WEEK 1

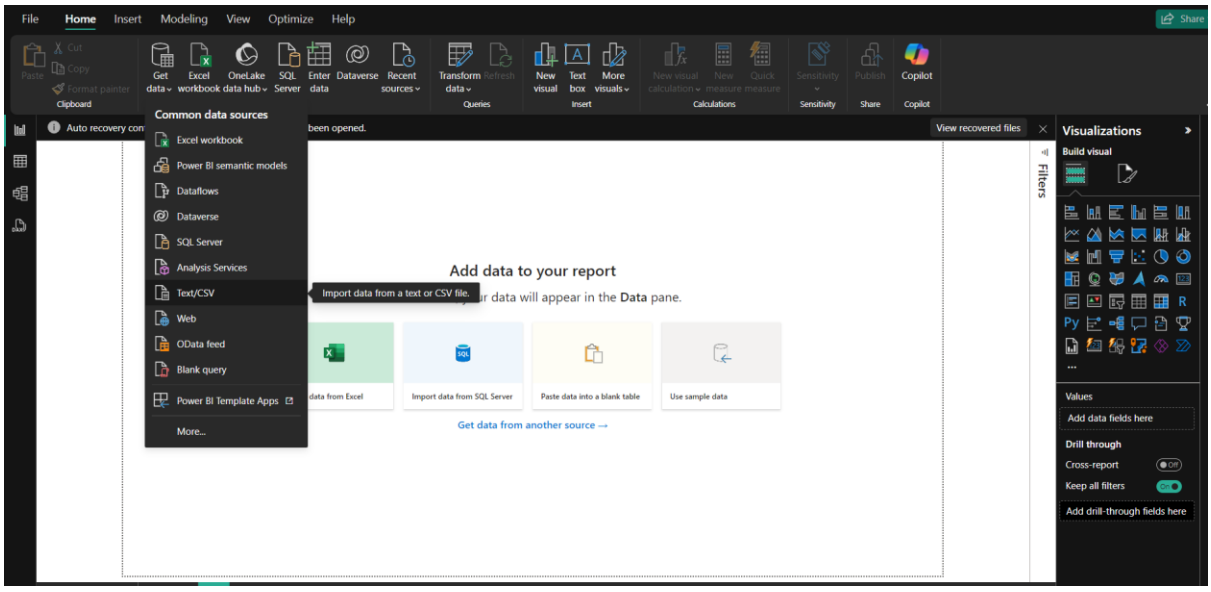
Exhaustive Analysis of Indian Agriculture using Power BI

1. **ETL Process :**
   Extract: The first stage in the ETL process is to extract data from various sources such as transactional systems, spreadsheets, and flat files. This step involves reading data from the source systems and storing it in a staging area.

   Transform: In this stage, the extracted data is transformed into a format that is suitable for loading into the data warehouse. This may involve cleaning and validating the data, converting data types, combining data from multiple sources, and creating new data fields.

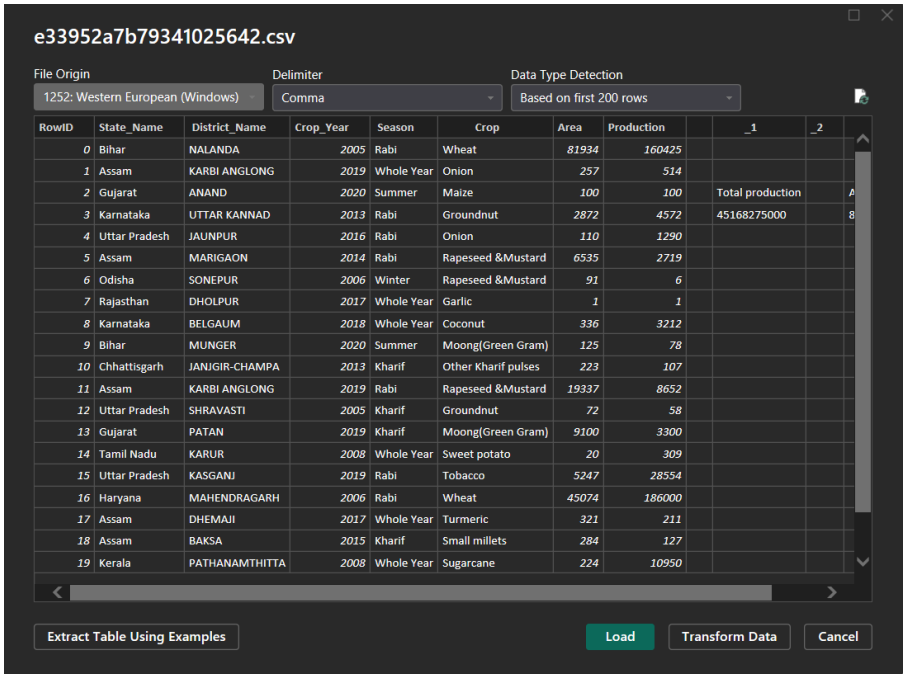
   Load: After the data is transformed, it is loaded into the data warehouse. This step involves creating the physical data structures and loading the data into the warehouse.

