

Sustainable agriculture for increased food security

Birendra Bajracharya

International Centre for Integrated Mountain Development

Kathmandu, Nepal

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)

Food Security Atlas

Indicator: Food Security Phase Classification

● Acute ○ Chronic

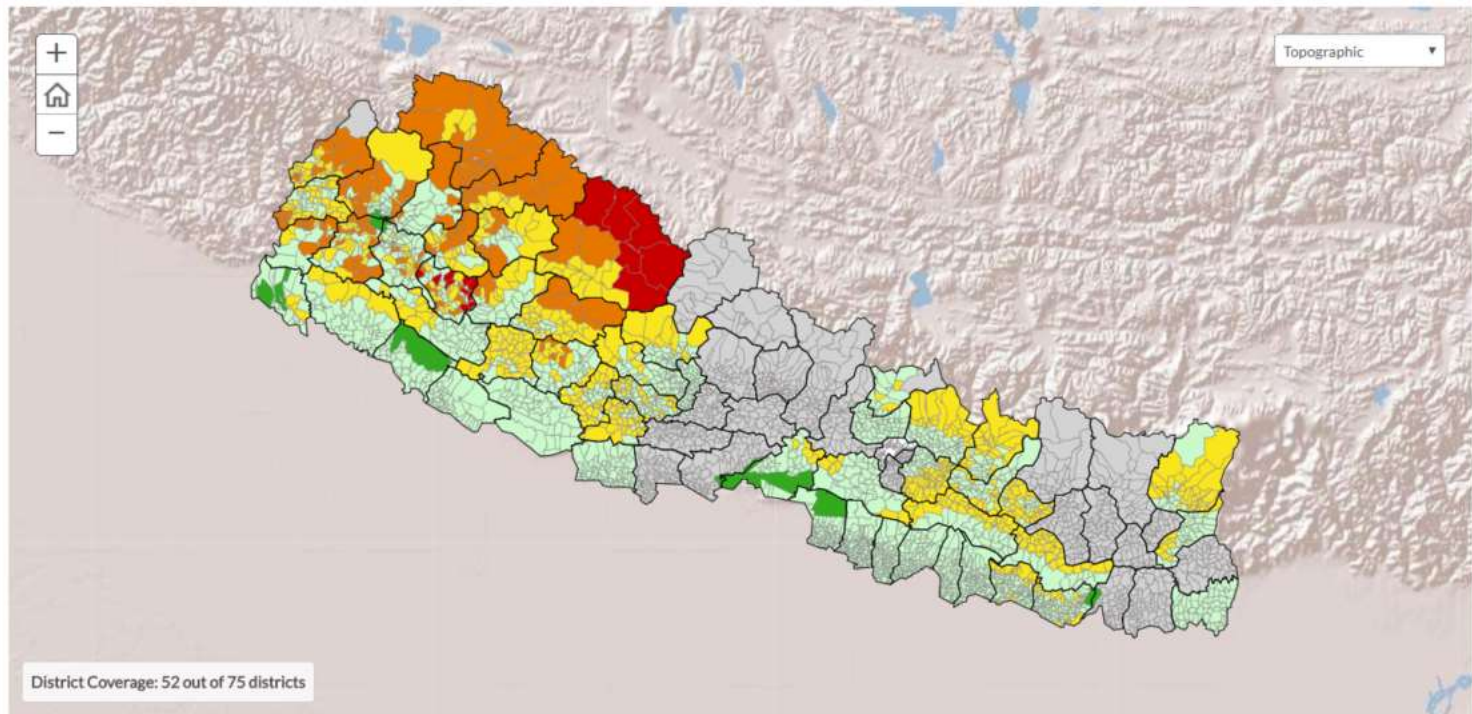
Acute Option: Phase

Period: Jan - Mar

Year: 2009

2008 2016

► Agriculture Atlas

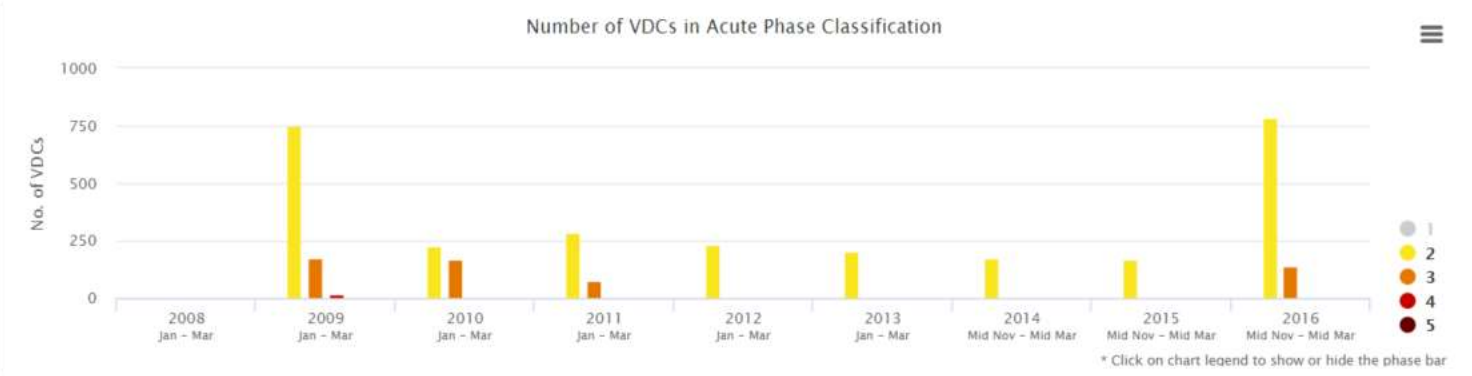


Integrated Food Security Phase Classification (Acute)

The Nepal Food Security Monitoring System (NeKSAP) operates nationwide and includes District Food Security Networks (DFSNs) in 74 of 75 districts (only Kathmandu district is not included). DFSNs use the NeKSAP integrated food security phase classification method (IPC) to classify the severity and causes of acute 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 - minimally food insecure, Phase 2 - moderately food insecure (or stressed), Phase 3 - highly food insecure (or crisis), Phase 4 - severely food insecure (or emergency), and Phase 5 - humanitarian emergency (or declared famine). These analysis outcomes are synthesized in the form of Food Security Bulletins (District and national level) and communicated to the stakeholders for the action. NeKSAP 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.

NeKSAP Integrated Food Security Phase Classification (Acute)

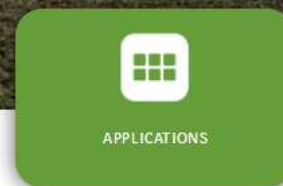
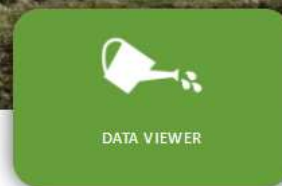
- 1 Minimally Food Insecure
- 2 Moderately Food Insecure (or Stressed)
- 3 Highly Food Insecure (or Crisis)
- 4 Severely Food Insecure (or Emergency)
- 5 Humanitarian Emergency (or Declared Famine)
- No Data
- Not Monitored



