Indian Agriculture

MARWA

ASHRAF

Agenda

Introduction

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Visualization




Introduction

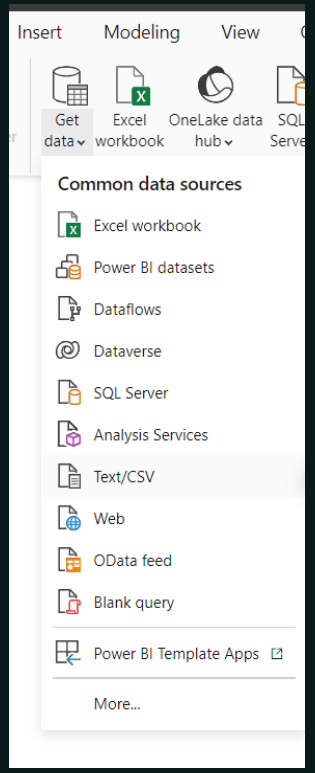
District-wise agricultural data for 20 major crops in India, including area, yield, and production, are provided, enabling detailed analysis of productivity trends. The dataset encompasses both traditional crop varieties and High Yielding Varieties (HYVs), offering insights into modern agricultural practices. With detailed documentation, it ensures clarity and accuracy in analysis. This valuable resource aids policymakers, researchers, and stakeholders in understanding localized agricultural dynamics and optimizing interventions. It serves as a comprehensive tool for evidence-based decision-making and strategic planning in India's agricultural sector.

