

A Study on Bihar's Budget and Public Policy for Green Economy

Dr. Jagriti Anand

Assistant Professor, Department of Economics, Ganga Devi Mahila Mahavidyalaya, Patliputa
University, Patna

Abstract:

The urgency of transitioning towards a sustainable and green economy has become globally recognized. States within India, including Bihar, are exploring pathways to balance developmental objectives with environmental sustainability. This research article analyses Bihar's Budgetary allocations and public policies related fostering a green economy. It examines the extent to which the state's fiscal priorities support sustainable development, renewable energy adoption, environmental protection, resource efficiency, and climate resilience. By reviewing budget data, policy frameworks and implementation outcomes, this study presents insights into the challenges and opportunities in shaping Bihar's green economic transition.

Keywords- Green Budget, Green Economy, Sustainable Development, Public Policy, Climate change, Bihar, Budget

1. Introduction

India's G20 priorities, under the theme "One Earth, One Family, One Future," reaffirm its commitment to achieving inclusive and resilient growth, specifically focusing on climate, finance, and sustainable development. International commitments such as the Paris Agreement, Aichi Biodiversity Targets, and Sustainable Development Goals (SDG) highlight the critical need for a collective global shift towards a low-carbon future. In this regard, various governments at the sub-national level in developing countries such as India are prioritizing climate and environmental concerns, leading to "green budgeting" practices in policy-making.

As such, Bihar was the first state in India to initiate the process of green budgeting in 2020-21, focusing on reorienting its resource allocation by weaving environmental priorities into developmental initiatives towards a greener future. This is essential as Bihar is highly vulnerable to the risks of natural disasters such as floods, droughts, earthquakes, cyclones, thunderstorms, and so on. Precisely, green budgeting helps track resources like funds, outlays and policies, fosters coordinated action, anticipates future finance needs, and ensures efficient allocation of resources. Governments can prioritize green investments, track sustainability progress, and ensure fiscal alignment with environmental commitments by integrating environmental considerations into various budget cycles. Bihar is implementing various sustainability initiatives, including the Jal-Jeevan-Hariyali Abhiyan (JJHA), to address environmental issues, promote afforestation and water conservation. The State Action Plan on Climate Change (SAPCC) complements the green budgeting efforts by providing a roadmap for climate adaptation and mitigation strategies. The state also plans to develop a 'Climate Resilient and Low Carbon Development Pathway' to achieve net-

zero emissions by 2070, focusing on sectors like energy, industry, solid waste, transportation and construction. In addition to monitoring ambient air quality in urban areas, the state has initiated the same at the block level in rural areas, demonstrating its commitment to addressing air pollution.

India's commitment to sustainable development and net-zero objectives has elevated the role of State Governments in delivering locally appropriate green solutions. Bihar- a state with high rural population, agrarian dependence, and development challenges- faces the dual task of accelerating economic growth while increasing climate resilience. State budgets are the primary instruments for implementing public policy and signaling priorities.

1.1 Literature Review

Acar and Yeldan (2020) Handbook of Green Economics speaks about sustainability transition and how to handle natural capital within the context of green economy.

Agrawal Rohit, Agrawal Shruti (2023) provides an unexplored and significant contribution to current literature in terms of delivering evidence of the past and present approaches to green finance and green innovation in a circular economy.

Krishnan N.R. (2022) explains that Nature protects if protected. He believes that it is very important to harness nature wisely. He states that hands-off approach to environment with do no good but harnessing it wisely will do.

Michael (1991) states that various environment concerns can be solved by making use of conscious economic policy. He also sees the present contradictions in capitalism as a genuine ray of hope for the much-needed greener change in the economy.

Sharma Shilpi (2025), illustrate how the state government has moved beyond traditional growth models toward sustainability-focused planning.

1.2 Objectives

1. To understand the vision and mission of Bihar Government towards Green Economy and assess Bihar's efforts through policy-level interventions and the responsiveness of budgets to climate mitigation-oriented actions
2. To analyse policies and programs that promote sustainable development.
3. To evaluate institutional mechanisms and outcomes related to green initiatives.
4. To suggest policy measures for Green Economy, which are need of the hour.

1.3 Research Methodology

Secondary data was used for the purpose of research. The data was procured from Bihar Government's website, Government departments and budget and Economic survey of the last five years from now that is 2025.

1.4 Research Gap

The review of existing literature reveals that state-specific studies focusing on Bihar remain limited and fragmented and thus, several critical gaps persist. There is a lack of empirical, data-driven studies and do not quantitatively evaluate outcomes of green economy initiatives. Therefore, there is a need for a comprehensive, integrated, and empirical analysis of Bihar's green economy initiatives.

