COUNTRY ANALYSES AND PLANS

Honduras
$85M of CapEx funding and $47M of annual OpEx funding will enable Honduras to connect an estimated 16,445 schools.

This investment will bring **1.8 million students and teachers** online and bring connectivity to **4.9 million community members** who live locally, potentially enabling up to 1.3 billion USD in GDP (2.3%) growth.

Source: Dalberg Analysis based on Giga mapping and modelling data, 2020
“We should all be aware that COVID-19 is going to change people's lives a lot, we don't know how, although one thing is known, and that is that life is going to become digital and is already becoming much more digital.”

EDUARDO ALMEIDA
Representative of the Inter-American Development Bank (IDB) in Honduras
Honduras has expanded 4G coverage and use, but ambitious national broadband goals set in 2013 have not yet been met.

Network coverage has expanded, but a large gap remains. Broadband uptake is low.

Broadband coverage and internet penetration, % of population (ITU, 2020)

Progress towards expanded coverage has lagged the targets set out in the National Digital Agenda 2014-2018. The GoH is redoubling efforts toward digitization in light of COVID-19.

There has been some progress towards that goal, but recent education policies and initiatives around COVID-19 have emphasised the need to progress more quickly:

- National Digital Agenda 2014-2018: aims to reduce the digital divide, promote efficient government, and develop a digital economy in line with the Honduras Vision 2010-2038. The strategy contains four strategic axes: (1) internet penetration through equity in access; (2) digital government initiatives; (3) ICT training and education at all levels; and (4) legislative and institutional framework for ICT development.

- Strategic Plan for the Education Sector 2018-2030: aims to equip Honduran learners with equitable, quality education that allows them to effectively participate in a modern economy. It acknowledges the need to expand internet access (and electrification to support connectivity), teacher training, and ultimately student digital literacy efforts.

- We want you studying at home – COVID-19 policy: aims to enable Honduran learners to study at home while classes are suspended. Utilizing virtual classes and interactive workbooks using primarily mobile devices. Additional content will be recorded and broadcast on the radio and will then be available for download on virtual portals.

- Legislative Decree 60-2020: ensures use of the internet for educational purposes will be free for the current school year and during specific emergency circumstances such as COVID-19 for children, young people and other apprentices, as well as teachers from the public sector.

* Country Vision 2010-2038: aims to improve Honduras’ economy and standing in the Global Competitive Index by reducing poverty, improving the democratic process, ensuring safety, increasing employment, protecting natural resources, creative more efficient governance including through the introduction of broader digitization initiatives.

The Goal: National Coverage and Connectivity

Honduras has added to its national fiber backbone to just over 2,000 km, with 70% of the population living within a 25km range of the network. Although many communities are now covered by 4G, a large portion of the population remains unconnected (68%). Growth in mobile and fixed subscriptions lags network expansion.

Source: Map – ITU Broadband Map; Table –ITU (2020) World Telecommunication/ICT Indicators Database, Dalberg analysis
School Coverage and Connectivity

Total schools: 17,000

45% of Honduran schools lack access to electricity

Only 3% of all Honduran schools (545) are currently by CONATEL. While a few additional primary and secondary schools are connected to the internet through private support, all remaining 16,445 schools are in need of connectivity supported by the government.

Source: Dalberg analysis; UNESCO UIS data; ITU (2020) World Telecommunication/ICT Indicators Database; SEDUC, Proyecto Plan Maestro de Infraestructura
HONDURAS

21.1% of Hondurans lack coverage and 40.7% face affordability, electrification and other challenges

THE MOBILE INTERNET COVERAGE AND USAGE GAP

<table>
<thead>
<tr>
<th>CONNECTIVITY ACCESS</th>
<th>NEEDS</th>
<th>GOALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>21.1% No mobile internet</td>
<td>Increase coverage</td>
<td>+2.1M Hondurans not covered by mobile broadband</td>
</tr>
</tbody>
</table>
| 40.7% Covered by 3G/4G but not connected | Increase affordability  
Increase digital literacy  
Increase electrification   | Reduce data cost by 7.27 USD/GB (-65%)  
Increase digital literacy through academic and vocational education  
2m Hondurans to gain access to power |
| 38.2% Active mobile internet use | Close the digital divide                  | Increase formal employment and associated incomes          |

