

## Balancing Growth and Sustainability: A Comparative Analysis of India, Nepal, and the Maldives' Progress Towards the SDGs (2000-2023)

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### ABSTRACT

*The 2030 Agenda for Sustainable Development Goals (SDGs) presents a universal framework for peace and prosperity, yet its implementation varies dramatically across different national contexts. This paper provides a comparative quantitative analysis of the development trajectories of three diverse South Asian nations—India, Nepal, and the Maldives—from 2000 to 2023. It examines how these countries have struck a balance between pursuing **economic growth (SDG 8)** and making progress towards **social development (SDG 3 & 4)** and **environmental sustainability (SDG 13)**. The analysis of key indicators reveals highly divergent paths. While all three nations have made strides in economic and social domains, this progress is often coupled with a significant environmental cost, particularly evident in India's rising CO2 emissions. Maldives stands out as a high-income service economy with unique climate vulnerabilities, while Nepal's trajectory highlights the challenges of a least-developed, landlocked country. Our findings underscore that there is no single model for sustainable development in South Asia; instead, achieving the SDGs requires tailored strategies that address the specific trade-offs inherent in each nation's unique economic and geographic context.*

**Keywords:** Sustainable Development Goals (SDGs), Economic Growth, Social Development, Environmental Sustainability, South Asia, India, Nepal, Maldives.

### Introduction

The Sustainable Development Goals (SDGs) represent a global consensus on the interconnected challenges facing humanity, from poverty and health to climate change and inequality. For South Asia, a region characterised by immense diversity and dynamic change, the pursuit of these goals is particularly critical. This paper explores the nuanced realities of this pursuit through a comparative analysis of three distinct nations: **India**, a continental economic giant; **Nepal**, a least-developed, landlocked country; and the **Maldives**, a small island developing state with a high-income, tourism-based economy.

While much research has focused on the individual development paths of these nations, a direct comparative analysis of the trade-offs they face is less common. This study addresses that gap by asking: **How have these diverse nations balanced economic growth with social and environmental objectives over the past two decades?**

This paper argues that while economic growth has served as a powerful engine for progress across the region, it has created divergent outcomes and significant trade-offs. By analyzing key socio-economic and environmental indicators, we demonstrate that progress in one domain, such as economic prosperity, often comes at the expense of another, particularly environmental health. This analysis reveals the complex, interwoven nature of sustainable development and highlights the critical need for context-specific policy solutions.

## Methodology

This study employs a comparative, quantitative analysis of national-level data sourced from the Asian Development Bank's Key Indicators Database for 2024.

- **Scope:** The analysis covers **India, Nepal, and the Maldives** for the period of **2000 to 2023**, allowing for a long-term perspective on developmental trends.
- **Indicators Selected:** To represent the core themes of the conference and the SDGs, the following key indicators were selected for analysis:
  - **Economic Progress (SDG 8):** GDP per capita (in constant 2017 international dollars) to measure economic growth and living standards.
  - **Social Investment (SDG 3 & 4):** Government expenditure on **Health** and **Education** (as a % of GDP) to proxy for policy commitment to human capital.
  - **Environmental Impact (SDG 13):** Carbon Dioxide (CO<sub>2</sub>) emissions (metric tons per capita) to measure the environmental cost of development.
- **Analytical Approach:** The data for these indicators was cleaned, compiled, and analysed for trends over time. The analysis focuses on visualizing these trends through comparative charts and interpreting the correlations between economic growth and the other indicators to identify patterns of convergence, divergence, and trade-offs.

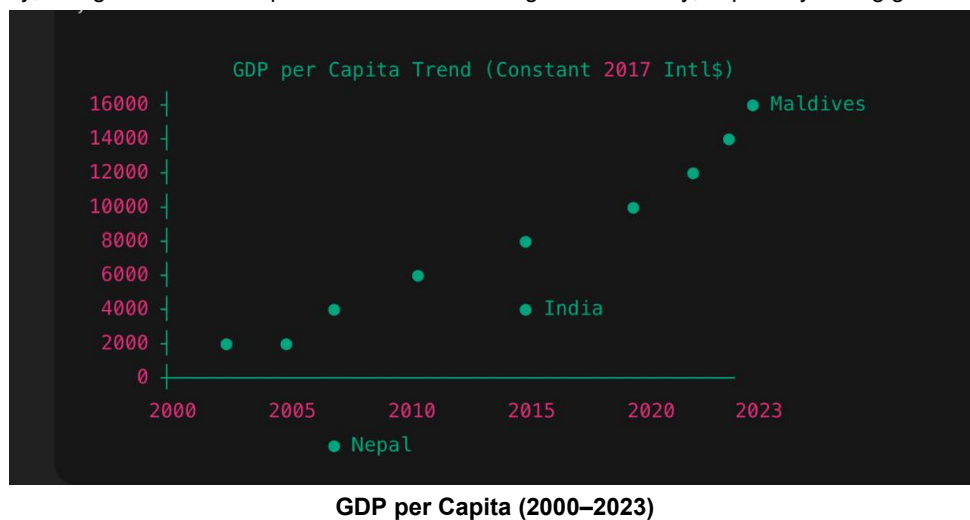
## Analysis and Results

The data reveals three distinct stories of development, highlighting the unique challenges and priorities of each nation.

