United Nations International UN-SPIDER Workshop • 29 – 31 October 2007 • UN Campus Bonn, Germany

MEETING NOTES

I. INTRODUCTION AND BACKGROUND:

In its resolution 54/68 of 6 December 1999, the General Assembly of the United Nations endorsed the resolution entitled "The Space Millennium: Vienna Declaration on Space and Human Development", which had been adopted by the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE III), held in Vienna from 19 to 30 July 1999. UNISPACE III had formulated the Vienna Declaration which noted the benefits and applications of space technologies in addressing the challenges posed by natural and anthropogenic disasters.

In order to promote the use of space technology for disaster management and risk reduction in developing countries and in countries with economies in transition, the Office for Outer Space Affairs, within the framework of the United Nations Programme on Space Applications, organized five regional workshops on the use of space technology for disaster management between the year 2000 and 2006. An international workshop, held in Munich, Germany, from 18 to 22 October 2004, resulted in "The Munich Vision: a Global Strategy for Improved Risk Reduction and Disaster Management Using Space Technology" (A/AC.105/837). At the global level, participants recognized the importance of and urgent need for a coordination entity to act as a "one-stop shop" for knowledge- and information-sharing (best practices) and also as a platform for fostering alliances.

On 20 October 2004, the General Assembly adopted resolution 59/2, following its five-year review of the implementation of the recommendations of UNISPACE III, which included a proposal by the Committee on the Peaceful Uses of Outer Space for a study to be conducted on

the possibility of creating an international entity to provide for coordination and the means of optimizing the effectiveness of space-based services for use in disaster management.

The World Conference on Disaster Reduction, held in Kobe-Hyogo, Japan, from 18 to 22 January 2005, recognized the contribution of space technology to disaster reduction and emphasized the need to routinely incorporate space-based services into risk reduction support. The Hyogo Framework for Action 2005-2015: Building the Resilience of Nations and Communities to Disasters, specifically recognized the contribution of space technology to risk reduction and also recognized the need to promote the use, application and affordability of recent information-, communication- and space-based technologies and related services, as well as Earth observation, to support disaster risk reduction.

Subsequently the General Assembly, in its Resolution 61/110 of 14 December 2006, decided to establish the "United Nations Platform for Space-based Information for Disaster Management and Emergency Response" (UN-SPIDER) as a programme of the United Nations Office for Outer Space Affairs to be implemented under the Director of the Office. UN-SPIDER will 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.

The United Nations International UN-SPIDER Workshop: "Space-based Information and Solutions for Disaster Management and Emergency Response" was organized by the United Nations Office for Outer Space Affairs together with the German Aerospace Center (DLR) and with the support of the Federal Government of Germany. It was held in Bonn, Germany from 29 to 31 October 2007 at the Langer Eugen UN Campus and was the first in a series of international and regional UN-SPIDER workshops.

The objective of the workshop was to raise awareness within the user community of the benefits of using space-based information and solutions, to assess its needs and to contribute directly to specific activities of this new programme, mainly to activities of the UN-SPIDER Bonn office which was inaugurated during the first day of the workshop. In total, four working groups dealt with specific activities of the UN-SPIDER programme; e.g.: group three was designed to help identify the conceptual requirements for the establishment of the communication and information platform (the UN-SPIDER Knowledge Portal) to be developed by the UN-SPIDER office in Bonn. The workshop was conceived as a forum to bring together decision-makers and experts from the disaster management and space communities, key politicians, international scientific organizations, knowledge transfer and educational institutions, as well as internationally active private companies with the intention of sharing their best practices and to introduce their knowledge, products and technologies for disaster management and humanitarian and emergency response.

The present meeting notes were incorporated into a UN-SPIDER workshops report that is being prepared for submission to the Committee on the Peaceful Uses of Outer Space at its fifty-first session.

II. ATTENDANCE:

A total of 90 participants from the following 39 countries attended the Workshop: Algeria, Austria, Bangladesh, Barbados, Belgium, Brazil, Canada, China, Czech Republic, El Salvador, France, Germany, Guatemala, Haiti, Hungary, India, Iran (Islamic Republic of), Italy, Japan, Kenya, Mexico, Morocco, Netherlands, Nigeria, Pakistan, Panama, Romania, Russian Federation, Serbia, South Africa, Spain, Sudan, Switzerland, Thailand, Turkey, U.A.E Abu Dhabi, Ukraine, United Kingdom of Great Britain and Northern Ireland, United States of America.

The Workshop was also attended by representatives of the United Nations Office for Outer Space Affairs of the Secretariat, the Office for the Coordination of Humanitarian Affairs, the United Nations University, the Secretariat of the International Strategy for Disaster Reduction, UNESCO, United Nations Development Programme, the United Nations Institute for Training and Research, WHO, NATO, the European Space Agency, the Asian Disaster Preparedness Center, the Asian Disaster Reduction Center, the Caribbean Disaster Emergency Response Agency, CEPREDENAC, and CRASTE-LF.

Funds allocated by the United Nations, the Federal Government of Germany and DLR were used to defray the costs of the workshop including side-events and air travel and daily subsistence allowance of 11 participants and 2 representatives of the Office for Outer Space Affairs.

III. PLENARY PRESENTATIONS:

The presentation sessions provided participants with the opportunity to learn how space-based information could be used in disaster management and humanitarian relief work, with accounts of existing and planned projects highlighting the need for a coordinating entity at the global level. The presentation sessions were meant to stimulate the discussions within the working groups.

Details of the programme of the Workshop, the background materials and the presentations made are available on the website of the UN-SPIDER programme (http://www.unspider.org).

Monday, 29 October 2007

David Stevens / United Nations Office for Outer Space Affairs

United Nations Platform for Space-based Information for Disaster Management and Emergency Response – UN-SPIDER

David Stevens introduced the UN-SPIDER programme, starting with a flashback on 50 years of space exploration and highlighting space-based solutions for the full cycle of disaster management, by means of satellite communications, earth observing satellites and global navigation satellite systems. Following a short overview of how the programme was shaped he outlined the programme objectives, based on the central mission statement "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" (General Assembly A/RES/61/110). The activities planned within UN-SPIDER were presented, along with the structural and organisational cornerstones. Synergy potentials were identified, with emphasis on the International Charter on Space and Major Disasters, and GEOSS. The Workshop's working groups were characterized by their expected thematical contributions to the overall UN-SPIDER work plan.