2. Bihar Environment: An Overview

Bihar is situated at about 52.73 meters above sea level. As a landlocked state, West Bengal surrounds it in the east, Uttar Pradesh in the west, and Jharkhand in the south, and shares its boundary with Nepal in the North. Its area is 94,163 square kilometres, which is 2.9 percent of the country's total area. The state's

population is about 104.10 million as per the 6 Population Census (2011), with a population density of 1,106 people per square kilometre. In 2022-23, Bihar received 849.1 mm of annual average rainfall, with 81.7 percent coming from the South-West monsoons. Its sub-tropical climate features hot and humid summers, mild winters, and monsoons. The Meteorological Centre reported an annual mean land surface air temperature of 24.7 Celsius during 2022-23, with an average minimum of 7.1 Celsius and maximum of 42.3 Celsius for the state. The state has about 4526 wetlands with an extent of at least 2.25 hectares, 9 underscoring their ecological significance in the state. The India State of Forest Report for 2021 revealed a forest cover of 9722 square kilometres for Bihar, including natural forests and vegetation dominated by trees covering one hectare or more with a crown density of over 10 percent, regardless of their legal status. Bihar is blessed with numerous rivers. The state's annual groundwater recharge is Air pollution is primarily caused by road dust, human activities like agriculture, fossil fuel burning, industrial emissions and vehicle emissions. Urban areas are particularly affected as high concentrations of pollutants trap heat and create smog. Patna's air quality exceeded national standards, particularly for small particulate matter (PM), large particulate matter (PM), and 2.5 15 10 Nitrogen Dioxide (NO) during 2022-23. About 13 districts in the state were contaminated by 2 fluorides, 10 by nitrate, 22 by arsenic, and 19 by iron in drinking water, exceeding the prescribed 16 limits set by regulatory bodies in 2021. The estimated sewage generation in Bihar was 2276 MLD in 2020. 33.96 billion cubic meters, with a 14 44.76 percent extraction rate during 2023.

Sustainability and Climate Indices

Indicators	Year	Bihar	India
Sustainable Development Goal (Overall Rank) ^{2, 3}	2020	28/28 Score 52	112/166 Score 63.4 (2023)
Clean Water and Sanitation (Goal 6) Rank ¹	2020	91	83
Affordable and Clean Energy (Goal 7) Rank ¹	2020	78	92
Life on Land (Goal 15) Rank ¹	2020	62	66
State Energy Efficiency Index (Score) ⁴	2021-22	21.0	29.1
State Energy and Climate Index (Score) ⁵	2021-22	38.3	40.6
Environmental Sustainability (Score) ⁴	2021-22	33.7	37.7
Composite Water Management Index (Score) ⁶	2019	37.8	-
Climate Change Vulnerability (Rank) ^{7, 8}	2019-2020	6/29 Score 0.614 Top 25% of most vulnerable state	7/181 (CRI Score 16.67) Global Climate Risk Index

Sources:

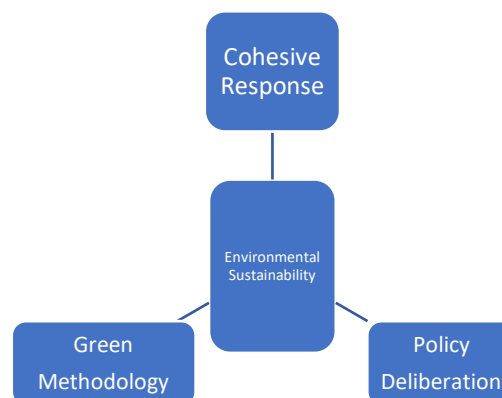
1. Population Census. Office of the Registrar General and Census Commissioner, India. 2011. <https://censusindia.gov.in/census.website/data/census-tables>
2. Sustainable Development Goal India Score 2020. <https://sdgindiaindex.niti.gov.in/#/ranking>
3. SDG Index 2023. <https://dashboards.sdgindex.org/static/profiles/pdfs/SDR-2023-india.pdf>

4. Bureau of Energy Efficiency, Alliance for an Energy Efficient Economy, 2022. State Energy Efficiency Index 2021-22 <https://stateenergyefficiencyindex.in/wp-content/uploads/2023/04/State-Energy-Efficiency-Index-2021-22-Report.pdf>
5. NITI Aayog. State Energy and Climate Index-Round I. 2022. <https://www.niti.gov.in/sites/default/files/2022-04/StateEnergy-and-ClimateIndexRoundI-10-04-2022.pdf>
6. NITI Aayog 2019, Composite Water Management Index https://social.niti.gov.in/uploads/sample/water_index_report2.pdf
7. Climate Vulnerability Assessment for Adaptation Planning in India using a Common Framework, 2019-20, Department of Science and Technology, available at <https://dst.gov.in>
8. Global Climate Risk Index 2021. Federal Ministry for Economic Cooperation and Development. https://www.germanwatch.org/sites/default/files/Global%20Climate%20Risk%20Index%202021_2.pdf

2.1 Concept of Green Budgeting in Bihar

Green Budgeting means identifying and tracking expenditures that explicitly support environmental or climate objectives- from renewable energy to water management, forestry, and pollution abatement. The preparatory framework of green budgeting in Bihar has been structured to promote environmental progress by encouraging participation, transparency and accountability to achieve the desired environmental outcomes.

