



# Achieving mobile-enabled digital inclusion in Bangladesh

March 2021



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# CONTENTS

<b>Executive Summary</b>	<b>4</b>
<b>1. Bangladesh: socio-economic and mobile industry indicators</b>	<b>6</b>
<b>2. Impact of mobile technology on Bangladesh's development aspirations</b>	<b>9</b>
2.1 Mobile's contribution to realising goals	10
<b>3. Digital inclusion: a key tool to meeting socio-economic goals in Bangladesh</b>	<b>15</b>
3.1 Understanding the usage gap	16
3.2 Understanding the coverage gap	19
<b>4. Enhancing digital inclusion and mobile-enabled socio-economic development</b>	<b>22</b>
4.1 Addressing the key challenges to digital inclusion	23
<b>End notes</b>	<b>26</b>





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# Executive Summary

2021 is a pivotal year for Bangladesh in its ambitions for socio-economic development. It is the country's 50th year of nationhood and the climax of Vision 2021 – the government's roadmap to transform Bangladesh into a middle-income country. Meanwhile, the government has adopted a new long-term plan; Making Vision 2041 a Reality: Perspective Plan of Bangladesh 2021–2041 aims to move the country to upper middle-income country (UMIC) status by 2031 and high-income country (HIC) status by 2041.<sup>1</sup>

Bangladesh has achieved strong social and economic progress in recent years. The economy grew at an average rate of 6.8 per cent during the last decade as a result of rising productivity. The country also recorded considerable improvement in several human development indices (HDIs), including adult literacy, life expectancy at birth and gender parity in school enrolment. The internet and digital technology have played a key role in helping to drive economic growth and societal development. Mobile, as the primary means of internet access and the principal form of digital technology use in the country, has been at the forefront of this digital transformation. The country now has around 170 million mobile connections and 90 million unique mobile subscribers. Just over a quarter of the population also use the mobile internet.

The COVID-19 pandemic has brought to the fore the vital contribution of the mobile industry to social and economic wellbeing. In addition to providing access to connectivity, which has become a lifeline for many essential services during the pandemic, mobile operators have engaged with citizens and governments to provide vital services and help alleviate the impact of the pandemic on vulnerable individuals and communities. Mobile technology has also contributed significantly to realising the objectives of Digital Bangladesh (which aims to bring socio-economic transformation through ICT), Vision 2021 and the UN Sustainable Development Goals (SDGs).

Looking ahead, digital technologies, and mobile in particular, will be crucial to implementing the 2041 Perspective Plan, achieving the SDGs and recovering economically in the aftermath of the pandemic. Enhancing digital inclusion in Bangladesh is essential to realising this potential, given that access to reliable and affordable connectivity is a foundational step in maximising the impact of digital technologies on the government's development aspirations. The reach of mobile networks has expanded with 95 per cent of the population covered by 4G mobile broadband networks. Despite the investments of the telecoms sector in the rapid expansion of mobile broadband coverage, there

is still a significant usage gap of 67 per cent, who live within the footprint of a mobile broadband network but are not using mobile internet. Of the remaining 33 per cent, only 28 per cent subscribed to a mobile internet service in 2020<sup>2</sup> and 5 per cent did not live within the footprint of a mobile broadband network. Of the users of mobile internet services, under a third connected using 4G. The lag between 4G coverage and the share of 4G connections underscores that demand does not automatically follow supply.

Closing both the coverage and usage gaps to achieve digital inclusion will require concerted

government and regulator effort to implement policies and regulations that strengthen efforts to increase mobile internet adoption and support infrastructure deployment (see illustration below).

It also necessitates a whole-of-government approach to planning and implementing digital initiatives to ensure delivery of integrated and effective digitally enabled development programmes that can drive greater socio-economic inclusion across a wider range of citizens.

## Collaboration

Adopt a whole-of-government and multi-stakeholder approach to:

### Address usage barriers

**Implement the following policies and programmes that strengthen efforts to increase mobile internet adoption:**

1. Improve affordability by adopting appropriate policy and regulation in areas such as tax, subsidies and business innovation;
2. Equip individuals with digital knowledge and skills through a comprehensive, evidence-based framework focused on competency areas and proficiency levels;
3. Increase the relevance of content and services by encouraging the development of an ecosystem of locally relevant services and apps; and
4. Develop appropriate legal and policy frameworks that help to protect and safeguard against safety and security risks and concerns.

### Address coverage barriers

**Enable the following fiscal and regulatory policies that support infrastructure deployment:**

1. Reform the fragmented licensing regime and move towards a converged licensing regime;
2. Reduce and simplify sector-specific and discriminatory taxation on mobile operators;
3. Assign technology-neutral spectrum that is eligible for sharing and secondary trading; and
4. Ensure that social obligation funds (SOFs) are targeted, time-bound, robustly supported by the regulatory framework and managed transparently following best practices. If this cannot be achieved within a reasonable timeframe, adopt a roadmap to phase out universal service funds.



# 1 Bangladesh: socio-economic and mobile industry indicators

## Bangladesh socio-economic indicators

Population:

# 166.5 million

(**eighth** most populous country in the world)



Capital: Dhaka



Literacy rate (7+ years):



# 74.4%

 (2019)

Life expectancy: **72.6 years** (2019)

GDP growth:

# 5.24%

 (2019-2020)

GDP per capita:

# \$1,970

 (2019-20)



Bangladesh has achieved strong social and economic progress in recent years. The economy grew at an average of 6.8 per cent during the last decade as a result of rising productivity. The country's agricultural sector has recorded one of the fastest productivity growth rates in the world since 1995, averaging 2.7 per cent per year (second only to China), helped by a sound and consistent policy framework and investments in technology and rural infrastructure. These have contributed to a sharp fall in poverty from 44.2 per cent in 1991 to 29.5 per cent in 2020,<sup>3</sup> supported by sustained economic growth.

Bangladesh has also recorded considerable improvements across several human development indices (HDIs), including adult literacy, life expectancy at birth and gender parity in school enrolment. Ranked 50th out of 153 countries, Bangladesh is the only country in South Asia in the top 100 of the 2020 Global Gender Gap Index.<sup>4</sup> The country is also making progress with the UN SDGs, having achieved two out of the 17 goals.<sup>5</sup>

The internet and digital technology have been key tools in connecting people to new opportunities and life enhancing services, driving economic growth and advancing progress towards the UN's SDGs. In

Bangladesh, mobile remains the primary means of internet access and continues to be the principal technology for reaching the underserved, especially low- income populations, women, and those in rural areas.

The mobile industry's contribution to socio-economic progress in Bangladesh can be seen in the \$16 billion of economic value from mobile technology and services in 2019, equivalent to 5.3 per cent of GDP.<sup>6</sup> This includes the direct impact of the mobile ecosystem and the increase in productivity and efficiency throughout the economy brought about by the use of mobile technologies across various sectors.