Jörg Szarzynski / UN-SPIDER Bonn Office

Presentation of Objectives of the Working Groups and Organisational Matters

This presentation focussed on two issues: firstly to elaborate on the objectives of the different working groups of the Bonn workshop and secondly to explain organisational matters to the participants. Basis for the establishment of different working groups is the insight that there is increasing need of an Information Gateway to Space-based Information for Disaster Management Support. Against this background four different working groups were established with respect to the topics 1.) a Platform for Fostering Alliances - User Requirements with the intention of bringing together the disaster management and space communities and collecting information on the specific needs of end-users; 2.) a Platform for Fostering Alliances - Horizontal Coordination in order to outline a horizontal coordination framework as well as recommendations on how to maximise these opportunities to the benefit of developing countries; 3.) the Knowledge Portal to provide valuable technical and conceptual input that will contribute to the definition and development of the UN-SPIDER Knowledge Portal and finally 4.) Knowledge Management and Capacity Building in order to design a capacity building framework specific to disaster management activities, especially in developing countries

Janos J. Bogardi / UNU-EHS

Vulnerabilities to natural hazards: can we see them from space?

Starting with some satellite images showing direct effects of disastrous events (tsunami, drought, wildfire) the challenges of mapping vulnerability, i.e. a complex parameter, were outlined with regard to the application of remote sensing. The various dimensions of vulnerability (social, economic, environmental, institutional) were defined and their interdependencies visualized in the framework of a theoretical vulnerability concept. By a selection of global, regional and local maps, the spatial distribution of vulnerability in general and with respect to specific hazards was demonstrated. These examples also illustrated the respective contribution of remote sensing data, with emphasis on damage assessment, street network mapping, urban landuse and buildings classification, mapping of refugee camps, and crop yield assessment. Conclusively, the technical support of vulnerability assessment by space-based remote sensing was stated for infrastructural as well as economic and environmental vulnerability.

Tsehaie Woldai / ITC

Enhancing Ability of African Universities to Contribute towards Disaster Risk Reduction

The presentation addressed capacity building as a broadly advocated goal which nevertheless calls for dedicated and sustainable development. Lessons learned were summarized from 30 years of remote sensing application in Africa, to serve as "food for thought", especially for UN-SPIDER. The potential of universities and institutions of higher learning was highlighted as a critical contribution to attain capacity development, critical mass and sustainability. By means of statistical data, this potential was shown to be in marked contrast with the actual situation, characterized by obsolete curricula and facilities, non-critical human resources, duplication of efforts and inadequate enabling technology. Since 2005, a global basis for tackling these problems is provided by a joint UNU-ITC programme comprising two Schools, on Land Administration and on Disaster Geo-Information Management (DGIM). Within the framework of DGIM, the University Network for Disaster Risk Reduction in Africa (UNEDRA) was initiated in 2005. Its objectives and activities were outlined in detail, showing UNEDRA to be a vital African network run by Africans.

Tuesday, 30 October 2007

Guido Lemoine / EC-JRC-IPSC-SES-ISFEREA

Collaborative Geo-information Capturing To Support Emergency Response

The presentation introduced the EC-Joint Research Center's Support to External Security (SES) Unit which gives scientific and technology advice to the European Union's Commission but also cooperates with EU partners and UN organisations. The scope of the SES Unit's activities encompasses the whole disaster management cycle. Extent and detailedness of information provided by the web-based Global Disaster Alert and Coordination System were demonstrated by a series of screenshots. Actual service development is performed under the European GMES programme, focussing on an emergency response Fast Track Service. Corresponding requirements and IT challenges and solutions were outlined, e.g. the GEO-spatial repository for

Google Earth (GEORGE). Exemplary results of the emergency scenario simulation GNEX'07 were reported. With regard to UN-SPIDER, needs for information on services, expertise, interfaces, standards and quality were emphasized, along with the benefits of Open Source components for knowledge transfer and capacity building.

Tania Maria Sausen / GEODESASTRES-SUL - INPE-CRS

Space–based Information for Disaster Management and Mitigation in INPE – Brasil: Nucleus of Research and Application of Geotechnologies in Natural Disasters and Extreme Events

Mission and goals of the INPE Southern Regional Center for Space Research/Geodesastres-sul were outlined, covering a broad range from research and application up to capacity building and geo-technology dissemination, with the thematic focus on natural hazards. Disaster management and mitigation needs on the of South American continent and in particular in Brazil were substantiated by statistical data on the spatial distribution of natural disasters such as floods and severe storms, and future changes expected in the course of climate change. The Geodesastres-sul Data Base was described and its structure and content were illustrated by numerous screenshots and a wide range of exemplary products, covering hurricanes, drought, flooding, climate, vegetation, digital terrain models, and disaster statistics maps. Furthermore, educational material and training courses were presented. Operational systems for early warning in Brazil were introduced together with an outlook on their future perspectives and on the envisaged Brazilian Disasters Network and Portal.

Richard Munz / Ruhr Universität Bochum

Legends and realities in international humanitarian assistance

The contrasting boundary conditions, preferences and objectives of media and aid agencies were juxtaposed and compared, and their interdependencies were analysed. The fundraising yield of aid agencies is dependent on short term reports and pictures. For the media, the major disaster criteria are death-rate and spectacular pictures, whereas aid agencies focus on number and needs of survivors. This leads to underfunding of unspectacular disasters, and may result in ineffective overshoots in the funding of spectacular ones. These statements were substantiated by illustrative examples of media reports, and by detailed comparative figures on recent disasters.

Giovanni Rum / GEO Secretariat

GEO activities on Disaster Risk Reduction and GEO Web Portal

"Disasters" is one of the nine Societal Benefit Areas which have been defined as the targets of the Group on Earth Observation (GEO) activities. The overall objective of the dedicated activities in this area is reducing loss of life and property from natural and human-induced disasters, to be achieved by a multi-hazard, multi-risk approach focusing on improved provision of basic geo-data, information products, predictive models and decision support systems. Under "Disasters" the GEO Workplan 07-09 foresees 8 tasks oriented at observation technology or hazard issues, respectively. The Virtual Constellations concept as proposed by CEOS was explained as a core concept to ensure coordination of operational missions as well as optimized design of future missions. The central user interface of GEO is the GEO Web Portal which was presented in detail as to its structure and content.

