



NOAKHALI SCIENCE AND TECHNOLOGY UNIVERSITY

Noakhali - 3814, Bangladesh.

SDG PROGRESS REPORT 2024

17 PARTNERSHIPS
FOR THE GOALS



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Comprehensive Report: SDG 17 - Partnerships for the Goals

Noakhali Science and Technology University

December 2024

Introduction

Our institution is fundamentally committed to Sustainable Development Goal 17: Strengthen the means of implementation and revitalize the global partnership for sustainable development. We recognize that no other goal can be achieved without a robust framework of global cooperation, financial mobilization, technology sharing, and data-driven policymaking.

Our 2024 contributions demonstrate that partnership is not just a theoretical goal for us, but the primary method of our work. Our efforts are organized around two key pillars:

- **Research and Innovation:** Leading global exchange of knowledge on finance, trade, and technology to solve complex challenges.
- **Operations and Community Engagement:** Actively collaborating with national government, international bodies, and NGOs to implement sustainable policies on the ground.

This report outlines our key 2024 accomplishments in support of the targets of SDG 17.

49

**PUBLICATIONS
TARGETING
SDG 17**

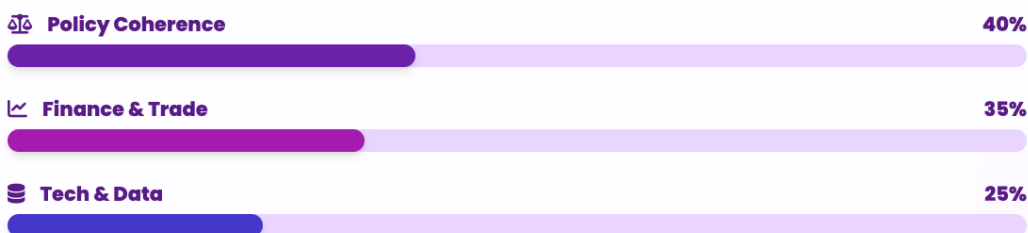
488

**TOTAL PUBLICATIONS IN SCOPUS-INDEXED
HIGH-IMPACT JOURNALS IN 2024**

PILLAR 1

Research & Innovation Targeting SDG 17

FOCUS AREAS DISTRIBUTION



Pillar 1: Progress through Research and Innovation

Our extensive 2024 research output, comprising 49 high-impact publications, underscores our role as a hub for global knowledge exchange.

Section 1.1: Fostering International Partnerships & Policy Coherence (Targets 17.14, 17.16, 17.17)

A vast portion of our 2024 research is inherently collaborative, focusing on global and regional partnerships to promote policy coherence.

- **Leading International Research Consortia:** Our researchers are at the center of global analysis, examining systemic issues in multi-country blocs. This includes studies on BRICS nations (Kaya, F. et al.; Voumik, L.C. et al.), ASEAN countries (Hossain, M.S. et al.; Aspy, N.N. et al.; Rahman, M. et al.), BIMSTEC nations (Ridwan, M.K. et al.), South Asia (Akther, T. et al.), BCIM-EC countries (Rahman, A.A. et al.), Eastern Africa (Chowdhury, T.S. et al.), and Indian Ocean nations (Hossain, M.A. et al.).
- **Analyzing Policy Coherence:** We produce critical work on the complex interplay between economic, social, and environmental policies. Key studies analyzed the links between energy choices and health outcomes (Kaya, F. et al.), tourism and ecological footprints (Aspy, N.N. et al.), and the intersection of forestry, urbanization, and finance (Ridwan, M.K. et al.). We also examined the impact of global crises on waste management (Hossain, M.A. et al.), providing essential evidence for governments to create coherent policies.

Section 1.2: Mobilizing Finance and Trade for Development (Targets 17.3, 17.5, 17.10)

We are actively researching the financial "means of implementation," providing analysis on global trade and financial flows.

- **Analyzing Financial Flows:** Our work tracks and analyzes the impact of Foreign Direct Investment (FDI) and remittances. This includes studies on the impact of geopolitical risk and trade openness on FDI (Hossain, M.S. et al.) and the impact of remittances on GDP in South Asia (Jui, F.N. et al.).
- **Strengthening Trade & Financial Systems:** Our research supports multilateral trade and sustainable markets. This includes analyses of exchange rate asymmetry on bilateral trade (Rahman, A.A. et al.), the role of Fintech in sustainable resource management (Raihan, A. et al.), and corporate accountability through sustainability reporting disclosure (Das, S.K. et al.). We also investigated the role of the informal sector on economic growth (Sultana, N. et al.).

