USAID
FROM THE AMERICAN PEOPLE

DIGITAL ECOSYSTEM COUNTRY ASSESSMENT (DECA)

Honduras

MARCH 2023

DigitalFrontiers
SCALING DIGITAL DEVELOPMENT

DAI
Shaping a more livable world.

DIGITAL ECOSYSTEM COUNTRY ASSESSMENT (DECA)

Honduras

March 2023

ACKNOWLEDGMENTS

This report reflects insights from the Digital Ecosystem Country Assessment (DECA), which was led by USAID/Honduras with support from DAI's Digital Frontiers Project. The report was written by Ariel Magid, Mauricio Bastien-Olvera, Jacqueline Foelster, and Wendy Alas. Copy edits were provided by Kendra Poole, and report design and graphics were provided by Miya Su Rowe.

The authors extend their appreciation to all USAID staff who participated in internal discussions and report review. We particularly thank the following individuals for their detailed review: Craig Jolley, Eric Keys, Diana Boncheva-Gooley, Samantha Chen, Taylor Braun-Dorell, Lauren Grubbs, Kanchana Sthanumurthy, and Olga Merchan.

The authors also extend their deep gratitude to Paola Acosta and Alejandra Castillo, who served as the USAID/Honduras Mission DECA Team Leads, for providing critical insight and facilitating interviews.

The report authors also extend their sincere thanks to all of the interviewees who made this assessment possible. A complete list of interviewed organizations can be found in Appendix C of this report.

The authors accept responsibility for any errors or inaccuracies in this report.

This report is made possible by the generous support of the American people through the United States Agency for International Development (USAID). The contents are the responsibility of its authors and do not necessarily reflect the views of USAID or the United States Government.

This publication was produced by the Digital Frontiers Project under Cooperative Agreement AID-OAA-A-17-00033 at the request of the United States Agency for International Development.

TABLE OF CONTENTS

Acronyms **7**

Executive Summary **9**

About this Assessment **13**

DECA Findings **14**

Pillar 1: Digital Infrastructure and Adoption **14**

1.1 A quick overview of Honduras telecommunications policy and infrastructure 16

1.2 The state of internet adoption in affordability and accessibility 25

1.3 Last-mile connectivity 33

1.4 Making space for digital literacy in digitizing education 38

Pillar 2: Digital Society, Rights, and Governance **44**

2.1 Digital government 44

2.2 Civil society and media 54

2.3 Catching up on cybersecurity and identifying cyber crimes 58

Pillar 3: Digital Economy **65**

3.1 The supply and demand of digital financial services and what it means for financial inclusion 65

3.2 E-commerce's unrealized potential 76

3.3 Advances and bottlenecks in digital trade 79

3.4 A nascent tech startup environment 81

3.5 A broad but shallow digital talent pool 82

Recommendations for USAID/Honduras **86**

Detailed Recommendations **89**

1. Support broader uptake of alternative connectivity solutions to enable more affordable internet 89
2. Engage with key stakeholders working to update telecommunications policy and regulation for digital connectivity 91
3. Work with the Ministry of Education to integrate digital literacy initiatives into national curricula 93
4. Support the creation of strategic plans for digital government, e-services, and cybersecurity 95
5. Promote cyber hygiene for CSOs, journalists, and digital rights activists to increase independent oversight and mitigate digital repression 98
6. Build the capacity of the security and justice sector to respond to cyber crimes 99
7. Improve the human-centered design of digital financial services to advance financial inclusion 101
8. Continue to foster a digital entrepreneurship culture to engage youth 103
9. Promote workforce development initiatives through partnerships between industry, universities, and technical and vocational training institutions 105

Appendices **107**

A. Definitions **107**

B. Methodology **112**

C. Interviewee List **114**

LIST OF BOXES, FIGURES, AND TABLES

BOXES

BOX 1: Challenges facing Hondutel 18
BOX 2: COMTELCA 19
BOX 3: Internet Exchange Points and the competitive environment 24
BOX 4: Giga in Honduras 28
BOX 5: Azacualpa "Comunidades Inteligentes" Community Network 35
BOX 6: Use-it or share-it 37
BOX 7: Spotlight on digital literacy programs in Honduras 39
BOX 8: Silos in education 43
BOX 9: Digital civic engagement to empower youth 47
BOX 10: Open government in Honduras 49
BOX 11: RDS-HN: more than a registry operator 52
BOX 12: Weak legal framework to protect personal data 54
BOX 13: Social media use 56
BOX 14: Efforts against disinformation 57
BOX 15: Non-consensual dissemination of intimate images 62
BOX 16: Deploying Government-to-Person (G2P) cash transfers in Honduras via mobile money 67
BOX 17: Commercial banks support the digital transformation of other sectors 71
BOX 18: Remittances: a lifeline for many Hondurans and a missed opportunity for financial service providers (FSPs) 73
BOX 19: The book industry showcases the challenges of measuring the size of the creative economy 79
BOX 20: How can a strong digital talent pool combat food insecurity, climate change, and other pressing challenges? 82
BOX 21: Generating Entrepreneurs and Sustainable Synergies (GENESIS) Activity 85

KEY TERMS BOXES

KEY TERMS | BOX 1: Spectrum, last-mile connectivity, Universal Service Fund, and Universal Service Obligations 22
KEY TERMS | BOX 2: Internet Service Providers and Mobile Network Operators 23
KEY TERMS | BOX 3: The digital divide explained 30
KEY TERMS | BOX 4: Digitization, digitalization, and digital transformation 42
KEY TERMS | BOX 5: Cyber Hygiene 42
KEY TERMS | BOX 6: Malinformation, misinformation, disinformation, and Coordinated Inauthentic Behavior 56
KEY TERMS | BOX 7: Defining cyber crime and cybersecurity 60

FIGURES

FIGURE 1: Digital Ecosystem Framework 13
FIGURE 2: GSMA Mobile Connectivity Index 16
FIGURE 3: Introduction to digital connectivity 17
FIGURE 4: A4AI mobile broadband pricing 19
FIGURE 5: Mobile Connectivity Index 26
FIGURE 6: Connectivity in USAID's 40 priority municipalities 28
FIGURE 7: Honduras Giga Project Connect Map 29
FIGURE 8: Gender divide in internet use across Central America 32
FIGURE 9: Building a network 34
FIGURE 10: Point to point: La Esperanza-Quiaterique 36
FIGURE 11: DigComp 2.2 Competence Areas and Competences 41
FIGURE 12: Strategic and operational levels of the Digital Republic Public Policy 46
FIGURE 13: E-Government and E-Participation Index 48
FIGURE 14: Regional comparison of the Open Government Index rankings 48
FIGURE 15: Honduran legal framework for digital rights 53
FIGURE 16: Relative levels of exposure to foreign and domestic false information 57
FIGURE 17: Bots amplifying a presidential campaign 58
FIGURE 18: Honduras cyber capacity 59
FIGURE 19: Flier that promotes the helpline for victims of digital violence 63
FIGURE 20: Select financial inclusion indicators in Honduras and LAC (percent of adults 15 years old and older) 74
FIGURE 21: Differences in financial inclusion across population groups (percent of adults 15 years old and older) 75
FIGURE 22: Gender breakdown of borrowers by type of FSP 76
FIGURE 23: Interviews, by stakeholder group 113

TABLES

TABLE 1: A4AI Thematic Policy Clusters 21
TABLE 2: Gender gap in internet and mobile phone access 33
TABLE 3: Stakeholders interested in the new ID system 51
TABLE 4: Summary of key stakeholders relevant for financial inclusion 66
TABLE 5: Track record of select laws and regulations relevant for financial inclusion 68
TABLE 6: UNCTAD B2C E-commerce Index Indicators, 2020 77
TABLE 7: Summary of DECA recommendations for USAID and the broader international development community 87

ACRONYMS

A4AI	Alliance for Affordable Internet
ACH	Automated Clearing House
ADUANAS	Honduras Customs Administration
AHIBA	Honduran Association of Banking Institutions
AGAH	Open Government Alliance Honduras
BCH	Central Bank of Honduras
CDCS	USAID Country Development Cooperation Strategy
CEABAD	Center for Advanced Studies on Broadband for Development
CENTREX	Export Procedures Center
CEPROBAN	Interbank Processing Center
CERT	Computer Emergency Response Team
CFIT	FinTech and Technological Innovations Committee
CIAT	International Center for Tropical Agriculture
CIB	Coordinated Inauthentic Behavior
CNA	National Anti-Corruption Council
CNBS	National Commission of Banking and Insurance
CONSUCOOP	Central American Single Declaration
CSIRT	Computer Security Incident Response Team
CSO	Civil Society Organizations
DECA	Digital Ecosystem Country Assessment
DFS	Digital Financial Services
DNI	National Document Identification
DO	Development Objective
DUCA	Central American Single Declaration
ENIF	National Financial Inclusion Strategy
FinTechs	Financial Technology Companies
FITT	Fund for Investment in Telecommunications and Information Communications Technologies
FSP	Financial Service Provider
FUNADEH	National Foundation for the Development of Honduras
GDP	Gross Domestic Product
GI-TOC	Global Initiative Against Transnational Organized Crime
GNI	Gross National Income
GOH	Government of Honduras
GSMA	Global System for Mobile Communications Association
HADR	Honduran Agency for the Digital Republic
HDC	Honduras Digital Challenge
HLG	Honduras Local Governance
HNL	Honduran Lempira
ICANN	Internet Corporation for Assigned Names and Numbers
ICT	Information and Communications Technology
IDB	Inter-American Development Bank
INFOP	National Vocational Training Institute
IGF	Internet Governance Forum
INDEL	Non-Bank Institutions that Provide Payment Services Using Electronic Money

IOM	International Organization for Migration
ISACA	Information Systems Audit and Control Association
ISP	Internet Service Provider
ITU	International Telecommunication Union
IXP	Internet Exchange Point
LAC	Latin America and the Caribbean
MFI	Microfinance Institution
MNO	Mobile Network Operator
MoE	Ministry of Education (Honduras)
MOOC	Massive Open Online Course
MSME	Micro-, Small, and Medium-Sized Enterprises
MTFAC	Ministry of Transparency and Fight Against Corruption
MTO	Money Transfer Operators
NGO	Non-Governmental Organization
NPH	National Police of Honduras
OAS	Organization of American States
OECD	Organization for Economic Co-operation and Development
OGP	Open Government Plan
OPDF	Private Financial Development Organization
PBL	Project-Based Learning
PGICE	Integral Management Portal for Exterior Commerce
POC	Point of Contact
PNTED	National Digital Education Transformation Program
ProICT	Promoting American Approaches to ICT Policy and Regulation
PSP	Payment Service Provider
RDS-HN	Sustainable Development Network Honduras
RNP	National Registry of Persons
RTGS	Real Time Gross Settlement System
SECAPPH	Ministry of Culture, Arts, and Heritage
SDG	Sustainable Development Goal
SICA	Central American Integration System
SIELHO	Electronic Information System of Honduras
SMS	Short Messaging Service
SOC	Security Operations Center
STEAM	Science, Technology, Engineering, Arts, and Mathematics
SWS	Single-Window System
TA	Technical Assistance
TVWS	TV White Space
UNAH	The National Autonomous University of Honduras
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNITEC	Central American Technological University
UNODC	United Nations Office on Drugs and Crime
USAID	United States Agency for International Development
USF	Universal Service Fund
UTH	Honduras Technical University
UTRAMS	Unified Technical Request and Mission Support
WFD	Workforce Development

Executive Summary

BACKGROUND

The Digital Ecosystems Country Assessment (DECA), a flagship initiative of U.S. Agency for International Development's (USAID's) Digital Strategy, informs the development, design, and implementation of USAID's strategies, projects, and activities. The DECA aims to inform how stakeholders across the private sector, public sector, civil society, and international donors, including USAID/Honduras, can understand, work with, and strengthen the country's digital ecosystem. DECA findings and recommendations are mapped to USAID/Honduras three priorities.[1]

The USAID/Honduras 2020–2025 Country Development Cooperation Strategy (CDCS) includes three strategic priorities:

1. Facilitate a systems change approach—social, economic, justice and security, environmental, education
2. Partner and co-create with the private sector to capitalize on shared values, foster innovation, and facilitate joint investment where interests align
3. Generate opportunities for citizens—especially youth—to actively engage and invest in their future in Honduras

KEY FINDINGS

Digital transformation is a priority of President Xiomara Castro's new administration. Building on the original Digital Agenda 2014–2018,[2] the new Plan establishes an Open Government and Digital Republic and has identified four priorities for addressing and integrating Information and Communications Technology (ICT) across Honduras:[3] 1) recognizing access to the internet as a human right, providing free connectivity for all, and establishing a national program for reducing the digital divide; 2) promoting technology and innovation within each branch of government through integrating digital transformation systems; 3) ensuring transparency and accountability of the public administration to promote human rights and freedom of expression; and 4) increasing citizen participation in government services through transparent and interoperable digital government services.

