

Bangladesh Infrastructure Sector Overview

1.1 Economic Opportunity and infrastructure

Bangladesh's economic growth has been robust over the past decade, with a recent 7.3% growth in GDP for FY2017. Broadly favourable global growth and trade prospects are expected to continue. The Ready Made Garment sector accounts for well over 80% of the country's total exports. However, there is a need for economic diversification as demonstrated by recent slumps, driven by decrease in demand in key markets and poor infrastructure preventing fulfilment of back orders. Bangladesh has significant infrastructure deficits, ranking near the bottom globally in commercial access to basic infrastructure such as electricity, roads, and railways. The energy supply–demand gap in Bangladesh remains among the main constraints to sustained economic growth. Energy shortages are causing an estimated annual loss of 2% of GDP.

- **Growth and job creation:** The country needs to improve its business environment and thereby reduce costs. Diversifying exports away from readymade garments would broaden the export basket, enhance resilience, and underpin continued high economic growth. Five areas of intervention could have a transformative impact on accelerating the creation of more and better jobs in Bangladesh: energy, inland connectivity and logistics, regional and global integration, urbanization, and improved delta management.
- **Investment in infrastructure:** Bangladesh has largely neglected investment in infrastructure, and it lags far behind regional competitors. Current infrastructure investment, equal to about 3% of GDP, is grossly inadequate and needs to be raised to 6%–8% to put the country on a higher growth path.
- **Climate and environmental resilience:** Over the last three decades an average of 8,841 people died each year in 164 instances of extreme weather condition in Bangladesh with cost of damage 761 million USD a year and loss of GDP 1.81%. Bangladesh needs to promote higher agricultural productivity and greater diversification; long-term planning needed for better land and water use, natural resource management; revitalize and strengthen key infrastructure to protect the population, reduce vulnerability, and secure growth.
- **Integrated urban development:** Export-led growth has been a powerful engine for job growth in Bangladesh's urban areas. But the adverse consequences of rapid urbanization, such as the fast-deteriorating living conditions, are now becoming prominent and need to be addressed. Developing transport systems requires policy and institutional reforms to ensure better planning, and coordination among the various government departments and agencies entrusted with their completion.
- **Regional integration:** Most economic activity is concentrated in and around Dhaka and Chittagong. To ensure balanced regional development Bangladesh is promoting economic zones that provide serviced industrial land and infrastructure to attract investors and spur efforts to diversify the manufacturing base.

1.2 Stakeholder Analysis

This section sets out in short bullet points the relative engagement of key players in infrastructure.

Public sector	<ul style="list-style-type: none"> • The government has focused infrastructure development efforts on PPPs, in order to both gain efficiencies from private sector operation and management of infrastructure services and to tap private sector sources of long-term capital investment. • Few PPPs have been realized, however, due to a combination of a lack of proper project preparation ahead of bidding, the potential lack of affordability for users of privately-developed infrastructure, and insufficient availability of long-term debt capital.
Private sector	<ul style="list-style-type: none"> • At \$1.7 billion, foreign direct investment equaled less than 1.0% of GDP • The public sector has been the main provider of basic infrastructure in Bangladesh, However, public financing alone cannot generate the investment needed. • To enhance the role of the private sector in the provision of infrastructure services, the government is (i) revising policies and regulations across sectors for enhancing private sector participation in infrastructure development, including through public–private partnerships (PPPs); (ii) enabling arrangements to bridge the enormous deficit in infrastructure financing, especially for long-term funds.
Donors	<ul style="list-style-type: none"> • The World Bank (WB): the World Bank Group's technical and financial assistance focuses on (i) electricity supply and improve transport connectivity; (ii) social inclusion and (iii) strengthen climate & environmental management • JICA is working towards the development of the Big-B economic corridor. The BIG-B initiative is to accelerate industrial agglomeration along the Dhaka-Chittagong-Cox's Bazar belt area and beyond, encompassing developing economic infrastructure, improving investment environment and fostering connectivity. • ADB plays a coordinating role and acts as the chief negotiator with the Government of Bangladesh on energy. All international donor activities in the energy sector are coordinated by the Local Consultative Group led by ADB.