Figure 1: Green Budgeting Framework in Bihar



Green budgeting encompasses a wide range of thematic aspects, aiming to integrate environmental considerations into various aspects of government spending. The various thematic aspects include management and conservation of natural resources; building sustainable infrastructure like solar power plants, green buildings, and public transport; adapting and mitigating climate change; controlling air and water pollution; reducing, recycling, and responsible disposal of waste; sustainable use of land; protect endangered species and habitats, restore ecosystems, and promote ecological balance; transition to green economy and provide sustainable livelihoods to all. The different themes of the green planning and practices used in the green budgeting process are depicted in Figure 2.

Figure 2: Thematic Aspects of Green Budgeting



Sources: Green Budget 2024-25, Finance Department, Govt. of Bihar

Thus, green budgeting is a strategy that strengthens inter-departmental coordination and promotes a cohesive response to environmental sustainability. It helps policymakers assess and re-orient their resources within the fiscal space to achieve green targets.

2.2 Bihar's Budgetary Framework and Green Economy Priorities

Annual Budget outlines the state's financial priorities across sectors such as agriculture, energy, water resources, health, education, and infrastructure. Fiscal prudence and developmental emphasis are reflected in these allocations. Budget categories relevant to a green economy typically include-

- **Afforestation and Biodiversity Conservation:** Allocation to forestry departments and environmental protection agencies.
- **Renewable Energy:** Funding for solar power installations, electrification, and renewable energy incentives.
- **Water Management:** Investments in Irrigation efficiency, watershed development, and flood control.
- **Sustainable Agriculture:** support for organic farming practices, soil health initiatives, and climate-smart agriculture.
- **Waste Management:** Funding for urban sanitation, solid waste management, and recycling programs.

In Bihar's Green Budgeting process, a United Nations Environment Programme (UNEP) tool, named "Rio-Marker Methodology" is used. This method categorizes expenditures as Principal, Significant, or Non-significant based on their environmental impact. The state adopted the Rio-marker methodology and Sustainable Development Goals mapping. The budget codes of various schemes were tagged as "Green" based on their scheme-wise scoring.

