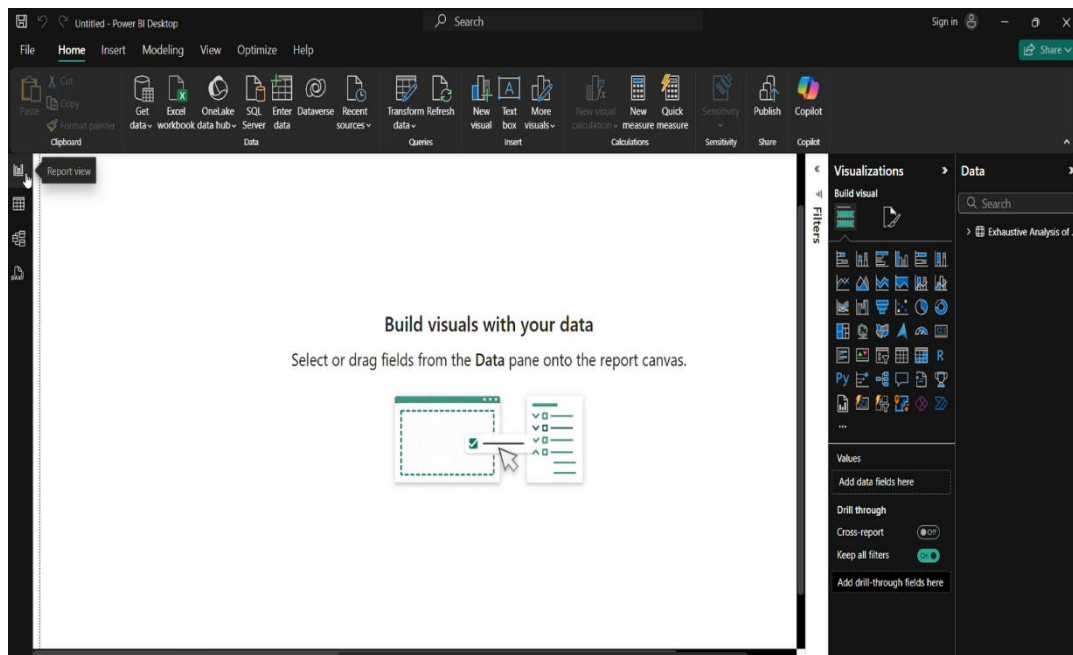


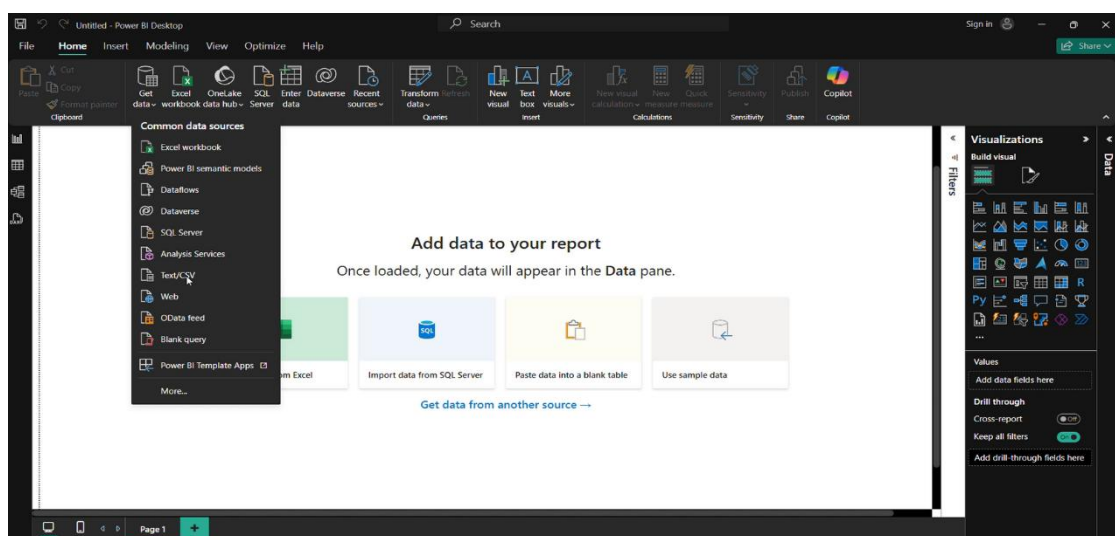
AICTE-Shell Internship on AI with Green Skill Cycle-3