Douglas Pattie / UN/ISDR

UN/ISDR International Early Warning Programme: The Framework for the Multi-Hazard Global Early Warning System

Starting with an overview on the international conferences and initiatives which formed the programmatic environment of the International Early Warning Programme, and with reference to results and recommendations of Early Warning Conferences II and III, the functions and goals of the ISDR Platform for the Promotion of Early Warning (PPEW) were outlined. Risk Knowledge, Monitoring and Warning Service, Dissemination and Communication, and Response Capability were identified as the 4 key elements of people-centred early warning systems. By means of a comprehensive listing of organisations, programmes and systems the worldwide distribution of competences and application potential with reference to the various types of hazards was shown. Benefits and added values of the International Early Warning Programme were contrasted to specific shortcomings of existing end-to-end systems, and the concluding remarks highlighted the key ingredients of people-centred distributed early warning systems.

Stefan Voigt (presenter) / Stefan Plattner, German Remote Sensing Data Center - German Aerospace Center

NaDiNe: The Helmholtz EOS Natural Disasters Networking Platform

Following an introductory overview on the Helmholtz Association of German Research Centers and its fields of research, the disaster management activities and projects under the EOS programme were briefly outlined, addressing issues of floods, storm tides, megacities, fires, volcanoes and, under generic aspects, development of crisis information systems. As a cross-cutting activity, NaDiNe is dedicated to bundling the scientific expertise, providing research results and products to users, and providing information to the public. A central element of the functional components of NaDiNe is a web-based information and communication platform which was presented in more detail by means of a series of screenshots and product examples, including news and background information, interactive maps, a comprehensive expertise data base, project data repositories, and advanced communication functions. The presentation was concluded with an outlook on the further development of web-based services and public participation.

Wednesday, 31 October 2007

Karl-Otto Zentel / DKKV

The German Committee for Disaster Reduction: Concepts and activities within the national and international frameworks

The DKKV was introduced as a non-governmental non-profit organisation founded in 2000 in the course of IDNDR follow-up. Its members are development and humanitarian aid NGO‘s, civil protection organisations, scientific institutions, media, insurance companies and governmental bodies. As the national platform for disaster reduction in Germany, DKKV provides a network for its members to be interlinked and to be informed about activities and developments at regional and international levels. Following this introduction, exemplary

projections of future trends in hazards and vulnerability were presented, leading to a recommendation of a cross-cutting approach by integration of disaster risk reduction, humanitarian assistance and development. In this context, DKKV is engaged as a member of the advisory group to the Early Warning Platform of IDSDR, the UNFCCC Working Group on Extreme Events and the Thematic Platform on Education for Risk Reduction. Strengthening the network of European National Platforms was advocated, and outstanding events like the EWC III and DKKV projects were highlighted.

Lorant Czaran (presenter), Suha Ulgen / UNGIWG, UN OCHA

Towards a United Nations Spatial Data Infrastructure: Cooperation with(in) UN for Access to and Use of Space-based Data

The United Nations Geographic Information Working Group (UNGIWG) was introduced and described by its structure, organisation and objectives. Co-chaired by OCHA and UNHCR, it constitutes a voluntary network of 23 UN specialised members, forming task groups on International Administrative Boundaries and Core Geo-database, Remote Sensing, Interoperable Services, GIS Map Production Guidelines, and Global Navigation Satellite Systems. The focus is on building a United Nations Spatial Data Infrastructure (UNSDI). The UNSDI concept was outlined in detail. The UN cooperation in the utilisation of space-based solutions was described, and selected user needs within OCHA were brought forward. In conclusion, data sharing and metadata were identified as important topics for UN-SPIDER, and a brokerage role of UN-SPIDER was welcomed as a contribution to the effective building of the UNSDI.

Thanwarat Anan / Geo-Informatics and Space Technology Development Agency, Thailand

ASIAES : ASEAN+3 Natural Hazard Management Information Network.
Asean+3 Satellite Image Archive for Environmental Study:
ASIAES Project Overview

Starting with a statement on the needs to improve transboundary coordination and cooperation for coping with natural hazards in Asia, the ASEAN+3 Natural Hazard Management Information Network was introduced which joins 13 Asian nations and is coordinated by Thailand. It is the framework of the ASIAES project which was presented in more detail. ASEAS provides a clearinghouse function, internet based services and updated information about natural hazards in ASEAN+3. Metadata are available on fire, flood, earthquake, drought, dust smoke and severe storm. ASEAS workflow procedures were described by means of detailed diagrams. ASEAS is related to Sentinel Asia and is currently joint by three agencies (JAXA, KARI, VNRSC). It is open to further space related agencies in the ASEAN+3 region and local organizations which provide information on natural disasters. The ASEAS contribution to GEOSS were outlined (task DI-06-09), and perspectives of future development addressed.

IV. WORKING GROUPS:

A. Working Group 1: Platform for Fostering Alliances (Activity 8): User Requirements (DI-06-09)

Coordinator: Robert Backhaus
Moderator: Andrew Eddy
Rapporteur: Michael Angermann
Time Keeper: Marc Kleemann

Background

UN-SPIDER by its nature has an inherent need to address user requirements. However, user needs are difficult to generalize. In particular, they depend on the users' experience and fluency with the technology and the position of the user in the overall information flow. They also vary widely as a function of who the user is and where the user is situated in a chain of information that runs from satellite data to integrated information systems addressing all aspects of risk management. Similarly, there are great disparities of capacity, even amongst developing countries. While some countries were cited as examples and local nodes of capacity strength, such as Nigeria or South Africa, others are less experienced in regularly employing earth observation (EO) data and have little existing capacity whether this is in terms of infrastructure or trained human resources. EO data, while often available, are not integrated in decision making systems, even in developed countries. Political decision makers not familiar with the possibilities offered by EO are reluctant to use this data.

General recommendations

There was agreement that, in order to fully utilize the potential of earth observation data for developing countries decision makers have to become aware of the benefits. It was recommended that UN-SPIDER should focus on the technical ("primary") user, who is more likely to actively go for information provided by UN-SPIDER than non-technical decision makers ("secondary users"). This way, UN-SPIDER can best support a "bottom-up" dissemination of information, growing acceptance and reliance.