1. Sectoral analysis

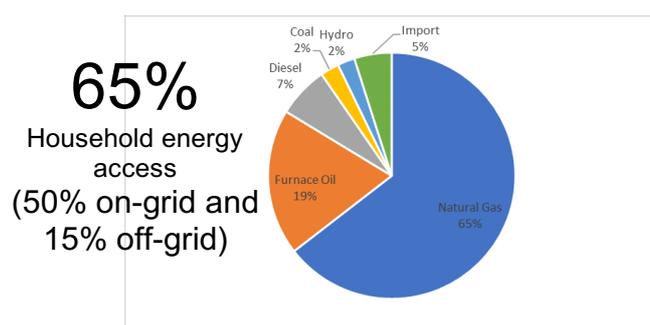
2.1 Energy

Overview

- **Access:** Only 72% of the population has access to electricity, per-capita electricity consumption of 348 kWh per year one of the lowest in the world.
- The urban population is more than twice as likely to have access to electricity than the rural population.
- In the 2018 Doing Business report, Bangladesh was ranked 185 of 190 economies on the "Getting Electricity" indicator.
- Supply of electricity is 28% less than the demand.
- Installed generation capacity is approximately 13,179 MW, with demand projected to reach 34,000 MW by 2030.
- Shortfalls exist due to poor distribution infrastructure and a mismatch between the types of energy plants and fuel mix available.
- 65% of primary energy produced in Bangladesh comes from natural gas, while biofuel and waste sources are important primary sources in rural areas.
- Gas production is projected to decline from 2019.
- GoB plans to reduce dependence on natural gas and move towards coal with plans to generate 50% of total electricity using coal-based power plants by 2030.
- **Opportunities:** attracting the private sector into investing in power plant projects; diversifying fuel mix and the sources of energy, relying on imports; and expanding regional electricity trading markets.

Energy Access for households and business

Energy currently makes up 7.3% of average household consumption spend.



Major investments planned

- **1,200MW Matarbari Ultra Super Critical Coal-Fired Power Project:** 600MW x 2 units coal-fired power plant with deep sea port for imported coal handling facilities.
- **Rooppur Nuclear Power Plant:** First nuclear power plant, to be located in Rooppur on the east side of the river Padma will include two units, with a capacity of 1.2GW each.
- **Maitree Super Thermal Power Project,** is a proposed 1,320MW coal-fired power station at Rampal in Khulna. Estimated to involve USD 1.5 billion capital cost

2.2 Transport

Overview

- The transport system consists of roads, railways, inland waterways, two seaports, maritime shipping, and civil aviation.
- Road network accounts for the bulk of passenger and cargo traffic, while the lower-cost rail and inland water alternatives lag far behind. Majority of major transport infrastructure improvements have targeted roads, followed by ports (especially in Chittagong) and civil aviation.
- Economic activity is concentrated in Dhaka and Chittagong, which have better access to labor, public services, and markets, as well as other agglomeration advantages.
- However, high congestion costs, particularly in Dhaka, can overwhelm the benefits of agglomeration through higher land prices, higher commuting costs, and bottlenecks to infrastructure, as well as the costs of pollution and service provision.
- In 2015, Bangladesh scored low for customs procedures, transport infrastructure, and tracking and tracing of shipments.

Top 5 Exports	% GDP	Top Destination
Non-Knit Men's Suits	2.70	Germany - 16%
Knit T-shirts	2.48	Germany - 19%
Knit Sweaters	2.02	Germany - 18%
Non-Knit Women's Suits	1.83	United Kingdom - 12%
Non-Knit Men's Shirts	1.13	United Kingdom - 11%

Trade corridors

- The Dhaka-Chittagong corridor is Bangladesh's most important trade link, but it is extremely congested and its current performance hinders export growth.
- The Dhaka metropolitan area needs to be better connected internally and with its peri-urban areas, and has to strengthen their connectivity to the global economy.
- Ease of doing business: 177/190

Ports / Cross border trade

- Chittagong is the principal port, handling 85% of imports to Bangladesh and 80% of exports.
- Mongla handles about 15% of Bangladesh's seaborne trade.
- Bangladesh and India have a basic interconnected transport network, with the limited connectivity within Bangladesh being the main constraint.
- Average time to clear customs: 7 days

Major Investments

- Padma Bridge is a multipurpose road-rail bridge across the Padma River. When completed it will be the largest bridge in Bangladesh and the first fixed river crossing for road traffic. Estimated project cost: \$3.692 Billion
- The Dhaka Metro is an approved metro rail system under construction in Dhaka. Once completed, the service would carry 60,000 passengers/hour. The project will save of Tk 200 billion/ year, equivalent to 1.5% gross domestic production (GDP) and 17% of the total tax revenue. Project cost: \$2.5 Billion
- The government’s 20-year, \$15 billion railway master plan, introduced in 2013, includes 235 ambitious projects designed to fundamentally transform railway travel in Bangladesh.
- Important airports to be developed are those in Barisal, Chittagong, Comilla, Dhaka, Ishwardi, Jessore, Khulna, Rajshahi, Rangpur, Saidpur, Sirajganj, Sylhet, and Thakurgaon. Air transport will expand, but its share of total transport in Bangladesh will remain small.

