following the five-year review of the recommendations of UNISPACE III, or UNISPACE III+5 Review, Japan has contributed to international efforts in various manners and on occasions to implement the recommendations of the Action Team to enhance capacity building in space-related activities.

Contributions of Japan to the exchange of experiences and information on space education at the regional level extend beyond Asia and the Pacific. Through the participation of the Japan Aerospace Exploration Agency, known as JAXA, in the Fifth Americas Space Conference held in July in 2006 in Quito, Ecuador, Japan took a step forward in enhancing inter-regional cooperation in space education. By receiving a group of science teachers from eight African countries through Japan International Cooperation Center to share its methods and materials to teach space subjects, JAXA also took the initiative to establish channels for exchanging information and experiences on space education with teachers of African countries.

Beyond the exchange of information and experiences, Japan also contributes to enhancing space education in developing countries and strengthening their capacity building in space science and technology and their applications through concrete activities and projects. A few examples of such efforts should be mentioned in support of the global initiatives of the entities of the United Nations system.

In the area of basic space science, Japan has been donating 45 centimetres telescopes to developing countries through the Japanese Cultural Grant Aid over a decade. Starting with Sri Lanka in 1996, Paraguay, the Philippines and Chile have received such telescopes. This is in support of the implementation of the "Tripod" concept promoted by the Office, to provide research tools that can be functionally maintained by the national socio-economic infrastructure of the receiving nations, teaching materials that allow basic space science in middle and higher education and application materials for original research in basic space science.

In this connection, we are pleased that UN/ESA/NASA Workshop on Basic Space Science and the International Heliophysical Year 2007 were hosted by National Astronomical Observatory of Japan (NAOJ) of National Institutes of Natural Sciences in Japan, from 18 to 22 June in 2007 in

Tokyo. The Workshop, among other things, reviewed the achievements of the cooperation between the United Nations and Japan regarding planetariums and astronomical telescope facilities to developing countries.

As for primary and secondary school teachers and students, together with UNESCO, APRSAF Space Education and Awareness Working Group organized space education workshops in Vietnam and a space education seminar in Indonesia. The workshops in Vietnam provided opportunities for students to learn about a wide range of space science and technology and their applications and to experience hands-on activities. The seminar in Jakarta, Indonesia, provided opportunities for school teachers to increase their understanding of the link between space and our daily lives and to acquire knowledge and skills in bringing space subjects into the existing classroom activities. Similar workshops and seminars are being planned to be organized in other countries of the region together with UNESCO.

JAXA also participates in UNESCO space education workshops organized in developing countries and contributes to their follow-up actions. For Colombia and Ecuador where the UNESCO space camps were organized in November and December 2005 and in May 2007, respectively, JAXA introduced the water rocket activities for secondary school students as hands-on training for science and engineering education purposes. JAXA had first introduced the water rocket activities in APRSAF, and more and more countries in Asia and the Pacific are now carrying out water rocket activities for educational purposes. JAXA is supporting those countries interested in water rocket activities by providing educational materials and other material support.

As for APRSAF poster contest for elementary school children in the region, the Working Group agreed that its theme should be the same as that of the World Space Week, namely "50 Years in Space". The posters selected by the participating countries of APRSAF were displayed at the 14th APRSAF in Bangalore, India, from 21 to 23 of November 2007.

Through the International Space Education Board (ISEB), established in October 2005, JAXA works together with other members, namely the United States National Aeronautics and Space Administration (NASA), European Space Agency (ESA), Canadian Space Agency (CSA) and French Space Agency (CNES), to provide more opportunities mainly for university and graduate students to participate in space activities. Together with the University Space Engineering Consortium (UNISEC), whose membership consists of 35 university laboratories and more than 300 students in Japan, JAXA organized the International CanSat Workshop in Tokyo in February in 2007. This workshop was organized as one of the joint projects pursued by ISEB, to promote CanSat development and experiments as a means to enhance training opportunities in basic space engineering among young people.

In addition to promoting CanSat activities in the countries of ISEB members, JAXA took additional steps to invite members of APRSAF Space Education and Awareness Working Group to participate. This enabled Japanese universities that are active in space engineering, hands-on

training to create opportunities to further assist interested developing countries in initiating or strengthening space engineering education and training.

Many universities and technical colleges in Japan are engaged in hands-on space engineering activities such as developing satellites and rockets by the students. Five Cubesats by Tokyo University, Tokyo Institute of Technology and Hokkaido Institute of Technology as well as a small satellite by Chiba Institute of Technology to investigate the ecology of whales, six satellites in total developed by students, have been launched into outer space.

