



UNITED NATIONS

Fifth United Nations  
International UN-SPIDER Bonn  
Workshop  
'Strengthening Global Synergies  
through Knowledge  
Management, Portals, and  
Networks'  
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Workshop Report



UNITED NATIONS OFFICE FOR OUTER SPACE AFFAIRS, UNOOSA

*This document has not been formally edited*

The United Nations Office for Outer Space Affairs (UNOOSA) implements the decisions of the General Assembly and of the Committee on the Peaceful Uses of Outer Space and its two Subcommittees, the Scientific and Technical Subcommittee and the Legal Subcommittee. The Office is responsible for promoting international cooperation in the peaceful uses of outer space, and assisting developing countries in using space science and technology. In 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 - UN-SPIDER" as a new United Nations programme to be implemented by UNOOSA. UN-SPIDER is the first programme of its kind to focus on the need to ensure access to and use of space-based solutions during all phases of the disaster management cycle, including the risk reduction phase which will significantly contribute to the reduction in the loss of lives and property.

# Fifth United Nations International UN-SPIDER Bonn Workshop 'Strengthening Global Synergies Through Knowledge Management, Portals, and Networks'

Organized by the  
**United Nations Office for Outer Space Affairs**

Together with the  
**German Space Agency (DLR)**

With the support of  
**Secure World Foundation**

And in cooperation with the  
**Federal Ministry of Economics and Technology of Germany**  
And the  
**City of Bonn**

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# I. Background

From 24 to 26 April 2012, UN-SPIDER and the German Aerospace Center (DLR) conducted the Fifth United Nations International UN-SPIDER Bonn Workshop on Disaster Management and Space Technology, focusing on the topic of *“Strengthening global synergies through knowledge management, portals, and networks”*. The workshop was held at the premises of the United Nations in Bonn, Germany, and was supported by the Federal Ministry of Economics and Technology of Germany, Secure World Foundation and the City of Bonn.

It gathered 45 decision-makers and experts for 14 countries representing 28 national, regional and international organizations, representing the space community, the disaster-risk management and the emergency response communities, knowledge transfer and academic institutions, as well as internationally active private companies.

The workshop covered the following topics:

- Knowledge management in the context of space-based information as a way to enhance the resilience of nations through the use of this type of information;
- The role of portals and gateways as platforms to access space-based data and information to support all phases of the disaster cycle;
- Synergies among international support networks and mechanisms;
- Novel IT tools and infrastructure to support disaster-risk management and emergency response; and
- E-learning environments and the role of portals in supporting such efforts.

The outcomes of the Workshop have allowed UN-SPIDER:

- To gather elements to develop a road map to strengthen its knowledge management efforts targeting the use of geospatial and space-based information to enhance the resilience of nations;
- To compile directions and priorities for action regarding the operation of its Knowledge Portal as a tool to enhance access to and use of space-based information to support all phases of the disaster cycle, and as a tool to enhance the performance of its networks of Regional Support Offices and National Focal Points;
- To become aware of novel applications such as geo-viewers, web-based mapping tools, and other novel IT applications and infrastructure with particular emphasis on enhancing the use of space-based information in the areas of disaster-risk management and emergency response;
- To bring together its community of IT experts who can support the development of new applications in the UN-SPIDER Knowledge Portal; and
- To review innovative uses of e-learning environments to support capacity development and institutional strengthening.

## II. Participants

**The following United Nations organizations took part in the workshop:**

- The World Health Organization (WHO);
- The United Nations Framework Convention on Climate Change (UNFCCC);
- The Institute for Environment and Human Security, United Nations University (UNU-EHS); and
- The United Nations Volunteers (UNV).

**In addition, three of UN-SPIDER's Regional Support Offices were represented:**

- The Algerian Space Agency (ASAL);
- The Regional Centre for Mapping of Resources for Development in Kenya (RCMRD); and
- The Agustin Codazzi Geographic Institute of Colombia (IGAC).

**The workshop assembled representatives from space agencies and remote sensing centers such as:**

- The German Aerospace Center (DLR);
- The European Space Agency (ESA);
- The Bureau of Applied Geo-scientific Remote Sensing (BAGF); and the
- Federal Agency for Cartography and Geodesy (BKG).

**In addition, representatives from various private companies were present and had interventions scheduled in the agenda:**

- EADS-Astrium;
- GeoEye;
- WhereGroup GmbH & Co KG;
- Logica Deutschland; and
- Geospatial Information and Reference Systems (SIRS).

**The academic sector was represented by:**

- The University of Bonn;
- The Berlin University of Technology;
- Salzburg University;
- The University of Moratuwa; and the

- Koblenz Landau University.

**Other organizations participated in the workshop including:**

- Secure World Foundation (SWF);
- The German Committee for Disaster Reduction (DKKV);
- The International Research Centre on El Niño Phenomena(CIIFEN);
- The Institute of Electrical and Electronics Engineers (IEEE);
- The Federal Office of Civil Protection and Disaster Assistance (BBK);
- Cooperazione Internazionale (COOPI) – Malawi; and
- Oberfinanzdirektion-Koblenz (OFD Koblenz).

### **III. Opening remarks and keynote presentations**

The workshop was opened by Mr. Luc St-Pierre, Senior Programme Officer with the Office for Outer Space Affairs (UNOOSA); Dr. Gerd Gruppe, Member of the Board of Directors of the German Aerospace Center (DLR); and Ms. Natassa Antoniou, Project Manager in the Brussels Office of Secure World Foundation (SWF).

In his opening remarks, Mr. St-Pierre commented on the role of UN-SPIDER both as a gateway to space-based information and as a bridge to link the space, the disaster-risk management and the emergency response communities. He stressed the need to recognize the value of geospatial and space-based information when it comes to preventing and responding to disasters. He also commented on new approaches to benefit from the efforts conducted in the International Space Station in the particular area of disasters.

Dr. Gerd Gruppe reminded the audience of the relevance of space-based telecommunications in the case of tsunami early warning, and commented on the global role that DLR's Crisis Situation Center (ZKI) has played in the last decade supporting disaster response activities through the generation of space-based information. He also highlighted the connection with UN-SPIDER on this issue, recalling that this is the fifth time that DLR is co-organizing such international workshops with UN-SPIDER and commented on the support provided to UN-SPIDER in terms of experts who have taken part technical advisory missions conducted by UN-SPIDER in Africa and Latin America.