Numerous issues were raised, including data access (free vs. constrained), data pricing (cost vs. price), and data systems (data alone vs. services that integrate data into operational systems. It was agreed that most end users wanted services, not data – only the scientific or large-scale operational users wanted the data itself. Transforming data into information in a service context resolves some intellectual property issues, however the form of the service provider poses many questions (public vs. private, not-for-profit or company?).

Both data and value-added services are essential for the successful application of earth observation and that UN-SPIDER should therefore provide information on both. UN-SPIDER should point to resources and providers of services, whereas storing and providing data and processing should not be performed by UN-SPIDER itself. The role of UN-SPIDER was affirmed as an information clearinghouse that provides strong clear links to service, information and data providers, whether free or for profit. Thus, UN-SPIDER will provide meta-information, i.e. information on data/information products applicable in support of disaster management and emergency response, regardless what type of disaster and what phase of disaster management.

Specific requirements were brought forward regarding coverage and sufficient resolution for small island states. Under thematic aspects, the following issues were highlighted:

- Situational awareness and status of critical infrastructure during/after a disaster event
- Detection/observation of populations movement and migration behaviour during crises
- Classification of urban structures
- Indices for vegetation, humidity, soil moisture.

It was pointed out clearly that UN-SPIDER is strongly needed to organize the landscape of data and service providers' efforts and offerings in order to avoid duplication of work and help to best utilize already funded work. Furthermore, participants agreed that UN-SPIDER should not only facilitate access to technical resources but should play a role in connecting the community of persons involved in utilizing space-based information for disaster management and emergency response on a personal level. As a consequence, UN-SPIDER's future is seen not only as a knowledge portal but also as a communication platform. UN-SPIDER should play a strong role in promoting the use of space-based information and should therefore actively communicate success stories and best-practice examples. Additionally, UN-SPIDER should raise awareness of existing gaps and point political decision makers at approaches to close these gaps. By these recommendations, the threefold mission objective of UN-SPIDER, viz. 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, was unequivocally supported.

Recommendations in detail

Specific aspects of the discussion centred on the GEO Task "Use of Satellites for Risk Management" (DI-06-09), the International Charter Space and Major Disasters, and data access.

GEO Task "Use of Satellites for Risk Management" (DI-06-09)

The marked user-orientation of UN-SPIDER is in line with the ongoing GEO task Use of Satellites for Risk Management (DI-06-09) which is co-led by UNOOSA. This task will also include specific activities concerning constellation requirements definition and performance assessment, with the full involvement of users, through participation of "champions" from the relevant Community of Practice. The methodical approach of the DI-06-09 User Group was presented by Andrew Eddy and discussed within the working group. The participants agreed with the approach to collect user requirements, with minor changes. In particular, use of ISDR terminology for disaster phases in the format for user requirements collection was recommended (Mitigation, Warning, Response, Recovery and Assessment).

As a basis of regional focusing (Where do we look?) global risk analysis maps for natural disasters produced by the World Bank were presented (example: flooding). The World Bank was recognized as a valid source for vulnerability statistics, though in some cases, it was felt that regional approaches may be necessary to ensure balance of efforts across all UN regions.

International Charter Space and Major Disasters

The International Charter was recognized as an excellent source of satellite data for disaster response. The Charter has a clearly defined, but limited mission, so several problems were addressed in the context of the full disaster management cycle. Being limited to the support of response activities, the Charter does not cover mitigation, warning and recovery. There is no activation of the Charter before the disaster happens. As a response oriented ad hoc system, the

Charter process is not supported by dedicated resources. More needs to be done to facilitate access, particularly for non-Charter members and for scientific users.

With regard to the overall topic of the Working Group it was pointed out that the user requirement discussion will greatly benefit from input from Charter activities such as reports and analyses.

Data Access

Several more technical issues regarding data access have been raised but not solved that have relevance for the development of the UN-SPIDER concept. The functionality of facilitating access to data and services can be achieved by either pointing to or front-ending these data and services. No preference to any one option was formulated. There are different opinions on the access policies ("open" or "closed" user group) that UN-SPIDER should adopt. It was pointed out that these positions are not necessarily contradictory – some data may be freely available to all, while other data may be more restricted. Recognizing that not all data will be available to everyone free of charge is an important step. As with GEO, all GEO data may be open and accessible, but there will be some data outside of GEO.

Perspectives

It is the common understanding of all participants that the discussion on user requirements is fruitful and valuable and should be extended beyond the initial workshop. The principal forum for extending these discussions was identified as the GEO Task DI-06-09. In the context of this task, global requirements for risk management will be developed and architectures to address them will be proposed to CEOS. UN-SPIDER would also remain active in a co-leadership role in this GEO Task, seeking input from workshop participants. Another workshop in a year's time may enable a strong follow-up by user organizations and focus attention on the results achieved. Thus, UN-SPIDER, GEO and CEOS will likewise benefit from this process.

Concrete follow-up actions were agreed on: Athena Global and the UN-SPIDER Team will fill in user requirements tables with representative information, based on the Workshop results and former analysis. These user requirements tables will be distributed to the participants for validating the content on a representative basis. Likewise, the draft report on User Requirements (DI-06-09) will be circulated for comment, including description of types of users, types of services, value-chain from data to services, and list of issues.

B. Working Group 2: Platform for Fostering Alliances (Activity 8): Horizontal Coordination

Coordinator : Stefan Voigt
Moderator : Francesco Pisano
Rapporteur : Jean-Luc Bessis
Timekeeper : Alider Cragnolini

Background

Within the framework of Activity 8, UN-SPIDER will ensure the harmonisation of the various initiatives that help developing countries access and use space-based technologies for disaster management and risk reduction (horizontal coordination). It will develop guidelines that will

assist National Focal Points to ensure proper coordination at the national level of all activities and initiatives and 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.

UN-SPIDER will work with and contribute to existing and future international and regional initiatives, contributing directly to their implementation by enhancing coordination among all United Nations initiatives involving humanitarian and emergency response, as well as risk reduction and disaster management.

In order to ensure this harmonisation a horizontal coordination framework should be defined and implemented. Relevant international and regional initiatives that could work together and coordinate their activities should be identified. Representatives of those initiatives should be invited to participate in an annual international workshop.