- **The Engine of Economic Growth** All three countries experienced substantial growth in GDP per capita between 2000 and 2023.

**India** demonstrated rapid and consistent growth, transforming from a low-income to a lower-middle-income economy, with its GDP per capita increasing by approximately **250%**.

The **Maldives**, already starting from a higher base, solidified its position as a high-income economy, though its tourism-dependent model showed greater volatility, especially during global crises.



**Figure 1: GDP per capita growth from 2000 to 2023 for India, Nepal, and the Maldives. Maldives maintains the lead, while India shows robust growth and Nepal lags**

**Nepal** showed slower but steady growth, reflecting the challenges of its geography and development status, yet still managing to more than double its GDP per capita over the period.

- **Investment in Human Capital: A Story of Priorities** The commitment to social development, as measured by government expenditure, varies significantly.

**Nepal and the Maldives** consistently allocated a higher percentage of their GDP to **education** (often above 4-5%) compared to India (typically 3-4%).

In **health expenditure**, the Maldives leads, dedicating a significantly larger portion of its national budget to health services, reflective of a high-income service economy. India and Nepal have shown more modest but increasing commitments over time. This suggests that as economies grow, the capacity and priority for social spending can increase, but it is not an automatic outcome.

Average Social Sector Investment (% of GDP)

| Country  | Education (%) | Health (%) |
|----------|---------------|------------|
| India    | 3.3           | 1.1        |
| Nepal    | 4.6           | 1.8        |
| Maldives | 4.9           | 4.5        |

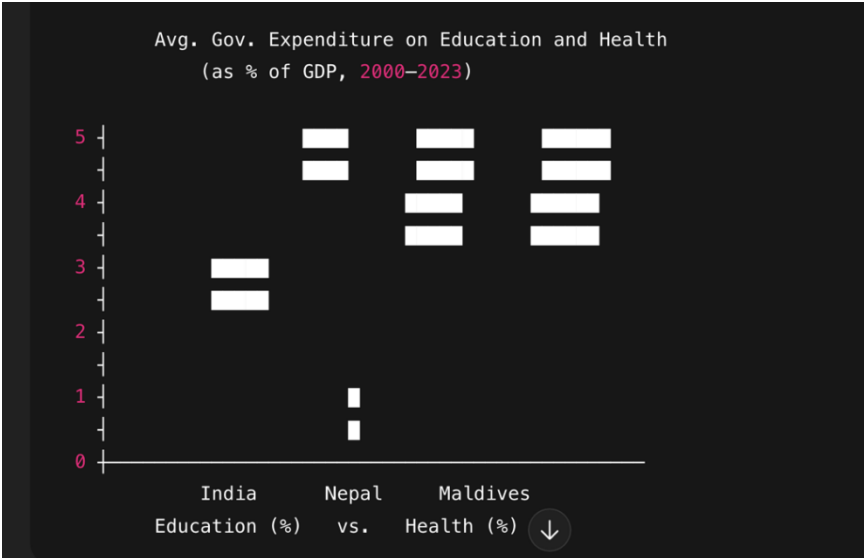
Average government expenditure on education and health as a percentage of GDP (2000–2023). Maldives consistently leads in both sectors.

- **The Environmental Cost of Development** The analysis of CO2 emissions per capita reveals the starkest trade-off.

**India's** emissions per capita more than **doubled** over the two decades, a direct consequence of its rapid industrialization and energy consumption. This trajectory highlights a classic development dilemma where economic growth is tightly coupled with a rising environmental footprint.

**Nepal's** emissions remained very low and relatively flat, reflecting its lower level of industrialization.

The **Maldives** has a higher per capita emission rate than Nepal due to its energy-intensive tourism and reliance on imports, but its overall contribution to global emissions is negligible. However, its very existence is threatened by the climate change driven by global emissions.