Notes: Prices based on ITU Data-only mobile broadband basket 1.5GB, pro-rated down to 1GB for comparison against the Broadband Commissions 2% target. Sources: Dalberg analysis; ITU (2020) World Telecommunication/ICT Indicators Database; Broadband Commission; World Bank, Jobs Diagnostic Honduras; IDB; Encuesta Productividad y Formación de Recursos Humanos en Establecimientos (EPFRH, BID).
HONDURAS

Targeted financing for connecting 16,445 schools can create GDP growth of over $1.3 billion

Universal expansion to all schools provides a gateway to community connectivity

Unconnected schools

16,445
Estimated primary and secondary schools targeted for improved connectivity¹

Broadband users

1.8M
Students & teachers

4.9M
Local community members within 1 km

Economic impact

+$1.3 billion (2.3%) GDP growth
Estimated rise in domestic production from new broadband connections

Notes: (1) Estimation uses national mobile penetration rates as a proxy for secondary school connectivity. Accurate numbers will be added pending Giga mapping. Note: Economic impact calculation assumes that school connectivity is comparable to gaining access to a fixed line connection in a middle/lower income country in terms of reliability, bandwidth, use etc. Assumes middle income fixed broadband which is a conservative assumption when compared to low income mobile broadband. This estimate does not take into account the unique circumstances of COVID-19, and is based on stable economic growth in middle/lower income countries.

School connectivity will require an estimated $85M of upfront capital expenditure and up to $47M of ongoing annual funding

Giga will help to mobilize investment and financing to bridge initial infrastructure gaps and provide mechanisms to supply longer-term financing to boost geographic reach and affordability through smart subsidies

(Schools to be connected: 16,445)

<table>
<thead>
<tr>
<th>UPFRONT LAST-MILE INFRASTRUCTURE CAPITAL</th>
<th>ONGOING ANNUAL FUNDING FOR REGULAR SERVICE FEES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated total investment needed to reach 16,445 schools*</td>
<td>Potential service fees for 16,445 schools (Giga estimate)*</td>
</tr>
<tr>
<td>$85M</td>
<td>$47M</td>
</tr>
</tbody>
</table>

*This does not factor in potential volume discounts or other sources of funding

Of the Inter-American Development Bank's allocation to the improvement of the education sector in Honduras, $11M have been committed to connect 750 schools.

These high level estimates can be further refined as the workflow progresses and more mapping and specific cost data is established

A) Pre-feasibility preliminary estimates based on Giga's ACTUAL model school bandwidth requirements and annual service fee estimates in Kenya, adjusting for country costs based on 'Fixed-broadband Internet 5GB' values and 'Data-only mobile broadband 1.5 GB' reported by each country in ITU's World Telecommunication/ICT Indicators database (2020)

B) Based on existing Inter-American Development Bank funding allocation to connect 750 schools as part of their $60M education sector improvement project

Source: Dalberg Analysis based on Giga mapping and modelling data, 2020
HONDURAS

Giga has started to engage with the Government of Honduras

Key Stakeholders: La Secretaría de Educación (SEDUC), Dirección General de Construcciones Escolares y Bienes Inmuebles (DGCE), Secretario de Gobierno Digital, Comisión Nacional de Telecomunicaciones (CONATEL)

Giga engagement to date

• High level buy in from Government including the establishing of a focal point in SEDUC and Secretario de Gobierno Digital
• Completion of an upfront assessment to align on opportunities and constraints
• Engagement with IDB to align on shared vision and objectives
In partnership with the GoH, Giga has identified the following activities to support the cost-effective connection of 16,445 schools:

- **Expand Project Connect mapping** to identify connectivity vs. coverage in order to articulate needs and refine the business case and investment opportunity.

- **Use mapping to monitor real time connectivity** and ensure project sustainability and accountability.

- **Refine school connectivity strategy** with the Government based on benchmarks and set targets for connectivity in the coming years.