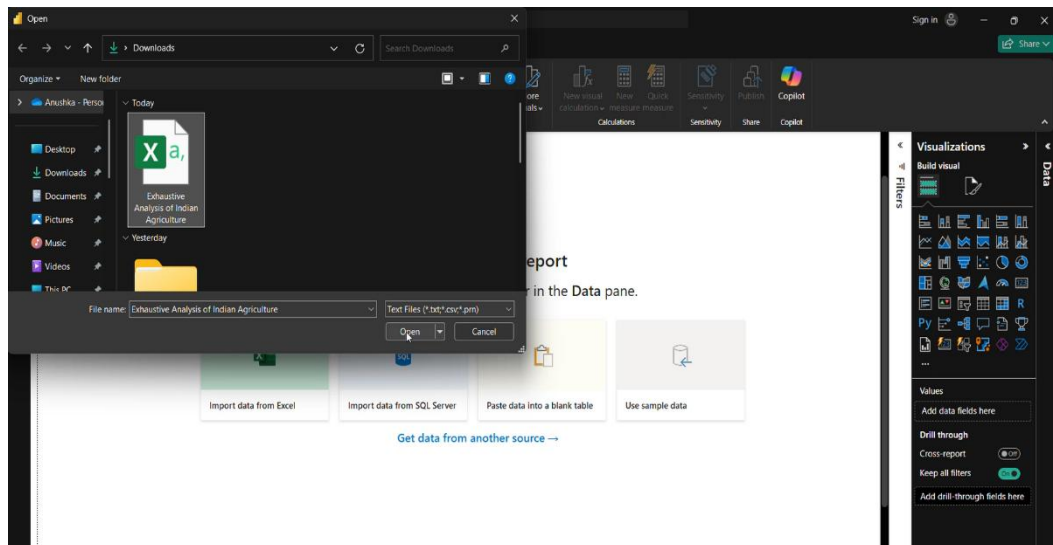
P1-Exhaustive Analysis of Indian Agriculture using Power BI

