

Report from WG5: Agriculture and Food Security



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1. The WG participants represents different communities: EO researchers, support system developers, and national and international users whose targets are operational implementations.

Insightful interactions between participants have led to mutual learning about the present status, expectations, potentialities and perspectives of what can be achieved in each domain and as a whole.

Session presentations (1)

2. The WG session comprises two parts:

i) **The Asia-Rice/GEOGLAM and related projects in Asia** in which the current activities in Japan, Indonesia , Vietnam, Chinese Taipei ,India and China have been exposed

ii) **The technology innovation for rice productivity monitoring** where new way of collection of ground data and environmental datasets , platform of agriculture decision support, and models to cope with scenario of climate change have been presented

Session presentations (2)

4. It was recognised that despite the importance of activities conducted by different groups to provide satellite and ground observations , statistical information, and models such as crop yield forecast, there are few operational applications integrating all the components.

5. The panel discussions were focused on the way to achieve high performance rice productivity estimation by integration of satellite data, ground data and models , to contribute to the SDG 2 (end hunger, achieve food security and improved nutrition, and promote sustainable agriculture)

Discussion topics (1)

1. Contribution to other SDGs: because agriculture is human and environment related, agriculture is SDG2 and to 13 other SDGs, with more direct effects on clean water, climate action, life on earth, no poverty, and good health and well being



Discussion topics (2)

2. **Multi-platform observations:** we need satellite data (optical and SAR), meteorological data, in situ data, with standardised data and product definition and format
3. **Interoperable platform:** required for integration and data assimilation in models, for simulation scenarios on climate change and on socio-economic aspects
4. **Innovation for crop models** to assimilate the relevant AO and meteorological data. Innovation for models integrating socio-economic component for Decision Support Systems for scenarios of climate change, environment and socio-economic impacts at short and long term .

Working Group statement

- To contribute to several SDG, especially SDG2, GEOGLAM /AsiaRiCE will continuously improve the accuracy of rice crop production outlooks and predictions that directly or indirectly help policy makers and agricultural stakeholders to provide sufficient quality crops with sustainable agriculture practices.
- GEOGLAM/AsiaRICE needs to upgrade prediction models by integrating multiple time series satellite data with *in-situ* observations.
- We will also accelerate collaboration with other Working Groups that share the same problems such as water resources, GHG emissions, forest conservation and biodiversity ..,which are often constraints for crop production.