197-3 Remote Sensing for Inclusive Agro-Ecosystems and Development Alternatives for Sustainable Living.

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Tuesday, October 24, 2017: 9:45 AM
Tampa Convention Center, Room 5

***Chandrashekhar Biradar**, Amman, ICARDA - Intl Center for Agricultural Research in the Dry Areas, Amman, JORDAN*

Abstract:

Inclusive agricultural development by reducing yield and nutritional gaps while safeguarding the ecosystem health and services is the keystone action for overall development for sustainable living. However, information on the location, timing, granularity, benchmarking, etc. (e.g., inter and intra field variability, drivers of low yields, crop sequence, risk factors, target areas) required for closing existing gaps collectively are not readily available. The quantification of agricultural production systems and associated parameters at much higher spatial details (pixels to farms and landscape scales) will help understand the causes of underperformance (e.g. crop sequence, soil nutrient base, crop protection, water use) to develop appropriate intervention packages (e.g., right seeds, IPM, cultural practices) to protection measures (e.g., integration, crop insurance, damage control). Recent advances in ultra-high resolution remote sensing, big-data analytics, machine learning and cloud computing along with smart phone enabled citizen science has opened tremendous opportunity to address the information gaps for demand-driven precision-decisions for successful interventions across the scale (e.g., space, time and package). These multidimensional and interactive information will help proper alignment of the factors at a manageable scale and affordable cost to target the interventions at right spot and right time which will eventually contribute to increasing overall agricultural productivity while saving inputs and safeguarding ecosystem health and services. Here we will demonstrate recent advances, opportunities, and few pilot use-cases of the high-resolution remote sending in an integrated agro-ecosystem research, application and outreach for building resilient and sustainable agro-ecosystems for better livelihoods and the planet (http://geoagro.icarda.org/).

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