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## Committee on the Peaceful

### Uses of Outer Space

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Item 7 of the provisional agenda\*

### Implementation of the recommendations of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III)

## Draft report of the Committee on the Peaceful Uses of Outer Space on the implementation of the recommendations of the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III)

### Addendum\*\*

## VI. The way ahead

### A. Overview

1. The twenty-first century opened with a declaration of determination and solidarity to take concrete action to eradicate poverty, promote human dignity and equality and achieve peace, democracy and environmental sustainability. In the United Nations Millennium Declaration (General Assembly resolution 55/2), adopted at the largest-ever gathering of heads of State and Government, world leaders promised to meet concrete targets for advancing development and reducing poverty by 2015. Actions that needed to be taken to meet those targets were further articulated through the global conferences and summits that followed, such as the

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\* A/AC.105/L.256.

\*\* The present document was prepared following the conclusion of the second round of the informal consultations by the working group established by the Committee on the Peaceful Uses of Outer Space to prepare its report to the General Assembly for the review of the progress made in the implementation of the recommendations of UNISPACE III. The finalization of the manuscript required extensive consultations within the secretariat and with some of the action teams established by the Committee.



International Conference on Financing for Development Conference,<sup>1</sup> the World Summit on Sustainable Development<sup>2</sup> and the first phase of the World Summit on the Information Society.

2. Space serves as a common thread that permeates many aspects of human development. Space science and technology and their applications offer useful tools to meet the development goals agreed upon at the summits convened by the United Nations. “The Space Millennium: Vienna Declaration on Space and Human Development”,<sup>3</sup> adopted in 1999 by the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III), offered a programme of work for States to work together with entities of the United Nations system, intergovernmental organizations and civil society to meet the basic needs of people, in particular in developing countries, and to improve the quality of their lives.

3. Over the past five years, important progress has been achieved in turning the possibilities enshrined in the Vienna Declaration into reality. At the international level, the Committee on the Peaceful Uses of Outer Space has coordinated the efforts to implement the recommendations of UNISPACE III. The Committee adopted the innovative mechanism of establishing action teams under voluntary leadership of States members of the Committee to implement priority recommendations, as identified by them. The recommendations of the action teams on the way forward are based on a comprehensive, global review of the current status of the activities that relate to the recommendations of UNISPACE III under their responsibility.

4. Much has been accomplished, but much more needs to be done to make the economic and societal benefits of space activities more available to a larger part of the population in the developing world. The plan of action set out below contains major actions and initiatives that should be undertaken by the international community in the coming years.

## B. Plan of Action

### 1. The use of space to support overarching global agendas

5. The United Nations Millennium Summit, followed by United Nations conferences and summits convened in the economic and social fields, set goals and time-bound targets to accelerate the pace of development in priority areas; serve as the overarching global agendas. The General Assembly, in its resolutions 57/270 A and B, considered it a priority to advance mechanisms for the integrated and coordinated implementation of and follow-up to the outcomes of those major United Nations conferences and summits. Under the overall guidance of the Secretary-

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<sup>1</sup> See *Report of the International Conference on Financing for Development, Monterrey, Mexico, 18-22 March 2002* (United Nations publication, Sales No. E.02.II.A.7).

<sup>2</sup> See *Report of the World Summit on Sustainable Development, Johannesburg, South Africa, 26 August-4 September 2002* (United Nations publication, Sales No. E.03.II.A.1 and corrigendum).

<sup>3</sup> *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.

General and the Administrator of the United Nations Development Programme, in his capacity as Chair of the United Nations Development Group, the Millennium Project was set up to help ensure that all developing countries meet the goals contained in the United Nations Millennium Declaration.<sup>4</sup> Supported by 10 task forces to carry out analytical work, the Millennium Project aims to recommend, by 2005, the best strategies for meeting the Millennium Development Goals.

6. Any progress achieved in the implementation of the recommendations of UNISPACE III is also progress towards achieving the internationally agreed development goals. The use of proven space capabilities, such as Earth observation systems, geographic information systems (GIS), satellite meteorology, satellite communications and satellite navigation and positioning systems, creates the synergy and convergence of efforts to carry out the recommendations of UNISPACE III, which would strongly support the actions called for by the United Nations Millennium Summit, the World Summit on Sustainable Development and the World Summit on the Information Society.

7. In implementing the recommendations of UNISPACE III, the Committee has created synergy with the follow-up action resulting from the global conferences and summits. Chapter IV of the present report\* provides details on the correlation between the implementation of specific recommendations of UNISPACE III and action called for by the global conferences and summits. The work of the following action teams provides a solid basis for making further progress in the follow-up to the United Nations Millennium Summit and the World Summit on Sustainable Development.

| <i>Action Team</i> | <i>Summary of findings and recommendations;** and final report</i>        | <i>Web site for supplementary information</i>   |
|--------------------|---|---|
| <i>Number</i>      | <i>Recommendation of UNISPACE III</i>                                     |   |
| 1                  | Develop a comprehensive, worldwide environmental monitoring strategy      | Annex [...], appendix [...]; A/AC.105/C.1/L.275   |
| 2                  | Improve the management of the Earth's natural resources                   | Annex [...], appendix [...]; A/AC.105/L.250   |
| 11                 | Promote sustainable development by applying the results of space research | Annex [...], appendix [...]; A/AC.105/C.1/L.264 and Corr.1  |
| 17                 | Enhance capacity-building by developing human and budgetary resources     | Annex [...], appendix [...]; www.oosa.unvienna.org/A/AC.105/L.251 unisp-3/followup/action_team_17 |

\* Chapter IV to the final report of the Committee to the General Assembly is contained in draft form in document A/AC.105/L.255/Add.3.

\*\* The summaries to be included in the final report can be found in document A/AC.105/L.255/Add.7, annexes I, II, VIII and X, respectively.

<sup>4</sup> See A/58/323.

