

POWER BI

Power BI is a business analytics tool developed by **Microsoft** that enables users to visualize and analyze data with greater speed, efficiency, and understanding. It provides insights through interactive reports, dashboards, and visualizations.

ETL (Extract, Transform, Load)

1. Extract:

- Retrieving data from various sources (databases, files, cloud services, APIs).
- Common data sources supported by Power BI:
 - Excel, CSV, JSON, XML files.
 - Databases like SQL Server, MySQL, PostgreSQL.
 - Cloud platforms like Azure, Google BigQuery.
 - Online services like SharePoint, Salesforce.

2. Transform:

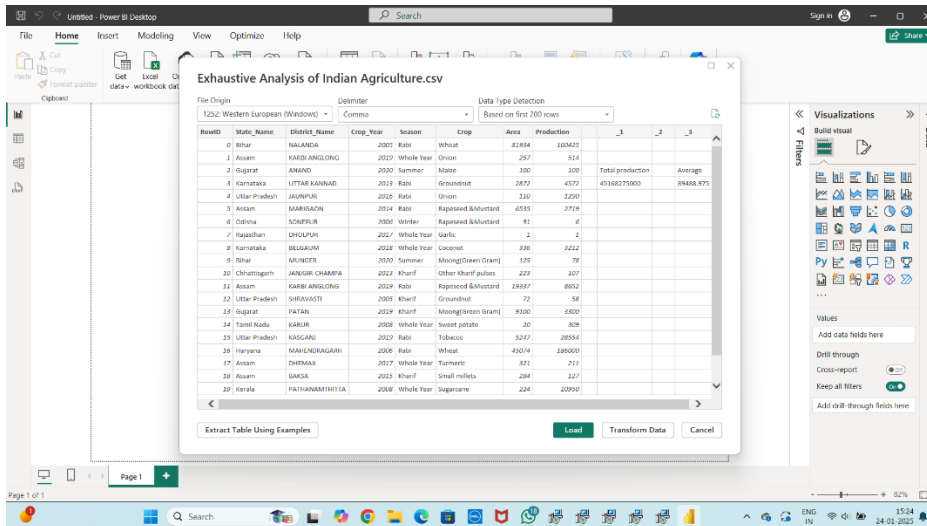
- Cleaning and shaping data using **Power Query Editor** in Power BI Desktop.
- Typical transformations include:
 - Removing duplicates.
 - Filtering rows or columns.
 - Splitting, merging, or formatting columns.
 - Aggregating data (e.g., summing, counting, grouping).

3. Load:

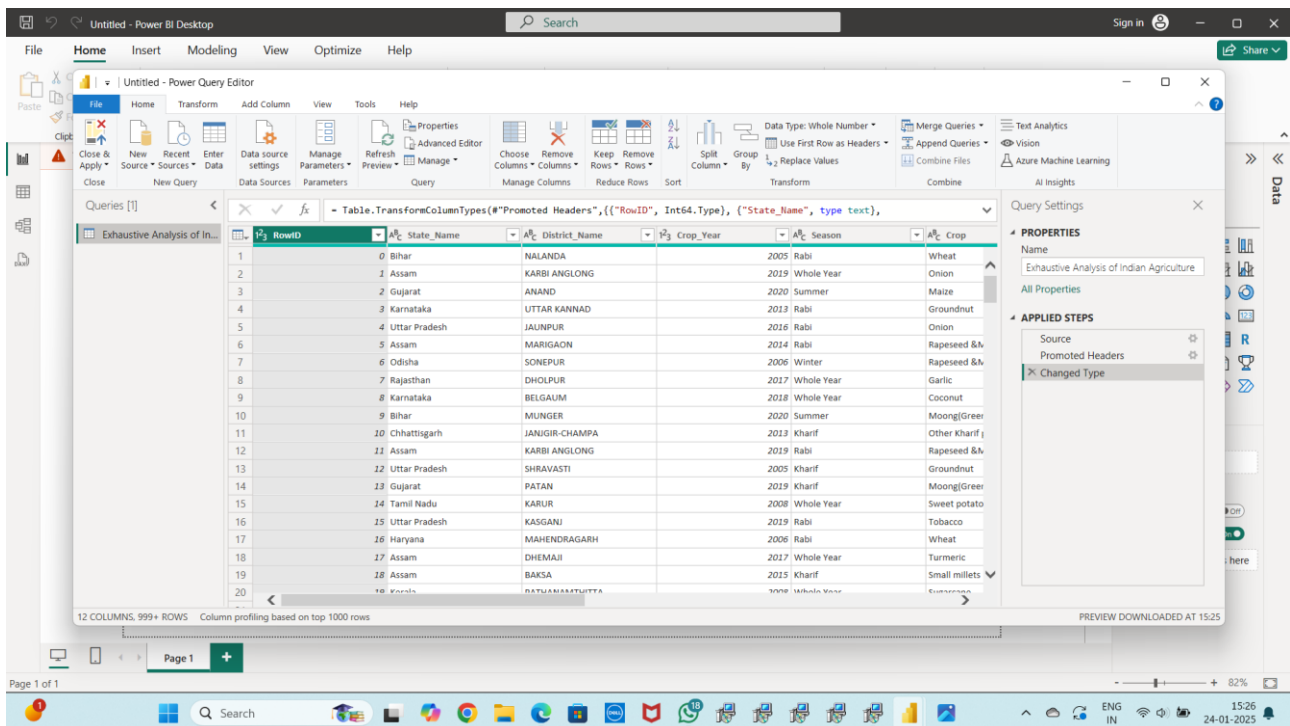
- Loading the transformed data into the **Power BI Model** for visualization.
- Power BI supports:
 - **DirectQuery**: Queries the data source in real time without loading all the data into Power BI.
 - **Import Mode**: Loads the data into Power BI for fast performance.
 - **Live Connection**: Keeps an active connection to live datasets, such as Analysis Services models.