An outdated telecommunications legal and regulatory environment is hindering connectivity expansion, affordability, and accessibility. The Inclusive Internet Index (2022) ranks Honduras 83rd out of 100 countries, and 15th out of 16 countries in Latin America.[4] Overall, Honduras is characterized by low levels of affordability,

1 USAID Honduras. 2021. "Country Development Cooperation Strategy (CDCS) - Honduras, 2020–2025." Amended ed. USAID Honduras. https://www.usaid.gov/honduras/cdcs.

2 Alberto Enríquez and Carlos Sáenz, "Gobierno digital: Pieza clave para la consolidación de Estados democráticos en los países del SICA," CEPAL, 2022, https://repositorio.cepal.org/bitstream/handle/11362/47811/1/S2200164_es.pdf.

3 Assessment and Proposals for Digital Government, Digital Government Working Group, January 2022, Presidential Transition.

4 Economist Impact, "Inclusive Internet Index 2022," The Economist Impact, accessed October 2022, https://impact.economist.com/projects/inclusive-internet-index/2022/availability?country=Honduras.

availability, and use, coupled with a lack of digital infrastructure.[5] The biggest barriers to the widespread uptake of digital technology in Honduras include a lack of competition among the mobile network operators (MNOs) and a 25-year-old telecommunications policy that does not address the advances and challenges of a rapidly changing digital ecosystem, such as regulating infrastructure sharing and eliminating obstacles for internet service providers (ISPs) to operate in rural areas. MNOs Tigo and Claro have a duopoly over the market, which means the lack of regulation does not greatly impact their operating models, but it does prevent new competition from service providers who can help bring down costs. When compared to other countries in Central and Latin America, the uptake of digital technology in Honduras has consistently lagged. The Alliance for Affordable Internet (A4AI) found that 1GB of data costs 8.7 percent[6] of the average monthly income (this is the 8th most expensive broadband in over 200 countries ranked, with Haiti listed as the most expensive), and the UNICEF-ITU Giga Initiative found that over 58 percent of Honduran schools are located more than five kilometers from a broadband connection.[7] The Honduran National Telecommunications Commission, CONATEL, is developing a National Broadband Plan, which will help set goals for the country's ICT policies and infrastructure development and allow ISPs to access unlicensed spectrum to expand internet connectivity to rural areas, making it accessible, affordable, and available to all. However, there needs to be increased engagement and support to ISPs in order to use unlicensed spectrum and thus scale their services.

Efforts to digitize education are succeeding, but digital literacy lags and requires a concerted strategy. The COVID-19 pandemic forced students and teachers out of the classroom and into virtual learning environments. The transition from paper learning materials to an online curriculum, training teachers to use virtual classrooms, a lack of connectivity, and declining enrollment rates were some of the many challenges educators faced. However, digital learning is here to stay. To ensure students and teachers are equipped to navigate the future, digital literacy must be integrated into schools' curricula, and educators need to develop the skills and competencies required for teaching in virtual environments. Digital literacy provides tools to safely navigate online, including how to identify and respond to misinformation, harassment, and bullying on social media. It also supports learning new skills, increases access to opportunities and resources, and can even provide new means of income. While many students leave school due to poverty, gang violence,[8] lack of opportunities, and emigration,[9] ensuring that students have access to both affordable internet and digital literacy training within their primary and secondary schools can help reduce some of the barriers to prosperity that Hondurans face today.

There are no effective data protection and cybersecurity regulations. Due to the lack of national legislation on cyber crimes and data protection, civil society organizations (CSOs) and the private sector have implemented their cyber policies based on international standards. The Honduras Internet Governance Forum chapter—a multi-stakeholder group of CSOs, academia, and the public and private sectors—has identified the need to establish a National Computer Emergency Response Team (CERT), which does not yet exist. According to a Government of Honduras (GOH) interviewee, the GOH will establish a National Digital Agency that will coordinate all e-government services and digital transformation efforts.[10] This institution will have a clear

5 Economist Impact, "Inclusive Internet Index 2022," *The Economist Impact*, accessed October 2022, https://impact.economist.com/projects/inclusive-internet-index/2022/availability?country=Honduras.

6 A4AI, "Mobile Broadband Pricing," *A4AI*, Alliance for Affordable Internet, 2022, https://a4ai.org/research/mobile-broadband-pricing/.

7 Inter-American Development Bank, "Digital Transformation For Increased Competitiveness: Loan Proposal, Honduras," *Germany Trade and Invest*, 2019, https://www.gtai.de/resource/blob/216710/0c178648436b550369a6ed16d7e476bd/pro202001295031-data.pdf.

8 Claire Mcgilley and Lylli Moya, "Mainstreaming Gender Equity and Inclusion in Honduran Schools," *DAI*, DAI Publications, 2022, https://dai-global-developments.com/articles/mainstreaming-gender-equity-and-inclusion-in-honduran-schools/.

9 Fundación para la Educación Ricardo Ernesto Maduro Andreu (FEREMA), "Informe de Progreso Educativo Honduras: Educación: Otro quinquenio de promesas incumplidas," *The Dialgoue*, USAID, 2022, https://thedialogue.wpenginepowered.com/wp-content/uploads/2022/06/Informe-Progreso-Educativo_Honduras-IPEH-2022.pdf.

10 Honduras government official, interviewed by DECA team, September 2022, online.

mandate, budget, personnel, offices, and equipment as it will be the executing unit of an Inter-American Development Bank (IDB) loan.

The GOH lacks the capacity to prosecute digital crimes. Individuals are unaware of digital risks and increasingly fall victim to extortion, scams, and misuse of personal information. Security and justice sector agencies lack the institutional capacity and coordination to address these challenges. According to the digital crime units within the National Police of Honduras (NPH) and the Attorney General's Office, law enforcement has worked on more than 300 investigations over the last two years, most of which are online scams and non-consensual dissemination of images, primarily of women. As of the writing of this report, the NPH and the Attorney General's Office have made zero convictions for cyber crimes. Without additional capacity, the digital crime units are likely to amass a backlog of cases, keeping impunity rates high. Also, services facilitating illicit migration to the United States are advertised on social media, though authorities were not aware of these services being offered.

There is a focus on countering mis- and disinformation by civil society, but a joint strategy is required for greater impact. Honduras Verifica estimates that 1.2 million Hondurans consume fake news. Currently, there are several initiatives—such as Honduras Verifica, I-Verify Honduras, and Laboratorio Ciudadano—that implement activities to counter disinformation, but they do not operate in a coordinated manner. Their activities range from safety training for activists and fact-checking to coordinating awareness campaigns and working with social media platforms to identify bot farms. As for disinformation about irregular migration, the International Organization for Migration (IOM) is implementing the Think Twice campaign, a socio-educational model in which the IOM delivers workshops for young people to better understand and identify fake news about irregular migration.

The level of financial inclusion continues to be low due to systematic weaknesses, such as poor connectivity infrastructure, and supply-side factors, such as the lack of relevant traditional and digital financial services. The GOH has long been committed to promoting financial inclusion and has explored how its role should evolve in an increasingly digital environment. On the supply side, large financial service providers (FSPs) have had an easier time with their digital transformations than their smaller counterparts, allowing them to expand the availability of digital financial services (DFS). Despite the high barriers to entry for financial technology companies (FinTechs), a handful have managed to build a sizable customer base. However, demand-side data show that regulatory and supply-side measures are necessary, but not sufficient conditions, for getting people to access, use, and benefit from DFS. A wide array of factors—ranging from systemic weaknesses, such as poor connectivity infrastructure, to more sectoral-specific challenges that include a scant supply of relevant products and services—continue to undermine efforts to promote greater financial inclusion.

E-commerce is slow to take off in Honduras, except for in the two largest cities, Tegucigalpa and San Pedro Sula. According to the Global Findex,[11] only 8 percent of adults have purchased goods online in 2021, and many micro-, small, and medium-sized enterprises (MSMEs) have not pivoted to operate online at all. Various public and private initiatives have been implemented to strengthen the e-commerce ecosystem, but the lack of trust, minimal regulatory oversight, and poor logistics infrastructure are major constraints to expansion. Honduras has made considerable progress in digital trade, including implementing an electronic customs system, authorizing e-payment of customs duties and fees, and establishing laws and regulations for electronic transactions. However, weaknesses in interagency coordination and ICT infrastructure complicate

11 The World Bank. 2022. "The Global Findex Database 2021: Financial Inclusion, Digital Payments, and Resilience in the Age of COVID-19." World Bank. https://www.worldbank.org/en/publication/globalfindex.

the journey toward a single-window system, which would enable parties involved in trade and transport to lodge standardized information in a single entry point in order to fulfill all import, export, and transit-related regulatory requirements.

The digital talent pool does not currently meet the labor market demand. Interviewees across the board remarked that Honduras is home to many professionals who are applying their digital talent toward developing a wide variety of solutions, ranging from setting up cloud services for local and foreign companies alike to building super apps and beyond. However, the overall digital talent pool is limited despite best efforts by the GOH to promote workforce development and by universities to produce graduates with tech-related degrees.

This report makes a total of nine recommendations for USAID/Honduras and the wider donor community:

1. Support broader uptake of alternative connectivity solutions to enable more affordable internet
2. Engage with key stakeholders working to update telecommunications policy and regulation for digital connectivity
3. Work with the Ministry of Education to integrate digital literacy initiatives into the national curricula
4. Support the creation of strategic plans for digital government, e-services, and cybersecurity
5. Promote cyber hygiene for civil society organizations, journalists, and digital rights activists to increase independent oversight and mitigate digital repression
6. Build the capacity of the security and justice sector to respond to cyber crimes
7. Improve the human-centered design of digital financial services to advance financial inclusion
8. Continue to foster a digital entrepreneurship culture to engage youth
9. Promote workforce development initiatives through partnerships between industry stakeholders, universities, and technical and vocational training institutions

ROADMAP FOR THE REPORT

About this Assessment provides background on the DECA framework and goals.

DECA Findings presents the key findings about Honduras' digital ecosystem. This section is organized into three subsections by DECA pillar: digital infrastructure and adoption; digital society, rights, and governance; and digital economy.

Recommendations outlines how USAID/Honduras and the international development community can leverage and support the digital ecosystem to achieve improved development outcomes.

Navigation tip: The navigation bar in the footer throughout this report helps you move between sections. Dark blue text will indicate the current section you are in.

About this Assessment

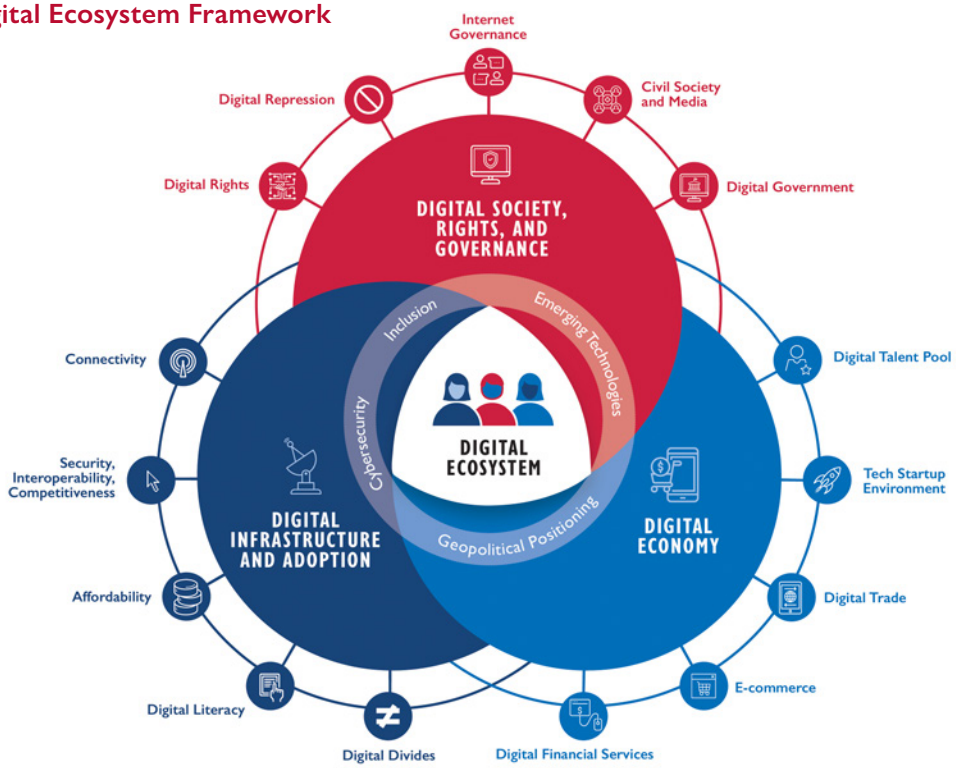
USAID's Digital Strategy[12] aims to improve USAID development and humanitarian assistance outcomes through the responsible use of digital technology and to strengthen the openness, inclusiveness, and security of digital ecosystems. The Digital Strategy and the Digital Ecosystem Country Assessment (DECA) are part of USAID's holistic approach to helping achieve the Sustainable Development Goals (SDGs).[13]

As part of the Digital Strategy implementation, the DECA examines three broad pillars to understand the opportunities and challenges in a country's digital ecosystem (FIGURE 1):

1. Digital Infrastructure and Adoption
2. Digital Society, Rights, and Governance
3. Digital Economy

The Honduras DECA took place between March and September 2022. It included desk research, consultations with USAID/Honduras, and eight weeks of virtual interviews. It involved a total of 76 interviews with stakeholders from civil society, academia, the private and public sectors, international development organizations, and USAID/Honduras technical offices.