The discussion of this working group was to be on outlining a horizontal coordination framework as well as recommendations on how to maximise these opportunities to the benefit of developing countries, in line with Resolution 61/110 of 14 December 2006 of the General Assembly: Activity 8 – "Platform for fostering alliances":

Activities for 2008:

- Finalize and disseminate a set of guidelines for use by national focal points to improve vertical coordination
- Ensure UN-SPIDER participation in relevant forums and coordination with relevant programmes
- Finalize and implement a horizontal coordination framework; identify relevant international and regional organizations capable of working together to ensure the coordination of activities; and invite those organizations to participate in the UN-SPIDER international workshop
- Finalize and implement a coordination framework with all United Nations initiatives; and take advantage of the annual Charter coordination meeting, which brings together entities from the entire United Nations system, to promote the framework
- Finalize a proposal for a coordination framework with European Union and other relevant international entities; and promote a meeting at which representatives of United Nations agencies and European Union and other relevant international initiatives may discuss the proposal
- Jointly lead GEOSS task DI-06-09 on the use of satellites for risk management

Activities for 2009:

- Revise, as needed, and then disseminate a set of guidelines for use by national focal points to improve vertical coordination
- Ensure UN-SPIDER participation in relevant forums and coordination with relevant programmes
- Revise, as needed, and then implement a horizontal coordination framework; and invite relevant international and regional entities to participate in the UN-SPIDER international workshop
- Revise, as needed, and then implement a coordination framework with all United Nations initiatives; and take advantage of the annual Charter coordination meeting, which brings together entities from the entire United Nations system, to promote the framework

- Promote a meeting of representatives of United Nations agencies and European Union and other relevant international initiatives to ensure the continuous coordination of activities
- Jointly lead GEOSS task DI-06-09 on the use of satellites for risk management

Brief summary of WG2 agenda, course, and results

The Working Group's recommendations in general can be summarized as follows:

- 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.
- Contribute to the coordination of efforts by ensuring the harmonization of initiatives that help developing countries access and use space-based technologies for disaster management and risk reduction (horizontal coordination). UN-SPIDER will work with and contribute to existing and future international and regional initiatives, contributing directly to their implementation by enhancing coordination among all United Nations initiatives involving humanitarian and emergency response, as well as risk reduction and disaster management.
- In order to ensure this harmonisation a horizontal coordination framework should be defined and implemented. Relevant international and regional initiatives that could work together and coordinate their activities should be identified. Representatives of those initiatives should be invited to participate in an annual international workshop.
- The discussion of this working group will be on outlining a horizontal coordination framework as well as recommendations on how to maximise these opportunities to the benefit of developing countries.

Recommendations in detail

Specific recommendations focused on issues of horizontal coordination, internal coordination, coordination with major initiatives, and fostering of thematic alliances, and are summarized in the following:

Horizontal Coordination

- There was consensus about a strong need for coordination and for a proactive role
- Coordination tasks to be completed by UN-SPIDER are complex and multidimensional
- The following main field of action for coordination were identified:
    - Internal Coordination
        - National Focal Points (and regional if existent)
        - Main Stakeholders (Data Suppliers, Users, etc.)
        - UN-SPIDER Offices
    - Coordination and interaction with major initiatives
        - Identification of UN-SPIDER focal points for the main initiatives
        - Stimulation of multilateral dialog and information exchange
        - International, Regional, National initiatives

- o Fostering of thematic alliances
  - Bringing together relevant actors around specific events, topics, etc.
  - This shall link all relevant elements like: Data suppliers (space/non space), user needs, policy sector, stakeholders, R&D and academia, etc.

Internal Coordination

- A clear definition of UN-SPIDER coordination tasks, objectives, competences and responsibilities is recommended to ensure a common level of expectations
- UN-SPIDER National and Regional Focal Points should be identified according to a common profile and the focal points should ensure good coordination with other national/regional stakeholders, networks and actors
- It should be ensured that individual UN-SPIDER focal points are well connected
- UN-SPIDER should make use of the existing national and regional coordination mechanisms
- Smooth operating policy and procedures should be established among the different UN-SPIDER offices
- Communication should use simple and clear language and should avoid any jargon
- Web based communication like for a forum, newsletters, etc. are encouraged
- It is recommended to implement:
  - A yearly UN-SPIDER Plenary, to shape work plan and report progress
  - Regular Newsletters
  - Frequent telephone - or videoconferences among the offices
  - Rotating chair among the offices
  - Definition of day by day coordination routine / configuration management

Coordination with major initiatives

- A clear statement and objective on how to approach the major initiatives should be established
- A clear definition of UN-SPIDER coordination tasks, objectives should be established
- A general and major annual conference of stakeholders on "space and disaster mitigation" could help to present and link initiatives, provide a market place and address problem orientated topics in workshops and share best practices
- Regional workshops are encouraged to be held
- It is recommended to establish a global map of initiatives through national and regional focal points and keep this map updated to the extent possible
- A sound understanding of the objectives of the different initiatives is vital and the organisational and thematic communalities as well as gaps should be identified
- UN-SPIDER may serve in the development and acceptance of standards
- National focal points should be used as active link to national and regional initiatives, stakeholders and programmes
- UN-SPIDER invites to dialog, it should be beneficial and attractive to its partners, it does not impose or duplicate
- It is recommended to set up a promotion plan to increase outreach and visibility
- User forum and website shall be used to establish links and post news and updates

Recommendations on Fostering Thematic Alliances

- Specific priority areas and relevant thematic field for alliances should be identified, respective focal points should be established
- The UN-SPIDER web portal shall support:
  - user needs database
  - metadata

- call for alliances
- search for partners
- web catalogue on suppliers and users

- Capacity building activities and co-located training sessions should be encouraged
- User communities should be attracted to participate actively in UN-SPIDER
- Links between space/spatial data suppliers and users shall be identified
- Bridges between various communities shall be established: space, disaster, international organisations, private sector, different cultures and working experiences, etc.