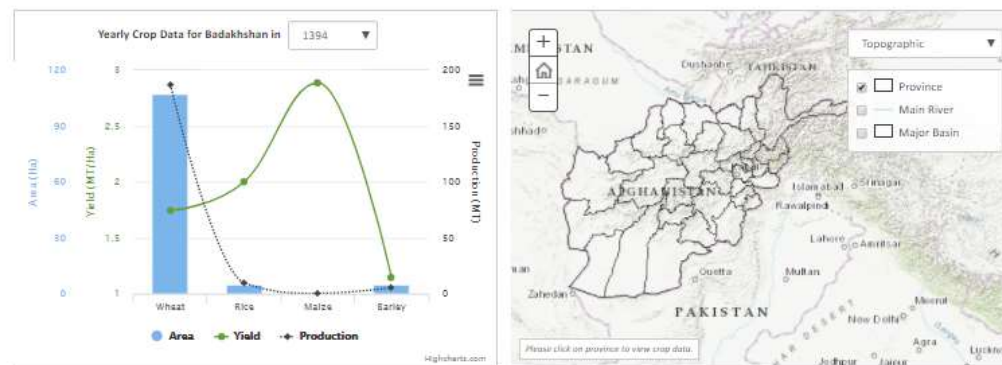
Downloads

Small Area Estimation
2013

Small Area Estimation
2014



Provincial Profile



Crop Calender

Kabul



Geometry Assets Folder

