



OmAgri

Satellite based Isabgol Crop Acreage Estimation in Year 2024-25

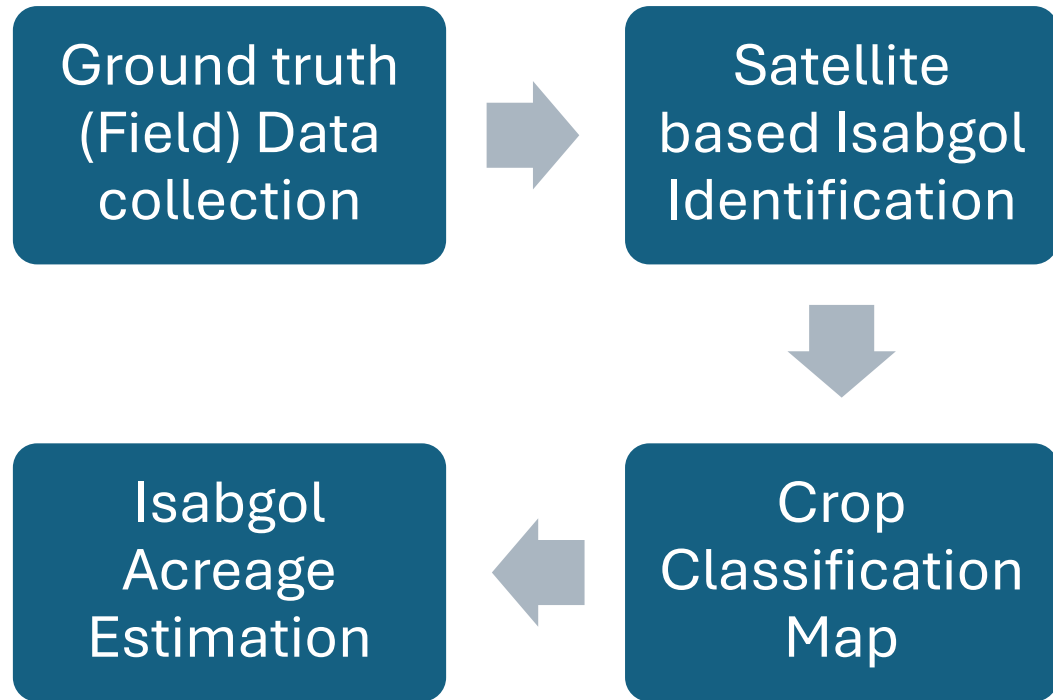
Report Submitted to IPA on 20th March 2025



In Collaboration with



Scope of work



Field Data Collection



- Digitally Data collection Using Mobile app
- Collected Details: Lat-long, Mapping, Address, Crop Name, Crop Photos

A screenshot of the 'Add Crop' form in the mobile application. The form contains the following fields and options:

- Crop Name : Isabgol
- Crop Variety: Other (dropdown menu)
- Date of Sowing: 20/12/2024
- Irrigation Method: Flood (selected), Rain, Sprinkler, Drip
- Farming Method: Chemical, Hybrid (selected), Organic
- Crop Season: Monsoon, Winter (selected), Summer, Other, Not Applicable

A blue 'Submit' button is located at the bottom of the form. The top status bar shows the time as 5:35 and battery level at 62%.

Collect Data



1. Data collected in MP
2. Data collected in Gujarat and Rajasthan

No	State	District (as informed by the IPA)	Time
1	Gujarat	Banaskantha, Patan, Mehsana, Kutch, Surendranagar	14 th to 27 th Feb 2025
2	Rajasthan	Barmer, Bikaner, Churu, Chittorgarh, Jaisalmer, Jalore, Jodhpur, Nagaur, Pali, Sirohi, Udaipur	
3	MP	Neemuch, Mandsaur	6 th to 8 th Feb 2025



Field Data Collection



Survey Plot Image



Google Map Image



Crop: Isabgol
Survey Date: 16/02/2025
Area: 4.370 Acres

Sowing Date: 15/12/2024
Address: Kakarva, Bhachau, Kachchh, Gujarat
Lat - Long: 23.4839431,70.3891550

