Sustainable agriculture for increased food security

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Knowledge gaps in agriculture

• Access to adequate locally usable knowledge and information on weather and seasonal forecasting to assist farm production operations

• Inadequate information and knowledge on adaptation options and technologies suitable to addressing context-specific climate extremes, impact and risks for agriculture, and the net effect of climate change at the local level

• Limited access to traditional knowledge and indigenous knowledge on agricultural adaptation

(Lima Adaptation Knowledge Initiative)
Integrated Food Security Phase Classification (Acute)

The Nepal Food Security Monitoring System (NetIASP) operates nationwide and includes District Food Security Networks (DFSNs) in 74 of 75 districts (only Kathmandu district is not included). DFSNs use the NetIASP integrated food security phase classification method (IPC) to classify the severity and causes of food insecurity in Nepal every four months (March, July, and November). DFSNs use a set of standard procedures and tools, adapted for the Nepal context, to synthesize the latest available data and local knowledge, reach a consensus on the current food security situation and classify every village development committee (VDC) and municipality into one of five phases: Phase 1 - minimal food insecurity, Phase 2 - moderately food insecure (or stressed), Phase 3 - highly food insecure (or critical), Phase 4 - severe food insecure (or emergency), and Phase 5 - humanitarian emergency (or declared famine). The analysis is synthesized in the form of Food Security Bulletins (district and national level) and communicated to the stakeholders for the action. NetIASP is implemented by the Ministry of Agricultural Development (MoAD) with strategic guidance from the National Planning Commission (NPC) and technical assistance from the World Food Programme.
2016 drought in far western Nepal
Challenges in Geospatial applications

- High variability in topography and micro-climatic conditions in the mountains
- Very limited in-situ measurements
- Small farm sizes
- Diversity in cropping practices
- Financial models to support the small farmers for technology adoption
Opportunities and Collaborations

Partners
The Data Driven Farming Prize is an initiative in partnership with the following organizations:

- Feed the Future
- USAID
- CIMMYT
- ICIMOD

Feed the Future is the U.S. Government’s global hunger and food security initiative. With a focus on smallholder farmers, particularly women, Feed the Future supports partner countries in developing their own agriculture sectors to generate opportunities for economic growth and trade, which can help reduce poverty and hunger. Visit website.

USAID is the U.S. Government agency that works to end extreme global poverty and enable resilient, democratic societies to realize their potential. USAID center and U.S. foreign policy by promoting broad-scale human progress at the same time it expands stable, free societies, creates markets and trade partners for the United States, and fosters good will abroad. Visit website.

CIMMYT works throughout the developing world to improve livelihoods and foster more productive, sustainable maize and wheat farming. The center helps to build and strengthen a new generation of agricultural research and extension services in major wheat-growing nations. Visit website.

ICIMOD supports the proactive sharing of open data to make information about agriculture and nutrition available, accessible and usable to deal with the urgent challenge of ensuring world food security. The initiative focuses on building high-level support among governments, policymakers, international organizations and business.

Microsoft Innovation Center Nepal (MIC Nepal) - Microsoft Innovation Center Nepal (MIC Nepal) is a tech center that is being helped by Unledded Technologies P Ltd which offers comprehensive information services for promoting innovation and grow sustainable local software economy. Visit website.

ICU For Agriculture - ICT for Agriculture (ICU) provides a range of products and services to foster innovation and growth of sustainable local software economy. Visit website.

GODAN supports the proactive sharing of open data to make information about agriculture and nutrition available, accessible and usable to deal with the urgent challenge of ensuring world food security. The initiative focuses on building high-level support among governments, policymakers, international organizations and business.