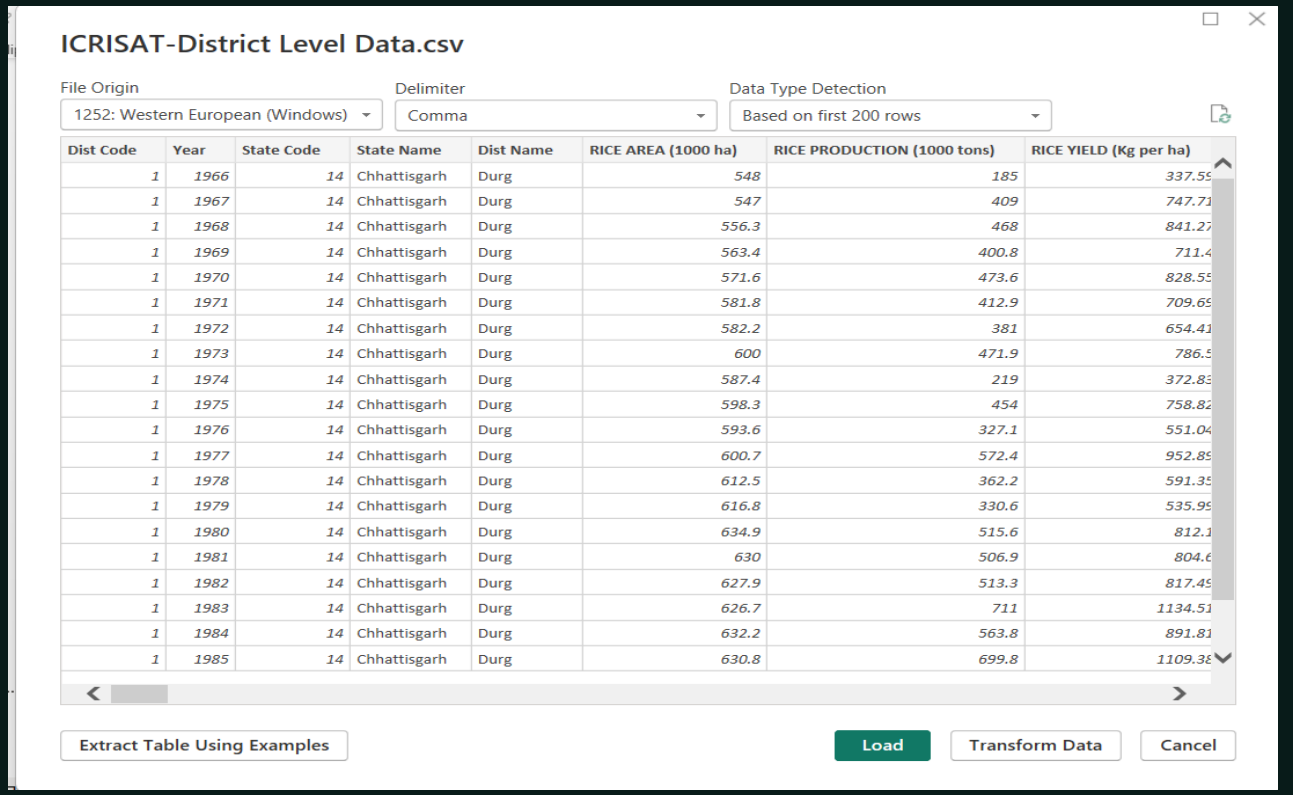
Import Data

POWER BI

Data Overview

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB
1	Dist Code	Year	State Cod	State Nam	Dist Name	RICE ARE	RICE PRC	RICE YIEL	WHEAT A	WHEAT P	WHEAT Y	KHARIF S	KHARIF S	KHARIF S	RABI SOR	RABI SOR	RABI SOR	SORGHUI	SORGHUI	SORGHUI	PEARL MI	PEARL MI	PEARL MI	MAIZE AR	MAIZE PR	MAIZE YIE	FINGER M	FINGER M	FI
2	1	1966	14	Chhattisg	Durg	548	185	337.59	44	20	454.55	0.6	0.4	666.67	0	0	0	0.6	0.4	666.67	0	0	0	3	2	666.67	0.8	0.2	
3	1	1967	14	Chhattisg	Durg	547	409	747.71	50	26	520	1.1	0.9	818.18	0	0	0	1.1	0.9	818.18	0	0	0	3	3	1000	0.9	0.2	
4	1	1968	14	Chhattisg	Durg	556.3	468	841.27	53.7	30	558.66	0.5	0.4	800	0	0	0	0.5	0.4	800	0	0	0	2.8	2	714.29	0.8	0.2	
5	1	1969	14	Chhattisg	Durg	563.4	400.8	711.4	49.4	26.5	536.44	0.8	0.6	750	0	0	0	0.8	0.6	750	0	0	0	2.7	2.3	851.85	0.8	0.2	
6	1	1970	14	Chhattisg	Durg	571.6	473.6	828.55	44.2	29	656.11	0.9	0.6	666.67	0	0	0	0.9	0.6	666.67	0	0	0	2.5	3.3	1320	0.8	0.2	
7	1	1971	14	Chhattisg	Durg	581.8	412.9	709.69	44.4	25.8	581.08	0.3	0.2	666.67	0	0	0	0.3	0.2	666.67	0	0	0	2.7	3.1	1148.15	0.9	0.2	
8	1	1972	14	Chhattisg	Durg	582.2	381	654.41	39.6	20.6	520.2	0.3	0.3	1000	0	0	0	0.3	0.3	1000	0	0	0	2.8	3.2	1142.86	0.8	0.1	
9	1	1973	14	Chhattisg	Durg	600	471.9	786.5	37.3	18.6	498.66	0.2	0.2	1000	0	0	0	0.2	0.2	1000	0	0	0	2.9	2.7	931.03	0.8	0.2	
10	1	1974	14	Chhattisg	Durg	587.4	219	372.83	36.5	22.4	613.7	0.5	0.4	800	0	0	0	0.5	0.4	800	0	0	0	2.9	2.9	1000	0.8	0.3	
11	1	1975	14	Chhattisg	Durg	598.3	454	758.82	49.2	27.8	565.04	0.2	0.2	1000	0	0	0	0.2	0.2	1000	0	0	0	2.9	2.9	1000	0.8	0.2	
12	1	1976	14	Chhattisg	Durg	593.6	327.1	551.04	46.9	10	213.22	0.1	0.1	1000	0	0	0	0.1	0.1	1000	0	0	0	3	2	666.67	0.8	0.2	
13	1	1977	14	Chhattisg	Durg	600.7	572.4	952.89	53.1	27.1	510.36	0.1	0.1	1000	0	0	0	0.1	0.1	1000	0	0	0	3.4	2.8	823.53	0.8	0.2	
14	1	1978	14	Chhattisg	Durg	612.5	362.2	591.35	48.7	25.6	525.67	0.1	0.1	1000	0	0	0	0.1	0.1	1000	0	0	0	3.4	2.9	852.94	0.7	0.2	
15	1	1979	14	Chhattisg	Durg	616.8	330.6	535.99	44.6	17.8	399.1	0.5	0.5	1000	0	0	0	0.5	0.5	1000	0	0	0	3	3.6	1200	0.7	0.2	
16	1	1980	14	Chhattisg	Durg	634.9	515.6	812.1	44.1	33.6	761.9	0.2	0.2	1000	0	0	0	0.2	0.2	1000	0	0	0	3	2.8	933.33	0.6	0.2	
17	1	1981	14	Chhattisg	Durg	630	506.9	804.6	41.5	23.6	568.67	0.2	0.2	1000	0	0	0	0.2	0.2	1000	0	0	0	3	3	1000	0.7	0.2	
18	1	1982	14	Chhattisg	Durg	627.9	513.3	817.49	41.1	23.9	581.51	0.1	0.1	1000	0	0	0	0.1	0.1	1000	0	0	0	3	3.1	1033.33	0.6	0.2	
19	1	1983	14	Chhattisg	Durg	626.7	711	1134.51	39.9	20.6	516.29	0.1	0.1	1000	0	0	0	0.1	0.1	1000	0	0	0	3	3.7	1233.33	0.7	0.2	
