
COMMITTEE ON THE PEACEFUL USES OF
OUTER SPACE

Fiftieth session

Vienna, 6 – 15 June 2007

Agenda item 7

Report of the Scientific and Technical Subcommittee

**United Nations Platform for Space-based Information for
Disaster Management and Emergency Response (SPIDER)**

Presentation of the UN SPIDER Summary Report

1. In its resolution A/RES/61/110 of 14 December 2006, “United Nations Platform for Space-based Information for Disaster Management and Emergency Response”, the General Assembly decided that this new programme should be established as a programme of the Office for Outer Space Affairs under the Director of the Office as an open network of providers of disaster management support and that the Director of the Office would be responsible for the overall supervision of the programme.
2. The Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space at its forty-ninth session requested that the Office prepare and submit for consideration by the Committee on the Peaceful Uses of Outer Space, at its fiftieth session, a report that presents: a summary of the background of the establishment of SPIDER, including the main considerations put forward by the ad hoc expert group in its reports (A/AC.105/873 and A/AC.105/C.1/L.285); a framework for the operating procedures of the programme, including the coordination of activities among the offices and the network of regional support offices; the resources required to carry out its workplan for the biennium 2008-2009; and the need for the establishment of an advisory board as put forward by the ad hoc expert group in its report to the Committee (A/AC.105/873).
3. Sections I - III of the attached document contain the background, the main considerations put forward by the ad hoc expert group in its two reports as well as the agreements reached by the Committee and the General Assembly. Sections IV and V contain the framework for the operation and coordination of the programme in order to take advantage of all contributions of support and expertise offered, and to be offered, by Member States, and the resources required to carry out the SPIDER work plan for 2008 – 2009 and future years.



United Nations Platform for Space-based Information for Disaster Management and Emergency Response (SPIDER)

Summary

In its resolution 61/110 of 14 December 2006 the United Nations General Assembly agreed to establish the “United Nations Platform for Space-based Information for Disaster Management and Emergency Response (SPIDER)” as a programme within the United Nations to provide universal access to all countries and all relevant international and regional organizations to all types of space-based information and services relevant to disaster management to support the full disaster management cycle by being a gateway to space information for disaster management support, serving as a bridge to connect the disaster management and space communities and being a facilitator of capacity-building and institutional strengthening, in particular for developing countries.

In the same resolution the General Assembly agreed that the new programme should be implemented as a programme of the Office for Outer Space Affairs, under the Director of the Office, as an open network of providers of disaster management support, with offices in Beijing and Bonn, Germany. In accordance with paragraph 9 of resolution 61/110, the programme will have a liaison office in Geneva to disseminate and integrate the work of the programme within the disaster reduction and humanitarian response communities.

The programme will be implemented within the agreed upon implementation framework with each office being responsible for leading specific activities. Thus the Beijing office will be responsible for Awareness-raising (Activity 1.3); Regional and country profiles (Activity 1.5); Support to National Activities (Activity 3.1), and; Support to the establishment of national disaster management planning and policies (Activity 3.2). The Bonn Office will be responsible for: Systematic compilation of relevant information, (Activity 1.1); Ensure access and dissemination of information to end-users (Activity 1.2); Establishment of communities of practice (Activity 2.1); Knowledge management and transfer (Activity 2.2), and; Platform for fostering alliances (Activity 2.3). OOSA Vienna will be responsible for: leading Outreach activities (Activity 1.4), and; Support to capacity-building (Activity 3.2). Additionally, UN SPIDER will work closely with regional and national centres of expertise in the use of space technology in disaster management forming a Network of Regional Support Offices which, under the leadership of the programme, will implement specific UN SPIDER activities in their respective regions. This organisational arrangement will make it possible to take advantage of all the commitments, contributions and expertise put forward by Member States. This also means that most of the resources needed to implement the activities of the programme will come from interested Member States with a minimum core of resources to be provided by the United Nations to ensure close overall coordination of UN SPIDER Offices and activities. In the same resolution, the General Assembly agreed that the programme should report to and receive guidance from the Committee on the Peaceful Uses of Outer Space. At its 44th Session the Scientific and Technical Subcommittee agreed that the Subcommittee should consider issues related to the United Nations Platform for Space-based Information for Disaster Management and Emergency Response (SPIDER) under a regular agenda item on space-system-based disaster management support and that the agenda item should be included in the list of issues that would be considered in its Working Group of the Whole, starting at the forty-fifth session of the Subcommittee. The request of the General Assembly provides the necessary oversight and reporting framework for the new programme.