FIGURE 1: Digital Ecosystem Framework



12 USAID, "USAID's Digital Strategy Overview," *USAID*, 2021, https://www.usaid.gov/usaid-digital-strategy.

13 United Nations, "The 17 Goals | Sustainable Development," *United Nations Department of Economic and Social Affairs*, accessed October 7, 2022, https://sdgs.un.org/goals.

DECA Findings

PILLAR 1: DIGITAL INFRASTRUCTURE AND ADOPTION

Digital Infrastructure and Adoption refers to the resources that make digital systems possible and how individuals and organizations access and use these resources. Digital infrastructure includes geographic network coverage, network performance, internet bandwidth, and spectrum allocation as well as telecom market dynamics around security, interoperability, and competitiveness. This pillar also examines behavioral, social, and physical barriers and opportunities for equitable adoption (digital divides, affordability, and digital literacy)—who uses and does not use digital technologies and why.

KEY TAKEAWAYS : DIGITAL INFRASTRUCTURE AND ADOPTION

FINDINGS

- The current legal, policy, and regulatory environment in Honduras is hindering connectivity expansion, especially when it comes to eliminating barriers for new providers, such as infrastructure sharing. CONATEL is developing a National Broadband Plan to help set new goals for the country's ICT policies and infrastructure development, but this Plan has yet to be released.
- Honduras is one of three countries in Central America that have authorized access to unlicensed spectrum. Accessing unlicensed spectrum and other alternative connectivity solutions could help ISPs expand their reach to rural communities.
- Efforts to digitize education are succeeding, but digital literacy is not integrated into the national primary and secondary curricula. Digital literacy can provide tools for students and teachers to navigate online safely and can enable access to new opportunities and resources.

RELEVANT RECOMMENDATIONS

1. Support broader uptake of alternative connectivity solutions to enable more affordable internet
2. Engage with key stakeholders working to update telecommunications policy and regulation for digital connectivity
3. Work with the Ministry of Education to integrate digital literacy initiatives into the curriculum

INTRODUCTION

Honduras' original Digital Agenda 2014–2018 was established as part of the Country Vision and the National Plan (2010–2022).[14] The objectives of the Digital Agenda were to improve the efficacy and use of digital technology across GOH services, close the digital divide in equity and access, update policy and legislation to promote competition and support the digital economy through ICT education and a larger digital talent pool.[15] However, there is little evidence that the Digital Agenda was successful in its implementation. The biggest barriers to the uptake of digital technology in Honduras include a lack of competition among the MNOs and a 25-year-old telecommunications policy that has not been updated to address the advances and challenges of a rapidly changing digital ecosystem, such as regulating infrastructure sharing and eliminating obstacles for ISPs to operate in rural areas.

A pillar of President Xiomara Castro's República Digital (Digital Republic) Plan is to make connectivity available and accessible to all Hondurans, beginning with recognizing access to the internet as a human right.[16] To accomplish this, the GOH is developing a national program for reducing the digital divide that focuses on developing regional plans for connectivity, integrating digital literacy into the basic national curriculum, and inclusion of vulnerable groups (people with disabilities and indigenous peoples).[17]

Supporting this agenda, the IDB is beginning the implementation of its Digital Transformation for Increased Competitiveness program.[18] A key component of this program is improving broadband access and connectivity, aiming to: connect 760 public institutions including schools and health centers, update current policies and regulations, and establish a broadband network operation center. CONATEL[19] is also prepared to support the Digital Republic by implementing the National Broadband Plan (see Universal Services Fund and the National Broadband Plan)

These digital transformations will not be easy, as Honduras scored 50 out of 100 on the 2019 Global System for Mobile Communications Association (GSMA) Mobile Connectivity Index, ranking 26th out of 27 countries in the Latin America and the Caribbean (LAC) region, only slightly ahead of Haiti.[20] The Index score is a composite indicator based on four equally weighted enablers of mobile connectivity: affordability, consumer readiness, content and services, and infrastructure.[21] When it comes to infrastructure, Honduras scores 55.9 out of 100 (ranking 22nd out of 27 LAC countries), compared to the LAC regional average of 59.5, Honduras has less infrastructure. And while network coverage and performance are on par with the region,

14 Alberto Enríquez and Carlos Sáenz, "Gobierno digital: Pieza clave para la consolidación de Estados democráticos en los países del SICA," *CEPAL*, 2022, https://repositorio.cepal.org/bitstream/handle/11362/47811/1/S2200164_es.pdf.

15 Gobierno de la República de Honduras, Secretaría Técnica de Planificación y Cooperación Externa (SEPLAN), "Agenda Digital de Honduras, 2014-2018," 2013, http://www.scgg.gob.hn/sites/default/files/2018-10/Agenda%20Digital%20de%20Honduras%202014-2018.pdf.

16 BNamericas, "How Honduras' new president could achieve her ICT goals," January 28, 2022, *BNamericas*, https://www.bnamericas.com/en/analysis/how-honduras-new-president-could-achieve-her-ict-goals.

17 Assessment and Proposals for Digital Government, Digital Government Working Group, January 2022, Presidential Transition.

18 Inter-American Development Bank, "Digital Transformation For Increased Competitiveness: Loan Proposal, Honduras," *Germany Trade and Invest*, 2019, https://www.gtai.de/resource/blob/216710/0c178648436b550369a6ed16d7e476bd/pro202001295031-data.pdf.

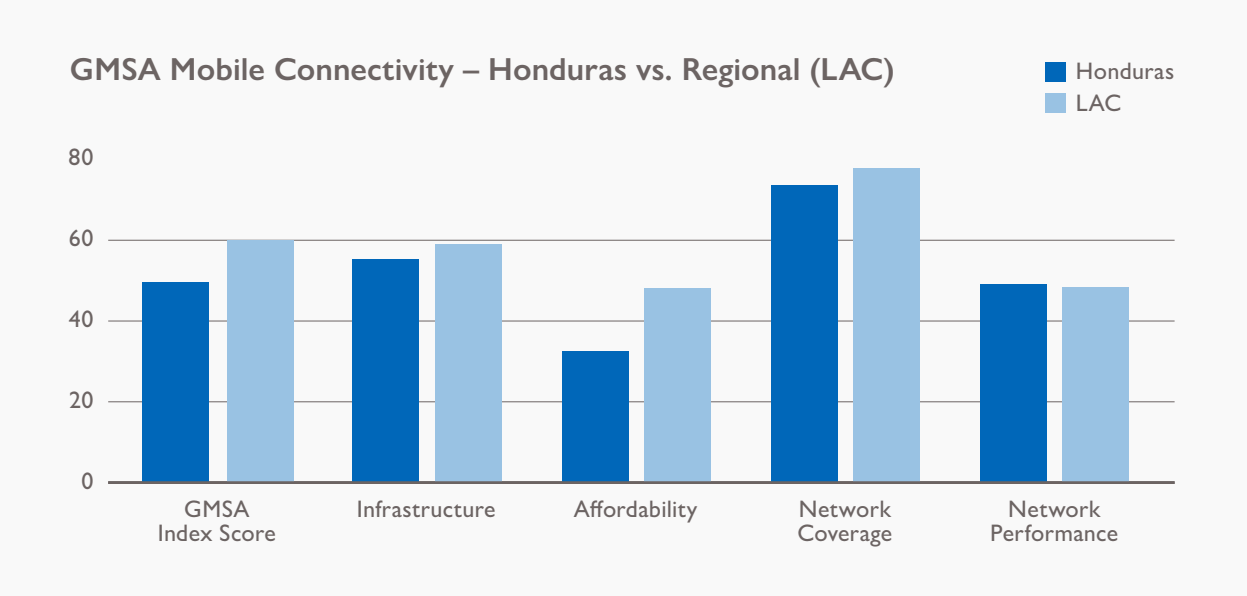
19 The role of the regulator is to streamline telecommunications and ICT policy and implementation across the region. CONATEL. CONATEL, "Nuestra Misión," *CONATEL*, accessed October 2022, https://www.conatel.gob.hn/nuestra-mision/.

20 GSMA, "GSMA Mobile Connectivity Index," *GSMA*, 2019, https://www.mobileconnectivityindex.com/#year=2019&zoneIsocode=HND&analysisView=HND.

21 USAID, "Honduras - Information and Communications Technology (ICT) – Country Dashboard – All," *USAID's IDEA*, 2022, https://idea.usaid.gov/cd/honduras/information-and-communications-technology-ict.

Honduras falls severely behind in terms of affordability, as the gap in internet use between wealthy and poor households is 58 percentage points.[22]

FIGURE 2: GSMA Mobile Connectivity Index[23]



1.1 A QUICK OVERVIEW OF HONDURAS TELECOMMUNICATIONS POLICY AND INFRASTRUCTURE

A BRIEF HISTORY OF TELECOMMUNICATIONS COMPETITION

The uptake of digital technology in Honduras has consistently lagged when compared to other countries in Central and Latin America. One of the last countries to offer mobile services, in 1994 Honduras issued the first license to Tigo, which maintained a monopoly over mobile services for eight years until Claro entered the market in 2003.[24] In 2005, state-owned Hondutel was also awarded a license to operate mobile services; however, Hondutel did not have enough capital to launch competitive mobile broadband services. Hondutel remains the primary provider of fixed broadband (see FIGURE 3), currently owning 58 percent of the fixed fiber network.[25]

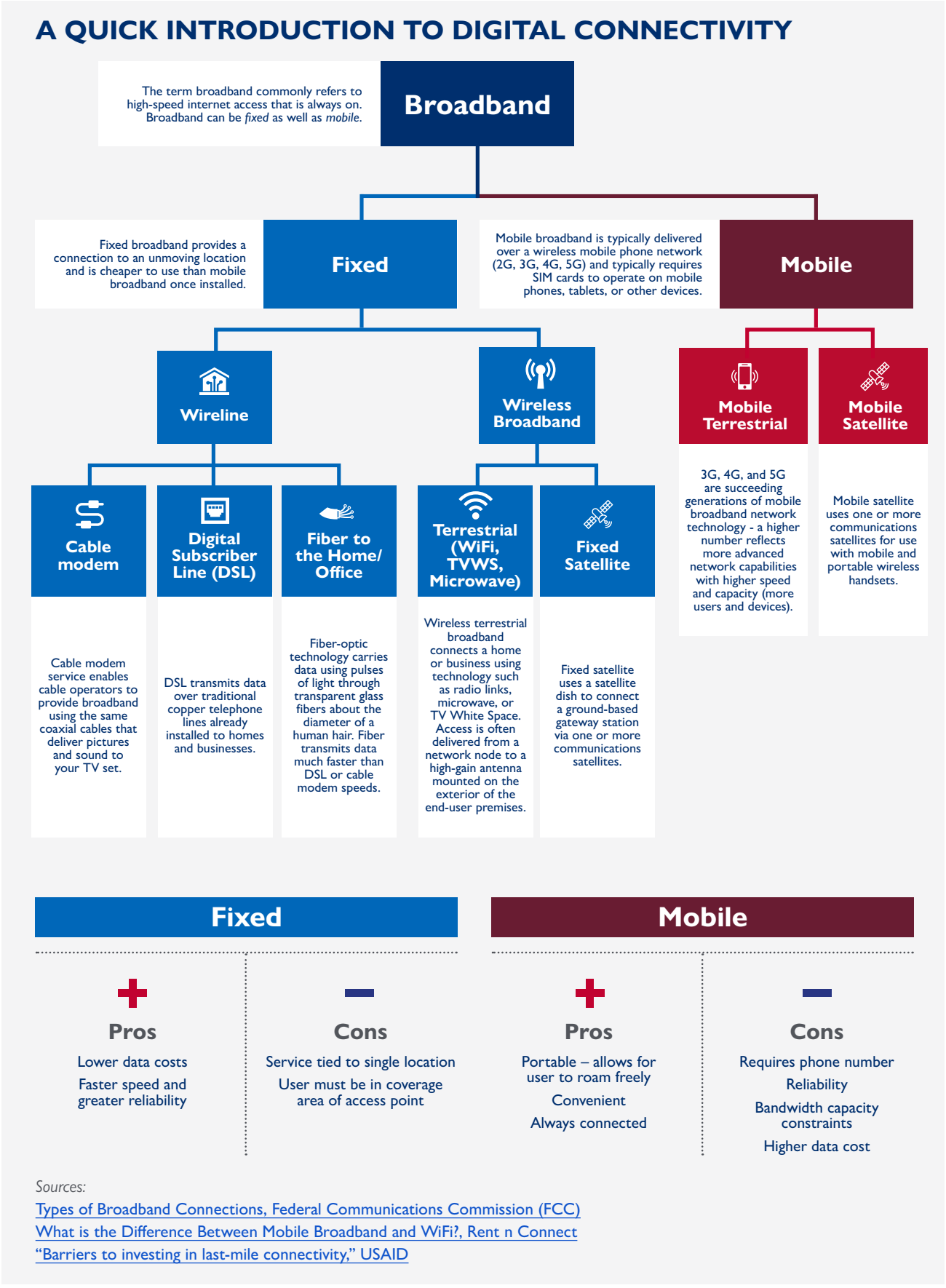
22 Organization for Economic Co-operation and Development, "The digital transformation for all," *Latin American Economic Outlook 2020: Digital Transformation for Building Back Better*, OECD Publishing, 2020, https://www.oecd-ilibrary.org/sites/e7a00fd6-en/index.html?itemId=/content/component/e7a00fd6-en#annex-3.A1.

