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Draft report

Chapter II

Addendum

F. Space and society

1. In accordance with paragraph 49 of General Assembly resolution 60/99, the Committee continued to consider, under the agenda item entitled "Space and society", the special theme for the focus of discussions for the period 2004-2006, "Space and education", in accordance with the workplan adopted by the Committee at its forty-sixth session,[1] in 2003.

2. The Committee recalled that in accordance with the workplan, it would conclude the workplan at its current session and undertake the following: (a) develop specific, concrete action plans for incorporating outer space into education, enhancing education in space, expanding space tools for education and ensuring that space-based services contribute to the achievement of the Millennium Development Goal on access to education; and (b) prepare a brief document on the role of space in education, as well as the link between space and education, for transmission to the General Conference of the United Nations Educational, Scientific and Cultural Organization.

3. The representatives of Austria, Brazil, Canada, Chile, Colombia, Hungary, India, Japan, Malaysia, Nigeria, the Republic of Korea, Thailand and the United States made statements under this item.

4. The Committee heard the following presentations:

[1] *Official Records of the General Assembly, Fifty-eighty Session, Supplement No. 20* (A/58/20), para. 239.

V.06-54841 (E)

(a) “Report on the status of operation of the Centre for Space Science and Technology Education in Asia and the Pacific (CSSTEAP)”, by V. K. Dadhwal (CSSTEAP);

(b) “Report on the status of operation of the African Regional Centre for Space Science and Technology Education—in English Language (ARCSSTE-E)”, by O. Jegede (ARCSSTE-E);

(c) “Report on the status of operation of the African Regional Centre for Space Science and Technology—in French Language (CRASTE-LF)”, by A. Touzani (CRASTE-LF);

(d) “Report on the status of operation of the Regional Centre for Space Science and Technology Education for Latin America and the Caribbean (CRECTEALC)”, by José Marques da Costa (CRECTEALC);

(e) “Activities of JAXA Space Education Centre: achievements and prospectives for international cooperation”, by Takemi Chiku (Japan);

(f) “Space education and training activities in Italy”, by Germana Galofalo (Italy);

(g) “Space and society”, by P. Martinez (South Africa);

(h) “Effective utilization of EDUSAT for education in India”, by B. N. Suresh (India);

(i) “University hands-on space education: Japanese case”, by Tetsuo Yasaka (Japan);

(j) “Update on the ‘Space Education Programme of UNESCO’”, by Yolanda Berenguer (UNESCO).

5. The Committee noted that the Space Education Programme of UNESCO was aimed at enhancing space subjects and disciplines in schools and universities, in particular in developing countries, and raising awareness among the general public of the benefits of space technology for social, economic and cultural development. The Committee noted that UNESCO was the lead United Nations agency for the United Nations Decade of Education for Sustainable Development (2005-2014).

6. The Committee noted that there were a number of national educational initiatives and activities aimed at using content, materials and applications unique to space activities for training students and teachers and for educating the general public on matters relating to outer space, including: the initiatives and activities of the Malaysian Angkasawan Program and the space awareness program; the NASA Educator Astronaut Program, Explorer Schools Program and Explorer Institutes initiative, as well as the education programmes implemented by the National Oceanic and Atmospheric Administration (NOAA); the Summer School Alpbach co-organized by the Austrian Aeronautics and Space Agency of the Austrian Research Promotion Agency (FFG), ESA and the national space agencies of all ESA member States, the BRITE Austria project and the Austrian Space Forum; the Space Awareness and Learning Program of the Government of Canada and the Canadian Space Agency; the Hungarian Student Space Exploration and Technology Initiative (SSETI), the Space Research Group of Eotvos University and HUNAGI (a Hungarian spatial data interest community of 112 institutions and organizations in

the field of geo-information); the Brazilian Space Agency (AEB) school programme; the ISRO Village Resource Centres; the JAXA Space Education Center; the Institute of Space Knowledge-based Development of Thailand under the auspices of the Geo-Informatics and Space Development Agency (GISTDA); and the Korea Aerospace Research Institute (KARI).

7. The Committee noted the educational opportunities being provided by some national universities, including hands-on training opportunities for university and graduate students in space science and engineering. In that regard, the Committee also noted the establishment of the University Space Engineering Consortium (UNISEC) to support such hands-on activities; the membership of the Consortium currently consisted of 20 universities and 30 voluntary groups.

8. The Committee noted that a number of national tele-education initiatives were providing educators and students at all levels, including those in remote areas, with high-quality education consisting of the latest teaching resources, vocational and teacher training and adult education.