Contents

- I. Background.....
 - A. Action Team on Disaster Management
 - B. Space Technology for Disaster Management.....
 - C. The ad hoc expert group
- II. Coordination with existing and planned international organizations and initiatives
 - A. Initiatives led by the space community
 - B. Initiatives led by the user community
- III. Key characteristics and functions of UN SPIDER
 - A. A Gateway to space-based information for disaster management support
 - B. A Bridge to connect the disaster management and space communities
 - C. A Facilitator of capacity-building and institutional strengthening.....
 - D. Benefits and beneficiaries
- IV. Organizational framework
 - A. Framework for operating procedures and coordination.....
 - B. Reporting to the Committee on the Peaceful Uses of Outer Space
- V. 2008-2009 Plan of Work and required resources

I. Background

1. Under the theme “Space benefits for humanity in the twenty-first century”, the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III) was held in Vienna from 19 to 30 July 1999. In its resolution 1, the Conference adopted The Space Millennium: Vienna Declaration on Space and Human Development,¹ that was subsequently endorsed by the General Assembly in its resolution 54/68. The Vienna Declaration recommended 33 specific actions that should be taken to enable space technologies to contribute to the solution of global challenges of the new millennium. One of the recommendations put forward was the need “to implement an integrated, global system, especially through international cooperation, to manage natural disaster mitigation, relief and prevention efforts, especially of an international nature, through Earth observation, communications and other space-based services, making maximum use of existing capabilities and filling gaps in worldwide satellite coverage”.

2. At its forty-fourth session, the Committee on the Peaceful Uses of Outer Space agreed to establish action teams composed of interested Member States in order to implement the recommendations of UNISPACE III.

A. Action Team on Disaster Management

3. One of the Action teams established by the Committee, known as Action Team on Disaster Management, focused on the above mentioned recommendation. This Action Team was co-chaired by Canada, China and France, with the Office for Outer Space Affairs of the Secretariat providing substantive assistance and secretariat services. The Action Team comprised 41 Member States and 13 intergovernmental and non-governmental organizations.

4. After a comprehensive process of consultations, surveys and analyses of gaps and needs, the Action Team on Disaster Management submitted its findings and recommendations to the Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space (A/AC.105/C.1/L.273) at its forty-first session. In its report, the Action Team stressed that natural and man-made disasters struck all parts of the world indiscriminately and concluded that to successfully reduce their impact would require coordinated international efforts to manage their effects and supplement the ongoing global approaches.

5. The Action Team concluded that there were some initiatives in the area of disaster response that took advantage of space technologies, but few initiatives in the area of disaster prevention and mitigation. A large number of countries had little or no exposure to the benefits of space systems and national points of contact for facilitating access to space-based information and services were lacking.

6. The Action Team made three recommendations that if implemented would contribute to optimize the access to and use of current and future space-based services for disaster management. The first recommendation was the establishment of an international space coordination body for disaster management, which would act as a focal point for global space efforts in support of disaster management. The second recommendation was the establishment of a fund as a sustainable resource to be used for applying space technologies in support of disaster management and for capacity-building. The third recommendation was that Member States should be encouraged to allocate a portion of their disaster management resources/funds to the use of space technologies and identify points of contact (national focal points) in order to focus their internal disaster management activities and to liaise with external efforts.

7. Those recommendations were included in the report of the Committee on the Peaceful Uses of Outer Space on its five-year review of the implementation of the recommendations of UNISPACE III, which was submitted to the General Assembly at its fifty-ninth session (A/59/174). At that session, the Assembly agreed, in its resolution 59/2 of 20 October 2004, that a study should be conducted on the possibility of creating an international entity to provide for coordination and the means of realistically optimizing the effectiveness of space-based services for use in disaster management and that the study should be prepared by an ad hoc expert group, with experts to be provided by interested Member States and relevant international organizations.

B. Space Technology for Disaster Management

8. Between 2000 and 2004, while the Action Team on Disaster Management was carrying out its work, the Office for Outer Space Affairs organized a series of regional workshops on the use of space technology for disaster management bringing the results of the regional workshops to an international workshop, held in Munich, Germany, in October 2004. At that workshop, 170 participants from 51 countries agreed on a global strategy that would help developing countries to gain access to and be able to use space technology for disaster management, a strategy put forward as the Munich Vision: a Global Strategy for Improved Risk Reduction and Disaster Management Using Space Technology (A/AC.105/837, annex).

9. Participants recognized that space-based technologies such as Earth observation satellites, communication satellites, meteorological satellites and global navigation satellite systems (GNSS) played an important role in risk reduction and disaster management, and made a number of recommendations in the areas of capacity development and knowledge-building; data access, data availability and information extraction; enhancing awareness; and national, regional and global coordination. Participants recognized the importance and urgent need for the coordination entity proposed by the Action Team on Disaster Management.

C. The ad hoc expert group

10. In accordance with General Assembly resolution 59/2, an ad hoc expert group was established and met in 2005 during the forty-second session of the Scientific and Technical Subcommittee, including experts from 26 Member States and 4 intergovernmental and non-governmental organizations. The work of the ad hoc expert group was supported by the Office for Outer Space Affairs of the Secretariat.

11. The Committee on the Peaceful Uses of Outer Space, at its forty-eighth session, reviewed the progress in the work of the ad hoc expert group and requested that the ad hoc expert group finalize its draft study for submission to the Scientific and Technical Subcommittee at its forty-third session, in 2006, for the Subcommittee's review and recommendation to the Committee.