Figure 3: Green Component and Environmental Sustainability Significance

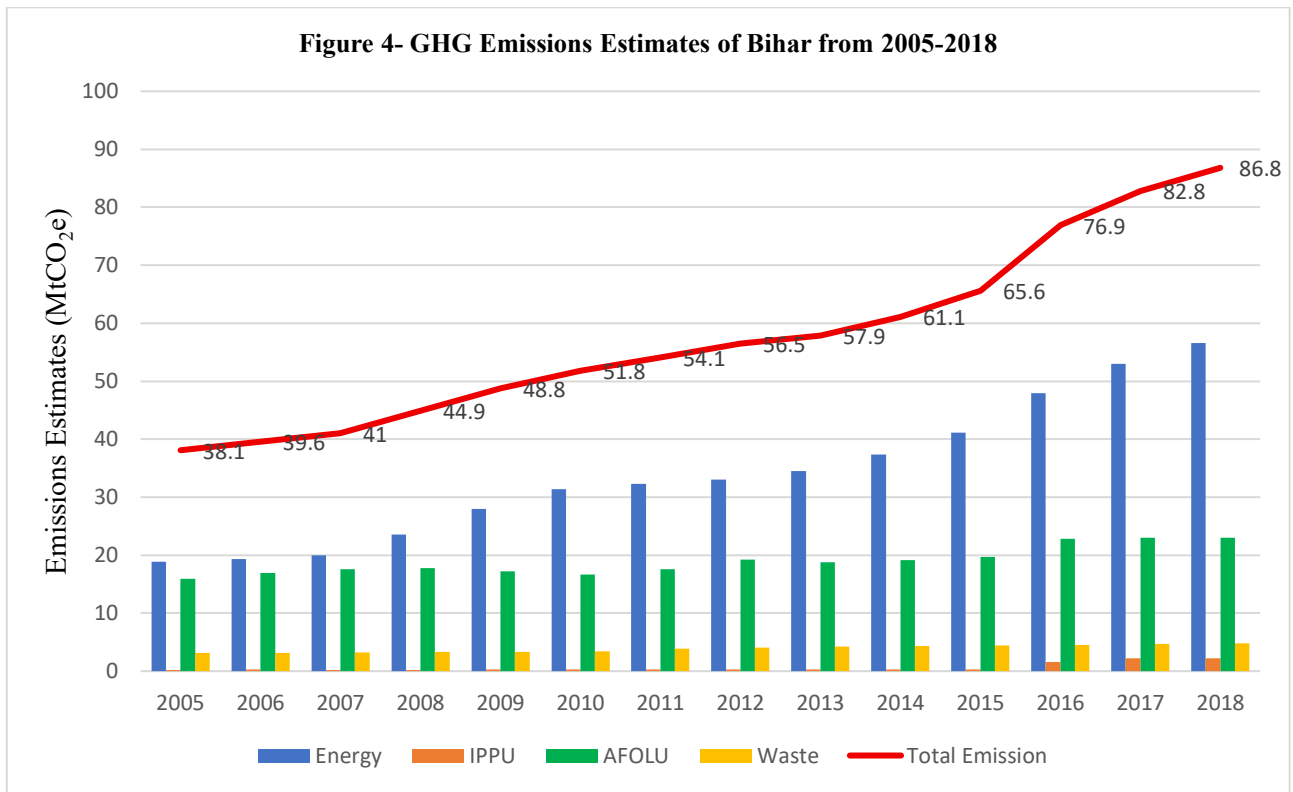


Source: Green Budget 2024-25, Finance Department, Government of Bihar

3. Sectors most relevant from the point of view of a Green Economy Recovery

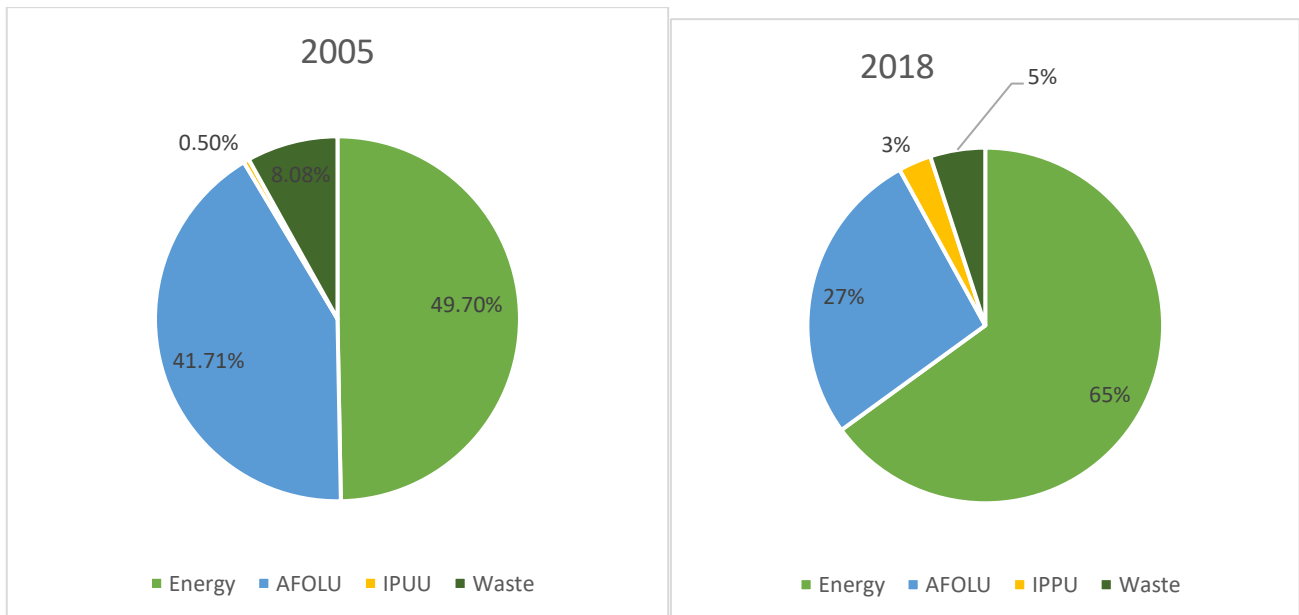
Contribution of various sectors of the economy towards GHG emissions in Bihar

Bihar's Emissions increased at a CAGR of 6.53% from 38.06 Mt CO₂e in 2005 to 86.59 Mt CO₂e in 2018 as illustrated in Figure 4 below. Energy sector was the major contributor. The share of emissions from Energy sector increased from ~50% in 2005 to ~65% in 2018. 447.9 Whereas, the contribution of the Agriculture, Forestry and Other Land-Use (AFOLU) sector 53.0 in economy-wide emissions reduced from ~42% in 2005 to ~27% in 2018. The Industrial Product and Process Use (IPPU) sector emissions contribution increased from ~0.5% in 2005 to ~3% in 2018, while the share of Waste sector emissions reduced from ~8% in 2005 to ~48.85% in 2018, shown in figure 5 –