**(a) Establishing a closer link with the work of the Commission on Sustainable Development**

*Findings*

8. There should be a closer link between the implementation of the recommendations of UNISPACE III, coordinated by the Committee on the Peaceful Uses of Outer Space, and the work being carried out by the Commission on Sustainable Development, in accordance with the multi-year programme of work covering the period 2004-2017, agreed upon by the Commission at its eleventh session, as indicated below. During the first year in each two-year cycle, the review year, the Commission is to identify obstacles and constraints to implementation. During the second year, the policy year, the Commission is to decide on measures to accelerate implementation and to mobilize action to overcome the obstacles and constraints identified in the review year.

| <i>Cycle</i>           | <i>Thematic cluster</i>   | <i>Cross-cutting issues</i>   |
|------------------------|---|---|
| 2004/2005              | (a) Water<br>(b) Sanitation<br>(c) Human settlements  | (a) Poverty eradication<br>(b) Changing unsustainable patterns of consumption and production<br>(c) Protecting and managing the natural resource base of economic and social development  |
| 2006/2007              | (a) Energy for sustainable development<br>(b) Industrial development<br>(c) Air pollution/atmosphere<br>(d) Climate change                                      | (d) Sustainable development in a globalizing world<br>(e) Health and sustainable development<br>(f) Sustainable development of small island developing States<br>(g) Sustainable development for Africa<br>(h) Other regional initiatives<br>(i) Means of implementation<br>(j) Institutional framework for sustainable development |
| 2008/2009              | (a) Agriculture<br>(b) Rural development<br>(c) Land<br>(d) Drought<br>(e) Desertification<br>(f) Africa  | (k) Gender equality<br>(l) Education  |
| 2010/2011 <sup>a</sup> | (a) Transport<br>(b) Chemicals<br>(c) Waste management<br>(d) Mining<br>(e) Ten-year framework of programmes on sustainable consumption and production patterns |   |
| 2012/2013 <sup>a</sup> | (a) Forests<br>(b) Biodiversity<br>(c) Biotechnology<br>(d) Tourism<br>(e) Mountains  |   |

| <i>Cycle</i>           | <i>Thematic cluster</i>  | <i>Cross-cutting issues</i> |
|------------------------|--|-----------------------------|
| 2014/2015 <sup>a</sup> | (a) Oceans and seas<br>(b) Marine resources<br>(c) Small island developing States<br>(d) Disaster management and vulnerability   |                             |
| 2016/2017              | Overall appraisal of implementation of Agenda 21, <sup>b</sup> the Programme for the Further Implementation of Agenda 21 <sup>c</sup> and the Plan of Implementation of the World Summit on Sustainable Development <sup>d</sup> |                             |

<sup>a</sup> The thematic clusters for cycles 2010/2011, 2012/2013 and 2014/2015 will remain as part of the multi-year programme of work as scheduled unless otherwise agreed by the Commission on Sustainable Development.

<sup>b</sup> *Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992* (United Nations publication, Sales No. E.93.I.8 and corrigenda), vol. I: *Resolutions adopted by the Conference*, resolution 1, annex II.

<sup>c</sup> General Assembly resolution S-19/2, annex.

<sup>d</sup> *Report of the World Summit on Sustainable Development, Johannesburg, South Africa, 26 August-4 September 2002* (United Nations publication, Sales No. E.03.II.A.1 and corrigendum), chap. I, resolution 2, annex.

#### *Proposed actions*

9. The Committee on the Peaceful Uses of Outer Space should consider synchronizing its work with that of the Commission on Sustainable Development by (a) examining the contributions of space science and technology and their applications to one or more of the issues selected by the Commission as a thematic cluster; and (b) providing substantive inputs for consideration by the Commission during the policy year. The Committee could develop such substantive inputs for consideration by the Commission on the basis of specific actions proposed by the action teams.

10. Space agencies and other space-related entities should identify actions called for in the Plan of Implementation of the World Summit on Sustainable Development and establish follow-up programmes to be carried out jointly with multilateral and bilateral development programmes and relevant user institutions, in particular in developing countries.

#### *Expected benefits*

11. Expected benefits resulting from the proposed actions include (a) increased synergy between the work of the Committee and that of the Commission in taking further action to overcome the obstacles and constraints in carrying out the Plan of Implementation of the World Summit on Sustainable Development; and (b) increased contribution to the integrated and coordinated implementation of and follow-up to the outcomes of major United Nations conferences and summits in the economic and social fields.

**(b) Applying results of space research to promote sustainable development**

*Findings*

12. The well-being and the future of all nations are closely tied to space technology, which has become an indispensable and effective tool in addressing and resolving sustainable development issues and meeting many human critical needs, such as human shelter, food, energy, communications, transportation, health, migration, refugee situations, natural disasters and education. That realization has motivated many States, including developing countries, to invest in developing their own space capabilities needed for attaining their social and economic goals.

13. Capacity-building in the use of space science and technology and their applications is a fundamental element to ensure that space activities support development agendas. Development of indigenous capability in space science and technology at all levels and the establishment of networks among national, regional and international institutions are critical for achieving sustainable development and will facilitate and enhance collaborative research opportunities.

*Proposed actions*

14. In order to participate effectively in and benefit from all the activities described above, each country should consider (a) developing and committing itself to a sustainable development agenda that can benefit from space technology, at a level commensurate with its capability and resources; and (b) undertaking measures towards a systematic collection, accurate analysis and proper management of space-acquired and in situ data as a starting point towards sustainable development.

15. Member States should take advantage of the capacities of international entities that are active in fields relating to the environment to provide the intellectual leadership needed for building a strong scientific and technical foundation for sustainable development issues. Such international entities include the Office for Outer Space Affairs, the United Nations Environment Programme, the Food and Agriculture Organization of the United Nations, the United Nations Educational, Scientific and Cultural Organization (UNESCO) and the World Meteorological Organization (WMO), as well as non-governmental organizations such as the Committee on Space Research, International Astronautical Federation and the International Society for Photogrammetry and Remote Sensing (see also sect. B.4, subsect. (c), “Enhancing capacity-building in space-related activities”).

*Expected benefits*

16. Expected benefits, in particular for the developing countries, resulting from the proposed actions include (a) identification and use of appropriate and affordable space technology to support their sustainable development agendas; (b) increased availability of comprehensive and reliable data to better support decision-making in achieving sustainable development agendas; and (c) better use of available capacities of relevant international entities in building a sound scientific and technical foundation, in particular in developing countries, to better address sustainable development issues.

**(c) Developing a comprehensive, worldwide environmental monitoring strategy**

*Findings*

17. Various global initiatives on Earth observations indicate that the development of an integrated, comprehensive, sustainable strategy for environmental monitoring is an issue on which the global community is currently focusing. To meet the challenges of managing the environment, the Action Team on the Environmental Monitoring Strategy proposed a multi-year work plan to launch a space-based worldwide strategy for environmental monitoring to ensure sustainable use of ecosystems and to promote regional cooperation on critical environmental issues, while supporting current and future initiatives on Earth observations.

18. The space-based worldwide strategy could gradually evolve into a unified environmental monitoring system, to provide the best, universally acceptable institutional mechanism to ensure continuous, reliable monitoring of the environment (see annex [...], appendix I, sects. [...] and [...].)\*

19. Regional cooperation on critical environmental issues could be further promoted by establishing “geo-information centres” with the aim of (a) providing advanced technologies to transform data sets into information and knowledge with particular attention to regional environmental problems; (b) testing the most advanced informational and computational capabilities at regional sites for further improvement; and (c) enhancing knowledge-sharing and capacity-building of national staff.