1. CLICK BLANK REPORT on Power BI Desktop



2. To Extract data: Click on home->get data->text/csv file (as we are dealing with csv file)



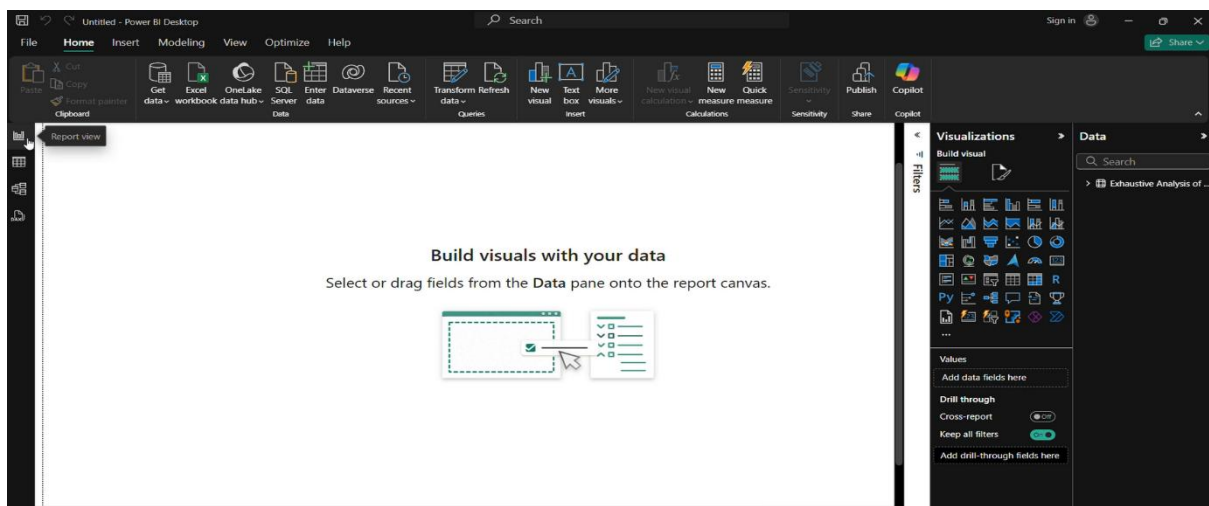


3. The **csv** file opened: There are few buttons-
- a. **load** (when data is cleaned)
 - b. **transform** (when you want to process data)