Survey Plot Image



Google Map Image



Crop: Isabgol

Survey Date: 08/02/2025

Area: 4.080 Acres

Sowing Date: 24/11/2024

Address: Bhopali, Manasa, Neemach, Madhya Pradesh

Lat - Long: 24.4303958,75.1702681

Survey Plot Image



Google Map Image



Crop: Isabgol

Survey Date: 20/02/2025

Area: 4.6800 Acres

Sowing Date: 17/11/2024

Address: Piluda, Tharad, Banaskantha, Gujarat

Lat - Long: 24.5653972,71.7012889

Survey Plot Image



Google Map Image



Crop: Isabgol

Survey Date: 20/02/2025

Area: 0.530 Acre

Sowing Date: 07/11/2024

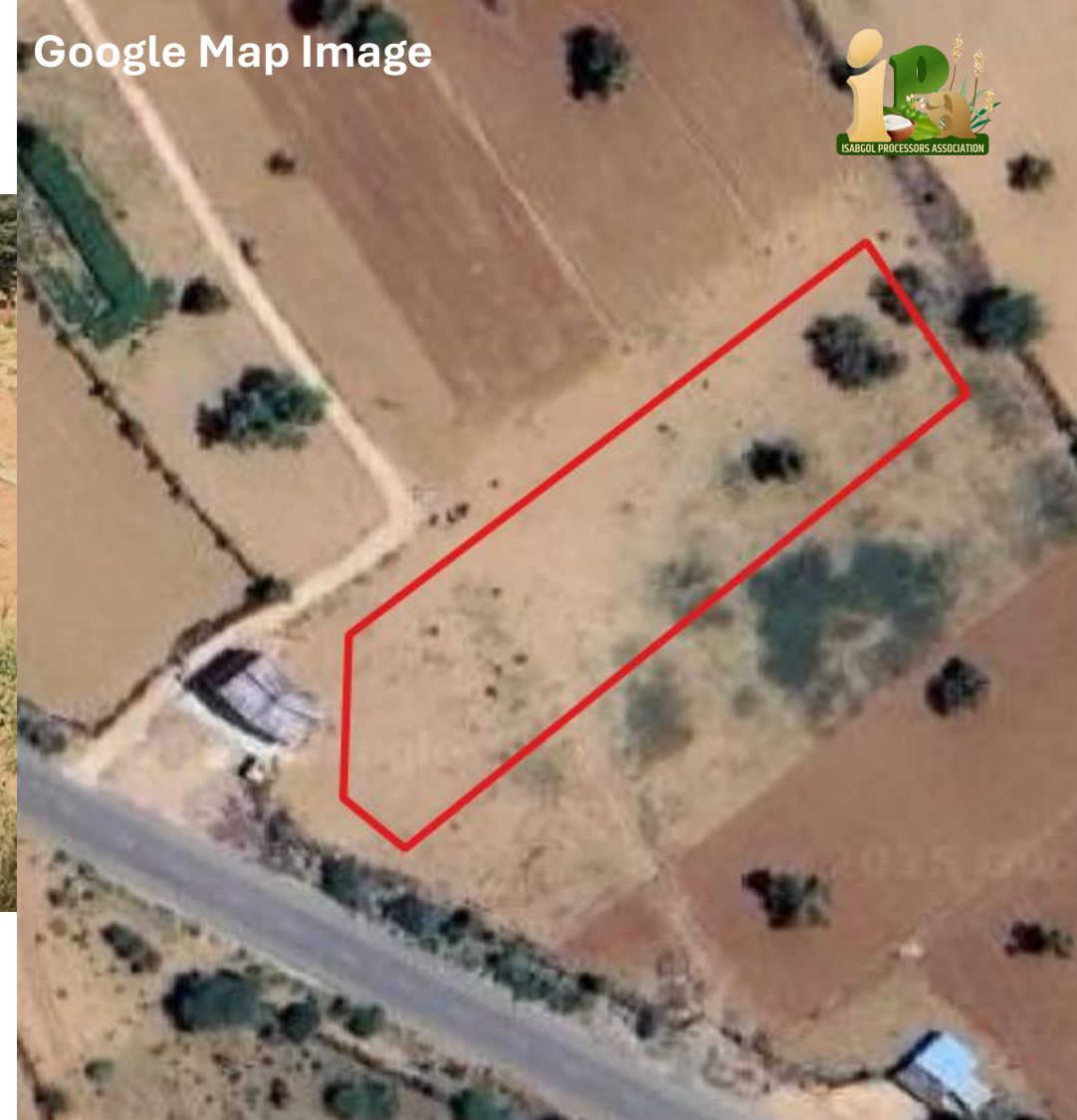
Address: Leelamba, Raipur, Pali, Rajasthan

Lat - Long: 26.0960665,74.0011740

Google Map Image



Survey Plot Image



Crop: Isabgol
Survey Date: 20/02/2025
Area: 1.050 Acres

Sowing Date: 20/11/2024
Address: Bigmi, Osian, Jodhpur, Rajasthan
Lat - Long: 26.7478137,72.8873225

Survey Plot Image



Google Map Image



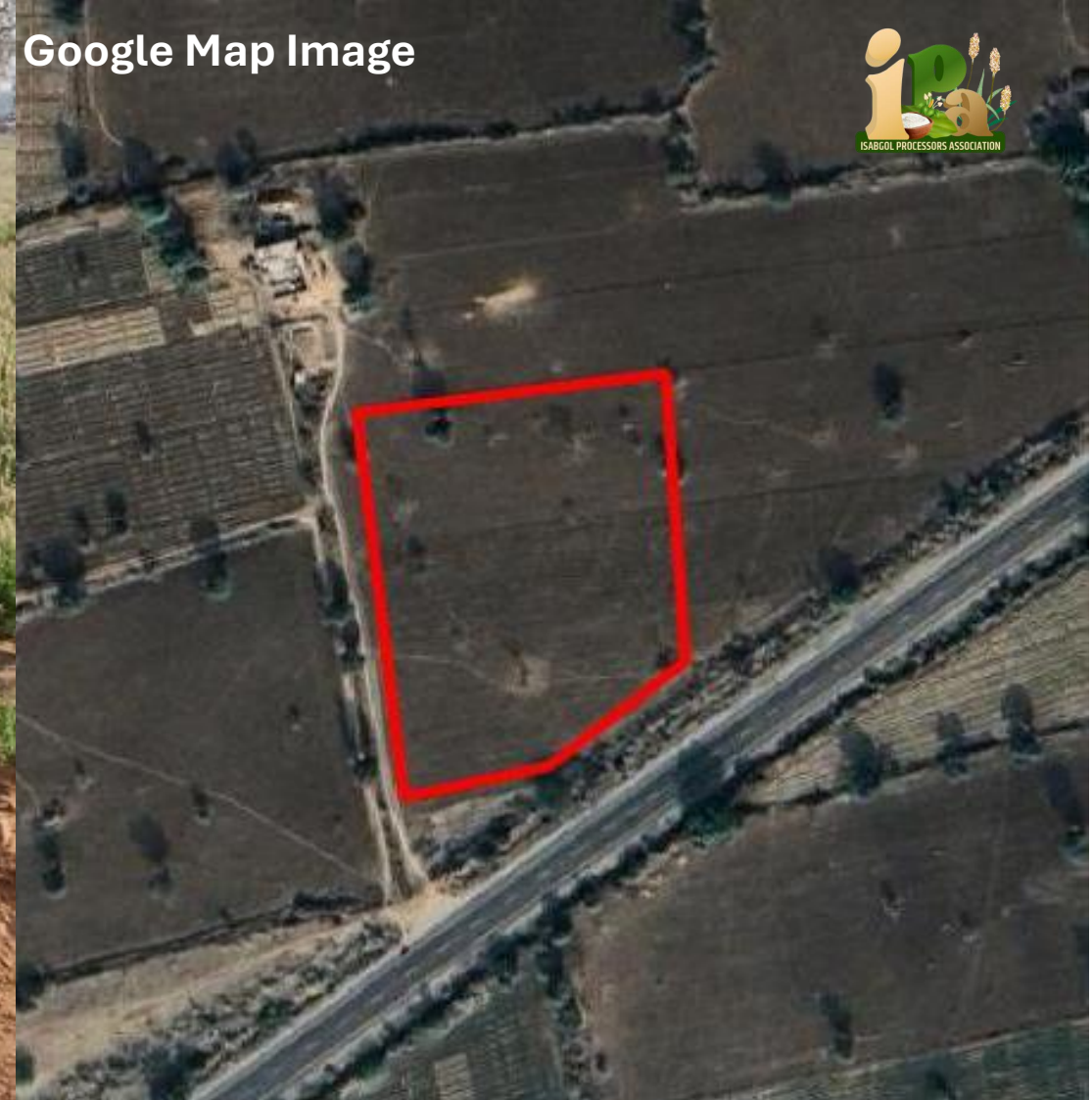
Crop: Isabgol
Survey Date: 21/02/2025
Area: 2.030 Acres