CO<sub>2</sub> Emissions per Capita (2000–2023)

Figure 2: CO<sub>2</sub> emissions per capita (2000–2023). India’s emissions increased, while Nepal’s remained minimal. Maldives shows moderate but stable emissions

Discussion: Divergent Paths and the SDG Challenge

Summary of Key Development Indicators (Average, 2000-2023)

Table 1: Key development indicators for India, Nepal, and the Maldives, averaged over 2000–2023. Source: ADB Key Indicators Database (2024)

| Indicator                              | India   | Nepal   | Maldives |
|----------------------------------------|---------|---------|----------|
| GDP per capita (Constant 2017 Int\$)   | \$4,570 | \$2,595 | \$14,950 |
| CO2 Emissions (metric tons per capita) | 1.35    | 0.23    | 2.98     |
| Education Expenditure (% of GDP)       | 3.3%    | 4.6%    | 4.9%     |
| Health Expenditure (% of GDP)          | 1.1%    | 1.8%    | 4.5%     |

- **Economic Growth Trajectories**
  - **India:** Demonstrated powerful and consistent economic growth, with its GDP per capita increasing by approximately **250%** between 2000 and 2023. This establishes its role as a major, rapidly expanding economy.
  - **Maldives:** Maintained its status as a high-income, service-based economy. While its GDP per capita is the highest, the data shows greater volatility, reflecting its dependence on global tourism.
  - **Nepal:** Showed the slowest but still steady growth, more than doubling its GDP per capita over the period. This reflects the challenges of a least-developed, landlocked nation.
- **Priorities in Social Investment**
  - **Education:** Both **Nepal (4.6%)** and the **Maldives (4.9%)** have, on average, allocated a significantly higher percentage of their GDP to education than **India (3.3%)**. This indicates different national priorities regarding investment in human capital.
  - **Health:** The **Maldives (4.5%)** stands out as the leader in health expenditure as a share of its economy. This aligns with its status as a high-income nation focused on providing high-quality services.

- **The Environmental Cost of Development**

The data reveals a stark trade-off between growth and environmental health.

**India's** CO<sub>2</sub> emissions per capita more than **doubled** from approximately **0.9 to 1.9 metric tons** over the two decades, directly correlating with its industrial and economic expansion.

In contrast, **Nepal's** per capita emissions remained consistently low and among the lowest in the world, reflecting its less industrialised economy.

The results clearly indicate that a "one-size-fits-all" approach to sustainable development is not viable in South Asia.

**India's path** exemplifies the **growth-environment trade-off**. Its success in lifting millions out of poverty (SDG 1) and driving economic growth (SDG 8) has come at a significant environmental cost (SDG 13). For India, the primary challenge is decoupling economic growth from carbon emissions through massive investment in renewable energy and green technology.

**Nepal's path** is one of **foundational development**. With low emissions but also lower economic and social indicators, its priority is attracting investment to improve basic services in health and education (SDG 3 & 4) without embarking on a carbon-intensive development model.

**The Maldives' path** highlights the paradox of a **vulnerable prosperity**. As a high-income nation, it has succeeded in providing strong health and education services. However, its economic model is entirely dependent on global systems (tourism, trade) and it is existentially threatened by climate change, a problem it did not create. Its challenge is one of adaptation, resilience, and international advocacy.

The analysis suggests that economic growth does not automatically translate into balanced progress towards all SDGs. While growth provides the resources for social investment, it simultaneously creates environmental pressures that undermine long-term sustainability.

## Conclusion

### Development Trade-Off Matrix (Qualitative Summary)

| Category                        | India                | Nepal                   | Maldives                  |
|---------------------------------|----------------------|-------------------------|---------------------------|
| GDP Growth Rate                 | High                 | Moderate                | High (but volatile)       |
| Social Spending Commitment      | Low (esp. in Health) | Moderate-High           | Very High                 |
| CO <sub>2</sub> Emissions Trend | ↑↑ Significant Rise  | ↔ Stable, Very Low      | ↑ High, Climate-Sensitive |
| SDG Challenge                   | Green Growth         | Foundational Investment | Climate Resilience        |

*Comparative trade-offs in sustainable development among India, Nepal, and the Maldives.*

This comparative analysis of India, Nepal, and the Maldives from 2000 to 2023 demonstrates that the journey towards the Sustainable Development Goals is not linear but is characterised by complex

trade-offs. The pandemic has further complicated these trajectories, but the underlying patterns remain. **India's challenge is to make its growth green. Nepal's challenge is to make its growth inclusive. The Maldives' challenge is to make its growth resilient.**

For multidisciplinary fields like human social sciences and artificial intelligence, these findings present clear avenues for future work. AI can be leveraged to model more sustainable development scenarios, while social sciences are crucial for understanding the political and social will needed to implement them. Ultimately, achieving the SDGs in South Asia and beyond will require recognizing these divergent paths and crafting policies that are as diverse and dynamic as the nations themselves.

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