20	1	1984	14	Chhattisg	Durg	632.2	563.8	891.81	40.5	19.9	491.36	0.3	0.3	1000	0	0	0	0.3	0.3	1000	0	0	0	3.6	4.1	1138.89	0.6	0.2	
21	1	1985	14	Chhattisg	Durg	630.8	699.8	1109.38	39.4	21	532.99	0.3	0.2	666.67	0	0	0	0.3	0.2	666.67	0	0	0	3.8	3	789.47	0.5	0.1	
22	1	1986	14	Chhattisg	Durg	643	525	816.49	37	24	648.65	0.2	0.1	500	0	0	0	0.2	0.1	500	0	0	0	4	3	750	0.6	0.1	
23	1	1987	14	Chhattisg	Durg	648	523	807.1	43	23	534.88	0.3	0.2	666.67	0	0	0	0.3	0.2	666.67	0	0	0	4	3	750	0.4	0.1	
24	1	1988	14	Chhattisg	Durg	652.7	549.7	842.19	43.7	20.2	462.24	0.1	0.1	1000	0	0	0	0.1	0.1	1000	0	0	0	3.8	4	1052.63	0.4	0.1	
25	1	1989	14	Chhattisg	Durg	660.2	457.3	692.67	43.8	22.7	518.26	0.1	0.1	1000	0	0	0	0.1	0.1	1000	0	0	0	3.7	4.8	1297.3	0.4	0.1	
26	1	1990	14	Chhattisg	Durg	682.9	806.8	1181.43	36.2	24.8	685.08	0.5	0.4	800	0	0	0	0.5	0.4	800	0	0	0	4	3.8	950	0	0	
27	1	1991	14	Chhattisg	Durg	680.8	773.6	1136.31	34.8	21.6	620.69	2.3	1.8	782.61	0	0	0	2.3	1.8	782.61	0	0	0	3.8	3.5	921.05	0	0	
28	1	1992	14	Chhattisg	Durg	688	777.3	1129.8	56.1	20.5	365.42	1.1	1	909.09	0	0	0	1.1	1	909.09	0	0	0	4.4	6	1363.64	0	0	
29	1	1993	14	Chhattisg	Durg	703.6	876.7	1246.02	33.8	23.8	704.14	0.2	0.2	1000	2.4	3.4	1416.67	2.6	3.6	1384.62	0.01	0.01	1000	3.8	4.2	1105.26	0	0	
30	1	1994	14	Chhattisg	Durg	726.8	967.9	1331.73	36.5	29.4	805.48	0.3	0.2	666.67	0	0	0	0.3	0.2	666.67	0	0	0	4.8	4.3	895.83	0	0	
31	1	1995	14	Chhattisg	Durg	723.3	1052	1454.44	37.1	26.5	714.29	0.1	0.1	1000	0	0	0	0.1	0.1	1000	0	0	0	4.2	5.6	1333.33	0	0	
32	1	1996	14	Chhattisg	Durg	710.9	917.2	1290.2	36.2	29.1	803.87	0.3	0.2	666.67	0	0	0	0.3	0.2	666.67	0.3	0.3	1000	3.2	4.1	1281.25	0	0	
33	1	1997	14	Chhattisg	Durg	735.7	837.5	1138.37	35.6	18.3	514.04	1.21	0.1	82.64	0.02	0	0	1.24	0.1	80.65	0	0	0	3.5	3.2	914.29	0.26	0	
34	1	1998	14	Chhattisg	Durg	786.51	684.62	870.45	39.96	24.84	621.62	0.27	0.27	1000	0	0	0	0.27	0.27	1000	0	0	0	5.61	5.68	1012.65	0	0	
35	1	1999	14	Chhattisg	Durg	769.79	963.04	1251.04	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.81	4.98	1307.44	0.25	0.07	
36	1	2000	14	Chhattisg	Durg	748.76	467.89	624.89	29.9	17.59	588.19	0.42	0.23	558.46	0	0	0	0.42	0.23	558.46	0.03	0.02	631	3.94	3.12	792.52	0.23	0.07	
37	1	2001	14	Chhattisg	Durg	756.26	978.69	1294.13	34.33	24.11	702.43	0.28	0.25	902.45	0	0	0	0.28	0.25	902.45	0.02	0	0	3.9	2.62	672.21	0.22	0.06	
38	1	2002	14	Chhattisg	Durg	753.41	484.9	643.6	33.25	25.09	754.44	0.22	0.21	947.81	0	0	0	0.22	0.21	947.81	0.01	0	0	3.71	4.76	1284.3	0.23	0.05	
39	1	2003	14	Chhattisg	Durg	766.58	1145.82	1494.73	37.99	29.58	778.78	0.17	0.15	872.07	0	0	0	0.17	0.15	872.07	0	0	0	3.4	3.35	983.49	0.24	0.08	