*Proposed actions*

20. The Committee on the Peaceful Uses of Outer Space agrees that, with the assistance of the Office for Outer Space Affairs, it should coordinate the implementation of the work plan at the global level. The details of the work plan can be found in annex [...], appendix [...], section 4, subparagraph (b).\*\* The Committee also agrees that the WMO, the Intergovernmental Oceanographic Commission of UNESCO, the Committee on Earth Observation Satellites (CEOS) and other members of the Integrated Global Observing Strategy Partnership, as well as the entities involved in implementing the Global Monitoring for Environment and Security initiative and the ad hoc Group on Earth Observations should be invited to implement the work plan.

21. The Committee recommends that the institutions of member States that chaired the Action Team, that is, the Islamic Republic of Iran, the Russian Federation and the Syrian Arab Republic, should take further action to establish the first geo-information centre. The nature and organizational aspects, including funding, of the first centre would be defined by interested States and international organizations that would participate in the establishment of the centre while ensuring that its role and functions do not overlap with any existing initiatives and programmes.

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\* The annex/appendix to be attached to the final report of the Committee is contained in draft form in document A/AC.105/L.255/Add.7, annex I.

\*\* Ibid.

*Expected benefits*

22. Expected benefits, in particular for the developing countries, resulting from the proposed action include (a) increased availability of adequate, relevant space-related techniques for environmental monitoring; (b) enhanced capacity of national staff in the use of satellite data in environmental monitoring; (c) strengthened partnership between relevant national, regional and international institutions and increased participation of non-governmental organizations and national personnel in environmental monitoring; and (d) enhanced regional cooperation and knowledge-sharing on specific, critical environmental issues.

**(d) Improving the management of the Earth's natural resources**

*Findings*

23. As a result in particular of the United Nations Millennium Summit and the World Summit on Sustainable Development, there has been more recognition of the management of the Earth's natural resources as an important part of a global strategy to alleviate poverty, especially in developing countries. The operational use of Earth observations and GIS can strengthen the role of stakeholders in the management of natural resources in developing countries, through improved planning and policy-making and better availability of information to guide specific action to implement policies and provide support for livelihoods.

*Proposed actions*

24. All States that are using or planning to use Earth observations on an operational basis in the management of natural resources should articulate, through pilot and demonstration projects, the exact information needs of all stakeholders involved at all levels. To develop the necessary human resources, States should take advantage of existing capacity-building opportunities and the wealth of Earth observation data, interpretation and analysis tools that are available for specialized training (see also sect. B.4, subsect. (c), "Enhancing capacity-building in space-related activities").

25. In order to promote and advocate the operational use of Earth observations and its role in managing natural resources, the Committee recommends that, within the framework of its current programme of work, the Office for Outer Space Affairs should (a) maintain and disseminate a compilation of best practices and successful uses of Earth observation data in natural resource management, building on the compilation developed by the Action Team on the Management of Natural Resources and additional information to be submitted by members of the Committee; and (b) organize specialized training courses on the operational use of Earth observations, in cooperation with the regional centres for space science and technology education, affiliated with the United Nations (see also sect. B.4, subsect. (c), "Enhancing capacity-building in space-related activities").

*Expected benefits*

26. Expected benefits resulting from the proposed actions include (a) better operational use of Earth observations to meet precise information needs of all stakeholders involved in the management of natural resources; (b) further development of human the human resources necessary for the operational use of

Earth observations in the management of natural resources; and (c) sharing of more information with more users on the best practices of the use of Earth observations in natural resources management.

## 2. Developing coordinated, global space capabilities

27. Coordination is a key element for maximizing the benefits of existing space capabilities to meet societal needs in the most effective and efficient manner. In the use of space technology for disaster management there are a number of initiatives, undertaken at the regional and global levels, to integrate the use of satellite data in various phases of disaster management and in particular during the crisis phase, such as the Charter on Cooperation to Achieve the Coordinated Use of Space Facilities in the Event of Natural or Technological Disasters (also known as the International Charter “Space and Major Disasters”) (see chap. III, sect. D, para. [...]\*). Global navigation satellite systems (GNSS) are a new global utility with an increasing beneficial impact on people’s daily lives. There are a growing number of entities that provide GNSS services in such areas as transportation, mapping and surveying, agriculture, power and telecommunications networks, and disaster warning and emergency response, to name a few.

28. The use of space technologies for disaster management and the applications of GNSS for sustainable development are areas where the existence of a global entity to enhance coordination and information exchange among service providers and end-users would significantly increase societal benefits for populations at large, in particular in developing countries. Such an entity currently does not exist in either of those areas. Without concerted action, those gaps are not likely to be filled and would significantly hinder the use of existing and planned space capabilities. The following action teams proposed specific measures to be undertaken in that regard.

| <i>Action Team</i> | <i>Number</i> | <i>Recommendation of UNISPACE III</i>   | <i>Summary of findings and recommendations;** and final report</i> | <i>Web site for supplementary information</i>  |
|--------------------|---------------|---|--|--|
| 7                  |               | Implement an integrated, global system to manage natural disaster mitigation, relief and prevention efforts | Annex [...], appendix [...]; A/AC.105/C.1/L.273                    | <a href="http://www.oosa.unvienna.org/unisp-3/followup/action_team_07/">www.oosa.unvienna.org/unisp-3/followup/action_team_07/</a> |
| 10                 |               | Improve universal access to and compatibility of space-based navigation and positioning systems             | Annex [...], appendix [...]; A/AC.105/C.1/L.274 and Corr.1         | <a href="http://forum.itu.int/~gnss">forum.itu.int/~gnss</a>   |

\* The cross-referenced paragraph appears in paragraph 41 of document A/AC.105/L.255/Add.2.

\*\* The summaries to be included in the final report can be found in document A/AC.105/L.255/Add.7, annexes V and VII, respectively.

**(a) Maximizing the benefits of existing space capabilities for disaster management**

*Findings*

29. Disasters affect and hinder development in all parts of the world; thus, coordinated international efforts are required to minimize their impact. Timely and up-to-date situational analyses are required through the full cycle of disaster management, linked to geo-social databases and thematic maps.

30. Space technology, such as Earth observations, communications and navigation and geo-positioning systems, can provide the necessary information for disaster management and the means to transmit such information to decision makers in a timely manner. Satellites provide images in a large range of ground resolutions, spectral characteristics and temporal coverage and there are combinations of these parameters that are optimal for specific types of disasters. Equipment, services and availability of satellite transponder capacity for communications also offer diverse options.