Ms. Antoniou commented on the role that Secure World Foundation plays in promoting the use of space applications for sustainable development, and the efforts that this Foundation is conducting in areas related to space policy and space law development, human and environmental security. She commented on the involvement of the Foundation in the topic of near earth objects, which is an issue that is addressed by the Committee on Peaceful Uses of Outer Space. Ms. Antoniou also highlighted the long-term cooperation Secure

World Foundation has provided to the UN-SPIDER programme, particularly in the case of international workshops and expert meetings.

In his Keynote presentation, Mr. Stefan Plattner from the DLR's Remote Sensing Center (DLR-DFD) commented on the role of this center in providing end-to-end solutions to DLR in its efforts on earth observation, as well as to international networks and other end-users through software and applications development, systems engineering and operations, and communications. He then presented efforts carried out by the DLR Center for Satellite-Based Crisis Information (DLR-ZKI) in the context of disaster response through the generation of geospatial information to be used by decision-makers, crisis situation centres and relief organizations. In his presentation, Mr. Plattner also focused on the web-based efforts carried out to publish and disseminate ZKI products either in the format of downloadable maps or through an interactive web-based geo-viewer. He completed his presentation highlighting efforts carried out by DLR through projects such as VABENE, which is a joint effort with ESA aiming to enhance geo-data access through links between the ESA Earth Observations Portal and DLR's INSPIRE Geoportal.

The second keynote presentation was made by Mr. Luc St-Pierre of UNOOSA. Mr. St-Pierre provided all participants with an overall view to the UN-SPIDER programme, recalling that UN-SPIDER has been established by the General Assembly of the United Nations to serve as a gateway to space-based information for disaster management support, as a bridge to connect the space community with the disaster-risk management and the emergency response communities; and as a facilitator in the context of capacity building and institutional strengthening. Mr. St Pierre also highlighted efforts carried out by UN-SPIDER in areas related to knowledge management, outreach activities, technical advisory support and international networks and communities.

## **IV. Session 1: “Networks and portals: shaping up the interface”**

### **1. Plenary presentations**

In recent years, government agencies, international organizations and private companies have developed portals and websites that serve as gateways to the information they wish to convey to the public and geo-viewers to allow decision-makers and end-users to increase their awareness regarding the geospatial extent of disasters and other events that impact communities worldwide. UN-SPIDER launched its Knowledge Portal in 2009 as a way to serve as a bridge between the space, the disaster-risk management and the emergency response communities and as a gateway to space-based information. Since its launch, the Portal has been hosting content material developed by the space community and by experts on the use of three types of space applications: earth observation, satellite-assisted navigation / positioning and satellite telecommunication. In addition, it serves as a link to portals and websites operated by a variety of institutions, as a gateway to information generated by



mechanisms such as the International Charter: Space and Major Disasters in case of floods, earthquakes, tsunamis, and other disasters affecting communities worldwide, and as a gateway to activities conducted by UN-SPIDER.

As a way to introduce the topic of networks and portals, this session included three plenary presentations. The first one was conducted by Mr. Robert Backhaus (UN-SPIDER), who provided an overview of the UN-SPIDER Knowledge Portal, its goals, structure and examples of its content. Mrs. Luz Mery Gomez (IGAC) continued the session giving participants an overview of the geo-viewer developed by the Agustin Codazzi Geographic Institute of Colombia. This geo-viewer was developed to assist government agencies in presenting information to decision-makers regarding the geographic extent of floods that began at the end of 2010 and continued until the summer of 2011; as well as other relevant information posted by different government agencies supporting response and recovery efforts. The third presentation described the Geoportal of the Spatial Data Infrastructure of Germany (GDI-DE), which has been developed at the Federal Agency for Cartography and Geodesy of Germany (BKG). The presentation was given by Mr. Sebastian Schmitz. While recently developed, this geoportal displays not only cartographic information, but additional layers on a variety of topics including hazard maps related to floods and earthquakes. In his presentation, Mr. Schmitz also made reference to the Spatial Data Infrastructure of Germany (GDI-DE) which spans from the federal level to the municipal level and on its role in facilitating the presentation of geospatial data stemming from institutions in these three levels.

All workshop presentations are available on the UN-SPIDER Knowledge Portal: <http://www.un-spider.org/workshop-bonn-2012>

## **2. Working groups**

Recognizing the aim of the workshop as a forum to gather comments and recommendations in the area of knowledge management, three parallel discussion sessions were conducted targeting portals and gateways. One working group addressed the role of networks in the generation of applications and content material that find their way into portals; another group targeted the use of portals and gateways in the context of risk reduction and disaster response; while a third group focused on the more technical aspects of information technologies as applied in the context of portals and gateways.

- **Working group 1: Networking for technology and application content**

Experts in this working group discussed the role of networks in the generation of content material that finds its way into portals and gateways. They recognized the fact that it is important to keep in mind the role of portals in disseminating information on the latest scientific advances related to space-based applications as well as very practical information for decision-makers and those who respond in case of disasters in any region of the world. The experts highlighted the need to find the proper balance between reporting scientific advances and providing

essential information required to respond in case of a disaster, taking into account the different types of end-users worldwide such as experts from the space community developing novel methodologies and first responders where a disaster has taken place. Topics discussed by experts in this group included ways to optimize the cooperation among members of the UN-SPIDER network and ways to encourage them to incorporate additional content material in the Knowledge Portal. During the discussion, experts made the following recommendations:

- UN-SPIDER should consider incorporating scientific networks, as well as regional and national networks. The use of social media applications was suggested as a strategy to implement this recommendation;
- UN-SPIDER should consider improving its communication with universities and research organizations as a way to become aware of and to disseminate recent advances in the development of technologies and on the generation of space-based information in applications related to disasters.
- UN-SPIDER should consider establishing a group of mentors to assist in its efforts to enhance the effectiveness of its Knowledge Portal.

