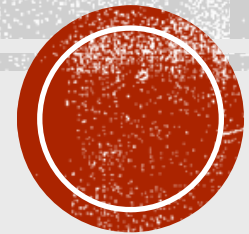**Project Title:** *Indian Government Budget Analysis*
Using Python, SQL & Power BI (FY 2021-24)

~ By Sayantani Dalui

INTRODUCTION

The Union Budget plays a pivotal role in a country's economic development, highlighting government priorities and resource allocations. In this project, I performed a comprehensive analysis of the Indian Government Budget data for the fiscal years 2021-22, 2022-23, and 2023-24.
The goal was to extract valuable insights and visualize the trends in budget allocation across ministries and schemes.

TOOLS & TECHNOLOGIES USED

❑ **Python (Pandas)** for Data cleaning and preprocessing

❑ **MySQL** for Data querying and finding insights

❑ **Power BI** for visual analysis and building dynamic and

interactive dashboards

PYTHON DATA CLEANING

i. Import file into Jupyter notebook using pandas

```
[5]: import pandas as pd

[6]: df=pd.read_csv(r"C:\Users\User\Desktop\DATASET\Indian Union Budget FY 21-22 till 23-24.csv")
     df
```

ii. Removed unnecessary columns from the original dataset

```
df= df.drop(columns="Category")
df
```

Goverment Of India

iii. Filled missing values and standardized formats

```
df=df.rename(columns={"Actuals 2021-2022 Revenue\n":"Actuals 2021-2022 Revenue"})
df
```

```
df.dtypes
```

```
df=df.set_index("Sl.No.")
df
```

```
df=df.drop_duplicates()
df
```

```
df.dropna(inplace=True)
df
```

iv. Exported the cleaned file as a CSV ready for MySQL import

```
df.to_csv(r'C:\Users\User\Desktop\Data Analysis Project\Indian government Budget Analysis\Cleaned_data')
```

SQL ANALYSIS & FINDINGS

1. **Total Budget for FY 2023-24** : ₹1085796.3 Cr

2. **Budget Trend (2021-24):**
   2021-22: ₹948667 Cr
   2022-23: ₹1090648 Cr
   2023-24: ₹1085796 Cr

3. **Budget Growth :** From 2022-23 to 2023-24 **: -0.44% (decrease of ₹4852 Cr)**

4. **Top 5 Schemes by Total Allocation (2023-24):**
   Food Subsidy to Food Corporation of India
   Urea Subsidy
   Road Works
   Pradhan Mantri Kisan Samman

5. **Ministries with Highest Scheme Count :**
   Ministry of Textiles: 44
   MSME: 37

6. **Schemes with 0 Capital Allocation :**
   Interest Subsidy for Short-Term Credit to Farmers
   National Agriculture Science Fund

7. Average Allocation per Scheme:
    Food Subsidy: ₹186944 Cr
    Urea Subsidy: ₹128728.73 Cr
    Road Works: ₹82978.21 Cr

8. Total budget allocated for Health and education purpose
    Health : ₹ 9386 cr.
    Education : ₹ 7755 cr.

Key Analysis :

> The Indian Government allocated a massive ₹1.09M Cr for FY 2023-24. Schemes like food subsidy and infrastructure dominate spending, while ministries such as Textiles and MSME oversee the largest number of schemes. Despite a slight dip in total budget compared to 2022-23, allocations in health, education, and agriculture remain significant, reflecting the government's long-term focus areas.

POWER BI VISUALIZATION

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Indian Government Budget Analysis FY 2023-24

Ministry/Department

All

₹ **10,85,795** Cr.