POWER BI

Step1: To get the data click on Get data and there select Text/csv

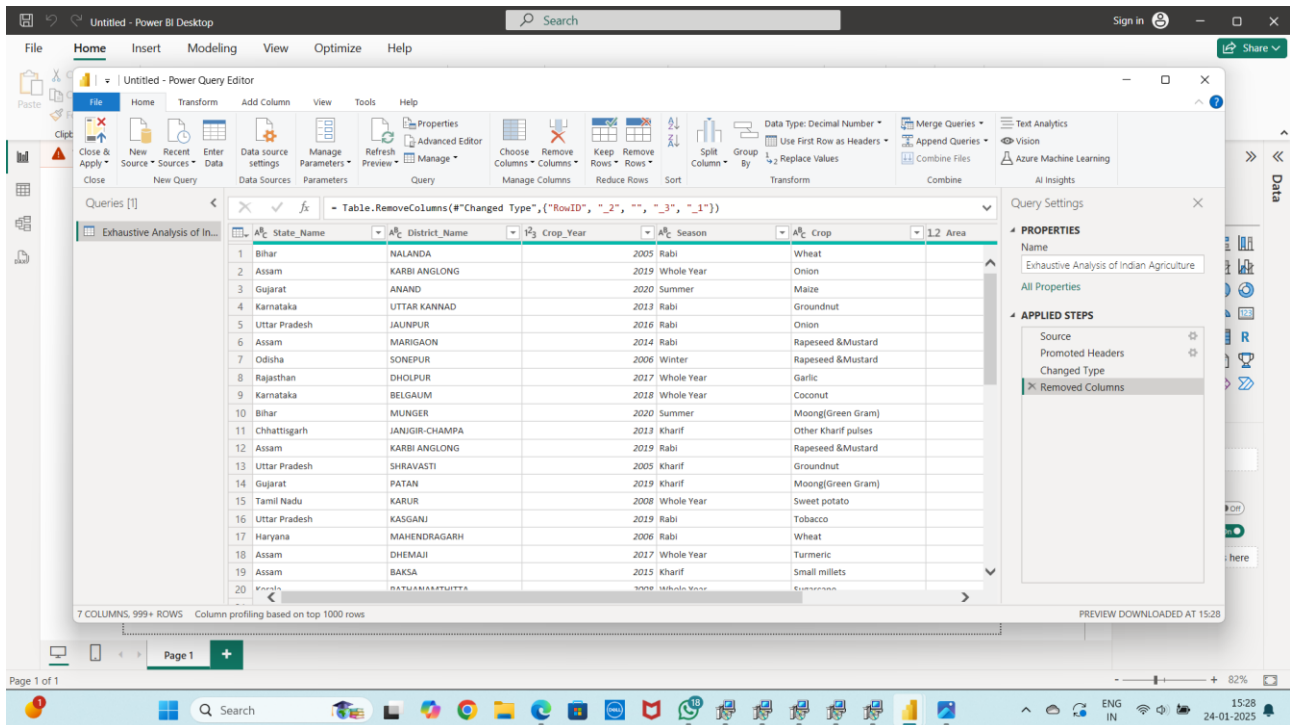


Step2: Click on Transform when you need to process the data. A new window called Power Query Editor will open