As Bangladesh continues its development, mobile services will play an even more significant role in the efforts to achieve socio-economic change. Addressing the lag between 4G coverage and 4G's share of total connections, by increasing its usage from 28 per cent to numbers that match its 95 per cent coverage rate (Figure 2), will be key to these efforts. This includes reducing lingering inequalities and poverty, and stimulating economic recovery in the aftermath of the COVID-19 pandemic.

## Bangladesh mobile market indicators



(December 2020)

**170m** mobile connections, serving  
**90m** unique mobile subscribers<sup>7</sup> – a penetration rate of **54%**<sup>8</sup>



(December 2020)

**102m** mobile internet connections,<sup>9</sup> serving  
**47.1m** mobile internet subscribers – a penetration rate of **28%**<sup>10</sup>



(December 2020)

**1.6m** cellular IoT connections



(November 2020)

**32.3m** active mobile financial services accounts<sup>11</sup> and average daily transactions of **\$2.1bn**

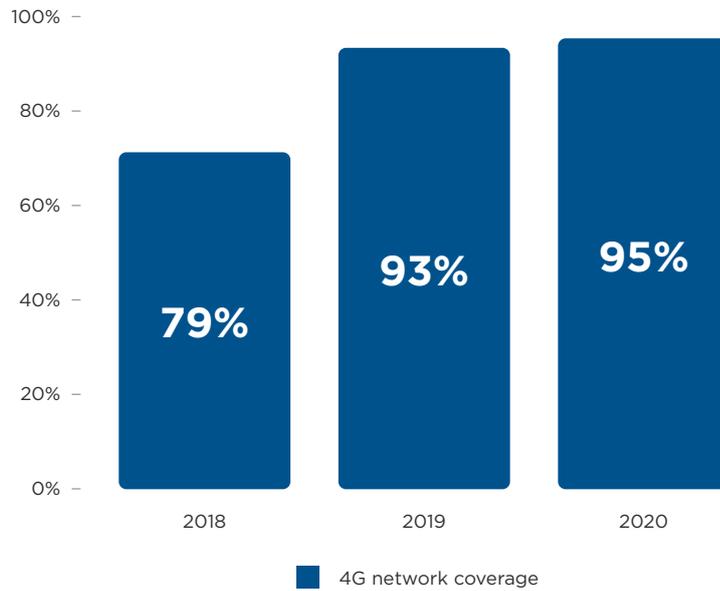


**\$16bn** of economic value from mobile technology and services in 2019, equivalent to 5.3 per cent of GDP

The mobile market in Bangladesh is served by four main operators:

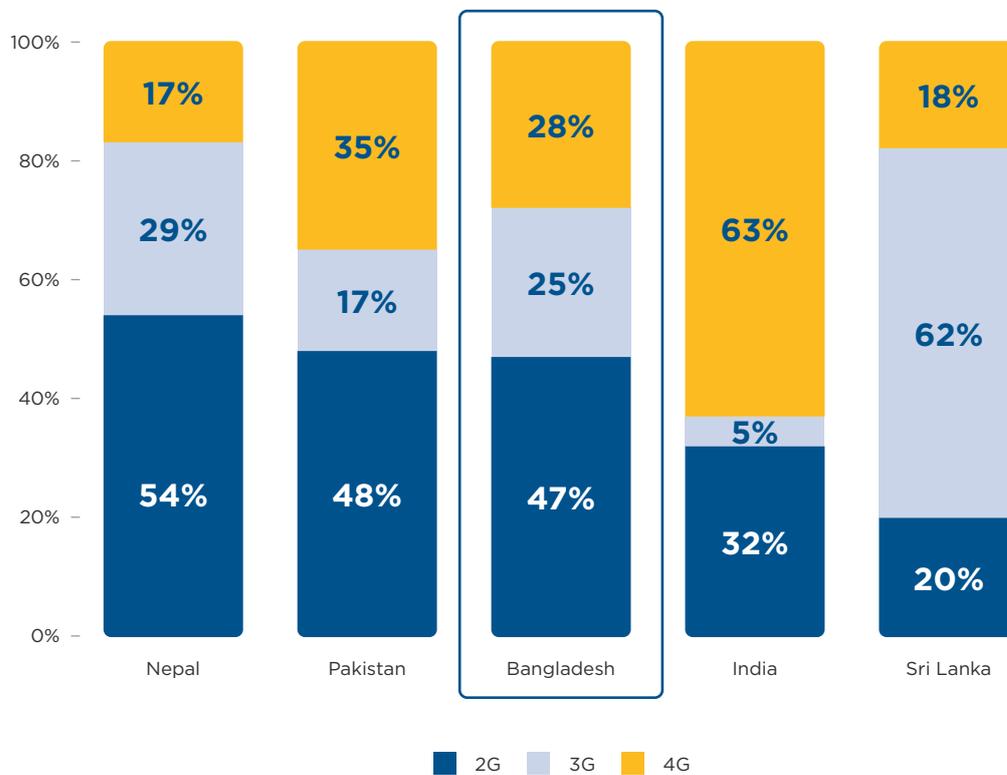


**Figure 1: 4G network coverage reaches around 95 per cent of the population**



Data as of December 2020  
Source: GSMA Intelligence

**Figure 2: Mobile technology as a percentage of total connections**



Data as of December 2020  
Source: GSMA Intelligence, Nepal Telecommunications Authority, Bangladesh Telecommunication Regulatory Commission (BTRC)



## 2 Impact of mobile technology on Bangladesh's development aspirations

**Around the world, digital technologies provide an opportunity for governments to overcome shortages in traditional infrastructure, funding and skills to accelerate progress with their development ambitions. This has been the case in Bangladesh, where the government's Vision 2041<sup>12</sup> is underpinned by Digital Bangladesh, which aims to bring socio-economic transformation through information and communications technology (ICT).**

To implement Vision 2041, specific strategies and tasks have been outlined in the country's 8th FYP (2020–2025), with the core theme of “Promoting Prosperity and Fostering Inclusiveness”. The plan aims to achieve average annual GDP growth of 8.5 per cent over the next five years and reduce poverty

to 15.6 per cent (from 20.5 per cent in 2020) by the end of this period. The 8th FYP has been framed to align with the social and economic targets envisaged in the Perspective Plan 2021–2041, and is designed to help the country recover from the impacts of the COVID-19 pandemic.



## 2.1 Mobile's contribution to realising goals

Mobile technology has contributed extensively to realising the key priorities of Digital Bangladesh and the social and economic goals of both Vision 2041 and the UN SDGs. The key priorities of Digital Bangladesh largely rely on mobile platforms and services:

- Developing human resources ready for the 21st century;
- Connecting citizens in ways most meaningful to them;
- Taking services to citizens' doorsteps; and
- Making the private sector and market more productive and competitive through the use of digital technology.