23 GSMA, "GSMA Mobile Connectivity Index," *GSMA*, 2019, https://www.mobileconnectivityindex.com/#year=2019&zoneIsocode=HND&analysisView=HND.

24 Henry Lancaster, "Latin America Mobile Market Report: Mobile Network Operators and MVNOs Statistics and Forecast 2020–2025," *BuddeComm*, November 2022, https://www.budde.com.au/Research/Latin-America-Mobile-Network-Operators-and-MVNOs.

25 BNamericas, "Spotlight: The crisis at Honduran telco Hondutel," December 27, 2021, *BNamericas*, https://www.bnamericas.com/en/features/spotlight-the-crisis-at-honduran-telco-hondutel.

FIGURE 3: A quick introduction to digital connectivity



Sources:

Types of Broadband Connections, Federal Communications Commission (FCC)

What is the Difference Between Mobile Broadband and WiFi?, Rent n Connect

"Barriers to investing in last-mile connectivity," USAID

BOX 1: Challenges facing Hondutel

President Castro's administration plans to make state-owned Hondutel relevant in a competitive market; however, it faces many challenges. At the end of 2021, Hondutel was amidst a debt crisis, reporting 11 million USD in losses.[26] The majority of this sum stems from historic debt that has prevented Hondutel from paying adequate salaries, resulting in a loss of personnel capacity to maintain and expand the network. To help reduce payroll and other costs, in 2019 Hondutel requested 300 million Honduran lempiras (HNL) (~12 million USD) from the Ministry of Finance to pay out over 500 employees who had voluntarily retired.[27] While the COVID-19 pandemic generally prompted an uptick in internet adoption, Hondutel did not attract new customers or have the capital to make investments in infrastructure improvements. To become a competitive player, Hondutel will need investors to help pay off debts; modernize its processes, operating systems, and infrastructure; and expand its customer base.

A representative from CONATEL mentioned that other telecommunication companies, even those that are smaller or have more operational challenges, have more income and coverage than Hondutel. "*Cable Color (a telecommunications company that provides television and fixed internet services)*[28] *only has 200 employees and earns more than Hondutel, which has more than 2,000 employees. Cable Color is more complicated to operate but has more coverage than Hondutel. Hondutel has mobile spectrum because it is also a mobile operator. Cable Color does not and still sells more.*"[29]

Currently, Hondutel provides fixed fiber to the home services (see figure 3 above). In Honduras, about 20 percent of internet users have fixed internet at home (primarily in urban areas), but there is the potential to reach up to 80 percent of the population.[30] For Hondutel to reach this market, though, they will have to pay off their debts, reduce operating costs, and likely rebrand themselves.

In 2007, Digicel was the fourth MNO to be awarded a mobile license, briefly establishing competition in an otherwise duopoly and reaching 1.6 million customers.[31] In 2011, Digicel Honduras was acquired by America Movil in Jamaica. This contrasts with neighboring El Salvador, where America Movil (who owns Claro) attempted to acquire Digicel El Salvador, but the acquisition was rejected by the country's competition regulator out of fear that it would further reduce the number of MNOs competing in the market.[32] Today, Digicel continues to operate in El Salvador (which has four MNOs) but left Honduras after being acquired by America Movil (aka Claro). With this acquisition and with Hondutel only offering fixed broadband, Tigo and Claro are the only mobile broadband providers in the country, essentially creating a duopoly. Reduced competition negatively impacts the affordability and accessibility of mobile broadband services in Honduras, which is the least affordable in Central America. According to the A4AI, a country has affordable internet when 1GB of mobile broadband data is priced at two percent or less of the average monthly gross national income (GNI) per capita.[33] As of 2021, *1GB of data stood at 8.7 percent of GNI* per capita in Honduras and can be compared to El Salvador at 4.93 percent.[34]

---

26 BNamericas, "Spotlight: The crisis at Honduran telco Hondutel," *BNamericas*, December 27, 2021, https://www.bnamericas.com/en/features/spotlight-the-crisis-at-honduran-telco-hondutel.

27 Diario Tiempo, "300 millones ocupa HONDUTEL para lograr el retiro voluntario de 500 trabajadores," *Tiempo*, April 13, 2019, https://tiempo.hn/300-millones-ocupa-hondutel-retiro-voluntario-trabajadores/.

28 Cable Color, "Servicios Cable Color," *Cable Color*, accessed October 2022, https://cablecolor.hn.

29 Regulatory Expert, interviewed by DECA team, June 2022, online.

30 Regulatory Expert, interviewed by DECA team, June 2022, online.

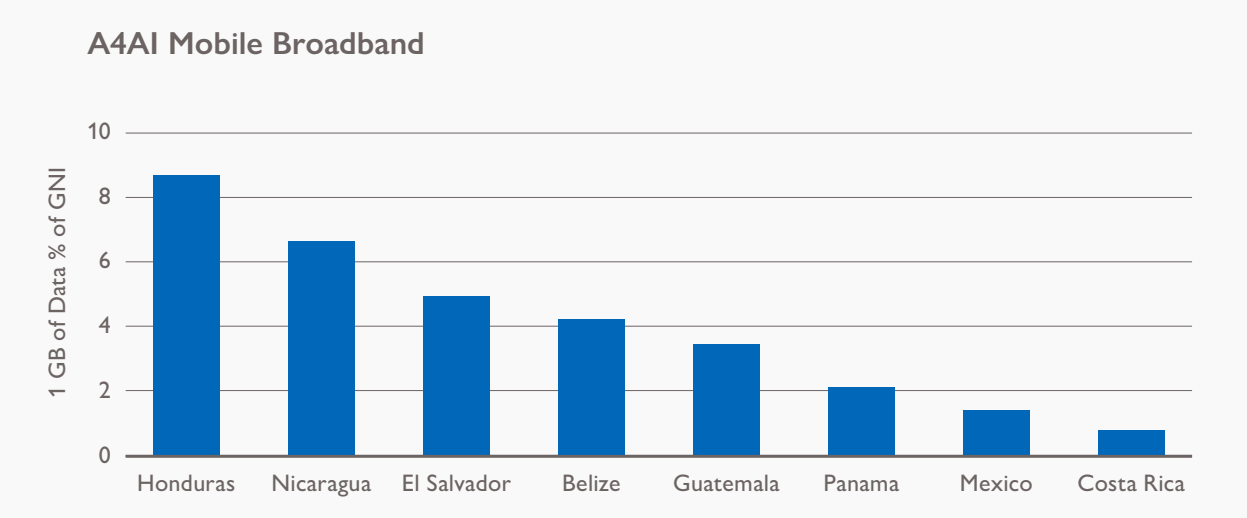
31 Henry Lancaster, "Latin America Mobile Market Report: Mobile Network Operators and MVNOs Statistics and Forecast 2020–2025," *BuddeComm*, November 2022, https://www.budde.com.au/Research/Latin-America-Mobile-Network-Operators-and-MVNOs.

32 Ibid.

33 A4AI, "Affordable Internet is '1 for 2': Redefining affordability to achieve universal internet access," *A4AI*, Alliance for Affordable Internet, accessed October 2022, https://a4ai.org/affordable-internet-is-1-for-2.

34 A4AI, "Mobile Broadband Pricing," *A4AI*, Alliance for Affordable Internet, May 17, 2022, https://a4ai.org/research/mobile-broadband-pricing/.

FIGURE 4: A4AI mobile broadband pricing



Unable to regulate the growing control of Tigo and Claro, the Honduran legislature has not adequately updated the 1995 Telecommunication Law.[35] On the International Telecommunication Union (ITU)'s ICT Regulatory Tracker, Honduras is ranked as a G3 country (on a scale of 1 to 4).[36] The tracker is an evidence-based tool used to help policymakers and regulators understand the ICT regulatory environment in their countries by identifying and measuring progress and gaps in ICT regulation. A G3 country is described as transitioning and having an enabling environment of investment, innovation, and access while promoting competition in service delivery and consumer protection. Overall, Honduras scored relatively favorably with a total of 79 out of 100. It is described as having partial competition, a monopoly over international gateways[37] and loose control over foreign participation and ownership.

BOX 2: COMTELCA

COMTELCA is the Central American Regional Telecommunications Commission[38] and a key member of the Central American Integration System.[39] COMTELCA's mission is to support the coordination and harmonization of telecommunications regulations across the region through a legal framework. COMTELCA also promotes international partnerships and coordination. In 2018, it joined the A4AI[40] and invited the Global System for Mobile Communications

35 Honduras National Congress, "Ley Marco del Sector de Telecomunicaciones Decreto Y Actualización de la Ley Marco del Sector," Portal Único de Transparencia, 1995, https://portalunico.iaip.gob.hn/portal/ver_documento.php?uid=NjIyODg5MzQ3NjM0ODcxMjQ2MTk4NzIzNDI=.

36 The Tracker examines the regulatory environment of 193 countries from 2007-2000. Data is self-reported through ITU surveys sent to member states and verified against official government sources and outreach to ICT regulatory authorities and telecommunications. ITU, "ICT Regulatory Tracker – Honduras," *ITU*, 2020, https://app.gen5.digital/tracker/country-cards/Honduras#competition-framework.

37 An international gateway is a link through which electronic communications (voice, data, video) are sent between countries' networks, such as a submarine cable or through a satellite station. Their purpose is to aggregate and distribute incoming and outgoing international data traffic. Regulation around international gateways can promote competition through sharing networks and lowering barriers, such as costs, for new market entrants. ITU, "Liberalizing International Gateways," *ITU News*, 2008, https://www.itu.int/itunews/manager/display.asp?lang=en&year=2009&issue=01&ipage=26&ext=html.

38 Member states include: Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua, Panama, Belize, and the Dominican Republic. COMTELCA Regional Technical Telecommunications Commission, "COMTELCA members," *SICA*, Sistema de la Integración Centroamericana, 2022, https://www.sica.int/comtelca/valores?usp=sharing.

39 Sistema de la Integración Centroamericana, "SICA in brief," *SICA*, accessed October 2022. https://www.sica.int/breve.

40 A4AI, "COMTELCA Joins A4AI," *A4AI*, Alliance for Affordable Internet, February 27, 2018, https://a4ai.org/news/comtelca-joins-a4ai/.

BOX 2 (CONTINUED): COMTELCA

Association (or "GSMA," a worldwide association of the mobile ecosystem)[41] to become an observing member of COMTELCA. Similarly, COMTELCA partnered with the Centro de Estudios Avanzados en Banda Ancha para el Desarrollo (Center for Advanced Studies on Broadband for Development, CEABAD),[42] which provides online training courses to Central American regulators on broadband policies and development. Through these partnerships, COMTELCA supports member countries by facilitating knowledge sharing and best practices, building capacity, and promoting an innovative regulatory environment.