12. The ad hoc expert group finalised its study, referred to in paragraph [7], (A/AC.105/C.1/L.285) for consideration by the Scientific and Technical Subcommittee at its forty-third session. The Subcommittee commended the ad hoc expert group for preparing an excellent study for its consideration, noting that the ad hoc expert group had indicated that the proposed entity would be a "one-stop shop" to provide support to the disaster management community at large and a platform for fostering alliances, that it would be user-driven and that it would contribute to bridging the gap between the disaster management and space communities.

13. Recognising the need to avoid duplication of efforts, the Subcommittee requested that the ad hoc expert group, with the support of the Office for Outer

Space Affairs, carry out consultations with representatives of the following initiatives: the Global Earth Observation System of Systems (GEOSS); the International Charter “Space and Major Disasters”; the UNOSAT project (implemented by UNITAR), the secretariat for the International Strategy for Disaster Reduction (ISDR) and others, with a view to reaching agreement on a division of tasks and on how the proposed entity could contribute to achieving the objectives of those initiatives while enhancing the use of space technologies in disaster management, particularly in developing countries. Additionally, the Subcommittee requested that the Office correspond with all Member States, requesting them to officially communicate their possible commitments to be provided to the proposed entity and that all providers of support be then invited to harmonize their commitments into one viable proposal for the implementation of the entity (A/AC.105/869, paragraph 163).

14. The ad hoc expert group met on 8 and 9 June 2006 to finalize its report to the Committee, including a proposed implementation plan based on the secured commitments of support to be provided by member States to the proposed entity, and to propose a final name for the entity.

15. At the forty-ninth session of the Committee, the representative of Romania presented, on behalf of the ad hoc expert group, the final report of the group (A/AC.105/873). The Committee commended the ad hoc expert group for the excellent study it had presented to the Scientific and Technical Subcommittee (A/AC.105/C.1/L.285) and the final report that it had prepared for the Committee’s consideration. In its final report, the ad hoc expert group recommended that the proposed entity, “United Nations Platform for Space-based Information for Disaster Management and Emergency Response (SPIDER)”, be implemented as a programme of the Office for Outer Space Affairs and be launched on 1 January 2007.

16. The Committee expressed its appreciation to member States that had made commitments or had indicated that they were considering making commitments of support to the proposed entity.

17. The Committee considered the recommendations made by the ad hoc expert group (A/AC.105/873, paragraphs, 26 – 32) and agreed that the entity should be implemented as a programme of the Office for Outer Space Affairs under the Director of the Office, as an open network of providers of support. The activities would be planned and carried out in a coordinated manner, initially building upon the commitments made by Austria, China and Germany¹.

18. The Committee noted that in relation to the indication of support made by the Government of Switzerland, due consideration would be given to the possibility of having a liaison office in Geneva that would contribute to disseminating and integrating the work of the programme within the Geneva-based humanitarian response community.

19. By its resolution 61/110, of 14 December 2006, the General Assembly decided to establish the proposed United Nations Platform for Space-based Information for Disaster Management and Emergency Response (SPIDER) as a programme within the United Nations to provide universal access to all countries and all relevant international and regional organizations to all types of space-based information and services relevant to disaster management to support the full disaster management cycle by being a gateway to space information for disaster management support, serving as a bridge to connect the disaster management and space communities and being a facilitator of capacity-building and institutional strengthening, in particular for developing countries.

¹ The agreements and considerations of the Committee regarding the establishment of the proposed entity are contained in paragraphs 150-165 of the report of its 49th session, Report of the Committee on the Peaceful Uses of Outer Space, General Assembly, Official Records, Sixty-first Session, Supplement No. 20 (A/61/20)

II. Coordination with existing and planned international organizations and initiatives

20. The study conducted by the Action Team on Disaster Management highlighted the following gaps and constraints that are limiting the wide use of space-based technologies to support disaster management activities. The disaster management community, consisting of civil protection agencies, governmental and non-governmental organizations and scientific organizations, has diverse requirements for information with appropriate temporal and spatial scales; furthermore, to be useful, the information should be delivered when needed and in an appropriate format. It is essential to identify those requirements and to adopt a unified coherent approach to meet them in a reliable and timely manner. The gap that exists between the user communities and the space application providers needs to be bridged in order to ensure effective delivery of services. Additionally, the large volume of archived data available from space systems is currently not organized and is thus difficult to access. Finally, the limited awareness among the disaster management community of the potentials of space systems to provide vital contributions in areas such as risk assessment, determination of hazard zones, damage assessment and emergency communications is a further constraint. A coordinated and global approach on the use of space assets needs to be developed to address the identified gaps and constraints.

21. The ad hoc expert group, building upon the findings of the Action Team on Disaster Management, confirmed that there are several international mechanisms in place to address specific aspects of the disaster cycle, including activities to better coordinate space assets at the global level. However, such activities are driven by different mandates, often with a focus on specific disaster phases or types of crisis. Consequently, there is a need for a single global coordination, such as what will be made available through the new programme, that will contribute towards an integrated space-based system to support disaster management while making maximum use of available space technologies and services as called for in the Vienna Declaration. This need will increase because of technical developments and additional satellites and derived services which will make available increased amounts of information and products to users.