Source: GHG Platform India (www.ghgplatform-india.org)

Figure 5: Sector-wise Contribution (Mt CO₂e) and Percentage Share in Total Economy-wide GHG Emissions of Bihar



Source: GHG Platform India (www.ghgplatform-india.org)

Notes: AFLOU- Agriculture, Forestry and Other Land Use
 IPPU- Industrial Processes and Product Use

4. Analysis of Green Budget of Bihar

Table 2- Details of Overall Green Budget Summary
(in crore)

Particulars	Actual			Budget Estimate		
	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26
State’s Budget Outlay	165696.51	193122.98	231903.88	261885.40	278725.72	316895.02
Gross Domestic State Product (GSDP)	618628.00	675448.00	751396.00	858928.00	976514.00	1097000.00
Green Budget Estimates	5693.88	7682.91	7710.25	9920.77	13823.39	15588.28
Gross Domestic State Product (GSDP)	2.00	3.50	3.45	3.79	4.96	4.92
Share of Green Budget in State GSDP (%)	0.53	1.00	1.06	1.16	1.42	1.42

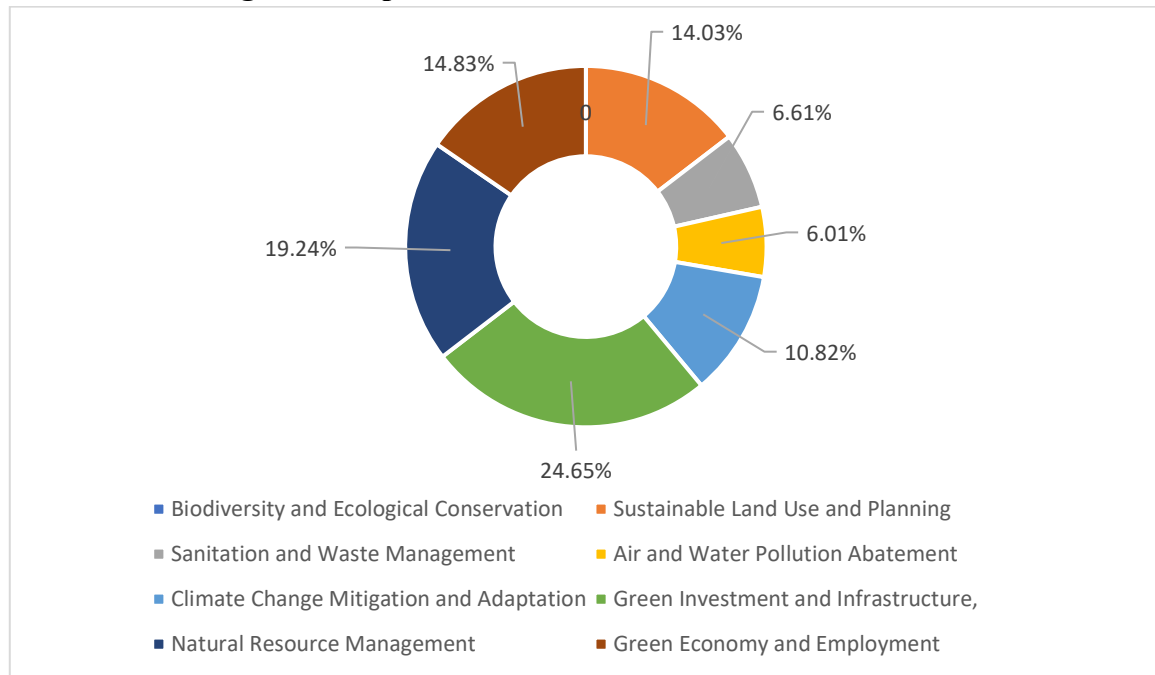
Source: Compiled by the author using State’s Budget

In the table 2, we can see that the Green Budget of Bihar Government has grown significantly since 2020-21, rising from about Rs. 5693 Crore to 15588 Crore in 2025-26, nearly 3 times increase in 5 years. The biggest jumps occurred post-2021, a sharp increase between 2021-22 and 2023-24, and then 2024-25 and 2025-26. Green Budget’s share of the total state budget has also grown from around 2% in 2020-21 to around 4.9% by 2024-25 and 2025-26. Green Budget’s share of the Gross Domestic Product has also increased from 0.53% in 2020-21 to 1.42% in 2025-26.

This shows that Bihar has increasingly prioritised environmental sustainability in its fiscal planning. Budgeting for green initiatives has outpaced general budget growth, reflecting increased policy thrust on climate and sustainability. Green Budgeting is becoming a larger share of the total state budget and a stronger part of Bihar’s long-term economic planning.