Total Union Budget (2023-24)

Revenue vs Capital % share

●Total Revenue allocation ●Total Capital allocation

391.39K (36.05%)

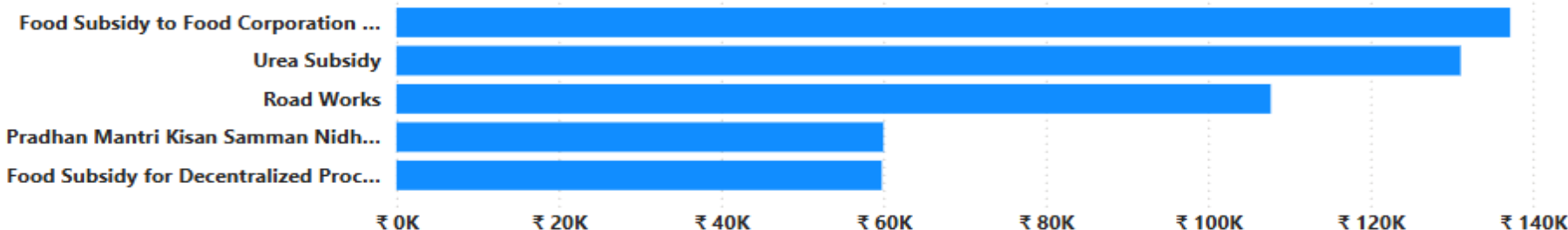694.41K (63.95%)

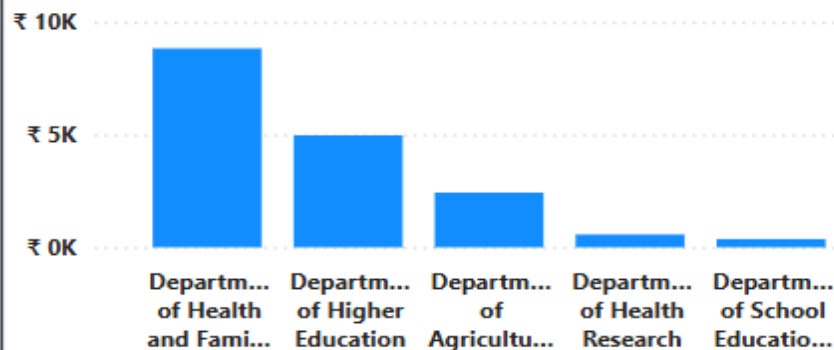| Ministry/Department	Count of Scheme
Ministry of Textiles	44
Department of Higher Education	37
Ministry of Micro, Small and Medium Enterprises	37
Department for Promotion of Industry and Internal Trade	20
Ministry of New and Renewable Energy	20
Department of Financial Services	18
Ministry of External Affairs	18
Total	**625**

Top 5 Budget allocated Schemes

- Food Subsidy to Food Corporation ...
- Urea Subsidy
- Road Works
- Pradhan Mantri Kisan Samman Nidh...
- Food Subsidy for Decentralized Proc...

₹ 0K   ₹ 20K   ₹ 40K   ₹ 60K   ₹ 80K   ₹ 100K   ₹ 120K   ₹ 140K

Top 5 budget allocated ministry/department

- Ministry of Railways
- Department of Food and Publi...
- Department of Fertilisers
- Ministry of Road Transport an...
- Department of Agriculture an...

₹ 0K   ₹ 50K   ₹ 100K   ₹ 150K   ₹ 200K

Budget for Health and Education

₹ 10K

₹ 5K

₹ 0K

Departm... of Health and Fami...   Departm... of Higher Education   Departm... of Agricultu...   Departm... of Health Research   Departm... of School Educatio...

Final Remarks:

This end-to-end analysis not only enhanced my technical skills in data handling, SQL queries, and Power BI visualization, but also gave me valuable exposure to public financial datasets and policy-based insights.

Disclaimer :

This project is created solely for learning and practice purposes. The dataset used for this analysis was sourced from Kaggle and does not represent the actual Indian government budget. While the structure and content are designed to resemble real-world budget data for better understanding, the figures, schemes, and allocations should not be interpreted as official or accurate government information. This analysis was undertaken to apply and demonstrate data cleaning, SQL querying, and Power BI visualization skills in a real-world scenario.

THANK YOU !

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