2. GET DATA :



To extract data in Power BI, follow these steps:

1. **Open Power BI Desktop**: Launch the application.
2. **Click "Get Data"**: Select the **Get Data** option from the Home tab.
3. **Choose Data Source**: Pick a source like Excel, SQL Server, Web, or others.



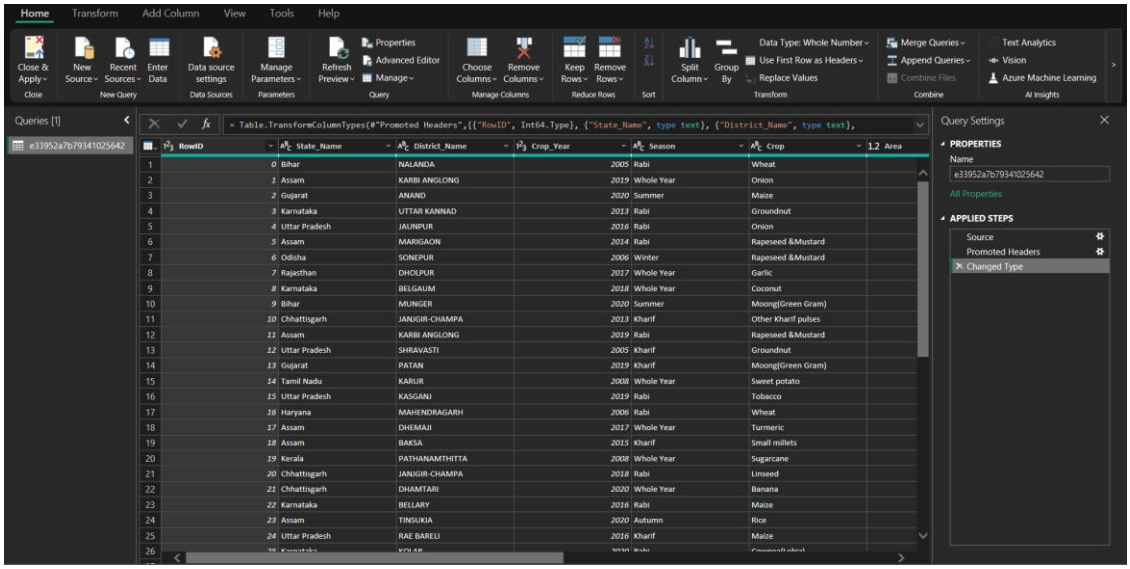
RowID	State_Name	District_Name	Crop_Year	Season	Crop	Area	Production	_1	_2
0	Bihar	NALANDA	2005	Rabi	Wheat	81934	160425		
1	Assam	KARBI ANGLONG	2019	Whole Year	Onion	257	514		
2	Gujarat	ANAND	2020	Summer	Maize	100	100	Total production	A
3	Karnataka	UTTAR KANNAD	2013	Rabi	Groundnut	2872	4572	45168275000	8
4	Uttar Pradesh	JAUNPUR	2016	Rabi	Onion	110	1290		
5	Assam	MARIGAON	2014	Rabi	Rapeseed &Mustard	6535	2719		
6	Odisha	SONEPUR	2006	Winter	Rapeseed &Mustard	91	6		
7	Rajasthan	DHOLPUR	2017	Whole Year	Garlic	1	1		
8	Karnataka	BELGAUM	2018	Whole Year	Coconut	336	3212		
9	Bihar	MUNGER	2020	Summer	Moong(Green Gram)	125	78		
10	Chhattisgarh	JANJGIR-CHAMPA	2013	Kharif	Other Kharif pulses	223	107		
11	Assam	KARBI ANGLONG	2019	Rabi	Rapeseed &Mustard	19337	8652		
12	Uttar Pradesh	SHRAVASTI	2005	Kharif	Groundnut	72	58		
13	Gujarat	PATAN	2019	Kharif	Moong(Green Gram)	9100	3300		
14	Tamil Nadu	KARUR	2008	Whole Year	Sweet potato	20	309		
15	Uttar Pradesh	KASGANJ	2019	Rabi	Tobacco	5247	28554		
16	Haryana	MAHENDRAGARH	2006	Rabi	Wheat	45074	186000		
17	Assam	DHEMAJI	2017	Whole Year	Turmeric	321	211		
18	Assam	BAKSA	2015	Kharif	Small millets	284	127		
19	Kerala	PATHANAMTHITTA	2008	Whole Year	Sugarcane	224	10950		

Report View: Used to create and design visualizations and reports.

