BRICS

SUSTAINABILITY REPORT

Areas in Focus

- Poverty
- Hunger Reduction
- Health
- Education
- Climate Change
- Policy

Methodology

In the initial phase of the analysis, the primary focus is sourcing data from reliable sources such as the United Nations Statistics Division (UNSD) Sustainable Development Goals (SDGs) database for the range of years **2015 to 2022.** This entails a meticulous selection process where indicators reflect sustainable development's environmental, social, and economic dimensions. The aim is to capture a comprehensive overview of the progress and challenges faced by each selected country: Brazil, China, India, the Russian Federation, and South Africa. Following data collection, the dataset undergoes a rigorous cleaning phase. Tools like R and Excel are utilised to address any discrepancies or missing data points. This step is crucial to ensure the reliability and integrity of the dataset, laying the foundation for robust analysis. Once the data is prepared, the analysis progresses to creating dashboards and graphical representations. These visualisations are powerful tools for exploring trends and patterns within the dataset. They provide a clear and intuitive way to interpret the data, allowing for deeper insights into the dynamics at play. Descriptive statistical analysis then summarises the central tendencies, variations, and distributions of the selected indicators across the chosen countries and over time. This helps to identify overarching trends and patterns, facilitating a more nuanced understanding of the data.

Through this analytical process, key findings emerge, categorised into thematic areas such as environmental sustainability, social development, economic resilience, and governance. These findings are interpreted within the broader context of sustainable development goals, considering the intricate connections between environmental, social, and economic factors.

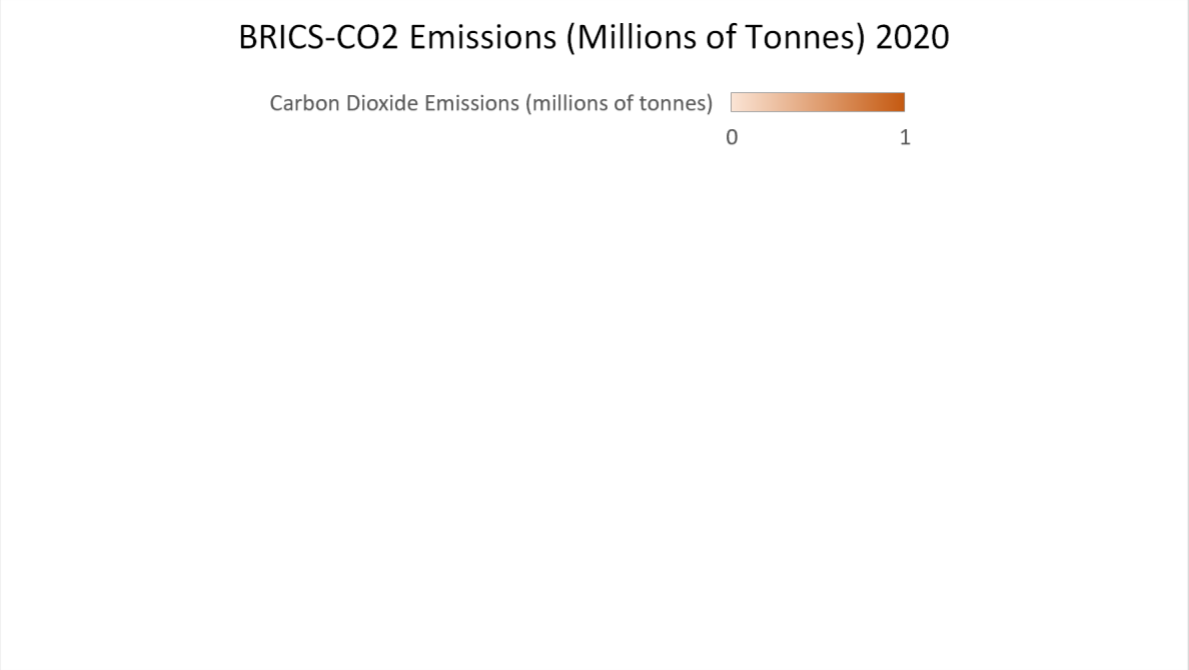
Findings

The data highlights significant trends across various Sustainable Development Goals (SDGs). China leads in carbon emissions, while South Africa faces high water stress. India surpasses in development assistance, and South Africa leads in female parliamentary representation. India grapples with significant disaster impacts, and Brazil and China show improvements in education. Healthcare indices improve in Brazil, China, and India. Poverty rates fluctuate in Brazil, decline in China and India, and remain low in Russia. Efforts to combat hunger vary, with persistent challenges in India. Inequality persists in Brazil, India, and South Africa, while China and Russia show lower levels. These trends emphasise the complex landscape of global sustainability, urging concerted efforts to address diverse challenges across SDGs.