Dist Code	Year	State Code	State Name	Dist Name	RICE AREA (1000 ha)	RICE PRODUCTION (1000 tons)	RICE YIELD (Kg per ha)
1	1966	14	Chhattisgarh	Durg	548	185	337.59
1	1967	14	Chhattisgarh	Durg	547	409	747.71
1	1968	14	Chhattisgarh	Durg	556.3	468	841.27
1	1969	14	Chhattisgarh	Durg	563.4	400.8	711.4
1	1970	14	Chhattisgarh	Durg	571.6	473.6	828.55
1	1971	14	Chhattisgarh	Durg	581.8	412.9	709.69
1	1972	14	Chhattisgarh	Durg	582.2	381	654.41
1	1973	14	Chhattisgarh	Durg	600	471.9	786.5
1	1974	14	Chhattisgarh	Durg	587.4	219	372.83
1	1975	14	Chhattisgarh	Durg	598.3	454	758.82
1	1976	14	Chhattisgarh	Durg	593.6	327.1	551.04
1	1977	14	Chhattisgarh	Durg	600.7	572.4	952.89
1	1978	14	Chhattisgarh	Durg	612.5	362.2	591.35
1	1979	14	Chhattisgarh	Durg	616.8	330.6	535.99
1	1980	14	Chhattisgarh	Durg	634.9	515.6	812.1
1	1981	14	Chhattisgarh	Durg	630	506.9	804.6
1	1982	14	Chhattisgarh	Durg	627.9	513.3	817.49
1	1983	14	Chhattisgarh	Durg	626.7	711	1134.51
1	1984	14	Chhattisgarh	Durg	632.2	563.8	891.81
1	1985	14	Chhattisgarh	Durg	630.8	699.8	1109.38

Power BI

Import Data From CSV to Power BI

	Dist Code	Year	State Code	State Name	Dist Name	RICE AREA (1000 ha)	1
	310 distinct, 0 unique	4 distinct, 0 unique	20 distinct, 0 unique	20 distinct, 0 unique	310 distinct, 0 unique	673 distinct, 569 unique	
1	160	1966	10	Rajasthan	Swami Madhopur		
2	240	1966	16	Uttarakhand	Chamoli		
3	106	1966	7	Maharashtra	Solapur		
4	911	1966	2	Bihar	Shahabad (now part of Bhojpur district)	438.9	
5	244	1966	16	Uttarakhand	Dehradun	12.	
6	5	1966	14	Chhattisgarh	Raigarh	33	
7	153	1966	10	Rajasthan	Jalore		
8	137	1966	3	Gujarat	Surat	5	
9	25	1966	6	Madhya Pradesh	Datia		
10	908	1966	2	Bihar	Mungair	115.5	
11	96	1966	7	Maharashtra	Thane	15	
12	652	1966	19	Kerala	Kannur	92.8	
13	627	1966	18	Himachal Pradesh	Chamba	3.1	
14	51	1966	1	Andhra Pradesh	Kurnool	9	
15	108	1966	7	Maharashtra	Aurangabad		
16	195	1966	12	Uttar Pradesh	Mathura	1.	
17	239	1966	16	Uttarakhand	Pithorgarh		
18	135	1966	3	Gujarat	Rajkot		
19	703	1966	8	Orissa	Cuttack	626.9	
20	231	1966	12	Uttar Pradesh	Faizabad	145.	
21	189	1966	12	Uttar Pradesh	Saharanpur	89.	
22	184	1966	4	Haryana	Karnal	125.	
23	223	1966	12	Uttar Pradesh	Basti	315.	
24							

Transform Data into Power Query

Transformation Data

POWER BI

Merge District Code and State Code To make a Key and Replace Negative Value With Positive same Value

Dist Code	State Code
20 distinct, 0 unique	2 distinct, 0 unique
1	14
1	14
1	14
1	14
1	14
1	14
1	14
1	14
1	14
1	14
1	14
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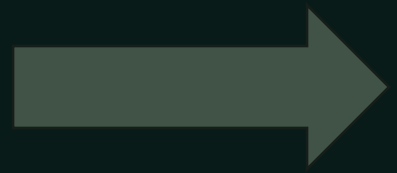
1	14



Key
310 distinct, 0 unique
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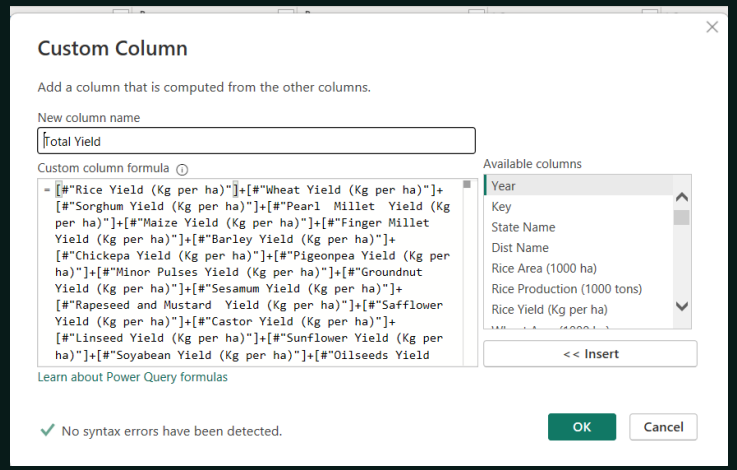
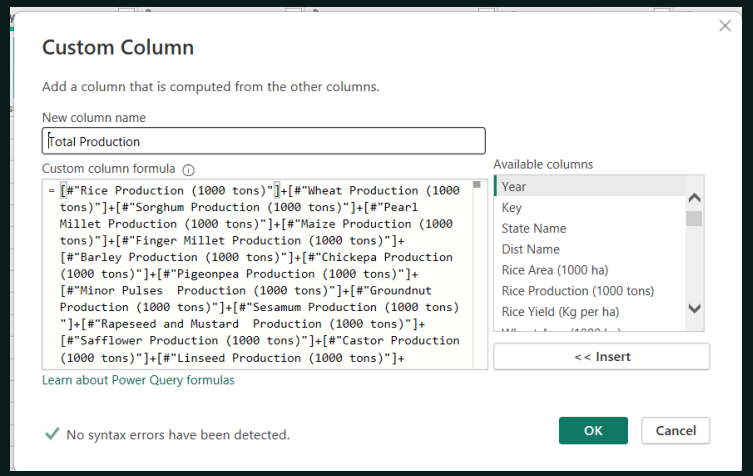
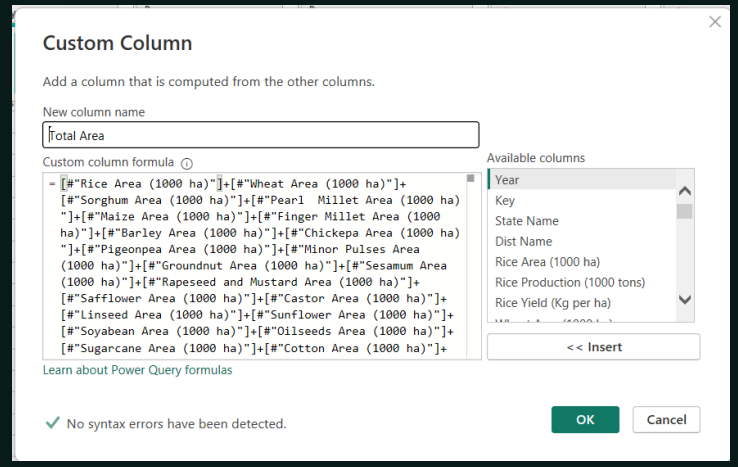
7-118
11-92
7-119
7-120
3-121
11-91
3-122
3-123
11-90
7-113
7-95
7-112
7-106
7-102
7-100
7-117
11-93
7-116
7-115
4-182
4-183
4-184