Table View: Displays raw data tables for review and editing.

Model View: Helps define relationships between tables and manage the data model.

3.TRANSFORM DATA



	RowID	State_Name	District_Name	Crop_Year	Season	Crop	Area
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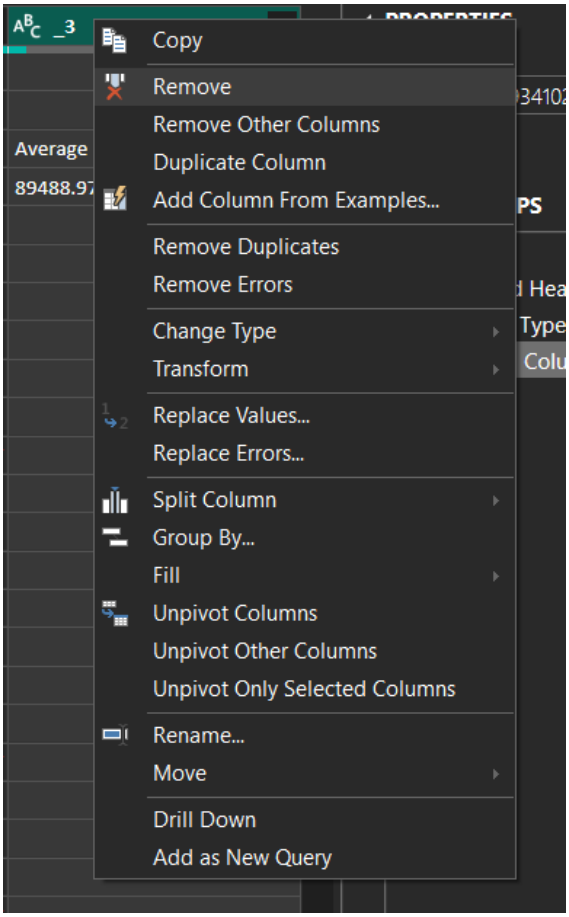
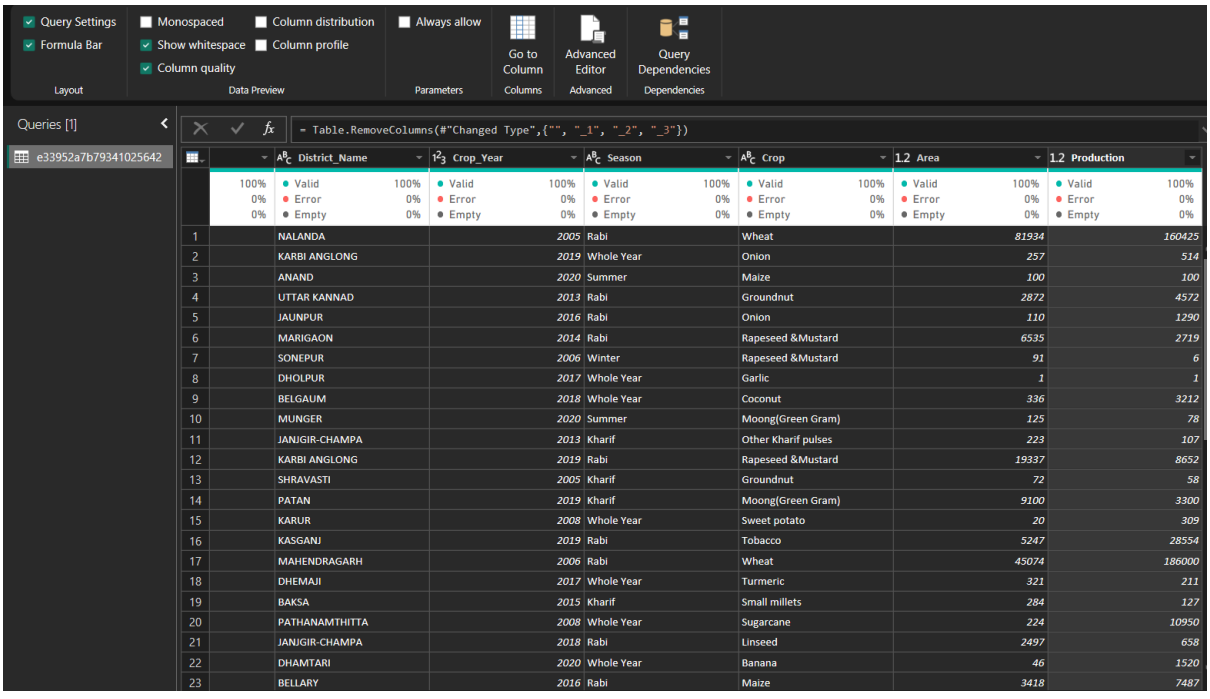
2	1	Assam	KARBI ANGLONG	2019	Whole Year	Onion	
3	2	Gujarat	ANAND	2020	Summer	Maize	
4	3	Karnataka	UTTAR KANNAD	2013	Rabi	Groundnut	
5	4	Uttar Pradesh	JAUNPUR	2016	Rabi	Onion	
6	5	Assam	MARIGAON	2014	Rabi	Rapeseed &Mustard	
7	6	Odisha	SONEPUR	2006	Winter	Rapeseed &Mustard	
8	7	Rajasthan	DHOLPUR	2017	Whole Year	Garlic	
9	8	Karnataka	BELGAUM	2018	Whole Year	Coconut	
10	9	Bihar	MUNGER	2020	Summer	Moong(Green Gram)	
