

International Academy of Astronautics

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Status Report of IAA Study Group and Workshop,

“Space to Promote Peace: Initial Focus on the Reconstruction of Afghanistan”

**Report submitted by
International Academy of Astronautics (IAA)
to UNESCO**

Bremen, September 29, 2003

Poverty and under-development are manifest in many societies of the world – especially so in war-ravaged countries, particularly in Afghanistan that is perhaps the most devastated and ravaged country of recent times. Rebuilding Afghanistan has been a major agenda of the United Nations and many nations of the world. Improving the quality of life in these ravaged countries poses a challenge for raising the literacy levels, providing food, shelter, health services, and maintaining sustainable levels of development.

Countries with ready access to space systems know that space applications have the potential to enhance life on earth, contributing to the improvement of the quality of life in these countries. Space systems can assist environmental monitoring, natural resource management, improvement of health systems, and general education. However, these space capabilities are still not used in a large part of the world where they could be extremely useful, particularly in Afghanistan: The challenge is implementation.

In order to meet this challenge, UNESCO, which has significant responsibility to help rebuild Afghanistan, asked the International Academy of Astronautics (IAA) to conduct a study on “Space to Promote Peace” with “Initial Focus on the Reconstruction of Afghanistan.” The study examines the role that space can play to promote peace, establishing a model for utilization of space applications in developing countries. It focus

particularly on using space applications to accelerate the process of rebuilding Afghanistan's infrastructure, economy, education and health delivery systems.

Using the case of Afghanistan as a test-bed, the IAA study examined the current prioritized needs in Afghanistan and the unique tools that space systems can provide. It further established a set of initiatives using space assets that can aid in the international efforts of reconstruction and promotion of peace.

Creation of IAA Study Group

The study is undertaken under the auspices of the IAA Commission V on Space Policy, Law and Economics, as "IAA Study Group 5.4," and is co-chaired by Prof. François Becker, Dean of the International Space University (ISU) in Strasbourg, France, and Dr. Krishnaswamy Kasturirangan, Honorary Member of Parliament in India and former Chairman of the Indian Space Research Organization (ISRO) in India. Study participants were invited from space agencies, UN organizations, academia and industries from most parts of the world, and experts from Afghanistan. The Study Group participants include experts in remote sensing, satellite communications, navigation and positioning, telemedicine, tele-education, and space policy.

The Study Group was initiated through conversations with UNESCO and IAA in 2001 and formalized in the fall of 2002 with the selection of the two co-chairs and rapporteurs. It held its first kickoff activities with study group members in early 2003.

As a starting point for the study, ISRO provided initial inputs to the study, addressing peace and development requirements. ISRO provided an overview of space technology elements, including satellite communications, earth observations, positioning and navigation; and identifying possible contributions of using space to promote peace and development for education, health, resource management and local sustainable development.

Expert Input from Afghanistan

A key aspect of the study is the acquisition of data on the actual situation in Afghanistan and the identification of the priorities of reconstruction and areas in which space can make a valuable contribution. The Study Group co-chairs and IAA initiated contact with the Office of the Ambassador of Afghanistan in Paris, and met with Ambassador Zalmai Haquani and Dr. Nasser Chafii, expert on education and a member of the Ambassador's staff, to request their input and assistance in the Study. On behalf of the study, Dr. Chafii conducted a visit to Afghanistan in late June/early July 2003, to meet the top-level people in Afghanistan responsible for reconstruction in various areas and request their involvement. Dr. Chafii met with the Ministry of Reconstruction, Ministry of Education, Ministry of Public Works, and Ministry of Agriculture, who identified three additional specialists to contribute to the Study.

The background of the Afghanistan experts is as follows:

- Prof. Dr. Zalmay Haquani, Ambassador of Afghanistan in Paris, who holds a dual position as a professor of policy and law at the University of Cannes, with over 30 years experience in education.
- Dr. Nasser Chafii, special advisor to the Ambassador of Afghanistan in France and to the Afghan Minister of Education, with over 30 years experience as a professor of mathematics.
- Dr. Alef Shah Zadran, advisor to the Ministry of Education, with a Ph.D. in education and over 35 years experience.
- Dr Abdul Bari Khaliki, Professional Engineer, advisor for the Ministry of Public Works, with over 25 years experience in project engineering and land transport construction, with specific experience in earthquake damaged roadways, seismic retrofit, and infrastructure reconstruction in the war-torn country of Afghanistan.
- Dr Sayed Abdul Wahab Juyian, advisor to the Ministry of Agriculture, with specialty in agronomy (focusing on water resources, quality and economy).