4. Click on load button (although our data is not cleaned)

5. There exists **3 button** on left side of window:

a. **report view**: perform visualization of data

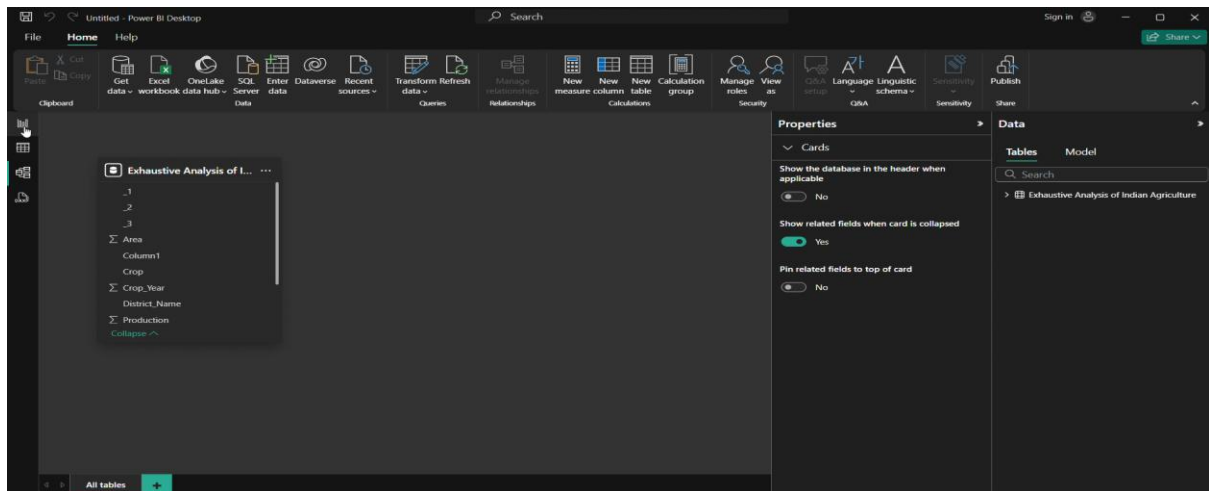


b. **table view:** overview of data

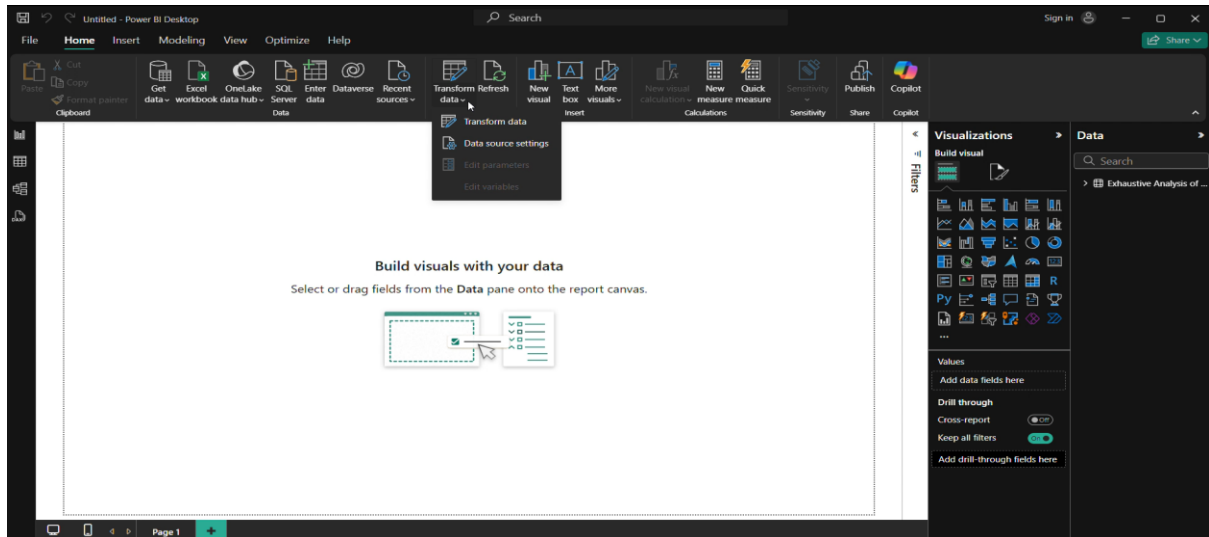
The screenshot shows the Power BI Desktop interface with the 'Table view' selected. The table contains the following columns: RowID, State Name, District Name, Crop Year, Season, Crop, Area, Production, and three unnamed columns (Column1, .1, .2, .3). The data represents agricultural production across various districts in Uttar Pradesh, India, from 2006 to 2019.

RowID	State Name	District Name	Crop Year	Season	Crop	Area	Production	Column1	.1	.2	.3
2081	Uttar Pradesh	AGRA	2010	Kharif	Sunflower	1	1				
2989	Uttar Pradesh	AURAYYA	2018	Kharif	Saneihamp	1	0				
4948	Uttar Pradesh	ETAH	2012	Kharif	Soyabean	1	1				
4963	Uttar Pradesh	SIDDIHARTI NAGAR	2006	Kharif	Moong(Green Gram)	1	0				
6377	Uttar Pradesh	HATHIRAS	2012	Kharif	Groundnut	1	1				
6496	Uttar Pradesh	MUZAFFARNAGAR	2002	Kharif	Saneihamp	1	1				
7250	Uttar Pradesh	MATURA	2010	Kharif	Small millets	1	1				
8253	Uttar Pradesh	KAUSHAMBI	2011	Kharif	Sunflower	1	2				
8499	Uttar Pradesh	HAMBULUR	2014	Kharif	Cotton(int)	1	0				
8508	Uttar Pradesh	KANHAULI	2009	Kharif	Much	1	0.1				
9048	Uttar Pradesh	MAHARAGANJ	2016	Kharif	Small millets	1	1				
9773	Uttar Pradesh	BALRAMPUR	2008	Kharif	Moong(Green Gram)	1	1				
9775	Uttar Pradesh	CHANDAUJI	2014	Kharif	Small millets	1	1				
11193	Uttar Pradesh	GORDA	2015	Kharif	Saneihamp	1	0				
11891	Uttar Pradesh	CHANDAUJI	2012	Kharif	Small millets	1	0				
12339	Uttar Pradesh	BARILLY	2002	Kharif	Moong(Green Gram)	1	0				
12883	Uttar Pradesh	PRATAPGARH	2008	Kharif	Groundnut	1	1				
12936	Uttar Pradesh	JALAIN	2010	Kharif	Sunflower	1	1				
15748	Uttar Pradesh	MEERUT	2008	Kharif	Groundnut	1	1				
17448	Uttar Pradesh	SAHARANPUR	2019	Kharif	Arhar/Tur	1	1				
18276	Uttar Pradesh	AGRA	2011	Kharif	Groundnut	1	1				
18806	Uttar Pradesh	FEROZABAD	2008	Kharif	Groundnut	1	1				
19642	Uttar Pradesh	PILIBHIT	2018	Kharif	Dry chilies	1	1				
21163	Uttar Pradesh	HARDOI	2018	Kharif	Dry ginger	1	3				
21612	Uttar Pradesh	MAU	2017	Kharif	Guar seed	1	1				
22762	Uttar Pradesh	GHAZIABAD	2015	Kharif	Jowar	1	1				
27883	Uttar Pradesh	AMRISHA	2014	Kharif	Dev cinnise	1	2				

c. **model view:** when data is present in separate files than we can join and create relationship