Section 1.3: Strengthening Technology, Data, and Capacity Building (Targets 17.6, 17.7, 17.9, 17.18)

This pillar highlights our work in creating and sharing the technical and intellectual capital needed to achieve the SDGs.

- **Technology & Innovation Transfer:** We are developing and sharing new technologies, such as deep transfer learning (Shakib, M.S. et al.) and electrodialysis (Kabir, M.M. et al.). Our researchers also provided techno-economic analyses of green technologies (Akter, M.M. et al.) and developed methodologies for mitigating salt stress in crops (Mahmud, F.M. et al.).

- **Data, Monitoring & Accountability:** Our research provides critical monitoring data, including dynamic assessments of land-use change (Roy, S.K. et al.), groundwater vulnerability monitoring (Iqbal, M.A. et al.), and the quantification of ecosystem services (Md Monzer Hossain, S. et al.).
- **Capacity Building:** We are building local capacity through stakeholder-driven strategies, such as climate-adaptive farming (Al Mamun, M.A. et al.) and sustainable solutions for water and sanitation (Jakariya, M. et al.; Karim, F.S. et al.). We also analyzed success factors for e-governance to build institutional capacity (Nur Ullah, M. et al.).

Pillar 2: Progress through University Operations and Community Engagement

Beyond research, NSTU actively partners with government bodies, NGOs, and international organizations to translate goals into reality.

Section 2.1: National Policy Influence and Cross-Sectoral Dialogue

We directly contribute to national policy development by identifying challenges and modeling solutions with government stakeholders.

- **Direct Policy Input (Aquaculture):** NSTU has significantly influenced national food security policies through two key projects: *Tengra fish cage culture* and *nutritionally balanced crab feed development*. These initiatives identified farming challenges and helped local and regional authorities formulate sustainable aquaculture strategies to enhance rural income and zero hunger (SDG 2).

PILLAR 2

Action & Engagement



Ministry Action

NSTU Vice-Chancellor met with Environment Ministry Advisor. Secured government pledges for **Salinity Reduction** and a **Bird Sanctuary**.



Crisis Response

Partnered with numerous institutions, including **BRAC IT** during 2024 floods to organize relief funds and distribute medicine.



Curriculum

33 Departments integrating SDGs. Education faculty interns teaching in local primary schools.



Policy Input

Influenced national aquaculture policy via projects on **Tengra fish** and **Crab feed**.



'Luminary' Student Group

Providing weekly education support to underprivileged children on campus, ensuring inclusive learning opportunities.

- **High-Level Government Dialogue:** We actively initiate cross-sectoral dialogue. In a recent high-level meeting, the NSTU Vice-Chancellor met with the Advisor to the *Ministry of Environment, Forest and Climate Change*. This dialogue focused on critical regional issues, resulting in government pledges to support projects for reducing water salinity and establishing a migratory bird sanctuary.

Section 2.2: International Collaboration and Best Practices

Our commitment to partnership extends across borders, where we collaborate to gather data and define global best practices.

- **Global Data Collection:** NSTU researchers collaborate internationally to measure progress on the SDGs. A notable example is our joint study with scholars from *Australia, Saudi Arabia, and Brunei*, exploring pond fish culture and household food security in coastal regions.
- **Defining International Best Practice:** We review and develop best practices through comparative research. In 2024, we partnered with institutions in *India, China, Pakistan, and Saudi Arabia* to analyze meteorological trends (reference evapotranspiration). This comparative approach aids in better assessment of water-energy-climate linkages (SDG 7), providing evidence for adaptive strategies across different nations.

Section 2.3: NGO Partnerships and Crisis Response

We believe in the power of civil society partnerships to address immediate humanitarian needs.

- **Flood Response with Numerous Institutions, including BRAC IT:** During the 2024 floods, NSTU students and faculty partnered with *BRAC IT, a sister concern of the BRAC*, the largest NGO in Bangladesh (image attached below, left side). Together, we organized relief funds, distributed food and medicine, and provided humanitarian assistance to flood-affected communities, demonstrating a rapid, effective partnership for crisis response.



Section 2.4: Education and Community Outreach

We are embedding the SDGs into the fabric of our curriculum and sharing this knowledge with the wider community.

- **Curriculum Integration:** Across our 33 academic departments, NSTU offers programs that inherently align with specific SDGs. For instance, *Environmental Science* addresses Climate Action (SDG 13), while *Economics* addresses No Poverty (SDG 1). We also offer dedicated

degrees and courses that combine theoretical sustainability knowledge with practical modules.

- **Community Literacy and Outreach:** We measure and improve sustainability literacy through active outreach. The student organization 'Luminary' provides regular educational support to underprivileged children (image attached above, right side). Additionally, students from the Education faculty complete six-month internships in local primary schools, directly transferring knowledge to the community and ensuring that the next generation is literate in sustainable development.