22. Ultimately, UN SPIDER should contribute to harnessing existing opportunities and provide coherent, integrated support to the disaster management community, promote improved communications among and between the disaster management and space communities, make possible a truly multi-hazard, multi-phase approach, and foster alliances and the transfer of knowledge and information between participating actors, in particular from industrialized to developing countries.

A. Initiatives led by the space community

23. The ad hoc expert group noted that there are a number of ongoing or planned, space-related initiatives that can support different phases of disaster management (i.e. risk reduction, prevention, mitigation, early warning, relief and rehabilitation). Those initiatives include GEOSS, the International Charter “Space and Major Disasters”, the Integrated Global Observing Strategy-Partnership (IGOS-P), the programme Global Monitoring for Environment and Security (GMES) and the Disaster Prevention and Mitigation Programme of the World Meteorological Organization. There are also initiatives such as Global Map Aid, MapAction, RESPOND and the UNOSAT project (implemented by UNITAR) that provide value-added products for emergency response. However, there is limited awareness among the disaster management community of those resources, of how to access them and limited capacity to use them.

24. The UN SPIDER programme will contribute directly to the work carried out by such initiatives. Both the Platform Programme for 2007-2009 and the Plan-of-Work for 2007 reflect the coordination with existing initiatives and the contribution of UN SPIDER to these initiatives. In particular, in 2007, UN

SPIDER is co-leading two major tasks of the GEOSS 2007-2009 Work Plan: Use of Satellites for Risk Management (DI-06-09) and Knowledge Sharing for Improved Disaster Management and Emergency Response (CB-07-02).

B. Initiatives led by the user community

25. More importantly, UN SPIDER will work directly with the user community and contribute to on-going and planned initiatives carried out by organizations that work in disaster management by providing an understanding of how to access and use space-based solutions, while providing feed-back to the space community on the specific needs of this user community.

26. The UN SPIDER programme will work closely with organizations within the United Nations system as well as other major international and regional organizations. Within the United Nations system, UN SPIDER will work closely with, among others, ISDR, the Office for the Coordination of Humanitarian Affairs (OCHA) and the United Nations Development Programme (UNDP), particularly with its Disaster Reduction and Recovery Unit, Bureau for Crisis Prevention and Recovery as well as through UNDP country offices.

27. The programme will contribute to ISDR's work in the implementation of the Hyogo Framework of Action through the Global Platform for Disaster Risk Reduction. The Hyogo Framework of Action 2005-2015: Building the Resilience of Nations and Communities to Disasters,² put forward at the World Conference on Disaster Reduction, held in Kobe, Hyogo, Japan, in January 2005, is the 10-year international road map for disaster risk reduction. The Hyogo Framework recognized the need to promote the use, application and affordability of recent information, communication and space-based technologies and related services, including Earth observations, to support disaster risk reduction, particularly for training and for the sharing and dissemination of information among different categories of users.

28. In response to a request by the 2005 World Summit for greater coherence among the development-related agencies, the Secretary-General's High-Level Panel on United Nations System-wide Coherence, a group of heads of state and policy makers tasked to examine ways to strengthen the ability of the United Nations to respond to the challenges of the 21st Century, put forward their proposal in November 2006 of a unified and coherent United Nations structure at the country level responding to national needs in a report known as "Delivering as One" (A/61/583). This report indicates that the United Nations has a unique and leading role to play in humanitarian disasters and emergencies and includes specific recommendations to enhance this role such as more investment in risk reduction, early-warning and innovative disaster assistance strategies and mechanisms.. In February 2007, UNDP announced the start of a pilot scheme called "One United Nations" which will test how the United Nations family can deliver in a more coordinated way at the country level. The eight pilot countries are: Albania, Cape Verde, Mozambique, Pakistan, Rwanda, Tanzania, Uruguay, and Viet Nam. The UN SPIDER programme will work with UNDP Country Offices in the definition and implementation of activities that incorporate space-based solutions to support disaster management.

III. Key characteristics and functions of UN SPIDER

29. Based on the identified gaps and the benefits that the new programme could provide, the ad hoc expert group identified the following characteristics and functions that it should have: (a) the programme should be a "one-stop shop" for information and a platform for fostering alliances; (b) it should be user-driven, that is, the disaster management community should be centrally involved and the work should be carried out to the benefit of the user community; (c) the programme should contribute to bridging the gap between the disaster management and space communities by creating a forum where both can meet; (d) it should make optimal use of the existing resources of space agencies; (e) it

should focus on existing gaps that are limiting the use of space technology in risk reduction and disaster management; (f) its implementation should be incremental and not phased, that is, the entity should be able to fulfil its responsibilities from the beginning; (g) it should have informational, coordination and operational functions; and (h) it should fit in with existing global initiatives, identifying synergies and building upon common opportunities, and should contribute to the coordination of such initiatives.

