

AICTE INTERNSHIP

EXCHAUSTIVE ANALYSIS OF INDIAN AGRICULTURE USING POWER BI: (WEEK-1)

Installing Power BI on Windows:

- **Step 1:** Visit the [official website](#) on any web browser.
- **Step 2:** Click on Microsoft Power BI desktop application.
- **Step 3:** Next webpage will open, click on Download Button.
- **Step 4:** On the next webpage choose the setup option according to your system configuration, let's take the first setup, click on the Next button. Downloading of the executable file will start shortly. It is a big 540.1 MB file that will take some minutes.
- **Step 5:** Now check for the executable file in downloads in your system and run it.
- **Step 6:** It will prompt confirmation to run the file on your system. Click on Run.
- **Step 7:** Next screen will appear, select language, and click on Next.
- **Step 8:** It will prompt confirmation to make changes to your system. Click on Yes.
- **Step 9:** The system will prepare for installation.
- **Step 10:** Setup screen will appear, click on Next.
- **Step 11:** The next screen will be of License Agreement, check the box, I accept the terms in License Agreement and click on Next.
- **Step 12:** Choose the destination folder and click on Next.
- **Step 13:** Then, click on the Install button.
- **Step 14:** After this installation process will start and will hardly take a minute to complete the installation.
- **Step 15:** Click on Finish to finish the installation process.

what is power bi ?

Microsoft Power BI is a data visualization tool that helps businesses analyze data and create reports. It's used to connect to data from multiple sources, transform it, and create visual dashboards, charts, and graphs.

Uses:

1. Easy to Get Started.
2. Produce and Distribute Reports Fast.
3. Data visualization.
4. Business intelligence

The screenshot displays the Power Query Editor interface. The main area shows a table with the following columns: RowID, State_Name, District_Name, Crop_Year, Season, Crop, and Area. The data is organized into rows, with the first row being the header. The table contains 24 rows of data, representing various states and districts in India, along with their respective crops and seasons. The right-hand pane shows the 'Query Settings' for the 'Exhaustive Analysis of Indian Agriculture' query, including the 'Properties' and 'Applied Steps' sections.

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

Transforming of data

This screenshot is identical to the one above, showing the same table of agricultural data in the Power Query Editor. The 'Crop_Year' column is highlighted in green, indicating it is the active column for the current operation or transformation.

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

- View the Quality of data:

Click on view on top

Select column quality check box to view the Valid,error,empty data

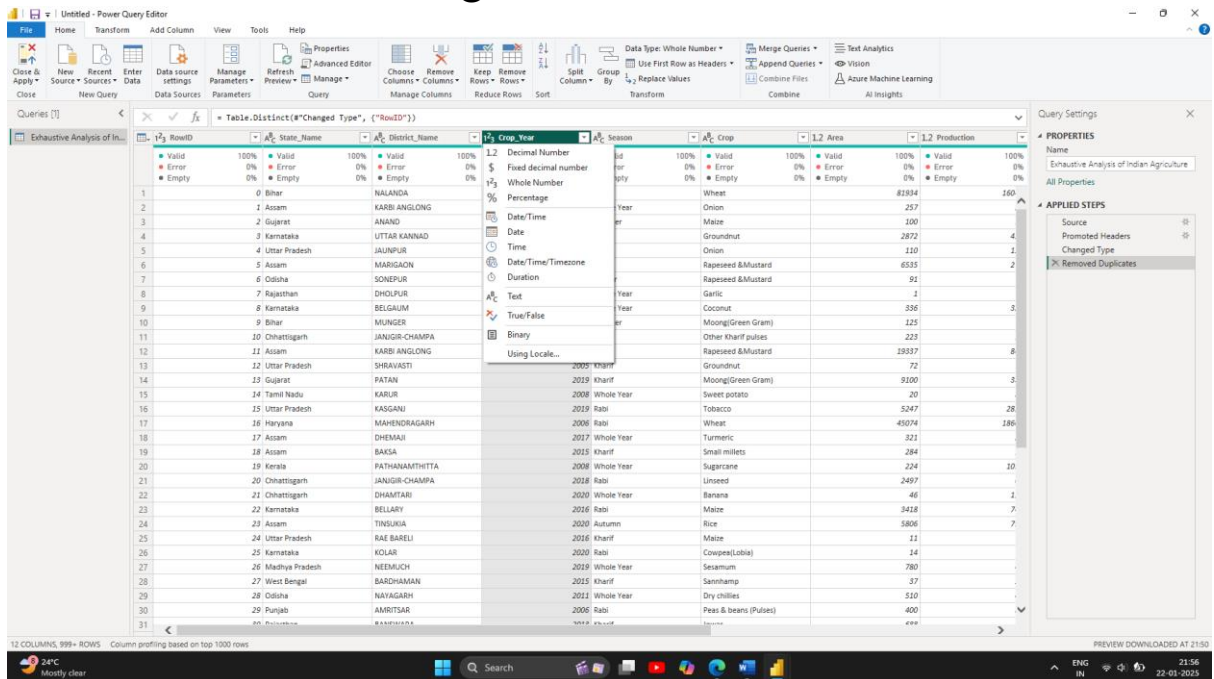
- Removing duplicates:

Click on Remove rows on top

Select remove duplicates to remove the duplicate rows

- Datatypes:

Click on column heading prefix to view datatypes
And if needed can change them



- Saving of data changes :

Select on close and apply on top left to reflect the changes in power bi

- Data Viewing :
3 types:
1.Report View
2.Table View
3. Model View

Unfiled - Power BI Desktop

File Home Help **Table tools**

Name Exhaustive Analysis...

Manage relationships Relationships New measure measure column Calculations Quick New table New table Mark as date table Calendars

RowID	State_Name	District_Name	Crop_Year	Season	Crop	Area	Production	Column1	.1	.2	.3
48	Uttar Pradesh	Pilibhit	2009	Kharif	Moong(Green Gram)	?	0.1				
657	Uttar Pradesh	AMBEDKAR NAGAR	2012	Kharif	Small millets	?	0				
959	Uttar Pradesh	MUZAFFARNAGAR	2012	Kharif	Sannamp	?	0				
1469	Uttar Pradesh	VARANASI	2018	Kharif	Groundnut	?	?				
1477	Uttar Pradesh	GORAKHPUR	2020	Kharif	Dry chillies	?	?				
1864	Uttar Pradesh	BALRAMPUR	2010	Kharif	Moong(Green Gram)	?	0				
2081	Uttar Pradesh	AGRA	2010	Kharif	Sunflower	?	?				
3989	Uttar Pradesh	AURANA	2018	Kharif	Sannamp	?	0				
4844	Uttar Pradesh	ETAH	2012	Kharif	Soyabean	?	?				
4963	Uttar Pradesh	SIDDHARTH NAGAR	2006	Kharif	Moong(Green Gram)	?	0				
6377	Uttar Pradesh	HATHRAS	2012	Kharif	Groundnut	?	?				
6498	Uttar Pradesh	MUZAFFARNAGAR	2022	Kharif	Sannamp	?	?				
7358	Uttar Pradesh	MATHURA	2010	Kharif	Small millets	?	?				
8253	Uttar Pradesh	KAUSHAMBI	2011	Kharif	Sunflower	?	2				
8499	Uttar Pradesh	HAMIRPUR	2014	Kharif	Cotton(lint)	?	0				
8508	Uttar Pradesh	KANNAUJ	2009	Kharif	Moth	?	0.1				
9248	Uttar Pradesh	MAHARAJGANJ	2016	Kharif	Small millets	?	?				
9773	Uttar Pradesh	BALABHAI PUR	2008	Kharif	Moong(Green Gram)	?	?				
9775	Uttar Pradesh	CHANDAUJI	2014	Kharif	Small millets	?	?				
11191	Uttar Pradesh	GONDA	2015	Kharif	Sannamp	?	0				
11891	Uttar Pradesh	CHANDAUJI	2012	Kharif	Small millets	?	0				
12339	Uttar Pradesh	BAREILLY	2022	Kharif	Moong(Green Gram)	?	0				
12883	Uttar Pradesh	PRATAPGARH	2008	Kharif	Groundnut	?	?				
13936	Uttar Pradesh	JALAUN	2010	Kharif	Sunflower	?	?				
15748	Uttar Pradesh	MEERUT	2008	Kharif	Groundnut	?	?				
17448	Uttar Pradesh	SAHARANPUR	2019	Kharif	Almar/Tur	?	?				
18278	Uttar Pradesh	AGRA	2011	Kharif	Groundnut	?	?				
18620	Uttar Pradesh	FIRCODABAD	2008	Kharif	Groundnut	?	?				
19642	Uttar Pradesh	PILIBHIT	2018	Kharif	Dry chillies	?	?				
21163	Uttar Pradesh	HARDOI	2018	Kharif	Dry ginger	?	3				
21612	Uttar Pradesh	MAU	2017	Kharif	Guar seed	?	?				
22762	Uttar Pradesh	GHAZIABAD	2015	Kharif	Jowar	?	?				
22803	Uttar Pradesh	AMROHA	2014	Kharif	Dry ginger	?	3				

Data

Exhaustive Analysis of Indian Agriculture (73,827 rows)