projects/servir-hkh/WheatMapping/2017/A

Select Province

Kabul

IR

Start Date: 2016-11-1

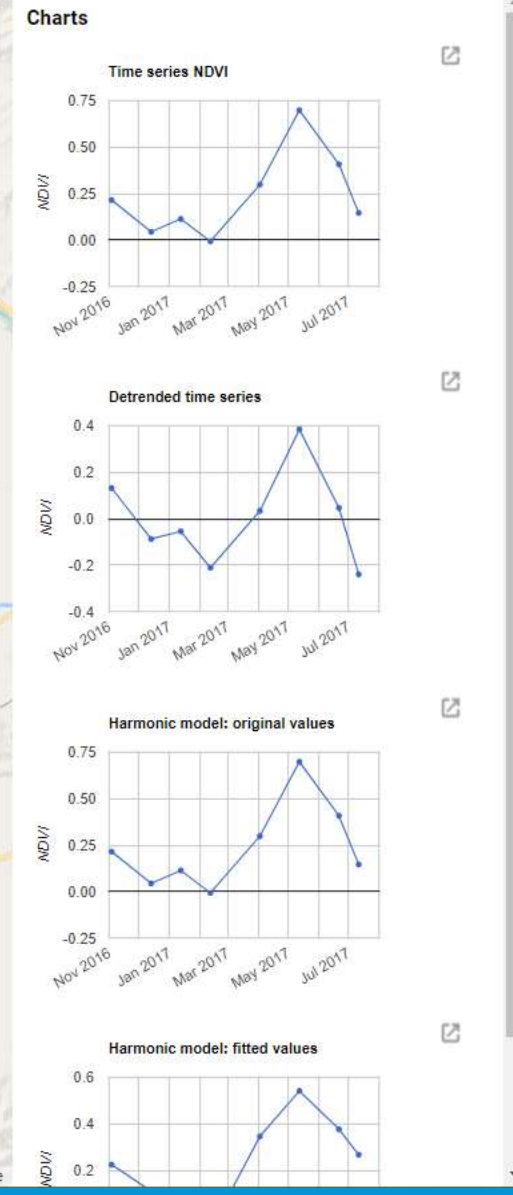
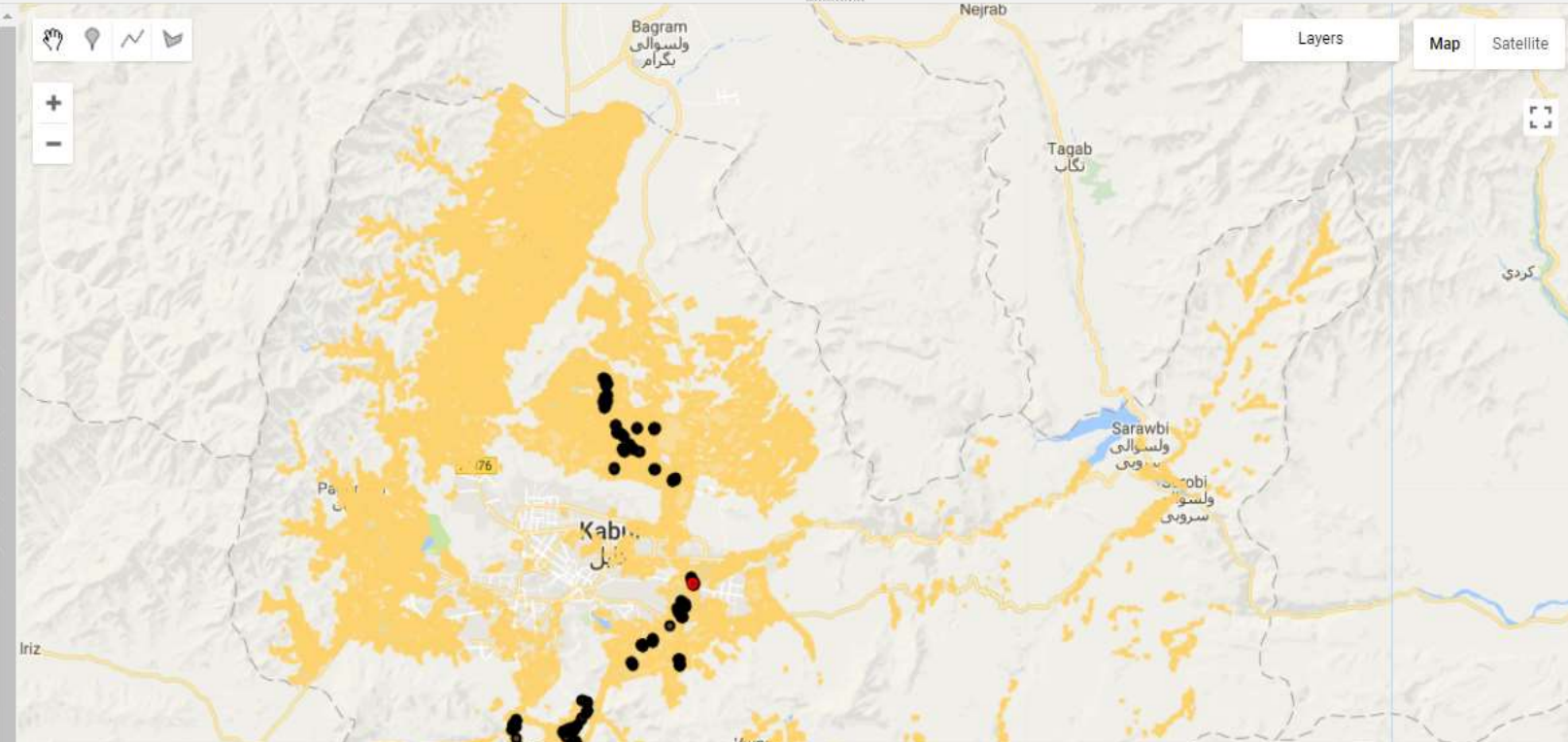
End Date: 2017-7-30