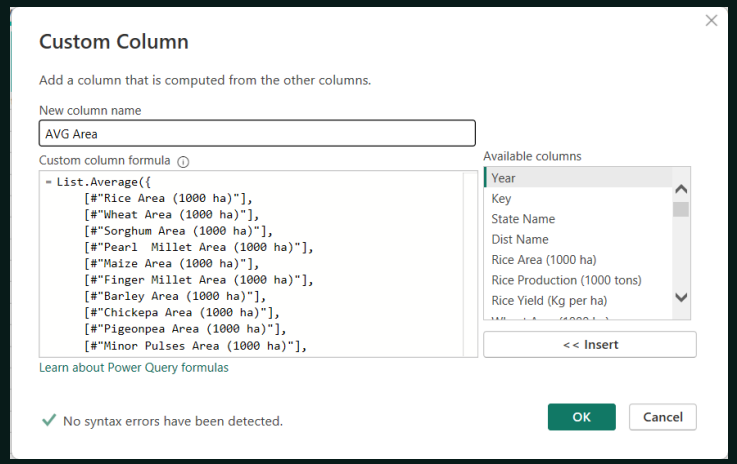
Add Custome Columns Total Area , Production , Yield

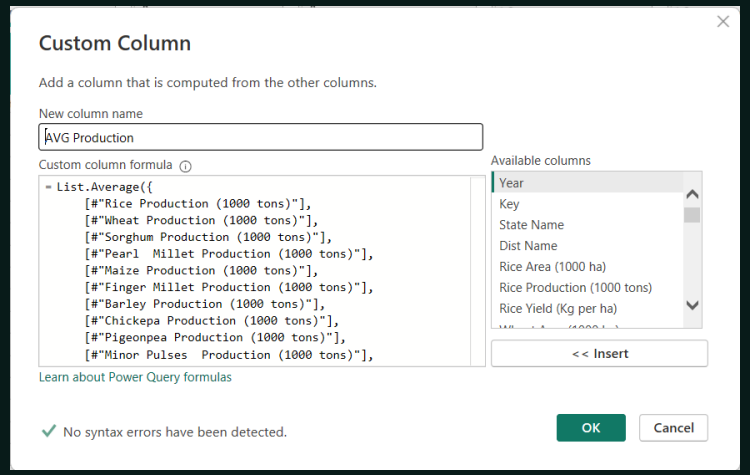


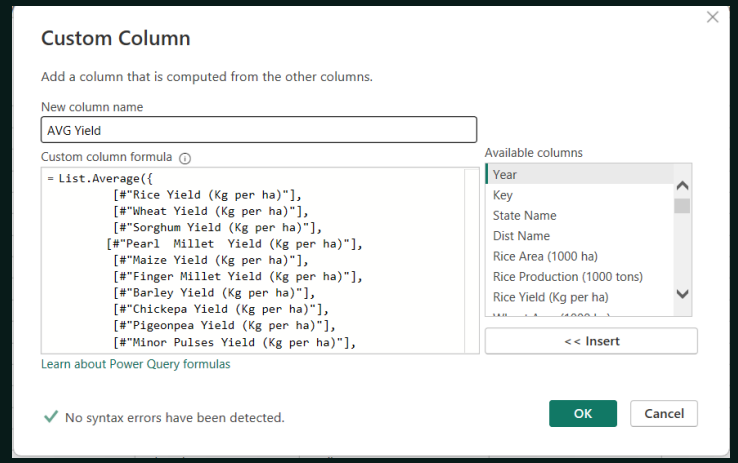




Add Custome Columns Average Area , Production , Yield







	Index	Dist Name
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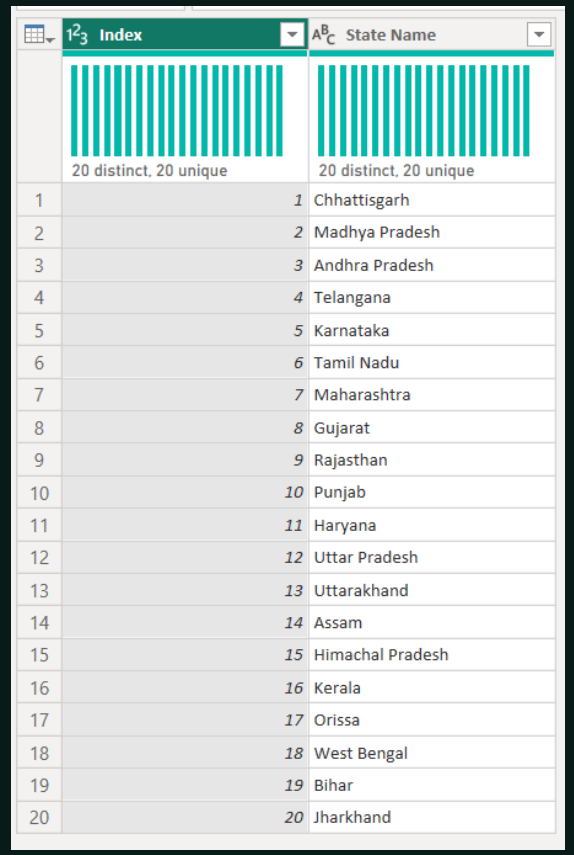
1	1	Durg
2	2	Bastar
3	3	Raipur
4	4	Bilaspur
5	5	Raigarh
6	6	Surguja
7	7	Jabalpur
8	8	Balaghat
9	9	Chhindwara
10	10	Narsinghpur
11	11	Seoni / Shivani
12	12	Mandla
13	13	Sagar
14	14	Damoh
15	15	Tikamgarh
16	16	Chhatarpur
17	17	Panna
18	18	Rewa
19	19	Sidhi
20	20	Satna
21	21	Shahdol
22	22	Gwalior
23	23	Shivpuri
24	24	Guna



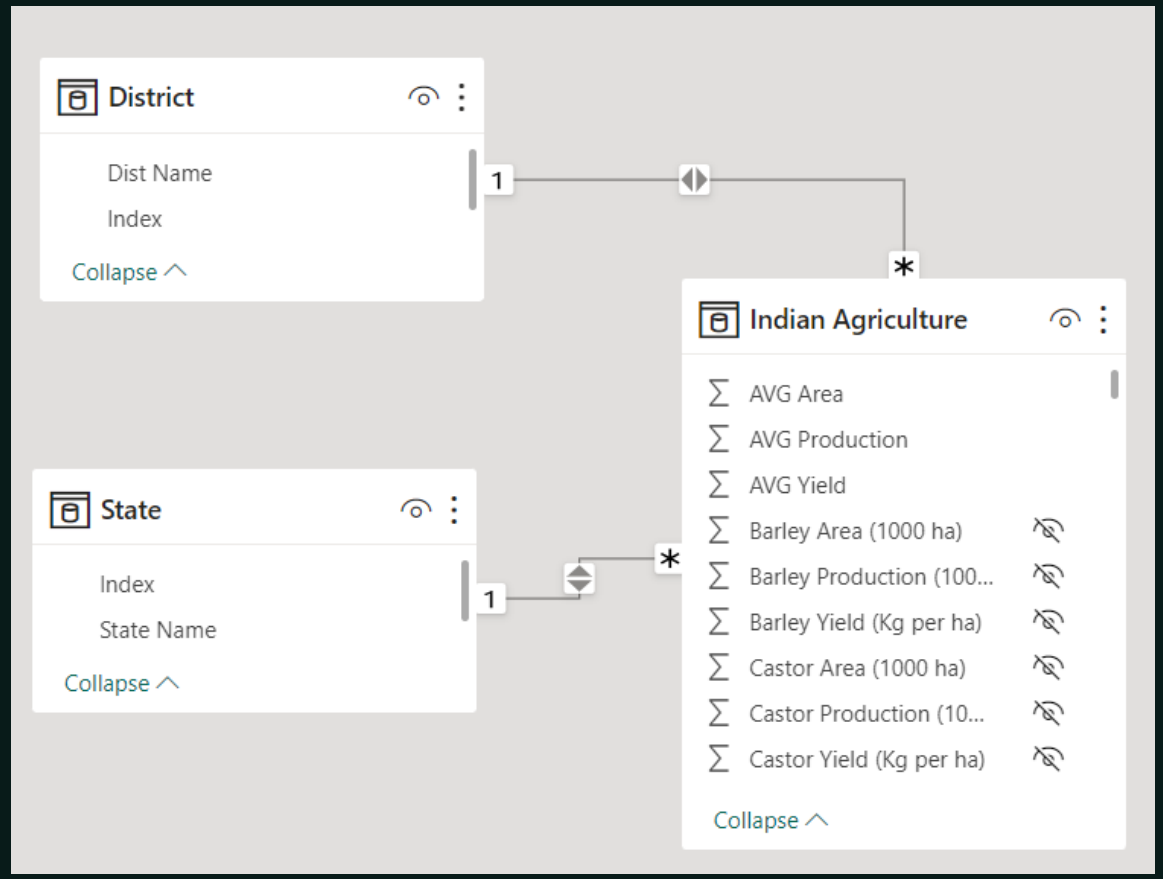
	Index	State Name
	20 distinct, 20 unique	20 distinct, 20 unique
1	1	Chhattisgarh
2	2	Madhya Pradesh
3	3	Andhra Pradesh
4	4	Telangana
5	5	Karnataka
6	6	Tamil Nadu
7	7	Maharashtra
8	8	Gujarat
9	9	Rajasthan
10	10	Punjab
11	11	Haryana
12	12	Uttar Pradesh
13	13	Uttarakhand
14	14	Assam
15	15	Himachal Pradesh
16	16	Kerala
17	17	Orissa
18	18	West Bengal
19	19	Bihar
20	20	Jharkhand