Value Tables

"I have compiled tables based on trend data, with the visuals representing the latest available information"

Goal 13: Climate Action



Country	CO2 Emissions (million tonnes)
China	> 9,000
India	> 2,000
Brazil	Varies
Russia	Varies
South Africa	Varies

Carbon Dioxide Emissions: China leads in emissions, consistently emitting over 9,000 million tonnes annually, followed by India with emissions exceeding 2,000 million tonnes. Brazil, the Russian Federation, and South Africa show fluctuating emissions.

Goal 6: Clean Water and Sanitation

Country	Water Stress (%)
South Africa	> 65
India	> 65
China	> 65
Brazil	~ 4
Russia	~ 4

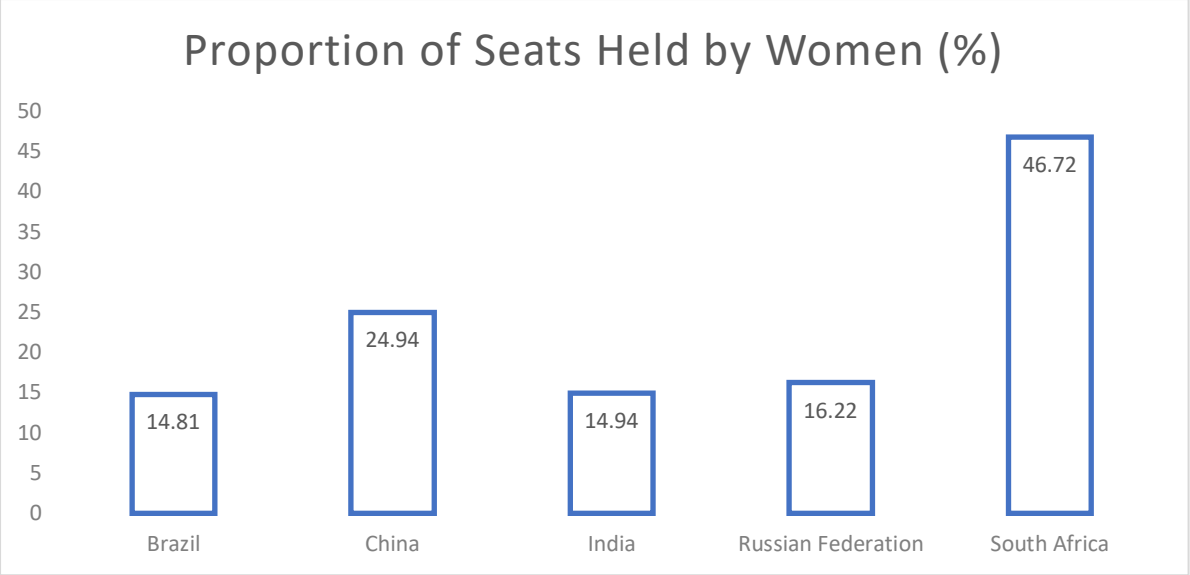
Water Stress: South Africa exhibits the highest water stress, with levels exceeding 65% in recent years, followed closely by India and China. Brazil and the Russian Federation demonstrate comparatively lower levels, hovering around 4%.

Goal 17: Partnerships for the Goals

Country	ODA (million USD)
India	> 1,000
China	$68.55 - $532.87
Brazil	$68.55 - $532.87
South Africa	$68.55 - $532.87
Russia	$68.55 - $532.87

Official Development Assistance (ODA): India leads in ODA disbursement, with figures surpassing $1 billion USD in recent years, followed by China and Brazil. South Africa exhibits lower disbursement values, fluctuating between $68.55 million USD and $532.87 million USD.

Goal 16: Peace, Justice, and Strong Institutions



Country	Women Representation (%)
South Africa	> 46.72
Brazil	~ 14.94
Russia	~ 14.94
India	~ 14.94
China	~ 24.94

Women Representation in Parliament: South Africa leads in female parliamentary representation, reaching 46.72% in 2022. Brazil and the Russian Federation show moderate increases over the years, while India demonstrates a gradual rise, reaching 14.94% in 2022. China maintains a relatively stable proportion around 24.94%.