Conclusion

Our 49 publications in 2024 serve as a powerful testament to our role as a central hub for global partnerships. Our research is not siloed; it is collaborative, international, and cross-sectoral. Operationally, our direct work with the Ministry of Environment, our crisis response with BRAC, and our international research collaborations prove that NSTU is actively mobilizing the partnerships necessary to achieve the Sustainable Development Goals.

Appendix: SDG 17 Targeting 2024 Publications Referenced

1. Kaya, F., Voumik, L.C., Rashid, M., Kochański, K., Zimon, G. (2024). Energy choices to health outcomes: A multidimensional analysis of risk in BRICS via PMG-ARDL approach. *Plos One*.
2. Hossain, M.S., Voumik, L.C., Ahmed, T.T., Alam, M.B., Tasmim, Z. (2024). Impact of geopolitical risk, GDP, inflation, interest rate, and trade openness on foreign direct investment: Evidence from five Southeast Asian countries. *Regional Sustainability*.
3. Aspy, N.N., Voumik, L.C., Esquivias, M.A., Das, M.K., Pattak, D.C. (2024). Impact of tourism, globalization, and technological patents on ecological footprint in ASEAN countries: static and dynamic panel regression approaches. *Discover Sustainability*.
4. Ridwan, M.K., Akther, A., Tamim, M.A., Esquivias, M.A., Wibowo, W.P. (2024). Environmental health in BIMSTEC: the roles of forestry, urbanization, and financial access using LCC theory, DKSE, and quantile regression. *Discover Sustainability*.
5. Raihan, A., Guneysoy Atasoy, F., Coskun, M.B., Atasoy, M., Yer, H. (2024). Fintech adoption and sustainable deployment of natural resources: Evidence from mineral management in Brazil. *Resources Policy*.
6. Raihan, A., Rahman, J., Tanchangya, T., Ridwan, M.K., Bari, A.B. (2024). Influences of economy, energy, finance, and natural resources on carbon emissions in Bangladesh. *Carbon Research*.
7. Ridwan, M.K., Aspy, N.N., Bala, S., Eleais, M., Esquivias, M.A. (2024). Determinants of environmental sustainability in the United States: analyzing the role of financial development and stock market capitalization using LCC framework. *Discover Sustainability*.
8. Mahmud, F.M., Islam, M.A., Rubel, M.H., Bhattacharya, P., Ahmed, F. (2024). A sustainable methodological approach for mitigation of salt stress of rice seedlings in coastal regions:

Identification of halotolerant rhizobacteria from Noakhali, Bangladesh and their impact.
Methods.

9. Ridwan, M.K., Akther, A., Al-Absy, M.S.M., Yağış, O., Jaheer Mukthar, K.P. (2024). The Role of Tourism, Technological Innovation, and Globalization in Driving Energy Demand in Major Tourist Regions. *International Journal of Energy Economics and Policy*.
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12. Rahman, M., Keat, N.W., Masud, M.A.K., Albaity, M.S.A. (2024). Powering Growth: The Dynamic Impact of Renewable Energy on GDP in ASEAN-5. *International Journal of Energy Economics and Policy*.
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15. Karim, F.S., Mohinuzzaman, M., Rafa, N., Hosen, R., Ahmed, S. (2024). Holistic citywide sanitation for an urban area in the Global South: A case study of the Noakhali Pourashava of Bangladesh. *Journal of Water Sanitation and Hygiene for Development*.
16. Tushar, S.R., Imtiaz, M.S.A., Noor, R.B., ISLAM, A.R.M.T., Kabir, M.M. (2024). An Intuitionistic fuzzy approach to modeling the drivers to promote Energy-Efficient textile Manufacturing: Implications for sustainable development. *Journal of King Saud University Science*.
17. Akther, T., Selim, M.M.I., Hossain, M.S., Kibria, M.G. (2024). Synergistic role of agriculture production, fertilizer use, tourism, and renewable energy on CO₂ emissions in South Asia: A static and dynamic analysis. *Energy Nexus*.
18. Jui, F.N., Hossain, M.J., Das, A., Sultana, N., Islam, M.K. (2024). Analyzing the impact of remittance, FDI and inflation rate on GDP: A comparative study of Bangladesh, Pakistan and Sri-Lanka using VAR and BEKK-GARCH approach. *Heliyon*.
19. Al Mamun, M.A., Li, J., Cui, A., Chowdhury, R., Hossain, M.L. (2024). Climate-adaptive strategies for enhancing agricultural resilience in southeastern coastal Bangladesh: Insights from farmers and stakeholders. *Plos One*.
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