

EARTH OBSERVATION SYMPOSIUM (B1)  
International Cooperation in Earth Observation Missions (1)

Author: Mr. Shatirsingh (Ishraj) Inderjeet  
International Space University (ISU), Australia, ishraj.inderjeet@community.isunet.edu

DEVELOPING A SMALL 'CENTRE FOR FOOD AND WATER SECURITY RESEARCH,  
MANAGEMENT, TRAINING AND EDUCATION' (INTERNATIONAL SPACE UNIVERSITY, SH-SSP  
WHITE PAPER 2016 CONCEPT IDEA)

**Abstract**

Food and water safety is a major problem in the world, especially in the Global South. Participants of the Southern Hemisphere – Space Studies Program 2016 came together from 11 different nationalities, in Adelaide Australia, to write a White Paper for the International Space University. The 2016 White Paper addresses the challenges facing growing food insecurity and freshwater scarcity from a space-based and in-situ technological resources perspective. After brainstorming a number of possible problems that contributes to food and water insecurity in the Global South, the participants narrowed the list down to the following three major issues: food and water management, population growth and climate change. Research was, then, done on each of the mentioned issues to develop space-based strategies that will combat food and water insecurity in the Global South. One of the recommendations was capacity building. This recommendation calls on governments in the Global South to invest in capacity building through funding of Earth observation and remote sensing education and outreach programs. In line with this recommendation, a concept for a small centre for food and water safety was developed. The centre will gather and share already available space data, and provide early-warning information to prepare for flood and drought seasons. It will also provide on-site and distance education and training on growing crop techniques. The centre aims to research and develop inexpensive and user-friendly space-based applications and solutions to aid farmers and water resource managers. Further, it would work to influence policy-makers on the management and preservation of food and water security. As envisioned, the centre would link with well-established research and educational programs such as the UN-affiliated 'Regional Centre for Space Science and Technology Education for Latin America and the Caribbean' (CRECTEALC) and expand on already operational centres, like, 'Remote sensing-based Information and Insurance for Crops in Emerging Economies' (RIICE) and 'Famine Early Warning Systems Network' (FEWS Net). The modest funding needed to establish this small centre could be supplied by governmental or non-governmental research organisations, mainly from countries of the Global South. This concept is still in its early stages, and is expected to be developed into a major project – if adequate support and funding are provided. The details and findings of the White Paper, along with the operations of this conceptual small centre for food and water security, will be further discussed in the 2016 International Astronautical Congress presentation.