Additionally, IAA requested input from UNESCO, and was led to Mr. Martin Hadlow, Director of UNESCO in Kabul, Afghanistan.

Bremen Workshop, September 2003

On 24-27 September 2003, the Study Group met at EADS Space Transportation facilities in Bremen, to review a draft report, hear direct input from Afghanistan experts, and determines a set of initiatives in which space assets could play a role in assisting with the priority needs of Afghan reconstruction. The viewpoint from individuals with direct experience in Afghanistan was critically important to learn and identify the priorities for reconstruction. The Afghan representatives above contributed inputs to the workshop, detailing the reconstruction activities currently underway in Afghanistan by various organizations (such as Asian Development Bank), and pressing needs in the country such as health care, job skills improvement, drinking water, food supply, road transportation networks. After reviewing case studies for using space assets in a variety of applications, the nineteen workshop participants, including the Afghani members, selected four initiatives and an implementation plan, including concrete actions and schedule. These conclusions are attached.

Bremen Plenary, September 2003

On September 30, 2003, the Study Group will host a Plenary Session at the IAC Congress in Bremen, to discuss the unique tools and solutions of space applications that can aid in the international efforts of reconstruction and promotion of peace. Chaired by Prof. Becker, prominent members of the international community will address the challenges and issues faced when implementing large-scale recovery plans. The plenary speakers are: Dr. Abdul Bari Khaliki, P.E., of the Afghanistan Ministry of Public Works; Dr. Martin Hadlow, Director of UNESCO in Kabul; Dr. Krishnaswamy Kasturirangan, Honorary Member of Parliament of India and former chairman of the Indian Space Research Organization (ISRO); Dr. Ghassem Asrar, NASA Associate Administrator for Earth Science; and Dr. Josef Aschbacher, Programme Coordinator of the Directorate of Earth Observation Programmes at the European Space Agency.

Conclusion of IAA Study Group “Space to Promote Peace” Workshop, 24-27 September 2003

INITIATIVES

1. Enhancing Healthcare in Afghanistan through Space-based Tele-health services
2. Strengthening Education and Training in Afghanistan through a Space-based Distance education system
3. Providing Geo-spatial Information from Space-based Systems in support of Developmental Activities in Afghanistan
4. Enable Afghanistan to access the International Charter on Space and major Disasters

PRIORITIES

(Recognizing there is synergy among the projects, particularly in common hardware and/or facilities, allowing for cost-effective solutions)

1. One pilot project on tele-health between specialty hospital in Kabul (hub) and 3-4 rural hospitals to be decided.
2. One pilot project on tele-education with hub at Kabul connection few schools, universities and professional training institution.
3. Space based surveys for planning and construction of secondary roads
4. Provide access to the International Charter on Space and major Disasters

IMPLEMENTATION PLAN AND SCHEDULE

1. A two stream, coordinated action taken in parallel – presentation of the draft report to UNESCO, and presentation to the Consulting Group (CG) of the Afghanistan Government through Dr Khaliki.
 - Presentation by IAA of the draft report to UNESCO with the Ambassador of Afghanistan in Paris (by end of October 2003)
 - Coordinate with Dr. Khaliki for CG (by end of October 2003)
 - Organisation by UNESCO of a Presentation to CG of the Afghanistan in December 2003 and preparation of implementation plan with potential agencies and donors
 - Finalisation of the report (by end of December 2003)
2. Submission of the report to IAA (beginning of January 2004), with approval from IAA Peer Review Process by mid-February 2004, and Final Print by end of February 2004
3. Official presentation by IAA to UNESCO in March 2004
4. Distribution plan and press release/press conference in March 2004
5. IAA continue to work with UNESCO to follow-up implementation throughout 2004, in contact with Afghan CG

**IAA INTERNATIONAL WORKSHOP ON “SPACE TO
PROMOTE PEACE”
September 24-27, 2003,
COLUMBUS Room, EADS Space Transportation
Hunefeldstrasse 1-5, 28199
Bremen, Germany**

TENTATIVE PROGRAMME

(Participation in this IAA Workshop is limited and by invitation from IAA)

Wednesday, 24 September 2003

- | | |
|--------------|--|
| 1200 – 1230 | Registration |
| 1230 – 1330 | Lunch (Hosted) |
| 1400 – 1530 | Inaugural Session <ul style="list-style-type: none">• Welcome (EADS) (10 mts)• Opening Remarks (Marcio/Michael/Philippe) (30 mts)• Brief Remarks and Scope of IAA Study (Co-Chair) (15 mts)• Goal, Organisation and Expected Outcome of Workshop (Co-Chair) (15 mts)• Status of the IAA Study on “Space to Promote Peace” (Mukund/Debra) (20 mts) |
| 1530 – 1600 | Coffee/Tea Break |
| 1600 – 1800 | Review of Draft Report of Study Group (this will be made available to all Workshop participants) |
| 1830 onwards | Inaugural Reception |