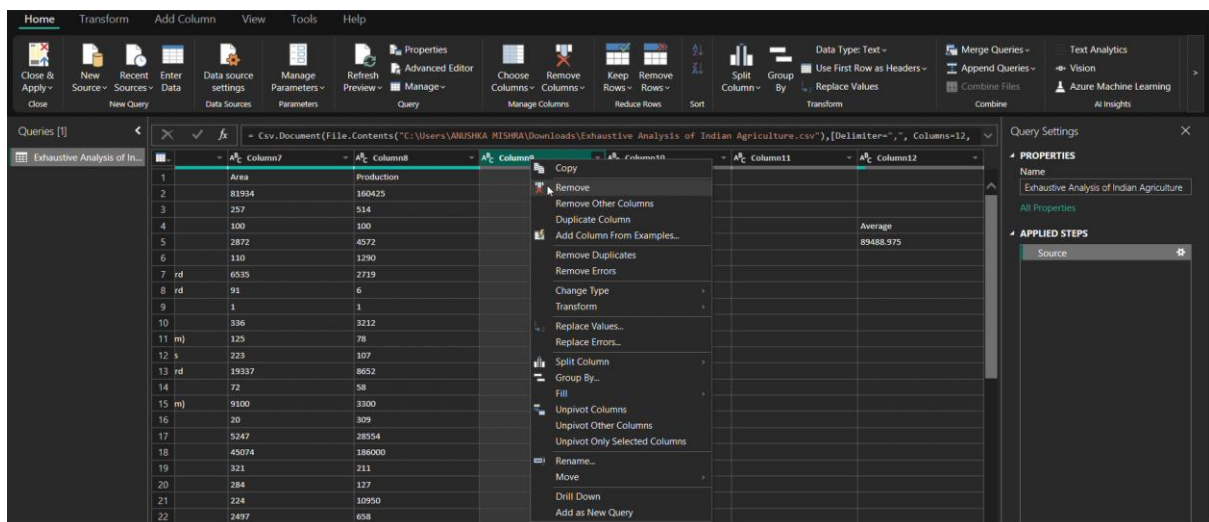


6. If you to **transform data**(when data is not clean): click on transform data option



7. power query editor window opens to clean data

8. **Remove blank cols or any data:** Right click on col heading and select delete remove cols.



To undo deletion, click on cross button at right side

The screenshot shows the Power Query Editor interface. The main table has 12 columns: Column5, Column6, Column7, Column8, Column10, and Column12. The 'Removed Columns' button is located in the top right corner of the table area, next to the 'Keep Rows' button. The 'Query Settings' pane on the right shows the 'Source' step as 'Removed Columns'.

9. How to determine if data has null value or repeated value or not?

Click on view-> Column quality-> info will appear below cols names

The screenshot shows the Power Query Editor interface with the 'View' tab selected. The 'Column quality' pane is visible below the column headers, showing 'Valid' and 'Error' percentages for each column. The 'Column quality' pane is located in the top right corner of the table area, next to the 'Column profile' button. The 'Query Settings' pane on the right shows the 'Source' step as 'Removed Columns'.

---->If we have null values->click on remove rows->remove blank row/error value/duplicate values.

-->**error value:** format of datatype change. To change datatype: click on col name data type and change it accordingly.

The screenshot shows the Power BI Desktop interface with the 'View' tab selected. The ribbon contains various options for viewing and editing the data. The main area displays a table with 12 columns and 17 rows of data. The right sidebar shows 'Query Settings' and 'Properties' for the query 'Exhaustive Analysis of Indian Agriculture'.

