Title

Space Applications for Global Health

Thematic areas
Tele-medicine, tele-epidemiology, space technology education.

Participating Government(s)
Private and public sector stakeholders interested in the topic

Partners
Private and public sector stakeholders interested in the topic

Duration
Four years

Estimated budget
USD640,000

Summary

There are about 1,400 infectious diseases, some of which are among the most important causes of death in developing countries. Half of the world’s population lives in affected areas. Malaria alone infects up to 300 million persons each year, killing almost one million. The consequences of climate change play a role in the transmission of many infectious diseases. Ultimately the impact of all climate change threats to the environment, economy and security will be on human health. To combat epidemics with coordinated responses, there is a need to establish an integrated global alert system.

In recent years, information derived from Earth observation and meteorological satellites in combination with GIS and GNSS has increasingly been used to study disease epidemiology, enabling increased use of spatial analysis to identify the ecological, environmental and other factors that contribute to the spread of vector-borne diseases by locating “hot spots”, monitoring disease patterns and defining the areas that require disease-control planning. Data collected by satellites and validated by fieldwork are extensively used for monitoring changes in disease patterns and delineating risk areas. Such data products, when incorporated in a geographic database, could be used to develop spatial models for combating infectious diseases by helping to predict high-risk areas before outbreaks occur. The Programme on Space Applications assists developing countries in making use of space-based solutions to fight the spread of these diseases.

Another major aspect addressed by the Programme is in the area of telehealth and telemedicine. Telehealth and telemedicine applications embrace computer and telecommunications technologies, including satellite communications, to bring medical experts into virtual contact with patients or doctors in remote and rural areas, thus avoiding a costly relocation to hospitals in urban areas, which could prove detrimental to the patients’ health.

Some recent activities organized by UNOOSA in cooperation with Member States, specialized agencies and intergovernmental organizations in the area of applications of space technologies to the global health included the following:

- UN/Burkina Faso/WHO/ESA/CNES Workshop on the Use of Space Technology in Tele-health to Benefit Africa (May 2008, Ouagadougou, Burkina Faso);
- UN/India/ESA Regional Workshop on Using Space Technology for Tele-Epidemiology to Benefit Asia and the Pacific Region (October 2008, Lucknow, India);
- Workshop on Applications of Tele-health to Service Delivery in Public Health and Environment (July 2009, Thimphu, the Kingdom of Bhutan);
- UN Symposium on Space Technology Contribution to Infection Surveillance and to the Health-related MDG Goals (September 2009, Verona, Italy);
- UN/Canada/ESA Workshop on Tele-epidemiology Contribution to Public Health Actions in the
Context of Climate Change Adaptation (June 2011, Montreal, Canada); and
• UN/Islamic Republic of Iran Regional Workshop on the Use of Space Technology for Human Health Improvement.

Objective
Implement activities of the workplan of the UN Office for Outer Space Affairs related to global health issues.

Activities and Outputs
The provided contributions/support would allow us to plan and implement the following:
• Number of regional workshops on the use of space technology in tele-health and tele-epidemiology for the benefits of developing countries, to be held in 2014-2015;
• Training programmes for representatives of developing countries;
• Long-term and medium-term fellowship programmes in tele-health and tele-epidemiology; and
• Pilot projects and technical advisory services.

Proposed Budget

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<thead>
<tr>
<th>Description</th>
<th>Total</th>
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<tbody>
<tr>
<td>Advisory services</td>
<td>120,000</td>
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<tr>
<td>8 regional workshops over 4 yrs</td>
<td>320,000</td>
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<tr>
<td>Trainings</td>
<td>120,000</td>
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<tr>
<td>Fellowship programmes</td>
<td>80,000</td>
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<tr>
<td><strong>Project Total</strong></td>
<td><strong>USD640,000</strong></td>
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1 The amounts are estimates and do not include costs associated with the administration and other overheads necessary for implementing the project.