9. The Committee noted the activities at the regional level for capacity-building through education and training in space science and technology application for sustainable development, including the achievements of the African Regional Centre for Space Science and Technology Education—in English Language (ARCSSTE-E), the Asia-Pacific Regional Space Agency Forum (APRSAF) and the pro tempore secretariat of the Fourth Space Conference of the Americas.

10. The Committee noted with satisfaction that, at the global level, a large number of educational and outreach activities and programmes for children, young people and the general public were being established by space agencies and international organizations to promote awareness of the benefits of space science and technology and to encourage children to consider careers in the fields of mathematics and science.

11. The Committee noted the role that the International Space Station was playing in education and in reaching out to international education communities.

12. The Committee noted that World Space Week, observed each year from 4 to 10 October, pursuant to General Assembly resolution 54/68 of 6 December 1999, contributed to the development of education and raised awareness about outer space, in particular among young people and the general public. The Committee noted that more than 50 countries had participated in World Space Week in 2005 and that the theme of the activities for 2005 had been “Discovery and imagination”.

13. The Committee was of the view that sharing scientific and technical knowledge and achievements in the field of space activities would have a positive impact on future generations.

14. The view was expressed that illiteracy and a lack of adequate education continued to constitute major problems for developing countries and that the United Nations Programme on Space Applications should place more emphasis on supporting education and training for capacity-building in developing countries.

15. The view was expressed that States should be encouraged to improve the dissemination of space-related educational materials in order to increase general awareness of the importance of the use of space technology for attaining sustainable

development. That delegation noted that education had been one of the priority areas identified by the Fourth Space Conference of the Americas, held in Cartagena de Indias, Colombia, in 2002.

16. The view was expressed that the Committee could identify entities that were already contributing to the implementation of the activities contained in the Plan of Action contained in the report of the Committee (A/59/174, paras. 300-309), which had been endorsed by the General Assembly in its resolution 60/99, and could examine how their efforts could be further supported and better coordinated.

17. The Committee agreed that, in view of the importance of space and education, it would continue to consider this special theme at its fiftieth session, in 2007, and that it would undertake the actions called for in paragraph [260] at that time.

G. Space and water

18. In accordance with paragraph 50 of General Assembly resolution 60/99, the Committee continued to consider the agenda item entitled "Space and water".

19. The representatives of Argentina, Austria, Canada, France, India, Japan, Nigeria and the United States made statements under the item.

20. The Committee heard the following technical presentations under the item:

(a) "Use of space-based systems for water resources management in India", by K. Radhakrishnan (India);

(b) "Japan's programme on space and water applications", by Tamotsu Igarashi (Japan);

21. The Committee welcomed consideration of this item and agreed that it was timely in view of numerous discoveries and the prospect of future developments in the area of the use of space technology for water resource management. The Committee agreed that the current challenge in using space applications for water management was ensuring that new, valuable scientific data were made readily available and converted into practical information, usable by decision makers and policymakers.

22. The Committee noted that, following the United Nations Conference on Environment and Development, held in Rio de Janeiro from 3 to 14 June 1992, Member States had agreed that renewable resources, including water, should not be used faster than they were being renewed. In that context, the Committee noted that States had a greater responsibility in managing the environment and, in particular, its renewable resources.

23. The Committee noted that acute water shortages and floods were of major concern in developing countries, causing loss of human life and food shortages. At the same time, the Committee noted that access to fresh drinking water had always been a basic need for humankind and that it still constituted a daily challenge. The Committee also noted that water-related challenges could lead to social, economic and political tensions and that no consideration of economic, social or environmental development was possible without considering the issue of water. The Committee further noted that desertification, a water management issue,

threatened one third of the Earth's surface and could affect more than a billion people around the world.

24. The Committee noted that space applications could significantly contribute to cost-effective water resource management as well as to the prediction and mitigation of water-related emergencies. The Committee also noted that it was difficult to fully understand the water cycle only through in-situ observation networks, which were non-existent in some countries and deteriorating in others and extremely costly to augment. In that context, the Committee noted that satellites offered an alternative way to observe the Earth and that they were essential for gathering information on remote places. The Committee noted that such observations could provide necessary information for water basin management and for the interlinking of rivers.

25. The Committee noted that space-based observations of oceans provided information for seasonal climate forecasting and, in relation to the El Niño and La Niña phenomena, hydrological extremes such as floods, droughts or a high number of intense thunderstorms. The Committee also noted that satellite data for water management needs could help to determine precipitation activity, snow cover, soil moisture, changes in underground water storage, flood inundation areas, surface temperature, wind speed and vegetation type and health and could even provide estimates of evaporation. The Committee noted the use of Earth observation data in producing maps for groundwater prospects and recharge sites, marine and lake resources, irrigation water management and studies of glaciers, surface-water bodies and the recharge of aquifers.