- **Working group 2: Risk reduction and emergency response**

This group focused on the role and relevance of information contained in portals of international organizations in the context of risk reduction and emergency response. Participants were also asked to define critical issues and challenges related to access to this kind of information taking into account the various cultures and backgrounds of end-users. During this discussion experts raised a variety of topics and made several recommendations:

- The risk reduction and disaster response communities include a variety of end-users: from people with a vocational education to those who are experts; from practitioners to decision-makers; representatives of the public and private sectors, civil society and Non-Government Organizations (NGOs); and end-users encompassing local, national, regional and international organizations. Therefore, UN-SPIDER should consider migrating from the typical “*one-size fits all*” solution to one that is able to reach out to different types of end-users in various sections of the Knowledge Portal.
- Taking into consideration the fact that the Knowledge Portal aims for a global span, experts recommended the incorporation of content material in French, Spanish, and other languages as a way to tailor it to the needs of end-users around the world who are not fluent in English language.
- Portals, gateways and websites may provide access to both raw data and information. In either case, it is important for UN-SPIDER to ensure that end-users are well trained on how to access such data or information and use it properly in applications targeting risk management and emergency response; in particular to avoid the inadequate use of such information or data. In addition, UN-SPIDER should be aware of sensitivity issues related to specific types of information (hazards, vulnerability maps) when promoting its use. Nevertheless, it may be important for UN-SPIDER to consider the inclusion of information targeting trans-boundary hazards such as tsunamis, hurricanes and droughts; as such hazards blend themselves into international efforts.

- During the response phase, there is usually a need for high-resolution data gathered as early as possible after a disaster. Such data is typically supplied on a commercial basis as opposed to free of cost. However, there is archived data which could be used to track changes in hazards and vulnerabilities, which may not be commercially attractive. Hence UN-SPIDER should persuade space agencies to donate such archived data to enhance its use.
- Taking into consideration the international nature of the UN-SPIDER Knowledge Portal, experts suggested the inclusion of information on tools, resources and case studies that are not readily available at the national or local level.
- In addition, and as a way to encourage end-user inputs to the Knowledge Portal, UN-SPIDER should consider the insertion of contributions from local experts from developing countries.
- UN-SPIDER should incorporate a glossary within its Knowledge Portal so that users become aware of the terminology that is being employed in the Portal and the meaning that UN-SPIDER is assigning to selected terms.
- The Knowledge Portal should be interactive, promoting end-users not only to provide content, but also feedback.

- **Working group 3: IT as mission support: understanding requirements to build proper solutions**

Discussions within this group covered the role of information technologies in supporting the smooth functioning of the Knowledge Portal and the possible technical developments that will need to be considered and prioritized to answer the emerging demand for new services. Experts were asked to outline practical measures for the IT staff within UN-SPIDER to help the programme achieve its goals. They also considered the problems encountered when trying to define various users' needs. The experts taking part in this group highlighted the following recommendations:

- UN-SPIDER should make efforts to gather and integrate the requirements of end-users as a way to increase both the visibility and the interactivity of the Portal. Therefore, end-users should be contacted to inquire if the data and information made available on the Portal match their expectations;
- In the context of portals and gateways, the UN-SPIDER Knowledge Portal can be seen as an information broker. To this end, it is important to incorporate the notion of a virtual knowledge catalogue describing which agencies or institutions host particular types of data or information; or who may have worked with such data and information. Experts suggested that crowd sourcing could be used as one additional mean to acquire such information.

## V. Session 2: “Portals and gateways and their role in supporting networks and capacity building efforts”

### 1. Plenary presentations

During the second plenary session the topic of networks and capacity building was covered. Juan Carlos Villagran, Head of the UN-SPIDER Bonn Office, introduced UN-SPIDER’s efforts on capacity building beginning with a brief outline of the UN-SPIDER capacity building strategy. He then commented on the type of training activities conducted around the world and the role that the Knowledge Portal is foreseen to play in such efforts through the incorporation of a learning environment. He complemented his presentation with a brief overview of efforts carried out in this area, including the databases of training opportunities and the curricula which have been elaborated, as well as recent training activities conducted in Asia, Africa, Latin America and the Caribbean. Peter Zeil (Salzburg University) presented the e-SPIDER learning concept for capacity building that was developed for UN-SPIDER by Z\_GIS. Joerg Szarzynski of the Institute for Environment and Human Security of the United Nations University (UNU-EHS) complemented these presentations with efforts conducted by UNU-EHS, highlighting capacity building efforts carried out in Africa, as well as e-learning efforts.

### 2. Working groups

In the working groups, experts were asked to provide suggestions regarding the roles that portals and gateways should play in three areas: supporting capacity building efforts as platforms to link trainers and end-users at different levels (local, national, regional and international) and as gateways to learning material; supporting networks; and as tools to link different levels (local, national, regional and international).

- **Working group 1: ‘Platforms and portals as tools to support capacity building efforts**

The group discussed the roles that portals and gateways can play in training activities and institutional strengthening efforts, as well as other relevant issues. Experts agreed on the fact that portals such as the UN-SPIDER Knowledge Portal have a role in the context of e-learning and capacity building efforts. However, experts also reiterated the fact that the level of skills and knowledge varies among end-users in different regions of the world. Experts and participants in this group made the following suggestions

- UN-SPIDER should adjust its learning environment to include basic, intermediate and advanced-level training. In this way, training efforts will be better tailored to the needs of end-users worldwide.
- UN-SPIDER should issue certificates of completion to those persons who have completed training courses; as such certificates provide not only proof of successful completion of training courses, but also some additional status to those persons who completed the training courses.

- In addition and recognizing the role of trainers in expanding the horizons of training efforts in developing countries, UN-SPIDER should consider the conducting of training programmes for trainers. Such training programmes could include:
  - Assisting those persons who have successfully completed advanced training activities so that they can become trainers once they return to their countries. To this end it is important to provide such persons with training material;
  - Elaborating training kits (guidelines, content material, recommendations, etc) to support trainers, in particular those in developing countries;
  - Elaborating DVDs to assist trainers in those cases where access to internet is not feasible during training activities. To this end, UN-SPIDER should negotiate permission to access and make use of historical archived imagery with space agencies;
  - Establishing and maintaining a database of trainers in countries.
- In a complementary fashion to typical training material, UN-SPIDER should also consider elaborating tutorial videos and hosting them in the UN-SPIDER Knowledge Portal targeting risk management, preparedness, and response and recovery efforts. Such videos could display:
  - Procedures to generate space-based information and its uses;
  - Processes which can be carried out using web-based tools, products and interfaces; including web-based mapping services;
  - Novel methods or technologies which have been developed to generate space-based information.
- UN-SPIDER should assemble a group of mentors that can assist end-users who, despite having attended a training activity, may still need specific advice to develop specific products.
- UN-SPIDER should also follow up capacity building efforts via tracking the impact of such training activities in terms of the generation and use of products or outputs by those who have been trained. UN-SPIDER should then use such products and outcomes to highlight the impact of capacity building efforts. In addition, such accountability will allow UN-SPIDER to demonstrate the value of its capacity building efforts to decision makers in institutions by demonstrating that capacity building efforts allow institutions to achieve outcomes and generate products which are useful either to reduce existing risks or to respond to the impacts of disasters more efficiently and effectively.