31. Considerable investment has already been made worldwide in these technologies. However, the utilization of these assets in support of disaster management continues to lag significantly behind development activity. A considerable gap still exists, and is likely to remain, in all areas of space technology applications (technical, operational, educational and training, organizational and financial) to disaster management on a global basis. Thus, a more global, integrated, coordinated approach is necessary to meet the needs of the disaster management community.

32. At present, there is no coordination entity that can assist disaster management authorities in identifying the space technologies that could be used in the various phases of disasters, (that is, prevention, mitigation, early warning, emergency response and rehabilitation), to reduce the impacts of disasters. In its final report, the Action Team on Disaster Management concluded that the establishment of a “disaster management international space coordination organization” (see annex [...], appendix [...]\*) would fill this gap.

*Proposed actions*

33. The Committee agrees that a study should be conducted on the possibility of creating such an international entity to provide for coordination and the means to optimize the effectiveness of space-based services for use in disaster management by fully utilizing existing and planned space- and ground-based assets and infrastructure and covering all phases of disaster management. The study should (a) define the key functions of a possible disaster management international space coordination entity; (b) describe the benefits that it would provide to the disaster management community; (c) define the scope and nature of the entity (for example, intergovernmental or non-governmental); and (d) propose an implementation plan that would provide details on, among other things, the estimated cost of the establishment and operation of such an entity and possible sources of funding (that is, voluntary or assessed contributions) as well as the intended use of the funds. The

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\* The annex/appendix to the final report of the Committee to the General Assembly is contained in draft form in document A/AC.105/L.255/Add.7, annex V.

Committee further agrees that the final report submitted by the Action Team on Disaster Management provides the basis for conducting such a study.

34. The Committee agrees that the study should be prepared by experts to be provided by interested member States and relevant international organizations, including entities of the United Nations system that are involved in disaster management. The Committee also agrees that those experts should aim at completing the study in time for consideration by the Committee at its forty-eighth session and its decision at that session on whether to proceed with the implementation plan to be proposed in the study. The Committee further agrees that the Office for Outer Space Affairs should coordinate the organization of and work involved in preparing the study and calls on member States to provide support for the study through voluntary contributions.

35. The General Assembly should encourage Member States to make cash or in-kind voluntary contributions to the preparation of the study mentioned in paragraphs 33 and 34 above. The Committee agrees that following the forty-seventh session of the Committee, interested member States should communicate to the Office for Outer Space Affairs their intention to make such voluntary contributions, including contributions to the Trust Fund for the United Nations Programme on Space Applications, for the purpose of preparing the study. The Committee urges interested member States to transfer the cash contributions before the end of 2004, so that the Office could include such contributions in its cost plan for use of Trust Fund resources in 2005.

36. The Committee agrees that work on the study could commence as soon as the Office for Outer Space Affairs determines that sufficient voluntary contributions have been received to cover the costs associated with the preparation of the study, such as consultant services, temporary assistance and general operating costs. The Committee requests the Office to communicate to member States the commencement of the work and provide information on the organization of work, including the list of experts, some of whom may work on a full-time basis at facilities provided by the Office and/or an interested entity of the United Nations system.

37. The Committee agrees that during the forty-second session of the Scientific and Technical Subcommittee, under the agenda item entitled "Space-system-based disaster management support", the Office should report to the Subcommittee on the status of the preparation of the study, to indicate whether the study could be completed in time for submission to the forty-eighth session of the Committee and the level of voluntary contributions received in that regard. On the basis of the report by the Office, the Subcommittee may provide further guidance on the preparation of the study.

38. The Committee agrees that the group of experts who would participate in the preparation of the study should also develop a case history of the benefits of using space technologies for disaster management and establish a sample product catalogue. In cooperation with the Office for Outer Space Affairs, the group of experts should also study the possibility of establishing a web site on the home page of the Office for improved access to Earth observation data archives, with the use of voluntary contributions.

39. The Committee agrees to establish a working group at its forty-eighth session to study the possibility of providing sustainable resources through voluntary contributions for applying space technology in support of disaster management and for building the capacity of civil protection authorities to use space technology. The working group should work in close cooperation with the group of experts involved in the preparation of the study (see paragraphs 33-38 above) and report to the Committee at its forty-ninth session on its findings in respect of the needs, options for providing such sustainable resources and recommendations for a plan for implementation.

40. Governments and international organizations should consider (a) allocating a portion of their resources and funds for disaster management in their countries, or countries under the responsibilities of the organizations, to using space technology; and (b) identifying single points of contact to focus their internal disaster management efforts and provide liaison with external efforts with respect to the use of space technology for disaster management.

*Expected benefits*

41. Expected benefits from the proposed actions include (a) identification of the best mechanism to enhance coordination at the global level among space-based system operators and service providers to respond better to the needs of disaster management and civil protection agencies while increasing the utilization of those systems and services; (b) enhanced sharing of information on the available space-based products that support disaster management and the benefits of using space technologies for disaster management; (c) identification of the best ways to improve Internet-based access to archived Earth observation data for use in disaster management; and (d) increased capacity of developing countries in using space technologies for disaster management.

**(b) Maximizing the benefits of use and applications of global navigation satellite systems to support sustainable development**

*Findings*

42. GNSS have evolved from an early period of limited programmes to a point where a number of systems and their augmentation are under way or planned. In the future, a number of international and national programmes will operate simultaneously and support a broad range of interdisciplinary and international activities. Discussions taking place at the national, regional and international levels have underscored the value of GNSS for a variety of economic and scientific applications. The emergence of new GNSS and regional augmentations has focused attention to the need for the coordination of planned programmes among current and future operators in order to enhance the utility of GNSS services.

43. The general public and governmental and non-governmental experts understand the basic utility of navigation, geo-positioning and timing services offered by GNSS. While current and future GNSS operators are in a competitive mode, collaboration is expected to increase, a process that will serve the user community better. Outreach efforts must move beyond simple awareness among the general public and experts to providing assistance in the integration of GNSS into the basic infrastructure of countries in the developing world in particular.

*Proposed actions*

44. GNSS and augmentation providers should establish an international committee on GNSS that would include appropriate international organizations for the purposes of, among other things, (a) optimizing compatibility and interoperability; (b) identifying mechanisms for implementing measures to protect the reliability and integrity of signals at the national, regional and global levels; (c) coordinating modernization activities to meet user needs; (d) developing road maps for the introduction of GNSS services; and (e) providing training opportunities in GNSS, in particular in developing countries (see also sect. B.4, subsect. (c), “Enhancing capacity-building in space-related activities”). The proposed international committee on GNSS should facilitate the exchange of information among users and providers of GNSS, without prejudice to the roles and functions of GNSS service providers and intergovernmental organizations such as the International Civil Aviation Organization (ICAO), the International Maritime Organization and the International Telecommunication Union.

