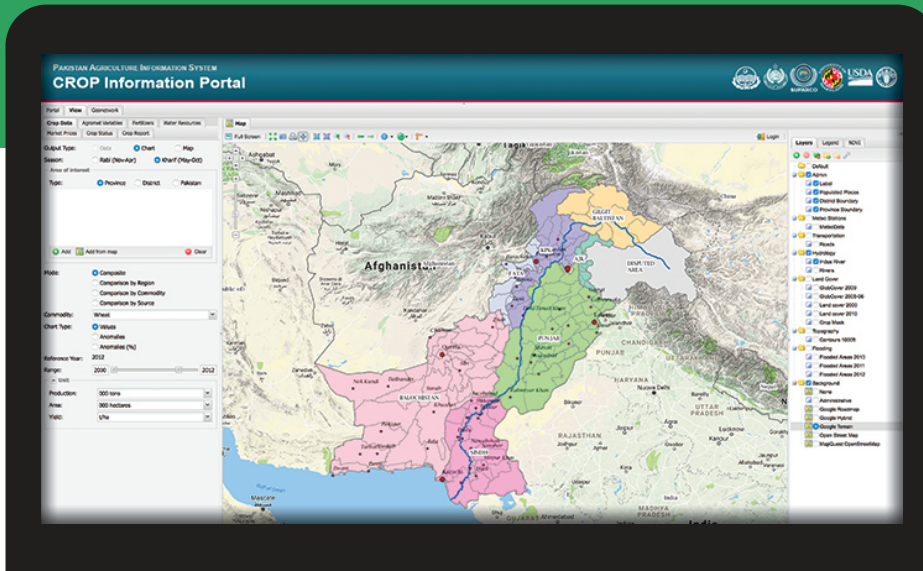




Food and Agriculture Organization
of the United Nations



CIP

Data dissemination
and analysis tool on Pakistan's
major crops and relation with
Satellite NDVI datasets

PAKISTAN Crop Information Portal (CIP)

Background

Timely system updation and information dissemination plays a significant role in policy formulations and management regarding food security and environmental sustainability. The project "Agriculture Information System, Building Provincial Capacity in Pakistan for Crop Estimation, Forecasting, and Reporting based on the integral use of Remotely Sensed Data" of which the Crop Information Portal is a component, specifically focuses on the improvement of the capacity of provincial governments to produce timely report on agricultural information and crops statistics and on the development of complementary geospatial systems to aid in the timely information dissemination.

The Portal

The Crop Information Portal is a WEB, knowledge base and data dissemination plat-

form for crop statistics and crop conditions in Pakistan. It has the role of managing and disseminating spatial (satellite images and thematic layers) and non-spatial (crop, climatic, agronomic, hydrologic and economic) data that the provincial Crop Reporting Services and other national or provincial institutions generate or collect on crop monitoring. The Portal provides users with an easy-to-use system that allows timely access to the large amount of crop information, agro-meteorological data and satellite images, perform analysis, and generate statistics in various formats.

The Portal will help monitor crops, vegetation and agro-meteorology during the growing period by comparing current with historical data and detect deviations from the "normal" growing conditions that might influence crop production.

Benefits

- Ability to generate customized reports based on subsets of data stored in primary database.
- One-point of access to data that are currently collected and published by various institutions with diverse formats: spreadsheet, text or hard copy.
- Increased standardization, harmonization, minor effort in data merging and reduction of errors.
- Target those users who simply need access to data quickly and efficiently, to generate simple statistics or produce standardized outputs for their analysis or reporting.
- Support impact studies of extreme climatic events such as drought and flooding on crops.
- SUPARCO (National), CRS Punjab and CRS Sindh (Provincial) have implemented and made operational a customized copy of the Portal.