2.3 Digital Connectivity

Overview

In Vision 2021, the government promotes Digital Bangladesh by 2021, an initiative which proposes to mainstream information and communication technology (ICT) as a pro-poor tool.

Medium-term strategies and policies toward the realization of Digital Bangladesh were laid down in the government’s Five-Year Plans. Early initiatives included the establishment of the Bangladesh Association of Software and Information Services, the formation of an ICT task force, and the relaxation of levies for ICT imports.

- Households (2.1%) in the rural (0.7%) and urban (5.8%) areas have telephone connections.
- Mobile phone subscriptions grew by an average of 64% annually from 2000 to 2013, and reached 103 million in 2014, from 279,000 in 2000.
- Bangladesh has the lowest mobile phone call rates in South Asia.
- Internet access remained poor due to the expense of connections; however, the quality has improved following installation of a submarine cable connecting to the Information Super Highway in May 2006.
- All 64 districts and 35% of upazilas are covered through dial-up connections.
- Household access remained low because only 5.8% of households own a computer.

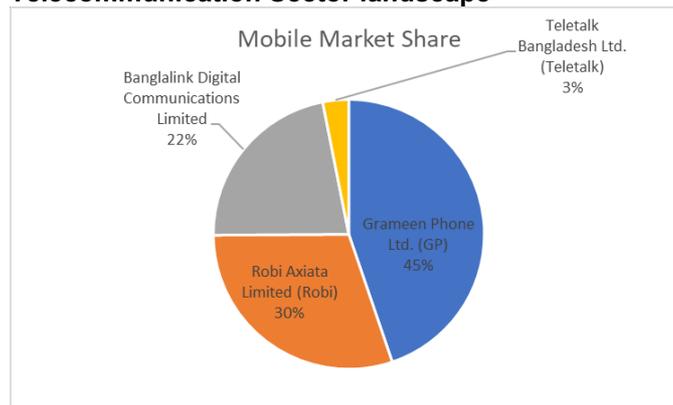
Digital service accessibility

Local content	Apps in local language # apps in local language	???/170 49.92
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Digital Access

Network coverage	2G (GPRS)	97.06%
	3G+	92.55%
	4G	10.76%
Access	household internet access	14.5%
	Individuals using internet	18.2%
	Internet speed	38.89 bps
	Mobile subscription	88%
Adult literacy	Male	76%
	Female	70%

Telecommunication Sector landscape



2.4 Water & Sanitation

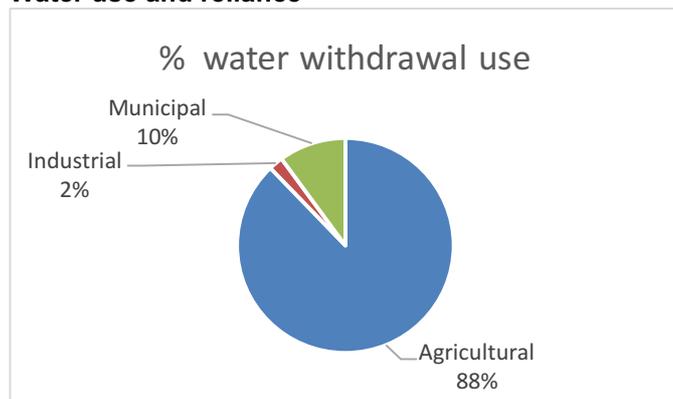
Overview

Though Bangladesh has for many years enjoyed almost universal access to drinking water, arsenic contamination of 22 percent of the country’s tube wells lowered the service coverage to below 80 percent.

Bangladesh has made significant progress in reducing open defecation, from 34 percent in 1990 to just one percent of the national population in 2015. However, the current rate of improved sanitation is 61 percent, growing at only 1.1 percent annually.