- **Working group 2: 'Portals and gateways as tools to support networks'**

The aim of this group was to discuss the type of information and products that should be hosted on portals and gateways to strengthen the role of networks in reaching their end-users and in fostering cooperation among end-users. During the discussion, experts recognized the usefulness of portals and gateways as tools that can support networks in their day-to-day activities including:

- Operating as day-to-day communication platforms to link members of networks;

- Enhancing outreach activities and to federate user demand (neutral broker);
- Serving as contact brokers to share knowledge on pre-processing raw data and other applications;
- Channeling knowledge and lessons learned;
- Operating as fora and discussion boards to foster collaboration among members of the networks;
- Providing visibility to the members of networks; etc.

Taking into consideration the two networks that are operated by UN-SPIDER (Regional Support Offices and National Focal Points); experts made the following recommendations:

- The Knowledge Portal should assist the Regional Support Offices in:
  - Creating awareness regarding the RSOs by strengthening their respective pages on the Knowledge Portal;
  - Assisting the RSOs in their outreach activities;
  - Assisting RSOs in migrating from being a provider of resources to supporting efforts in countries.

However, participants also commented that portals and gateways may not be useful in geographical areas where there is poor network connectivity and highlighted the fact that networks that do not have a critical mass cannot really sustain the efforts that a portal or a gateway demand.

- **Working group 3: ‘Portals and gateways – linking international and national efforts’**

This group discussed ways to enhance the interaction between national, regional and international end-users through portals and gateways. Among the suggestions discussed by the group, the following stand out:

- UN-SPIDER should carry out a review of other portals with the aim of identifying elements that may enhance the interaction among partners at different levels.
- The Knowledge Portal should serve as a gateway to other relevant knowledge portals and vice versa.
- UN-SPIDER should encourage other portals and disaster management agencies to share their information with UN-SPIDER.
- UN-SPIDER to promote the work of others as a win-win situation where UN-SPIDER would receive content for the Knowledge Portal, while others would benefit from the fact that the information reaches a bigger audience. However, UN-SPIDER should avoid the duplication of information, therefore a “complement rather than duplicate” approach should be adopted when incorporating such content.

## VI. Session 3: “Bringing in the private sector”

During the third plenary session, representatives of EADS-Astrium, GeoEye, WhereGroup and Logica presented knowledge management strategies focusing on the use of space-based information in a variety of applications including emergency response. Companies also demonstrated how Geographic Information Systems (GIS) are used in everyday and extreme situations and introduced the new (GIS) services that will enter the market in the near future.

Ms. Suzanne Baltay gave the audience an overview of ASTRIUM-EADS Geo-Information Services which include imagery, products and services, data hosting and management efforts, and applications. She then presented Astrium’s effort entitled “*Information System for Environmental and Crisis Management Assessment*” (ISECAD) and commented on its potential application as a monitoring tool for a variety of applications including risk management, early warning and crisis management.

Ms. Hanna Kubiak introduced GeoEye and its scope as a provider of relevant geospatial information for decision makers who need a clear understanding of our changing world. She then provided participants an overview of the “eyeQ” initiative launched by GeoEye as a way to put geospatial content material in the hands of end-users through applications developed by a variety of companies including Esri. In her presentation she focused on the application of “eyeQ” in the recent Great Eastern Japan earthquake of March 2011.

Mr. Martin Hüben gave participants a broad overview of the WhereGroup and its aims in areas of data management, web-GIS applications, and other open-source applications. Mr. Hüben then focused his presentation on the geoportal that has been recently developed for the Federal Agency for Cartography and Geodesy of Germany (BKG). He described the functionality of the geoportal through the integration of several open-source applications including GeoNetwork metadata catalogue, PostgreSQL/PostGIS, MapProxy, Mapbender3 and Apache’s Lucene and Solr.

The last presentation was given by Mr. Marc Kleemann from Logica and dealt with the issue of leveraging the use of geospatial information in a variety of applications. Mr. Kleemann began his presentation with an overview of Logica and its efforts worldwide in areas related to information management and geographical information systems. He then provided participants with an overview of an effort on behalf of Logica to support NATO in the integration of GIS and the Document Management System set up by NATO to support IT needs both at headquarters, as well as in the field.

## VII. Session 4: “Networks for knowledge: using Web 2.0 for knowledge management and knowledge sharing”

### 1. Plenary presentations

During the fourth plenary session Anne Knauer and Robert Backhaus of the UN-SPIDER programme spoke about how UN SPIDER involves users in the Knowledge Portal. They made reference to examples regarding how users can effectively drive the sharing of information including the social media platform Facebook; the news- and the events- sections on the Portal, the dedicated RSO-pages on the Portal, and commented on the Space Applications Matrix on the portal as another interface that can greatly benefit from user input. Mr. Max Stephan (University of Bonn) presented the map-based application entitled **UN-SPIDER World**, which he developed during his internship within UN-SPIDER. In his presentation Mr. Stephan highlighted the use of this geo-viewer as a gateway to information on activities conducted by UN-SPIDER worldwide.

Mr. Marco Trovatiello and Mr. Henning Krause from DLR further continued the topic of “Reaching out to the general public via social media”. They explained how DLR uses Twitter, Facebook, Flickr and Blogs to communicate, interact and engage with the public. In their presentation, Mr. Trovatiello and Mr. Krause stressed the usefulness of such social media tools in outreach activities, in particular to engage a variety of target audiences.

Mr. Rodney Martinez complemented these presentations with one focusing on the Portal of the International Research Centre on El Niño Phenomena (CIIFEN). Mr. Martinez provided an overview of CIIFEN activities in areas related to climate change, risk reduction, and general weather. He presented examples of information contained within this portal on seasonal forecasts, risk maps targeting agriculture, vulnerability of communities and basic services, as well as on climate services and adaptation in the context of climate change. He complemented his presentation providing examples regarding the use of the CIIFEN portal in capacity building efforts.

### 2. Discussion groups

Since its establishment, UN-SPIDER has recognized the strength of engaging end-users in knowledge management activities. Regional and international workshops conducted by UN-SPIDER provide the setting for end-users to become aware of the most recent developments in the generation and use of space-based information. However, UN-SPIDER is also aware of the need to engage end-users more actively, including through the use of social media for example. In these working groups, experts were asked to provide suggestions regarding how best to engage end-users in knowledge management activities.