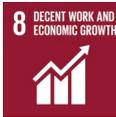
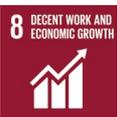
Mobile technology also enables various digital services that directly support the goals of the FYPs and UN SDGs (illustrated in Figure 3).<sup>13</sup>

The Bangladesh government incorporated the SDGs in its 8th FYP and, according to the 2020 SDG Index, the country has achieved two out of the 17 goals and is on track to achieve another three.<sup>14</sup> These are: SDG 1 (No Poverty), SDG 4 (Quality Education) and SDG 8 (Decent Work and Economic Growth).

In Figure 3, we highlight the role that mobile can play in key areas of the 8th FYP and the SDGs.



**Figure 3: Mapping the potential of mobile on socio-economic development in Bangladesh**

8th FYP category	Related SDGs	Leveraging mobile for progress
<b>Economic growth</b>	 	Mobile technologies and services generate more than 5 per cent of GDP in Bangladesh, both directly through the activities of ecosystem players and indirectly by driving productivity and efficiency gains in other sectors of the economy.
<b>Agriculture</b>	  	<p>Mobile technology helps</p> <ul style="list-style-type: none"> <li>• deliver vital information on weather, cultivation techniques, market prices etc, to smallholder farmers to improve their productivity and income</li> <li>• enable the digitisation of the agricultural value chain to improve efficiency</li> <li>• facilitate secure and transparent payment of farmers, and reduce waste</li> <li>• disseminate early-warning messages to communities in vulnerable areas on time to prevent agricultural crises.</li> </ul>
<b>Health</b>		Through mHealth initiatives, nursing mothers can get access to vital information as well as communicate with doctors and nurses. Mobile services, such as SMS, are also used to spread awareness about immunisations and other life-saving services.
<b>Water and sanitation in urban and rural areas</b>	 	Mobile platforms facilitate the digitisation of the process for citizens to request and pay for water and waste management services.
<b>Education</b>	 	Mobile platforms enable the remote delivery of academic lessons and reading materials. This has been further highlighted by the COVID-19 pandemic, with a marked increase in the use of mobile platforms for virtual learning.
<b>Digital Bangladesh and ICT</b>		Mobile technology is the primary form of internet access in Bangladesh. Operators' investments in network infrastructure have taken 4G coverage in the country to 95 per cent, as of December 2020. It can also contribute to Bangladesh's e-government goals by supporting the digital transformation of governments through facilitating access, registration and authentication, payments, and public service delivery and communication.
<b>Social protection</b>	   	<p><b>Disaster management:</b> Mobile has the potential to create a mechanism where government bodies, development actors and communities are coordinated in realtime to ensure that risk reduction efforts are coherent and response efforts ensure no-one is overlooked or left behind.</p> <p><b>Gender equality and women's empowerment:</b> Mobile can help empower women, making them more connected and safer, and providing access to information, services and life-enhancing opportunities, such as health information and guidance, financial services and employment opportunities, often for the first time.</p> <p><b>Persons with disabilities:</b> Mobile phones play a life-changing role for many persons with disabilities, who report that mobile phones help them to increase their independence, break some social barriers and isolation, and stimulate their participation in many areas of education, employment and social life.</p>



## Unlocking access to utility services

**Context:** Across Bangladesh, utility bill processing requires substantial amounts of time and effort. Customers wait two weeks to receive a physical bill, and then have two weeks to pay the bill through one designated bank branch before the next month. Due to inefficient billing processes, revenue collection covers less than half the cost, preventing utility companies from investing in maintenance and expansion.

**Industry contribution:** Across the industry, operators in Bangladesh have launched cloud-based platforms which bring all utility bills under one platform. These provide timely utility bill notifications to users and enable customers to pay bills using a smartphone or mobile money agent, such as the GPay app or a RobiCash Agent. This digitalisation of government services supported the instant collection of over \$17 billion of revenue in 2020.<sup>16</sup> In addition, the end-to-end digitalisation of government services has created a more reliable service while helping customers save time and money.



## Improving productivity in agriculture

**Context:** Agriculture employs almost half of Bangladesh's citizens and over a third (60 million people) are involved in smallholder subsistence farming.<sup>17</sup> Recognising the importance of nutrition for its citizens, the Bangladesh government is aiming for self-sufficiency in food grains by the end of 2021.

**Industry contribution:** Grameenphone launched Krishi Sheba in 2015 with the objective to reach rural users and support growth in agriculture productivity. Farmers sign up for access to seasonal agricultural content, from planting to post-harvest, choosing from three of 16 crops and livestock. Users get a direct voice conversation for updated agro information and advice on agricultural service from agro-specialists. To complement its Krishna Sheba offering, and further improve agricultural productivity, Grameenphone has launched "Connected Cow", which aims to contribute to the challenges faced by the dairy sector in meeting milk demand.<sup>18</sup>



## Facilitating access to quality education

**Context:** At 74.4 per cent, Bangladesh lags regional peers India (77.7 per cent) and Sri Lanka (91.7 per cent) in terms of adult literacy. This reflects significant inequalities in access to quality education and skills training, especially among the more vulnerable population groups, such as rural communities and low-income families.

**Industry contribution:** Robi Axiata's Robi-10 Minute School provides access to science, technology, engineering, arts and mathematics lessons. As the largest digital school in Bangladesh, Robi-10 Minute School delivers educational content to students across the country, using its mobile platform and enhancing digital inclusion in the process. Around 360,000 students benefit directly from the platform every day through 12,440 videos, 49,530 quizzes and 850 live classes. The platform also provides skills training to 1.3 million students, while around 1 million take lessons on ICT and machine learning on the operator's Facebook page and YouTube channel. As a free resource available to students in all parts of the country, Robi-10 has emerged as a platform to prepare young talent for the Fourth Industrial Revolution.



## Reducing health inequalities

**Context:** Low-income populations have relatively poor access to quality health information – the result of low literacy levels and access to technology. This is exacerbated by the concentration of doctors in urban areas, such as Dhaka, which makes it difficult for people in other areas of the country to access their services. Improving access to, and the quality of, healthcare services for the low-income population is one of the government’s priorities, along with establishing a sustainable digital health system.<sup>19</sup>

**Industry contribution:** Digital tools and digital health solutions such as Banglalink’s Doktorbhai have been key to making doctors in urban areas accessible to rural patients. The app provides services such as doctor consultations and appointment bookings. Launched in collaboration with Health Care Information System Limited in 2019, Doktorbhai has provided critical support to Bangladesh’s COVID-19 response, enabling access to essential information and health services. During the onset of COVID-19, the telehealth service saw a growth in usage of 90 per cent from March to April and 213 per cent<sup>20</sup> from April to May. During this time, all the premium services were available free of cost for all Banglalink users and offered a COVID-19 symptom checker feature.



