Operational Remote Sensing-based Rice Monitoring Systems in South and Southeast Asia under the RIICE and PRISM Initiatives

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Abstract: Together with national partners, we have developed rice monitoring systems based on remote sensing and crop modeling in South and Southeast Asia under the RIICE (Remote sensing-based Information and Insurance for Crops in emerging Economies, www.riice.org) and PRISM (Philippine Rice Information SysteM, https://prism.philrice.gov.ph) projects. These initiatives are national/state-wide in scope with strong emphasis on development of capacity of national partners to facilitate the sustainable use of the technology within national systems. PRISM has been institutionalized within the Philippine Department of Agriculture and has been fully operated by the Philippine Rice Research Institute (PhilRice) since 2018. In Tamil Nadu, India, the project implementer, Tamil Nadu Agricultural University (TNAU), demonstrated the use of the technology to support the state government in its response to flood incidence in Cuddalore district in 2015 and during severe drought in Cauvery Delta in 2016. TNAU took the initiative to use the technology to fulfill critical information needed by crop insurance companies resulting in large number of payouts for insured farmers in the affected area. Cambodia and Vietnam, with support from international donors, will undergo a similar transition phase towards institutionalization of the technology in their respective countries. The presentation will focus on demonstration of the technology that relies on spaceborne Synthetic Aperture Radar (SAR) and multispectral optical satellite data, achievements to date, challenges in the implementation and transition from research to

operation, and learnings in the development of a sustainable rice monitoring system at national/state-scale.

Keywords: rice mapping, rice monitoring, SAR, yield estimation