

Data Analysis on Allocations for the Welfare of Children

Source: <https://www.data.gov.in/resource/allocations-welfare-children-2019-20-2021-22>

Introduction

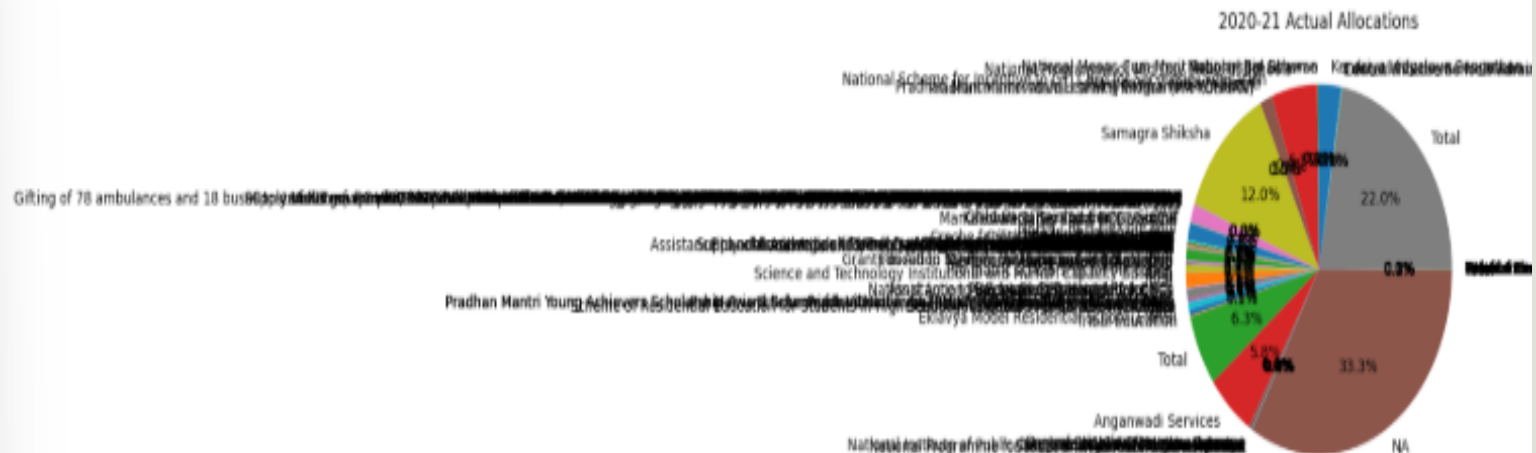
This project analyzes the 'Allocations for the Welfare of Children' dataset using PySpark. The dataset includes yearly financial allocations across various schemes and departments. Data cleaning, transformation, and visualization were performed to study trends and patterns in actual versus budget estimates between 2020-21 and 2022-23.

Dataset Overview

- Columns: Category, Sl.No., Scheme, 2020-21 Actuals, 2021-22 Budget, 2021-22 Revised, 2022-23 Budget
- Contains department-wise financial allocations.
- Missing values were handled, column names were cleaned, and numeric conversions were performed.

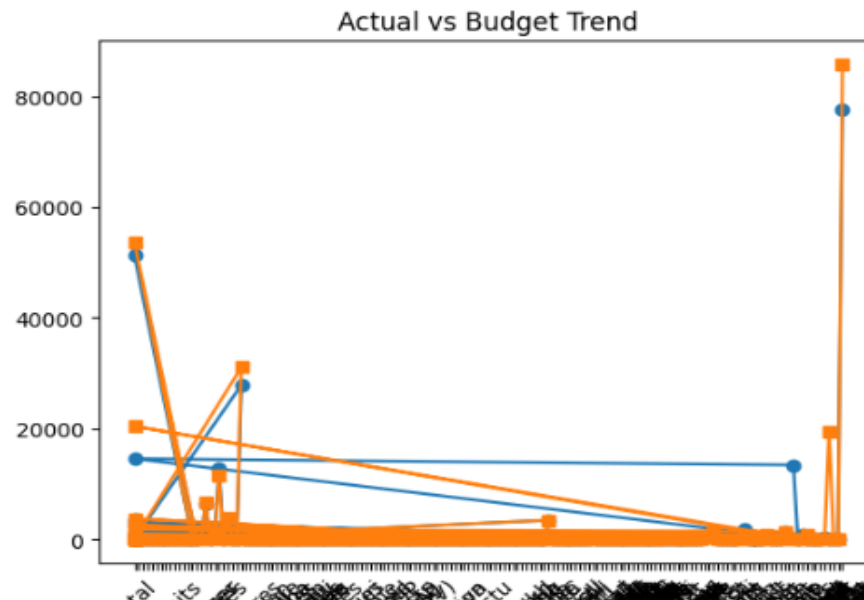
Bar Chart: 2020 vs 2022 Budget Estimates

```
plt.pie(pdf["2020_2021_Actuals"], labels=pdf["Scheme"], autopct="%1.1f%%")
plt.title("2020-21 Actual Allocations")
plt.show()
```