Similarly, the United Nations Economic Commission for Latin America and the Caribbean (CEPAL) provided technical assistance to COMTELCA in the development of the Mesoamerican Digital Agenda, which provides a framework for improving information and knowledge sharing across the region and facilitating inclusive digital transformation across the digital ecosystem, including infrastructure, digital government, digital economy, and digital security.[43]

TELECOMMUNICATIONS REGULATORY ENVIRONMENT

In addition to the lack of competition, another key challenge facing Honduras is its 1995 telecommunications policy. The current law does not explicitly include the word "internet," and internet services are categorized under general and specific regulations as a value-added service entitled Servicio de Internet o Acceso a Redes Informáticas (Internet Service or Access to Computer Networks). In other words, while there is de facto regulation of internet services, the telecommunications policy should be updated to include a specific law on internet services and not subsumed under general regulations.[44] Ideally, this law should include good regulatory and policy practices, as outlined in the A4AI Policy Clusters (TABLE 2).[45] This will help improve access to and reduce the high costs of broadband services that plague the majority of Honduras. As noted by one regulatory expert:

"*We know that in Honduras the regulator needs to improve the agenda to eliminate barriers established in the current regulatory framework—to have new rules for infrastructure sharing and eliminate obstacles to authorizing new providers as a way to introduce small providers in rural areas.*"[46]

41 GSMA, "GSMA joins COMTELCA as an observer member – GSMA Latin America," GSMA, February 26, 2018, GSMA. https://www.gsma.com/latinamerica/gsma-comtelca-observer-member/.

42 Centro de Estudios Avanzados en Banda Ancha para el Desarrollo (CEABAD), "CEABAD," *CEABAD*, accessed October 2022, https://ceabad.com/.

43 Juan Jung, "Mesoamérica digital 2025: propuesta para una agenda digital mesoamericana," *CEPAL*, Comisión Económica para América Latina y el Caribe (CEPAL), 2021, https://repositorio.cepal.org/handle/11362/46999.

44 Anonymous ICT Expert, interviewed by DECA team, May 2022, online.

45 Teddy Woodhouse and A4AI, "Affordability Report 2021: A New Strategy for Universal Access," *A4AI*, Alliance for Affordable Internet, 2021, https://a4ai.org/wp-content/uploads/2021/12/A4AI_2021_AR_AW.pdf.

46 Regional ICT Expert, interviewed by DECA team, June 2022, online.

TABLE 1: A4AI Thematic Policy Clusters[47]

POLICY CLUSTER	INCLUDED INDICATORS
Regulatory Environment	Licensing, regulator transparency and competency, market competition, evidence-based decisions
Broadband Strategy	Universal Service & Access Fund (USAF) strategies, end-user subsidies, public access investments
Infrastructure & Sharing	Rights of way and tower zoning, public facilitation of infrastructure sharing
Spectrum Management	Time-bound forward planning, allocation transparency, unlicensed permissions
Gender	Gender targets

To support the regulator in addressing the challenges in the current regulatory framework, the ITU is conducting a study on the conditions of competition in the telecommunications market in Honduras, with an emphasis on school connectivity. The assessment will provide the new CONATEL leadership with evidence-based recommendations to support the development and implementation of a new regulatory framework and associated laws.[48]

UNIVERSAL SERVICE FUND AND THE NATIONAL BROADBAND PLAN

In 2014, the telecommunications policy was amended through Legislative Decree 325-2013, which established a Universal Service Fund (USF)[49] called the Fund for Investment in Telecommunications and Information Communications Technologies (FITT).[50] The goal of the FITT is to finance plans and projects that ensure all Hondurans have universal access to ICTs.[51] To fund these projects, MNOs are required to contribute one percent of their revenues to the FITT.[52] These funds, ranging between 18 and 20 million HNL per month (750-800K USD), are then collected into a single fund used to finance infrastructure projects and network installations that connect rural and marginalized communities, including schools, community centers, town halls, etc.[53]

One example of a FITT project is the "Internet del Pueblo" (internet of the people) program. In 2015, Claro won a public bid for the Internet del Pueblo project, to connect over 2,500 communities and subcontract with a number of small ISPs.[54] Claro partnered with Gilat, an Israeli satellite company, to provide connectivity to rural areas. However, challenges with the sustainability and usability of the satellite internet quickly arose. Once the necessary infrastructure was built, there was no mandate for Claro to maintain it, and costs were

47 Teddy Woodhouse and A4AI, "Affordability Report 2021: A New Strategy for Universal Access," *A4AI*, Alliance for Affordable Internet, 2021, https://a4ai.org/wp-content/uploads/2021/12/A4AI_2021_AR_AW.pdf.

48 ITU, "ICT Policy Impact Lab," *ITU*, 2022, ITU. https://app.gen5.digital/lab/study/summary.

49 Ladcomm Corporation and GSMA,"Survey of Universal Service Funds: Key Findings," *GSMA*, 2013, https://www.gsma.com/publicpolicy/wp-content/uploads/2016/09/GSMA2013_Report_SurveyOfUniversalServiceFunds_KeyFindings.pdf.

50 Inter-American Development Bank, "Digital Transformation For Increased Competitiveness: Loan Proposal, Honduras," *Germany Trade and Invest*, 2019, https://www.gtai.de/resource/blob/216710/0c178648436b550369a6ed16d7e476bd/pro202001295031-data.pdf.

51 USFs are communal public funds managed by telecommunications regulators and ministries and used to expand internet connectivity and make it accessible, affordable, and available to all.

52 GSMA, "Unlocking digital inclusion in Honduras: Reforming taxation on the mobile sector to support economic and social development," *GSMA*, 2015, https://www.gsma.com/latinamerica/wp-content/uploads/2016/04/report-inclusion_taxation_Honduras-onepager-EN.pdf.

53 Assessment and Proposals for Digital Government, Digital Government Working Group, January 2022 Presidential Transition.

54 Criterion Editorial Department, "700 mil estudiantes tienen acceso gratuito a Internet gracias a 'Internet del pueblo,'" *Criterio*, 2015, https://criterio.hn/700-mil-estudiantes-tienen-acceso-gratuito-internet-gracias-internet-del-pueblo/.

ultimately passed on to users, who could not afford the prices.[55] The Internet del Pueblo project ended in 2018, and in 2020, CONATEL redirected FITT funds to support the implementation of the National Broadband Plan, focusing on broadband development and digital inclusion. As of October 2022, the National Broadband Plan remains unpublished, and no projects have been planned.

KEY TERMS | BOX 1: Spectrum, last-mile connectivity, Universal Service Fund, and Universal Service Obligations

Spectrum refers to the range of frequencies of electromagnetic radiation that are used to deliver radio transmissions. A critical function of telecommunications sector regulatory authorities is to designate specific frequency ranges (or bands) for different purposes, including telecommunications (but also for applications such as radio astronomy or other industrial uses). Some bands (e.g., WiFi) are unlicensed, meaning that anyone can use them without seeking explicit prior permission.[56] Licensed spectrum[57] requires users (e.g., commercial cellular networks or FM radio broadcasters) to secure a regulator's approval prior to use. Licenses are typically assigned through spectrum auctions, which seek to establish the economic value of spectrum, a finite natural resource.

Last-Mile Connectivity refers to when the internet reaches end-users and their devices (mobile phones, laptops, tablets, computers) through local access networks.[58]

A **Universal Service Fund** (USF)[59] is a mechanism designed to promote network infrastructure development in areas that commercial access providers deem uneconomical. Essentially established as subsidy programs, USFs are resourced through contributions drawn from the revenues of telecommunications operators. USF funds are often applied to help de-risk or otherwise complement network investments in underserved (or unserved) areas. In many cases, USFs target projects that serve schools, hospitals, and other anchor institutions where demand for services can be aggregated.

Universal Service Obligations (USOs),[60] also known as Broadband Universal Services, require ISPs to provide fit-for-purpose broadband internet to subscribers in all areas, not just those in areas that are profitable.

National broadband plans are key to strong telecommunications policies and set goals for a country's ICT policies and infrastructure development.[61] They are also critical to reducing the digital divide. A study by the ITU Policy Impact Lab found that strong broadband plans corresponded with improved affordability and an uptick in use among the poorest 20 percent of the population, also increasing investment in mobile broadband by 15 percent.[62]

CONATEL's National Broadband Plan was proposed to begin in 2020–2021, but its execution was paused due to the COVID-19 pandemic and the presidential election. CONATEL's National Broadband Plan focuses on

55 Digital Transformation expert, interviewed by DECA team, May 2022, online.

56 While permissions are not required for unlicensed spectrum use, users are typically limited to technical parameters (such as transmission power or antenna specifications).

57 Mitchell Barker, "Licensed vs unlicensed spectrum," *ITWeb*, ITWeb Limited, 2013, https://www.itweb.co.za/content/KrxP3jMBLomvA2ye.

58 John Garrity and Aminata Amadou Garba, "The Last-Mile Internet Connectivity Solutions Guide Sustainable Connectivity Options for Unconnected Sites," ITU Publications, 2020, https://www.itu.int/en/ITU-D/Technology/Documents/LMC/The%20Last-Mile%20Internet%20Connectivity%20Solutions%20Guide.pdf.

59 Ladcomm Corporation and GSMA,"Survey of Universal Service Funds: Key Findings," *GSMA*, 2013, https://www.gsma.com/publicpolicy/wp-content/uploads/2016/09/GSMA2013_Report_SurveyOfUniversalServiceFunds_KeyFindings.pdf.

60 Amelia Bleeker, "Using universal service funds to increase access to technology for persons with disabilities in the Caribbean," *CEPAL*, United Nations ECLAC, 2019, https://www.cepal.org/en/publications/44913-using-universal-service-funds-increase-access-technology-persons-disabilities.

61 A4AI, "Affordability Report 2020," *A4AI*, Alliance for Affordable Internet, May 17, 2022, https://a4ai.org/research/affordability-report-2020/.

62 ITU, "Drivers of performance and impact of mobile telecommunications," *ICT Policy Impact Lab*, ITU, 2022, TU. https://app.gen5.digital/lab/study/drivers-of-performance.

developing and deploying fixed broadband infrastructure to rural areas to connect 100 percent of rural communities, schools, health centers, and public institutions. The Plan also establishes 200,000 fixed wireless connections in 279 municipalities by the end of 2023. The project is slated to cost 13.8 million USD, using FITT funds.[63] Several interviewees from across the ICT sector noted that the National Broadband Plan has a strong strategy but lacks political will when it comes to implementation. As of this report's writing, it has yet to be rolled out.

KEY TERMS | BOX 2: Internet Service Providers and Mobile Network Operators

Internet Service Providers (ISPs) deliver access to end-users using both fixed-line and wireless technologies. Wireless ISPs (especially those in rural areas) often seek to take advantage of low licensing and equipment costs by delivering service using unlicensed spectrum. ISPs range in size and scope from small, local providers to providers with international and even global reach.

Mobile Network Operators (MNOs) provide voice and data services primarily via wireless terrestrial networks. MNOs typically use licensed spectrum bands, which, due to the fact that they are not shared, tend to deliver higher quality, more reliable, and more cost-intensive service.

INFRASTRUCTURE SHARING

In 2016, CONATEL established the Regulation of Access and Shared Use of Networks to enable a competitive market and efficient use of infrastructure.[64] However, both CONATEL and an MNO noted that the regulation was never enforced because infrastructure sharing was not clearly defined. The regulation is currently being challenged at the Honduran Supreme Court because it did not adequately or effectively regulate infrastructure sharing.[65, 66] CONATEL plans to issue new, more specific regulation around infrastructure sharing that includes provisions for ISPs to own or share infrastructure and help improve connectivity coverage.[67]

Despite the lack of regulation, Tigo and Claro have developed their own network-sharing sites and mobile towers. For example, Tigo builds a tower in an area of San Pedro Sula and when Claro plans to expand into the same area, instead of taking the costly approach of building a new tower, the two MNOs facilitate an agreement to use the same tower and share the infrastructure to improve broadband penetration.[68] Infrastructure sharing is a key element of an affordable broadband strategy and can support a competitive market. However, without proper regulation, Tigo and Claro can continue their private infrastructure sharing, excluding the ISPs that are providing connectivity in rural areas and thus limiting competition and restricting access. Small ISPs often lack the capacity and financial resources to go through the regulatory process to acquire and build new infrastructure; instead, they rely on passive infrastructure sharing agreements[69] with established MNOs to build their network in hard-to-reach areas. In Honduras, because there is no current regulation, unregistered

63 GlobalData Technology, "Honduras total fixed broadband revenue to increase at 11.2% CAGR between 2020–2025," *Verdict*, March 1, 2021, https://www.verdict.co.uk/honduras-fixed-broadband-revenue/.

64 Ricardo Martínez Garza, Enrique Iglesias Rodríguez, and Antonio García Zaballos, "Digital Transformation: Infrastructure Sharing in Latin America and the Caribbean," *IDB*, IDB Publications, 2020, https://publications.iadb.org/publications/english/document/Digital-Transformation-Infrastructure-Sharing-in-Latin-America-and-the-Caribbean.pdf.