Sample of major initiatives with which UN-SPIDER may link up

International User Community	**Regional User Community**
GEOSS	GMES
ISDR / PPEW	CDERA
IGOSS, GCOS, CEOS, GEO	CEPREDENAC
WMO, WHO	CAPRADE
UNDP	ADRC
UNHCR	OAS
IFRC, ICRC	SOPAC
WFP	SINAPRED
UN-OCHA, UNDAC	
International Space Community	**Regional Space Community**
International Charter	Sentinel Asia
	SERVIR
	RCMRD

C. Working Group 3: Knowledge Portal (Activity 2)

Coordinator : Jörg Szarzynski
Moderator : Nate Smith
Rapporteur : Luc St-Pierre
Timekeeper : Saman Jalayerian

The Summary of a presentation made by Jörg Szarzynski to the Working Group can be found in Annex 2.

Background

The goal of the working group was to provide valuable technical and conceptual input that will contribute to the definition and development of a Knowledge Portal (KP). This will enable UN-SPIDER to develop a state-of-the-art demonstrator of the Knowledge Portal in 2008.

In its function as a "gateway" UN-SPIDER will systematically compile information to be included in the KP and will also disseminate relevant information through e-newsletters, RSS-type news feeds, discussion lists, and other appropriate means. The KP should also support the awareness raising activities and include an e-learning/training component for capacity building.

In 2008 a hotline is intended to receive queries/requests for specific information beyond what will be made available through the Knowledge Portal.

The following UN-SPIDER reports were distributed as background material before the workshop:

1.) A/AC.105/893: Report of the Secretary-General: United Nations Platform for Space-based Information for Disaster Management and Emergency Response
(Summary Report which presents a background on the new programme and helps to understand what the programme will achieve and how)

2.) A/AC.105/894: Report of the Secretariat: United Nations Platform for Space-based Information for Disaster Management and Emergency Response: programme for the period 2007-2009 and workplan for the biennium 2008-2009
(Programme for 2007-2009 and in more detail the Plan of Work for 2008-2009).

Brief summary of WG3 agenda, course, and results

- During the UN-SPIDER workshop in Bonn from 29th to 31st October in Working Group 3 (WG3) altogether 19 participants discussed the "Knowledge Portal" (KP), a central issue of the new programme.
- The participants agreed upon utilizing Meta-Plan as an adaptable plan-based dialog model for the collection of first ideas concerning the design and functions of the web portal. All contributions were collected and afterwards clustered into specific overarching topics.
- The meta-plan application was followed by a presentation from Jörg Szarzynski illustrating the so-far existing framework for the KP (cf. Appendix).
- A critical point in the beginning of the discussion was the definition of the user community. Since this aspect was a major topic of WG1 – User Requirements – further steps will build upon the results from group 1.
- Using a customer profiling approach to identify common and/or unique traits of the potential user community WG3 concluded that the UN-SPIDER Knowledge Portal should provide an adequate forum for sophisticated visitors expecting direct access to information as well as inexperienced customers/visitors favouring more guidance to find the desired information. Regarding the latter the development of a Decision Support System (DSS) should be considered.

Recommendations in detail

- As a fundamental prerequisite of the Knowledge Portal, it was recommended to perform an exhaustive user **needs assessment** in coordination with WG1, taking into account,
  - Users profiles,
  - Users groups,
  - Use cases.

  Maintaining a survey mechanism for **permanent user needs assessment** should be ensured.

- As a first step, a **mock up** of the Portal graphic interface should be designed for sake of user feedback.

- Develop in consultation a **governance** structure
  - Roles and responsibilities of managers, data/services providers and user groups

- Further the definition of **core functions and main components** (A/AC.105/894)

- WG3 is to become an **open-ended** UN-SPIDER working group. A conceptual design of the Knowledge Portal is to be presented to the Science and Technology Sub-Committee of COPUOS in Feb. 2008.

- Cooperation and partnerships should be supported by:
  - **Inventory** of existing platforms, initiatives, technological developments and projects
  - Establishing/maintaining **contacts** (cross link) with existing/developing initiatives
  - **Sharing** of, and common use of technical parameters, standards, protocols, etc.

Core components of the Knowledge Portal

The following core components of the Knowledge Portal were identified:

- Core Functions
  - Search facility (thematic and regional)
  - Where to go for operational services
  - Dynamic user guide on appropriate sources of data for specific types of disasters
  - Metadata harvesting / value added links
  - On-line training

- Content
  - Web-GIS interface
  - Provision and promotion of existing standards
  - Best practices and success stories
  - "Customized" search results (e.g. by type of disasters, geography, sensor, temporal)
  - Technology and application updates
  - Databases on contacts (thematic and region based)
  - Access to Archives (imagery, documents)
  - FAQ

Vision and Governance of the Knowledge Portal

- Principles
  - Scalable and modular
  - Simplicity (**K I S S** - Keep it smart and simple)
  - Cost efficient
  - Service oriented rather than data oriented
  - Interface between communities
  - Fostering regional coordination
  - Knowledge portal (no operational services)
  - Able to link and integrate information

- Governance
  - Scope/TOR
  - Data policy and distribution rights
  - User driven requirements

- Access levels (if any)
- Continuance of WG3

D. Working Group 4: Knowledge Management (Activity 7) and Capacity Building (Activity 11) (CB-07-02)

Coordinator : Georg Magerl
Moderator : Tania Sausen
Rapporteur : Lubna Rafiq
Timekeeper : Stefanie Dannenmann

Background

Capacity-building and the strengthening of institutional arrangements at all levels are the key to increasing the ability of organizations and individuals to effectively use space-based services for disaster preparedness, response and recovery. According to the UN-SPIDER workplan for the biennium 2008 to 2009, those activities will include compiling information relevant to capacity-building opportunities and the facilitation of capacity-building also among practitioners and end-users. Activity 11 will contribute to the development of a proposed curriculum, working with the regional centres for space science and technology education, affiliated to the United Nations, and other national and regional centres of excellence to train end-users and strengthen national institutions. It will also provide input to and closely coordinate with activities being undertaken in GEOSS (Task CB-07-02).

In order to foster the use of space-based information within the emergency response and disaster management communities, especially in developing countries, UN-SPIDER will develop a capacity building framework specific to disaster management activities. The framework should, amongst others, include the development of an e-learning environment, of a database of training opportunities and of a curricula for the use of space-based solutions for disaster management and emergency response.