30. In its study, the ad hoc expert group proposed an initial list of key activities for the new programme, (A/AC.105/C.1/L.285, paragraphs 47-49). After consulting with representatives of initiatives mentioned in paragraph [13] above, the ad hoc expert group updated the proposed list of activities and grouped them under three functions: a gateway to space information for disaster management support; a bridge to connect the disaster management and space communities, and; a facilitator of capacity-building and institutional strengthening, in particular for developing countries. The revised proposed list of activities was included in Annex I of the final report of the ad hoc expert group (A/AC.105/873). A brief summary of the activities is presented below.

A. A Gateway to space-based information for disaster management support

31. In its function as a “gateway”, UN SPIDER will be a “one-stop shop” for access to and dissemination of data and information, including case histories and best practices of the use of space-based data to support disaster management. This function will contribute to the definition of the content and standards of regional and national spatial databases, as well as specific thematic databases to support disaster management, taking into account existing international data standards to facilitate the sharing of data.

32. A necessary step beyond the dissemination of information is awareness raising. This includes encouraging decision-makers to consider the potential impact of the various types of disasters in the light of the likely benefits to be gained from increased use of solutions based on space technologies. A concerted and sustained effort should be made to create awareness among decision makers to build political support for space-based solutions on an operational basis. The UN SPIDER programme will work with national institutions that use space technology to encourage them to take the responsibility of holding periodic awareness raising activities that show how the use of space technologies contributes to disaster management and ultimately, to sustainable development..

33. This function includes the following five activities identified by the ad hoc expert group:

- a) Activity 1.1 - Systematic compilation of relevant information - Define and implement a platform-wide strategy to ensure the identification and compilation of all relevant information on a continuous basis, including on-going and planned initiatives, case studies and best practices, archived data for disaster studies and capacity building opportunities.
- b) Activity 1.2 - Ensure that relevant information is easily accessible and disseminated to all interested end-users on a 24/7 basis - Define and implement a Knowledge Portal, which will ensure that all relevant information is widely available. The work involved includes the design and implementation of the Database Management System that will manage the information of the Knowledge Portal; maintenance of a 24/7-hotline service; preparation of periodic E-Newsletters and dissemination of information through RSS (Real Simple Syndication) feeds and discussion lists.
- c) Activity 1.3 - Awareness raising - Plan and develop initial and follow on awareness raising campaigns, focusing on specific interest groups such as civil protection organisations, funding agencies, students (all levels of

education), news media, intergovernmental and non-governmental organisations, involving key partners, particularly, National Focal Points (NFPs) and the humanitarian and emergency response community, including the user community in Geneva.

- d) Activity 1.4 - Outreach Activities - Organisation of outreach activities such as workshops, expert meetings and conferences; ensure the participation of expert speakers in relevant conferences and meetings; provide support to relevant regional and international seminars and workshops.
- e) Activity 1.5 - Regional and country profiles - Support the development and compilation of risk information at the national level by disaster theme (Country Profiles) and support the development of regional/sub-regional vulnerability assessments, increasingly incorporating space-based technology solutions to develop the assessments. Support, to the extent possible, NFPs in the development of national vulnerability assessments.

B. A Bridge to connect the disaster management and space communities

34. In its function as a “bridge”, UN SPIDER will focus on bringing together the disaster management and space communities. The UN SPIDER programme will achieve this by being a platform for fostering alliances, by creating a forum where both communities can meet and discuss, and by ensuring that the disaster community is centrally involved in the definition of its needs and requirements.

35. The UN SPIDER programme will work closely with the space community to help it understand the specific needs of the disaster management community and to develop end-to-end solutions that meet the requirements of the user community. In particular, the programme will assist the space community to gain an understanding of the operational mechanisms, the interactions within the disaster management community and the interdependence among players at the local, provincial and national levels.

36. This function includes the following three activities:

- a) Activity 2.1 - Establishment of Communities of Practice (CoP) - Support existing and contribute to the establishment of new Communities of Practice bringing together the space-based technology and disaster management communities.
- b) Activity 2.2 - Knowledge management and transfer - Development of a knowledge management and transfer framework and implementation of specific activities that will contribute to the transfer of knowledge (case studies, best practices, definition of user requirements), involving the participants of a Network of Practice (to be established) in the compilation of this knowledge base.
- c) Activity 2.3 - Platform for fostering alliances - Ensure the harmonisation of the various initiatives that help developing countries access and use space-based technologies for disaster management and risk reduction. Develop guidelines that will assist National Focal Points to ensure proper coordination at the national level of all activities and initiatives. Ensure UN SPIDER participation in relevant forums and coordination with relevant programmes, including GEO, GMES, ISDR (including the Platform for the Promotion of Early Warning, the Global Platform for Disaster Risk Reduction and in the implementation Hyogo Framework of Action), UNESCO, the International Charter Space and Major Disasters, Sentinel Asia and other relevant activities.

