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Skills & Education for A Greener Bangladesh

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About the study

The **“Skills & Education for A Greener Bangladesh”** study by the World Bank fills the knowledge gap about the current state of green skills development, policy options, and education systems to nurture green skills towards realizing the green economy potential of Bangladesh.

The study aims to answer the following questions:

a) What is the current situation and the drivers and challenges of green job creation in Bangladesh?

b) What is the current situation regarding education and skills development systems for fostering green skills?

c) How can education and skills development help foster skills for green jobs and addressing climate change, and what are best practices?

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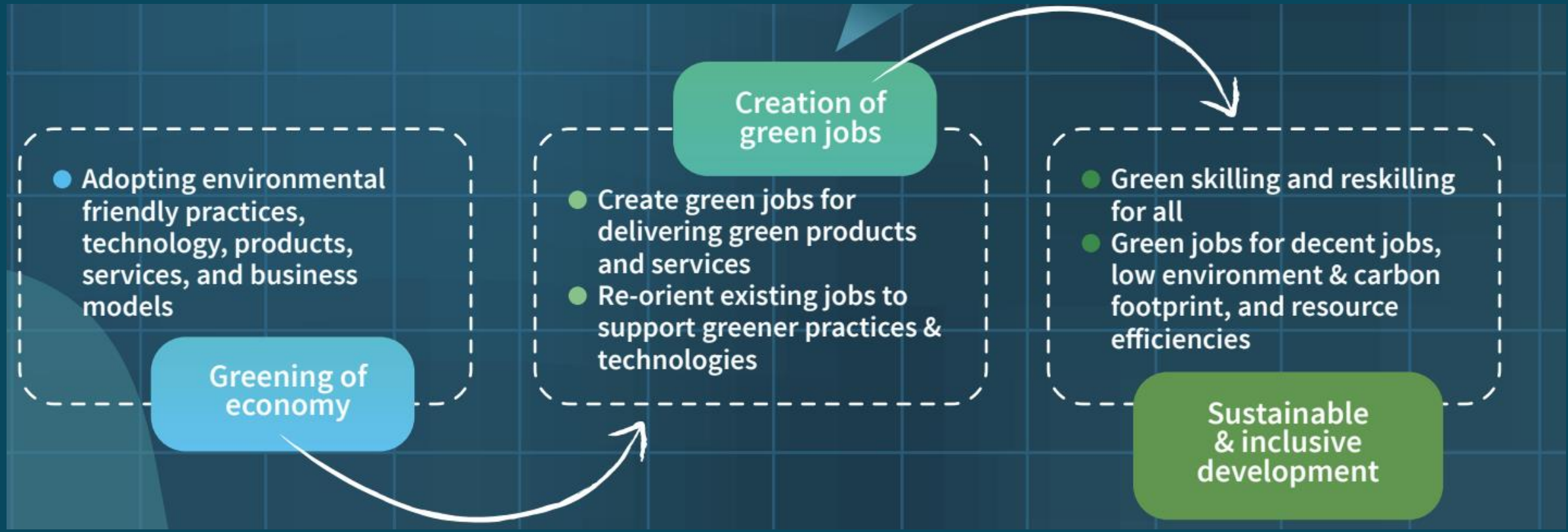
How green growth works



Why should Bangladesh focus on green growth?

Significant dependence on natural resource extraction, carbon-intensive production, and consumption

National plans & strategies call for transformation towards a green economy to maintain current economic growth momentum

Skills development and education systems need to be re-oriented to meet increasing needs for skills for green jobs

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Demand, drivers & challenges for green growth in major sectors

Manufacturing Sector
(RMG, Ceramic, Leather)

This sector contributes 20.87% of the national GDP by employing about 40m people, with the fastest growth in productivity over last 4 decades. Manufacturing industries, particularly RMG, are leading the way for industry greening initiatives, with 9 out of the world's top 10 LEED-certified green RMG factories are from Bangladesh.

Demand for Green Jobs and Skills

Leadership in Energy and Environmental Design (LEED) Specialists; knowledge of greening regulation and monitoring; chemical engineering; productivity enhancement and cost minimization skill; technological up-gradation of workforce

Drivers for green job creation

Efforts to build brand and competitiveness vis-a-vis international buyers; cost-saving with greener technologies; environment policies for reducing greenhouse gas emissions

Challenges to overcome

Limited client demand for greener products from the domestic market; weak enforcement & coordination limit the impact of environmental policies; weak return on initial green investment & inadequate long-term financing options; skills gap in managerial skills and LEED certification.