11	10	Chhattisgarh	JANJGIR-CHAMPA	2013	Kharif	Other Kharif pulses	
12	11	Assam	KARBI ANGLONG	2019	Rabi	Rapeseed &Mustard	
13	12	Uttar Pradesh	SHRAVASTI	2005	Kharif	Groundnut	
14	13	Gujarat	PATAN	2019	Kharif	Moong(Green Gram)	
15	14	Tamil Nadu	KARUR	2008	Whole Year	Sweet potato	
16	15	Uttar Pradesh	KASGANJ	2019	Rabi	Tobacco	
17	16	Haryana	MAHENDRAGARH	2006	Rabi	Wheat	
18	17	Assam	DHEMAJI	2017	Whole Year	Turmeric	
19	18	Assam	BAKSA	2015	Kharif	Small millets	
20	19	Kerala	PATHANAMTHITTA	2008	Whole Year	Sugarcane	
21	20	Chhattisgarh	JANJGIR-CHAMPA	2018	Rabi	Linseed	
22	21	Chhattisgarh	DHAMTARI	2020	Whole Year	Banana	
23	22	Karnataka	BELLARY	2016	Rabi	Maize	
24	23	Assam	TINSUKIA	2020	Autumn	Rice	
25	24	Uttar Pradesh	RAE BARELI	2016	Kharif	Maize	