Thursday, 25 September, 2003

- | | |
|--------------|---|
| 0900 – 1300: | Session – 1: Assessment of Status in Afghanistan (Tea/Coffee Break 30 mts) <ul style="list-style-type: none">• Present Situation in Afghanistan including structure of Governance (Afghan Ambassador in France??) (30 mts)• Reconstruction Needs in Afghanistan (Dr. Alef Shah Zadran, Afghanistan and Mr Abdul Bari Khaliki, Afghanistan) (60 mts) |
|--------------|---|

- Current Activities in Reconstruction of Afghanistan (Intl., Local Agencies and NGOs) (Martin/UNESCO, Pekko/UNEP, Sergio/UN-OOSA) (60 mts)

1300 – 1400

Lunch

1400 – 1800

Session - 2: Space Initiatives for Peace (Tea/Coffee Break 30 mts)

- Role of Space for Peace and Development with Specific Examples and background information of IAA Study Group Report (150 mts)
 - Overview of Space in Support of Development
 - Case Study on EO for Developmental Support (Mukund)
 - Case Study on EO and GIS for Infrastructure Repair and Development (Ray)
 - Case Study on Satcom for Tele-Medicine (Jack)
 - Case Study on Space for Disaster Management Support (Bessis)
 - Case Study of NASA
 - Case Study from SPOT IMAGE
 - Case Study from ESA
 - Case Study on Satcom Applications for Education (??)
 - Any other Case Studies by IAA Study Group Members
- Prioritisation of Initiatives vis-à-vis Needs (Coordinated by Co-Chairs) (60 mts)
 - Overview of Space based Initiatives in IAA Report
 - Establish Criterion for Prioritisation
 - Possible priority initiatives
 - Identify Splinter Groups and Output expected

Friday, 26 September, 2003

0900 – 1300:

Session 2: Space Initiatives (Continued) (Tea/Coffee Break 30 mts)

- Splinter Group Meetings: Initiative Implementation Actions (For each prioritised initiative)
- Plenary of all Splinter Groups – To take stock (30 mts)

1300 – 1400

Lunch

1400 – 1800

Session - 3: Initiatives Implementation Plan in Splinter Groups (Tea/Coffee Break 30 mts)

- Splinter Group Meetings: Initiative Implementation Actions
(For each prioritised initiative)
- Plenary of all Splinter Groups – To take stock (30 mts)
- Institutional Approach for Implementation (30 mts)

Saturday, 27 September 2003

0830 – 1300

**Session - 4: Space Initiatives for Afghanistan – Action Plan
(Tea/Coffee Break 30 mts)**

- Next Steps and Further Actions (60 mts)
- Recommendation of Workshop/Closing Session (120 mts)

1300 – 1400

Lunch

IAA PLENARY EVENT
Space to Promote Peace
“Initial Focus on the Reconstruction of Afghanistan”

Panel Description: Have you ever thought about the role that space can play to promote peace? Many under-developed countries do not have access to space assets, and even if they did, they would not know how to use them. The International Academy of Astronautics (IAA) is conducting a study on “Space to Promote Peace – Initial Focus on the Reconstruction of Afghanistan,” is establishing a model for utilization of space applications in under-developed countries, using the case of Afghanistan as a test-bed. This study was undertaken at the behest of UNESCO, which has significant responsibility to help rebuild Afghanistan, to study how space applications can accelerate the process of rebuilding infrastructure, economy, education and health support. In this plenary, hear about the unique tools and solutions of space applications that can aid in the international efforts of reconstruction and promotion of peace. Prominent members of the international community will also address the challenges and issues faced when implementing large-scale recovery plans.