Column1	Column2	Column3	Column4	Column5	Column6	Column7
1.2	Decimal Number	Valid	100%	Valid	100%	Valid
5	Fixed decimal number	Error	0%	Error	0%	Error
1	Whole Number	Empty	0%	Empty	0%	Empty
1	Percentage	District_Name	Crop_Year	Season	Crop	Area
2	Date/Time	NALANDA	2005	Rabi	Wheat	81934
3	Date	KARBI ANGLONG	2019	Whole Year	Onion	257
4	Time	ANAND	2020	Summer	Maize	100
5	Date/Time/Timezone	UTTAR KANNAD	2013	Rabi	Groundnut	2872
6	Duration	JALNPUR	2016	Rabi	Onion	110
7	Text	MARIGACON	2014	Rabi	Rapeseed & Mustard	6535
8	True/False	SONEPUR	2006	Winter	Rapeseed & Mustard	91
9	Binary	DHOLPUR	2017	Whole Year	Garlic	1
10	Using Locale...	BELGAUM	2018	Whole Year	Coconut	336
11		MUNGER	2020	Summer	Moong(Green Gram)	125
12		CHHATTGARH	JANIGR-CHAMPA	2013	Kharif	Other Kharif pulses
13		Assam	KARBI ANGLONG	2019	Rabi	Rapeseed & Mustard
14		Uttar Pradesh	SHRAVASTI	2005	Kharif	Groundnut
15		Gujarat	PATAN	2019	Kharif	Moong(Green Gram)
16		Tamil Nadu	KARUR	2008	Whole Year	Sweet potato
17		Uttar Pradesh	KASGANI	2019	Rabi	Tobacco
18		Haryana	MAHENDRAGARH	2006	Rabi	Wheat
19		Assam	DHEMAJI	2017	Whole Year	Turmeric

--> Click on "**close & apply**" and click on close and apply to reflect the changes done in power BI. Now if we go to table view changes will be seen

The screenshot shows the Power BI Desktop interface with the 'View' tab selected. The ribbon contains various options for viewing and editing the data. The main area displays a table with 12 columns and 17 rows of data. The right sidebar shows 'Query Settings' and 'Properties' for the query 'Exhaustive Analysis of Indian Agriculture'.

Column1	Column2	Column3	Column4	Column5	Column6	Column7
Valid	100%	Valid	100%	Valid	100%	Valid
Error	0%	Error	0%	Error	0%	Error
Empty	0%	Empty	0%	Empty	0%	Empty
1	RowID	State_Name	District_Name	Crop_Year	Season	Crop
2	0	Bihar	NALANDA	2005	Rabi	Wheat
3	1	Assam	KARBI ANGLONG	2019	Whole Year	Onion
4	2	Gujarat	ANAND	2020	Summer	Maize
5	3	Karnataka	UTTAR KANNAD	2013	Rabi	Groundnut
6	4	Uttar Pradesh	JALNPUR	2016	Rabi	Onion
7	5	Assam	MARIGACON	2014	Rabi	Rapeseed & Mustard
8	6	Odisha	SONEPUR	2006	Winter	Rapeseed & Mustard
9	7	Rajasthan	DHOLPUR	2017	Whole Year	Garlic
10	8	Karnataka	BELGAUM	2018	Whole Year	Coconut
11	9	Bihar	MUNGER	2020	Summer	Moong(Green Gram)
12	10	Chhattigarh	JANIGR-CHAMPA	2013	Kharif	Other Kharif pulses
13	11	Assam	KARBI ANGLONG	2019	Rabi	Rapeseed & Mustard
14	12	Uttar Pradesh	SHRAVASTI	2005	Kharif	Groundnut
15	13	Gujarat	PATAN	2019	Kharif	Moong(Green Gram)
16	14	Tamil Nadu	KARUR	2008	Whole Year	Sweet potato
17	15	Uttar Pradesh	KASGANI	2019	Rabi	Tobacco
18	16	Haryana	MAHENDRAGARH	2006	Rabi	Wheat
19	17	Assam	DHEMAJI	2017	Whole Year	Turmeric