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General Assembly

**Committee on the Peaceful
Uses of Outer Space**

Report on the fifth United Nations Platform for Space-based Information for Disaster Management and Emergency Response international workshop, entitled "Strengthening global synergies through knowledge management, portals and networks"

(Bonn, Germany, 24-26 April 2012)

I. Introduction

1.   In its resolution 61/110, the General Assembly decided to establish the United Nations Platform for Space-based Information for Disaster Management and Emergency Response (UN-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.

2.   Pursuant to the UN-SPIDER workplan for the biennium 2010-2011[1] and for the biennium 2012-2013,[2] international workshops have been organized that focus on bringing together experts and practitioners as a way of enhancing horizontal cooperation and knowledge transfer.

3.   At its fiftieth session, the Committee on the Peaceful Uses of Outer Space agreed that progress reports on UN-SPIDER and its future workplans should be considered by the Scientific and Technical Subcommittee 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 to be considered by its Working Group of the Whole.[3] The present report contains information on the fifth UN-SPIDER international workshop, entitled "Strengthening global synergies through

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[1] See A/AC.105/937.
[2] See A/AC.105/C.1/2011/CRP.15 and A/AC.105/C.1/2012/CRP.22.
[3] *Official Records of the General Assembly, Sixty-second Session, Supplement No. 20* (A/62/20), para. 155.

knowledge management, portals and networks", which was held in Bonn, Germany, from 24 to 26 April 2012. The workshop was organized under the auspices of the UN-SPIDER programme in cooperation with the German Aerospace Center (DLR) and benefited from support provided by the Ministry of Economics and Technology of Germany, the Secure World Foundation and the city of Bonn. The present report contains a description of the background and objectives of the workshop, a summary of the discussion and the observations and recommendations made by the participants.

4.   The workshop was organized by the UN-SPIDER programme and it facilitated discussion on the role played by the UN-SPIDER knowledge portal in knowledge management efforts, acting as a gateway to space-based information to support all phases of the disaster management cycle and to contribute to synergies among international support networks and mechanisms. The workshop contributed to the assessment of the knowledge portal that is maintained by the UN-SPIDER Bonn office at the request of the Office for Outer Space Affairs of the Secretariat.

II. Organizational framework

5.   The fifth UN-SPIDER international workshop was held as part of the outreach activities contained in the workplan of UN-SPIDER for the biennium 2012-2013. In addition, it was one of the activities funded by the Government of Germany through the annual financial support that the Government provides to the programme.

A. Background and objectives

6.   Since the establishment of the programme, it has been recognized that the acquisition, processing and transfer of knowledge should be seen as central to the success of the mission of UN-SPIDER. This includes managing both the knowledge of individuals (in the form of know-how and experience) and knowledge that is recorded in a variety of media. By building a knowledge base on how space-based information and solutions can support risk and disaster management and emergency response, knowledge can be made available through a knowledge portal and can be used to support capacity-building.

7.   The knowledge portal is central to the knowledge management efforts carried out under UN-SPIDER, as it provides the means by which information on activities can be collected, disseminated and archived. The purpose of the portal is to integrate all the useful information, knowledge and resources that have been identified and are available to support UN-SPIDER, including those contributed by relevant user communities, and to serve as a platform for sharing space-based information on the disaster management cycle in general.

8.   Since its establishment in 2009, the portal has included the knowledge base, which includes guides on how space-based information and solutions can support risk and disaster management and emergency response. The knowledge base has been assembled through the ongoing collection and categorization of relevant articles, publications and papers. At the same time, efforts are being made to obtain source agreements for papers and materials that are already published, so that they can be fully included as well.

9.   The goal of the workshop was to identify knowledge management strategies for improving access to and use of the space-based information contained in the knowledge portal as a way to enhance the resilience of nations to disasters.

B.   Attendance and financial support

10.   The workshop was attended by 45 experts and professionals from the following 14 States: Algeria, Austria, Australia, Belgium, Colombia, Ecuador, France, Germany, Greece, India, Italy, Kenya, Sri Lanka and the United States of America. The participants represented 28 national, regional and international organizations belonging to the space community, the disaster-risk management and the emergency response communities, academic institutions and private companies.

11.   Funds allocated by the Ministry of Economics and Technology of Germany and the Secure World Foundation were used to defray the cost of air travel and accommodation for five participants from developing countries and to provide them with a daily subsistence allowance. The UN-SPIDER programme, as the host, provided conference facilities and administrative and technical support. The city of Bonn organized a social event for all participants.