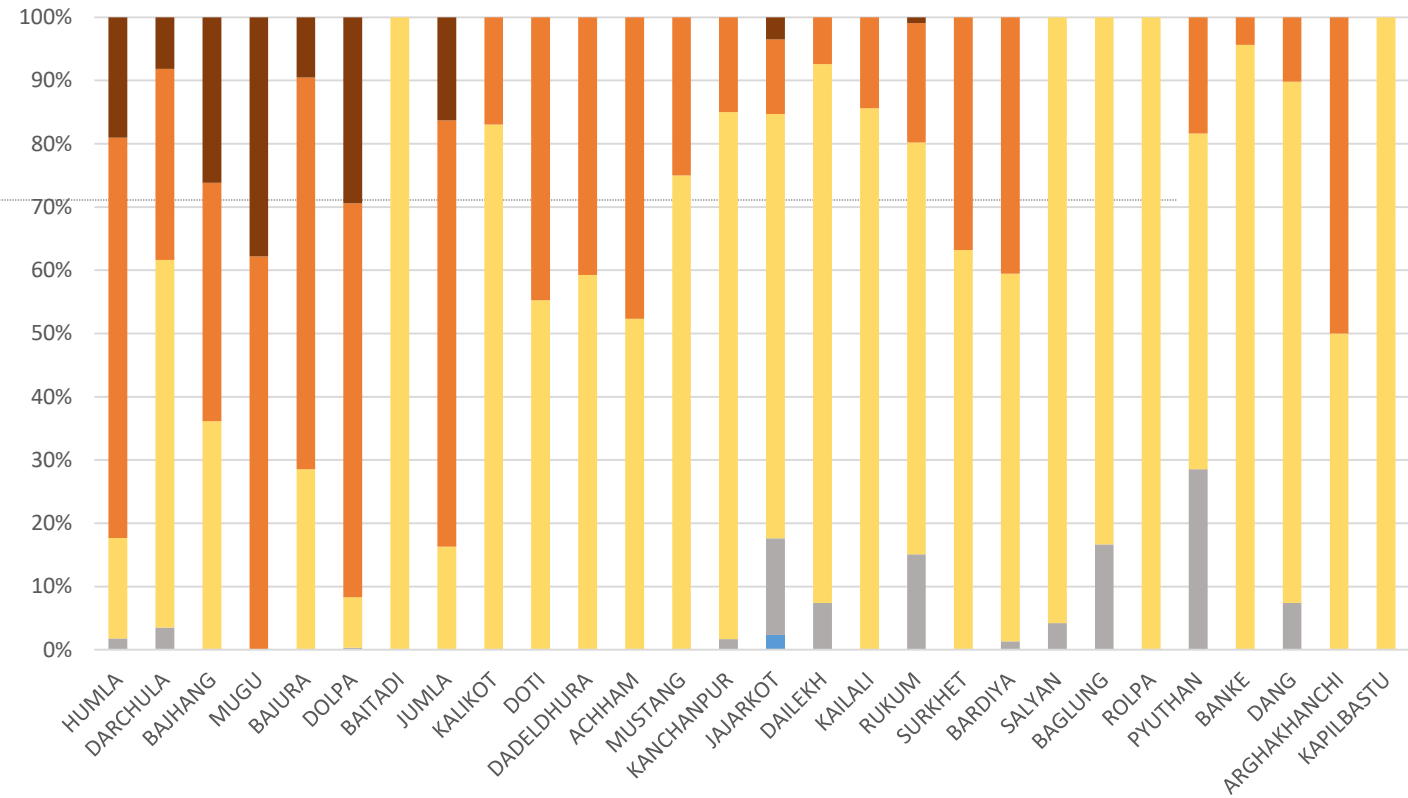
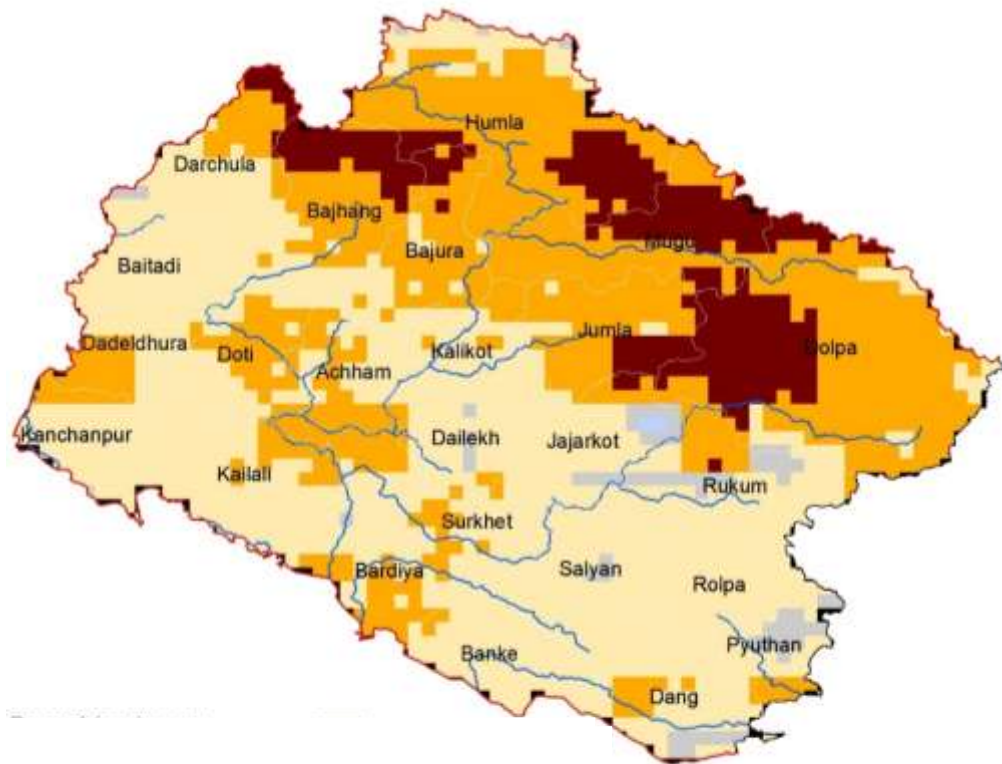
Cloud %: 30

Scale: 10

Frequency: 4

Show Overall Phenology





■ Normal
 ■ Dry
 ■ Moderate drought
 ■ Severe drought
 ■ Extreme drought

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 run in partnership with the following organizations



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 lead U.S. Government agency that works to end extreme global poverty and enable resilient, democratic societies to realize their potential. USAID carries out 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 maize- and wheat-growing nations.

[Visit website](#)



The **International Centre for Integrated Mountain Development (ICIMOD)** is a regional intergovernmental learning and knowledge sharing centre serving the eight regional member countries of the Hindu Kush Himalayas – Afghanistan, Bangladesh, Bhutan, China, India, Myanmar, Nepal, and Pakistan – and based in Kathmandu, Nepal.



MIC, Nepal – Microsoft Innovation Center Nepal (MIC Nepal) is a tech center that is being hosted by Unlimited Technology P Ltd which offers a comprehensive set of programs and services to foster innovation and grow 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.



Db2Map



Spero Analytics



eKutir Global



I.C.T. For Agriculture



DreamWork Solution



Intrepid Geoinformatics



IDE



Gham Power Nepal



Peat