



# Agriculture Information System

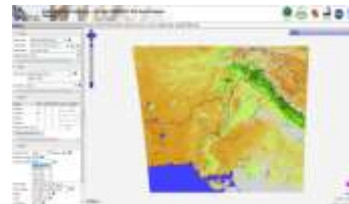
Building Provincial Capacity for Crop Forecasting and Estimation

Introduction to the Project  
and  
SUPARCO's support

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Islamabad, 29<sup>th</sup> Oct 2014

## The Project

- Improvement of the capacity of provincial governments to collect, analyze and timely report on agricultural information



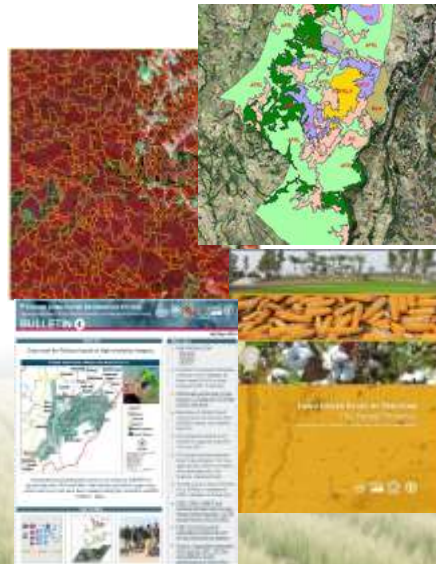
## Focus

- Enhancing the integral use of remotely sensed satellite data into existing data collection and analysis
- Developing complementary systems to improve crop area estimates and yield forecasts, as well as crop status monitoring and assessment



## Specific Objectives

- Improve CRSs capacity to forecast and estimate crop production through the use of remote sensing, field data, and other relevant information
- Enhance CRSs capacity to produce timely market-oriented reports containing actionable information for farmers and other interested in the crop market



## Main Areas of Activities

- Develop methods and tools to improve quality of agricultural statistics based on the integral use of geospatial information
- Implement operational units at CRSs and Universities
- Build human and technical capacity in integral use of remote sensing, GIS and statistics
- Create knowledge base for scaling methods, tools, and capacities to other Pakistan entities and universities



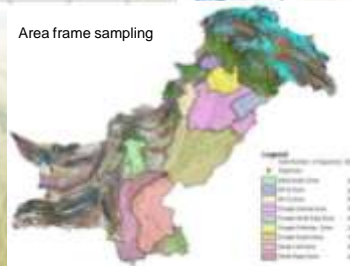
## Support to Universities

- Set up fully functional operational units with hardware and software
- Development of human resource and technical capacities
- Post set-up consultations
- Specialized short-term United States-based training
- Technical training
- University of Agriculture, Faisalabad (UAF)
- Sindh Agriculture University, Tandojam



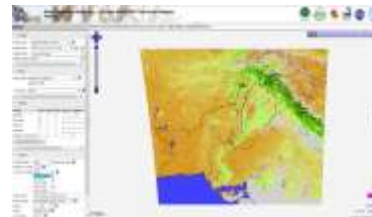
## Expected results

- Increased knowledge for the design and implementation of an operational agriculture survey that improves quality of statistics using geospatial data
- Increased accuracy and decreased costs of field measurements and data collection



## Expected results

- Implementing sustainable methodologies and tools that improve the quality of geospatial information used
- Trained in country geospatial professionals capable to improve monthly crop forecasting bulletin
- Dissemination of lessons learned from the project to other entities in Pakistan





## People in Action



Training/testing mobile application (AFSS)



Field data collection

## Technology Transfer



Nucleus Lab at CRS Punjab



Nucleus Lab at CRS Sindh



MAGIS and GLAM system installed at University of Agriculture, Faisalabad (UAF)



MAGIS and GLAM system installed at Sindh Agriculture University, Tandojam (SAUT)

## Capacity Development



Land cover mapping training at Islamabad



Workshop on Crop Information Portal at Lahore



GLAM training at University of Agriculture, Faisalabad



Training at the University of Maryland

## Capacity Development



Briefing to Secretary Agriculture Punjab on field data transmission through smart phones



Secretary Agriculture Sindh handing over smart phones for field data transmission



Training on RS/GIS Application at NCRG, Karachi



MAGIS and GLAM system being installed at SUPARCO Islamabad

# Capacity Development

Transmission of geo-tagged field data (jins-war data) through smart phones



Training of CRS officials



Jins-war Proforma used for Gardawari.

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23	پشاور	24	راولپنڈی	25	سرگودھا	26	فaisalabad	27	مظفر آباد
28	نواب شاہ	29	گجرات	30	حیدرآباد	31	سیالکوٹ	32	گوجرانوہلہ
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# Technical Publications

- Pakistan: How SUPARCO Makes Crop Forecasts and Estimates based on integral use of RS data
- Pakistan: Advanced Training on Monitoring of Crops through Satellite Technology
- Punjab CRS: Base Line Survey
- Sindh CRS: Base Line Survey



## SUPARCO'S ROLE IN THE PROJECT

SUPARCO, in collaboration with FAO/USDA/UMD, has played an important role in transfer of knowledge to the provincial CRSs and Universities

### Contribution:

- Capacity building of CRSs staff and Universities in statistics, remote sensing, GIS and mobile computing
- Improvement in the capacity of CRSs to utilize satellite imagery and other data for producing reliable crop forecasts and estimates
- Development of land cover atlases
- Improvement in Area Frame Sampling
- Automation of Field Data Transmission Systems
- Development of crop masks based on high resolution imagery
- Compilation of monthly crop bulletins





## Current Position

- Since 2005, Pakistan has been investing through **Ministry of National Food Security & Research**, in advanced technologies for collection of spatial information on agriculture. This endeavor has proven to be very successful
- The capacity and knowledge base now available within SUPARCO and Provincial Crop Reporting Services can serve as a spring board for further building remote sensing / GIS based applications



## New Initiatives

- Mapping spatial dynamics of cropped area in Pakistan
- Delineating Pakistan Agro-Ecological Zones (PAEZs) using geospatial technology
- Capacity Building of Provincial Governments in Application of Remote Sensing and Geospatial Systems/ Technology for Soil Fertility Management
- Mapping the Geospatial Diversity of Medicinal and Aromatic Plants in the Hindu Kush-Himalaya (HKH) mountain range
- Erosion risk assessment of agricultural soils using Geospatial techniques
- Study impact/adaptations and projections of Climate Change on agricultural systems

## Recommendations

- Scaling up of the project “Agriculture Information System” to cover the remaining provinces of the country
- The new initiatives visualized by SUPARCO be considered for future realization
- The capacity and knowledge of satellite remote sensing & GIS need to be optimally utilized to ensure sustained growth in agriculture sector