C.   Programme of activities

12.   The programme of activities of the workshop was developed by UN-SPIDER staff in cooperation with DLR and the Secure World Foundation. The programme included an opening ceremony, four sessions, which included both plenary presentations and discussion sessions, and a closing ceremony. Opening remarks were made by a board member of DLR and by representatives of the Office for Outer Space Affairs and the Secure World Foundation. These were followed by keynote presentations made by representatives of UN-SPIDER and DLR.

13.   The discussion regarding the role of portals and websites as gateways to space-based information was launched during the first session, entitled "Networks and portals: shaping up the interface". The session began with plenary presentations on the following three subjects: the UN-SPIDER knowledge portal; the geo-viewer that had been set up by the Agustin Codazzi Geographic Institute in Colombia as a tool to contribute to inter-institutional emergency response efforts related to the floods in 2011 and 2012; and the geoportal of the spatial data infrastructure of Germany, developed by the Federal Agency for Cartography and Geodesy of Germany. The session included three working group sessions: "Networking for technology and application content"; "Risk reduction and emergency response"; and "IT as mission support: understanding requirements to build proper solutions".

14.   The second session, entitled "Portals and gateways and their role in supporting networks and capacity-building efforts" allowed participants to discuss the role that portals and websites play in supporting regional networks and capacity-building efforts. The session included three plenary presentations on the capacity-building efforts of UN-SPIDER, the Institute for Environment and Human Security of the United Nations University and the Centre for Geoinformatics of the University of Salzburg, Austria. The session also included three working group sessions: "Platforms and portals as tools to support capacity-building efforts"; "Portals and

gateways as tools to support networks"; and "Portals and gateways: linking international and national efforts".

15. The third session, entitled "Bringing in the private sector", included technical presentations by EADS-Astrium, GeoEye, WhereGroup and Logica. The session was complemented by an open discussion during which participants were able to meet representatives of the private sector on a one-to-one basis.

16. The fourth session, entitled "Networks for knowledge: using web 2.0 for knowledge management and knowledge-sharing" also included plenary presentations by representatives of UN-SPIDER and DLR that focused on their social media efforts and by the Director of the International Research Center on "El Niño" (CIIFEN) on information dissemination using the CIIFEN portal. The working groups discussed three themes: "Strength of user-added value: shaping an interactive environment"; "Involving the community: motivating contributions and creating ownership"; and "Linking users, data, gateways and portals: finding common IT standards for future collaboration".

17. The programme of activities included an evaluation of the workshop, in which participants assessed the quality of the workshop in terms of whether the proposed objectives were met, the quality of the sessions, the balance between plenary and working group sessions, and its usefulness in general.

18. Additional details concerning the discussion sessions, plenary presentations, the evaluation and other relevant aspects of the workshop are available from the UN-SPIDER knowledge portal at www.un-spider.org/workshop-bonn-2012.

III. Outcomes and recommendations

19. The outcomes of the fifth UN-SPIDER international workshop, as well as the recommendations made at the workshop, are presented below.

A. Outcomes

20. The workshop allowed participants:

(a) To become aware of examples regarding the use of space-based applications and solutions targeting disaster risk management and emergency response;

(b) To become aware of knowledge management efforts undertaken under UN-SPIDER and identify ways and means of becoming involved in such efforts;

(c) To provide their perspectives and suggestions on the knowledge management efforts conducted under UN-SPIDER;

(d) To network with representatives of a variety of countries and regional and international institutions;

(e) To become aware of the efforts of and opportunities provided by the private sector in the context of space-based information.

21. The workshop allowed staff of the UN-SPIDER programme:

(a) To collect a variety of suggestions and recommendations from experts in the area of knowledge management, in particular on ways to improve the usability of the knowledge portal;

(b) To become aware of examples of the use of social media tools by space agencies and international organizations;

(c) To continue their assessment of the knowledge portal as a gateway to space-based information;

(d) To reinforce links with space agencies such as the European Space Agency and the Algerian Space Agency and with social media experts from DLR;

(e) To coordinate efforts with the network of UN-SPIDER regional support offices, in particular to facilitate the emergency response efforts related to the locust outbreak taking place in Algeria and Libya;

(f) To define more precisely follow-up activities addressing droughts and floods in Latin America triggered by the El Niño Southern Oscillation phenomenon, and to identify ways to support countries affected by such events;

(g) To explore avenues of cooperation with communities with regard to tsunami risk assessments;

(h) To explore avenues of cooperation with private companies, including GeoEye and EADS-Astrium, both of which are carrying out work in the area of emergency response;

(i) To strengthen the links between UN-SPIDER and companies in the private sector that devote their efforts to geoinformation technologies.

B. Recommendations

22. One of the outcomes of the various working group sessions that were conducted during the workshop was the formulation of the recommendations presented below.