Sowing Date: 20/11/2024
Address: Ramsagar, Dechu, Jodhpur, Rajasthan
Lat - Long: 26.63302775,72.14201042

Survey Plot Image



Google Map Image



Crop: Isabgol

Survey Date: 21/02/2025

Area: 5.030 Acres

Sowing Date: 07/11/2024

Address: Guriya, Nagaur, Nagaur, Rajasthan

Lat - Long: 26.9998276,73.4773584



Crop: Isabgol
Survey Date: 20/02/2025
Area: 0.77 Acre

Sowing Date: 27/11/2024
Address: Bigmi, Osian, Jodhpur, Rajasthan
Lat - Long: 26.6489888,72.9540415

Survey Plot Image



Google Map Image



Crop: Isabgol

Survey Date: 18/01/2025

Area: 3.760 Acres

Sowing Date:15/12/2024

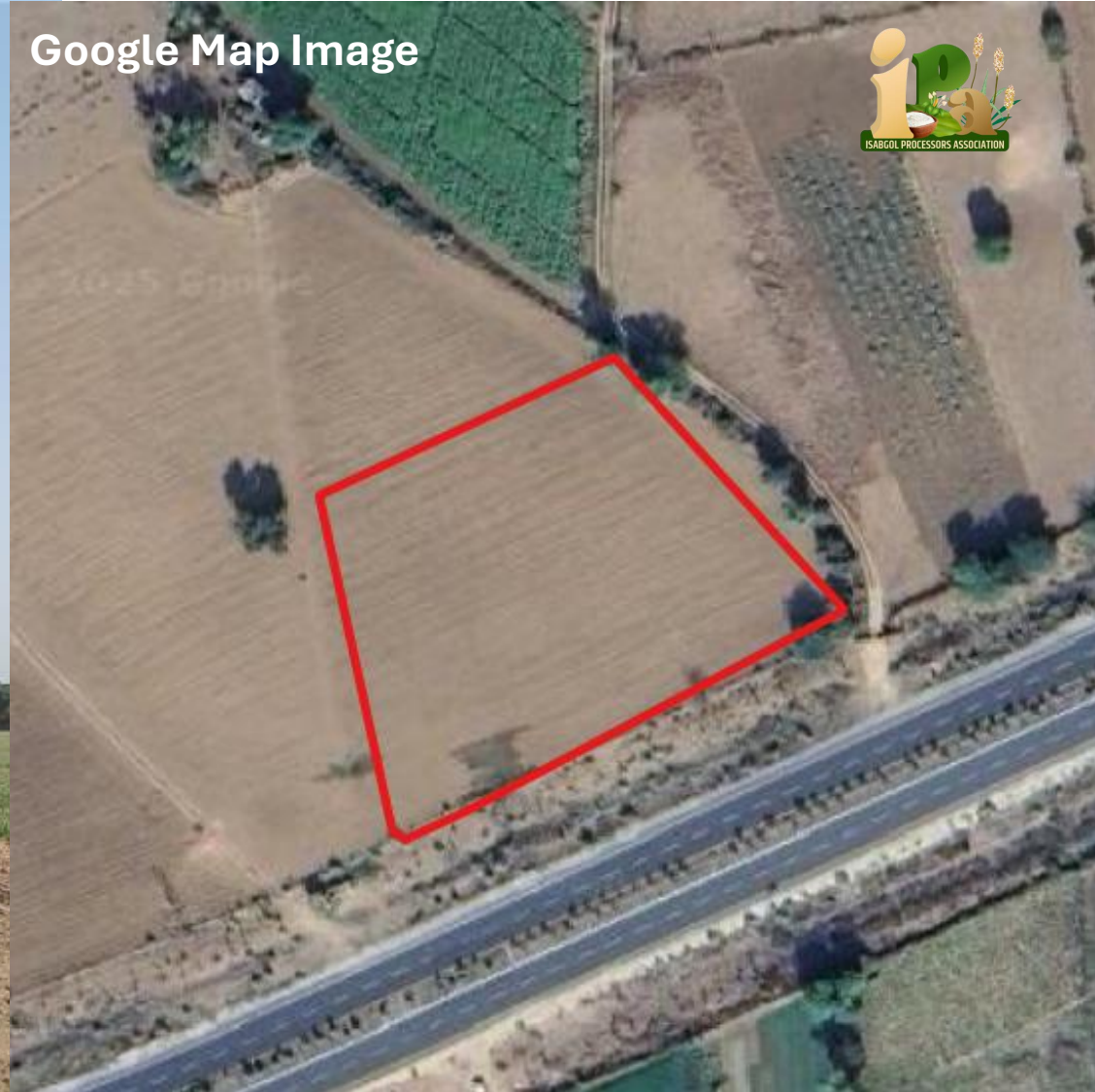
Address: Chhatrot, Dasada, Surendranagar, Gujarat

Lat - Long: 23.4365732,71.8759847

Survey Plot Image



Google Map Image



Crop: Isabgol
Survey Date: 21/02/2025
Area: 1.320 Acres

Sowing Date: 27/12/2024
Address: Peepaliya Kalan, Raipur, Pali, Rajasthan
Lat - Long: 26.0331642,73.9583412