45. In cooperation with GNSS and augmentation providers, or the international committee on GNSS if established, the Office for Outer Space Affairs should develop and maintain a web site to include information, *inter alia*, on recent application developments, training opportunities and sources for obtaining assistance in integrating GNSS into national infrastructure and in protecting signal reliability and integrity at the national and regional levels (see also sect. B.4, subsect. (c), “Enhancing capacity-building in space-related activities”).

*Expected benefits*

46. Expected benefits from the proposed actions include (a) optimized compatibility and interoperability; (b) identification of mechanisms to implement measures to protect the reliability and integrity of GNSS signals; (c) enhanced coordination in GNSS modernization activities to meet user needs; (d) increased training opportunities, in particular in developing countries, in the use of applications of GNSS; (e) enhanced exchange of information among users and providers of GNSS; and (f) easier access to information on various GNSS activities, reference material and sources for obtaining technical assistance.

**3. The use of space to support specific agendas to meet societal needs at the global level**

47. The goals and possibilities enshrined in the Vienna Declaration on Space and Human Development can be achieved by taking a comprehensive approach and by creating a new mechanism for cooperation and coordination, building on all the efforts and initiatives undertaken by various entities, or by identifying an existing mechanism that already offers the best avenues for cooperation and coordination. Among the recommendations of UNISPACE III, those relating to weather and climate forecasting, public health and near-Earth objects (NEOs) can be best implemented to meet societal needs at the global level by using the existing mechanisms or policy framework for international cooperation. The action teams listed below took a sharply focused approach to identifying those existing mechanisms for further cooperation and coordination.

| <i>Action Team</i> | <i>Number</i>  | <i>Recommendation of UNISPACE III</i> | <i>Summary of findings and recommendations,* and final report</i> |
|--------------------|--|---------------------------------------|---|
| 4                  | Enhance weather and climate forecasting  |                                       | Annex [...], appendix [...];<br>A/AC.105/C.1/L.269                |
| 6                  | Improve public health services   |                                       | Annex [...], appendix [...];                                      |
| 14                 | Improve the international coordination of activities related to near-Earth objects |                                       | Annex [...], appendix [...]                                       |

**(a) Enhancing weather and climate forecasting by expanding international cooperation in meteorological satellite applications**

*Findings*

48. WMO and its partner organizations have made major achievements in the extension of reliable weather and climate forecasting and the assessment of the causes and course of longer-term changes to the Earth's system, while fostering international cooperation in the field of meteorological satellite applications. The Consultative Meetings on High-Level Policy on Satellite Matters, a coordination mechanism within WMO to discuss matters of mutual interest between the satellite operators and the WMO user communities, as well as other coordination mechanisms such as the Coordination Group for Meteorological Satellites and CEOS, in which WMO participates to represent the views of a user group, contribute to maximizing the benefits derived from existing and planned satellite products and services, including those of research and development satellites, for WMO user communities.

49. The present space-based observing system is adequate to provide the data, products and services required for present weather and climate forecasting needs and the vision for the future system would respond to the increasing needs to further enhance weather and climate forecasting. However, attention should continue to be paid to the needs of developing countries, in particular to their access to satellite data, products and services and to appropriate education and training programmes, to ensure that they are kept informed of advances in satellite products and services (see also sect. B.4, subsect. (c), "Enhancing capacity-building in space-related activities").

*Proposed actions*

50. Member States should recognize the overwhelming role of weather and climate forecasting in development and provide support, including the necessary financial resources, to implement the WMO Space Programme, initiated by the fourteenth World Meteorological Congress in May 2003. Member States should also support the implementation of the WMO Space Programme Long-term Strategy, which was included in the Sixth WMO Long-term Plan, covering the period 2004-

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\* The summaries to be included in the final report of the Committee can be found in document A/AC.105/L.255/Add.7, annexes III, IV and IX, respectively.

2011, and which aims, among other things (a) to make increasing contributions to the development of the Global Observing System of the World Weather Watch Programme and other associated observing systems of WMO; (b) to provide continuously improved data, products and services from both operational and research and development satellites; and (c) to facilitate and promote their wider availability and meaningful utilization around the world. Member States should further support those national and international entities which provide space systems that seek to meet the WMO requirements.

*Expected benefits*

51. Expected benefits from the proposed actions include (a) a reduction in losses due to weather-related natural disasters through enhanced accuracy and timeliness of early warning of destructive weather events and more accurate short-term and medium-term weather prediction; and (b) more effective decision-making on food production, investment in infrastructure development and management of freshwater resources based on more reliable information resulting from advances in regionally specific, yearly water cycle predictions, annual to biannual El Niño prediction and decade-scale climate prediction.

**(b) Improving medical and public health services with the use of space technologies**

*Findings*

52. Space technology and its applications contribute to enhancing medical services and public health in such areas as telemedicine, epidemiology, control of infectious diseases, dissemination of information on medical practices and continuous education for medical professionals and for the general public. In particular, telemedicine could be of great importance in providing medical expertise to remote locations not connected to the terrestrial network.

*Proposed actions*

53. The Committee agrees that within the framework of the United Nations Programme on Space Applications and with voluntary contributions made by interested member States and international organizations, the Office for Outer Space Affairs should, in cooperation with the World Health Organization (WHO) and other relevant United Nations entities and international organizations and with Member States convene an international conference on telemedicine for specialists and government officials.

54. The Committee agrees that within the framework of the three-year work plan (A/58/20, para. 138) for the agenda item on space-system-based telemedicine, covering the period 2004 to 2006, the Scientific and Technical Subcommittee should, through its Action Team on Public Health, prepare a report on the status and potential of telemedicine that would (a) examine the range of telemedicine initiatives worldwide; (b) identify the most promising areas for implementation; (c) examine needs for telemedicine, in particular in developing countries; and (d) make recommendations for decision makers. The study should take into account the results of the discussions of the Subcommittee during the first two years of the work plan and should be prepared in cooperation with the World Health

Organization and any other relevant international organizations, for consideration by the Subcommittee at its forty-third session.

55. The Committee agrees that its Scientific and Technical Subcommittee, through the Action Team on Public Health, should conduct a study on the feasibility of establishing a possible international cardiovascular disease knowledge-management network, to serve as a clinical decision support tool for medical authorities to assess, monitor, diagnose, prevent and treat cardiovascular disease and to assist developing countries in combating cardiovascular disease, with a view to completing the study by the forty-eighth session of the Committee. The study should, among other things, identify entities to be involved in establishing the network, describe the benefits for medical authorities, suggest a timetable, provide cost estimates and identify sources of funding.