The distribution of green budget allocations across various environmental sustainability themes is illustrated in Figure 6. The state's green budgeting in 2024-25 prioritizes Green Infrastructure (24.65%), Natural Resource Management (19.24%), Green Economy and Employment (14.83%), Sustainable Land Use (14.03%). Climate Change Mitigation and Adaptation (10.82%) reflect the ongoing efforts to combat climate change. The remaining budget is divided into themes like Sanitation and Waste management (6.61%), Air and Water Pollution Abatement (6.01%), and Biodiversity and Ecological Conservation (3.81%), emphasizing the need for comprehensive action across various domains.

Figure 5- Department-wise Distribution across Themes



5. Green Initiatives of Bihar Government and its Outcomes

The Government of Bihar has announced various initiatives across various departments to achieve its environmental sustainability, climate resilience, and environmental protection.

In Agriculture

Fourth Agriculture Roadmap (2023-28): Launched in October 2023, the Fourth Agricultural Roadmap has vision for sustainable agricultural growth with key green initiatives such as soil health improvement, water conservation, climate resilience and agroforestry. These initiatives improve resource utilization, protect soil health, and promote micro-irrigation systems, rainwater harvesting, and integrated water management practices which can conserve the environment, ensure food security and improve farmer's livelihood.

Jaivik Corridor Scheme: This scheme often called organic corridor and aims to convert 20,000 acres along the Ganges into organic zones. The corridor covers 13 districts along the Ganga- Buxar, Bhojpur, Patna, Nalanda, Vaishali, Saran, Samastipur, Begusarai, Khagaria, Lakhisarai, Bhagalpur, Munger, and Katihar. It is designed to-

- Encourage chemical free sustainable agriculture
- Improve soil health, biodiversity, and environmental quality including reducing chemical runoff into the river Ganga
- Provide financial and infrastructure support to farmers to adopt organic methods.
- Financial support to farmers- Rs 11,500 per acre for 1st year and Rs. 6,500 / acre for 2nd and 3rd year

Outcomes- Around 20,000 farmers are engaged in this scheme and 19,594 acres areas under organic cultivation within the corridor. Phase 2 of this Yojana nearly met its physical target for 2023-24 covering 20000 acres distributed across 13 districts. Fund allocation for this phase was Rs. 3,192.62 lakh.

Integrated Watershed Management Programme (IWMP): The Integrated Watershed Management Programme was implemented in Bihar through Bihar Watershed Development Society (BWDS) and later

integrated into the Watershed Development Component of the Pradhan Mantri Krishi Sinchayee Yojana (PMKSY-WDC). Its main goal is to conserve and improve natural resources within the watersheds.

Outcomes- As per official DoLR MIS data, Bihar's IWMP/WDC-PMKSY reported:

- Implemented in total 19 districts- Banka, Aurangabad, Arwal, Begusarai, Bhagalpur, Bhojpur, Buxar, Gaya, Jamui, Jehanabad, Kaimur, Lakhisarai, Munger, Nalanda, Nawada, Patna, Rohtas, Samastipur, Sheikhpura
- Total sanctioned projects in (various batches)- 46 projects
- Total area sanctioned- 176,511 ha across districts
- Baseline survey completed area: 9,366 ha (6% of sanctioned area)

In Energy Department

Bihar Policy for Promotion of New & Renewable Energy Sources 2025: The State Government has approved a broad renewable energy policy to transform energy production using clean sources such as solar, wind, biomass and storage technologies. This policy aims to achieve a state-wide renewable capacity target of 23,968 MW and 6.1 GWh energy storage by 2029-30. This policy also aligns with India's goal to reduce carbon emissions and move toward net-zero by 2070.

Outcomes- According to official implementation records:

- 107 MW rooftop solar installed on 11,762 government buildings and 25 MW installed on 6,663 private homes.
- 700000 solar streetlights installed across panchayats to illuminate rural areas sustainably.
- Bihar Government has signed MoUs worth Rs 13,000 crore for the construction of two pumped storage power plants, marking the state's largest renewable energy investment.

Biofuel Production Promotion (Amended) Policy 2025: Bihar launched a revised Biofuel Production Promotion policy 2025 to develop the biofuel sector as part of its green economic strategy. It encourages production of compressed biogas (CBG) and other biofuels to turn agricultural and organic waste into clean energy. This policy supports ethanol and renewable fuels, which reduce carbon emissions and strengthen rural incomes.

Outcome-

- 12 ethanol production units operational in Bihar, with a combined production capacity of 1,617.5 kilolitres per day.
- Biofuel plants under development are expected to produce up to 500,000 metric tonnes of CBG annually once fully operational.