In the area of remote sensing and GIS, JAXA continues to provide advanced engineering education opportunities in Asia and the Pacific through Asian Institute of Technology, AIT. JAXA continues to send its staff to support this course on remote sensing and GIS, which has benefited by now hundreds of promising engineers in the region.

Japan also supports efforts to enhance capacity building in Earth observations with the use of space technologies such as those by the Working Group on Education, Training and Capacity Building of the Committee on Earth Observation Satellites, CEOS, and by the Capacity Building Committee of the Group on Earth Observations, to carry out the 10- Year Implementation Plan of the Global Earth Observation System of Systems, known as GEOSS.

II. Nicaragua

[Original text: Spanish]

Nicaragua is nationally promoting a series of programmes on education, health and environmental protection. These programmes fall within the wide range of applications that can be enhanced by space technology, such as global communications and natural disaster management and mitigation activities.

Nicaraguan main universities are promoting Science and Technology days to encourage and develop the involvement of young people in science and its various disciplines, including space science.

III. Thailand

[Original text: English]

During 2007, Geo-Informatics and Space Technology Development Agency (GISTDA) organized at least six youth camps and conferences for local students in order to create space technology and applications awareness for primary and secondary schools in the country.

The first and the third youth camps were organized during 29-30 March and 23-24 July 2007 respectively. There were 120 youth participants from schools in the eastern region of Thailand attended the first event, the latter was participated by around 200 from the central region. The theme of both camps was space science.

The other four of the youth camps were mainly in space applications, mostly RS and GIS. GISTDA and local agencies organized four events during 26-29 June, 18-19 October, 30 October-2 November 2007, and the fourth was during the National Mapping Conference 2007 on 30 November 2007. More than 150 youth participants for each camp were represented from central and eastern regions of the country.

Furthermore, this year one of the Thai secondary school students received the accolade of being represented in joining the G Force among students all over the world in the USA. The student also participated in the youth forum during National Mapping Conference to share the experience.

In addition, for the supporting on World Space Week activities, GISTDA and relevant agencies jointly organized water rocket competition among youth in the country in October 2007.

Year 2008 Plan for the Thai Youth: GISTDA will continue organizing a number of youth awareness camp and workshop during 2008. The first will be on the National Children Day in January 2008. A number of activities in space technology and applications awareness will also be conducted. In addition, GISTDA plan to carry out other activities for primary and secondary students for the whole country in 2008.

IV. Turkey

[Original text: English]

A new International Msc and PhD Scholarship program for Undergraduate and Graduate Students in the fields of space science and astronomy, earth science, space technology and space law has been initiated by TÜBİTAK.

A national workshop was organized for the educational needs of Turkey in space research by TÜBİTAK in 2007.

V. UNESCO

[Original text: English]

In the framework of the Space Education Programme (SEP), UNESCO organized in 2007:

- Roundtable on best practices in teaching remote sensing at primary and secondary level in Latin America during the XXIII Brazilian remote sensing symposium, in cooperation with INPE, Brazil (April 2007).

- Workshop for secondary school students and teachers in Ecuador in cooperation with the Ecuadorian Ministry of Foreign Affairs, Pro Tempore Secretariat of the Fifth Space Conference of the Americas (May 2007).
- Workshop for secondary school teachers in Latin America focusing on the application of remote sensing to climate change in cooperation with CONAE, Argentina (October 2007).

During the World Space Week 2007 celebration, UNESCO coordinated, in cooperation with JAXA, a water rocket launching event on 4 October in seven countries: Argentina, Brazil, Colombia, Ecuador, Nigeria, Philippines, Vietnam.

UNESCO participated in the 1st Nigerian national workshop on space science curriculum development at secondary level organized by the UN-affiliated Regional Centre for Space Science Technology and Education, Ile-Ife, Nigeria (May 2007).

In 2008, UNESCO will organize a sub-regional space education workshop in Ecuador, with the participation of students and teachers from Colombia and Guatemala, and a workshop in Tanzania which will be held in conjunction with the International Year of Planet Earth (IYPE) launching event in the African region.

The UN General Assembly, at its 62nd session (Dec 2007), declared 2009 as the International Year of Astronomy and has designated UNESCO as lead agency for the IYA. From 2008 to 2010, UNESCO will, in cooperation with the International Astronomical Union and UN-OOSA, promote and enhance astronomy studies in schools and universities through workshops and outreach activities and will generate educational materials for distribution in developing countries.