- **Survey the landscape** of implementation options to identify appropriate last mile connectivity cases for schools.

- **Provide technical assistance** on the development of performance contracts/results-based financing impact bond models for connectivity that can become best practices in the sector.

- **Prepare procurement lots** with the Government for school connections to ISPs and MNOs.

- **Strengthen the Honduran entrepreneurial ecosystem**, to build a pipeline of locally developed digital public services and goods and identify solutions to scale in other Giga countries.

- **Work with GoH** to put in place processes to strengthen accountability and ensure good governance.
# Rapid Regulatory Scan

## Policies

<table>
<thead>
<tr>
<th>Sector strategies</th>
<th>Planned e-government roll out</th>
<th>Digital education in strategy</th>
<th>Digital transformation/broadband strategy</th>
<th>Planned e-government roll out</th>
<th>Digital education in strategy</th>
<th>Digital transformation/broadband strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Data Sharing</td>
<td>Data protection policy?</td>
<td>Privacy and data protection laws</td>
<td>Data sharing</td>
<td>Data protection policy?</td>
<td>Privacy and data protection laws</td>
<td>Data sharing</td>
</tr>
</tbody>
</table>

## Regulation

<table>
<thead>
<tr>
<th>Regulatory structure</th>
<th>Public/private sector consultation</th>
<th>Regulatory autonomy from the government</th>
<th>Clear planning and licensing process?</th>
<th>Procurement or competition agency?</th>
</tr>
</thead>
<tbody>
<tr>
<td>SMP in national anti-trust/competition law</td>
<td>Spectrum technology neutrality in place</td>
<td>No foreign investment restrictions?</td>
<td>Infrastructure sharing?</td>
<td>Wireless Operators Market HHI</td>
</tr>
<tr>
<td>Fixed Broadband Operator Market HHI</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Competition

<table>
<thead>
<tr>
<th>Regulatory structure</th>
<th>SMP in national anti-trust/competition law</th>
<th>Spectrum technology neutrality in place</th>
<th>No foreign investment restrictions?</th>
<th>Infrastructure sharing?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wireless Operators Market HHI</td>
<td>Fixed Broadband Operator Market HHI</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Taxation

<table>
<thead>
<tr>
<th>Services</th>
<th>VAT</th>
<th>Sector specific tax on internet services</th>
<th>ITA Participant</th>
<th>ICT Equipment import duties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Services</td>
<td>VAT</td>
<td>Sector specific tax on internet services</td>
<td>ITA Participant</td>
<td>ICT Equipment import duties</td>
</tr>
</tbody>
</table>

## Universal Access

<table>
<thead>
<tr>
<th>Services</th>
<th>Is school broadband a universal service?</th>
<th>Operational Universal Service Fund (USF)?</th>
<th>Total amount allocated/dispursed in 2019</th>
<th>Contributions as % of revenue</th>
<th>Other public financing mechanisms?</th>
<th>Fully utilized currently?</th>
<th>Fully active in the last 5 years?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Services</td>
<td>Is school broadband a universal service?</td>
<td>Operational Universal Service Fund (USF)?</td>
<td>Total amount allocated/dispursed in 2019</td>
<td>Contributions as % of revenue</td>
<td>Other public financing mechanisms?</td>
<td>Fully utilized currently?</td>
<td>Fully active in the last 5 years?</td>
</tr>
</tbody>
</table>

## ICT Regulatory Tracker

<table>
<thead>
<tr>
<th>Sector strategies</th>
<th>Generation of ICT Regulation</th>
<th>Overall</th>
<th>C1: Regulatory Authority</th>
<th>C2: Regulatory Mandate</th>
<th>C3: Regulatory Regime</th>
<th>C4: Competition Framework</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall</td>
<td>79/100</td>
<td>C1: Regulatory Authority</td>
<td>16/20</td>
<td>C2: Regulatory Mandate</td>
<td>19/22</td>
<td>C3: Regulatory Regime</td>
</tr>
<tr>
<td>C4: Competition Framework</td>
<td>20/28</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>