



Farmers in several districts in Tamil Nadu are receiving payouts because their losses have been identified by satellite data.

Early insurance payouts were surging during the recent Rabi cropping season (crops sown in winter and harvested in the spring) in Tamil Nadu, a state in the south of India. For the first time in India, a state government made use of satellite data in assessing various damages and offered compensation to farmers under the prevented sowing feature of the 2.8 bn USD-heavy national crop insurance programme. Under this prevented or failed sowing cover, farmers received an average pay-out of around 200 EUR if in their village rice could only be sown in less than 25% of the rice growing area because of too little or too much rain.

The technology use was made possible through the Swiss and German donor-funded programme RIICE (Remote-sensing-based Information and Insurance for Crops in Emerging Economies).

“Assessing damages based on remote sensing technology is introducing much objectivity into the crop insurance programme,” says MK Poddar, General Manager of AIC, India’s leading agricultural insurer. His company made payouts to 203,000 smallholder farmers that suffered from drought in the last rice season in Tamil Nadu. **“Beyond the areal loss assessment, we are also keen to apply the technology to assess actual yields at the end of the season,”** he adds.

The Tamil Nadu Agricultural University in Coimbatore (TNAU) has been delivering information about in-season losses and end-of-season yields to the Department of Agriculture, Government of Tamil Nadu for the first time during this season after testing the use of remote sensing technology in previous years and delivering accuracy rates of around 90% when compared to either official data or own measurements.



“RIICE-Remote Sensing technology from TNAU allows us to assess crop loss and damages in a more transparent and timely manner,” says Gagandeep Singh Bedi, Agricultural Production Commissioner and Principle Secretary to Government. He is the highest-ranking bureaucrat for agricultural matters in this Indian southern state of 68 million inhabitants of which almost one million are rice farmers. “This was particularly useful during the last cropping season to identify villages that had been hit by drought and farmers benefitted from the technology by getting claims under prevented/failed sowing feature of the Pradhan Mantri Fasal Bima Yojana (PMFBY) in a record time,” he adds. Usually it takes up to one year to receive claims. However, in this case of prevented/failed sowing the farmers received claims within 3-4 months of the crop harvest. It is for the first time the State Govt. has made use of remote sensing technology for crop insurance claim settlement.

The Tamil Nadu Agricultural University has been working with the International Rice Research Institute (IRRI) in the Philippines to also assess yields at the end of the season. “We believe that the technology can help the state government to obtain objective and transparent data on actual rice yields so that farmers can be indemnified quickly,” says Professor Pazhanivelan, Head of Department of Remote Sensing and GIS and Principal Investigator of the RIICE project at TNAU.

The use of remote sensing technology to identify lost rice areas and estimate the rice yields has been tried and tested over recent years in several districts of Tamil Nadu. “Eventually with the help of satellite-based observations, we can digitize the complete area estimation and yield data collection process,” says Manoj Yadav, Project Manager of GIZ, one of the implementers of RIICE.

Technically, the project relies mainly on radar-based satellites, some originating from the Indian RISAT 1 satellite but most delivered through the Sentinel-1 mission – part of the Copernicus programme – and operated by the European Space Agency (ESA). Based on the expertise of sarmap, a Swiss remote sensing company that developed a customised processing solution, it is possible to monitor the rice area and related information on the rice growth status. Based on the crop growth model “Oryza” of IRRI, project partners are also working on making village level yield estimates available in the upcoming seasons in Tamil Nadu. “The results of such public-private technology development is highly important to provide better risk management options for policy makers and insurance firms,” says Manuel Flury, Head of Food Security of the Swiss Agency for Development and Cooperation, RIICE main sponsor so far.

“We are glad to see that technological excellence is benefitting smallholder farmers that are impacted by adverse weather events,” he adds.

Further information on RIICE can be obtained from www.riice.org.

