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Using science to predict the weather gods

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WEATHER forecasting is an important tool, especially for farmers. With El Nino affecting monsoons, the agriculture sector had earlier been on tenterhooks to take the right decision on sowing. Those who could rely on geographic information system (GIS) could make a more intelligent guess.

In simple terms, GIS uses satellite images of a particular field to collect and analyse data. This includes mapping software and its application with remote sensing, land surveying, aerial photography, photogrammetry and other tools.

The ministry of agriculture has been using remote sensing technologies since the eighties through the department of space. "However, the reports are normally restricted to the government sector and not available for the public. Or when made available, packaging of the information to meet the commercial needs of the private sector is not adequately addressed," says Siva Subramanium, head of agriculture and natural resources at RMSI, the company that claims to address those needs.

RMSI is India's own garage to riches story, with a difference. It was started by three Stanford University graduate students in a basement in New Delhi 17 years ago, in collaboration with California-based Risk Management Software Inc. In 2006, the Indian company was acquired back by the US parent.

Subramanium, IIT Mumbai alumni, believes timely GIS information could help tackle drought-like or flood-like situations and also help improve yields. "Remote sensing and GIS technology can help in creating real time agriculture information system containing village level details of crop scenario. It can help in planning land capability and crop suitability," he said.

Yet, in agriculture, Indian GIS industry still lags behind. Millions of farmers operating across the country in diverse conditions do not have a scientific basis to taking their decisions on what to sow and when. Prices remain uncertain and they have to base their planting decisions on presumptions.

Subramanium says GIS can be used as a tool to take decisions on food export-import too. "GIS technologies can help in making advance yield estimates of the crop. This can help the government and trade bodies to prevent manipulation of international prices." He gives an example about India's import of pulses from Myanmar. Using remote sensing data, traders in Myanmar come to know of shortfall in Indian market before their Indian counterparts. If India is predicted to have a lower output, they hike their prices. Such scenarios, according to Subramanium, could be avoided by planning and timely dissemination of information through GIS.

Today, many open-source information sites on the internet provide GIS services, such as Grass, uDig and Google Earth. But their information is often dated and limited. "Our system provides the agri industry real time information by processing raw satellite images," says Subramanium. If more farmers were to use this system, the dependence on weather in the country would reduce. ■

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