## Leveraging mobile during disaster and humanitarian contexts

**Context:** Disaster response is a key priority for Bangladesh, which is prone to natural hazards that often result in economic loss and social disruption for affected communities. There have been more than 200 natural disasters over the last three decades<sup>21</sup> and Bangladesh ranked among the top 30 countries with a high INFORM Index.<sup>22</sup> Within this context, sudden events (such as pandemics that put additional pressure on resources) will heighten the need for humanitarian assistance by exacerbating existing crises and creating new ones. This has been the case with COVID-19 where the grave health implications of the virus and the measures taken to control the virus, including lockdowns and movement restrictions, have severely affected marginalised populations.<sup>23</sup>

**Industry contribution:** Mobile technology plays a crucial role in humanitarian, disaster preparation and response activities. In humanitarian contexts, for example, mobile technology has proven it has a pivotal role to play in the response to the COVID-19 pandemic by acting as a key channel for organisations to deliver life-saving information and support. Mobile operators have risen to the challenge of keeping people and businesses connected during the COVID-19 pandemic. Operators have committed to investing in added capacity to ensure their networks remain resilient and can cope with the surge in online activities. They have also engaged with citizens, business and the governments to provide a range of vital services to alleviate the impact of the pandemic. Examples of operators’ actions are shown in Figure 4.

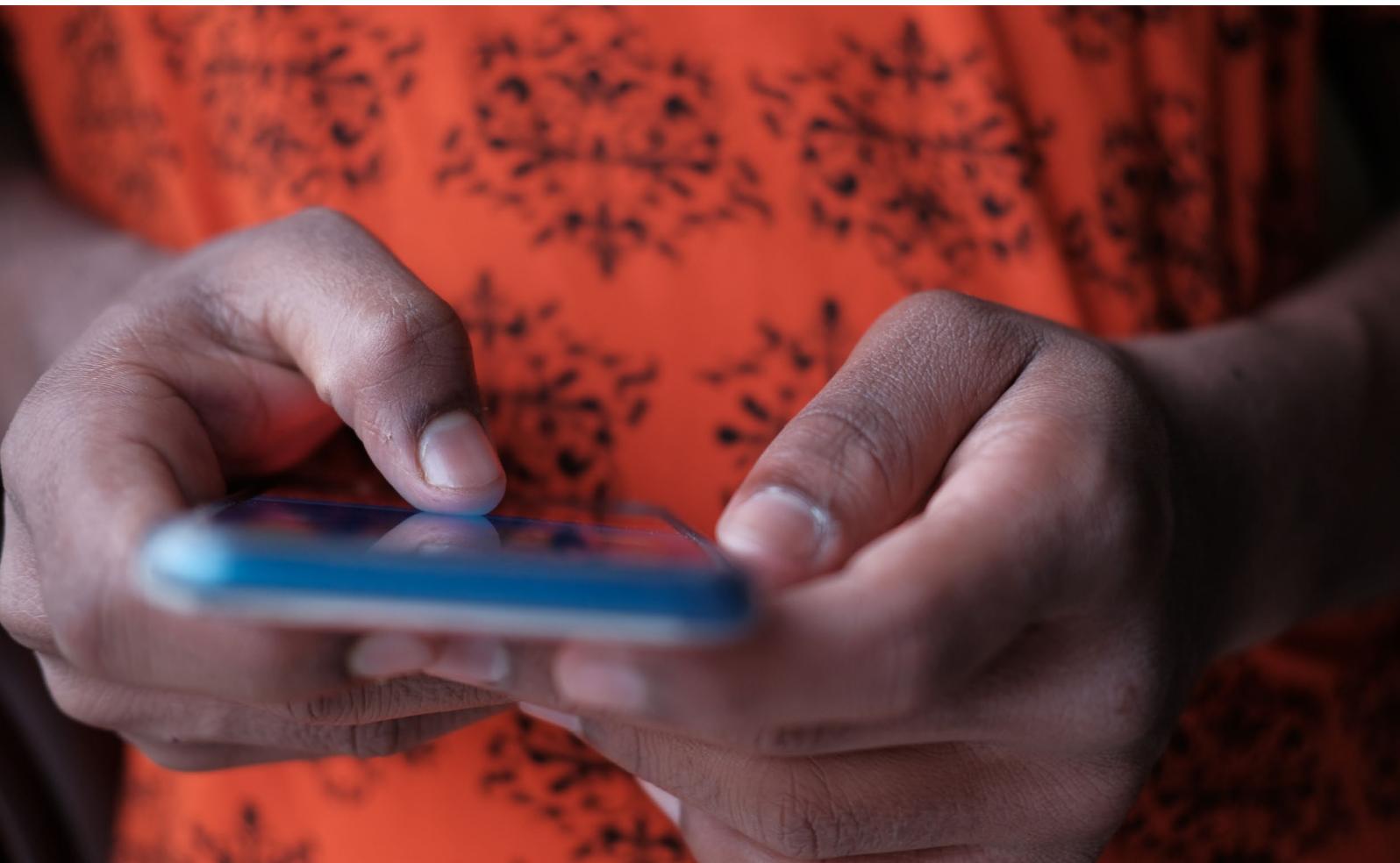




Figure 4: Mobile industry contribution to the COVID-19 response

- Disseminating vital information**
- Mobilising resources to maintain critical connectivity**
- Improving the affordability of services**
- Providing mobile health services through telehealth**
- Collaborating with the government to leverage mobile big data to make informed decisions to control the spread of COVID-19**
- Facilitating e-learning**
- Streamlining "Emergency Telecommunications for Disaster Management" processes**

Source: Keeping Bangladesh connected: The role of the mobile industry during the COVID-19 pandemic, GSMA, 2020





# 3 Digital inclusion: a key tool to meeting socio-economic goals in Bangladesh

**Enhancing digital inclusion in Bangladesh is a foundational step to maximising the impact of digital technologies on the government's development aspirations.**