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Demand, drivers & challenges for green growth in major sectors

Energy Sector

Although this still largely relies on fossil fuel-based power generation to meet growing demands; usage of renewable energy is increasing, accounting for around 3% of electricity sources and about 1.37m jobs creation. Solar mini-grids are expanding with more than 4m installations in rural areas.

Demand for Green Jobs and Skills

Solar panel installation, maintenance, and repairing; energy management; energy auditing; energy data reporting; awareness and knowledge about energy efficiency and renewable energies

Drivers for green job creation

Renewable Energy Policies & establishment of Sustainable and Renewable Energy Development Authority; remote areas of Bangladesh offer significant potential for off-grid solar energy for electrification

Challenges to overcome

Skills gaps in technicians for maintenance and up-gradation; in-effective public-private partnerships.

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Demand, drivers & challenges for green growth in major sectors

Agriculture Sector

This sector contributes 12% of the national GDP by employing 40% of the workforce. 70% of the workforce employed in agro-processing industry are unskilled labour. Climate-smart agriculture (CSA) is being adopted to boost productivity and improve resilience.

Demand for Green Jobs and Skills

Post-harvest management; Cold storage management; Research & development and extension workers; Solar Energy Experts and technicians; CSA Experts; Green skills for farmers.

Drivers for green job creation

Agricultural research & innovation for locally adapted technologies; Locally available eco-friendly raw materials, resources, and practices

Challenges to overcome

Renewable energy installations in the production and processing sectors; Improving post-harvest management to reduce post-harvest loss.

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Demand, drivers & challenges for green growth in major sectors

Construction Sector

This sector is flourishing in Bangladesh with the progress of major infrastructure initiatives and creation of more than 1m jobs. It is committed to promote the greening of buildings and construction materials through various industry regulations.

Demand for Green Jobs and Skills

LEED Certified Professionals; Green Architects; Environment-friendly Building Materials; Solar energy engineers and technicians; Advanced knowledge of sustainable building.

Drivers for green job creation

The national building code and green building certification system to encourage people and construction companies to build eco-friendly households and factories.

Challenges to overcome

Ensuring workplace safety and labor rights with adaptation of insurance policies; limited implementation Bangladesh National Building Code and Green Building rating system.

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Demand, drivers & challenges for green growth in major sectors

Services Sector
(Finance & Banking, ICT, and Tourism & Hospitality)

This sector accounts for the largest share of GDP (54%) employing 40% of the workforce. With 150% increase in employment from 2010 to 2020, this sector has significant growth potential. ICT have been instrumental in disaster management, natural resource conservation and service improvement.

Demand for Green Jobs and Skills

Finance and Banking Sector: Knowledge of green finance, green policy, and monitoring and auditing.
ICT Sector: Green ICT knowledge, e-waste managers, and GIS and remote sensing experts.
Tourism and Hospitality Sector: Eco-tourism experts and environmental manager.

Drivers for green job creation

Finance and Banking Sector: The green finance policies and regulations; Sustainable Financing and Green Banking training opportunities by Bangladesh Institute of Bank Management.
ICT Sector: Increasing demand for digital skills in key industries; E-Learning opportunities
Tourism and Hospitality Sector: Labor-intensive business is an opportunity.

Challenges to overcome

Finance and Banking Sector: Small-scale enterprises often face difficulties in accessing green finance.
ICT Sector: Awareness of greening processes (e.g., e-waste management).
Tourism and Hospitality Sector: Skills Gaps; Awareness and local demands:

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Emerging green industries in Bangladesh

GREEN TRANSPORTATION SYSTEM

This sector has the potential to create many jobs by improving transit-oriented development, green vehicles, fuel-efficient urban transportation systems, conserving space, and healthy lifestyles.

WASTE MANAGEMENT AND RECYCLING

Required skills in this sector include waste collection, sorting and treatment skills, sustainable solid waste management skills, waste recycling & upcycling technologies & skills, and waste management knowledge communicators.

PLASTIC RECYCLING

Demand for plastic engineers, recycled commodity traders, plastic recycling process engineers, plant engineers, mechanical engineers, demand planners, field service technicians, recycling operators, and production analysts is increasing in this sector.