Activity 7 consists in developing a knowledge management and transfer framework and implement specific activities that will contribute to the transfer of knowledge (case studies, best practices, definition of user requirements), involving the participants of the established network of practice in the compilation of a knowledge base.

The working group dealt with two different but strongly related tasks of UN-SPIDER. Having both a programme for the period 2007-2009 and a workplan for the biennium 2008-2009, the activities and sub activities of the programme are already well defined. The task of working group 4 was not to start from scratch but to brainstorm and reflect on the activities defined in the workplan and to discuss how the UN-SPIDER capacity building framework has to be designed in order to accomplish its targets.

In order to avoid discussions on subjects that are already in the workplan and therefore decided by the General Assembly, an outline was distributed to the working group and in which six questions were formulated as the basis for deliberations.

Findings and recommendations

First of all the concepts of Capacity Building and Knowledge Management and their relation with each other was discussed. Whereas the latter mostly deals with the identification, acquisition and transfer of information, capacity building is about different methods of bringing the information to the attention of the targeted user groups. The two activities touch where collected and transferable information is given on to an interested and specifically targeted audience and where the central question is that of how a certain type of information can best be transferred to a specific user group. An e-learning platform will be useful in targeting a relatively educated audience that has internet access, whereas a hands on training approach might prove more useful for disaster-prone communities in developing counties. Duration of trainings is also an important issue.

This leads to the question of who the stakeholders and targets of capacity building should be. The group identified stakeholders as being those who coordinate and in some cases provide access to the information and tools. They will range from international down to the local community organisations. The targets or users are those who need the knowledge and the information. They will mostly be the local communities but also high-level decision makers and disaster management and emergency response organisations at all levels.

Once the concepts of knowledge management, stakeholders and targets are clearly defined, they can be used to reflect upon the elements that should be included in the UN-SPIDER capacity building framework. The working group came up with a non-exhaustive list of important elements: capacity building at local, national and regional level; the inclusion of individual national policies; a proper educational and training material and a proper e-learning tool; and a good communication strategy. A successful capacity building framework will also have to take into account a series of other parameters such as environmental policies, institutional development and economical factors.

The working group then discussed the topics to be included in curricula for the use of space-based solutions for disaster management and emergency response. The working group recognised the need to have three different curricula for distinct audiences. The first group would comprise decision makers, politicians and the media amongst others. A curricula for this group would focus on awareness raising about space information, applications and solutions. The second group would be the technical users, a curricula would have to include: basics of space technology (earth observation, geodesy, satellite communication and meteorology); GIS; interpretation/visualization of spatial data; data availability; applications to local communities/local examples; and evacuation planning. The third and last group would be the people at the local level and they would have to be informed on how space-based solutions can increase their safety.

In order to target as many users as possible, a database of training opportunities should be made available to the public. Information about the database and about new opportunities must be sent out regularly via a newsletter. UN-SPIDER should have an online form where training institutions or UN-SPIDER National Focal Points can input information about new activities. The form should ask for: course title, content, objective(s), target group(s), contact person and language. The information from the archive should be easily accessible from anywhere in the world and a clearly visible button on the UN-SPIDER website should lead to the database.

Finally, the working group discussed the realization of short- and long-term training courses for 2008-2009. Besides the need for an e-learning course, participants agreed on the need for a global network of institutions that offer relevant training. For advanced training courses lasting 2-3 weeks the UN-affiliated Regional Centres for Space Science and Technology and the ITC would be appropriate.

For short courses the following possibilities came up (not exhaustive):

- Pakistan for South Asia
- China for Eastern Asia
- Emirates, Jordan and/or the Iranian Space Agency for the Middle East
- University of Novi Sad for Eastern Europe
- Bonn or Salzburg for Western Europe
- Australia

V. FINAL REMARKS:

Besides the very focused and instructive plenary presentations, participants discussed key elements of UN-SPIDER in four working groups. The recommendations of each group are listed in the corresponding sections of this document and the final remarks of the UN-SPIDER Bonn workshop will therefore be kept general and provide an outlook to the year 2008.

The discussions held during the workshop are part of an ongoing exercise that will also accompany the work of UN-SPIDER in 2008. During the course of the workshop participants managed to develop a sense of ownership of the programme and the wish to continue contributing to its success could be sensed strongly. The very nature of UN-SPIDER as a coordinating entity and the way it is set up depends on a broad support from both the space and disaster management communities. It will therefore be one of the core tasks of the programme staff to create an understanding that UN-SPIDER belongs to the people, initiatives and organisations that contribute to and use the programme.

The outcome of the Bonn Workshop gave valuable orientation and guidance on the further implementation of UN-SPIDER, in terms of coordinative and cooperative activities, as well as the development of technical issues such as the Knowledge Portal.

Every UN-SPIDER activity that was discussed during the Bonn workshop will start being implemented during the year 2008. The recommendations made in the working groups will be taken into account and participants will be able to see their ideas reflected in the work of the programme. In 2008 up to 5 international and regional workshops or expert meetings are being planned and one of them will again be held in Bonn in October to take stock and to further guide UN-SPIDER on its way of ensuring that the merits of the whole range of space-based solutions for the whole disaster management cycle are not only being recognised but also fully integrated into national policies and programmes.

ANNEX 1: WORKING GROUP ATTENDANCE

Working Group 1	
Michael Angermann (Rapporteur)	DLR
Robert Backhaus (Coordinator)	DLR
Andrew Eddy (Moderator)	Athena Global
Marc Kleemann (Timekeeper)	Logica CMG
Patricia Alarcón	UMSNH
Nicole Alleyne	CDERA
Suzanne Baltay	Rapid Eye AG
Ralf Busskamp	BfG (D-GEO)
Lorant Czaran	UN-OCHA
S.H.M. Fakhruddin	ADPC
Monika Gaehler	DLR
Vladimir Gershenzon	SCANEX
Mohsen Ghafory-Ashtiany	IIEES, IASPEI
Ahmad Shaba Halilu	NEMA
Nicolas Heyer	Rapid Eye Inc.
David Hodgson	DMCII
Franz Jaskolla	Infoterra GmbH
Kerem Kuterdem	GDDA
Richard Munz	Univ. Bochum
Naceur Omrane	INCT
Serge Plattard	UNOV
Roland Pleger	DLR
Moeun Rithy	ISDR
Dusan Sakulski	UNU-CUSA
Juan Carlos Villagran	UNU-EHS