26. The Committee noted that data from a number of operational satellites were currently available for water resource management. The Committee also noted plans to begin operating new programmes to collect and disseminate data about the Earth's oceans, atmosphere, land, climate and space environment, providing high-quality, sustained environmental measurements for monitoring the global water cycle and related weather phenomena.

27. The Committee noted a number of national and international projects related to water resource management that were, among other things, aimed at mapping wastelands, monitoring watershed and water quality, estimating crop production, assessing potential fishery zones, developing aquaculture in coastal areas, studying flood plain areas and assessing the impact of global warming on water resources.

28. The Committee recalled the presentation on the development of a pilot project that would apply space applications to the restoration of Lake Chad and the management of water resources in the Lake Chad basin. The Committee noted the progress in developing that project, in particular, the ongoing consultations between the experts of the countries sharing that water basin and the Lake Chad Basin Commission. The Committee also noted that the shrinking of Lake Chad represented a scientific challenge related to understanding the effects of drought in the Sahel area of Africa and the impact of climate change. The Committee further noted that various academic institutions were making use of space-based data in their research on water resources of Lake Chad.

29. The Committee noted with satisfaction the work that had been carried out by the United Nations/Austria/European Space Agency series of symposiums on the use of space applications for sustainable development, held in Graz, Austria, in

2003, 2004 and 2005, which had focused on the use of space applications for various aspects of water resource management. The Committee noted that, among other things, the symposiums had developed elements for inclusion in pilot project proposals for the use of space technology for water resource management and had set up a voluntary group of experts who had agreed to help developing countries to develop such pilot project proposals. The Committee also noted that the symposiums had assisted the Lake Chad Basin Commission in initiating a pilot project aimed at restoring Lake Chad.

30. The Committee noted the ongoing activities within the ESA Terrestrial Initiative of Global Environmental Research (TIGER). In that context, the Committee noted that projects in the Zambezi delta and the middle Limpopo basin in Southern Africa were aimed at demonstrating how remote sensing and geographical information system (GIS) applications worked for integrated river basin management. The Committee noted that a similar project for the Sous-Massa basin in Morocco was aimed at developing a decision aid system for water resource management based on GIS, satellite and other data. The Committee also noted the launch of the Nile River Awareness Kit, produced by the Canadian Space Agency at the request of the Nile Transboundary Environmental Action Project of the Nile Basin Initiative to, among other things, raise the awareness of decision makers.

31. The Committee noted the applications of space technology for monitoring water levels in pasture lands in Mali during dry seasons, as well as for monitoring water levels in the Guarani aquifer in Latin America. The Committee also noted that the Sentinel Asia project had been developed to disseminate and share space-based disaster management information, including on water-related emergencies, in Asia.

32. The Committee noted the positive experience of the Preparation for the Use of Meteosat Second Generation in Africa (PUMA) project of the European Organisation for the Exploitation of Meteorological Satellites (EUMETSAT), aimed at providing weather forecasting information to countries in Africa.

33. The Committee noted that consideration of the item on space and water promoted capacity-building in the use of space applications for water resource management. The Committee noted a number of research and capacity-building activities in that area that were being carried out by various national and international entities. In that regard, the Committee also noted that the 16th United Nations/International Astronautical Federation workshop, to be held in Valencia, Spain, on 29 and 30 September 2006, would address the use of space technologies for water management.

34. The Committee agreed to continue the consideration of the item at its fiftieth session, in 2007.

H. Recommendations of the World Summit on the Information Society

35. In accordance with paragraph 51 of General Assembly resolution 60/99, the Committee considered a new agenda item entitled “Recommendations of the World Summit on the Information Society”.

36. The Committee noted that ITU had been unable to attend the current session of the Committee. The Committee also noted that the recommendations of the World Summit on Information Society were being implemented by the various stakeholders that would assist in the follow-up to the Summit.

37. The Committee agreed that the twenty-seventh session of the Inter-Agency Meeting on Outer Space Activities, to be held in Vienna from 17 to 19 January 2007, should be invited to provide information on any activities being carried out, or planned, to implement the recommendations of the Plan of Action of the World Summit on Information Society for consideration by the Scientific and Technical Subcommittee at its forty-fourth session.

I. Other matters

[*Text to be submitted under a separate document symbol (A/AC.105/L.266/Add.4).*]

J. Schedule of work of the Committee and its subsidiary bodies

38. The Committee agreed on the following tentative timetable for its session and those of its subcommittees in 2007:

	Date	*Location*
Scientific and Technical Subcommittee	12-23 March 2007	Vienna
Legal Subcommittee	26 March-5 April 2007	Vienna
Committee on the Peaceful Uses of Outer Space	6-15 June 2007	Vienna