Workflow:-

1. Understanding the Report

I began by comprehending the HCES 2022-2023 survey report, focusing on its objectives, methodology, and key parameters. This helped in identifying essential aspects such as household expenditure patterns, economic class variations, and rural-urban differences. By understanding these factors, I was able to determine the most relevant insights for visualization.

2. Data Collection & Preprocessing

The data was sourced from the Excel files in Appendix A of the report, containing household expenditure, social group classifications, and sector-wise distributions. Supplementary data from the e-SAKHI portal was also incorporated. Data cleaning in excel and power query editor helped structuring, ensuring consistency and accuracy, eliminating discrepancies that could affect the analysis.

3. Data Transformation & Relationship Building in Power BI.

After importing the data into Power BI, I transformed datasets by handling missing values, renaming fields, and deriving new metrics. Relationships were established between multiple tables using appropriate

cardinalities (one-to-one, one-to-many, many-to-many). This enabled dynamic filtering and interactive cross-analysis of different dimensions such as state-wise, sector-wise, and fractile-wise distributions.

4. Exploratory Data Analysis (EDA) & Visualizations Overall Survey Overview.

Key metrics like total First-Stage Units (FSUs) surveyed and sampled households were analyzed using KPI cards and summary tables for a quick overview.

Consumption Patterns Analysis:-
Fractile Class-wise Analysis: Analyzed per capita expenditure across economic classes to observe spending variations.
Cereals & Pulses Analysis:Used bar charts to study expenditure and consumption trends across different income groups.
-Overall Item-wise Trends: Line charts were used to track expenditure trends across various household segments.

Visualization & KPI Representation:-
To enhance data comprehension, I utilized:
- KPI Cards:Showcased key statistics such as total expenditure and consumption insights.

- Pie Charts: Represented food vs. non-food expenditure proportions and gender-wise distributions.
- Bar Charts: Illustrated state-wise and sector-wise expenditure patterns.
- Column Charts: Highlighted expenditure variations across economic classes.
- Line Charts: Depicted overall trends in household expenditure.

Demographic & Social Group Analysis:-
- Social Group-wise Analysis: Investigated household size and Monthly Per Capita Expenditure (MPCE) variations.
- Household Type-based Analysis: Compared MPCE for different household categories like self-employed, casual labor, and regular wage earners.
- Rural-Urban Comparison: Visualized expenditure differences between rural and urban households using column charts.

6. Insights & Findings
Key insights included:
- Identification of economic groups spending more on essential food items.
- Rural-urban disparities in household expenditure.
- Social group-based expenditure patterns highlighting economic inequalities.

- Consumption trends that could inform policy decisions.

7. Interactive Dashboard & Final Presentation
The analysis was structured into interactive Power BI dashboards, allowing dynamic filtering by state, sector, social group, or fractile class. Relationships between datasets enabled seamless exploration of different perspectives, making insights more accessible and actionable.

Conclusion
This structured approach ensured a comprehensive analysis of the HCES 2022-2023 data. Using Power BI's interactive features, I created a dynamic, insightful visualization that provides policymakers and researchers with a clear view of household consumption patterns. This data-driven approach allows for better policy formulation, resource allocation, and targeted interventions to improve economic planning and welfare programs.