Create Table State With Distinct State Name and Table District with Distinct District Name

Data Modeling

POWER BI

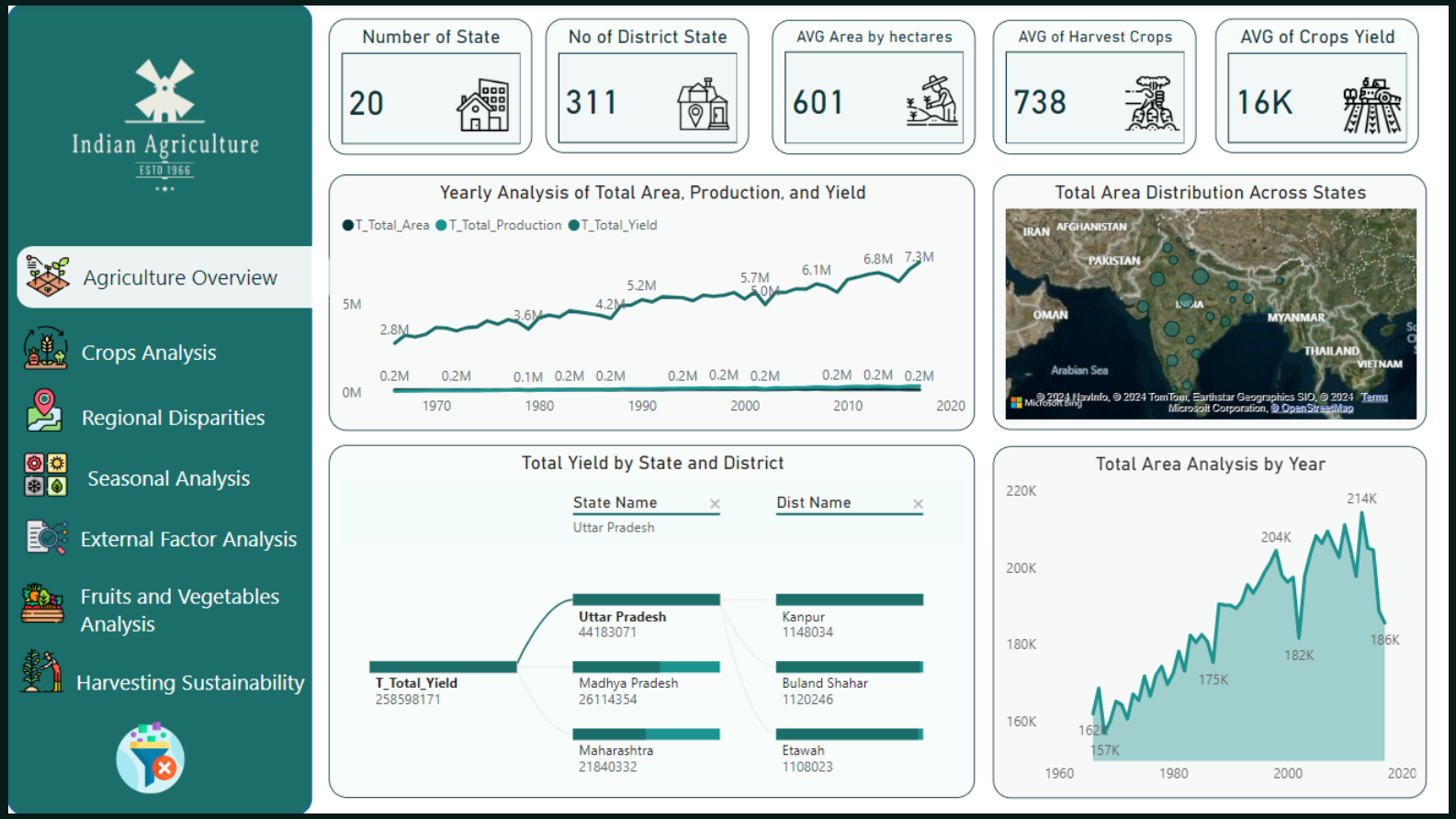
Data Model of Indian Agriculture Dataset