In Environment, Forest and Climate Change Department

Jal-Jeevan- Hariyali Abhiyan- This flagship green mission is the cornerstone of Bihar's environmental strategy and was launched on August 9, 2019, on the occasion of "Bihar Prithavi Diwas"

- Tree Plantation & Green Cover Expansion- Bihar aims to increase its green cover to 17% by 2028, with targets like planting 20 crore saplings under this campaign.
- Tree plantations are being driven through multiple channels- government nurseries, farmers, self-help groups (Jeevika didis), and Mahatma Gandhi NREGA projects.
- Activities include soil and land conservation, pond desilting, water harvesting and protective garland trench construction.

Outcome-

- Renovate 25,254 traditional wells out of a target of 25,466- a completion rate of over 99% improving local water availability.
- Along with wells, 18,895 soak pits have been constructed to help rainwater infiltrate the soil.
- Over 14 crore saplings have already been planted across Bihar, aiding ecological restoration.
- Green cover in Bihar rose drastically from around 9.9% in 2019 to 14.75% by 2021 and 15.05% by 2025.
- 16 irrigation schemes worth Rs. 38.74 crore were sanctioned in Nalanda district to restore irrigation facilities for 4,785 hectares of farmland.

Mukhyamantri Samekit Chaur Vikas Yojana: This scheme aims to promote the integrated development of private and government Chaur (wetland) areas in the state. For this, it adopts an integrated approach to Chaur development, encompassing fish production, agriculture, horticulture, and agroforestry. It is estimated to result in an additional fish production of 50,000 tonnes along with other agricultural products. The integration of modern technology will offer newer prospects to fish farmers, thereby boosting their employment and income.

Ambient Air Quality Monitoring: The Bihar State Pollution Control Board monitors ambient air quality through 35 Continuous Ambient Air Quality Monitoring Stations (CAAQMS) in 23 districts of the state. Bihar is the first state in the country to monitor ambient air quality at the block level in rural areas of the state, using indigenous technology, in collaboration with IIT Kanpur. The state has installed 534 low-cost sensors in all the blocks across 38 districts.

In Health Department

Greening of Health Centres: Bihar's Jal-Jeevan-Hariyali Abhiyan brings rainwater harvesting to health centres/hospitals, promoting water security and sustainability in the state.

Building Green with Green Rating for Integrated Habitat Assessment (GRIHA): The Bihar Medical Services and Infrastructure Corporation Limited (BMSICL) is leading the green building initiative by utilizing GRIHA technology, a green rating system, to construct eco-friendly and sustainable healthcare facilities in the state.

In Transport Department

Ban on Operation of all Government Vehicles and Commercial vehicles older than 15 years.

Imposition of Green Tax on Vehicles older than 12 years- The Bihar Vehicles Taxation Act, 1994 amendment introduces a 10 percent "green tax", including an additional tax, for registered transport vehicles that are older than 12 years, except in the case of three-wheelers, tractors and trailers.

Conversion of BSRTC Diesel Buses to CNG and Purchase of New CNG Buses

Exemption in Road Tax: There is a provision for 50 percent exemption in road tax for all types of battery-operated vehicles.

Use of Electric Car: The Department has initiated the first phase of encouraging the use of electric cars and has provided a 50 percent rebate in road tax towards registration of electric

Establishment of CNG Filling Stations: Gas Authority of India Limited (GAIL) has established 27 CNG stations in Patna, with a total of 106 stations currently operational in the state vehicles to combat environmental pollution from vehicular emissions.

Thus, Bihar has launched several environmental and sustainability initiatives to address climate change, conserve water, expand green cover, protect biodiversity, and promote eco-friendly development across the state.

6. Suggestive Policy Measures for Green Economy in Bihar

A green economy in Bihar should balance economic growth, environmental protection, and social inclusion. Considering Bihar's agrarian base, water resources, and energy needs, the following policy measures can be adopted-

- Develop green skills and vocational training in renewable energy, forestry, waste management, and eco-tourism.
- Promote biogas and compressed biogas (CBG) plants using agricultural and organic waste and also support startups and MSMEs working in green waste technologies.
- Expand solar energy through rooftop solar system on government buildings, schools and colleges, health centres, and rural households
- Promote decentralized renewable energy systems such as solar mini-grids and solar pumps in off-grid and flood-prone areas.
- Provide financial incentives, low-interest loans, and subsidies to households and MSMEs for adopting clean energy.
- Introduce a Green MSME Policy encouraging energy-efficient technologies, clean production process and water recycling. It also provides tax benefits, subsidies, and technical support to green industries and develop green industrial parks.
- Establish a State Green Finance Framework to attract climate funds and green investments and also to promote green bonds.