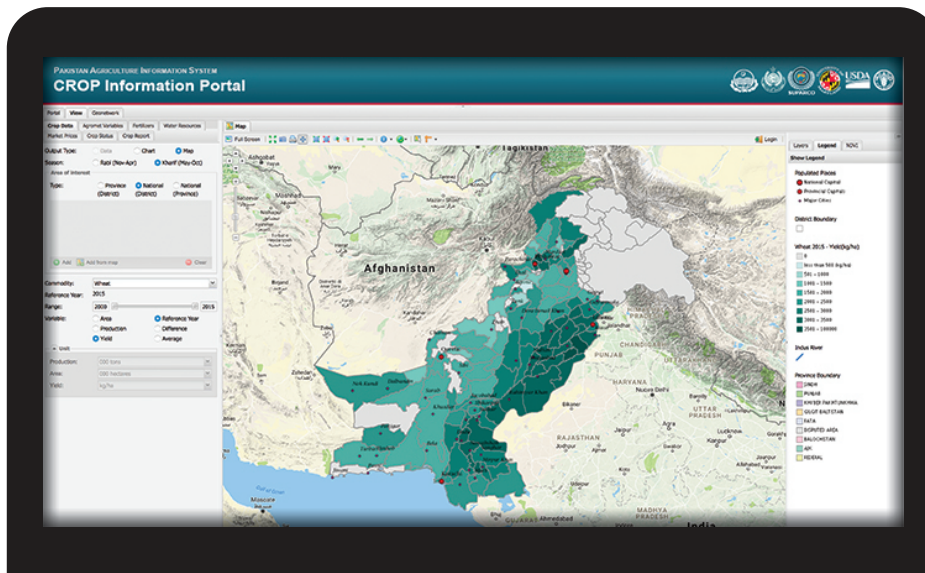
MAIN OBJECTIVES OF THE CROP PORTAL:

1 Manage, display and analyse historical statistics on crop area, yield and Production and provide support for crop forecast.

2 Monitor crop conditions during the growing stages, using historical Satellite NDVI data and current agronomic, agro-meteorological hydrological farm inputs and economic time series.

3 Provide users with a WEB GIS component to manage geospatial data from local or remote sources, including satellite images and derived products (NDVI), and other thematic datasets complementing crop information.

4 Adopt technologies, tools and formats based on international standards and open source projects.



CIP Modules

Static website

For resource sharing.

Viewer

Front-end to generate charts, maps and reports. It interacts with backend server components to allow processes of:

- Crop data analysis
- Agro-met, water resources, fertilizers and market prices data analysis
- Crop health status
- Map composition

Geonetwork

Open source and standard based meta-data catalogue to describe and disseminate geospatial data.

← The yield data for 2015 Wheat crop mapped at District aggregation. 8 Classes (shades of green) are used to show differences.

Geospatial Data info



Operational layers: NDVI images (10 day averages, since 2000, various sources)

Ancillary layers:

- National, Provincial and District administrative boundaries
- Main Populated Places
- Meteorological stations
- Roads network, Rivers, Contours
- Land cover (various sources)
- Crop masks, Flooded areas
- Google, Open Street Map and MapQuest background layers

Variables info



Type: Rabi Season: Wheat.

Kharif Season: Sugarcane, Cotton, Rice and Maize

Data: seasonal area, yield and production of crops

Area: Country, Province, District

Period: 2000 - current

Formats: Tabular, Chart, Map

Analyses:

- Absolute values or deviation from mean of a selected time period
- Compare areas by same crop, crops for same area.
- Choropleth map of a single year, average of period, or deviation of one year from mean

Agromet/Crop info



Type: Temperature, Precipitation, Day length, mean NDVI, Fertilizers offtake, Irrigation (canal withdrawal, river water flow), Crop market prices

Data: 10 day, monthly and annual aggregations

Area: Country, Province, District

Period: 2000 - current

Formats: Tabular, Chart

Analyses:

- Seasonal trend for a single variable of: specified year / averages of period / deviation from average
- Comparison seasonal trend of multiple variables for the same area



cip.sgs-suparco.gov.pk/MapStore