- **Working group 1: The Strength of user-added value: shaping an interactive environment**

Experts in this group agreed on the fact that end-user interaction within the Knowledge Portal enhances the value of the portal and they discussed alternatives to enable their engagement. Other topics discussed included the issue of establishing mechanisms to incorporate content from end-users and ways to ensure its quality. During this discussion experts issued several practical recommendations.

- UN-SPIDER should incorporate a more participatory approach to engage end-users as a way to shape its Portal. For example:
  - UN-SPIDER should review the profiles of the end-users that are registered on the Portal and contact the ones that could contribute content material to be incorporated in the Portal;
  - UN-SPIDER should strengthen its ties with researchers engaged in national and international projects to encourage them to generate content material for the portal;
  - UN-SPIDER should incorporate a segment within the Knowledge Portal to highlight case studies elaborated by end-users;
  - UN-SPIDER should create an online discussion group to engage end-users, receive new ideas from them and involve them in the development of novel application to be showcased in the Knowledge Portal.
- UN-SPIDER should consider the implementation of a so called “filtered website”. In practice it means creating different layouts of the Portal tailored to different types of end-users (for example disaster managers, research centres, common users), making information visible according to the type of user.

- **Working group 2: Involving the community: motivating contributions and creating ownership**

Experts in this groups discussed strategies to encourage end-users to contribute to the Knowledge Portal; figuring out a way to coordinate these flows of inputs and providing more visibility to such end-users. During the group discussion, experts made the following recommendations:

- As a way to involve end-users, UN-SPIDER should first promote the materials contained in the Portal and make such materials more visible with the aid of its existing networks such as the RSO’s websites and through regional entities and other international organizations.
- UN-SPIDER should encourage end-users to submit content material to be published in the Portal. There could be two ways to contribute: either through a segment that highlights best practices, or through more informal contributions. In either case, UN-SPIDER will have to identify mechanisms to carry out the corresponding editorial tasks;

- UN-SPIDER should consider the establishment of a network of scientific mentors who would be in charge of pointing out new developments and best practices observed in concrete situations of disasters;
  - UN-SPIDER should consider delegating the management of some of the sections in the Portal to end-users including institutions;
  - To attract more users to the Portal, experts suggested publishing statistics about disasters that could raise their awareness regarding UN-SPIDER activities;
  - UN-SPIDER should enhance its links with other UN agencies that maintain knowledge portals and find synergies with them as a way to enhance the role of the portal.
- **Working group 3: Linking users, data, gateways and portals – finding common IT standards for future collaboration**

The discussion group covered the topic of information and communication technologies for development, linking users, data, gateways and portals in terms of finding common IT standards for collaboration. Such issues as common practices in interlinking data, use of semantic web, user empowerment and platform-usage-monitoring were addressed. Mr. Peter Stumpf, the moderator of the discussion, introduced the concept of semantic web for portals and geographical content in terms of metadata and its different ways of use. Afterwards, participants exchanged opinions on how this technology could help users to find the way to the Knowledge Portal through search engines.

The group discussed the benefits of using various analytical tools such as “Google Analytics” to track usage of the portal, which allows tracking the number of registered users, amount of comments, clicks per page and spam attempts. With an increase of people accessing websites coming from social platforms, further analytical methods should be considered.

The group also discussed common practices and the need to interlinking data. Participants reached a consensus that a kind of a standardized gateway to disaster-management-related information is needed. Through the use of standards UN-SPIDER would be able:

- To integrate the datasets hosted in its portal with datasets hosted in other portals;
- To re-publish content material in other websites or portals. (Similar use as RSS feeds);
- To harvest other portals which are built using the same standards.

In case no RSS feeds are available, a suggestion was made to use automated bots to acquire the content of other portals.

## VIII. Key results and outcomes

The Fifth UN-SPIDER Bonn Workshop permitted UN-SPIDER to achieve several outcomes. From the participants' perspective, the workshop allowed them:

- To become aware of examples regarding the use of space-based applications and solutions targeting disaster-risk management and emergency response;
- To become aware of UN-SPIDER's efforts in knowledge management and to identify ways and means to become engaged in such activities;
- To provide their perspectives and suggestions in regard to knowledge management within UN-SPIDER;
- To network with representatives of a variety of countries and regional and international institutions engaged in such types of activities;
- To become aware of efforts conducted and opportunities provided by the private sector in the context of space-based data and information.

In the context of UN-SPIDER, the workshop allowed the Programme:

- To collect a variety of suggestions and recommendations from experts in the area of knowledge management, and in particular on ways to improve the usability of its Knowledge Portal;
- To become aware of examples regarding the use of social media tools by space agencies and other international organizations;
- To continue its assessment of the Knowledge Portal as a gateway to space-based information;
- To improve its contact with space agencies such as the European Space Agency (ESA), the Algerian Space Agency and with social media experts from DLR;
- To coordinate efforts with the network or Regional Support Offices, in particular to facilitate the emergency response efforts related to the locust outbreak that is taking place in Libya and Algeria;
- In the case of Latin America, to define more precisely follow-up activities targeting droughts and floods as triggered by El Niño phenomena, and to identify ways to support countries affected by these events;
- In the case of tsunamis, to explore avenues of cooperation with communities that target risk assessment;
- To explore avenues of cooperation with private companies including Geo-Eye and EADS Astrium, both of which are carrying out efforts in the area of emergency response;
- In addition, the workshop strengthened the links between UN-SPIDER and companies in the private sector that devote their efforts to geo-information technologies.

## IX. Steps ahead

Having completed the Workshop, UN-SPIDER will elaborate a road map that will enhance the role of its knowledge management efforts in promoting the use of geospatial and space-based information as a way to contribute to the resilience of nations.

The road-map will include additions to the Knowledge Portal and other complementary activities to be carried out by the programme through its offices in Beijing, Vienna and Bonn with the support of its network of Regional Support Offices.

In addition, UN-SPIDER will make use, within its resources limitations, of the recommendations and suggestions made by experts in the particular case of the proposed learning environment, as well as in the more general topic of capacity building.