Thus, a green economy in Bihar can be achieved by adopting an integrated policy approach that combines renewable energy, water conservation, sustainable agriculture, ecosystem restoration, circular economy, green industries, and inclusive governance. Such a transition will not only protect the environment but also generate employment, reduce poverty, and build long-term climate resilience for the state

7. Conclusion

Bihar is at a critical juncture where economic development and environmental sustainability must be integrated to ensure resilient growth. The state's budget and public policies show promising directions toward a green economy but require stronger commitment, increased allocations, and robust implementation strategies. Aligning fiscal priorities with sustainable development goals will enhance Bihar's capacity to tackle climate challenges and promote inclusive prosperity. The analysis of Bihar's Green Budget highlights the State's gradual but significant shift towards environmentally sustainable and inclusive development. Through targeted allocations across key departments, Bihar has attempted to integrate environment concerns into its broader development planning. Flagship initiatives such as green budgeting, renewable energy policies, and climate-resilient agricultural programmes reflect a policy intent to align fiscal planning with long term sustainability goals.

However, this study also reveals certain limitations in the current approaches. The green budget largely relies on tagging existing schemes rather than introducing entirely new green instruments. A more integrated and evidence-based approach will be essential for Bihar to translate its green budgetary commitments into measurable economic, social, and environmental benefits.

8. References

1. Bhatia Asha, Proceedings of International Research conference on “Green Economy- A Necessity for Sustainable Future”, UBSIRC-2022, Volume 2, ISBN: 978-1-68576-3015
2. Bihar Government, 2016, Bihar Industrial Investment Promotion Policy 2016 <http://www.udyogmitrabihar.in/f/uploads/2016/09/biharindustrial-investment-promotion-policy2016.pdf>
3. BERC, Patna, Tariff Order for FY 2021- 22, available at: <https://sbpdcl.co.in>
4. Bihar’s Public Policy and Budgetary Priorities for a transition towards a Green Economic Recovery, Centre for Budget and Governance Accountability (CBGA), 2022, <https://www.cbgaindia.org/wp-content/uploads/2022/03/Bihars-Policy-and-Budgetary-Priorities-for-Transitioning-towards-Green-Economic-Recovery.pdf>
5. Central Bureau of Health Intelligence (CBHI). (2022) National Environmental Health Profile. Government of India
6. Energy Department, Bihar Government (2021). Demand-wise Expenditure, https://state.bihar.gov.in/cache/12/Budget/Budget/10_ok.pdf
7. Finance Department Bihar Government, 2024-25 Green Budget <https://state.bihar.gov.in/cache/12/Budget/Budget/Green%20Budget%20Final%202024-25%20English%2022.02.pdf>
8. Finance Department Bihar Government, 2023-24 Green Budget <https://state.bihar.gov.in/cache/12/Budget/Budget/Green%20Budget%20Final%202023-24%20English%2022.02.pdf>
9. Government of Bihar. 2024. “Bihar Economic Survey 2023-24.” Finance Department
10. Government of Bihar. 2023. “Fourth Agriculture Roadmap (2023-28).” Agriculture Department
11. Government of Bihar. 2025. “Bihar Economic Survey 2024-25.” Finance Department
12. Government of India, 2011, Population Census. Office of the Registrar General and Census Commissioner, India. <https://censusindia.gov.in/census.website/data/census-tables>
13. GHG Platform India (2022). Retrieved 7 November 2022, from GHGPI Trend-Analysis 2005 to 2018, <https://www.ghgplatform-India.org>
14. Jacobs Michael, (1991). The Green Economy; Environment, Sustainable Development, and the Politics of the Future, Pluto Press.
15. Planning Commission/NITI Aayog. (2015). India’s Intended Nationally Determined Contribution: Working towards Climate Justice. Government of India.
16. Sharma Shilpi, 2025, A Study on Green Economy of Bihar Government and its impact on the people, <http://doi.org/10.47392/IRJAEM.2025.0110>
17. Sinha J.K., Sinha A.K. 2020, Sustainable Agricultural Development under the influence of Technology: A Case Study of Bihar, Indian Journal of Applied Business and Economic Research, DOI: <https://doi.org/10.55121/nc.v4i1.385>
18. Teri. (2020). Green Budgeting in India: A Review of State Initiatives. The Energy and Resources Institute, New Delhi
19. United Nations Environmental Programme (UNEP). (2011). Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication,
20. Urjasvini, A quarterly Magazine of Bihar State Power (Holding) Company Ltd., July 2025, available at www.bsptcl.in

21. Watershed Development component- Pradhan Mantri Sinchayee Yojana 2.0- MIS, Department of Land Resources, Ministry of Rural Development, Government of India
22. World Bank. (2022). Inclusive Green Growth: The Pathways to Sustainable Development. World Bank Publication.