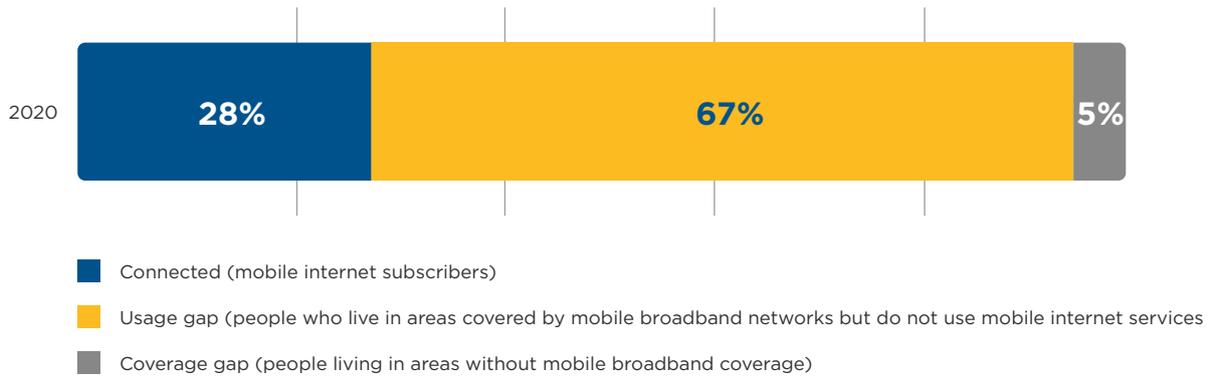
This means working to ensure universal and inclusive access to the mobile internet so that no one is left behind in the emerging digital economy. Bangladesh has made strong progress in improving digital inclusion: mobile internet penetration has increased nearly six-fold over the last decade. The country's coverage gap – those living outside of areas covered by mobile broadband networks – continues to narrow. 4G networks cover 95 per cent of the population, reflecting significant investment by mobile operators.

However, large swathes of the population remain excluded and at risk of missing out on the socio-economic benefits of digitisation because the usage gap – those who live in areas covered by a mobile

broadband network but do not use mobile internet – remains large. At the end of 2020, the usage gap was 67 per cent, meaning only 28 per cent of Bangladesh's population subscribed to a mobile internet service (Figure 5). This is on a par with Pakistan, but less than its peers in South Asia, with India at 36 per cent and Sri Lanka at 50 per cent.

The large gap between coverage and usage underscores that demand does not automatically follow supply. Beyond extending network coverage, closing the country's digital divide will require that government, mobile network operators and civil society identify and work together to overcome the barriers preventing people from adopting and using mobile internet services.

**Figure 5: Two thirds of the population that are covered by mobile broadband networks do not yet use mobile internet services, highlighting the scale of user-related challenges to digital inclusion**



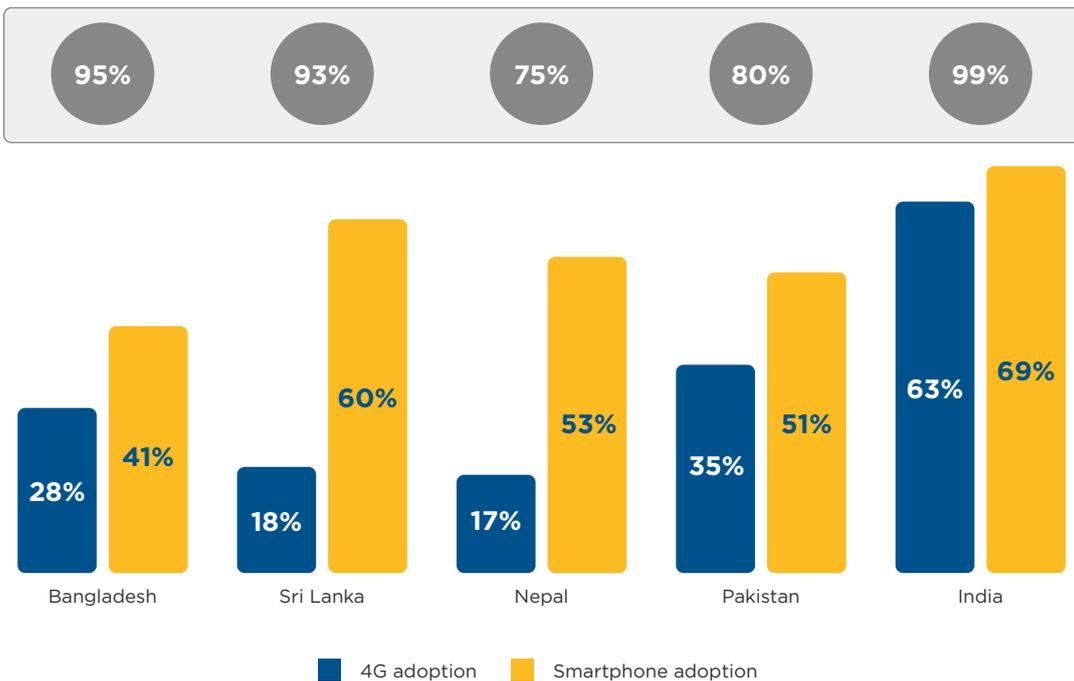
Source: GSMA Intelligence

### 3.1 Understanding the usage gap

The usage gap stands at 67 per cent, meaning that only 28 per cent of Bangladesh’s total population subscribe to mobile internet services (Figure 5). Within this usage gap, 4G technology is yet to emerge as the dominant form of mobile technology, and its usage remains low with the technology accounting for only 28 per cent of total mobile connections (Figure 6). That the lag between 4G coverage (95 per cent) and the share of 4G connections (28 per cent) remains significant suggests users are facing usage barriers preventing them from adopting and using mobile broadband services.

**Figure 6: 4G networks now cover around 95 per cent of the population in Bangladesh, but the share of 4G connections remains low and the country lags regional peers in smartphone adoption<sup>24</sup>**

4G mobile network coverage (percentage of population)



Data as of December 2020

Source GSMA Intelligence, Nepal Telecommunications Authority, and Bangladesh Telecommunication Regulatory Commission

The GSMA identifies five main global barriers to internet adoption and use, as shown in Table 1. In the paragraphs below we focus on how these barriers have unfolded in Bangladesh.

**Table 1: Global barriers to internet adoption and use**

Affordability	Knowledge and skills	Relevance	Safety and security	Access
Individuals cannot afford devices, data plans or other service fees.	People are unaware of the mobile internet and its benefits, or do not have the necessary skills to use digital technology.	The availability of locally relevant content, products or services that meet user needs and capabilities are lacking.	Individuals and communities are concerned about the negative sides and risks of the internet, such as harassment, theft, fraud and online security.	Enabling infrastructure is not available, or devices and services are not accessible enough.