C. A Facilitator of capacity-building and institutional strengthening

37. The third function of UN SPIDER will focus on being a facilitator for capacity building and institutional strengthening. Capacity-building and the strengthening of institutional arrangements at all levels are key to increasing the ability of organizations and individuals to effectively use space-based services for disaster reduction, preparedness, response and recovery.

38. There is a continuous need to educate people at the technical, institutional and decision-making levels on space capabilities as well as for developing national and regional expertise. The UN SPIDER programme will support long- and short-term training and education programmes at the regional centres for space science and technology education affiliated to the United Nations, as well as at other academic and thematic centres of excellence worldwide. Such programmes should include curriculum-specific case studies of relevance to the participating countries.

39. This function includes the following three activities:

- a) Activity 3.1 - Support to National Activities - Support to the implementation of risk reduction and emergency response activities and projects identified in conjunction with designated National Focal Points. This activity will be carried out in close coordination with the work carried out by ISDR and by the UNDP Country Offices.
- b) Activity 3.2 - Support to the establishment of National Disaster Management Planning and Policies - Contribute, at the request of the National Focal Points, to the definition of disaster management policies and planning with regard to the use of space-based technologies.
- c) Activity 3.3 - Support to Capacity Building - Activities will include the compilation of information relevant to capacity building opportunities and the facilitation of capacity building, in particular of practitioners and end-users. This activity will contribute to the development of curricula, working with the regional centres for space science and technology education, affiliated to the United Nations, as well as other national and regional centres of excellence to train and educate end users and strengthen national institutions.

D. Benefits and beneficiaries

40. The mission statement of UN SPIDER, which defines what the programme aims at, is: “Ensure that all countries have access to and develop the capacity to use all types of space-based information to support the full disaster management cycle.”

41. The use of space data has proved its potential to provide vital information inputs to all phases of the disaster cycle, covering prevention, preparedness, monitoring, response and reconstruction. Space-based information with its spatial contents is also useful at the community level to empower the community for better preparedness.

42. The new programme will build up the capabilities of Member States to use space-based solutions to effectively support the management of disaster events, providing a coordinating mechanism for sharing experience and initiating collaborative efforts. The benefits that will accrue from such a coordinated programme, developed around the capabilities of space technology, are manifold. A unique benefit will be the possibility of taking a multi-hazard approach to tackle disasters in terms of hazard zonation, risk assessment, monitoring and appropriate relief planning.

43. The direct beneficiaries from such a coordination effort will be primarily the disaster management community, in particular those responsible for either responding to an event or for mitigating the effects of predictable disasters, space technology institutions interested in providing support to the disaster management community, non-governmental organizations involved in providing support and

all academic and scientific institutions involved in monitoring events, providing capacity-building and carrying out research in best practices in the use of space technology for disaster management.

44. Other beneficiaries include the private space technology companies interested in providing support or in developing products needed to support disaster events, and insurance companies interested in supporting best practices to reduce community and personal risks.

45. Ultimately it will be the population at large that will benefit from the coordination effort and all contributions invested in the programme will contribute to the saving of lives and property.

IV. Organizational framework

46. The ad hoc expert group studied various organisational options for the establishment of the proposed coordinating entity, including as a new programme within the United Nations system (i.e., mandate given to an existing entity), or as an inter-governmental organization outside the United Nations, but linked to the work of a specific United Nations entity. Following an in-depth review of the advantages and disadvantages of the options, the ad hoc expert group concluded that it should be implemented as a United Nations programme of the Office for Outer Space Affairs.

47. Subsequently, in its resolution 61/110, the General Assembly agreed that it should be implemented as a programme of the Office for Outer Space Affairs under the Director of the Office, as an open network of providers of disaster management support. The General Assembly also endorsed the recommendation of the Committee on the Peaceful Uses of Outer Space that the programme have an office in Beijing and an office in Bonn, Germany.

48. Furthermore, in paragraph 11 of resolution 61/110, General Assembly agreed that SPIDER should work closely with regional and national centres of expertise in the use of space technology in disaster management to form a network of regional support offices for implementing the activities of the programme in their respective regions in a coordinated manner and to take advantage of the important experience and capabilities being offered, and to be offered, by Member States, particularly by developing countries. These Regional Support Offices should be leading national or regional institutions with notable expertise in the use of space technology for disaster management nominated by their government or by their respective governing body in the case of a regional institution.

49. The Network of Regional Support Offices will be able to contribute to any of the specific activities included in the UN SPIDER work plan by taking on the responsibility for funding and implementing a specific activity jointly and in coordination with UN SPIDER. Such activities could include: hosting a regional workshop, promoting capacity building activities in the region, carrying out missions within a region to support national disaster management planning, supporting national and regional vulnerability assessments, providing mapping support during emergencies, contributing to the systematic compilation of relevant information including the development of country profiles and the compilation of specific geospatial databases, supporting awareness raising campaigns, and promoting the establishment of regional and national communities of practice.

50. UN SPIDER will also be working closely with national focal points. National focal points will be the national institutions representing the disaster management and/or space application communities that are nominated by their respective government to work with UN SPIDER to strengthen national disaster management planning and policies and in the implementation of specific national activities that incorporate space-based technology solutions to support disaster management.

