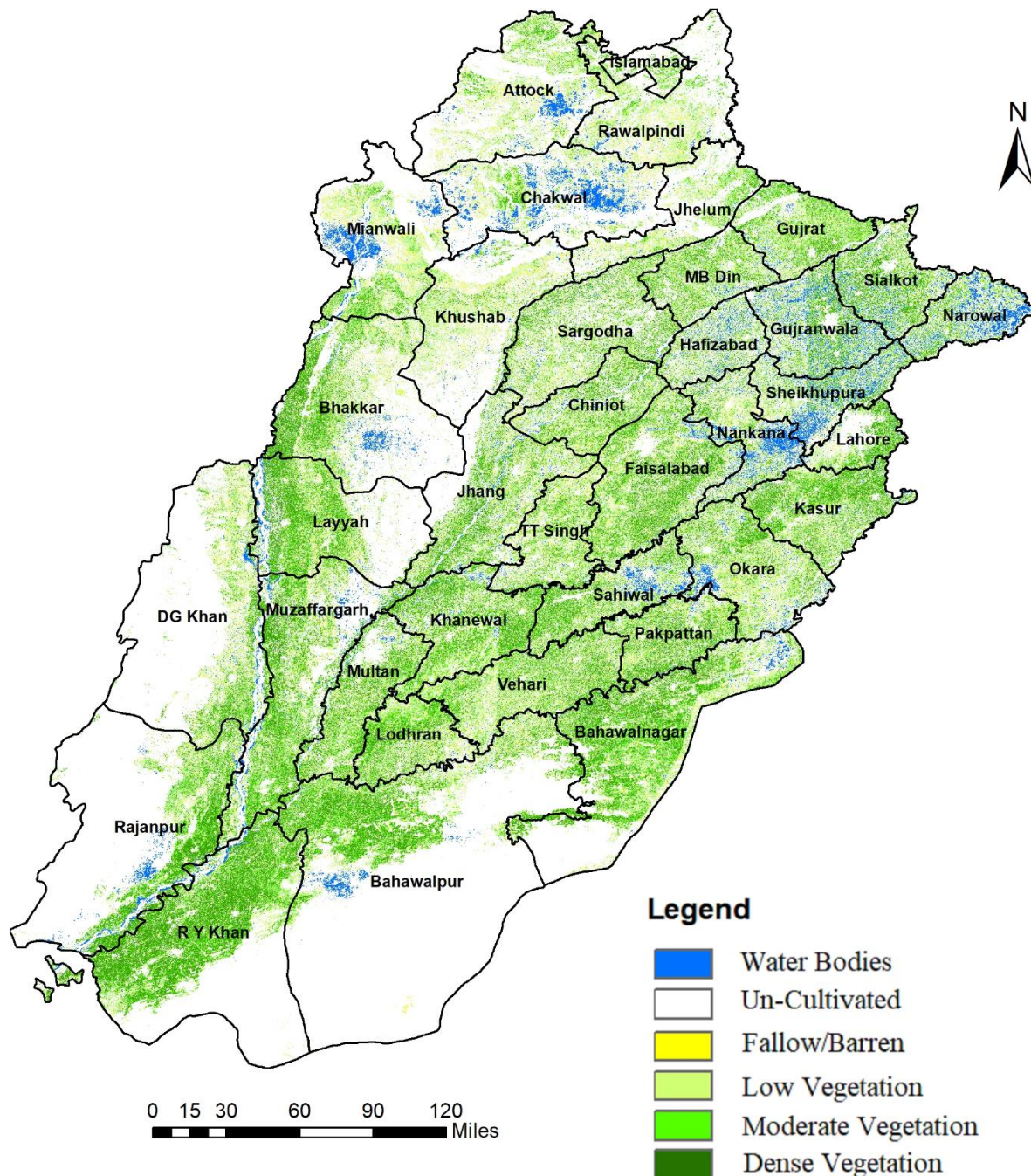




Crop Monitoring In Punjab through Remote Sensing *Kharif Season*

Standing Crop Situation (July 1st Half, 2023)



Sentinel-2 satellite imageries were used: This system captures high-resolution Earth images and uses NDVI to assess vegetation health, monitor growth, detect crop stress, and manage land resources efficiently through visible and near-infrared light measurements.

Note: Blue-shaded area, other than river/canal belts, is under clouds or standing rainfall water, mostly in districts Bhakkar, Chackwal, Mianwali, Nankan, Sheikhupura, Gujranwala & Narowal.



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Crop Monitoring In Punjab through Remote Sensing *Kharif Season*

Normalized Difference Vegetation Index (NDVI) Analysis

Area in '000' acres

Categories	July 1 st Half	June 2 nd Half	% Change	Comments
Water Bodies	500	500	0.0	Like rivers, lakes, canals, rainfall water, ponds, etc.
Un-Cultivated	12,324	12,324	0.0	Built-up, dessert, mountain, etc.
Fallow	4,398	7,135	-38.4	Fallow area ready to cultivate (or Sandy Barren).
Low Vegetation	22,327	20,543	8.7	Crops like rice transplantation, & minor crops (vegetables & fodder, etc.)
Moderate Vegetation	7,013	7,436	-5.7	The area under cotton & sugarcane, rice (late sowing), etc.
Dense Vegetation	4,055	2,679	51.4	Crops like early cotton, sugarcane & Rice; sesamum, fodder, orchards & forest, etc.
Total Area	50,617	50,617		

Low vegetation refers to areas with relatively sparse and less dense vegetation cover. Moderate vegetation indicates areas with an intermediate level of vegetation density. Dense vegetation describes areas with a high concentration of plant growth and more extensive coverage of vegetation. These categories are often determined based on the values of the NDVI, with specific NDVI ranges assigned to each category. Low Vegetation= 0.17 to 0.32, Moderate Vegetation= 0.32 to 0.42, Dense Vegetation= 0.42 to 0.80.

Summary

- Early cotton picking has begun in the South Punjab, Sahiwal & Faisalabad Divisions; and Mianwali & Bhakkar districts while late cotton is now flowering and forming bolls, as per Field Staff reports.
- Maize has been completely harvested, yielding higher averages.
- Sesamum is flourishing, producing beans and fodder, due to rainfall and suitable temperatures.
- Rice transplantation is up to 70% completed, with an expected increase in cultivation area compared to last year, according to ground truthing results from Field Staff.
- NDVI indices indicate healthy conditions for sugarcane, cotton, rice, and minor crops such as sesamum, fodder, vegetables, etc.
- NDVI analysis reveals no crop stress during the latter half of July. However, a small portion of the crop area, approximately 0.68 million hectares (3.3%), has been seen under clouds that may (or not) be affected by rainfall water.



(a) Cotton



(b) Sugarcane



(c) Fodder



(d) Sesamum



(e) Rice

Standing Crops in Punjab During 1st Half of July 2023



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