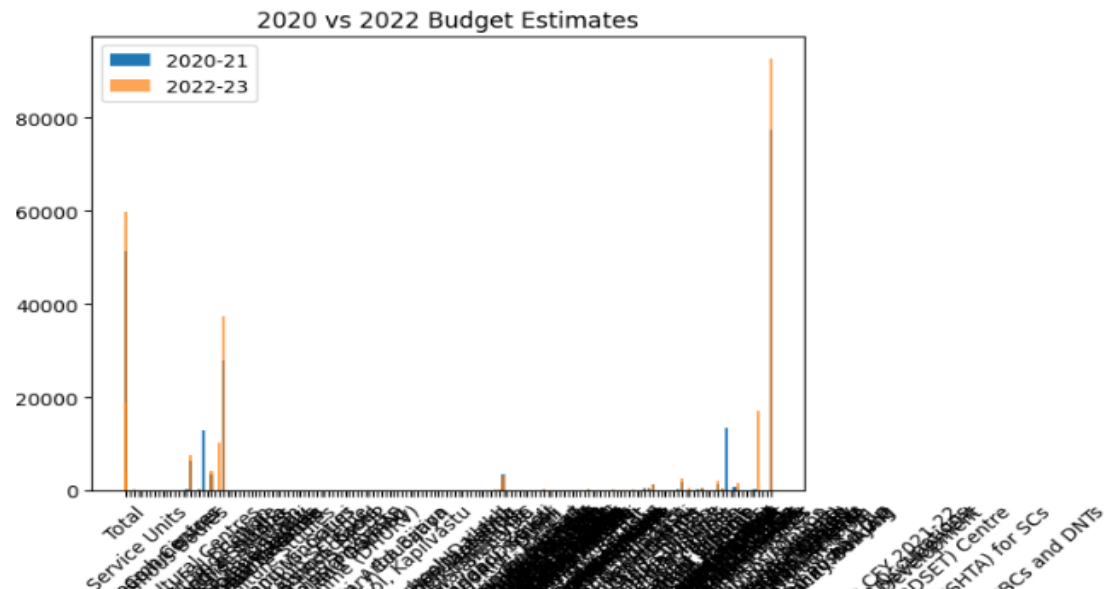
Line Plot: Actual vs Budget Trend

```
plt.plot(pdf["Scheme"], pdf["2020_2021_Actuals"], marker='o')
plt.plot(pdf["Scheme"], pdf["2021_2022_Budget_Estimates"], marker='s')
plt.title("Actual vs Budget Trend")
plt.xticks(rotation=45)
plt.show()
```