51. In paragraph 9 of its resolution 61/110, the General Assembly noted that due consideration would be given to the possibility that the programme could have a liaison office in Geneva that would contribute to disseminating and integrating the work of the programme within the disaster reduction and humanitarian response communities. The UN SPIDER Liaison Office in Geneva, that will be made possible by the offer put forward by the Government of Switzerland, would focus on the following actions: hold regular meetings with the risk reduction, humanitarian and emergency response communities in Geneva to raise awareness of the work of UN SPIDER, facilitate the access of these communities to space data and products to support their work and provide feed-back on specific needs and expectations of these communities; ensure the participation of representatives of the various agencies in the global outreach activities promoted by UN SPIDER; provide input to the preparation of specific awareness raising material targeted to these specific user communities and promote the distribution of this material; contribute to the compilation of available information to be included in the UN SPIDER Knowledge Portal (e.g. reports, case studies, best practices, announcements), and; identify capacity building needs as well as carry out and support capacity building activities.

A. Framework for operating procedures and coordination

52. In accordance with paragraph 8 of the resolution 61/110, the General Assembly endorsed the recommendation of the Committee on the Peaceful Uses of Outer Space that the programme be implemented within the proposed implementation framework presented to the Committee at its forty-ninth session and included in Annex III of the final report of the ad hoc expert group (A/AC.105/873).

53. The proposed implementation framework designated the lead and responsibility for each category of specific activities: Thus the Beijing office will be responsible for Awareness-raising (Activity 1.3); Regional and country profiles (Activity 1.5); Support to National Activities (Activity 3.1), and; Support to the establishment of national disaster management planning and policies (Activity 3.2). The Bonn Office will be responsible for: Systematic compilation of relevant information, (Activity 1.1); Ensure access and dissemination of information to end-users (Activity 1.2); Establishment of communities of practice (Activity 2.1); Knowledge management and transfer (Activity 2.2), and; Platform for fostering alliances (Activity 2.3). and UN SPIDER staff in OOSA Vienna will be responsible for: leading Outreach activities (Activity 1.4), and; Support to capacity-building (Activity 3.2).

54. The ad hoc expert group indicated that an optimal organisational framework would be to have the new programme as a centralised United Nations programme implemented by the Office for Outer Space Affairs. However, the Committee on the Peaceful Uses of Outer Space recommended that the programme be implemented by a UN SPIDER team distributed in three locations with the additional support of a Network of Regional Support Offices and the possibility of a liaison office in Geneva to take advantage of all offers made by member States to establish the new programme. Such an operational framework leads to the need for a dynamic coordination and an overall close supervision, and the establishment of a distributed and cohesive management team .

55. The Director of the Office for Outer Space Affairs is the supervisor of the UN SPIDER programme and has the overall responsibility for its implementation. To carry out these tasks the Director will have the assistance of a Programme Officer and a Programme Assistant to plan and coordinate activities with Programme Coordinators from each UN SPIDER Office and OOSA Vienna. Planning and coordination of UN SPIDER activities will be carried out by consensus agreement among the Programme Coordinators and approved by the Director of the Office for Outer Space Affairs. The Director and the Programme Coordinators will constitute the management team of UN SPIDER. For activities involving the Liaison Office in Geneva, the planning and coordination will

include a staff member of that Office, as well. This coordination mechanism should be reviewed every biennium.

56. Once the plan of work is agreed, each Programme Coordinator will lead the implementation of the activities under the category of activities for which the corresponding office is responsible according to the implementation framework (see para. [54] above), identify other work plan activities with which there should be coordination or exchange of information, and lead such coordination.

57. Each Programme Coordinator will be responsible for setting the expected accomplishments and the indicators of achievement, the baseline, performance measures and evaluation methodology for the activities under their leadership. The Director of the Office for Outer Space Affairs will make arrangements for the training of the senior staff on the United Nations process of programme planning, preparation of the programme budget proposal and programme performance reporting. The Programme Coordinators will be responsible for ensuring that the inputs of the UN SPIDER Programme are submitted in time to meet the deadlines in the planning and accountability process of the United Nations.

58. To ensure that the products produced are useful, the Office for Outer Space Affairs will establish feedback loops with both the disaster management and space application communities. The UN SPIDER management team will also conduct workshops with the representatives of the Network of Regional Support Offices to receive input from their experiences in implementing specific activities and to agree on future directions. The management team will conduct periodic evaluation of the acquired information and agree on modifications to the work plan or implementation procedures on the basis of an analysis of accumulated best practices, lessons learned and guidance received from the Committee on the Peaceful Uses of Outer Space.

59. As an initial measure for the year 2007, the Office for Outer Space Affairs provided the part-time services of one senior professional staff to assist the Director in the establishment of the Beijing and Bonn, Germany UN SPIDER Offices and the Geneva Liaison Office, to enable and administer support already offered by China, Germany and Switzerland, to coordinate activities from the 2007 Plan of Work to be implemented, to coordinate the preparation of the 2008 – 2009 Plan of Work for consideration by the Committee at its fiftieth session as well as to compile additional offers of support for UN SPIDER activities made by Member States. The Office also provided the part-time services of one administrative staff to support the work to be carried out in 2007.