Source GSMA

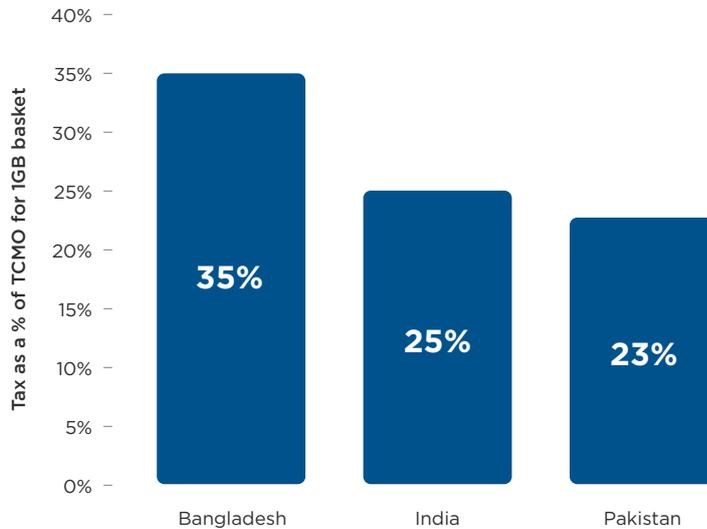
### Affordability

While Bangladesh meets the UN target of 1 for 2, with a 1GB basket costing 0.84 per cent of income,<sup>25</sup> the cost of internet enabled handsets remains a major barrier to mobile internet affordability. With relatively low adoption of smartphones, Bangladesh lags its regional peers, particularly in 4G devices, despite having one of the highest 4G population coverage figures in South Asia. Smartphone ownership (and to a certain extent smart feature phone<sup>26</sup> ownership) is fundamental to expanding internet use, allowing people to benefit from life-enhancing opportunities. There has been some improvement in handset affordability, with the cheapest smartphone priced at \$29,<sup>27</sup> and smartphone penetration has risen (currently at 41 per cent). However, the cost of a 3G or 4G internet-enabled handset will remain a barrier for many of the unconnected, particularly those on the lowest incomes. For many potential users, even a \$29 phone represents a significant one-off cost.



Underpinning device costs is sector-specific taxation on internet enabled devices. Compared to other South Asian countries, Bangladesh has the highest level of consumer taxes as a share of Total Cost of Mobile Ownership (TCMO) (Figure 7). Taxes on smartphones represent a significant share of TCMO. In addition to VAT (15 per cent), mobile users are subject to sector-specific consumer taxes such as a 25 per cent custom duty on smartphones and BDT 200 (\$2.4) per SIM card. These sector-specific consumer taxes raise the cost of owning and using internet enabled devices thus reducing affordability and penetration, and further excluding disadvantaged and vulnerable groups from the benefits of digital inclusion.

**Figure 7: Consumer taxes as a share of TCMO**



Source: GSMA, 2019

Certain business models can help address the affordability barriers faced by low and middle income consumers in accessing smartphones. For example, offering subsidised devices as part of a contract or bundled plan can play a role in increasing device ownership or enabling upgrades from a mobile phone to an internet-enabled feature- or smart phone. However, restrictions on operators’ flexibility to introduce certain models that can help reduce the cost burden of 4G devices further exacerbate the challenge of handset affordability. This includes restrictions on the use of fixed (operator-locked) SIMs to offer device subsidies, bundling or affordable pricing mechanisms.

It is important to consider the effects of the implementation of the National Equipment Identity Register<sup>28</sup> (NEIR) on affordability, in particular the ease and speed with which consumers with non-compliant devices are able to upgrade to a handset that ensures they are still able to connect to the internet. This will be particularly hard for subscribers at the bottom of the pyramid. Approaches that offer amnesty to existing consumers who have non-compliant devices can reduce the economic and social loss to consumers.

The implementation of NEIR also presents an opportunity for the government to analyse the factors, such as import duties and taxation levels, that contribute to the local demand for counterfeit or

stolen devices. Governments cannot collect taxes on black market devices, and in markets where import duties and point of sales tax (VAT) is high, it creates the dynamic for the black market to be a significant provider of handsets. Reducing tax levels would play a key role in reducing the total cost of mobile ownership, thus narrowing the gap between the cost of counterfeit/smuggled and legitimate devices and making the black market a less lucrative place in which to trade.

**Knowledge and skills**



Digital skills are essential to fully participate, engage, create and learn online. They are also key to enabling entrepreneurs and organisations to advance in a rapidly transforming digital economy. The lack of digital skills needed to go online is a particular challenge in Bangladesh, with nearly half of respondents to GSMA Intelligence’s Consumer Survey identifying barriers in terms of confidence and necessary skills to safely use the internet.<sup>29</sup> Acquiring the skills to go online is a challenge for many, especially for those with lower literacy and education levels. This highlights the need for policymakers to assess the local shortfalls in digital literacy and skills development, and develop effective, context-specific programmes that equip individuals with the competencies they need.

## Relevance

Another critical barrier for mobile internet adoption is the limited availability of locally relevant content, products or services.

Content, products and services can be considered locally relevant and useful if they align with user capabilities and needs. More content in local languages and the (radical) simplification of products and services for new users or those with low levels of literacy and/or numeracy can help accelerate mobile internet adoption.



Some 38 per cent of respondents to a GSMA Intelligence survey in Bangladesh pointed to a lack of usable local content<sup>30</sup> underscoring the need to create content, products and services that align with user capabilities and needs. Mobile operators have stepped up to the challenge through the creation of platforms such as [Bioscope](#), [Binge](#), [Toffee](#), which have expanded the availability of local content and services. To further encourage the development of an ecosystem of apps and services that meet the needs, preferences and capabilities of unconnected people, policies have to be in place that create an environment for digital businesses to thrive and local digital ecosystems to grow.

## Safety and security

In 2020, 14 per cent of the population in Bangladesh's urban areas, and 10 per cent of the population in rural areas highlighted concerns around safety and security as a barrier to using mobile internet.<sup>31</sup> Consumer concerns around safety and security are wide ranging and increasingly complex. They can include online and offline harms such as harassment, cyberbullying, disinformation, as well as theft of devices or personal information, fraud or surveillance / mandated network shutdowns. These concerns can have a significant impact on the adoption of products and services, and in particular the intention to use the internet. This is especially so for women who face challenges online (e.g. online abuse and harassment) and in the physical world (e.g. threats experienced as a result of owning or using a mobile phone, such as phone theft).



### 3.2 Access and usage among underserved population groups

Disparities in mobile internet adoption are particularly strong across regions and different segments of the population, including women, the elderly, those in rural areas and persons with disabilities – or a combination thereof. Addressing the usage gap for these key groups will extend the benefits of the internet and digital technology to more of Bangladesh's population, while also contributing to the achievement of key FYP and UN SDG priorities.

#### **The gender gap in mobile internet use and awareness**

When analysing the usage gap, it is important to consider the gender gaps<sup>32</sup> in internet use and awareness. While there is still a gender gap in mobile internet use of 52 per cent, mobile internet awareness among Bangladeshi women is almost on a par with men at 71 per cent and 73 per cent, respectively.<sup>33</sup> That usage of the internet does not automatically

follow awareness suggests the presence of other barriers preventing women from adopting the internet. These barriers are often driven by social, economic and cultural factors, and highlight the opportunity to increase use among women and enable them to reap the benefits of mobile technology.

