

INFORMATION NOTE

United Nations/ Islamic Republic of Iran Regional Workshop on Use of Space Technology for Human Health Improvement

Organized and hosted by the Iranian Space Agency

23-26 October 2011, Tehran, Islamic Republic of Iran

1. Background

Public health is the science and art of preventing disease, prolonging life and promoting health through the organized efforts and informed choices of society, organizations, public and private, communities and individuals. It is concerned with threats to the overall health of a community based on population health analysis. The population in question can be as small as a handful of people or as large as all the inhabitants of several continents (for instance, in the case of a pandemic). Public health is typically divided into epidemiology, biostatistics and health services. Environmental, social, behavioural, and occupational healths are also important subfields.

The focus of public health intervention is to prevent rather than treat a disease through surveillance of cases and the promotion of healthy behaviours. In addition to these activities, in many cases treating a disease may be vital to preventing it in others, such as during an outbreak of an infectious disease.

With the use of state of art space technology services, telehealth/telemedicine is receiving worldwide attention. It consists of computer and telecommunications (including satellite communications) technologies to bring medical experts into virtual contact with patients in remote and rural areas, thus avoiding the costly relocation that also proves detrimental to their health.

Currently mobile telemedicine's most important applications have been in ambulances and on ships. Both of these applications can present time critical situations. Equal speed of diagnosis is the primary reason to monitor the vital signs of patients and provide forewarning of treatment requirements to the hospital.

In a disaster scenario, terrestrial communications can be the first to suffer from the direct effects of earthquakes, fires or flooding. In these situations, satellites remain the only reliable means of connection directly to the disaster area where communication is critical for diagnosis, patient treatment and activity coordination. Also, satellite links can be installed in short periods of time.

In the area of telehealth/telemedicine Workshop will address satellite-based: (i) TV and radio broadcasting that are inexpensive platform for delivery health care education to distant locations; (ii) communications that are the most promising means for reaching underserved and isolated areas all around the world; (iii) delivery in emergency situations and, (iv) services for the mobile objects at sea, in the air and on the land; (v) hybrid satellite/terrestrial delivery platforms are currently cost-effective solutions to many point-to-point and point-to-multipoint applications.

There are about 1400 communicable diseases and half of the world's population lives in endemic areas. Public health and epidemiology in particular has become a hot topic recently, mainly because of the SARS crisis and the pending threat of pandemic influenza. Despite the advances of modern medicine, diseases like malaria, dengue fever and even the plague still afflict millions of people each year, crippling some while proving fatal to others. Many of the diseases are spread through mosquitoes, which can cause widespread epidemics by infecting people or animals, and then flying to another target. Malaria alone infects up to 500 million persons each year, killing about a million.

Advances in satellite remote sensing, global positioning and geographic information systems, as well as computer processing, now make it easier to integrate ecological, environmental and other data for the purpose of developing predictive models that can be used in disease surveillance and control activities. However, the capabilities of remote sensing technology have not been fully disseminated to the health investigators and agencies that could be using them. Landscape Epidemiology will be among the first applications the Workshop will address.

Landscape Epidemiology is a relatively new interdisciplinary approach that involves the characterization of eco-geographical areas where diseases develop. It can be understood as part of a second-generation application of remotely sensed data where the target cannot be seen directly with satellite images. This is a holistic approach which takes in to account the relationships and interactions between the different elements of ecosystems under the assumption that the biological dynamics of both host and vector population are driven by landscape elements such as temperature and vegetation.

2. Dates of the 23-26 October 2011
3. Location: Tehran, Islamic Republic of Iran
4. Objectives and expected results

The prime objective of the Workshop is to promote an awareness of the use of space technology applied to health care and review benefits for such applications as tele-epidemiology/telehealth/telemedicine and tele-education in medicine.

5. Programme of the Workshop

The programme of the Workshop will include, but not be limited to, the following topics:

- Telehealth/tele-epidemiology programmes/services
- National and regional telehealth/tele-epidemiology programmes in the ESCAP region
- Landscape epidemiology
- Avian flu
- Rodent and water-borne diseases
- customized medical software and diagnostic instruments compatible with commercial very small aperture terminals (VSATs)
- Mobile telemedicine
- Emergency telemedicine
- Legal and ethic aspects of telehealth
- Regional cooperation in landscape epidemiology and telehealth

A detailed draft programme will be made available on the Web sites of the United Nations Office for Outer Space Affairs (<http://www.oosa.unvienna.org>).

6. Qualification for participation

Participants should be in positions of managerial or decision making-responsibility at national institutions with programmes and activities in areas related to landscape epidemiology/telehealth/telemedicine.

7. Language of the Workshop

Applicants must have a good knowledge of **ENGLISH**, which will be the **ONLY** working language of the Workshop.

8. Selection of participants

Participants will be selected jointly by the sponsors of the Workshop from nominations submitted by the governments/institutions of countries who have received this invitation. All applicants will be informed on the outcome of the selection process.

9. Financial arrangements

Within the limited financial resources available to the co-sponsors, a number of selected participants from developing countries will be offered financial support to attend the Workshop. Funded participants will be provided with a round trip air ticket (most economic fare) between the airport of international departure in their home country and Tehran, Islamic Republic of Iran. The room and board expenses of these participants for the duration of the Workshop will also be defrayed.

10. Deadline for submission of nominations

Two copies of the completed Application Form, properly endorsed by the applicant's agency/organization, should be submitted through the Office of the Resident Representative of the United Nations Development Programme in the applicant's country, so as to reach the Office of the United Nations Expert on Space Applications, Room E 0966, United Nations Office at Vienna, Vienna International Centre, P.O. Box 500, A-1400, Vienna, Austria, **no later than 15 August 2011**. An advance copy of the Application Form may be sent directly to the Office to expedite the selection processing procedure (Fax: +43-1-26060-5830).

Online application for the Workshop is also available. We encourage all candidates to apply for the Workshop online, as it helps to streamline the processing of applications. The online application form can be accessed at:

<http://www.oosa.unvienna.org/oosa/en/SAP/act2011/Iran/index.html>

11. Points of Contact

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