Survey Plot Image



Google Map Image



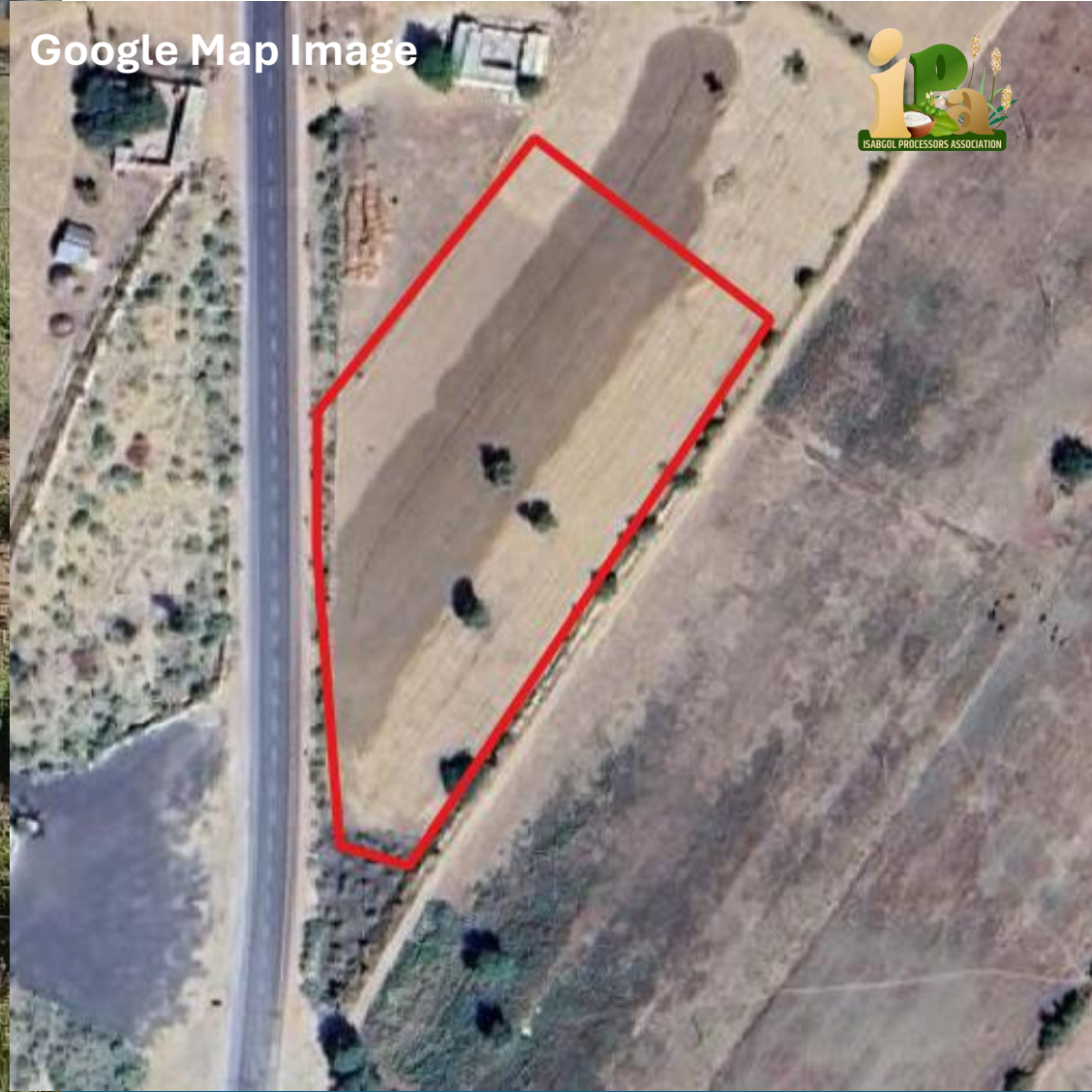
Crop: Isabgol
Survey Date: 21/02/2025
Area: 2.570 Acres

Sowing Date: 02/11/2024
Address: Giravandi, Nagaur, Nagaur, Rajasthan
Lat - Long: 27.0173309,73.5154521

Survey Plot Image



Google Map Image



Crop: Isabgol

Survey Date: 21/02/2025

Area: 1.960 Acres

Sowing Date: 05/12/2024

Address: Koloo Pabuji, Dechu, Jodhpur, Rajasthan

Lat - Long: 26.9453530,72.3162942

Survey Plot Image



Google Map Image



Crop: Isabgol

Survey Date: 21/02/2025

Area: 2.420 Acres

Sowing Date: 05/12/2024

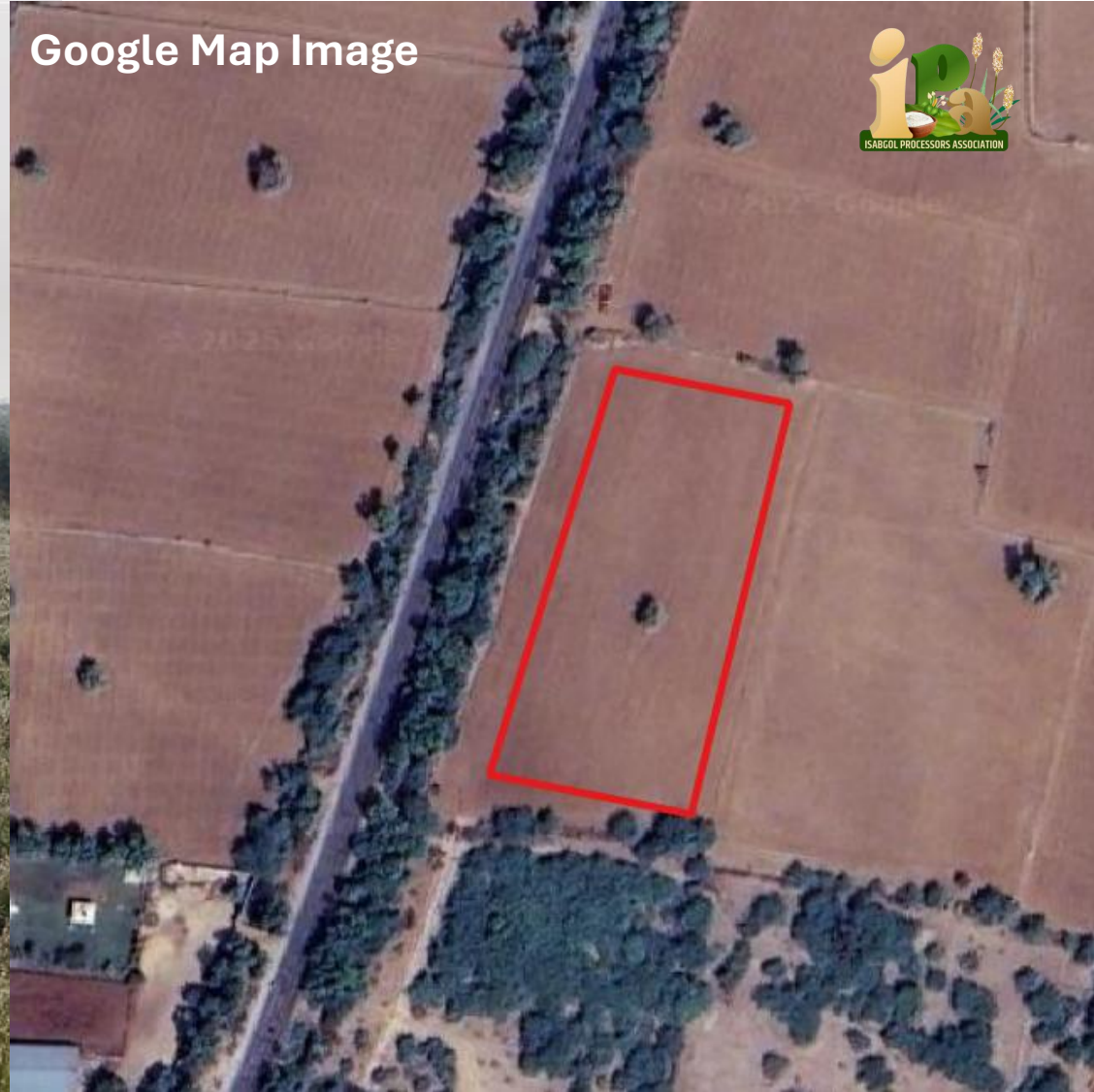
Address: Gandhaw Khurd, Gudha Malani, Barmer, Rajasthan