#### **The mobile disability gap**

Around 1.4 per cent or 2.3 million of Bangladeshis live with some form of disability.<sup>34</sup> Mobile phones can be life-changing for those with disabilities, who report that mobile phones help them increase their independence, reduce social barriers and self-isolation due to stigma and marginalisation, and stimulate their participation in education, employment and social life.<sup>35</sup>

Persons with disabilities in Bangladesh are less likely to own a mobile phone than non-disabled persons. The gap in mobile phone ownership due to disability



is clear, with a mobile disability gap<sup>36</sup> equivalent to 13 per cent<sup>37</sup>: Only 62 per cent of persons with disabilities own a mobile phone in comparison to 71 per cent of non-disabled persons.

Among those that own mobile phones, smartphone ownership is low, with 71 per cent of persons with disabilities owning either a basic or feature phone. While feature phones are increasingly popular in emerging markets, they do not have the same enabling potential as smartphones do for persons with

disabilities when connecting to the internet. For example, accessibility features (such as screen readers, magnifiers and voice commands), which increase capacity to use mobile phones autonomously, are almost exclusively available on smartphones.

The mobile disability gap highlights the need to address the main barriers to mobile phone ownership and access identified by persons with disabilities in Bangladesh: affordability, disability, digital literacy and family circumstances.<sup>38</sup>

### 3.3 Understanding the coverage gap

Bangladesh has made strong progress in the deployment of mobile broadband networks. This reflects significant investment in 3G and 4G infrastructure rollout by mobile operators over the last decade. Since 2010, mobile operators in Bangladesh have invested more than \$6.5 billion in capital expenditure.

However, closing the coverage gap by extending services to the remaining 5 per cent of the population not yet covered by a mobile broadband network could prove challenging given the cost and complexity of infrastructure deployment in difficult terrains and remote communities.

A key supply-side barrier to rollout in Bangladesh is the current licensing regime, which is highly fragmented and complex, with multiple licensees/entities participating in the service delivery value chain. This has resulted in inefficiencies that negatively impact on the end user experience and raise compliance costs for mobile operators. This is noticeable in the progress of fibre rollout and maintenance in Bangladesh. Tower rollouts have faced similar setbacks.

The country's restrictive licensing requirements such as those on infrastructure sharing (e.g. tower sharing<sup>39</sup>) coupled with limits on who can deploy, maintain and upgrade network infrastructure (e.g. fibre optics and transmission capacity under the Nationwide Telecommunication Transmission Network<sup>40</sup>) have further limited operators' ability to explore innovative technologies and deployment models that could help expand mobile coverage.

#### Network infrastructure

In order to deliver the best mobile coverage possible, it is vital to address the supply-side barriers to the rollout of mobile infrastructure.



### Using the universal service fund to enhance digital inclusion

The Federal Ministry of Information Technology and Telecommunication (MoITT), through the universal service fund (USF), has spent around PKR57 billion (\$407 million) over the last decade to support the expansion of telecoms infrastructure and services to underserved areas of Pakistan.<sup>41</sup> In 2020, the MoITT disbursed around PKR14 billion (\$87 million) to service providers to help extend coverage to an additional 10 million citizens following the outbreak of COVID-19.<sup>42</sup> The USF supports the deployment of voice and data services in remote areas of Pakistan (characterised by mountainous terrain and sparsely populated communities), under its Broadband for Sustainable Development programme, with infrastructure deployment executed in partnership with mobile operators.



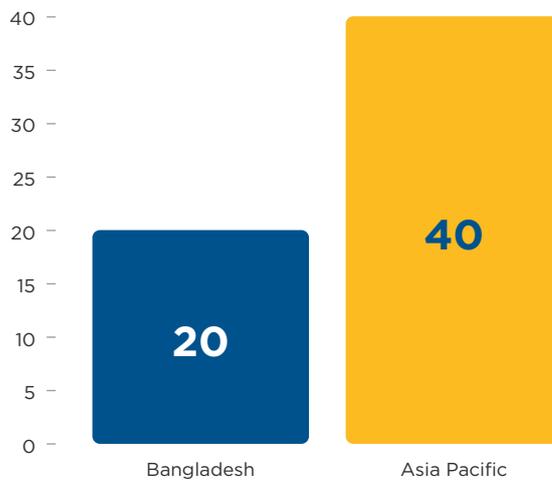
### Spectrum

Bangladesh lags regional peers in spectrum holdings (Figure 8). Operators face fiscal and spectrum-related regulatory challenges in Bangladesh that affect the economics of infrastructure deployment in underserved areas. The February 2018 spectrum auction saw one of the highest auction reserve prices in the region resulting in significant amounts



of spectrum remaining unsold. The completion of the auction of 27.4 MHz spectrum in March 2021 is expected to help lessen the pressures on the mobile networks and improve services. Closing the coverage gap and catering to the rise in data traffic will require affordable and sufficient amounts of technology-neutral spectrum for operators, both in coverage bands (below 1 GHz) and capacity bands (above 1 GHz).

**Figure 8: Bangladesh’s score lags the Asia Pacific average on spectrum in the GSMA Mobile Connectivity Index\***



\* The GSMA Mobile Connectivity Index measures the performance of 170 countries – representing 99 per cent of the global population – against key enablers of mobile internet adoption: infrastructure, affordability, consumer readiness, and content and services  
Source: GSMA Intelligence

### Taxation

Sector-specific taxation poses additional barriers for private sector investment by minimising the capacity and incentives of operators to extend networks. Mobile network operators in Bangladesh are subject to higher revenue



sharing, minimum turnover tax and corporation tax rates than other sectors. Mobile-specific taxes reduce operators’ incentive and ability to invest, while specific taxes on network equipment negatively affect network expansion, which is key to improving coverage and service quality.

Sector comparison		Regional comparison	
<b>Minimum turnover tax</b>	2% for mobile network operators compared to between 0.5 to 1% for other sectors		
<b>Corporation tax</b>	40% and 45% for publicly and non-publicly traded companies respectively compared to 25% and 32.5% for other sectors	India (22%), Pakistan (30%), Nepal (30%), Sri Lanka (28%)	



# 4 Enhancing digital inclusion and mobile-enabled socio-economic development

**The next decade will be a crucial period for Bangladesh, as the government takes steps to achieve the development objectives of the 8th FYP, the 2041 Perspective Plan and the UN SDGs. This comes at a time when Bangladesh, like other countries around the world, will be dealing with the social and economic effects of the COVID-19 pandemic on businesses and communities.**

Digital technologies, and mobile in particular, will continue to play a critical role in tackling the social challenges that remain in Bangladesh as well as driving growth and productivity in the economy after COVID-19. For example, to support the realisation of Vision 2041 and the UN SDGs, the government is keen to modernise the Bangladesh Integrated Tax system by enabling online tax returns and digital tax payments. Enhancing digital inclusion and, by extension, mobile financial services, can help bring more people into the formal economy and consequently expand the tax base. This has the potential to deliver sustainable, long-term revenue for the government, as opposed to short-term gains around sector-specific taxes.