SHIPBREAKING & RECYCLING

Scaling improved ship recycling practices will entail significant green jobs creation and the need for skills training on safe ship recycling techniques.

ENVIRONMENTAL GOVERNANCE & PLANNING CAREER

The shift to a green economy would necessitate larger numbers of environmental governance & planning experts. Skills such as critical thinking, computer skills, environmental justice skills, and communication skills to work in an interdisciplinary environment will be required.

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Critical skills required for green growth in Bangladesh

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How education sector is addressing green skills development

Primary to secondary education

- A range of **environment and climate-related topics** (traditional geographic topics, contemporary environmental issues like pollution, natural disasters, climate change, SDGs) in secondary-level textbooks.
- The Ministry of Education is enhancing the teaching of Climate Change and Environmental Education (CCEE) in **basic education**.
- Government started piloting of new **competency-based national school curriculum & textbooks**, led by NCTB, in 2022 in primary and secondary education, where 'Environment and Climate Change' will be one of the common core topics across academic subjects.

Universities

- Several prominent public universities and private universities have introduced **environment related programs**.
- Various **green research projects at university level got funded** under "Higher Education Quality Enhancement Project" (by the World Bank) to enhance green technologies.
- Academics undertook numerous innovative research and innovation projects, with **successful patent filings**, including one for innovative green technologies for garment factories.

Technical & Vocational Education & Training (TVET)

- 10 polytechnic institutes are currently offering 4 years diploma courses in Environmental Technology.
- green elements have been integrated in the competency standard of selected occupations on a pilot basis under Bangladesh National Qualifications Framework (BNQF).
- The government also developed a greening guideline for TVET institutions, with components including greening campus, green curriculum, green research, green community, and green culture.

How Bangladesh can learn from global best practices

GOOD PRACTICES INCORPORATED BY MANY COUNTRIES:

- Environmental training programs on different modules, formats, and durations for teachers, students, workers, and professionals.
- Updated curriculum, train teachers, and engage students for environment education and school-based environment activities.
- Vocational courses and on-the-job training with a credentials system for environment
- Funding and incubation for promoting research and innovation on green technologies
- Strong partnerships among Government, industries, and educational institutions

ADDITIONAL SPOTLIGHT:

- Facilitating environmental work experience for students and fresh graduates (Australia)
- Certification for green skills training and green skills competencies by Sector Council (India)
- Specialized training programs for small businesses (with help from industry associations) and entrepreneurs (South Africa, Thailand, India)
- Focus on increasing the mid-level technological workforce for green industries (South Korea)
- National-level award program for top-rated green schools (India)

- Higher education and research opportunities in green technologies (South Korea).
- Incorporation of green skills into the Qualifications Framework (Thailand)
- National Certification to outstanding professionals for green technologies (China)

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Policy recommendations for sustainable green growth

PILLAR 1
Boosting **foundational green skills** development

1. **Strengthening foundational green skill development** through effective climate change and environmental education.
2. **Introducing the Green Schools scheme** to transform schools into a community of practicing sustainability
3. **Expanding access to STEM education** should be further encouraged in basic education, focusing on female participation.

PILLAR 2
Building solid **green human resources & knowledge** for the green economy

1. **Expanding higher education & technical training** programs for environmental experts
2. **Enhancing pedagogical methods** to nurture green higher-order thinking skills
3. **Accelerating the up-skilling of workers** on green technologies and practices through public and private partnerships
4. **Expanding research and innovation** for green technologies and incubating green entrepreneurs with green seed technologies
5. **Connecting higher education & TVET to green practices** in the workplace
6. **Boosting demands for green experts** through environmental awareness of the private sector and strengthened environmental policy implementation
7. **Expanding green skill training for female workers and professionals** by offering waivers and incentives.

PILLAR 3
Strengthening **system-level capacity** to nurture green jobs and skills

1. **Making information** on green jobs and skills demands **available** in Bangladesh
2. **Enhancing capacity of policymakers and government agencies** on good practices for green growth, strategies and green jobs creation, and green skills development
3. **Promoting competition to incentivize firms** to become green skilled
4. **Adopting new knowledge** to keep the green policies and regulations relevant

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Thank you!

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Report:

Skills and Education for a Greener Bangladesh:
https://www.researchgate.net/publication/364357375_Skills_and_Education_for_Greener_Bangladesh