Lat - Long: 25.0361400,71.6478952

Survey Plot Image



Google Map Image



Crop: Isabgol
Survey Date: 24/02/2025
Area: 5.420 Acres

Sowing Date: 02/12/2024
Address: Mandoli, Jaswantpura, Jalore, Rajasthan
Lat - Long: 25.05563810,72.58438461

Survey Plot Image



Google Map Image



Crop: Isabgol

Survey Date: 24/02/2025

Area: 2.040 Acres

Sowing Date: 30/11/2024

Address: Sayla, Sayla, Jalore, Rajasthan

Lat - Long: 25.29660121,72.29503191

Survey Plot Image



Google Map Image



Crop: Isabgol
Survey Date: 24/02/2025
Area: 2.510 Acres

Sowing Date: 20/11/2024
Address: Asana, Sayla, Jalore, Rajasthan
Lat - Long: 25.2889986,72.2793077

Survey Plot Image



Google Map Image



Crop: Isabgol

Survey Date: 25/02/2025

Area: 4.830 Acres

Sowing Date: 22/12/2024

Address: Bavarda, Santalpur, Patan, Gujarat

Lat - Long: 23.7901456,71.2543940

Survey Plot Image



Google Map Image



Crop: Isabgol
Survey Date: 25/02/2025
Area: 3.740 Acres

Sowing Date: 01/01/2025
Address: Bamnoli, Santalpur, Patan, Gujarat
Lat - Long: 23.8080089,71.3452685

Survey Plot Image



Google Map Image



Crop: Isabgol

Survey Date: 25/02/2025

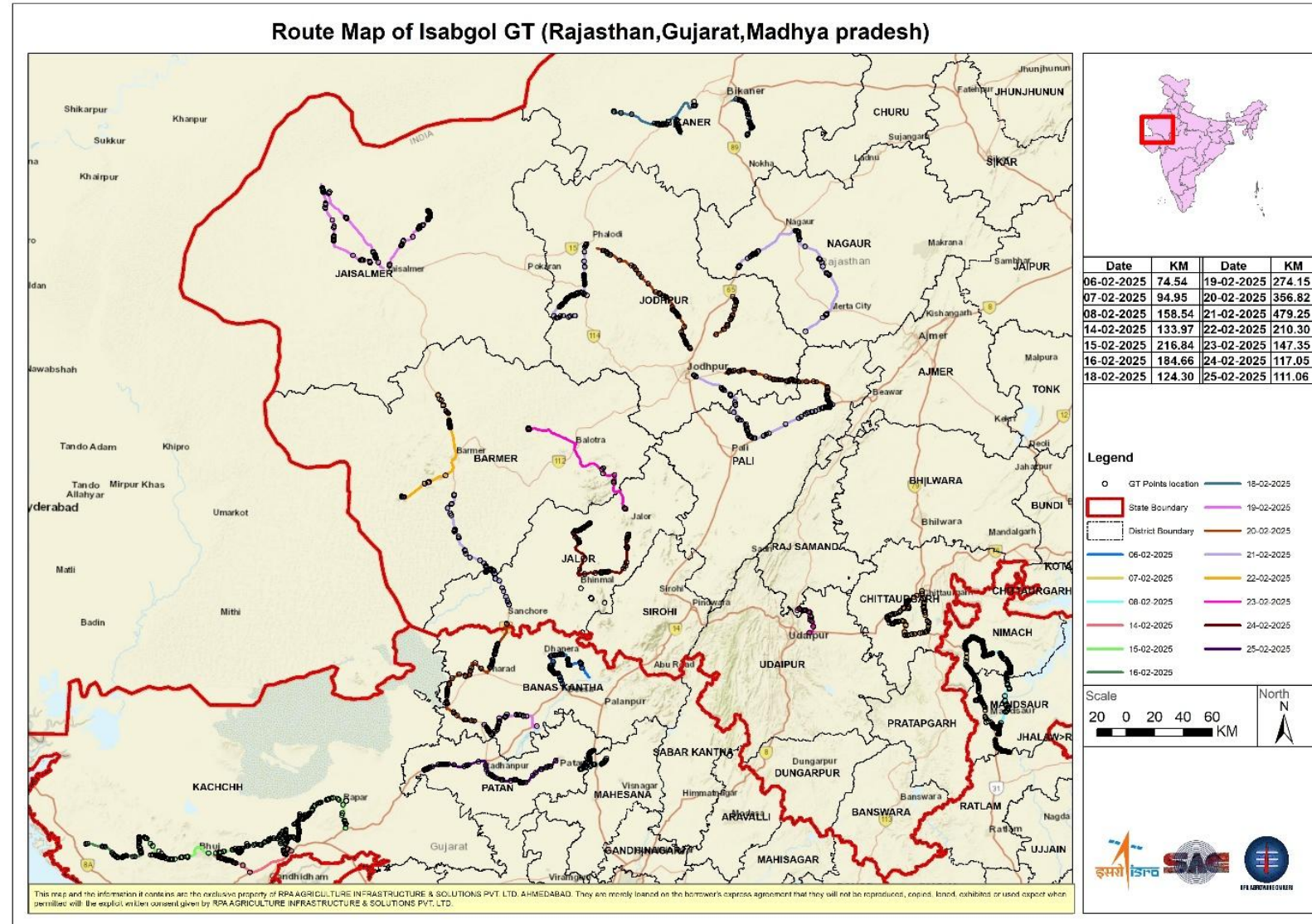
Area: 3.40 Acres

Sowing Date: 01/01/2025

Address: Sarval, Harij, Patan, Gujarat

Lat - Long: 23.6926975,71.8642770

Data Collection Area



Field Data Collection



No	Data Collection Month	State	Crop Name					Total
			Isabgol	Cumin	Wheat	Chickpea	Other Crop	
1	Feb-25	Gujarat	58	146	65	8	418	695
2		Rajasthan	269	165	140	96	148	818
3		Madhya Pradesh	46	0	114	109	138	407
		Total	373	311	319	213	704	1920

The number displayed above represents the total plots surveyed

Isabgol Identification



Used Sentinel-2 Data.



