



General Assembly

Distr.: General
3 January 2008

Original: English

Committee on the Peaceful Uses of Outer Space

Report on the United Nations/International Astronautical Federation Workshop on the Use of Space Technology for Sustainable Development Towards Food Security

(Hyderabad, India, from 21 to 23 September 2007)

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I. Introduction

A. Background and objectives

1. The Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III), in particular through its resolution entitled “The Space Millennium: Vienna Declaration on Space and Human Development”,¹ recommended that activities of the United Nations Programme on Space Applications should promote collaborative participation among Member States at the regional and international levels, emphasizing the development of knowledge and skills in developing countries.²
2. At its forty-ninth session, in 2006, the Committee on the Peaceful Uses of Outer Space endorsed the programme of workshops, training courses, symposiums and conferences planned for 2007 as proposed in the report of the Expert on Space Applications (A/AC.105/874). Subsequently, the General Assembly, in its resolution 61/111 of 14 December 2006, endorsed the United Nations Programme on Space Applications for 2007.
3. Pursuant to General Assembly resolution 61/111 and in accordance with the recommendations of UNISPACE III, the United Nations/International Astronautical Federation Workshop on the Use of Space Technology for Sustainable Development Towards Food Security was held in Hyderabad, India, from 21 to 23 September 2007, in conjunction with and as an associated event of the 58th International Astronautical Congress, held in Hyderabad, India, from 24 to 28 September 2007.
4. The Workshop was organized by the Office for Outer Space Affairs of the Secretariat, as part of the activities of the United Nations Programme on Space Applications for 2007, and the International Astronautical Federation (IAF). It was co-sponsored by the European Space Agency (ESA) and the National Remote Sensing Agency (NRSA) of India.
5. The Workshop was the seventeenth workshop organized jointly by the Office for Outer Space Affairs and IAF. It built upon recommendations and experience gained from the previous 16 workshops, held between 1991 and 2006.
6. The Workshop discussed how space technology could contribute to sustainable development programmes in developing countries, with the following primary objectives: (a) to increase awareness among decision makers and the academic community of the use of space technology applications for sustainable development programmes supporting food security in developing countries; (b) to examine the low-cost space-related technologies and information resources available for addressing food security needs in developing countries; (c) to strengthen capacity-building in the area of food security and space technology; and (d) to strengthen regional and international cooperation in that area.
7. The Workshop and the accompanying round-table discussion provided opportunities for direct dialogue among space technology experts, policy- and

¹ *Report of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space, Vienna, 19-30 July 1999* (United Nations publication, Sales No. E.00.I.3), chap. I, resolution 1.

² *Ibid.*, chap. II, para. 409 (d) (i).

decision makers and representatives of the academic community and private industry from both developing and industrialized countries. Participants were encouraged to share their experiences and to examine opportunities for better cooperation.

8. The present report describes the background, objectives and programme of the Workshop. It has been prepared for submission to the Committee on the Peaceful Uses of Outer Space at its fifty-first session and to its Scientific and Technical Subcommittee at its forty-fifth session, both to be held in 2008.

B. Programme

9. The programme of the Workshop was developed jointly by the Office for Outer Space Affairs and the programme committee of the Workshop, which included representatives of a number of national space agencies, international organizations and academic institutions. A substantial contribution was made by the honorary committee of the Workshop, which consisted of prominent representatives of the host country, IAF and the United Nations Secretariat. The input received from both the honorary committee and the programme committee, as well as the direct participation of members of those committees in the Workshop, ensured that the aims of the Workshop were achieved.

10. The programme of the Workshop focused on various applications of space technology for supporting food security programmes and on ways that the capacity of developing countries in that area could be increased by, for example, developing human and technical resources at various levels, enhancing regional and international cooperation, promoting public awareness and developing appropriate infrastructure.

