

Afghanistan Infrastructure Sector Overview

1.1 Politics, Peace and Stability

Despite substantial military and development efforts to bring peace and stability, Afghanistan remains a deeply fragile and conflict affected state. The effect on social cohesion has been devastating, increasing ethnic divisions and weakening government institutions and the rule of law. Afghan politics is dominated by short-run bargaining among shifting elite groups with control over their own armed forces. Administrative positions in government, as well as privileged access to economic resources— including public procurement contracts, revenue sources, land, mining contracts, and proceeds from illicit economic activities¹.

The security situation has worsened. Civilian casualties are at their highest since 2002, with an unprecedented level of conflict-induced displacement. In 2017, The United Nations Assistance Mission for Afghanistan (UNAMA) recorded 10,000 civilian casualties. During the same period, more than 202,000 Afghans were internally displaced by conflict and 44,000 others were displaced by natural disasters. A surge in returnees from Iran and Pakistan (over 296,000 in 2017) has brought mounting pressure on services and humanitarian assistance.

1.2 Economic and Social Challenges

Afghanistan is at a crossroads in its development with economic growth down sharply and poverty incidence stubbornly high. Significant economic and social progress was achieved from a very low base between 2003 and 2012. Economic growth averaged 9.4 percent per year and key social and infrastructure indicators including school enrollment, life expectancy, and access to water improved markedly. However, poverty incidence nationwide remained stagnant at about 36 percent between 2007 and 2012. The transition since 2012 has led to a marked decline in economic performance and threatens the foundations of stability and progress in Afghanistan. Economic growth fell sharply to 1.5-2 percent in 2014 and 2015 as private sector confidence slumped and a fiscal crisis unfolded as declining revenues led to depleted cash reserves and accumulating arrears. Afghanistan's demographic reflects a particular challenge, with a population of around 35m, population growth of 2.5%, a youth bulge (over 50% 15 or younger), and over 400,000 entering the labour force each year.

Addressing the following are key to promoting inclusive growth:

- **Growth and job creation:** GDP per-capita is among the lowest in the world. The agriculture sector grew by only 1.4% in 2017 due to unfavourable weather conditions, with service and industry sectors recording slightly faster growth of 3.4% and 1.8% respectively. Slowly accelerating growth reflects bottoming out and slight recovery of business confidence following the withdrawal of international security forces in 2014.
- **Inclusion and poverty reduction:** Due to stagnant economic growth and the deteriorating security, national poverty rate has risen to 55% in 2016-17 (38% in 2011-12). Poor nutrition, especially of children, threatens welfare and education gains. Despite 2% annual reduction, 41% of Afghan children under the age of five are still stunted.
- **Infrastructure provision:** Lack of infrastructure has hindered development. Without electricity, businesses cannot operate machinery. Many households still lack clean running water and appropriate sanitation. Underdeveloped hinders movement of goods to domestic and international markets and isolates villages. Rural areas of Afghanistan never had much infrastructure and decades of war and neglect left much of what had been built in rubble. A key concern for the implementation of large infrastructure and construction projects has been security. USAID forecast private security costs increasing from 8% to 10% in low risk areas and 20-30% or even 50% in extremely dangerous locations. Canada spent 20% on security measures for an Afghan dam project.
- **Climate and environmental resilience:** Irrigated land, which produces 70% of farm output, is predominantly reliant on runoff from snowmelt in spring and summer months. With projected population growth, the water storage limitations, reliance on snowmelt and transboundary watersheds create significant climate change vulnerability. Renewable energy is a sector with large growth potential.

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1.3 Prioritising Infrastructure Investment

There have been significant gains in access to water, sanitation, electricity, and road connectivity since 2001. Afghanistan's road network has been extensively rehabilitated, with reductions in travel time between major cities. Electricity production has more than doubled, particularly following investments in recent years. At the community level, programs such as the NSP have delivered basic infrastructure including irrigation facilities, water supply and local power generation. From 2007-08 to 2011-12, the share of population with access to safe drinking water

increased from 26.6 to 45.5 percent; the population with access to electricity increased from 41.7 to 69 percent and that with access to improved sanitation from 4.9 to 8.2 percent.

Despite considerable progress, Afghanistan is still a long way from closing its human capital and infrastructure gap with other South Asian, low income, and fragile countries. If the current pace of progress continues, for example, it will take Afghanistan 20 years to catch up with low income countries in education and nearly 4 years to catch up on access to drinking water.