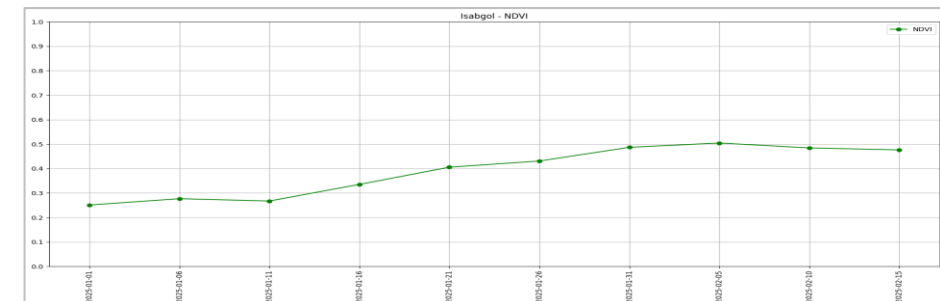
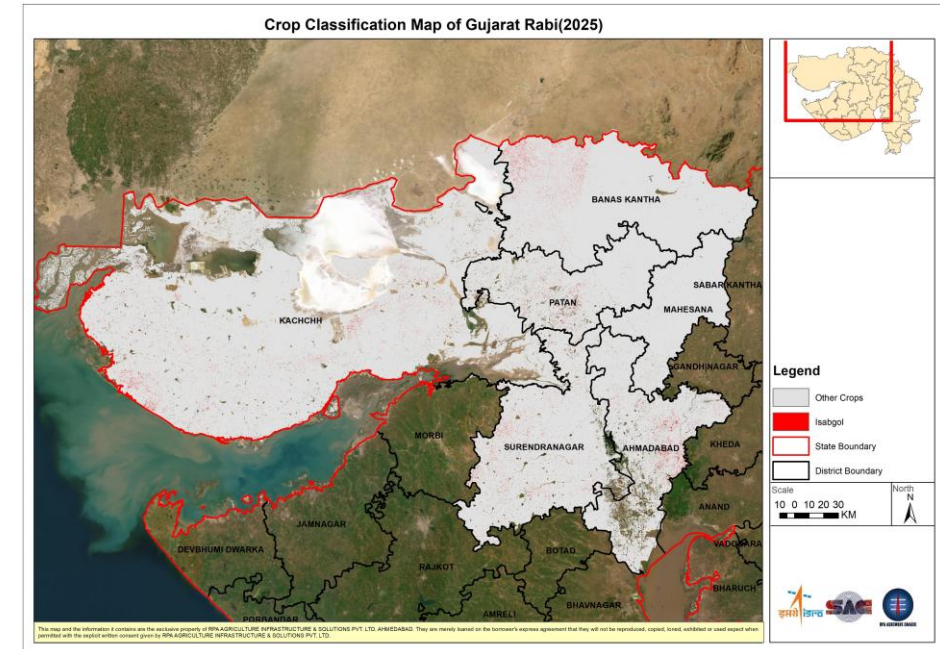
Used NDVI and SAVI Indices for Isabgol Prediction



Used 5-day Temporal Data form 1st October 2024 to 15th Feb 2025



Create Satellite data based Machine Learning based SVM and Decision Tree model and do Isabgol Identification .

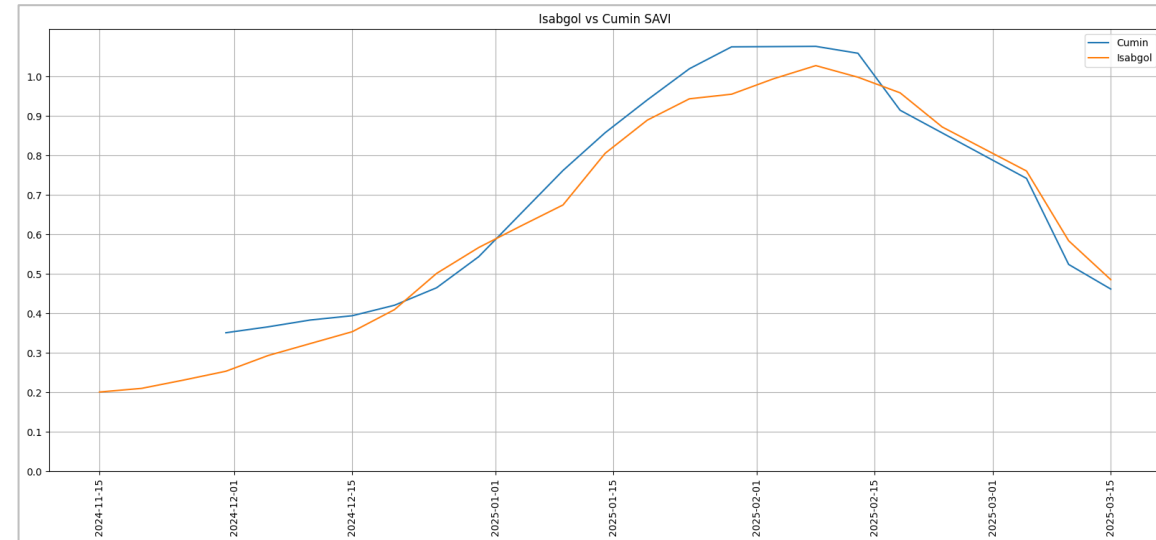
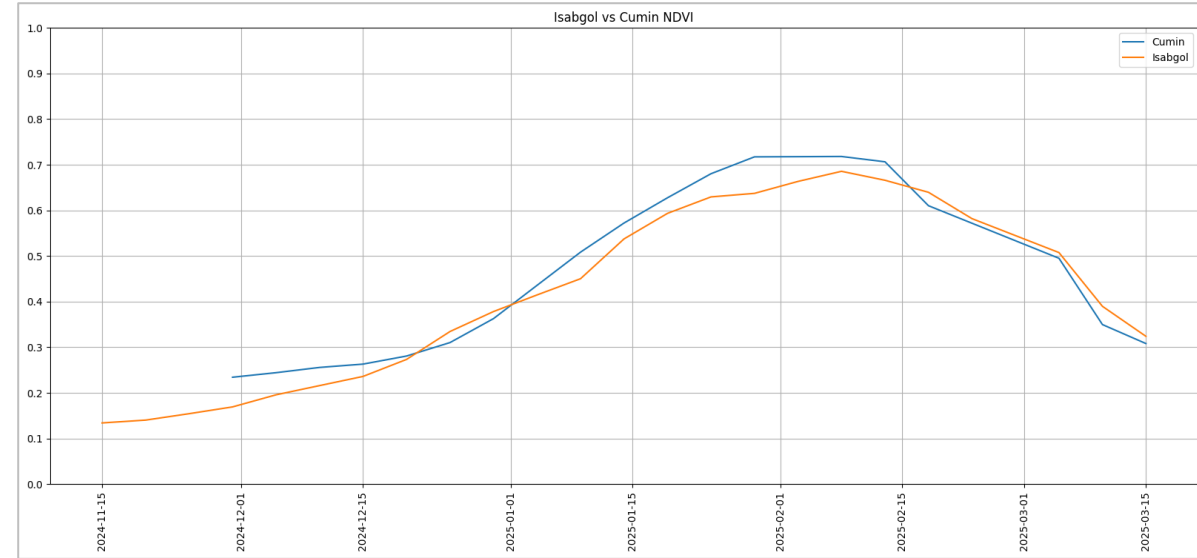