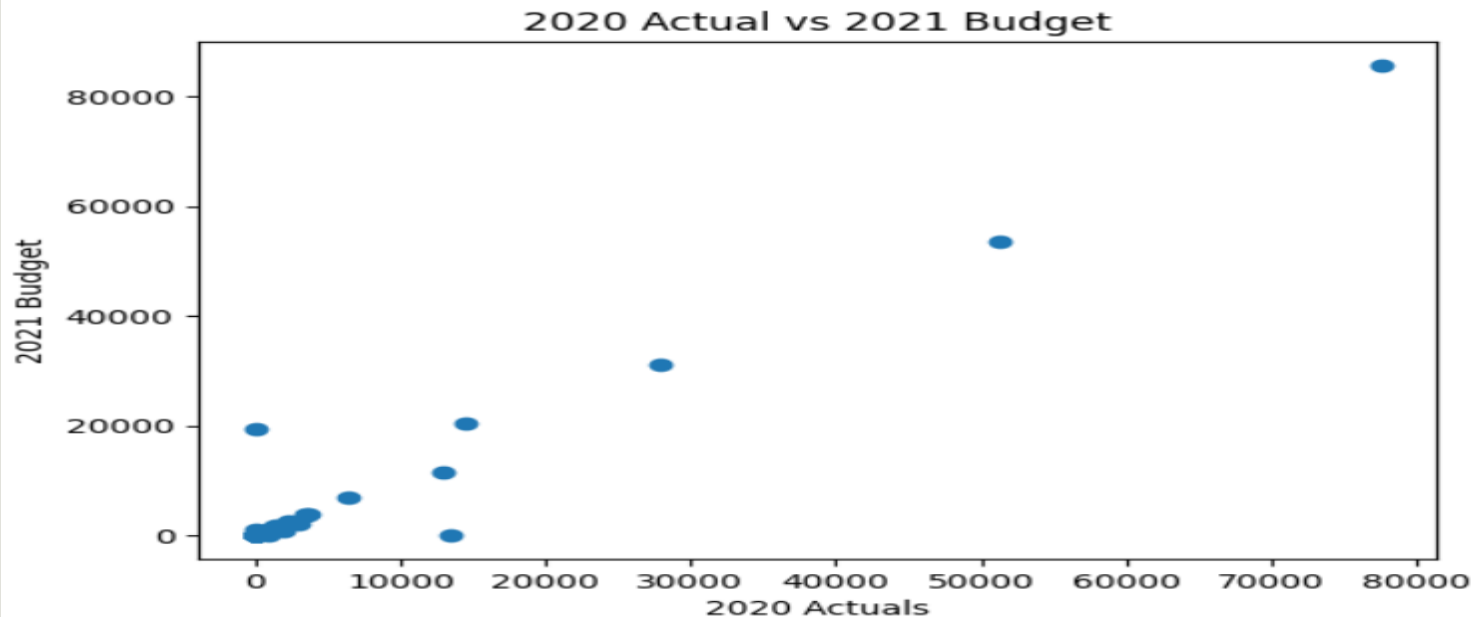
Pie Chart: 2020-21 Actual Allocations

```
plt.bar(pdf["Scheme"], pdf["2020_2021_Actuals"], label="2020-21")
plt.bar(pdf["Scheme"], pdf["2022_2023_Budget_Estimates"], alpha=0.7, label="2022-23")
plt.xticks(rotation=45)
plt.legend()
plt.title("2020 vs 2022 Budget Estimates")
plt.show()
```



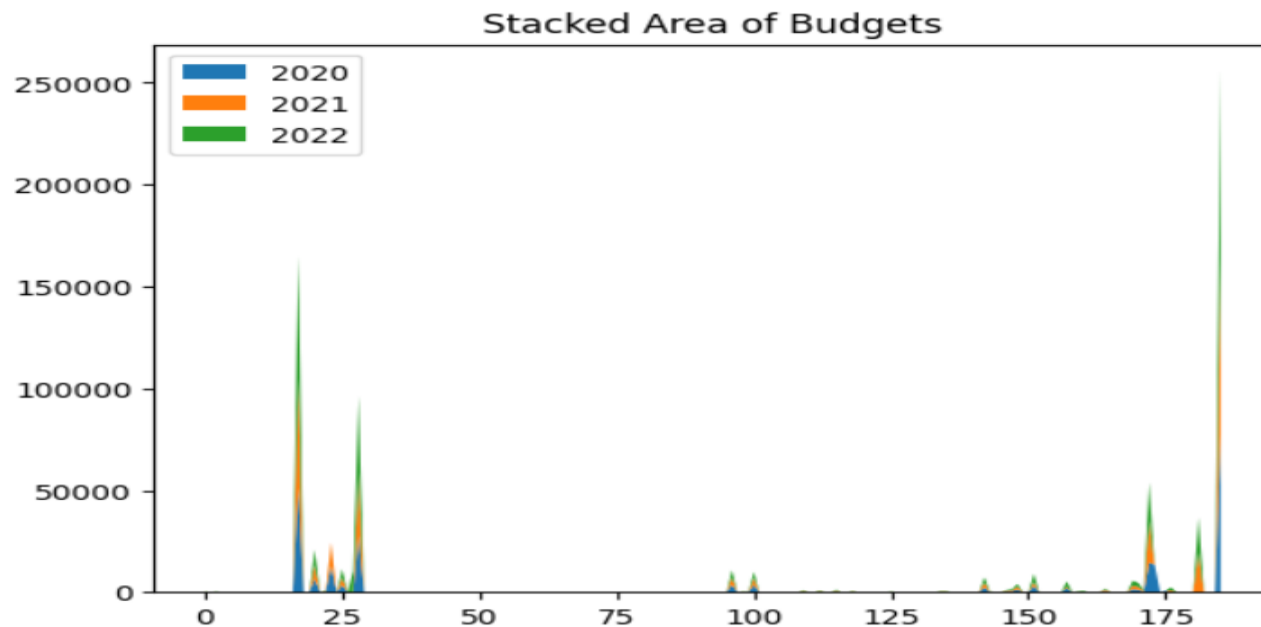
Scatter Plot: 2020 Actual Vs 2021 Budget

```
plt.scatter(pdf["2020_2021_Actuals"], pdf["2021_2022_Budget_Estimates"])  
plt.title("2020 Actual vs 2021 Budget")  
plt.xlabel("2020 Actuals")  
plt.ylabel("2021 Budget")  
plt.show()
```