# ANNEX 1 – Programme of activities

TUESDAY, 24 April 2012

TIME	ACTIVITY	Lead/Moderation
10:00 - 11:00	<b>Registration of Participants</b>	
11:00 - 11:20	<b>Opening Remarks</b> UNOOSA / UN-SPIDER - Luc St-Pierre German Aerospace Centre DLR - Dr. Gerd Gruppe Secure World Foundation – Natassa Antoniou	Moderator: Juan Carlos Villagran
11:20 - 12:30	<b>Keynote Presentations</b> Luc St-Pierre (UNOOSA): The UN-SPIDER Programme Stefan Plattner (DLR): Bringing in information to the web: Efforts at DLR-DFD.	
12:30 - 14:00	<b>Lunch Break</b>	
14:00 - 15:00	<b>SESSION 1</b> <i>“Networks and Portals: Shaping up the Interface”</i> Robert Backhaus (UN-SPIDER): The UN-SPIDER Knowledge Portal: Goals, Structure and Content. Luz Mery Gomez (IGAC): The Portal of the Agustin Codazzi Geographic Institute Sebastian Schmitz (BKG, Germany): The Geo-portal of BKG	Moderator: Juan Carlos Villagran
15:00 - 15:30	<b>Coffee Break</b>	
15:30 - 17:30	<b>DISCUSSION SESSION 1</b> <i>Working Group 1: Networking for Technology and Application Content</i> <i>Working Group 2: Risk Reduction and Emergency Response</i> <i>Working Group 3: IT as mission support. Understanding requirements to build proper solutions</i>	All participants Discussion sessions chaired and facilitated by participants
17:30 - 18:00	<b>Plenary Session: Group presentations</b>	Rapporteurs of groups

**WEDNESDAY, 25 APRIL 2012**

<b>TIME</b>	<b>ACTIVITY</b>	<b>Lead/Moderator</b>
<b>09:00 – 10:00</b>	<p align="center"><b>SESSION 2</b></p> <p><i>“Portals and Gateways and their role in supporting networks and capacity building efforts”</i></p> <p>Juan Carlos Villagran (UN-SPIDER): The UN-SPIDER Knowledge Portal and its role in capacity building.</p> <p>Mr. Joerg Szarzynski (UNU-EHS): e-Learning and knowledge sharing at UNU-EHS</p> <p>Mr. Peter Zeil (Salzburg University): e-SPIDER</p>	<p>Moderator:</p> <p>Anne Knauer</p>
<b>10:00 - 10:30</b>	<b>Coffee Break</b>	
<b>10:30 - 12:00</b>	<p align="center"><b>DISCUSSION SESSION 2</b></p> <p><i>Working Group 1: Platforms and Portals as tools to support capacity building efforts.</i></p> <p><i>Working Group 2: Portals and gateways as tools to support networks</i></p> <p><i>Working Group 3: Portals and gateways – linking international and national efforts.</i></p>	<p>All participants</p> <p>Discussion sessions to be chaired and facilitated by participants</p>
<b>12:00 - 12:30</b>	<b>Plenary Session: Group presentations</b>	Rapporteurs of groups
<b>12:30 - 14:00</b>	<b>Lunch Break and Discussions</b>	
<b>14:00 - 15:30</b>	<p align="center"><b>SESSION 3</b></p> <p><b>Private Company Presentations</b></p> <p>EADS-Astrium GeoEye Esri Wheregroup Logica Deutschland Arathos Technologies</p> <p><b>Plenary discussion</b></p>	<p>Moderator:</p> <p>Enes Koytak</p>
<b>15:30 - 16:00</b>	<b>Coffee Break</b>	
<b>16:00 - 17:30</b>	<p align="center"><b>DISCUSSION SESSION 3</b></p> <p>Discussions with representatives from the private sector</p>	All participants
<b>19:00 - 20:30</b>	<b>Reception - The City of Bonn</b>	

**THURSDAY 26 APRIL**

TIME	ACTIVITY	Lead
<b>09:00 – 10:00</b>	<b>SESSION 4</b>  <i>“Networks for Knowledge: Using Web 2.0 for Knowledge Management and Knowledge Sharing”</i>  Anne Knauer/Robert Backhaus (UN-SPIDER): User involvement: Needs and Interfaces on the UN-SPIDER Knowledge Portal  Marco Trovatiello/Henning Krause (DLR): Social Media and the DLR Portal  Rodney Martinez (CIIFEN): The Portal of the International Research Centre on El Niño (ENSO)  Max Stephan (UN-SPIDER): The UN-SPIDER World	Moderator:  Peter Stumpf
<b>10:00 - 10:30</b>	<b>Coffee Break</b>	
<b>10:30 - 12:00</b>	<b>DISCUSSION SESSION 4</b>  <i>Working Group 1: The Strength of user-added-value: shaping an interactive environment.</i>  <i>Working Group 2: Involving the community: Motivating contributions and creating ownership</i>  <i>Working Group 3: Linking users, data, gateways and portals - finding common IT standards for future collaboration..</i>	All participants  Discussion sessions to be chaired and facilitated by participants
<b>12:00 - 12:30</b>	<b>Plenary Session: Group presentations</b>	Rapporteurs of groups
<b>12:30-14:00</b>	<b>Lunch Break</b>	
<b>14:00 - 15:00</b>	<b>Plenary session: Strategic Directions: the road ahead.</b>	Moderator: Juan Carlos Villagran de Leon
<b>15:00 - 15:30</b>	<b>Wrap-up and Farewell</b>	Organizing Committee