Isabgol Spectra Details



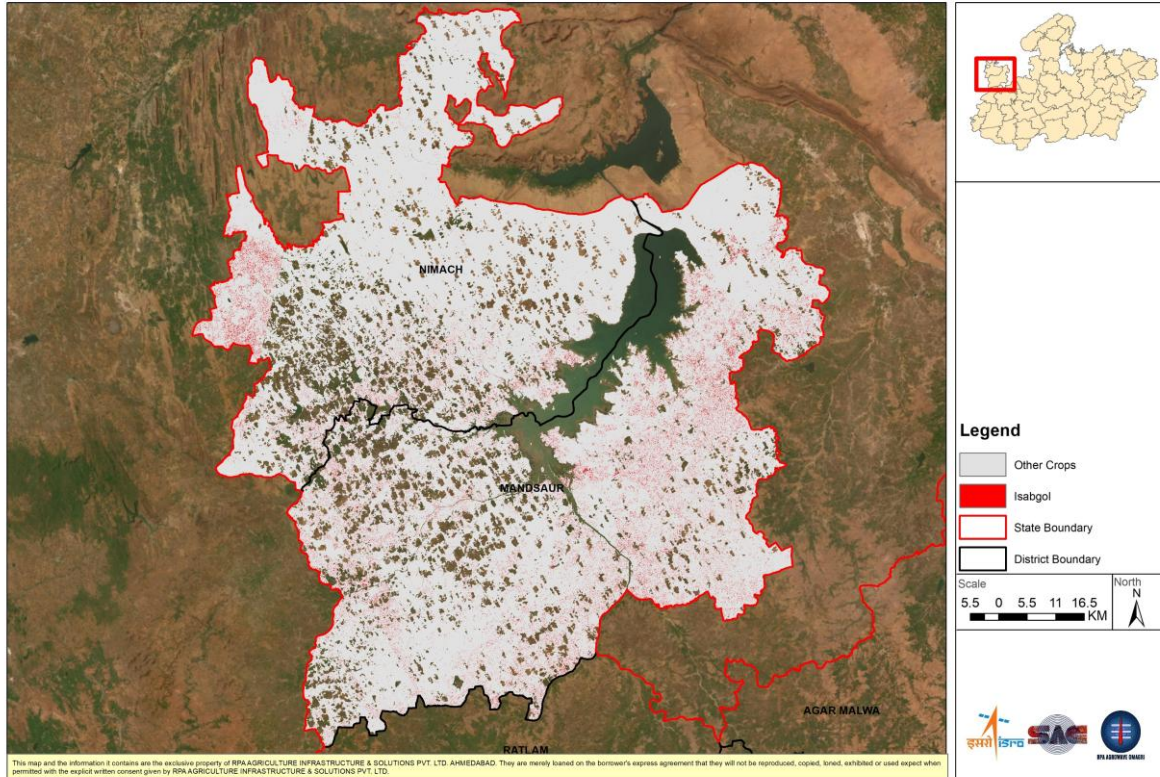
Isabgol and
Cumin Satellite
based Signature

NDVI and SAVI
Indices
Different

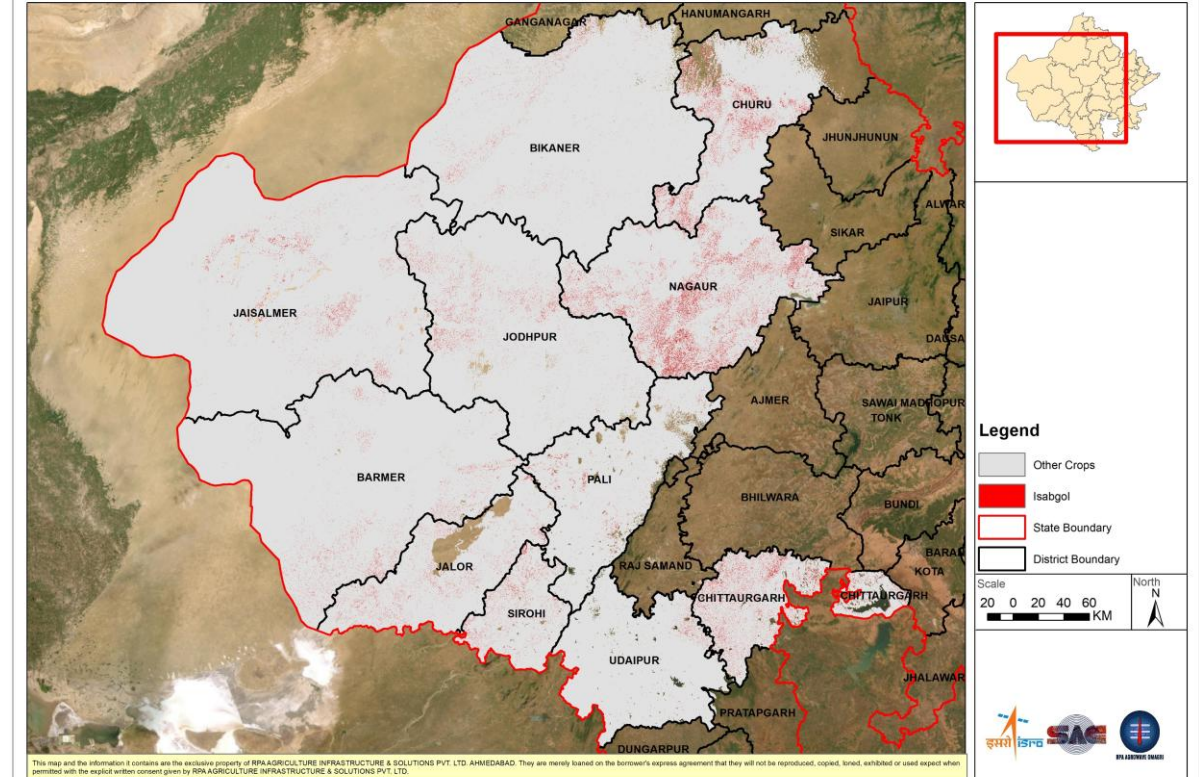


Classification

Crop Classification Map of Madhya Pradesh Rabi(2025)