- Remove Columns



- Column Quality



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8	DHOLPUR	2017	Whole Year	Garlic	1	1
9	BELGAUM	2018	Whole Year	Coconut	336	3212
10	MUNGER	2020	Summer	Moong(Green Gram)	125	78
11	JANJGIR-CHAMPA	2013	Kharif	Other Kharif pulses	223	107
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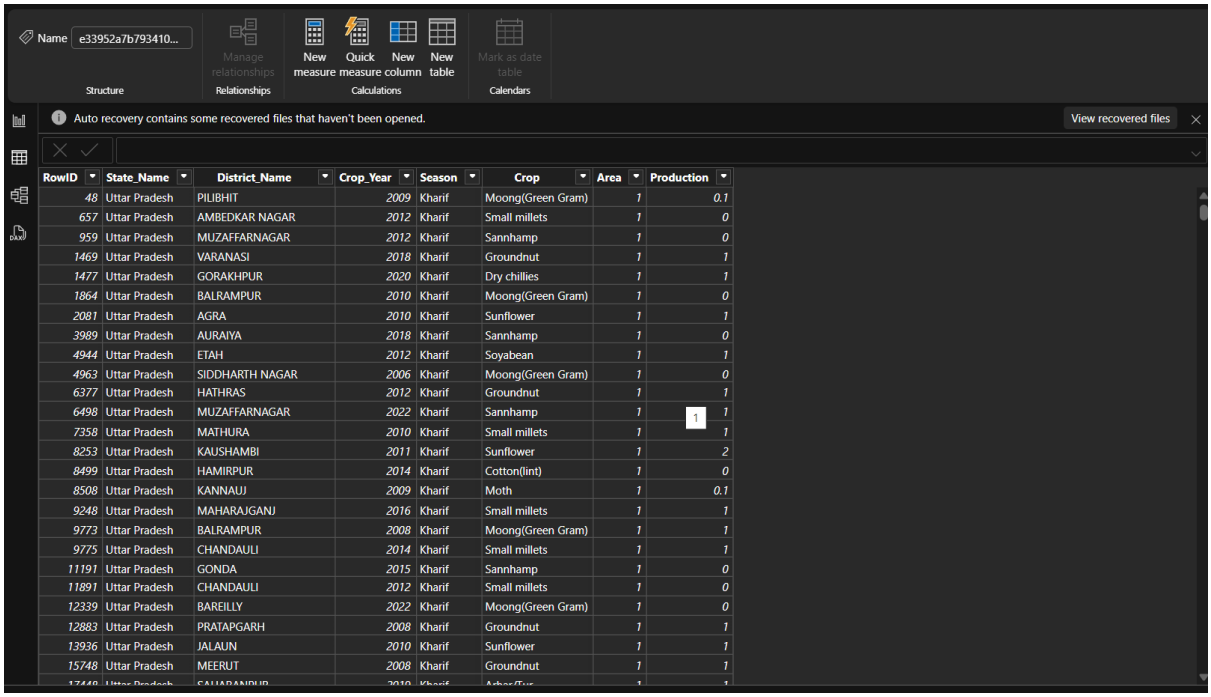
18	DHEMAJI	2017	Whole Year	Turmeric	321	211
19	BAKSA	2015	Kharif	Small millets	284	127
20	PATHANAMTHITTA	2008	Whole Year	Sugarcane	224	10950
21	JANJGIR-CHAMPA	2018	Rabi	Linseed	2497	658
22	DHAMTARI	2020	Whole Year	Banana	46	1520
23	BELLARY	2016	Rabi	Maize	3418	7487

4.Final Step – Close and Apply



RowID	State_Name	District_Name	Crop_Year	Season	Crop	Area	Production
48	Uttar Pradesh	PILIBHIT	2009	Kharif	Moong(Green Gram)	1	0.1
657	Uttar Pradesh	AMBEDKAR NAGAR	2012	Kharif	Small millets	1	0
959	Uttar Pradesh	MUZAFFARNAGAR	2012	Kharif	Sannhamp	1	0
1469	Uttar Pradesh	VARANASI	2018	Kharif	Groundnut	1	1
1477	Uttar Pradesh	GORAKHPUR	2020	Kharif	Dry chillies	1	1
1864	Uttar Pradesh	BALRAMPUR	2010	Kharif	Moong(Green Gram)	1	0
2081	Uttar Pradesh	AGRA	2010	Kharif	Sunflower	1	1
3989	Uttar Pradesh	AURAIYA	2018	Kharif	Sannhamp	1	0
4944	Uttar Pradesh	ETAH	2012	Kharif	Soyabean	1	1
4963	Uttar Pradesh	SIDDHARTH NAGAR	2006	Kharif	Moong(Green Gram)	1	0
6377	Uttar Pradesh	HATHRAS	2012	Kharif	Groundnut	1	1
6498	Uttar Pradesh	MUZAFFARNAGAR	2022	Kharif	Sannhamp	1	1
7358	Uttar Pradesh	MATHURA	2010	Kharif	Small millets	1	1
8253	Uttar Pradesh	KAUSHAMBI	2011	Kharif	Sunflower	1	2
8499	Uttar Pradesh	HAMIRPUR	2014	Kharif	Cotton(lint)	1	0
8508	Uttar Pradesh	KANNAUJ	2009	Kharif	Moth	1	0.1
9248	Uttar Pradesh	MAHARAJGANJ	2016	Kharif	Small millets	1	1
9773	Uttar Pradesh	BALRAMPUR	2008	Kharif	Moong(Green Gram)	1	1
9775	Uttar Pradesh	CHANDAULI	2014	Kharif	Small millets	1	1
11191	Uttar Pradesh	GONDA	2015	Kharif	Sannhamp	1	0
11891	Uttar Pradesh	CHANDAULI	2012	Kharif	Small millets	1	0
12339	Uttar Pradesh	BAREILLY	2022	Kharif	Moong(Green Gram)	1	0
12883	Uttar Pradesh	PRATAPGARH	2008	Kharif	Groundnut	1	1
13936	Uttar Pradesh	JALAUN	2010	Kharif	Sunflower	1	1
15748	Uttar Pradesh	MEERUT	2008	Kharif	Groundnut	1	1