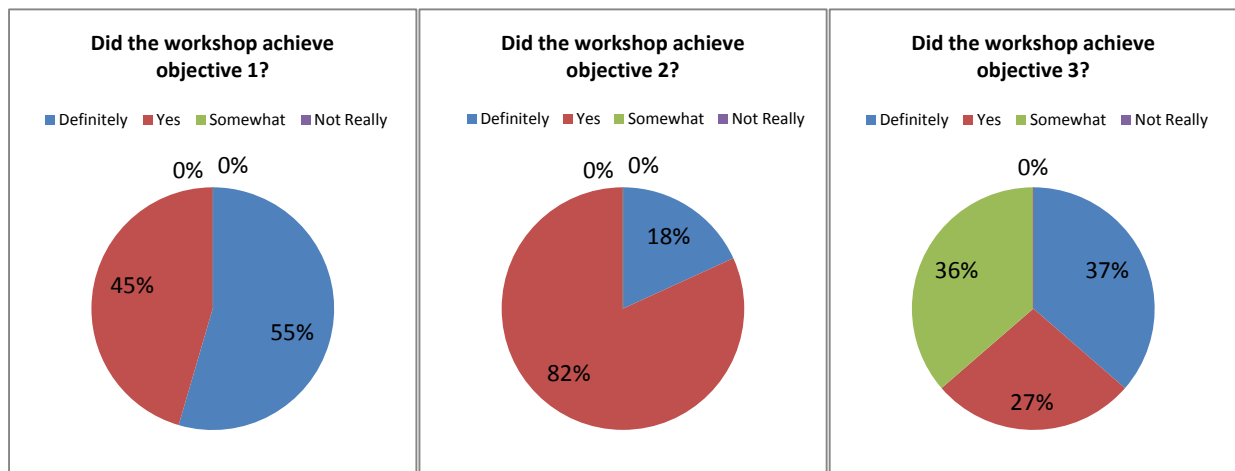
## ANNEX 2 – Workshop evaluation

At the end of every workshop, UN-SPIDER requests participants to complete an evaluation to assess the contents and the structure of the workshop. This allows UN-SPIDER to learn from previous experiences and improve the organization of future workshops. On the last day of the workshop in Bonn, evaluation forms were distributed to all participants. Additionally, an online survey was created for those who wished to evaluate the workshop later. A total of 11 participants handed in their completed evaluations and the results are presented in the following sections.

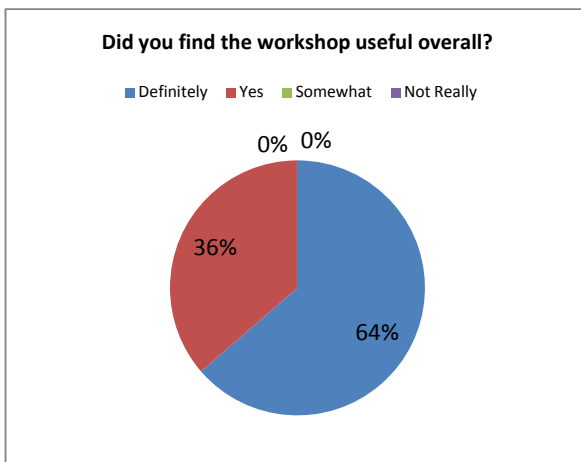
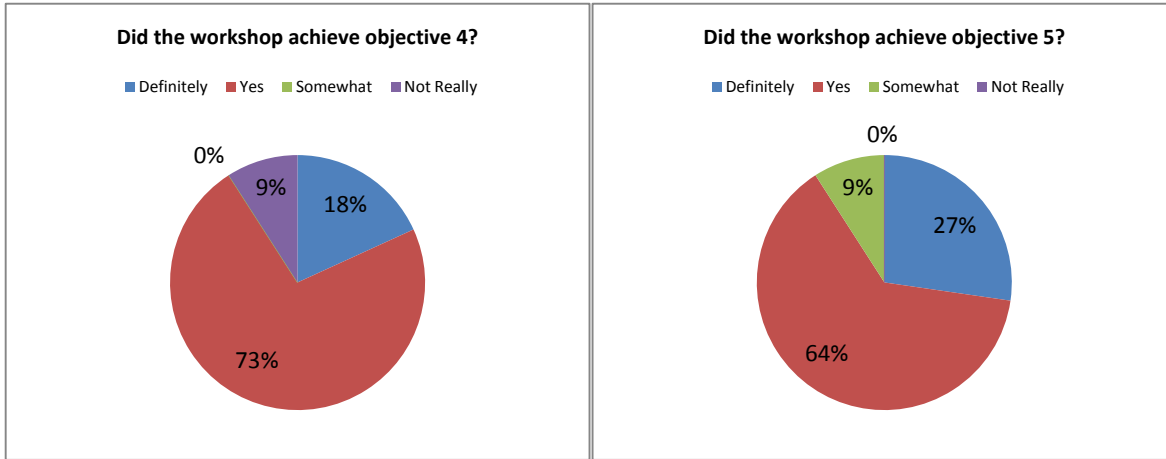
To start with, participants were asked to evaluate the success of workshop in meeting the five objectives that were proposed during the initial planning phases:

1. To discuss knowledge management in the context of space-based information – enhancing the resilience of nations through the use of information.
2. To discuss and to get recommendations on how to harmonise the collaboration between portals and gateways as platforms to access space-based data and information to support all phases of the disaster cycle.
3. To identify and discuss synergies among international support networks and mechanisms.
4. To discuss novel IT tools and infrastructure to support disaster-risk management and emergency response.
5. To discuss the role of e-learning environments and the role of portals in supporting such virtual efforts.

Participants' responses to the five above questions are shown in the charts below. The vast majority of participants thought that the objectives of the UN-SPIDER workshop were properly achieved. However, few participants indicated that some of the objectives were only partially achieved or not really achieved.

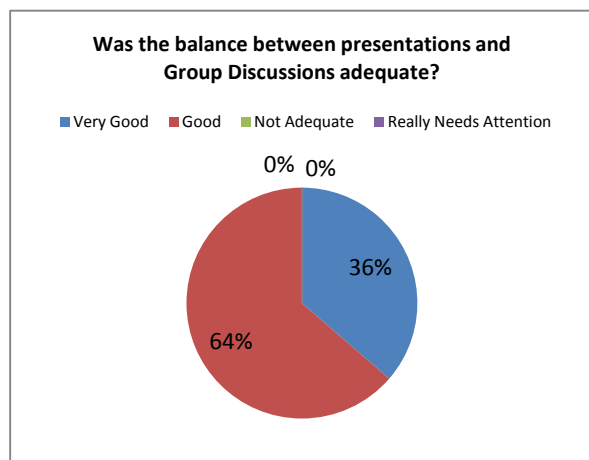




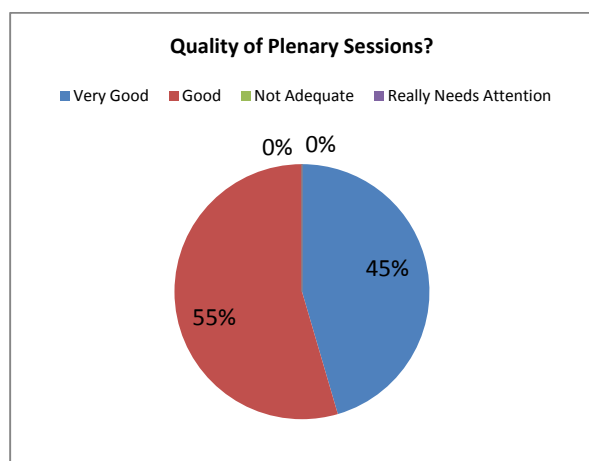


All participants who have submitted their evaluation form were of the opinion that the workshop was useful for them as shown in the graph on the left.