Moderator

Francois Becker, Ph.D.
Dean, International Space University, France

Participants

Prof. Dr. Alef Shah Zadran
Specialist Education, Afghanistan

Martin Hadlow
Director, UNESCO Kabul, Afghanistan

Kishnaswamy Kasturirangan, Ph.D.
Chairman, Indian Space Research Organization, India

Ghassem Asrar (invited)
Associate Administrator for Earth Science, NASA Headquarters, USA

Josef Aschbacher
Programme Coordinator, Directorate of Earth Observation Programmes, European Space Agency, France

Organizers

Mukund Rao, Indian Space Research Organization, India (IAA)
Debra Facktor Lepore, Kistler Aerospace Corporation, USA (IAA)

Date: 30 September 2003 **Time:** 11:30 – 12:30

IAA Workshop

Space to Promote Peace- Initial Focus on Re-construction of Afghanistan Study Group

Bremen, Germany, 24-27 September 2003

IAA Registration Form

Before 15th September 2003

To be returned to:

IAA, PO Box 1268-16

F-75766 Paris Cedex 16

FRANCE

By FAX 33 1 47 23 82 16

Or by email sgeneral@iaanet.org

Name (printed) :

First Name :

Fax:

Email:

Workshop Registration

Access to the Columbus room of EADS Space Transportation is subject to security check

Please indicate below your passport information

Nationality:

Passport Number:

Date & place of Issue:

Venue: EADS Space Transportation, Hunefeldstrasse 1-5, 28199, Bremen, room Columbus (after having left the airport terminal hall take a right and walk about 500m past the Hotel Atlantic)

Hotel Booking

IAA-EADS ST have made a block booking of 20 rooms at 85€per night single from 24 to 27 September 2003.

I need a reservation yes no

Accompanied by Spouse/Guest..... yes no

*Venue: Hotel Atlantic, Flughafenallee 26, Bremen 28199, Germany, phone 49 42 15 57 10
Fax 49 42 15 57 11 00 (double room subject to higher price).*

Date of arrival:

Date of departure:

Note:

IAA will transmit this registration form to the Hotel Atlantic and participants will be invited to pay their room expenses accordingly.

Registration after 19 September and onsite registration will not be possible.

Getting to Astrium in Bremen



By car:

Coming

from Berlin/Hanover on the A7 :

Change at the "Walsroder Dreieck" onto the A27 in the direction of Bremen. Drive on this motorway up to the Autobahnkreuz (intersection) Bremen and change onto the A1, direction Bremen/Osnabrück. Exit the A1 at Arsten towards Bremen. After having gone through the underpass, you reach the "Neuenlander Straße" and follow it in the direction Flughafen / Airport up to the next junction (traffic lights, Shell petrol station on your right). Turn left into the "Neuenlander Ring", direction Flughafen/Airport and follow this street up to the next junction (traffic lights). Here you turn left again into the "Flughafendamm" and drive up to the end. You have reached Gate I of Astrium GmbH.

Coming

from Oldenburg on the B6/B75:

Exit the B6 at the Abfahrt Flughafen. After about 1.5 km you turn right into the "Flughafendamm" (sign Flughafen). Follow the Flughafendamm up to the end and turn left into the "Hünefeldstraße". You have reached Gate I of Astrium GmbH.

By train:

When leaving the main station in the direction of the city centre, you will see the stops of public transport on the left of the station square. Take tram line No. 6, destination "Flughafen /Airport", up to the terminus "Hünefeldstraße" (the ticket can be bought from the driver). The terminus is within sight of Gate I/ Visitors Reception of Astrium GmbH.

Coming

from Hamburg or Osnabrück/Münster on the A1:

Exit the A1 at Arsten towards Bremen. After having gone through the underpass, you reach the "Neuenlander Straße" and follow it in the direction Flughafen / Airport up to the next junction (traffic lights, Shell petrol station on your right). Turn left into the "Neuenlander Ring", direction Flughafen/Airport and follow this street up to the next junction (traffic lights). Here you turn left again into the "Flughafendamm" and drive up to the end. You have reached Gate I of Astrium GmbH.

Coming

from Bremerhaven on the A27:

Exit the A27 at the "Abfahrt Freihäfen" to the right in the direction of Bremen. Take the left lane and follow the signposts to the Flughafen/Airport. At the exit Flughafen you leave the B6. After about 1.5 km you turn right into the "Flughafendamm" (sign Flughafen). Follow the Flughafendamm up to the end and turn left into the "Hünefeldstraße". You have reached Gate I of Astrium GmbH.

By air:

Astrium GmbH in Bremen is located within easy walking distance of Bremen Airport. After having left the arrival hall, you may either take tram line No. 6 (one stop) up to the terminus "Hünefeldstraße" or you turn right and walk about 500 m past the Hotel Atlantic directly to Gate I/ Visitors Reception of Astrium GmbH.



- ① Neuenlander Straße
- ② Neuenlander Ring
- ③ Flughafendamm
- ④ Hünefeldstraße
- ⑤ Tor 1 (Astrium GmbH)

Please check-in for registration. You will then be picked up by your person of contact.

Welcome to Astrium!