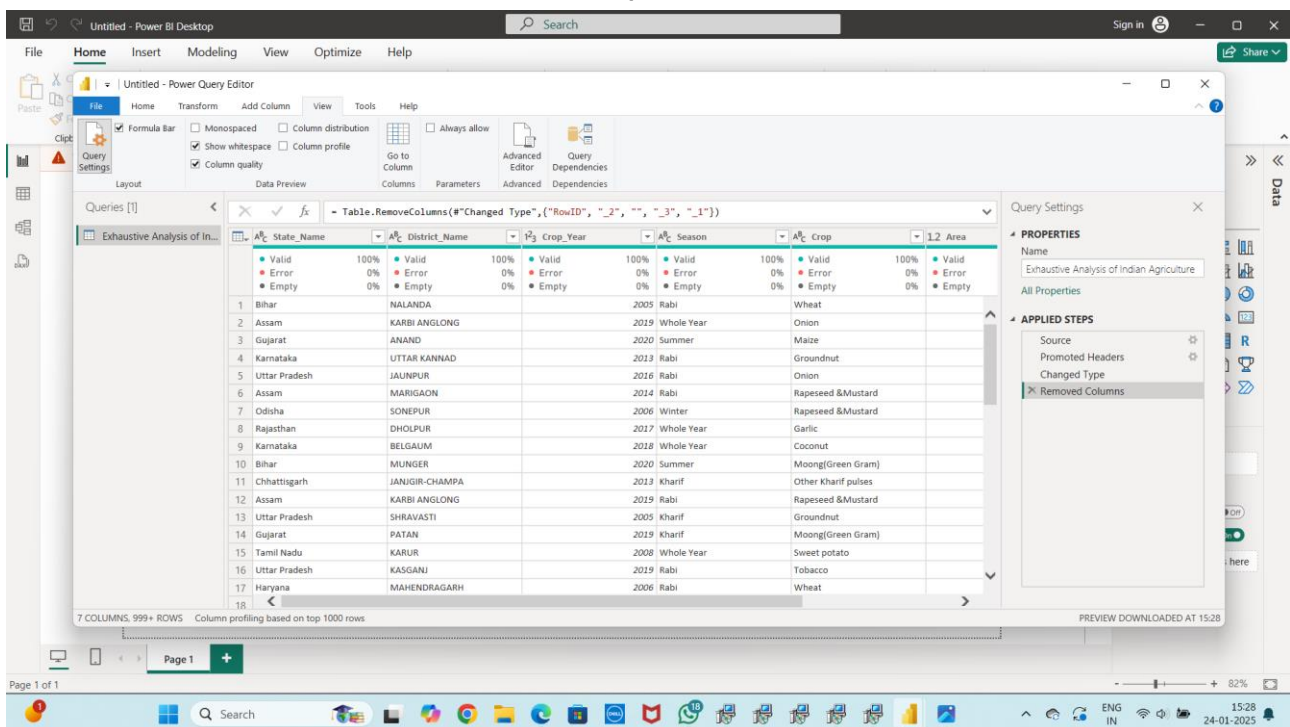


POWER BI

Step 3: To remove the unwanted columns -> select the column>right click on mouse>remove



Step 4 : To check whether data contains null values ,click on view then check column quality



POWER BI

Step5: click on home> close and apply to get the reflection of what changes we have made