65 Honduras Regulatory Expert, interviewed by DECA team, June 2022, online.

66 MNO Representative, interviewed by DECA team, June 2022, online.

67 Honduras Regulatory Expert, interviewed by DECA team, June 2022, online.

68 MNO Representative, interviewed by DECA team, June 2022, online.

69 Passive infrastructure sharing consists of sharing network equipment such as masts, sites, cabinets and conditioning, whereas active infrastructure sharing refers to elements like antennae, nodes and radio network controller elements, and in some cases even spectrum. A4AI, "Encouraging shared infrastructure," *A4AI*, Alliance for Affordable Internet, 2020, https://a4ai.org/research/good-practices/encouraging-shared-infrastructure/.

ISPs, which are sometimes referred to as "pirate companies," piggyback off of MNO's infrastructure.[70] CONATEL has begun recognizing these previously illegal users, and by requiring them to register and pay taxes, they are creating a more competitive environment and opening access to connectivity.[71]

Another challenge encountered by MNOs and ISPs is acquiring a right-of-way to build new infrastructure. A right-of-way is defined as obtaining the legal rights to build on or pass -through property belonging to someone else. In Honduras, permits for new infrastructure are controlled by the department mayor's office and the Ministry of Environment. Mayors —similar to state governors in the U.S.—are the executors of each department (Honduras has 18 departments) and oversee the department's municipal corporations.[72] One MNO interviewed explained that seeking permissions from municipalities required a long bureaucratic process that spanned two to six months. Some municipalities are against building new infrastructure due to fears that it will cause physical or environmental damage; further delaying processes.[73]

BOX 3: Internet Exchange Points and the competitive environment

An internet exchange point (IXP) is the physical infrastructure through which different ISPs and content delivery networks connect and exchange internet traffic. IXPs shorten the physical distance data needs to travel. In a healthy digital economy, dozens if not hundreds of IXPs are created by independent organizations or consortia of network operators.[74]

Honduras has one IXP, located at the Universidad Nacional Autónoma de Honduras (UNAH) in Tegucigalpa.[75] However, the IXP was disconnected after some providers left and UNAH was not able to maintain it.[76] This impacts the competitive environment, as local ISPs have to send their internet traffic through expensive international links, such as in Miami, increasing the costs of services.[77]

SPECTRUM NATIONAL PLAN

Spectrum is defined as the waves that carry data signals between two devices, such as a smartphone and a cell tower.[78] Spectrum is allocated and managed by governments, and it can greatly impact the availability and access of mobile broadband services. There are many spectrum frequencies, but it is generally considered a limited natural resource in which higher frequencies are typically auctioned by governments to network operators (ISPs, MNOs), who are then licensed to operate on that spectrum frequency. In 2013, Tigo and Claro paid 12 million USD each in a spectrum auction for 4G.[79] However, the GOH has not yet auctioned its 700MHz

70 MNO Representative, interviewed by DECA team, June 2022, online.

71 Telecommunication expert, interviewed by DECA team, June 2022, online.

72 Tim Merrill, ed, "Honduras – Local Government," *Honduras: A Country Study*, GPO for the Library of Congress, 1995, Studies. http://countrystudies.us/honduras/88.htm.

73 MNO Representative, interviewed by DECA team, June 2022, online.

74 Internet Society, "Explainer: What is an Internet Exchange Point (IXP)?" *Internet Society*, June 22, 2020, https://www.internetsociety.org/resources/doc/2020/explainer-what-is-an-internet-exchange-point-ixp/.

75 TeleGeography, "Internet Exchange Map," *TeleGeography*, accessed October 2022, https://www.internetexchangemap.com/#/building/20344.

76 Technology Expert, interviewed by DECA team, May 2022, online.

77 Internet Society, "Explainer: What is an Internet Exchange Point (IXP)?" *Internet Society*, June 22, 2020, https://www.internetsociety.org/resources/doc/2020/explainer-what-is-an-internet-exchange-point-ixp/.

78 A4AI, "Spectrum Management: Affordability Report 2020 Thematic Brief," *A4AI*, Alliance for Affordable Internet, 2020, A4AI. https://a4ai.org/wp-content/uploads/2022/03/AR20-Spectrum-Management-Sub-Report.pdf.

79 GSMA, "Unlocking digital inclusion in Honduras: Reforming taxation on the mobile sector to support economic and social development," *GSMA*, 2015, https://www.gsma.com/latinamerica/wp-content/uploads/2016/04/report-inclusion_taxation_Honduras-onepager-EN.pdf.

band of spectrum, which could serve to improve the coverage and cost of 4G services, especially in remote regions.[80, 81] In June 2020, CONATEL was planning to auction three blocks of 700MHz spectrum band for mobile operators, including blocks in reserve to be assigned to Hondutel.[82] COVID-19 temporarily halted the auction, but the new GOH intends to resume after the new CONATEL appointments are established.[83]

As part of the larger National Broadband Plan, the previous CONATEL commission developed a strategy for a Spectrum National Plan to provide oversight and regulation around authorizing the use of different spectrum ranges for different technologies. This includes licensed spectrum (such as 700MHz), unlicensed spectrum, TV White Space (TVWS), radio networks, certain satellites, etc. Several interviewees who recently worked with CONATEL on their spectrum strategy noted the depth of understanding and the subsequent approach CONATEL took to develop an inclusive spectrum plan that focused on technologies that could expand last-mile connectivity.[84]

One challenge that many countries face is the short implementation period of elected governments. In Honduras, most strategies, and plans—especially in ICT and all things digital—can only be implemented for a maximum of four years (or until the next election). The turnover of government policies can undermine the sustainability of long-term investments in these solutions unless it is made into law.[85]

1.2 THE STATE OF INTERNET ADOPTION IN AFFORDABILITY AND ACCESSIBILITY

AFFORDABILITY

The Honduras Opportunity Brief (2021) from the Giga initiative shows that 21 percent of Hondurans do not have adequate broadband coverage, while almost double that number (40.7 percent) cannot afford mobile broadband.[86] Meanwhile, 91 percent of mobile connections are pre-paid; the remaining are post-paid.[87] This means that most users purchase data as needed and are most likely restricting their internet use given the high cost of data.

The Mobile Connectivity Index (FIGURE 5) examines the cost of entry-level handsets and usage across all indicators (on a scale of 0-100 where higher indicates lower costs). Honduras ranks the lowest in Central America on both of the indicators featured below (cost of entry-level handset and cost of entry usage).[88] In

80 4G refers to the fourth generation of broadband, succeeding 3G and preceding 5G. 700 MHz is a band of analog TV spectrum known as the Digital Dividend that is being reallocated to broadband because it can support high-speed connections and provide 4G coverage to remote areas. GSMA, "How 700 MHz can help Indonesia become a digital economy giant," *GSMA*, September 27, 2018, https://www.gsma.com/spectrum/resources/700-mhz-indonesia/.

81 How 700 MHz Spectrum can help Indonesia become a digital economy *BNamericas*, "How Honduras' new president could achieve her ICT goals," January 28, 2022, BNamericas, https://www.bnamericas.com/en/analysis/how-honduras-new-president-could-achieve-her-ict-goals.

82 Honduras Regulatory Expert, interviewed by DECA team, June 2022, online.

83 MNO Representative, interviewed by DECA team, June 2022, online.

84 Telecommunications expert, interviewed by the DECA team, June 2022, online.

85 ICT and Digital Transformation Expert, interviewed by the DECA team, June 2022, online.

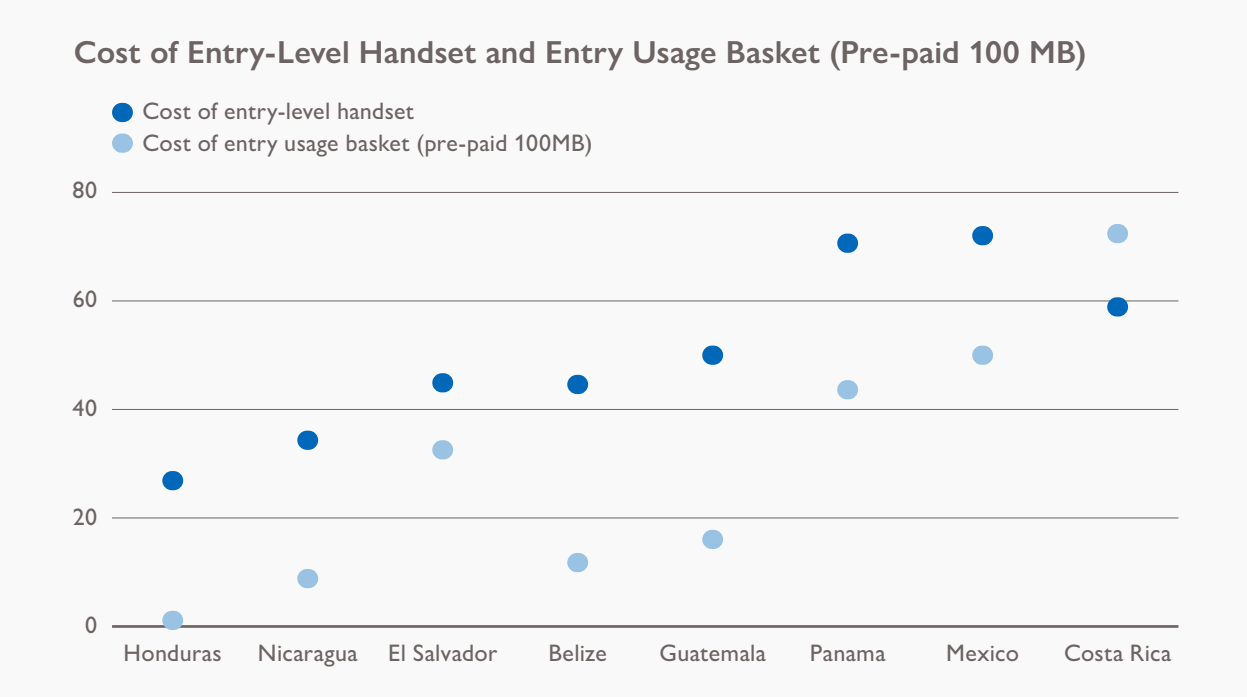
86 Giga, "Honduras Opportunity Brief," Giga Honduras, 2021, https://s41713.pcdn.co/wp-content/uploads/2021/03/Honduras-Opportunity-Brief.pdf.

87 We Are Social and Kepios, "Digital Honduras," *DataReportal*, 2022, https://www.slideshare.net/DataReportal/digital-2022-honduras-february-2022-v01.

88 USAID, "Honduras – Information and Communications Technology (ICT) – Country Dashboard – All," *USAID's IDEA*, USAID, 2022, https://idea.usaid.gov/cd/honduras/information-and-communications-technology-ict.

particular, the cost of an entry-level handset, which is the cheapest device available, is yet another barrier to the adoption of mobile broadband. It is expensive to both acquire and maintain a mobile device.

FIGURE 5: Mobile Connectivity Index[89]



One contributor to the unaffordability of broadband is the high taxes levied on the MNOs. This is largely because the telecommunications industry is a major contributor to the country's Gross Domestic Product (GDP). In 2018, the telecommunications sector made up 4.1 percent of Honduras' GDP and is expected to grow to 4.8 percent by 2023.[90] An interview with an MNO representative revealed that the two MNOs pay some of the highest taxes in Honduras, and CONATEL identified that about 33 percent of mobile services costs go to taxes, including municipal taxes (1.8 percent of gross income made in each of the 298 municipalities),[91] one percent for the Universal Service Fund (FITT), security taxes, environmental taxes, etc.[92]

Across interviews, affordability was cited as a key driver of the digital divide, with CONATEL noting,

"*There is 60 percent broadband penetration; the 40 percent who don't have access are affected by the problem of affordability and lack of coverage.*"[93]

With an average income of 3,000–5,000 lempiras (120–200 USD) per month, families often must prioritize food and basic necessities over adding airtime minutes to their phones.[94]

89 "Honduras – Information and Communications Technology (ICT) – Country Dashboard – All." 2022. USAID's IDEA. https://idea.usaid.gov/cd/honduras/information-and-communications-technology-ict.

90 Joel E. Ortega, "Evolution of the Mobile Market in Honduras and Regulatory Strategies for the Development of 5G," *ITU*, 2019, Market/Documents/Events2019/SantoDomingo/RED/RedSesion3Expositor3-en.pdf.