The Afghanistan government recognises the need to prioritize its infrastructure investments, and has requested donors to focus on energy, transport, agriculture and natural resources. Given the sheer size of the funding requirements and financing limitations, Afghanistan will need to be very strategic in planning and building new infrastructure by prioritizing and sequencing infrastructure investments to get the largest impact from every dollar invested. Criteria used to prioritize infrastructure investment needs play a major role in mitigating the infrastructure gap. Ideally, the Government should develop a methodological framework to determine funding decisions – ranking projects based on their contribution to basic services access, economic growth and development, and locational impacts in relation to potential agglomeration benefits in strategic development and resource corridors.

However, before investing in new infrastructure, donors and the Government need to prioritise options for rehabilitating and maintaining existing infrastructure assets, to ensure that the earlier hard-won gains are not lost. Despite the challenging operating environment, there are also opportunities for creating an enabling environment and opportunities for public-private partnerships.

Afghanistan continues to be an extremely challenging environment for infrastructure development and delivery. While there are encouraging examples of success, there have been substantial investments that were not completed or haven't delivered expected outcomes. A recent systematic review of 89 projects² in Afghanistan concluded: *'It is unsurprising that programmes did not accomplish the desired outcomes: few were designed, implemented or modified to take into account existing recommendations that may have improved their chances of success. It is precisely for these reasons that stabilisation efforts should focus on not simply implementing projects, but also ensuring a mechanism for effectively integrating evidence-based recommendations and, when appropriate, modifying policy and strategy.'* The authors give a clear message that lessons from past successes and failures should be applied to the prior analysis, community engagement, design, delivery and operations and maintenance for all infrastructure projects and programmes.

1.4 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"> • President offered to the Taliban a cease-fire and prisoner release with no preconditions, apart from the Taliban must recognise the government as legitimate. • The Afghanistan Reconstruction Trust Fund (ARTF) was established in 2002. Since its inception, 34 donors have contributed over \$10.3bn. • The 5yr Afghanistan National Peace and Development Framework (ANPDF) intends to increase private sector development and investment in mining, energy and infrastructure. • The Regional Economic Cooperation Conference on Afghanistan (RECCA) is cooperation framework aimed at promoting crossborder trade and transit. Based on bankable project criteria, RECCA has put forward four energy projects, six transport and network projects, three trade and facilitation projects and one communication plan.
Private sector	<ul style="list-style-type: none"> • Total investment committed to PPPs since 1990 is small at \$21m (2 projects in total). • Afghanistan's security environment is deteriorating and holding back business.
Donors	<ul style="list-style-type: none"> • WB provided over \$3.48bn for development and emergency reconstruction projects. As of March 2018, the bank has 16 active IDA projects in Afghanistan with net commitment value of over \$1.3bn. • ADB plays a significant lead role in infrastructure delivery, via the multi-donor AITF (Afghanistan Infrastructure Trust Fund) • IFC's cumulative committed portfolio stood at \$52m as of end-FY 2017 and its advisory services portfolio stood at \$8.8m. • In 2016, donors pledged \$15.2bn until 2020, in the expectation that the government eliminates corruption and delivers on the Afghanistan National Peace and Development Framework (ANPDF). • Most infrastructure projects in Afghanistan are financed by multilateral organisations, such as the Asian Development Bank (ADB) and the World Bank. • ADB promotes local companies and employment via its contracts (e.g. international firms must find local partners. Business opportunity seminars are held for local companies and a shortlist of international firms for is shared to identify partnership opportunities).