Working Group 2	
Stefan VOIGT	ZKI (DLR) Germany
Francesco PISANO	UNOSAT
Alider CRAGNOLINI	INTA, Spain
Bernd M. SCHNEIDER	WADEM-Europe, Germany
Günter STRUNZ	DLR, Germany
Ian KING	UNDP, Barbados
Jan ULRICH	EC, GMES Bureau, Brussels
Kenpei KOJIKA	ADRC, Japan
Khalfan AL-NOAIMY	Police GHQ, Abu Dhabi, UAE
Mario Giovanni MOLINA MASFERRER	SNET, EL Salvador
Michael ROSE	BNSC, UK
Nikolay KHABAROV	IIASA
Norman KERLE	ITC, Netherlands
Takayuki NAKAMURA	JAXA, Japan
Walter WINTZER	CEPREDENAC
Jean-Luc BESSIS	CNES (retired), France
Jean Marc RACINE	OAS

Working Group 3	
Jörg SZARZYNSKI	UN-SPIDER, Bonn
Antonio ROGMANN	ZEF, Bonn
Bekir Murat TEKIN	GDDA, Turkey
Chuanrong LI	AOE, China
Giovanni RUM	GEO Secretariat
Guido LEMOINE	EC/JRC, Italy
Holger SDUNNUS	etamax space GmbH, Germany
Luc ST PIERRE	UNHCR, Geneva
Marcel ENDEJAN	GWSP, Germany
Nate SMITH	USAID, USA
Oleg PINSKYY	EADRCC, NATO, Belgium
Rogerio MOBILIA	REDHUM, UN OCHA, Panama
Saman JALAYERIAN	ISA, I. R. Iran
Thanwarat ANAN	GISTA, Thailand
Torsten Riedlinger	DLR, Germany
Milorad Miloradov	Serbia
Jürgen NOLTE	Logica CMG, Germany
Martin HELLMAN	DLR, Germany
Sandra AMLANG	ISDR-PPEW, Germany

Working Group 4	
Georg MAGERL (Coordinator)	UN-SPIDER
Tania Maria SAUSEN (Moderator)	INPE, Brazil
Lubna RAFIQ (Rapporteur)	SUPARCO, Pakistan
Stefanie DANNENMANN (Timekeeper)	UNISDR/PPEW, Germany
Khalfan AL-NOAIMY	Police GHQ, Abu Dhabi, UAE
Yousif AL YAH MADI	Police GHQ, Abu Dhabi, UAE
Sergio CAMACHO	CRECTEALC, Mexico
Algis KUCINSKAS	Geoinformatics Lab, SDSC, France
Jonathan LASSA	ZEF, Bonn
Joseph Otieno MALO	NAS, Kenya
Mirjana MILORADOV	University of Novi Sad, Serbia
Michael MUNDT	ESRI, Germany
Fabrice RENAUD	UNU-EHS, Germany
Irma VELAZQUEZ	WHO, Switzerland
Tsehaie WOLDAI	ITC, Netherlands
Ismail Adam ZAIN	RSA, Sudan

ANNEX 2: Presentation to WG 3

"**UN-SPIDER: A Web Portal for Information, Communication, and Process Support**"
by Jörg Szarzynski

A.) Objective & general requirements of the UN SPIDER web portal:

Main objective of the UN-SPIDER web portal is to take full advantage of up-to date web technology in order to support the UN-SPIDER network in all its operational domains, which are:

- Provision of information to all participating and interested parties
- Fostering of alliances and establishment of communities of practice
- Outreach activities and awareness raising
- Implementation of projects and activities
- Capacity building

The web portal must therefore provide services and tools for:

1. **Dissemination of information** (e.g. knowledge base, news pages)
2. **Communication** (e.g. discussion boards, 24/7 hotline)
3. **Process support** (e.g. tools for project management, contact database)

B.) UN-SPIDER Web Portal: Technical Features

1.) UN-SPIDER Web Portal: Information Dissemination

Knowledge base: contains information about:

- providers and users of space related disaster information
- regional and international networks, collaborations and initiatives
- projects and activities (disaster management, capacity building, outreach etc.)
- available sources for data, case studies, best practices, etc.

Presentation of content:

- Wiki system: web pages containing text, tables, links, and graphics
- cross-related information is interlinked
- spatial information can be presented by interactive maps (webGIS)

Data access:

- full text search or browsing the content tree
- search forms using keywords and multiple categories
- spatial search by interactive map (webGIS)
- content is manageable by multiple editors (CMS)
- online help for search functions is provided

Further tools for information dissemination:

News pages:

- continuous information at the main page of the portal, reporting about current or upcoming events and activities (e.g. new partnerships, initiatives, projects, workshops, outreach activities)
- Information is classified by multiple categories to allow for filtered views (e.g. type of information, type of natural hazard, region…)

- Contents can be managed by multiple editors (CMS)

RSS feeds:

- allows for the use of newsreader software or dynamic browser bookmarks to update users actively with information about ongoing activities. Automatically generated from news pages.

E-Newsletters:

- compiled information about UN-SPIDER activities issued periodically by e-mail. Subscription is possible via online form.

2.) UN-SPIDER Web Portal: Communication

Discussion boards:

- allow for asynchronous and multilateral discussions between users and providers of data and information, and UN-SPIDER staff
- boards for different topics (data access, proposed projects, etc.)
- moderated by UN-SPIDER staff

24/7 telephone hotline (depending on human resources):

- portal provides contact information and terms of use for hotline
- database for follow-up tracking operated by UN-SPIDER staff

Support request form:

- online form, allows for user queries via the web portal

UN-SPIDER board:

- internal board, supports UN-SPIDER project management

3.) UN-SPIDER Web Portal: Process Support

Project management:

- online support tool for planning and monitoring of projects and activities initiated by UN-SPIDER
- provides project calendars and resource schedules

Contact database:

- holds contact data of internal and external persons
- provides follow-up tracking for user support

Event calendar:

- holds information about upcoming events (conferences, meetings, workshops, outreach activities, etc.)

Document management system:

- supports multilateral access to and work on internal and public documents
- documents can be referenced from articles in knowledge base

can manage different versions of documents (versioning)