

**Status Report of of IAA Study Group and Workshop,  
“Space to Promote Peace: Initial Focus on the Reconstruction of Afghanistan”**

**Submitted By: International Academy of Astronautics (IAA)**

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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 Zalmay 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 determine 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