91 MNO representatives, interviewed by DECA team, June 2022, online.

92 Honduras Regulatory Expert, interviewed by DECA team, June 2022, online.

93 Honduras Regulatory Expert, interviewed by DECA team, June 2022, online.

94 NGO Representative, interviewed by DECA team, June 2022, online.

The ITU Policy Impact Lab noted that a reduction in taxes was associated with an increase in investment in both fixed and mobile services, allowing companies to allocate more resources to deploying infrastructure, especially in rural areas where there was previously no business case.[95]

ACCESSIBILITY

In addition to affordability, access to reliable internet is a problem in many parts of Honduras. In 2020, 70 percent of the population had a mobile-cellular connection, with 81 percent covered by 3G and 75 percent covered by 4G.[96] With 60 percent of the population residing in urban areas and 40 percent residing in rural areas that are often difficult to reach due to geography and lack of infrastructure, in many instances there is no business case for MNOs to build and expand infrastructure rurally. A 2016 GSMA report found that building a tower in a remote site requires up to 30 percent more capital and 100 percent more in operating costs; with a fraction of the customers when compared to urban sites, rural operations result in a revenue loss of 95 percent for operators.[97] Where MNOs do not operate, ISPs will use Alternative connectivity solutions to reach rural communities and provide affordable internet access. These solutions often use low-cost equipment connecting to backhaul infrastructure (fiber and towers) through microwave links or satellite dishes.[98] The ITU connectivity map below shows that there is adequate connectivity in most of USAID's 40 priority municipalities, with the Eastern Hub having the least connectivity.[99]

95 ICT Policy Impact Lab, "Executive Summary," *ITU*, 2022, ITU. https://app.gen5.digital/lab/study/summary.

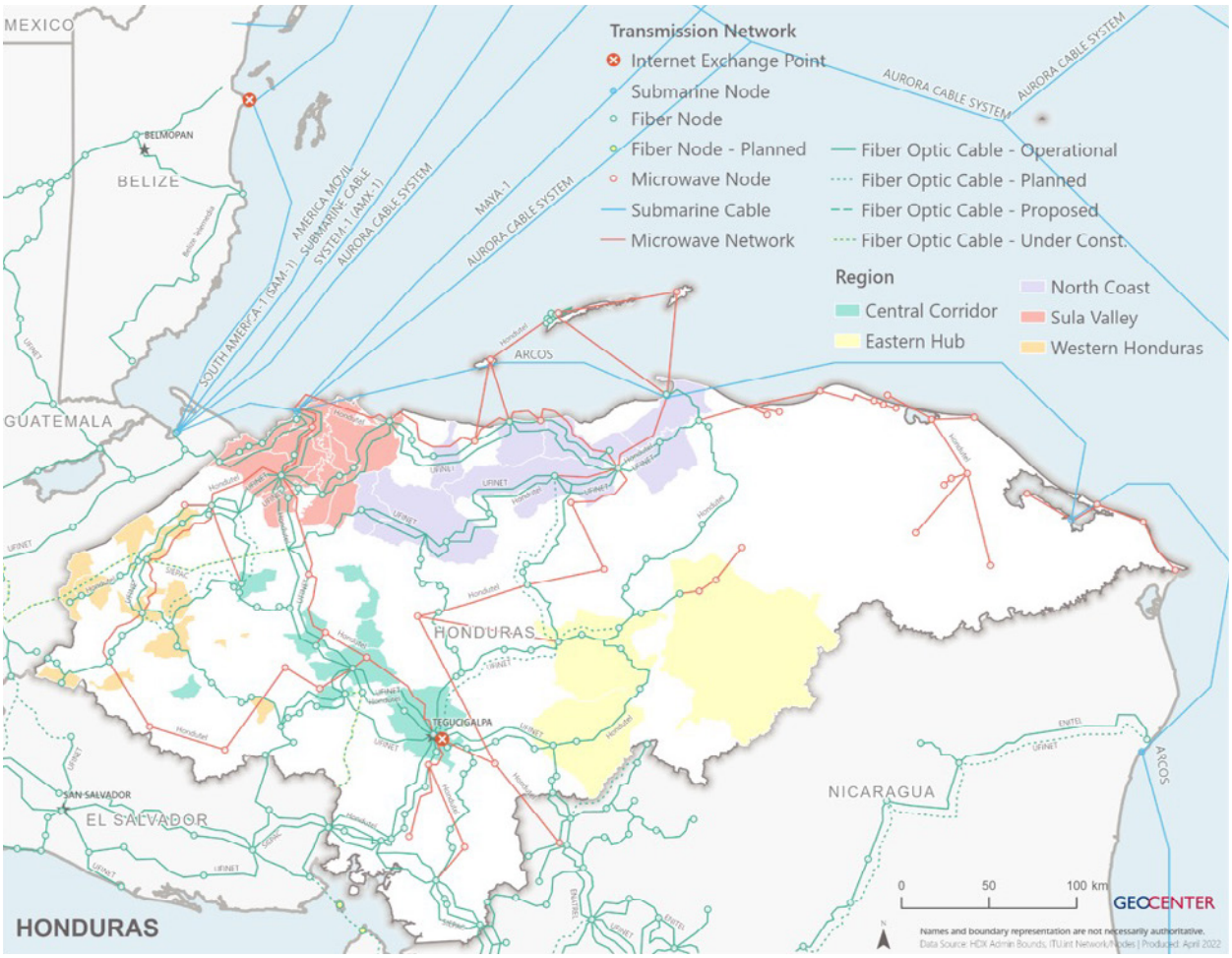
96 ITU, "Digital Development Dashboard," *ITU*, 2019, ITU. https://www.itu.int/en/ITU-D/Statistics/Dashboards/Pages/Digital-Development.aspx.

97 GSMA Intelligence, "Unlocking Rural Coverage: Enablers for commercially sustainable mobile network expansion," *GSMA*, July 22, 2016, https://www.gsma.com/mobilefordevelopment/resources/unlocking-rural-coverage-enablers-commercially-sustainable-mobile-network-expansion.

98 USAID, Caribou Digital, and Digital Impact Alliance, "Closing the Access Gap: Innovation to Accelerate Universal Internet Adoption," USAID, February 2017," *USAID*. https://www.usaid.gov/digital-development/closing-access-gap.

99 ITU, "ITU Interactive Terrestrial Transmission/ESCAP Asia-Pacific Information Superhighway Maps," *ITU*, 2022, https://www.itu.int/itu-d/tnd-map-public/.

FIGURE 6: Connectivity in USAID's 40 priority municipalities



Access to electricity is necessary for connectivity. A 2021 household survey from Honduras' National Institute of Statistics found that while almost all urban dwellers have access to electricity, only 78.7 percent of rural households have access.[100] Giga estimates that 45 percent of schools lack access to electricity,[101] and 58 percent of schools are located more than five kilometers from a broadband connection.[102] Learn more about the Honduras Giga project and the challenges they have encountered in the box below.

BOX 4: Giga in Honduras

In 2019, UNICEF and ITU launched Giga, an initiative to connect every school in the world to the internet by 2030 and to ensure every student has access to information, opportunity, and choice. The project has three pillars:

1. **Map:** Maintains a real-time map of school connectivity to identify demand for infrastructure and funds, measures progress toward increasing internet access, and continuously monitors global connectivity.

100 Instituto Nacional de Estadísticas, "LXXIII Encuesta Permanente de Hogares de Propósitos Múltiples," *El Instituto Nacional de Estadística*, October 2021, https://www.ine.gob.hn/V3/imag-doc/2022/03/Resumen-Ejecutivo.pdf.

101 Giga, "Connecting 24 Public Schools in Honduras," Giga, April 12, 2022," Unicef. https://giga.global/connecting-24-public-schools-in-honduras/.

102 Inter-American Development Bank, "Digital Transformation For Increased Competitiveness: Loan Proposal, Honduras," *Germany Trade and Invest*, IDB, 2019, https://www.gtai.de/resource/blob/216710/0c178648436b550369a6ed16d7e476bd/pro202001295031-data.pdf.

BOX 4 (CONTINUED): Giga in Honduras

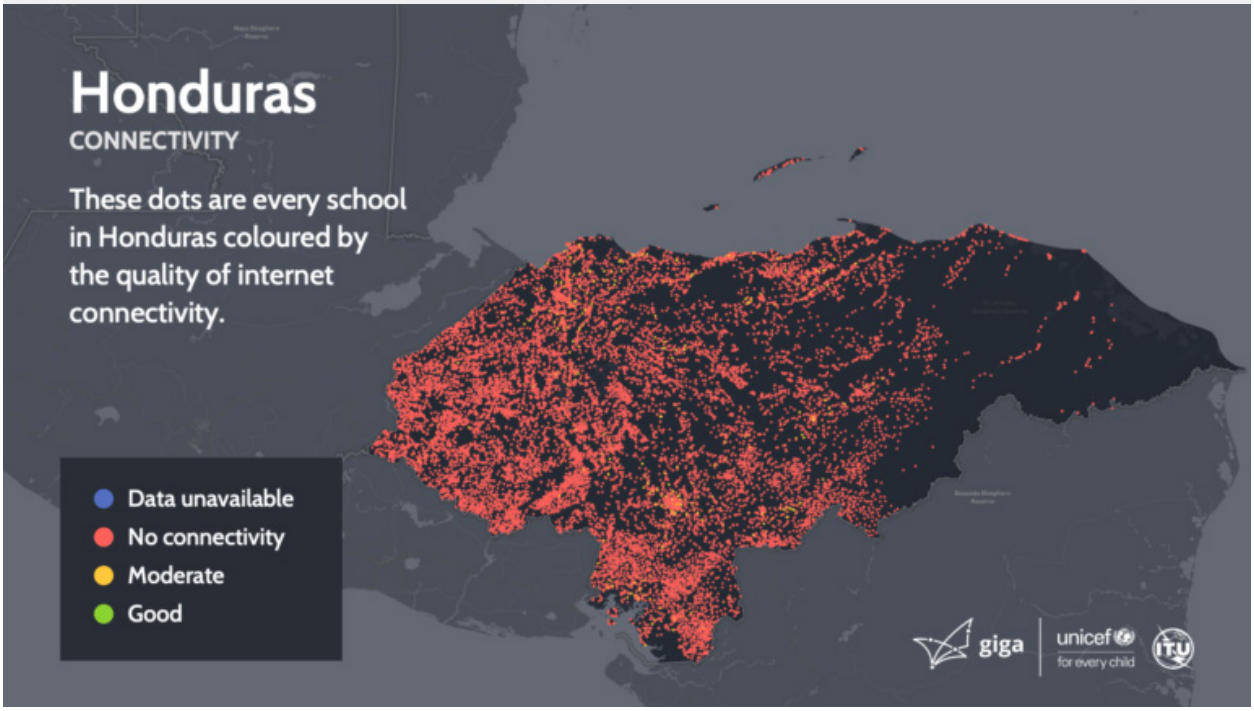
2. **Finance:** Works with governments and advises them on building affordable and sustainable country-specific models for finance and delivery, subsidizing market creation costs and incentivizing private sector investment.

3. **Connect:** In partnership with industry, and based on the mapping results, Giga advises on the best possible technical solutions to provide schools with connectivity and provide countries with safe, secure, reliable, fit for purpose infrastructure to support future digital development needs.

Through the process of conducting a GIS mapping of schools, Giga estimates that 16,445 (of 17,000) schools in Honduras need to be connected (FIGURE 7).[103] They identified four priorities to create meaningful school connectivity[104] in Honduras: connect rural areas, improve existing coverage, increase affordability, and provide electricity for all schools.

"*We see schools as an interpoint in the communities, so we identify the schools' needing connectivity. We facilitate the infrastructure to connect them but also to connect the community as well.*"[105]

FIGURE 7: Honduras Giga Project Connect Map



Based on the mapping exercise, Giga released a competitive bid with a few requirements that internet providers would need to meet: offer speeds of at least 20 Mbps (the minimum requirement for meaningful school connectivity) dedicated solely to schools' educational purposes and supply 20 Mbps for community internet use, offering access through outdoor WiFi hotspots, ensuring a firewall for children's online protection, and installing access points to provide connectivity throughout the schools' premises. While Giga typically receives a wide range of proposals, they

103 As of September 26, 2022, 94 percent of schools in Honduras are not connected to the internet. UNICEF, "Honduras – Giga," *Giga*, accessed October 2022, https://giga.global/honduras/.

104 Meaningful school connectivity is defined as providing fast, reliable, affordable access, allowing for skill development, ownership of a "smart" device, and the ability for safe navigation. Giga, "Connecting 24 Public Schools in Honduras," *Giga*, UNICEF, April 12, 2022, Giga. https://giga.global/connecting-24-public-schools-in-honduras/.