In urban areas of Bangladesh, piped water supply reaches only about one-third of the population, and there is no systematic sewer disposal and treatment system. Only Dhaka, Bangladesh’s capital city, has a sewer system, and it serves just 18 percent of the city.

Water use and reliance



Agricultural water use

- Fish, Raw hides, Jute and Tobacco are the major exports. Rice is the country's dominant crop (77–80 percent of cultivated land devoted to paddy)
- Approx. 87% of rural inhabitants derive income from agricultural activities
- 66% population rural and 35% of those living in poverty are rural
- 70% agricultural land / under cultivation

Water resource availability

Proportion of total actual renewable freshwater resources withdrawn: MDG Water Indicator (Aquastat)	2.92%
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2.5 Urban Infrastructure**Overview**

The urban population has increased from 14.9% in 1980 to 27.9% in 2010 and it is expected to reach 33.3% in 2020. Rapid population growth in large cities, like Dhaka, Chittagong, Khulna and Rajshahi are to continue in line with a high economic growth rate at around 6% per annum in recent years.

Despite these recent developments, urban areas in Bangladesh still lack standard public utility services. The major challenges of the sector are for i) water supply: increase in coverage of piped water supply system, Non-revenue water (NRW) control, inadequate water tariffs, sewerage infrastructures, arsenic/bacteria contamination in underground water; and for ii) solid waste management: low capacity of waste collection & disposal, lack of landfill sites, low capacity in recycling etc.

90% of urban slum dwellers have access to electricity/ Urban slum electrification faces difficulties because of the illegal status of slum dwellings. Legal recognition of a settlement is a prerequisite for households to access electricity legitimately.

The urban poor automatically get excluded from formal delivery of services because they do not have valid addresses and required documents.

2.6 Construction

- The construction sector, is set to play an increasingly strong role in the economy amid continued urbanisation and an almost full pipeline of large infrastructure projects.
- Construction sector experienced 10% growth in 2018 (compared to 7% national average)
- Bangladesh's cement industry has experienced very rapid growth of 20–25%, however it is one of the world's largest importers of clinker used

Urban Structure

% urbanised	36%
# urban residents	37.65m
% living in informal settlements	55%
Urban poverty (%)	21.3%

City size	# Cities	% Nat pop.	Tot pop.
Over 1m	5	13.37%	19,258,635
500k-1m	2	0.9%	1,290,364
100-500k	32	4.14%	5,963,738
50-100k	62	2.95%	4,256,412
20-50k	216	4.78%	6,884,012

Urban infrastructure overview

Energy	% household access	90.1%
	Power outages (per month)	64.5
Water	% access to improved water	54%
	# connected to mains	82%
Sewerage	# with sewerage connection	9%
Urban transit	% household spend transport	4.4% (Dhaka)
	Air pollution deaths in cities	3.5% (Other urban)
		9,400

3.0 Ongoing x-HMG Engagement

Dpt / Org	Initiative	£ value
DFID	Strategic Partnership Arrangement II between DFID and BRAC	222m
	Strengthening humanitarian preparedness and response in Bangladesh	175m
	UK Aid Match 2013–2016: giving the public a say in how a portion of the aid budget is spent	123m
	Pathways to Prosperity for Extremely Poor People in Bangladesh (PPEPP)	65m
	Support to Bangladesh's National Urban Poverty Reduction Programme (NUPRP)	60m
	Business Innovation Facility (BIF)	32m
	Excluded People's Rights in Bangladesh	48m
	Urban Health: Strengthening Care for Poor Mothers and New-borns in Bangladesh	37m
	Transparency and Right to Information	29m
	Providing Clean Energy to the Rural Poor of Bangladesh	20m
	Bangladesh Investment Climate Fund, Phase 2	20m
	Disability Catalyst Programme	12m
	Better Jobs in Bangladesh	6.6m
	South Asia Country Research Fund	4.9m

- The sector contributes Tk 737 billion, or approx. 7.5% of GDP
- According to REHAB, 3.5 million people work in the construction sector in Bangladesh
- Bangladesh Institute of Labour Studies reported, that between 2005-2016, 1,196 construction workers were killed on work sites and that recommended safety guidelines are often ignored
- In 2013 1% of women and <5% of men were employed by the construction sector
- Issues surrounding fair contracting and payment of workers is common, and women are discriminated against and subject to harassment
- There are opportunities to formalise the sector, improve labour laws, minimum wage compensation and use of protective equipment