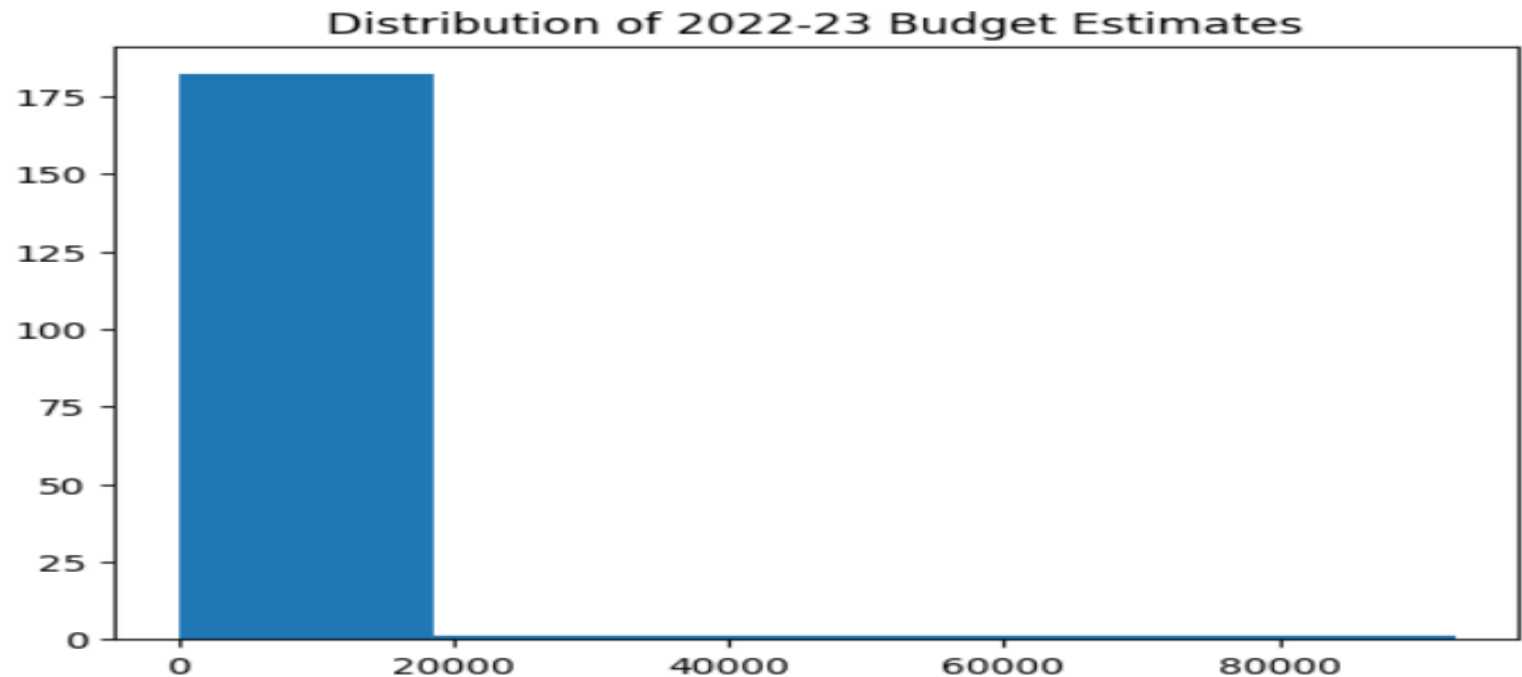
Stack Plot: Stacked Area of Budgets

```
plt.stackplot(range(len(pdf)), pdf["2020_2021_Actuals"], pdf["2021_2022_Budget_Estimates"], pdf["  
plt.legend()  
plt.title("Stacked Area of Budgets")  
plt.show()
```



Hist Plot: Distribution of 2022-23 Budget Estimates

```
plt.hist(pdf["2022_2023_Budget_Estimates"].dropna(), bins=5)  
plt.title("Distribution of 2022-23 Budget Estimates")  
plt.show()
```



Conclusion

The analysis reveals that budget allocations for child welfare programs generally increased from 2020-21 to 2022-23.

However, the actual expenditure was often lower than the estimated budgets. This highlights the need for better planning and utilization of funds to ensure effective implementation of welfare schemes for children.