

Empowering India: Analysing the Evolution of Union Budget Allocations for Sustainable Growth

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| TEAM ID | LTVIP2026TMIDS90655 |
| PROJECT NAME | Empowering India: Analysing the Evolution of Union Budget Allocations for Sustainable Growth |
| MAXIMUM MARKS | 4 MARKS |

Chapter-4

Project Design

4.1-Problem-Solution Fit:

1. Problem Statement:

In India, the **Union Budget** plays a crucial role in determining how financial resources are allocated to different sectors such as agriculture, education, healthcare, infrastructure, and renewable energy. These allocations are prepared annually by the **Government of India** through the **Ministry of Finance**.

However, several challenges exist:

- Budget data is spread across multiple years and reports.
- Citizens and researchers find it difficult to analyze long-term trends.
- There is limited clarity on whether funds are supporting sustainable development.
- Lack of data-driven evaluation for policy decisions.
- Difficulty in linking budget allocations to actual social and economic outcomes.

Due to these issues, policymakers, students, and researchers are unable to fully understand how budget decisions impact India's sustainable growth.

2. Identified Problems:

The major problems addressed in this project are:

1. **Data Complexity**
 - Union Budget data is large and complex.
 - Historical comparisons are difficult.
2. **Lack of Transparency**
 - Common people cannot easily interpret budget priorities.
 - Allocation changes are not clearly visualized.
3. **Ineffective Resource Utilization**
 - Some sectors may be underfunded or overfunded.

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- Inefficiencies remain unnoticed.
- 4. **Limited Support for Sustainability Goals**
 - Insufficient tracking of investments in renewable energy, environment, and social welfare.
 - Difficulty in measuring progress towards sustainable development.
- 5. **Manual Analysis Issues**
 - Traditional analysis is time-consuming and prone to errors.
 - No centralized analytical platform.

3. Project Solution Overview:

This project proposes a **data-driven analytical system** that studies Union Budget allocations over multiple years to evaluate their contribution towards sustainable growth.

The system collects, organizes, analyzes, and visualizes budget data to provide meaningful insights.

✓ The proposed solution includes:

- Collecting historical Union Budget data.
- Cleaning and standardizing the data.
- Categorizing budget allocations by sector.
- Applying analytical techniques.
- Creating visual dashboards.
- Generating performance reports.

This helps in understanding how government spending supports national development goal.

4. How the Solution Fits the Problem:

| Problem | Proposed Solution |
|----------------------|---------------------------------------|
| Complex budget data | Structured database and preprocessing |
| Lack of transparency | Interactive charts and dashboards |
| Poor trend analysis | Year-wise and sector-wise comparison |
| Inefficient fund use | Performance indicators and evaluation |
| Manual analysis | Automated data processing system |

Thus, the system directly addresses the major issues identified in the problem.

5. Key Features of the Proposed System:

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❖ 5.1 Data Management

- Stores multi-year budget data in digital format.
- Removes duplicates and missing values.
- Maintains consistency.

❖ 5.2 Analytical Module

- Performs trend analysis.
- Identifies growth and decline patterns.
- Calculates percentage changes.

❖ 5.3 Visualization Module

- Bar charts, pie charts, line graphs.
- Sector-wise allocation views.
- Regional distribution analysis.

❖ 5.4 Sustainability Assessment

- Evaluates funding for:
 - Renewable energy
 - Healthcare
 - Education
 - Rural development
 - Environmental protection

❖ 5.5 Reporting System

- Auto-generated reports.
- Summary dashboards.
- Downloadable documents.

6. Benefits of the Proposed Solution:

✓ For Government and Policymakers

- Better policy formulation.
- Data-backed decision-making.
- Improved budget planning.

✓ For Researchers and Students

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- Easy access to structured data.
- Faster analysis.
- Improved understanding.

✓ For Citizens

- Greater transparency.
- Awareness of government spending.
- Trust in governance.

✓ For Sustainable Development

- Improved monitoring of green investments.
- Balanced sectoral growth.
- Long-term economic stability.

7. Implementation Approach:

✓ Step 1: Data Collection

- Collect budget data from official government portals.
- Gather data from reports and PDFs.

✓ Step 2: Data Preprocessing

- Remove errors and inconsistencies.
- Convert data into tabular format.

✓ Step 3: Data Analysis

- Use statistical and analytical tools.
- Identify year-wise changes.

✓ Step 4: Visualization

- Develop dashboards using BI tools.
- Display trends clearly.

Conclusion (For Documentation):

This project bridges the gap between complex budget data and meaningful insights by using modern data analytics techniques. By analyzing Union Budget allocations over time, the system supports evidence-based policymaking and promotes sustainable development in India.