

Monitoring Rice from Space

Rice is the most important staple grain in the world. Ninety per cent of rice plantations are distributed across Asia, providing daily food for 2.5 billion people in this region. Rice plays an important role in the development of society and the civilisation of countries in Asia. Launching a satellite dedicated to rice monitoring is highly desirable for Asia and other countries of the world where rice is produced.

RICESAT

In 1999, when the Asian Association on Remote Sensing (AARS) celebrated the twentieth anniversary of the Asian Conference on Remote Sensing (ACRS) in Hong Kong, China, I proposed RICESAT. The proposal was made to the AARS general conference for this to be planned in co-operation with AARS member countries/regions for the purpose of monitoring rice growth. At that time, member countries including China, India, Japan and Thailand agreed to promote the basic design of RICESAT for the benefit of people in Asia.

Technical Committee

However, the idea was not implemented till 2004. Towards the end of 2004, on the occasion of the first Asian Space Conference held in conjunction with the 25th Asian Conference on Remote Sensing in Chiang Mai, Thailand, I had a chance to discuss things further with Dr Adigun Ade Abiodun, chairman of the UN Committee on the Peaceful Use of Outer Space (COPUOS). We talked then about the possibility of launching space satellites based on a multinational and multicultural context within the Asian region, without political and military constraints. RICESAT would provide a good example of many Asian countries/regions working together to support and develop a collaborative satellite with a focus on rice growth linked to harvest prediction, disaster management and rice marketing. Dr Abiodun agreed this idea, and Professor Guo Huadong of the Chinese Academy of Sciences was appointed chairman of the RICESAT Committee. Major efforts since the 25th ACRS led to establishment of a Technical Committee on RICESAT. Up until the 26th ACRS there were about twenty members who joined the committee, which has summarised the conceptual design of RICESAT.

Call for Sponsors

The RICESAT sensor is designed as a multi-frequency and multi-polarisation SAR (C band, HH and HV) with resolution 5-20m and a revisit time of five to seven days. A small satellite costing less than a hundred million US dollars will carry the sensor. Data will be directly transmitted to receiving stations without storage. When the conceptual design has been completed a Call for Sponsorship will be announced to Asian countries/regions, international organisations, private enterprises, universities etc. RICESAT will be the first earth-observation satellite to be launched by a NPO. Any suggestions and comments for constructive and positive discussion are welcome.