23. In the context of networking, experts reiterated the importance of keeping in mind the role of portals in disseminating information on the latest scientific advances related to space-based applications and practical information for decision makers and those involved in disaster response throughout the world. It was recommended that a balance should be found between reporting scientific advances and providing essential information for disaster response, taking into account the different types of end users worldwide, such as experts from the space community and those involved in disaster response.

24. In the context of risk reduction and emergency response, experts recommended that the information available through UN-SPIDER should include content in other languages, such as French and Spanish, taking into account those countries where the programme has been more active. In addition, it was recommended that UN-SPIDER staff undertake further efforts in the area of risk management to balance ongoing efforts in the area of emergency response. In

addition, the UN-SPIDER knowledge portal should include easy-to-use tools and procedures regarding the generation and use of space-based information using archived imagery, a glossary and case studies by professionals from around the world and a group of mentors to provide technical advice in a virtual fashion to such professionals, in particular those from developing countries, when needed.

25. UN-SPIDER staff should make efforts to gather and integrate the requirements of end users as part of increasing both the visibility and the interactivity of the portal. Therefore, end users should be contacted and asked whether the data and other information available on the portal meet their needs.

26. In the context of capacity-building, it was recommended that the UN-SPIDER learning environment should be amended to include basic, intermediate and advanced-level training. In that way, training efforts would be better tailored to the needs of end users worldwide. In addition, UN-SPIDER staff should consider establishing a train-the-trainer programme as a way to enlarge the target audience of the programme.

27. In the context of the support provided by the portal to the networks operated by UN-SPIDER, including the network of regional support offices and the network of national focal points, it was recommended that the portal should serve as a discussion forum to provide a day-to-day communication platform to link members of those networks and to share knowledge on pre-processing raw data and other applications, as well as on lessons learned.

28. In the context of the portal as a tool to link international, regional and national efforts, it was recommended that the portal should serve as a link to other portals. In addition, it was recommended that UN-SPIDER staff should conduct a review of other portals and gateways in order to identify good practices.

29. In the context of involving the community in order to encourage contributions and create ownership on behalf of end users, it was recommended that end users should be encouraged to submit material for inclusion in the UN-SPIDER portal; that a network of scientific mentors who would be in charge of raising awareness of new developments and good practices observed in disaster situations should be created; and that institutions should be involved in the day-to-day content management of the portal.

C. Road map

30. Following the completion of the workshop, UN-SPIDER staff began drawing up a road map to enhance the role of the programme's efforts to promote the use of geospatial and space-based information as a way of contributing to the resilience of nations to disasters. The road map will include additions to the knowledge portal and other complementary activities to be carried out by the programme staff through the UN-SPIDER offices in Beijing, Bonn and Vienna, with the support of the network of regional support offices.

31. In addition, UN-SPIDER staff will make use, within the resource limitations of the programme, of the recommendations and suggestions made by experts with regard to the proposed learning environment and the more general topic of capacity-building.

IV. Conclusions

32. Since its establishment, the UN-SPIDER programme has involved the design and implementation of knowledge management efforts as a way of contributing to the achievement of its mission. Among the main pillars of these efforts is the UN-SPIDER knowledge portal, which serves as a gateway to space-based information that can support States in all regions in their disaster risk management and emergency response efforts.

33. The fifth United Nations UN-SPIDER international workshop allowed the programme staff:

   (a) To gather elements to develop a road map to strengthen the knowledge management efforts of the programme with regard to the use of geospatial and space-based information to enhance the resilience of nations to disasters;

   (b) To compile directions and priorities for action regarding the operation of the knowledge portal as a tool to enhance access to and use of space-based information to support all phases of the disaster management cycle, and as a tool to enhance the performance of the networks of regional support offices and national focal points;

   (c) To become aware of new applications such as geo-viewers, web-based mapping tools and other information technology applications and infrastructure, with particular emphasis on enhancing the use of space-based information in the areas of disaster risk management and emergency response;

   (d) To bring together information technology experts who could assist in the development of new applications for the UN-SPIDER knowledge portal;

   (e) To review innovative uses of e-learning environments to support capacity-building and institutional development.

34. Recognizing that disasters caused by natural hazards impact both developed and developing countries, but that it is the most vulnerable who suffer the most following such disasters, the outcomes from the workshop will allow UN-SPIDER staff to improve their knowledge management efforts so that they may assist national agencies and regional and international organizations that devote their efforts to disaster risk management and emergency response in order to enhance the resilience of nations to disasters, as proposed in the Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters (A/CONF.206/6 and Corr.1, chap. I, resolution 2).