11. The Programme of the Workshop included three technical sessions, the first and second of which focused on the use of applications of space technology for food security, with presentations and discussions on the practical experiences of, and the results obtained and challenges faced by various countries and regions. At the third session, participants considered capacity-building programmes and plans in the area of food security and space technology, as well as regional and international initiatives and cooperation. The participants visited the facilities of NRSA on the third day of the Workshop.

12. A total of 22 technical presentations were made during the first two days of the Workshop, and two papers were presented at the poster session. All the presentations and papers focused on national, regional and international projects and initiatives in the area of the use of space-related technologies for food security and the contribution of those technologies to sustainable development programmes in developing countries.

13. Opening statements were made by representatives of NRSA, the Indian Space Research Organization, the local organizing committee of the International Astronautical Congress, IAF, ESA and the Office for Outer Space Affairs. At the opening session, keynote addresses were made by U. R. Rao (IAF) and C. de Cooker (ESA). Closing remarks were made by representatives of NRSA, IAF, ESA, the Office for Outer Space Affairs and the representative of the International

Astronautical Congress local organizing committee for the 59th International Astronautical Congress, to be held in Glasgow, United Kingdom of Great Britain and Northern Ireland, in 2008.

14. Each of the technical sessions was followed by open discussions, which focused on topics of particular interest and provided additional opportunities for participants to voice their opinions. The discussions were continued in depth and summarized by two working groups established by the participants in order to develop a set of questions to be presented to panellists at a round-table discussion, which was held after the meetings of the working groups.

15. Details of the programme of the Workshop and its proceedings, together with the list of participants, are available from the website of the Office for Outer Space Affairs (<http://www.unoosa.org>).

C. Attendance and financial support

16. The United Nations, on behalf of the co-sponsors, invited developing countries to nominate candidates to participate in the Workshop. Participants were required to have a university degree or well-established professional working experience in a field related to the overall theme of the Workshop. Participants were selected on the basis of their experience in programmes, projects or enterprises that were already using space technology applications or that could potentially benefit from using space technology. The participation of specialists at the decision-making level from both national and international entities was particularly encouraged.

17. Funds allocated by the United Nations, IAF, ESA and the local organizing committee of the Workshop were used to provide financial support for the participation of 23 participants from developing countries. Full financial support was received by 20 participants for international round-trip air travel, hotel accommodation, living allowance for the duration of the Workshop and the International Astronautical Congress and the registration fee of the Congress. Three participants received partial funding (air travel or hotel and living allowance and/or Congress registration). The 23 participants came from 20 countries. The co-sponsors also covered the cost of the registration fee for those 23 participants from developing countries to attend the 58th Congress, which was held immediately after the Workshop.

18. The local organizing committee provided conference facilities, secretarial and technical support and local transportation to and from the airport for funded participants and organized a number of social events for all Workshop participants.

19. The Workshop was attended by approximately 100 participants from the following 31 countries: Algeria, Australia, Austria, Azerbaijan, Bangladesh, Brazil, Chile, China, Colombia, Czech Republic, Ecuador, Egypt, France, Guatemala, India, Kenya, Lao People's Democratic Republic, Malawi, Malaysia, Nigeria, Poland, Romania, South Africa, Spain, Syrian Arab Republic, Tunisia, Uganda, United Kingdom, United States of America, Viet Nam and Yemen. The following international organizations and other entities were also represented at the Workshop: IAF, the International Academy of Astronautics, the Space Generation Advisory

Council, the United Nations Educational, Scientific and Cultural Organization and the Office for Outer Space Affairs.

II. Round-table discussion

20. For the first time in the series of United Nations/IAF workshops, a round-table discussion was held, on the second day of the Workshop, with the participation of heads or senior managers of space agencies and other relevant national, regional or international organizations from both space-faring and non-space-faring nations, in order to establish a direct dialogue between decision makers and Workshop participants on how space technologies and policies could contribute to sustainable development programmes in developing countries, with a focus on food security.