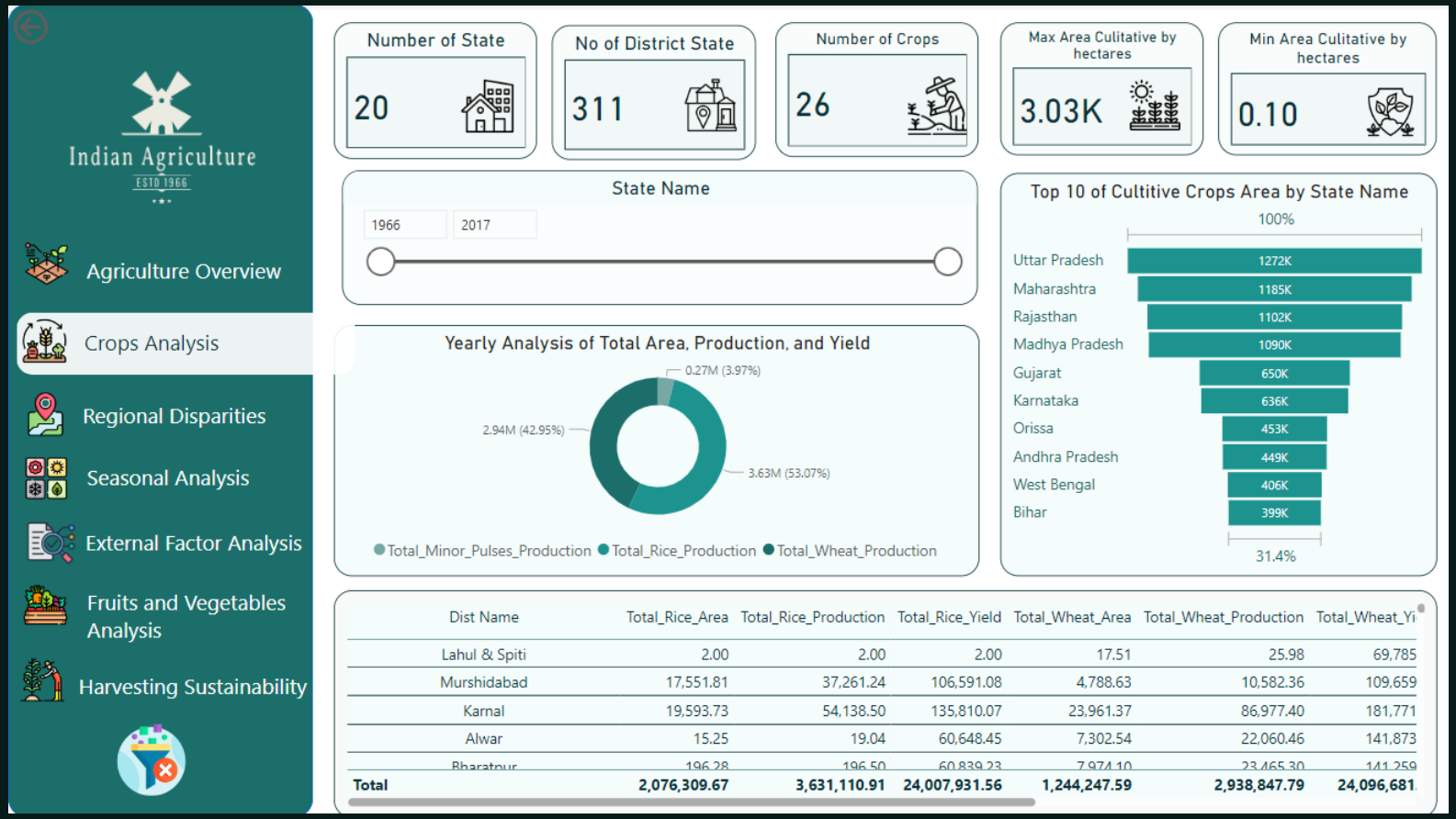
Data Visualization

POWER BI

Agriculture Overview

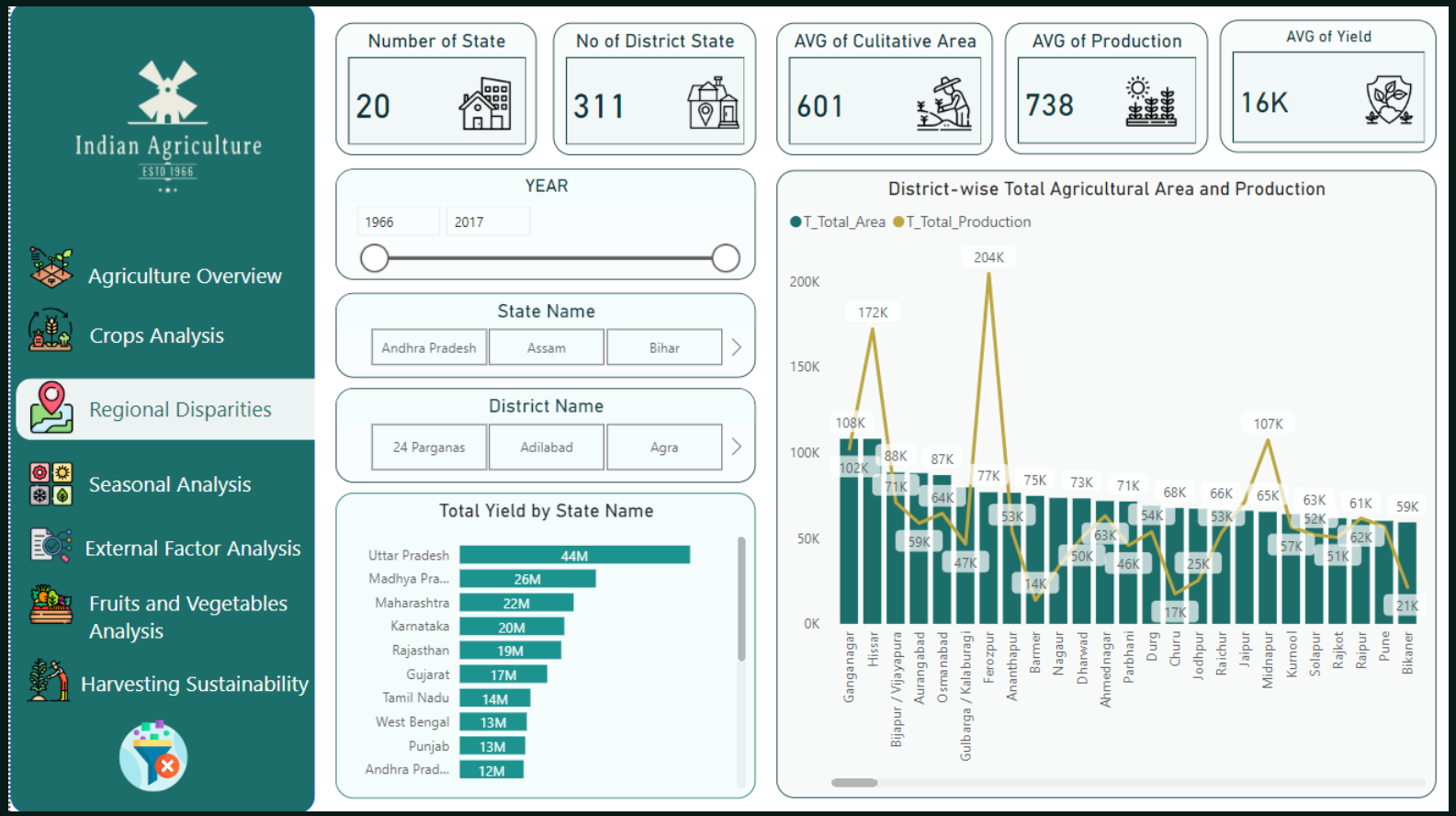


Crops Analysis

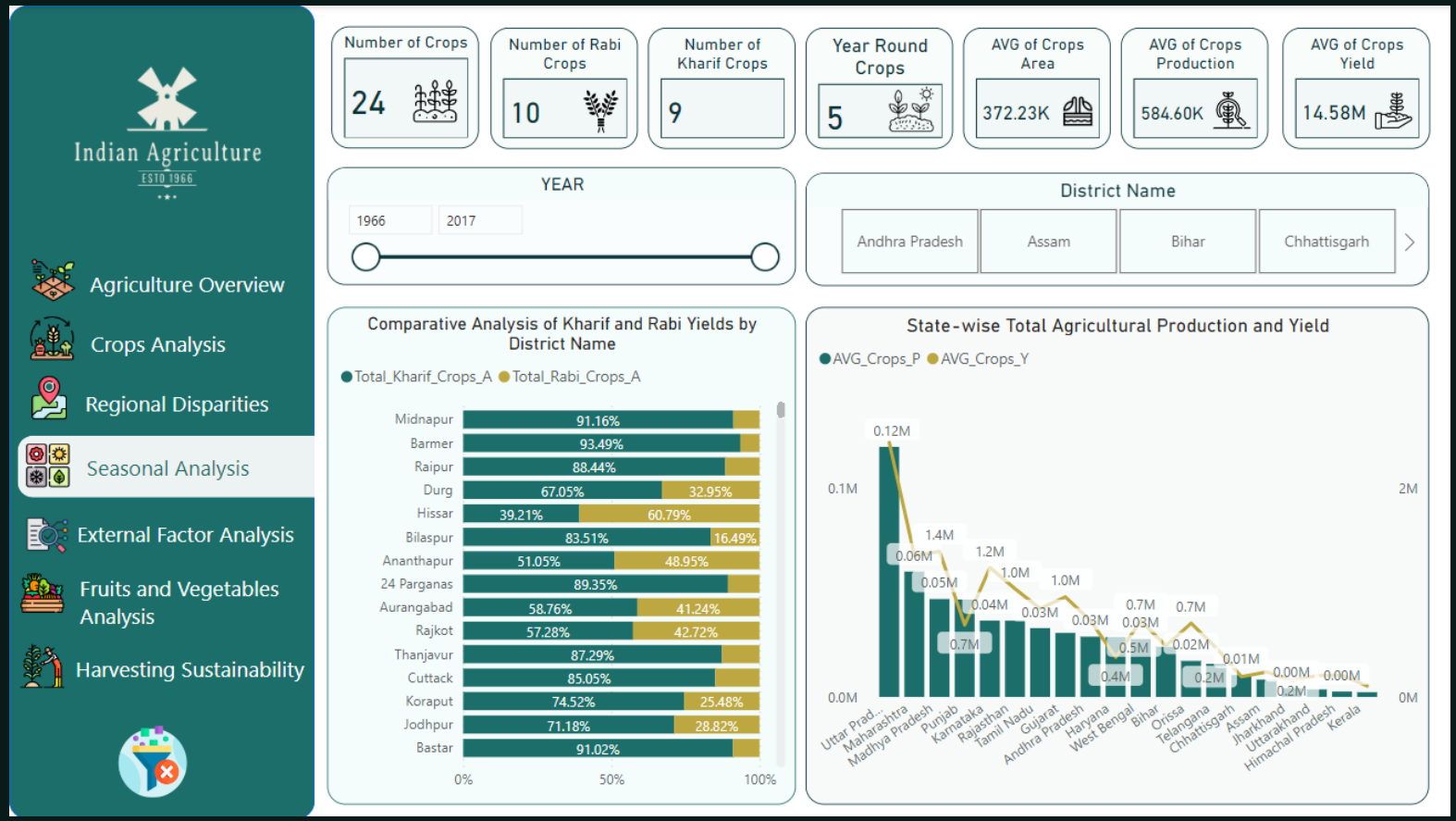


Dist Name	Total_Rice_Area	Total_Rice_Production	Total_Rice_Yield	Total_Wheat_Area	Total_Wheat_Production	Total_Wheat_Yi
Lahul & Spiti	2.00	2.00	2.00	17.51	25.98	69,785
Murshidabad	17,551.81	37,261.24	106,591.08	4,788.63	10,582.36	109,659
Karnal	19,593.73	54,138.50	135,810.07	23,961.37	86,977.40	181,771
Alwar	15.25	19.04	60,648.45	7,302.54	22,060.46	141,873
Bharatpur	196.28	196.50	60,839.23	7,974.10	23,465.30	141,259
Total	**2,076,309.67**	**3,631,110.91**	**24,007,931.56**	**1,244,247.59**	**2,938,847.79**	**24,096,681**