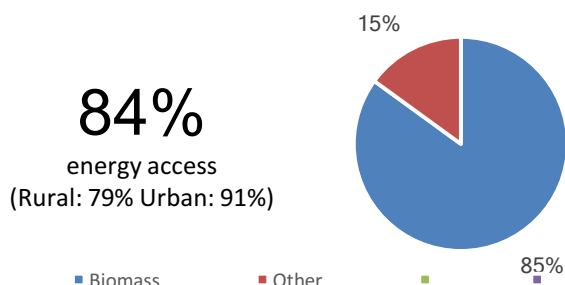
1. Sectoral analysis

2.1 Energy

Overview

- Not energy self-sufficient. Domestic generation accounted for 22% of total consumption
- With support of external actors, have made progress building the country’s energy sector. Until recently, energy policy priority was to provide access to as many consumers as quickly as possible. Now, primary energy policy priority is to establish a self-sustaining energy system
- The Central Asia–South Asia Electricity Transmission and Trade Project (CASA1000) aims to bring 1,300 MW of electricity from Kyrgyzstan and Tajikistan into Afghanistan and Pakistan. The Afghan section will not be completed until 2020 at the earliest. Afghanistan shall receive 300MW with 1,000MW continuing to Pakistan. Kabul should also receive \$50m in annual transit fees. Project 80% funded by World Bank.
- The TAPI project (\$10bn) shall bring 33 billion cubic meters of Turkmen gas to South Asia for 30 years via a 1,800-kilometer pipeline that will stretch across Afghanistan. Afghanistan shall receive transit fees.
- 85% of energy demand is met through the consumption of environmentally damaging sources of energy (biomass) which has negative health impacts.
- Generation capacity in southern Afghanistan, a politically critical region, has doubled, giving 80,000 households in Kandahar and Helmand their first-ever access to reliable electricity.
- The government is installing a third turbine at Kajaki Dam, and there is a project to connect Afghanistan’s northern and southern electricity grids.
- USAID is working with the national electric utility, Da Afghanistan Breshna Sherkat (DABS), to improve management and revenue collection. This has helped DABS double revenue collections and increase the number of customers by 54% between 2009 and 2015.

Energy Access for households and business



Currently 5.55m are unconnected

- Affordability: 6.65% household consumption

Energy source sustainability

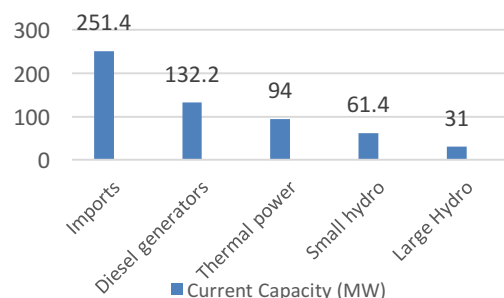
Coal: 73 million tonnes

Oil: 9.46 billion barrels

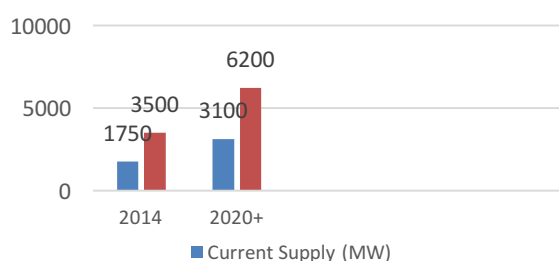
Gas: 8 trillion cubic feet

Renewable potential: 300 000 MW

On-grid Supply



Supply and Demand



Major investments

Kandahar 10-megawatt solar power plant: \$19m

Energy Planning

- Electricity tariff is \$0.04–\$0.07 per kWh, below that required to cover power generation costs of \$0.06–\$0.08 per kWh on average and power transmission and distribution costs for a new and rehabilitated network of about \$0.07–\$0.10 per kWh
- 78% of electricity is imported from Tajikistan, Turkmenistan, Uzbekistan and Iran. Low levels of trust create a threat to energy security
- In the absence of gas and oil production and refining capacities, Afghanistan imports 10,000 tons of oil products (97% of needs) from Turkmenistan, Uzbekistan, Russia, Pakistan and Iran: \$1.5bn per year.

2.2 Transport

Overview

- Afghanistan is landlocked and thus has no ports and is reliant on other countries
- There are 21,000 km of highways, 13% are paved, 8% are gravel and 79% are dirt
- Lack of physical infrastructure and security threat is a key hindrance to trade and transport
- Discussions are ongoing regarding Afghanistan’s inclusion in a number of regional connectivity initiatives such as the China-Pakistan Economic Corridor

- A 657k and \$1.8bn railway from Mazar-i-Sharif to Herat is gaining momentum
- USAID invested over \$2bn building and repairing over 2,000km of roads, including Afghanistan's Ring Road, connecting the country's five major cities (Herat, Kabul, Kandahar City, Jalalabad, and Mazar-e-Sharif). Over 80% of Afghans live within 50km of the Ring Road.
- The Ministry of Public Works is establishing an independent government road authority and fund, which should improve accountability and efficiency by implementing road-user fees to fund operations and maintenance.
- The final stretch of the 101km Gardez-Khost highway was completed in December 2015, which will promote economic growth along the entire corridor.

Import / Export of goods

Afghanistan has a significant black market economy focused around poppy production and procession. The table below highlights legal exports.

Top 5 Exports	% GDP	Top Destination
Gold	1.25	UAE - 94%
Grapes	0.73	Pakistan - 52%
Vegetable Saps	0.44	India - 57%
Insect Resins	0.36	India – 99.9%
Tropical Fruits	0.31	India – 98%

Major investments

India to construct a 900-km Chabahar-Zahedan-hajigak railway line that will connect Port of Chabahar in Iran, to the mineral-rich Hajigak region of Afghanistan. Government of India has pledged to spend \$2bn in developing supporting infrastructure

Trade corridors

- India has launched a new trade route to landlocked Afghanistan by sea through Iran's strategic Chabahar port, bypassing Pakistan
- Launched an air corridor programme, broadening access to Saudi Arabia, Turkey, Kazakhstan and Dubai air freight. Air corridor also in place with India.