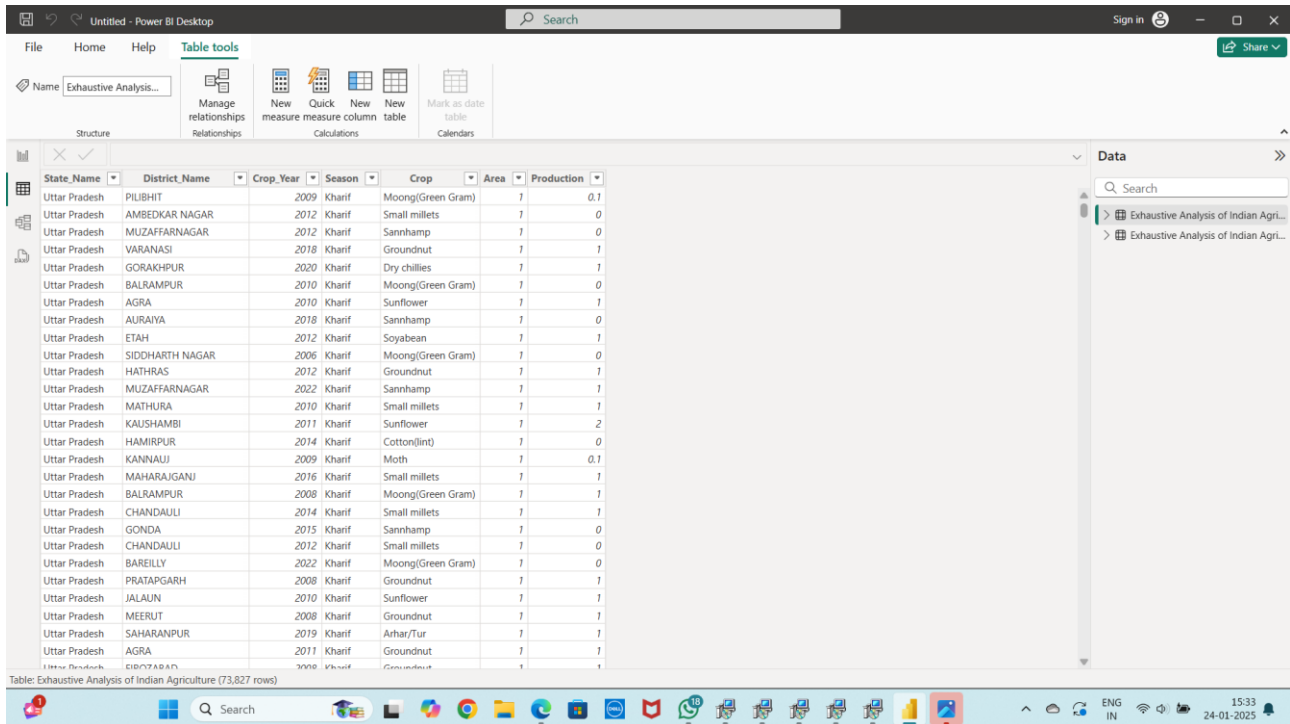


Table: Exhaustive Analysis of Indian Agriculture (73,827 rows)

State Name	District Name	Crop Year	Season	Crop	Area	Production
Uttar Pradesh	PILIBHIT	2009	Kharif	Moong(Green Gram)	1	0.1
Uttar Pradesh	AMBEDKAR NAGAR	2012	Kharif	Small millets	1	0
Uttar Pradesh	MUZAFFARNAGAR	2012	Kharif	Sannhamp	1	0
Uttar Pradesh	VARANASI	2018	Kharif	Groundnut	1	1
Uttar Pradesh	GORAKHPUR	2020	Kharif	Dry chillies	1	1
Uttar Pradesh	BALRAMPUR	2010	Kharif	Moong(Green Gram)	1	0
Uttar Pradesh	AGRA	2010	Kharif	Sunflower	1	1
Uttar Pradesh	AURAHA	2018	Kharif	Sannhamp	1	0
Uttar Pradesh	ETAH	2012	Kharif	Soyabean	1	1
Uttar Pradesh	SIDDHARTH NAGAR	2006	Kharif	Moong(Green Gram)	1	0
Uttar Pradesh	HATHRAS	2012	Kharif	Groundnut	1	1
Uttar Pradesh	MUZAFFARNAGAR	2022	Kharif	Sannhamp	1	1
Uttar Pradesh	MATHURA	2010	Kharif	Small millets	1	1
Uttar Pradesh	KAUSHAMBI	2011	Kharif	Sunflower	1	2
Uttar Pradesh	HAMIRPUR	2014	Kharif	Cotton(lint)	1	0
Uttar Pradesh	KANNALU	2009	Kharif	Moth	1	0.1
Uttar Pradesh	MAHARAJGANJ	2016	Kharif	Small millets	1	1
Uttar Pradesh	BALRAMPUR	2008	Kharif	Moong(Green Gram)	1	1
Uttar Pradesh	CHANDAUJI	2014	Kharif	Small millets	1	1
Uttar Pradesh	GONDA	2015	Kharif	Sannhamp	1	0
Uttar Pradesh	CHANDAUJI	2012	Kharif	Small millets	1	0
Uttar Pradesh	BAREILLY	2022	Kharif	Moong(Green Gram)	1	0
Uttar Pradesh	PRATAPGARH	2008	Kharif	Groundnut	1	1
Uttar Pradesh	JALAUN	2010	Kharif	Sunflower	1	1
Uttar Pradesh	MEERUT	2008	Kharif	Groundnut	1	1
Uttar Pradesh	SAHARANPUR	2019	Kharif	Arhar/Tur	1	1
Uttar Pradesh	AGRA	2011	Kharif	Groundnut	1	1
Uttar Pradesh	CIDRZADAN	2010	Kharif	Groundnut	1	1