

Mapping and Monitoring of Agriculture in parts of Sudan using Remote Sensing and GIS

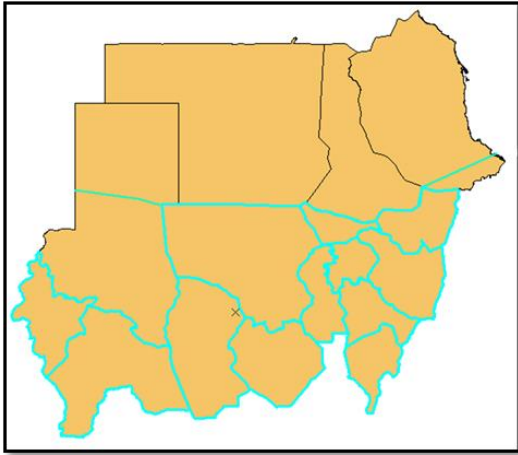


Fig.1 Project Area, Sudan

Business Need:

Satellite Crop Monitoring Technology allows to perform crop monitoring in different fields, located in different areas, regions, even countries and on different continents. The technology's significant advantage is a high automation level of sown area condition and its interpretation in an interactive map which can be read by different groups of users.

The identification and crop-area estimates requires multi-temporal series of data, as each single image has to be acquired within a key time-window for optimal target discrimination.

Inputs Used:

- Multi temporal Satellite Images (Resolution-10m)
- Area Boundaries

Business Solution:

Satellite images were used to classify the agriculture area with approach of hybrid classification methodology. The different types of crops in the irrigated and rain-fed sectors of the project area mapped and classified to produce maps.

In the next step, these maps were sent for field validation. After field validation, necessary modification was done and final maps were created.

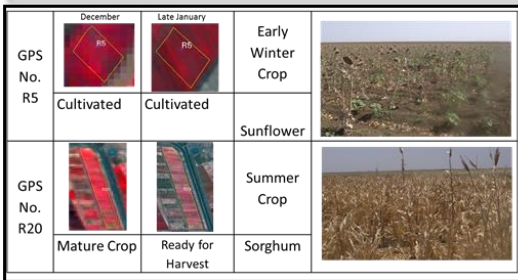
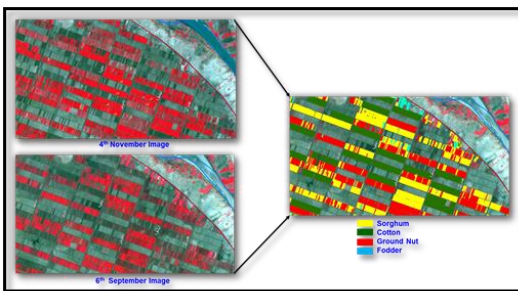


Fig2. Processing

Groundnut					
Al Gazira State	Crop Performance	Acreege (Feddan)	Yield (Kg)	Production (Kg)	Total (Kg)
Gazira and Part of Rahad Irrigated Schemes	Excellent	1,110	1,559	1,729,998	
	Good	50,789	1,113	56,528,117	
	Average	176,060	891	156,869,677	
	Low	59,355	579	34,366,535	253,662,77
	Poor	14,626	285	4,168,447	5
Other Irrigated Schemes	Excellent	7	1,559	11,034	
	Good	746	1,113	830,040	
	Average	2,081	891	1,853,959	
	Low	1,497	579	866,532	
	Poor	1,500	285	427,397	3,988,961
Total		307,770			Grand Total (Kg) 257,651,73
					Grand Total (Tonnes) 257,652

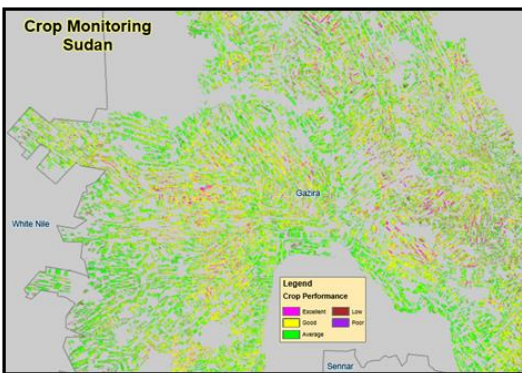
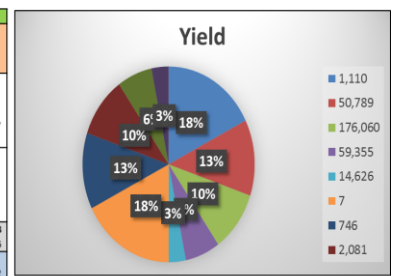


Fig3. Different Crops

Project Shipment:

The following shipments were made-

- Map showing the spatial distribution of crops along with their performances
- Project Report