*Expected benefits*

56. Expected benefits from the proposed actions include (a) focused international efforts in the priority areas for implementing telemedicine projects; (b) better defined needs of developing countries in telemedicine in a comprehensive manner; and (c) a practical and realistic plan for establishing a cardiovascular disease knowledge-management network.

**(c) Promoting cooperation in the study of near-Earth objects as a threat to society at large**

*Findings*

57. The threat to life and property posed by NEOs, when averaged over long periods of time, is believed to be comparable to that from more familiar natural hazards such as earthquakes and extreme weather events and the risk is global. A range of scientific areas requires support and coordination in order to improve the evaluation and assessment of risk. Planned, integrated collaboration offers the most cost-effective response for scientific efforts (search, study and planning for mitigation), as well as emergency or civil contingency action.

*Proposed actions*

58. Under the three-year work plan of the agenda item on NEOs to be considered by the Scientific and Technical Subcommittee from 2005 to 2007, the Committee should lead efforts towards better coordination at the global level of research, detection, search and follow-up observations of NEOs and other relevant activities by identifying action to be undertaken at the national level or through international cooperation.

59. The International Council for Science should consider, and encourage its member organizations to consider, the recommendations contained in various reports on the subject of NEOs and help plan the necessary multidisciplinary activity.

*Expected benefits*

60. Expected benefits from the proposed actions include enhanced cooperation and coordination at the global level in research, detection, search and follow-up observation of NEOs.

#### 4. Overarching capacity development

61. Increasing awareness, sharing of knowledge and information, capacity-building and funding are cross-cutting issues that are interlinked with each other, in particular in carrying out activities that require skills and knowledge. Success in addressing one of these issues leads to success in addressing another. These elements are essential in an area where human knowledge continues to expand at a rapid pace with increasing potential for benefits for society at large, such as space science and technology and their applications.

62. Many recommendations of UNISPACE III refer directly to or imply the need to increase public awareness of the importance of space activities, enhancing sharing of knowledge, strengthening capacity, in particular of developing countries, and increasing funding support for space activities. In particular, the work of the Committee in the areas listed below, including through its action teams, supports and complements its work on the implementation of recommendations of UNISPACE III in other areas. Among other cross-cutting issues, the issue of funding is dealt with in detail in a separate section of the present report (see chap. V, sect. E, “Funding and financing”\*\*).

| Action Team<br>Number | Recommendation of<br>UNISPACE III   | Summary of findings and<br>recommendations;** and<br>final report | Web site for supplementary<br>information  |
|-----------------------|---|---|--|
| 9                     | Improve knowledge-sharing through the promotion of universal access to space-based communication services | Annex [...], appendix [...]                                       | <a href="http://www.oosa.unvienna.org/unisp-3/followup/action_team_09">www.oosa.unvienna.org/unisp-3/followup/action_team_09</a><br>(for replies received in response to the survey circulated to member States) |
| 17                    | Enhance capacity-building by developing human and budgetary resources                                     | Annex [...], appendix [...];<br>A/AC.105/L.251                    | <a href="http://www.oosa.unvienna.org/unisp-3/followup/action_team_17">www.oosa.unvienna.org/unisp-3/followup/action_team_17</a>   |

\* Chapter V, section E, is contained in draft form in document A/AC.105/L.255/Add.4.

\*\* The summaries to be included in the final report can be found in document A/AC.105/L.255/Add.7, annexes VI, X, XI and XII, respectively.

| <i>Action Team</i> | <i>Number</i> | <i>Recommendation of UNISPACE III</i>   | <i>Summary of findings and recommendations;** and final report</i> | <i>Web site for supplementary information</i>  |
|--------------------|---------------|---|--|--|
| 18                 |               | Increase awareness among decision makers and the general public of the importance of space activities                 | Annex [...], appendix [...];<br>A/AC.105/L.252                     | www.oosa.unvienna.org/unisp-3/followup/action_team_18<br>(for replies received in response to the questionnaire circulated to member States and organizations having observer status with the Committee) |
| 32                 |               | Identify new and innovative sources of financing to support the implementation of the recommendations of UNISPACE III | Annex [...], appendix [...];<br>A/AC.105/L.246                     | --   |

**(a) Increasing awareness of space benefits to improve the economic and social welfare of humanity**

*Findings*

63. The internationally agreed development goals, including those contained in the United Nations Millennium Declaration, and the outcomes of the major United Nations conferences provide a comprehensive basis for action at the national, regional and international levels to achieve the key objectives of poverty eradication, sustained economic growth and sustainable development. They also provide a solid basis for potential outreach activities aimed at increasing awareness among decision makers and the general public of the importance of peaceful space activities for improving the common economic and social welfare of humanity.

64. While the Committee on the Peaceful Uses of Outer Space increased synergy between its work and the follow-up actions undertaken to implement the relevant outcomes of the United Nations global conferences (see chap. III, sect. C.1, and chap. IV\*), much more can be done. In addition to the need to establish a closer link with the work of the Commission on Sustainable Development (see paras. 8-10 above), whose role includes reviewing and monitoring progress in the implementation of Agenda 21<sup>5</sup> and fostering coherence of implementation, initiatives and partnerships,<sup>6</sup> there is a need to examine ways and means to better

\* Chapter III, section C.1 and chapter IV are contained in draft form in documents A/AC.105/L.255/Add.2 and A/AC.105/L.255/Add.3, respectively.

<sup>5</sup> Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992 (United Nations publication, Sales No. E.93.I.8 and corrigenda), vol. I: Resolutions adopted by the Conference, resolution 1, annex II.

<sup>6</sup> See Report of the World Summit on Sustainable Development, Johannesburg, South Africa, 26 August-4 September 2002 (United Nations publication, Sales No. E.03.II.A.1 and

contribute to the preparations for United Nations global conferences to be held in the future and to the implementation of the outcomes of the past conferences.

*Proposed actions*

65. The Committee agrees that the agenda of its future sessions should include items to consider its contributions to the work of those entities that are responsible for convening United Nations conferences and/or for implementing their outcomes, in order to bring to their attention the contributions that space science and technology and their applications could make to achieving their objectives, bearing in mind the needs of developing countries. The Committee agrees that at its forty-eighth session its agenda should include an item to consider its contribution to the work to be conducted by the World Summit on the Information Society during its second phase, to be held in Tunis in November 2005.

66. In order to increase the awareness of policy planners and decision makers, involving all sectors at all levels of decision-making, the Committee agrees that the Economic Commission for Africa, the Economic Commission for Europe, the Economic Commission for Latin America and the Caribbean and the Economic and Social Commission for Western Asia should be invited to consider integrating the use of space science and technology and their applications into their work towards achieving the Millennium Development Goals, taking into account the accomplishments of the Regional Space Applications Programme for Sustainable Development of the Economic and Social Commission for Asia and the Pacific.