B. Reporting to the Committee on the Peaceful Uses of Outer Space

60. In accordance with paragraph 16 of its resolution 61/110, the General Assembly agreed that the programme should report to and receive guidance from the Committee on the Peaceful Uses of Outer Space through the Office for Outer Space Affairs.

61. The Director of the Office, with the support of the Programme Coordinators, will be responsible for preparing, , and submitting to the Scientific and Technical Subcommittee of the Committee on the Peaceful Uses of Outer Space an annual report on the activities of the programme as well as the work plan for the next biennium.

62. At its 44th Session, the Scientific and Technical Subcommittee agreed that the Subcommittee should consider issues related to the United Nations Platform for Space-based Information for Disaster Management and Emergency Response (SPIDER) under a regular agenda item on space-system-based disaster management support and that the agenda item should be included in the list of issues that would be considered in its Working Group of the Whole, starting at the forty-fifth session of the Subcommittee.

63. The ad hoc expert group had recommended the setting up of an advisory board that would work closely with the programme manager and programme coordinators, reviewing the proposed plan of work for each biennium, assessing if the necessary resources were in place and providing recommendations on the various aspects of the work to be carried out. However, in paragraph 16 of its resolution 61/110, the General Assembly agreed that the programme should report to and receive guidance from the Committee on the Peaceful Uses of Outer Space Affairs. As the reviewing and support role that was to be fulfilled by the proposed advisory board will be carried out by the Committee and its Scientific and Technical Subcommittee, the establishment of an advisory board to UN SPIDER is not necessary..

V. 2008 – 2009 Plan of Work and required resources

64. In paragraph 16 of its resolution 61/110, the General Assembly agreed that the programme would be supported through voluntary contributions and through a rearrangement of priorities within the framework of the United Nations reform process and, if necessary, a rearrangement of priorities of the Office for Outer Space Affairs of the Secretariat and that the additional activities would not, as far as possible, have a negative impact on current programme activities of the Office and should not result in an increase in the total regular budget of the United Nations.

65. At its 44th session, the Scientific and Technical Subcommittee agreed that the Office should develop a plan of work for the biennium 2008-2009, to be considered by the Committee at its fiftieth session, taking into consideration the indication of commitments received for the biennium 2008-2009 and building upon the opportunities provided by the network of regional support offices. The plan of work for the biennium 2008-2009 should also include a proposal for activities to be carried out by a liaison office in Geneva. The report to be presented to the Committee should also indicate the resources required to carry out the UN SPIDER work plan for the biennium 2008 2009.

66. The extra-budgetary resources being offered by the Governments of Austria, China and Germany to establish UN SPIDER and to carry out its 2008 – 2009 work plan include staff offices and meeting room space, initial furniture and equipment to establish the UN SPIDER Offices in Beijing and Bonn, Germany and strengthen OOSA Vienna, a yearly amount of \$ 450.000 in cash contributions to implement activities in the 2008-2009 work plan and the services of 7 professional staff at no cost to UN SPIDER. In addition, the Government of Switzerland offered CHF 240,000 for start-up costs of office equipment and infrastructure arrangements for the UN SPIDER Liaison Office in Geneva in 2007.

67. The Governments of Algeria, Argentina, Chile, Colombia, Ecuador, , India, Indonesia, Iran (Islamic Republic of), Italy, Morocco, Nigeria, Romania, the Russian Federation, the Syrian Arab Republic, South Africa and Turkey have made commitments or indicated their intention to make commitments, to UN SPIDER activities. These offers of support include access to their space assets, to provide disaster management services and value-added products for disaster reduction and emergency response at the national and regional level, the services of local experts to liaise with UN SPIDER, as well as local facilities, data and experts to carry out capacity building activities at the regional level.

68. In accordance with paragraph 7 of General Assembly resolution, 61/110, the Office for Outer Space Affairs has rearranged its priorities within its 2008-2009 programme budget proposal to provide some support for UN SPIDER activities while minimizing the impact on its other programme activities.

69. In order for the Office for Outer Space Affairs to implement the new programme, in particular to provide the dynamic and effective supervision and coordination needed to accept and integrate the different contributions being made available by Member States and to ensure the delivery of products to the

space and disaster management communities, the following regular budget resources are required: three Programme Coordinators to be located in Beijing, Bonn, Germany and OOSA Vienna, responsible for central management coordination and implementation of activities to be carried out by these Offices, coordination of activities to be carried out by the Geneva Liaison Office and coordination of activities to be carried out by the regional support offices; travel and subsistence allowance for participants in an annual expert meeting of representatives of the Network of Regional Support Offices and a nominal amount for official travel of staff of the programme.

Notes

¹ See *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.00.1.3).

² A/CONF.206/6 and Corr.1, chap. I, resolution 2.