In the ITU's Global ICT Regulatory Outlook 2020, Bangladesh is ranked 96th out of 193 countries.<sup>43</sup> The report highlights the need for collaborative regulation, bringing together policy-makers, single-sector and cross-sector regulators, industry players and other stakeholders to address the key challenges to digital inclusion. To realise the potential that mobile presents, stakeholders can and must now do more to promote an enabling environment that leverages the full power of mobile internet to connect more citizens and further drive digital inclusion. This will require a holistic approach that tackles both the coverage and usage gaps.

## 4.1 Addressing the key challenges to digital inclusion

In this section, we provide recommendations on how to reduce the barriers to coverage and usage, and promote an enabling environment that leverages the full power of the mobile internet to connect more citizens and further drive digital inclusion.

**Figure 9: Enhancing digital inclusion in Bangladesh**



Source: GSMA Intelligence

### Collaboration

With greater use of digital technologies for everyday activities set to shape the post-pandemic world, it is essential for government to take a holistic approach to enhancing digital inclusion. Implementation of the 8th FYP plan is due to commence in 2021. Government leadership is essential to establish the environment and develop the momentum for greater stakeholder collaboration, including public and private sector consultations on key policies to incentivise innovation and investment in digital



inclusion initiatives. Specifically, targeted policies and concerted action should be put in place to close the usage and coverage gaps and ensure everyone has an equal opportunity to benefit from an increasingly digital world. It is also imperative to pay special attention to the barriers that disproportionately affect women, those with disabilities and other underserved segments of the population.

Stakeholders should collaborate on key action plans to scale current – and deploy new – mobile-enabled solutions on 8th FYP priority areas.



### Closing the usage gap

Measures should be put in place to drive mobile internet adoption and usage. This will have a knock-on effect on efforts to reduce the coverage gap, as increased demand for mobile internet services can improve the business case for rural deployment. To achieve this, government and key stakeholders should look to the following:



- Improve affordability by adopting appropriate policy and regulation in areas such as:
  - The reduction of sector specific taxation on mobile handsets and services (SIM tax, supplementary duty and service charge);
  - The removal of barriers that prevent stakeholders from offering business models that can improve affordability; and
  - Partnering with the industry to provide device subsidies to targeted or disadvantaged groups.
- Equip individuals with digital knowledge and skills through methods such as:
  - Use of a comprehensive framework to design effective digital skills strategies that help people meet their life goals and needs;
  - Investing in training and capacity building initiatives, e.g. digitally-oriented technical and vocational education and training (TVET);
  - Partnering in win-win collaborations, including with mobile operators and other private sector players; and
  - Incorporating digital skills development in education policies e.g. inclusion in school curricula and life-long learning programmes.
- Increase the relevance of content and services by encouraging the development of an ecosystem of services and apps that are available in local languages and meet the needs, preferences and capabilities of those currently unconnected.
- Develop appropriate legal and policy frameworks that help to protect and safeguard against safety and security risks and concerns.

## Boosting ICT skills to empower women in rural Bangladesh

Robi Axiata Limited, along with the Bangladesh government's ICT division and Huawei, provided ICT training to more than 63,000 women using six digital mobile training buses. The training was spread over three years and designed to reach women in rural areas. Each bus was custom built and equipped with 23 workstations, as well as other key resources needed to facilitate the training such as Wi-Fi, and laptops.

Two of the training buses have since been handed over to the Bangladesh government, which aims to use the buses to train 166,000 women in all 64 districts by 2023.

## Driving digital skills in Bangladesh: Banglalink case study<sup>44</sup>

The GSMA Connected Society Programme launched the Mobile Internet Skills Training Toolkit (MISTT)<sup>45</sup> to tackle the barriers to mobile internet adoption. The MISTT helps mobile operators teach customers the most critical basic digital skills.

In 2019, the GSMA partnered with Banglalink, to bring effective digital skills training to Bangladesh. By using a force of 3,200 sales agents, Banglalink trained over 117,000 customers over three months and has already delivered positive results. After just three months, amongst customers who were trained, there was:

- A 228 per cent increase in mobile internet usage
- A 143 per cent growth in data revenue
- An 83 per cent growth in total revenue
- Increased traffic to Banglalink's self-care app

## Building digital knowledge and skills to increase safety and security: Grameenphone, Telenor and Digiworld Bangla

In 2018 Grameenphone and Telenor launched Digiworld, an interactive online safety learning platform developed by international experts Parent Zone. The platform gives children, parents and teachers easy access to the tools and knowledge they need to learn how to make safe and responsible choices online.

In Q4 2020 Grameenphone & Telenor launched 'Digiworld Bangla', an adapted learning resource designed in Bangla to help children between the ages of 5 and 16 strengthen digital resilience and know-how in their own language.

Today, Digiworld is recognised by the UN's International Telecommunication Union (ITU) as a best practice example of how to work in partnership to deliver an effective child online safety programme. Grameenphone and UNICEF are also working to integrate online safety into the national curriculum. Since 2014, Grameenphone and Telenor have been championing Child Online Safety in Bangladesh – joining forces with UNICEF in 2018 to strengthen and scale initiatives. As of 2020, more than 1.5 million children have been trained in Online Safety and Resilience.<sup>46</sup>

### Closing the coverage gap

The government of Bangladesh should prioritise improving mobile broadband coverage and adequate capacity ahead of revenue maximisation. To achieve this, policymakers and regulators in Bangladesh should look to the following:



1. Reform the fragmented licensing regime and move towards a converged licensing regime.
2. Reduce and simplify sector-specific and discriminatory taxation on mobile operators (minimum turnover tax and corporate tax) that poses additional barriers to investment.
3. Assign technology-neutral spectrum that is eligible for sharing and secondary trading. Fixation of spectrum price for future allocation should be based on operators' ability to not only finance access to spectrum but also to deploy infrastructure.
4. Ensure that social obligation funds<sup>47</sup> (SOFs) are targeted, time-bound, robustly supported by the regulatory framework and managed transparently following best practices. If this cannot be achieved within a reasonable timeframe, adopt a roadmap to phase out universal service funds. As of June 2020, the SOF in Bangladesh amounted to BDT16.5 billion (\$195 million) and remained largely unutilised.<sup>48</sup>



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