67. The Committee agrees that international and national space-related organizations, including non-governmental organizations, should promote awareness of the role of space science and technology and their applications in support of achieving the internationally agreed development goals and should be invited to provide the Committee with information on their efforts in that regard.

68. The Committee also agrees that UNESCO should be invited to consider promoting awareness of the societal benefits of space activities as part of its activities as the lead agency for the United Nations Decade of Education for Sustainable Development, during the 10-year period beginning on 1 January 2005 (see General Assembly resolution 57/254), and to inform the Committee, at its forty-eighth session, on the activities planned during the Decade.

69. The Office for Outer Space Affairs, in cooperation with UNESCO, should disseminate, electronically through its home page, information on efforts to increase awareness of the importance of space activities and should continue to update the information, building on the compilation of the results of the Internet-based survey conducted by the Action Team on Increasing Awareness among Member States and the organizations that have permanent observer status with the Committee.

*Expected benefits*

70. Expected benefits from the proposed actions include (a) increased synergy between the work of the Committee on the Peaceful Uses of Outer Space and that of those entities which are responsible for convening United Nations conferences and/or for implementing their outcomes; (b) increased contributions to the

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corrigendum), chap. I, resolution 2, annex, para. 145.

integrated and coordinated implementation of and follow-up to the outcomes of major United Nations conferences and summits in the economic and social fields; and (c) increased awareness of the importance of space activities in contributing to the promotion of sustainable development.

**(b) Improving knowledge-sharing by promoting universal access to space-based communication services**

*Findings*

71. Science and technology serves as the engine that drives knowledge-based development, which is essential for social and economic inclusion (see chap. V, sect. D.2, “Achieving development goals and time-bound targets”\*). In view of the globalization of the economy (see chap. V, sect. D.5, “Growing impact of globalization”), combined with advancements in science and technology, it is essential for any State to create and apply new scientific and technological knowledge, in particular to strengthen its economy. The ability to access such knowledge and to use it could determine the State’s competitiveness in the global market.

72. In particular in developing countries, there are many areas where access to knowledge and information is hindered, as their geographical isolation often makes it difficult to provide communication services using terrestrial means. Space-based communication becomes the only option for many such communities. However, providing space-based communication services could be a challenge owing to the fact that large-scale projects are often required, because the focus of private service providers is often driven by market forces, and owing to the disparity that exists in technologies used to provide such services.

*Proposed actions*

73. In order to ensure that space-based communication services contribute to improving knowledge-sharing and bridging the digital divide, the Committee agrees that, through its Action Team on Knowledge-sharing, it should (a) identify existing and planned space-based communication infrastructures that are committed to universal access; (b) identify the barriers to the implementation of space-based communication systems; (c) promote the usage of space-based communication systems to assist in improving knowledge-sharing; (d) identify priority areas and target groups for knowledge-sharing; and (e) start developing pilot programmes for implementation in the near future.

*Expected benefits*

74. Expected benefits from the proposed actions would be increased international cooperation, through the work of the Committee, in better utilization of space-based communication systems to meet the needs of the target groups identified by the Committee for improving knowledge-sharing.

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\* Chapter V, sections D.2 and D.5, are contained in draft form in document  
A/AC.105/L.255/Add.4.

**(c) Enhancing capacity-building in space-related activities**

*Findings*

75. Exchange of experience and information as well as coordination of capacity-building efforts in a systematic manner at the global and the regional level would significantly benefit many States, in particular those without a critical mass of skilled personnel, professionals and trainers or without a solid institutional framework to support the development of human resources in space-related areas. Further action should be taken to achieve a systematic exchange of experience and information and coordination of capacity-building efforts. The recommendations of the Action Team on Capacity-building provide the basis for such action.

*Proposed actions*

76. In order to enhance the capacity of developing countries in the development and wider use of Earth observation technologies, including satellite remote sensing and GIS, member States should be encouraged to support the initiatives taken by the Working Group on Education, Training and Capacity-Building of CEOS, with assistance from the Office for Outer Space Affairs, to develop an Earth observation education and training Internet web portal<sup>7</sup> and provide free of charge or at the lowest possible cost their Earth observation data for educational purposes.

77. Member States that have established space agencies should support the activities of the regional centres for space science and technology education, affiliated with the United Nations, including the possible organization of a series of capacity-building activities in the States of their respective regions, by developing a database of experts from space agencies who could assist the regional centres and by providing specialized training as well as making space-related education and training materials available for use by the regional centres.

78. The Office for Outer Space Affairs and UNESCO, in cooperation with the regional centres for space science and technology education should assist in the international efforts to coordinate capacity-building activities by disseminating, through their web sites, a compilation of international activities held around the world to strengthen the capacity of developing countries, in particular those organized by developing countries seeking assistance.

79. The Committee agrees that the entities of the United Nations system participating in the Inter-Agency Meeting on Outer Space Activities and members of the Committee on the Peaceful Uses of Outer Space should discuss ways and means to coordinate capacity-building activities in space-related areas at the policy level.

80. In order to encourage the participation of youth in space activities as part of capacity-building efforts, the Committee agrees that the Office for Outer Space Affairs and relevant organizations should hold workshops and symposiums on a regular basis with the participation of youth to provide opportunities at the regional level for exchange of experience in capacity-building efforts.

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<sup>7</sup> The portal aims to provide free access to Earth observation education and training resources and to establish an effective coordination and partnership mechanism among CEOS agencies and institutions. Once developed, the portal should provide an interface to a comprehensive database useful both as a reference source and as an educational tool.

81. The Committee recommends that space agencies should develop and distribute educational booklets covering fundamentals of space science that could serve as educational tools for young people in all countries.

*Expected benefits*

82. Expected benefits from the proposed actions include (a) enhanced access by developing countries to training and educational resources to build their capacity in the use of Earth observation technologies; (b) strengthened capacity of the regional centres for space science and technology education, affiliated with the United Nations, to provide education and training for the benefit of developing countries; (c) enhanced coordination at the global level in organizing activities to strengthen the capacity of developing countries; (d) identification of possible ways and means to coordinate capacity-building activities in space-related areas at the policy level; (e) increased opportunities to integrate substantive inputs from youth in capacity-building efforts in space-related areas; and (f) increased availability of educational materials in space science for young people around the world.

**(d) Identifying sources of financing to support development activities with space applications**

*Findings*

83. The question of funding should be considered together with the need to enhance regional cooperation, for example by developing and strengthening institutional mechanisms, as well as the need to enhance knowledge-sharing, to increase awareness of policy makers of the societal benefits to be gained from such funding and to strengthen capacity-building. In order to obtain appropriate funding for projects in the use of space technology and its applications, it is important to investigate all kinds of funds that might be available to support the projects. When applying for funds, it is important to be aware of the priorities established by the donors for providing funds and to fulfil any requirements to receive funds. In general for projects concerned with the use of space technologies, it is also important to convince decision makers and users of the cost-effectiveness of space application techniques.