Ports / Cross border trade

- Doing business rating: 183/190
- Av time to clear customs: 8.1 days
- Non-tariff barriers: lack of physical infrastructure, security threats, extortions demanded by local militants in turbulent areas and corrupt practices at the borders by the levies and frontier constabulary
- Regulatory constraints: Foreign currency rules, bank synchronisation and issued letters of credit

2.3 Digital Connectivity

Overview

- 3G services began in the country in 2012 and are provided by all major telecommunication companies
- ICT accounts for 1.58% of average annual household budget
- Gov signed agreement for China to provide 4,800km of fiber optic line from Kashgar city of China to Faizabad. Fibreoptic line to play important role in Digital Silk Road project
- Digital Citizen Fund has built 13 centers and enrolled over 10,000 women in digital training
- Gov has Open Access Policy, allows telecoms providers to access technology such as high speed fibre, enabling providers to serve all, at lowest price and maintaining a profit

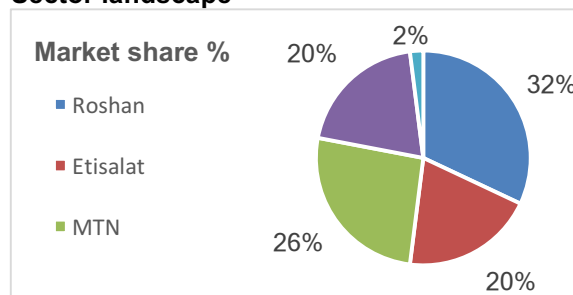
Digital access

Network coverage	2G (GPRS) 3G+ 4G	41.11% 40% 0%
Access	household internet access Individuals using internet Internet speed Mobile subscription	55 ISPs; >5m users 10.6% 38.56 bpm 67.35%
Mobile price	Entry level handset Entry data usage	N/A 59/170
Adult literacy	Male Female	45.42% 17.61%

Digital service accessibility

Local content	Apps in local language	3 GSMA
e-gov services	Digital rank e-gov score	130/170 30.43 GSMA

Sector landscape



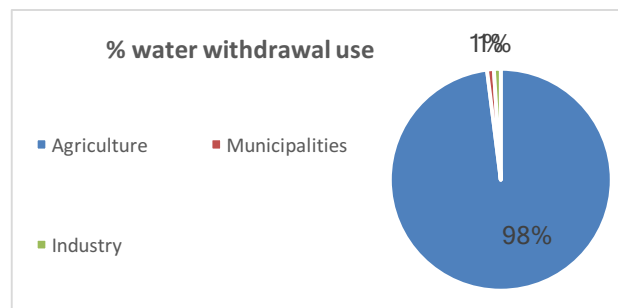
Planned Investments / Initiatives

- The Afghan Ministry of Communications and Information Technology hopes to attract more than \$2bn in investment for Afghanistan's telecom over next four years.
- There is currently a \$380m investment in fibre optic with another \$270m upcoming

2.4 Construction Sector

Overview

- Construction sector is one of largest in Afghanistan, contributing 7-10% of GDP
- Construction sector grew 8.1% in 2015-16
- 5000 registered companies in the construction sector, employing on average 10 people, with average wage of \$686 (BICC Working Paper)
- Participation of Afghan companies in large scale construction often limited to sub-contracting due to capacity and accountability issues
- Afghanistan imports 70% of construction materials, creating opportunities for investment in materials production, particularly bricks, cement and wood
- Whilst women are excluded from construction activities, market development programmes have demonstrated potential for their employment in the materials production sector
- Construction health and safety standards do not exist, and frequency and severity of accidents is high
- Current housing demand 500,000 units/yr
- Afghanistan National Standards Authority (ANSA) recently introduced codes for urban development, construction and highways
- Kabul has undergone licencing reforms to create a one-stop-shop for construction licencing
- Ministry of Economy acts as Secretariat for the CoST (Construction Sector Transparency Initiative)



Agricultural water use

- Primary crops; corn, rice, barley, wheat, vegetables, fruits and nuts
- 62.2% pop deriving livelihoods from agriculture
- 72.87% rural population rural and 36% rural poor
- 6% agricultural land / under cultivation

Transboundary dependencies

Not self-sufficient for water needs. Impacted by neighbours. Regional cooperation to avoid tension over use and management of shared water resources will be crucial to the success of efforts to provide a secure and stable future for the country and its neighbours. It is land-locked and shares 4 out of 5 of its river basins with other states.