Participants were also given the opportunity to provide comments or suggestions on how UN-SPIDER could improve its workshops to achieve the proposed objectives in a better way. The following points and suggestions were made: *“Some discussions were more technical than others and people with relevant background would have benefited if they were involved in them.”*

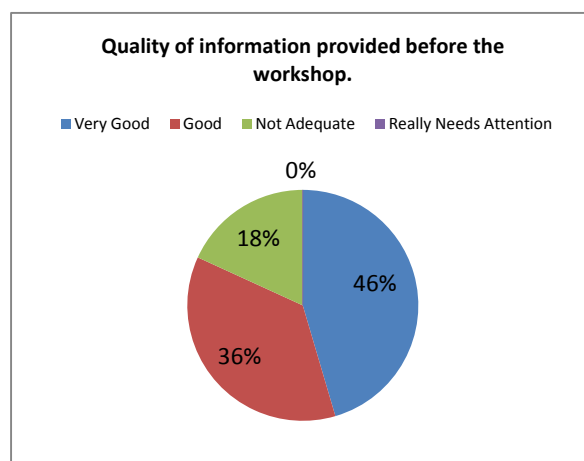


When asked about the balance between presentations and group discussion sessions, 64% of respondents rated this balance very good, whereas 36% of respondents rated it good.



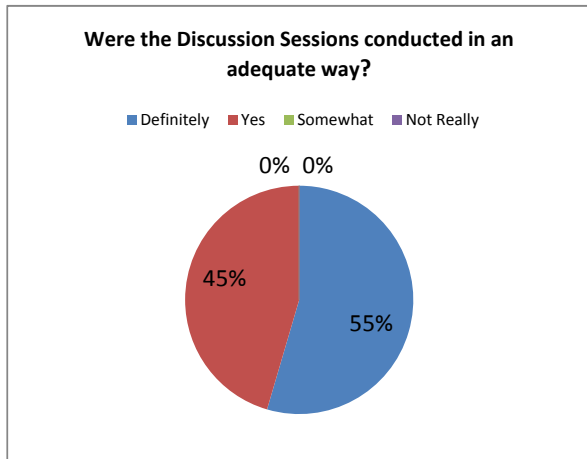
The quality of the plenary sessions was rated as “good” by 55% of respondents; 45% of respondents rated it as “very good”.

Participants generally appreciated the quality of information provided before the workshop by UN-SPIDER, even though 18% of the respondents considered the information inadequate.



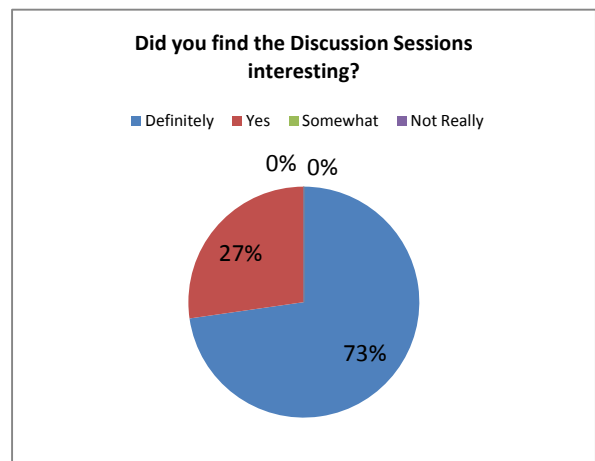
Several comments and suggestions were provided to UN-SPIDER which could help to improve the workshop in terms of the programme of work:

- *“The length of the Workshop should be reduced from three to two days as many participants have other parallel commitments” ;*
- *“Having a working group session every day was considered as a good format.”*

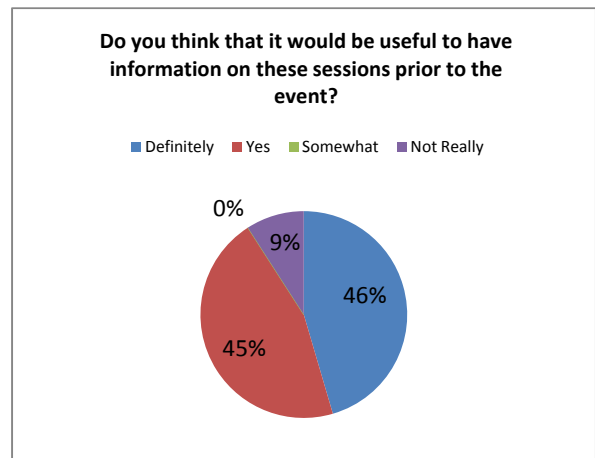


When asked about the conduction of the discussion sessions, all responding participants concluded that the discussions were adequately conducted.

All responding participants found the various discussion sessions interesting as can be seen in the chart on the right.



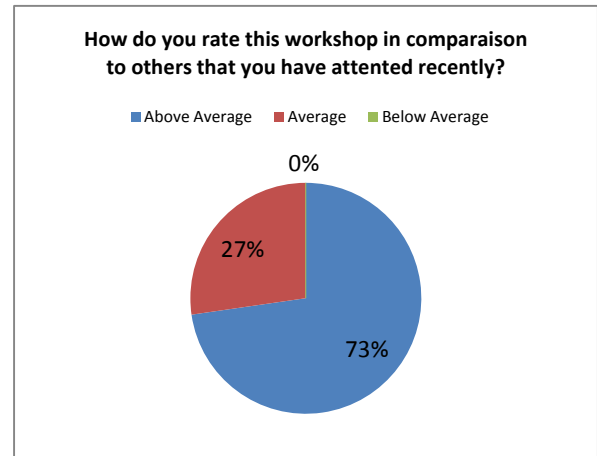
The majority of participants manifested the usefulness of having more information about the plenary sessions prior to the workshop, although 9% of the respondents stated that additional information prior to the sessions was not necessary.



Participants also suggested what type of information would be useful to be aware of prior to the event:

- *“The subjects and questions of the discussion sessions”;*
- *“To circulate guidelines for group discussions so that participants could decide in advance which discussion group to join”.*

Finally, respondents were asked to compare this workshop with similar events that they have attended. 75% rated the UN-SPIDER workshop above average. No respondent considered it below the average.



In order to improve the general workshops conduction, respondents were asked to provide generic recommendations which can be summarized as follows:

- *“Keeping this way of conducting working group sessions for the coming workshops”*