21. The round-table discussion was moderated by Gérard Brachet (France, Chairman of the Committee on the Peaceful Uses of Outer Space), and included the following panellists: Mazlan Othman (Director-General, National Space Agency of Malaysia); Alchin Shirin-Zadeh (Director-General, Azerbaijan National Aerospace Agency); Hector Gutierrez (General Coordinator, Chilean Space Agency); Ciro Arévalo Yepes (Colombia, Chairman-elect of the Committee on the Peaceful Uses of Outer Space); Jan Kolar (Head, Czech Space Office); K. Radhakrishnan (Director, NRSA, India); Marius-Ioan Piso (President and Chief Executive Officer, Romanian Space Agency); Manuel Serrano (representative of Spain at ESA); Ridha Methnani (Head of the Cabinet, Ministry of Higher Education, Scientific Research and Technology, Tunisia); Richard Tremayne-Smith (Head, International Relations, British National Space Centre, United Kingdom); and Chris de Cooker (Head, Department of International Relations, ESA).

22. During the round-table discussion, issues and problems arising in the participants' countries were discussed. The issues and problems had been summarized in advance by working groups and the discussion was an opportunity for decision makers and leaders from the above-mentioned organizations and the Workshop participants to exchange pragmatic ideas.

III. Evaluation of the Workshop

23. On the last day of the Workshop, the organizers conducted a survey of the participants. Twenty-one completed questionnaires were submitted to the organizers. Some of the results of the survey are presented briefly below.

24. All the respondents felt that the theme of the Workshop was relevant to their current work and the programme of the Workshop met their professional needs and expectations. All stated that they would recommend participation in future United Nations/IAF workshops to their colleagues.

25. A total of 53 per cent of respondents rated the overall level or quality of the presentations given at the Workshop as "very good" and 47 per cent rated it as "good". Fifty-nine per cent assessed the overall organization of the workshop as "very good" and 41 per cent as "good".

26. Respondents indicated that participation in the Workshop had helped them to gain and enhance knowledge of space technology and applications (13 replies); to

confirm ideas and concepts in space technology and applications (15 replies); to generate new application project ideas (10 replies); to encourage cooperation with other groups (12 replies); and/or to facilitate the establishment of partnerships (10 replies).

27. Respondents indicated that, following the Workshop, they would contact experts and/or network (14 replies); define new projects (11 replies); undertake additional education or training (8 replies); procure equipment or adopt technologies (5 replies); and/or seek funding support for projects (10 replies).

28. Fifty-three per cent of respondents stated that they had found the round-table discussion “very interesting” and 47 per cent had found it “interesting”. A total of 88 per cent of respondents believed that issues of particular interest to them or their agencies had been addressed by the round-table panellists. Seventy-seven per cent felt that they had had a chance to bring their questions to the attention of the panellists.

29. Eighteen per cent of respondents assessed the level of interaction between panellists and the audience as “very interactive”, 59 per cent assessed it as “interactive”, while 23 per cent assessed it as “not so interactive”.

30. The survey also showed that none of the funded respondents would have been able to attend the Workshop or the International Astronautical Congress without the financial support provided by the organizers.

IV. Follow-up action

31. At the meeting of the IAF Committee for Liaison with International Organizations and Developing Nations, which was held after the Workshop and which was attended by representatives of the Office for Outer Space Affairs, it was suggested that the eighteenth United Nations/IAF Workshop should be held in Glasgow, United Kingdom, on 26 and 27 September 2008, as an associated event of and in conjunction with the 59th International Astronautical Congress, to be held in Glasgow from 29 September to 3 October 2008.

32. The theme suggested for the eighteenth United Nations/IAF Workshop was “Integrated space technology applications: support for managing potentially hazardous environmental events”. Discussion on the objectives and programme of the eighteenth workshop would be continued at a planning meeting, to be held during the forty-fifth session of the Scientific and Technical Subcommittee, in 2008.

33. It was also decided that further round-table discussions between participants and heads or senior managers of space agencies and relevant institutions or organizations should be held during future United Nations/IAF workshops.