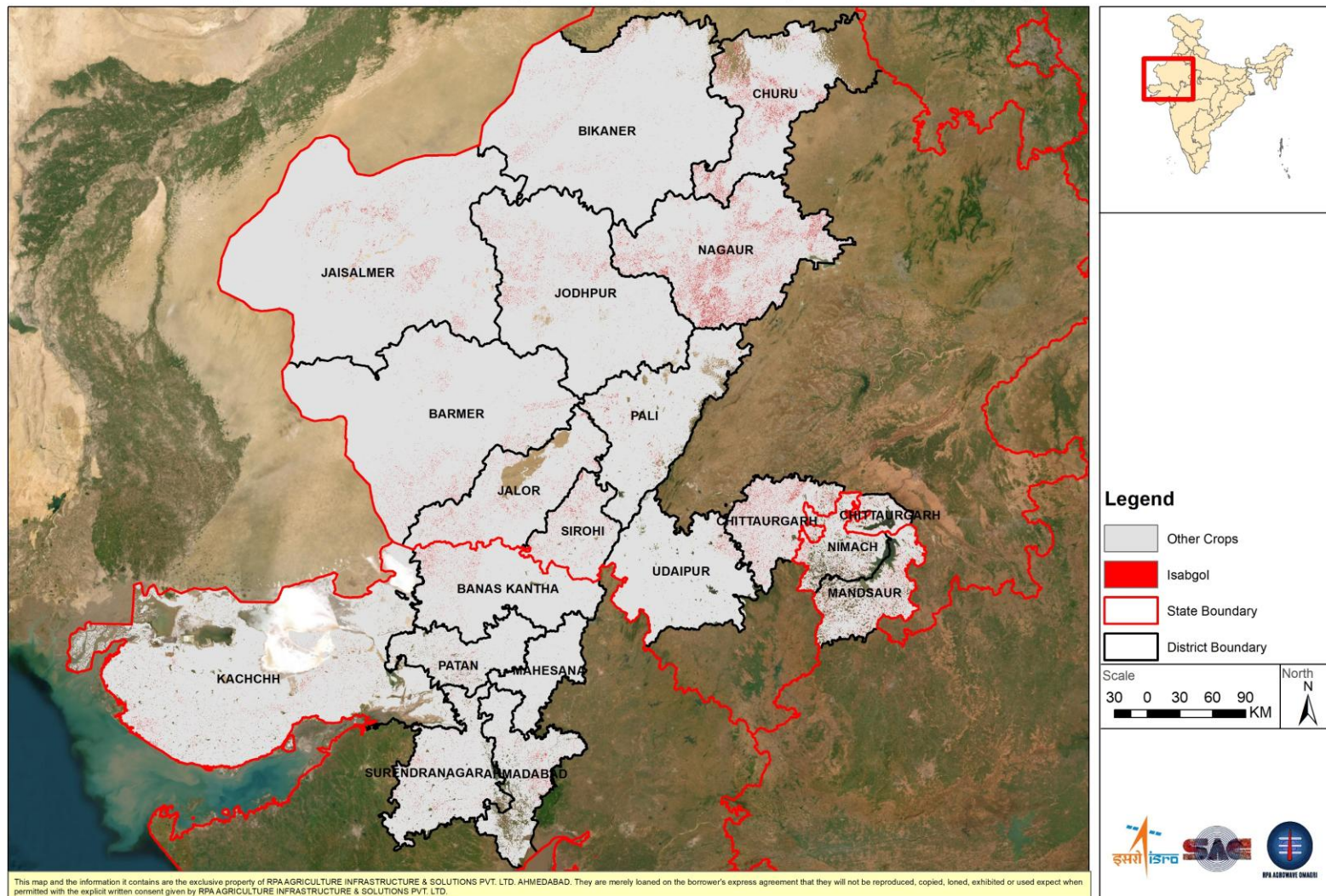


Crop Classification Map of Rajasthan Rabi(2025)



Classification

Crop Classification Map of Rajasthan, Gujarat & Madhya Pradesh Rabi(2025)



Classification

- Acreage Estimation of Gujarat State



State	District	Isabgol Acreage	
		2025 (Rabi Season)	
		As Per Satellite Survey	
		(Area In Acres)	(Area In Ha)
Gujarat	Banaskantha	19,883.30	8,049.91
	Kachchh	24,255.28	9,819.95
	Mehsana	599.63	242.76
	Patan	9,778.74	3,959.00
	Surendranagar	14,749.19	5,971.33
	Total	69,266.14	28,042.97

Classification

- Acreage Estimation of Rajasthan State



State	District	Isabgol Acreage	
		2025 (Rabi Season)	
		As Per Satellite Survey	
		(Area In Acres)	(Area In Ha)
Rajasthan	Barmer	52,676.35	21,317.40
	Bikaner	1,33,459.07	54,009.05
	Churu	38,850.00	15,722.06
	Chittorgarh	9,615.00	3,891.06
	Jaisalmer	53,029.89	21,460.47
	Jalore	46,394.28	18,775.13
	Jodhpur	60,890.52	24,641.56
	Nagaur	2,63,185.54	1,06,507.60
	Pali	21,904.83	8,864.58
	Sirohi	14,043.85	5,683.35
	Udaipur	10,817.59	4,377.73
	Total	7,11,932.52	2,88,109.30

Classification



- Acreage Estimation of Madhya Pradesh State

State	District	Isabgol Acreage	
		2025 (Rabi Season)	
		As Per Satellite Survey	
		(Area In Acres)	(Area In Ha)
Madhya Pradesh	Mandsaur	45,488.11	18,408.41
	Neemuch	15,936.60	6,449.32
	Total	61,424.71	24,857.74

No	State	Total District	Isabgol Acreage	
			2025 (Rabi Season)	
			As Per Satellite Survey	
			(Area In Acres)	(Area In Ha)
1	Gujarat	5 District	69,266.14	28,031.06
2	Rajasthan	11 District	7,11,932.52	2,88,109.30
4	Madhya Pradesh	2 District	61,424.71	24,857.74
	Total	18 District	8,42,623.37	3,40,998.10



THANK YOU!



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