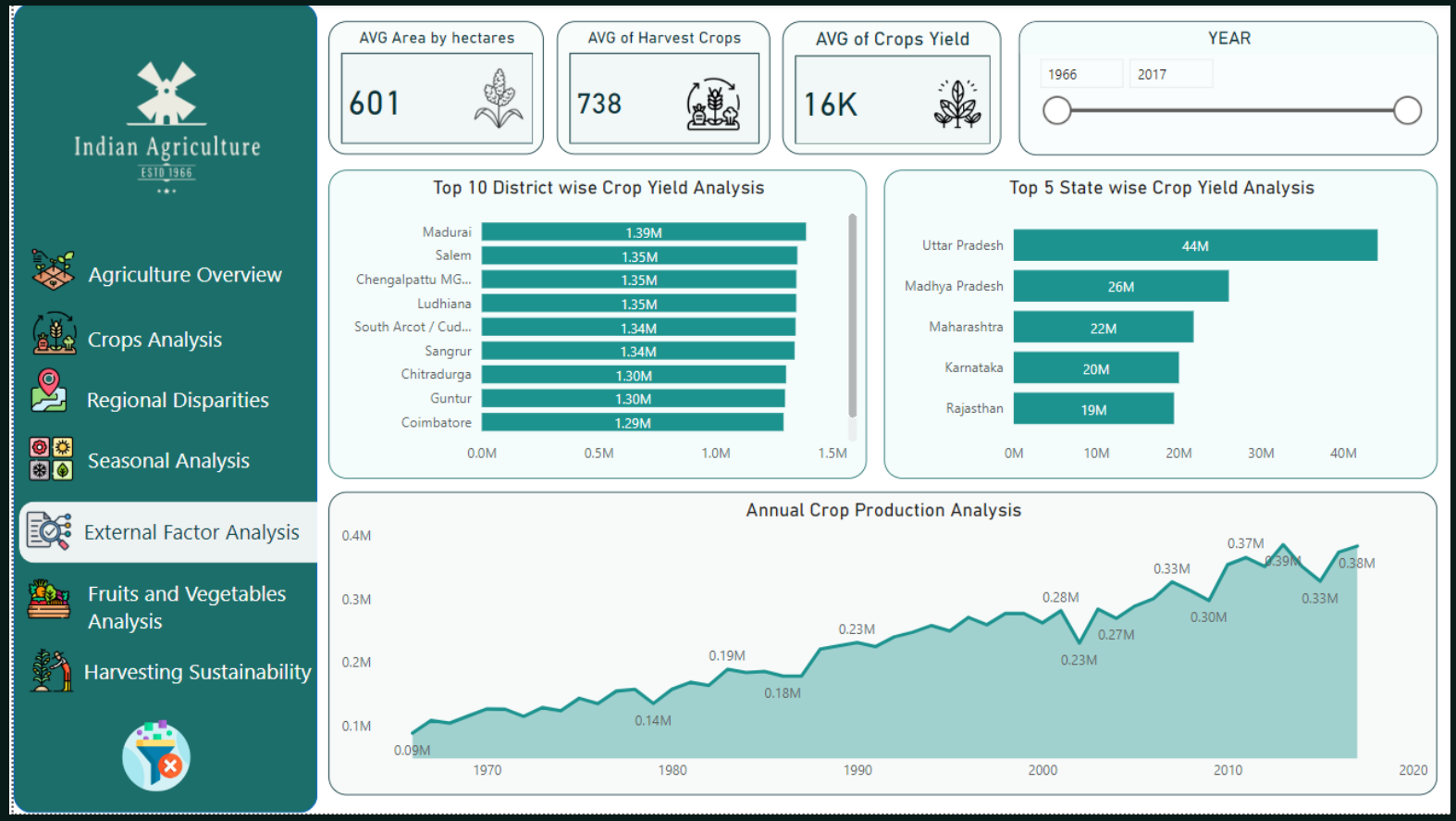
Regional Disparities



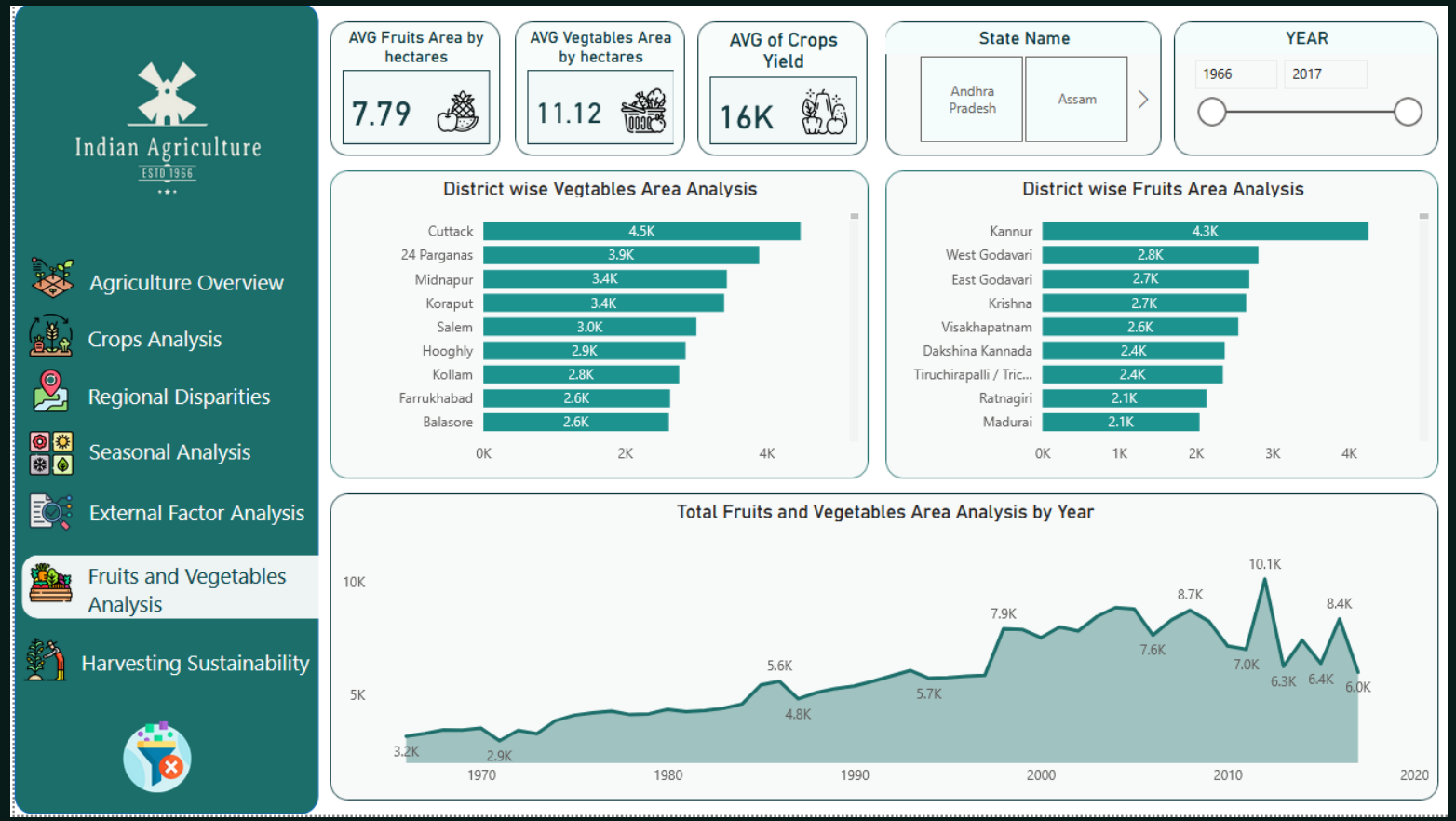
Seasonal Analysis



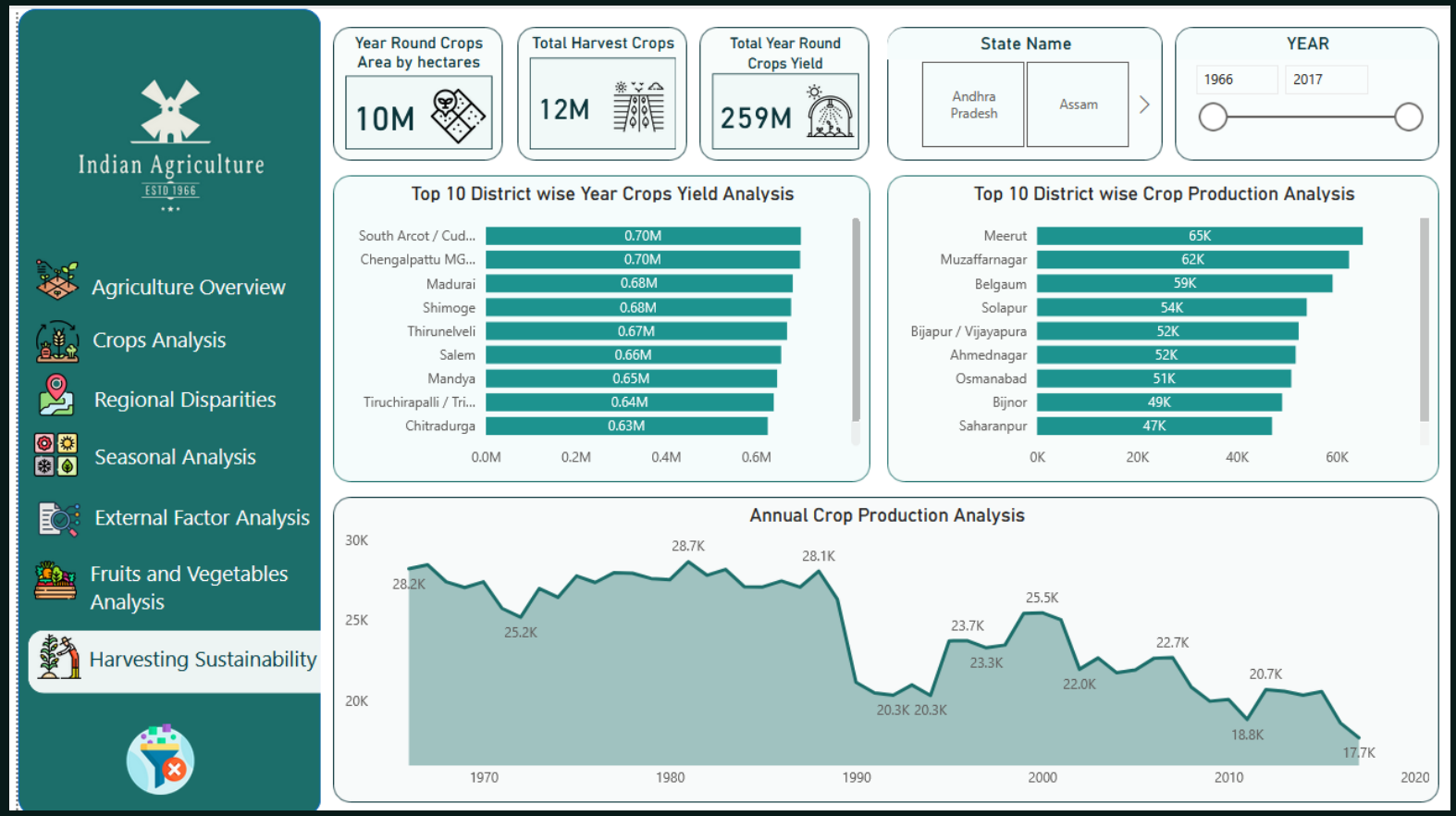
External Factor Analysis



Fruits and Vegetables Analysis



Harvesting Sustainability



Summary

"Through advanced data analysis techniques, valuable insights can be gleaned from agricultural data, enabling optimization of crop yields, resource allocation, and pest management strategies. By leveraging data-driven approaches, farmers can make informed decisions to enhance productivity, sustainability, and resilience in their operations."

Thank you

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https://www.novypro.com/project/indian-agriculture