84. In order to obtain funds from aid agencies and development banks, meeting the criteria for funding is essential. In addition, in order to seek support from aid agencies and development banks, space-related projects should be user-driven and application-oriented, to demonstrate that space technologies can offer practical, operational and cost-effective alternatives to conventional tools to solve specific development problems and should be supported by Governments if projects are to be carried out at the national level. Proposals should indicate the conditions for and methods of sustaining the space application aspect on an operational basis after the demonstration phase has been completed, taking into account the needs of developing countries for education and training in all areas of space science and technology.

*Proposed actions*

85. Development banks and aid agencies are not fully aware of the potential and possibilities offered by space applications. In order to enhance access by developing

countries to funding support provided by the development banks and aid agencies to carry out development projects with the use of space technology and its applications, the Committee agrees to implement the following actions through its Action Team on Innovative Sources of Funding:

- (a) Organize workshops for experts in development banks and aid agencies to learn about the possibilities offered by space applications;
- (b) Identify specific measures to promote the inclusion of training components in projects to be funded and to encourage formal commitment from the Governments concerned to maintain the structures that have been developed and to retain the personnel trained as a result of the project;
- (c) Identify ways to promote the inclusion of funds for the necessary investment in a specific budget and the amortization of that investment in subsequent budgets, in order to allow for the reimbursement of the initial investment, and to provide guarantees for foreseeable internal return in the projects in order to ensure their operational nature in the long term.

86. The Committee agrees that States that receive official development assistance funds should (a) consider placing higher priority on capacity-building initiatives in the fields of space science and technology; and (b) use official development assistance funds to help achieve their capacity-building goals. The countries that provide official development assistance funds should make efforts to build partnerships with the countries requesting assistance and directly support the latter's capacity-building through exchange of information and experience (see also sect. B.4, subsect. (c), "Enhancing capacity-building in space-related activities").

87. As a way of increasing predictability of voluntary contributions to support the activities of the Office for Outer Space Affairs (see chap. V, sect. E.3, "Trust Fund for the United Nations Programme on Space Applications", para. [...] \*), the Committee agrees that the overall number of donors contributing to the Trust Fund should increase. The Committee recommends that, in coordination with the Office, donors should consider indicating specific objectives to be supported by their contributions, which could include holding workshops to identify the needs of developing countries or expert meetings to develop pilot or demonstration projects.

#### *Expected benefits*

88. Expected benefits from the proposed actions include (a) increased possibility of development banks and aid agencies providing funds to support projects with the use of space applications for development purposes; (b) increased effectiveness of funds provided to projects for development purposes to strengthen local capacity-building; and (c) increased predictability of contributions to the Trust Fund for the United Nations Programme on Space Applications and increased possibility of advance planning leading to an increase in the number of individuals from developing countries to benefit from the activities of the Programme.

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\* The cross-referenced paragraph of chapter V, section E.3, appears in paragraph 55 of document A/AC.105/L.255/Add.4.

**C. Strengthening the role of the Committee on the Peaceful Uses of Outer Space, its subcommittees and its secretariat in promoting the exploration and peaceful uses of outer space**

**1. Encouraging participation of members of the Committee on the Peaceful Uses of Outer Space in the work of the Committee and its subcommittees**

89. The General Assembly, in its resolution 58/89 of 9 December 2003, requested the Committee to consider ways to improve participation by member States and entities with observer status in its work, with a view to agreeing on specific recommendations in that regard at its forty-eighth session.

90. In order to encourage the participation of developing countries, in particular in its work, the Legal Subcommittee should support the efforts by the Office for Outer Space Affairs and individual member States to organize and sponsor annual workshops on space law in various regions by, among other things, encouraging members of the Committee to send experts as lecturers to the workshops and providing the Office with information material and background documentation or publications.

**2. Encouraging the participation of international organizations that have permanent observer status with the Committee in the work of the Legal Subcommittee**

91. The Legal Subcommittee has benefited from the participation of intergovernmental and non-governmental organizations with activities in space law, including those that do not have permanent observer status with the Committee, such as the International Institute for the Unification of Private Law and the European Organisation for the Exploitation of Meteorological Satellites. Entities of the United Nations system and other international organizations with permanent observer status with the Committee have an important role to play in strengthening the work of the Legal Subcommittee. For example, close collaboration with ICAO is desirable for the consideration by the Subcommittee of the definition and delimitation of outer space, in particular with regard to the legal status of aerospace objects. The Subcommittee should consider how to strengthen their role in its work and identify specific actions or mechanisms to encourage and facilitate their participation.

92. To date, only three international intergovernmental organizations conducting space activities have declared their acceptance of the rights and obligations under the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space, the Convention on International Liability for Damage Caused by Space Objects and the Convention on Registration of Objects Launched into Outer Space. Specific actions should be identified to ensure that those international intergovernmental organizations conducting space activities declare their acceptance of the rights and obligations under those treaties. Among other things, relevant international intergovernmental organizations should be requested to encourage their member States that are not yet parties to the international treaties governing the uses of outer space, to give consideration to ratifying or acceding to the treaties in order to enable those international

organizations to declare their acceptance of the rights and obligations under those treaties.

**3. Strengthening the role of the Office for Outer Space Affairs in implementing the recommendations of UNISPACE III**

93. The Office for Outer Space Affairs should strengthen its capacity-building activities in space law. To that end, the Office should assist the regional centres for space science and technology education, affiliated with the United Nations, in organizing short-term workshops on space law. In consultation with the regional centres and with assistance from States members of the Committee, the Office should develop a model education curriculum for a short-term training course on space law that could be integrated into the education programme of the regional centres.

94. The Office for Outer Space Affairs should strengthen its technical advisory services to support the operational use of space technologies, in particular in response to action called for in the plan of action contained in the present report in such areas as environmental monitoring, management of natural resources, disaster management, global navigation satellite systems and telemedicine. The proposal to be submitted to the Committee, as indicated in paragraph 95 below, should include specific measures to strengthen the technical advisory services with assistance sought from members of the Committee.

95. The Office for Outer Space Affairs should review the activities that are included in the plan of action for implementation by the Office and submit its proposal to the Committee at its forty-eighth session on how those activities could be included in its programme of work. The proposal should indicate any major activities that are currently included in the programme of work, as approved in the programme budget for the biennium 2004-2005 (A/56/6 (sect. 6)), but that should be replaced with new activities that are recommended in the plan of action.