Food, Price and Conflict: Earth Observations-based Agricultural Production Forecasting to assess potential impacts on grain markets and civil unrest

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1. Wheat Yield Forecasting in Main Export Countries

Approach to yield forecasting

2. Exploring the relationship between forecasts and price volatility: Strengthening the case for EO-based crop monitoring

Crop Condition during the 2010 Russian Drought: (July 17, 2010)

Exploring Adaptability of EO based Yield Forecast Model

Fluctuations in production, primarily driven by weather events, seem to have a significant impact on market fluctuations

Project Components

Context

Wheat Production (McT/hr)

Why Wheat?

Wheat cultivation is one of the primary agricultural land uses worldwide with the highest planted area among food crops; it is the most important cereal crop grown on international markets, wheat price is due to severe droughts in the principle export countries like Russia, India, and China; it is the primary food staple and commodity and wheat shortages have led to food insecurity in developing countries, as well as for national security.

The project is comprised of three interdisciplinary as integrated components:

- Development of an EO-based generated approach for wheat yield forecasting that is not only knowledge-based but also data-driven and real-time implementation for the wheat export countries requiring countries.
- A simulation and empirically based assessment to evaluate the potential impact for timely EO-based forecasting of extreme prices.
- Examination of the interaction between the availability of agricultural production information, price fluctuations and civil unrest.

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