Infrastructure condition and investment

- As of 2015, 42% of rural households have access to safe drinking water and 27%, have access to improved sanitation facilities. The gov and USAID constructed over 3,000 wells and 42k latrines, Provided reliable clean water to more than 863,000
- Planned investment: Arghandab Integrated Water Resources Development Investment Program: \$231m (ADB)

Climate Vulnerability

Drought prone regions: Badghis, Balkh, Faryab, Jawzjan, Hilmand, Nimroz, Uruzgan, Kubduz, Takhar, Herat, Ghor and Farah provinces. Regions experiencing periodic flooding: Samangan, Takhar, Kapisa, Baghlan, Badakhshan, Badghis, Ghor, Panjshir, Sari Pul, Ghazni and Parwan provinces. 80% depend on rain-fed agriculture and cattle-grazing for their incomes, both are threatened by temperature increases and erratic rainfall. Afghanistan is highly susceptible to drought.

Access to water services & water resource balance

Improved water access	Urban: 78% Rural: 42%
Proportion of total actual renewable freshwater resources withdrawn: MDG Water Indicator (Aquastat)	31.04%
% water received from neighbouring countries	Share 90% of water with neighbours

2.5 Water and Sanitation

Overview

- Afghanistan experiences drought prone, and highly dependant on its neighbours for water
- Water and sanitation provision in rural areas is extremely low (42%)
- Increasing school attendance creates an opportunity to reach and educate next generation on hygiene, to counter traditional beliefs that hand washing makes you sick
- People are not used to the tariff system and paying for water
- The Afghan government has constructed over 3,000 wells, primarily in rural communities, to provide reliable clean water for the first time to more than 615,000 Afghans and almost 33,000 latrines to help prevent the spread of disease.

Afghan water and sanitation-service providers are receiving support and training for officials to manage the water network, along with support for commercialisation, promoting cost recovery, revenue collection and thus project sustainability.

Water use and reliance

2.6 Urban Infrastructure

Overview

- Afghanistan's urban population grew 4.5%/pa between 2000-2010, primarily from natural growth of urban populations (not migration)
- During the same period urban areas grew by 14%/pa, creating sprawling slum areas
- Nearly 90% of urbanites live in informal settlements with no sewerage, just 55% access to improved water, and only 25% solid waste collection coverage resulting in environmental degradation and poor public health
- Kabul's air is more polluted than Beijing, with air pollution responsible for 11,000 deaths pw
- More than half of Afghanistan's 683,000 displaced people live in urban areas

	Cost of most recent flood event: 72 dead; 888 houses destroyed; 1,695 damaged	
Sewerage	% with household toilet # with sewerage connection	35 public toilets 0
Solid waste	% households receiving SWM % waste recovered	25 0
Urban transit	% modal split in cities: Bike 8.2; Bus: 30.8; Minibus: 34.4; Motorbike: 4.04; Foot: 5.0; Taxi 5.6; Taxi Share: 9.3	
	5.8 Air pollution deaths in cities	5.8 11k per yr

Urban Structure

% urbanised	27.13
# urban residents	9.4m
# living in informal settlements	2.2m (89%)
Urban poverty (%)	29
Urban employment (%)	
- Total	91.2 [national]
- Youth	40 [national]
- Female	19.5 [national]

The percentage of the labour force not gainfully employed, underemployed or unemployed stands at 71%.

City size	# Cities	% Nat pop.	Tot pop.
Over 3.5m	1	11.43	3,961,500
1-3.5m	0	0	0
100k-1m	6	5.48	1,917,000
50-100k	7	1.73	500,700
0-50k	37	2.12	735,759

Urban infrastructure overview

Energy	% household access Power outages (day/year)	70% 138
Water	% access to improved water connected to mains % household spend water utility	55.3 <20% 0.09

Donor engagement in cities:

Asian Development Bank: Promoting Low-Carbon Development in Central Asia Regional Economic Cooperation Program Cities: \$3m

3.0 Ongoing x-HMG Engagement

Dpt / Org	Initiative	Value (£)
DFID	Afghanistan Reconstruction Trust Fund (UK contribution)	428m
	Asia Regional Trade and Connectivity Programme (ARTCP)	38.5m
	Central Asia South Asia (CASA 1000) Electricity Transmission Project	31m
	Afghanistan Infrastructure Trust Fund: Phase 2	100k

References:

1. World Bank (2016) Afghanistan Systematic Country Diagnostic