Goal 4: Quality Education

Country	Proficiency in Reading (%)
Brazil	29.75 - 50.05
China	81.8 - 84.6
South Africa	16.22 - 22

Proficiency in Reading and Mathematics: Brazil's proficiency improves from 29.75% to 50.05% in 2015 and 2018, respectively. China demonstrates high proficiency levels, with 84.6% in 2015 and 81.8% in 2016. South Africa faces challenges, with only 22% proficiency in 2016 and 16.22% in 2019.

Goal 3: Good Health and Well-being

Country	Universal Health Coverage (Index)
Brazil	80 - 82
China	76 - 81
India	57 - 63

Russia	79
South Africa	71

Healthcare Indices: Brazil maintains a steady UHC index of 82 in 2015, 2017, then slightly declining to 81 in 2019 and 80 in 2021. China displays improvement from 76 in 2015 to 81 in 2021. India shows a gradual increase from 57 in 2015 to 63 in 2021. The Russian Federation and South Africa maintain relatively stable UHC indices, with Russia at 79 and South Africa at 71 in 2021.

Goal 1: No Poverty

Country	Population Below Poverty Line (%)
Brazil	1.9 - 5.8
China	0.1 - 1.2
India	10 - 18.7
Russia	0

Poverty Indicators: Brazil's figures fluctuate, with a decrease from 5.4% in 2019 to 1.9% in 2020, followed by a rise to 5.8% in 2021. China consistently maintains low rates, with a reduction from 1.2% in 2015 to 0.1% in 2019. India sees a gradual decline from 18.7% in 2015 to 10% in 2019. The Russian Federation maintains a 0% poverty rate from 2015 to 2020.

Goal 2: Zero Hunger

Country	Undernourishment (%)
Brazil	< 5
China	< 2.5
India	12.9 - 16.6
Russia	Low
South Africa	Low

Undernourishment and Food Insecurity: Brazil maintains a consistently low prevalence, staying below 5% until 2020, but seeing a slight rise to 4.7% in 2021. China's prevalence remains consistently below 2.5%. India faces persistent challenges, with rates ranging from 12.9% to 16.6% over the years. The Russian Federation and South Africa also demonstrate relatively low levels, although South Africa's prevalence has increased to 7.9% in 2021.

Goal 10: Reduced Inequalities

Country	Employed Below Poverty Line (%)
Brazil	0.94 - 2.32
China	< 1.5
India	< 8
Russia	< 0.1
South Africa	6.93 - 8.74

Employed Population Below the Poverty Line: Brazil demonstrates fluctuations with rates ranging from 0.94% to 2.32% in different years. China consistently maintains low levels below 1.5%. India exhibits a gradual decline from around 13% to below 8%. The Russian Federation sustains extremely low rates, below 0.1%. South Africa faces challenges, with rates ranging from 6.93% to 8.74%.

The analysis of Sustainable Development Goals (SDGs) highlights both progress and challenges across various domains of sustainable development. While some countries like China lead in certain aspects such as carbon emissions, others like India excel in areas like development assistance. However, persistent issues like water stress, gender inequality in political representation, and disparities in education and healthcare persist across different nations. Addressing these challenges requires collaborative efforts, robust partnerships, and innovative solutions to build resilient communities, promote inclusive growth, and achieve the overarching goal of sustainable development for present and future generations.

Conclusion

In 2020, the BRICS nations, comprising Brazil, Russia, India, China, and South Africa, navigated significant challenges concerning water stress, a critical metric reflecting the delicate balance between freshwater availability and demand. Among these emerging economies, Brazil showcased a commendably low level of water stress, registering just 1.48% freshwater withdrawal as a proportion of available resources. This indicates a prudent management of water resources, mitigating undue strain on the environment and ensuring sustainability. Contrastingly, India and South Africa grappled with acute water stress, with both nations recording high values of 66.49% and 65.03%, respectively. Such elevated levels signify a worrisome imbalance between water withdrawal and the replenishment of freshwater resources, raising concerns about future water security and environmental sustainability.

China, another BRICS member, experienced a moderate level of water stress, with 41.52% freshwater withdrawal relative to available resources. While this value is lower than that of India and South Africa, it underscores the significance of implementing effective water management strategies to sustainably meet the nation's burgeoning water needs. The Russian Federation, although exhibiting a comparatively lower level of water stress at 4.12%, still faces challenges in maintaining a harmonious equilibrium between freshwater withdrawal and resource preservation.Overall, these findings underscore the pressing need for robust water governance frameworks, technological innovations, and collaborative efforts to address water stress and safeguard freshwater resources across the BRICS nations. By prioritizing sustainable water management practices, these countries can mitigate the adverse impacts of water stress, foster environmental resilience, and ensure the availability of water for present and future generations.

References

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