105 INGO, interviewed by DECA team, June 2022, online.

FIGURE 7 (CONTINUED): Honduras Giga Project Connect Map

only received five proposals in Honduras, only two of which were viable. The solutions proposed were not very innovative, especially those seeking to connect the most remote schools; they relied on current fiber infrastructure and access to the grid and had very high operating costs. When looking at the proposed budgets, there was a lack of transparency and consistency around equipment costs that providers could not explain. It was the first time Giga had experienced such discrepancies in a procurement process.[106]

Eventually, one of the providers was awarded the bid to pilot connecting 24 schools.[107] Because the provider proposed utilizing existing fiber infrastructure, Giga could not choose to pilot the most remote schools but instead opted for schools that were near enough to be connected through existing fiber and could provide broader connectivity to the community. Learnings from the pilot will inform the scaling up of the project to ultimately connect over 16,000 schools and surrounding communities in Honduras. Although connectivity itself does not directly prevent irregular migration and given that education achievement reduces intention to migrate, providing access to affordable and sustainable internet will present Honduran youth with new opportunities and information that can bring stability and growth for a new generation, stemming the tide of migration.[108]

THE DIGITAL DIVIDE

A pillar of President Xiomara Castro's Digital Republic Plan is to bridge the digital divide, including recognizing access to the internet as a human right and providing free connectivity for all Hondurans.[109] Generally, the digital divide refers to how different factors of geography, economic status, social status, and gender affect access to and use of technology (see KEY TERMS BOX 3). For example, a 2020 report by the Organization for Economic Co-operation and Development (OECD) found that in Honduras the gap between the richest and poorest was 58 percent.[110] Similarly, a 2021 household survey conducted by the GOH found that 54 percent of urban residents have access to the internet, compared to 46 percent in rural areas who predominantly use mobile broadband.[111]

KEY TERMS | BOX 3: The digital divide explained

The digital divide is the distinction between those who have access to and can use digital products and services and those who are excluded. Often, digital divides overlap, stemming from inequities in literacy, cost, social norms, or availability of relevant content. Digital divides may be associated with gender, economic status, geography, and age, among other factors.

106 According to the 2021 Giga Annual report, Giga has connected over 3,200+ schools and mapped over one million schools across 42 countries in Africa, Central Asia, Latin America, and the Organization of Eastern Caribbean States. In addition, Giga has mapped infrastructure for extending connectivity in 18 countries. *Giga*, "Giga Annual Report: 1 million students connected to the Internet" Giga, UNICEF, March 31, 2022.

107 Giga, "Connecting 24 Public Schools in Honduras," *Giga*, UNICEF, April 12, 2022, https://giga.global/connecting-24-public-schools-in-honduras/.

108 Monitoring and Evaluation Support for Collaborative Learning and Adapting (MESCLA) Activity, "Snapshot of Migration Learning at USAID/Honduras," *USAID*, Dexis, https://pdf.usaid.gov/pdf_docs/PA00XXBK.pdf.

109 Assessment and Proposals for Digital Government, Digital Government Working Group, January 2022, Presidential Transition.

110 Organization for Economic Co-operation and Development, et al, "Annex 3.A1. Selected data at country level on Internet access and ICT use," *Latin American Economic Outlook 2020: Digital Transformation for Building Back Better*, OECD Publishing, 2020," https://www.oecd-ilibrary.org/sites/e7a00fd6-en/index.html?itemId=/content/component/e7a00fd6-en#annex-3.A1.

111 Government of Honduras and El Instituto Nacional de Estadística, "Encuesta Permanente de Hogares de Propósitos Múltiples," *Instituto Nacional de Estadística Honduras*, 2021, https://www.ine.gob.hn/V3/ephpm/.

In 2021, Executive Decree PCM 034-2021 was issued to establish the Connectivity Subsidy Program for Vulnerable Households. The program, which will be funded through the FITT, will subsidize vulnerable homes in the amount of 15 USD per month for one year (a total of 180 USD per household) to pay for broadband services, with the objective of closing the digital divide and providing access to new social and economic opportunities. The Honduras Association of Municipalities identified 75,000 vulnerable households in the socio-economic file of the Single Registry of Participants of the National Center for Social Sector Information. Eligibility was determined by monthly income levels, established by the Multidimensional Poverty Index and the Index of the Poor by Income.[112] The program will be carried out through the National Broadband Plan, which has yet to be implemented. Given that affordability is the biggest barrier to access, this subsidy is a short-term solution that does not address the root causes of the digital divide. The root causes can be addressed, in part, by expanding connectivity and creating a more affordable market through competition.

Additionally, if not implemented correctly, this connectivity subsidy could deepen the digital divide; considerations for successful implementation include: how the subsidy is issued (through bank accounts or mobile money—either of which can exclude groups who don't have access to accounts), to whom the subsidy is issued (who owns the account—will women receive the funds if they are not the breadwinners?), and how the subsidy will be tracked (will it actually go toward internet costs?). Not to mention, providing support to only 75,000 households will have minimal impact on closing the national digital divide.[113]

THE GENDER DIGITAL DIVIDE

In Honduras, women are 15 percent less likely to own a mobile phone than men.[114] An interview with an Non-Governmental Organization (NGO) also revealed that when women do own a mobile phone, it is more likely to be the second phone in the household and used as a family phone, whereas a man's phone will be for his private use.[115] There is a socio-economic cost to the gender digital divide. A recent study from A4AI found that, globally, low- and lower-middle-income countries missed out on 126 billion USD in GDP in 2020 alone and over one trillion USD in GDP over the last decade due to the gender digital divide.[116] A4AI identifies the digital divide as a technological disparity (one created by access challenges), while the gender digital divide is created by social conditions.[117] Globally, the key drivers of the gender digital divide include the lack of affordability of phones and high data costs, wage gaps (since women are more likely to work in the informal economy), fear around privacy and security online, and socio-cultural norms. As one interviewee noted, in Honduras women have more household responsibilities and are often forced to prioritize these over studying or working. Teen pregnancy is also a huge issue contributing to the country's gender digital divide.[118]

One component of the gender digital divide about which there is minimal data is gender-based violence online. Honduras has the highest femicide rate in Latin America,[119] with more than 240 reported cases in 2021 alone.

---

112 Republic of Honduras, "Executive Decree PCM 034-2021. Connectivity Subsidy Program for Vulnerable Households," (Tegucigalpa: Republic of Honduras, Executive Branch, 2021), pages 7–13, https://siteal.iiep.unesco.org/sites/default/files/sit_accion_files/honduras_programa_subsidio_de_conectividad_para_hogares_vulnerables_pcm_034-2021_2.pdf.

113 Assessment and Proposals for Digital Government, Digital Government Working Group, January 2022, Presidential Transition.

114 Strategic Impact Advisors, "Honduras Digital Agriculture Assessment: A report for USAID/Feed the Future," *Digital Frontiers*, March 2022, https://files.digitalfrontiersdai.com/media/documents/Public_Final_Honduras_Digital_Agriculture_Assessment.pdf.

115 NGO Representative, interviewed by DECA team, June 2022, online.

116 Ana María Rodríguez Pulgarín and Teddy Woodhouse, "The Costs of Exclusion Economic: Consequences of the Digital Gender Gap," *A4AI*, Web Foundation," Alliance for Affordable Internet.

117 Ibid.

118 Regional Education Expert, interviewed by DECA team, May 2022, online.

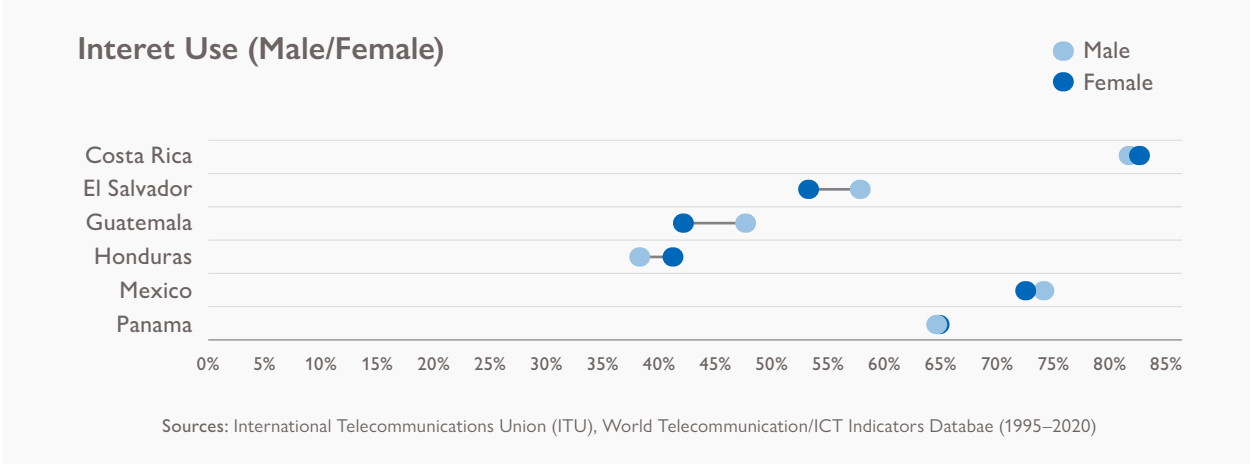
119 Maria Elena Cálix, "UNSDG | Violence against women, the other pandemic impacting Honduras," *United Nations Sustainable Development Group*, December 8, 2021, https://unsdg.un.org/latest/stories/violence-against-women-other-pandemic-impacting-honduras.

A landscape analysis on technology-facilitated gender-based violence noted that in 2015, 73 percent of women globally had experienced or been exposed to threats, harassment, or stalking online. Furthermore, offline violence is frequently linked to online violence; when perpetrators can use the anonymity of the internet to track and follow victims (especially via social media), this leaves women at an increased risk of physical violence.[120] In Honduras, where women (and men) experience high rates of offline violence, the country is likely to witness an increase in online gender-based violence as internet permeation rates rise (for more information see BOX 15: Non-consensual dissemination of intimate images).

Similarly, women with disabilities have the lowest rates of internet use and are least likely to own a smartphone. Though there is no country-specific data for Honduras, a study conducted by the GSMA in Mexico found that 41 percent of women with disabilities used mobile internet, compared to 75 percent of women without disabilities. Key barriers for women with disabilities included the relevance of content, digital literacy and skills, and fears around safety and security.[121] Addressing these barriers for disabled and vulnerable groups requires increasing awareness regarding products relevant to their needs; digital literacy training specifically around security concerns; and supporting the development of digital skills that are inclusive of their disabilities.[122]

Interestingly, where data does exist, it tells a more positive story. Compared to its neighbors El Salvador and Guatemala, Honduras has a minimal gender gap. When it comes to internet use, Honduras is the only country where more women use the internet (41 percent) compared to men (38 percent) (see FIGURE 8).[123] Similarly, Honduras has the smallest gender gap in access to the internet, ranking 70 out of 100; although it falls slightly behind El Salvador on the gender gap in mobile phone access (see TABLE 2).[124] While Honduras has not reached parity, it is ahead of its Northern Triangle neighbors.

FIGURE 8: Gender divide in internet use across Central America[125]



Sources: International Telecommunications Union (ITU), World Telecommunication/ICT Indicators Databae (1995–2020)

120 NORC at the University of Chicago and International Center for Research on Women, "Landscape Analysis of Technology-Facilitated Gender-Based Violence: Findings From The Asia Region," *International Center for Research on Women*, USAID, February 2022, https://www.icrw.org/wp-content/uploads/2021/09/.

121 Clara Aranda Jan and Matt Shanahan, "The digital divide at the intersection of gender and disability," *GSMA*, July 16, 2020, https://www.gsma.com/mobilefordevelopment/blog/the-digital-divide-at-the-intersection-of-gender-and-disability/.

122 Ibid.

123 ITU, "Digital Development Dashboard," *ITU*, 2019, ITU. https://www.itu.int/en/ITU-D/Statistics/Dashboards/Pages/Digital-Development.aspx.

124 Economist Impact, "Inclusive Internet Index 2022," *The Economist Impact*, accessed October 2022, https://impact.economist.com/projects/inclusive-internet-index/2022/availability?country=Honduras.

125 Word Bank, "Individuals using the Internet (% of population) – Honduras, El Salvador, Guatemala, Mexico, Nicaragua, Costa Rica, Belize," World Bank Open Data, 2020, https://data.worldbank.org/indicator/IT.NET.USER.ZS?locations=HN-SV-GT-MX-NI-CR-BZ.

TABLE 2: Gender gap in internet and mobile phone access

	Gender gap in internet access	Gender gap in mobile phone access
Honduras	70th	78th
El Salvador	83rd	65th
Guatemala	89th	96th

Additional evidence finds that more women (51 percent) use social media than men (49 percent).[126] And while literacy rates for Honduran men and women are equal at 89 percent, women are more likely to enroll in and complete school (10.7 years of education for women vs. 9.8 years for men).[127] However, when it comes to enrollment in IT educational programs, women only account for 30 percent of graduates.[128]

1.3 LAST-MILE CONNECTIVITY

ALTERNATIVE CONNECTIVITY SOLUTIONS

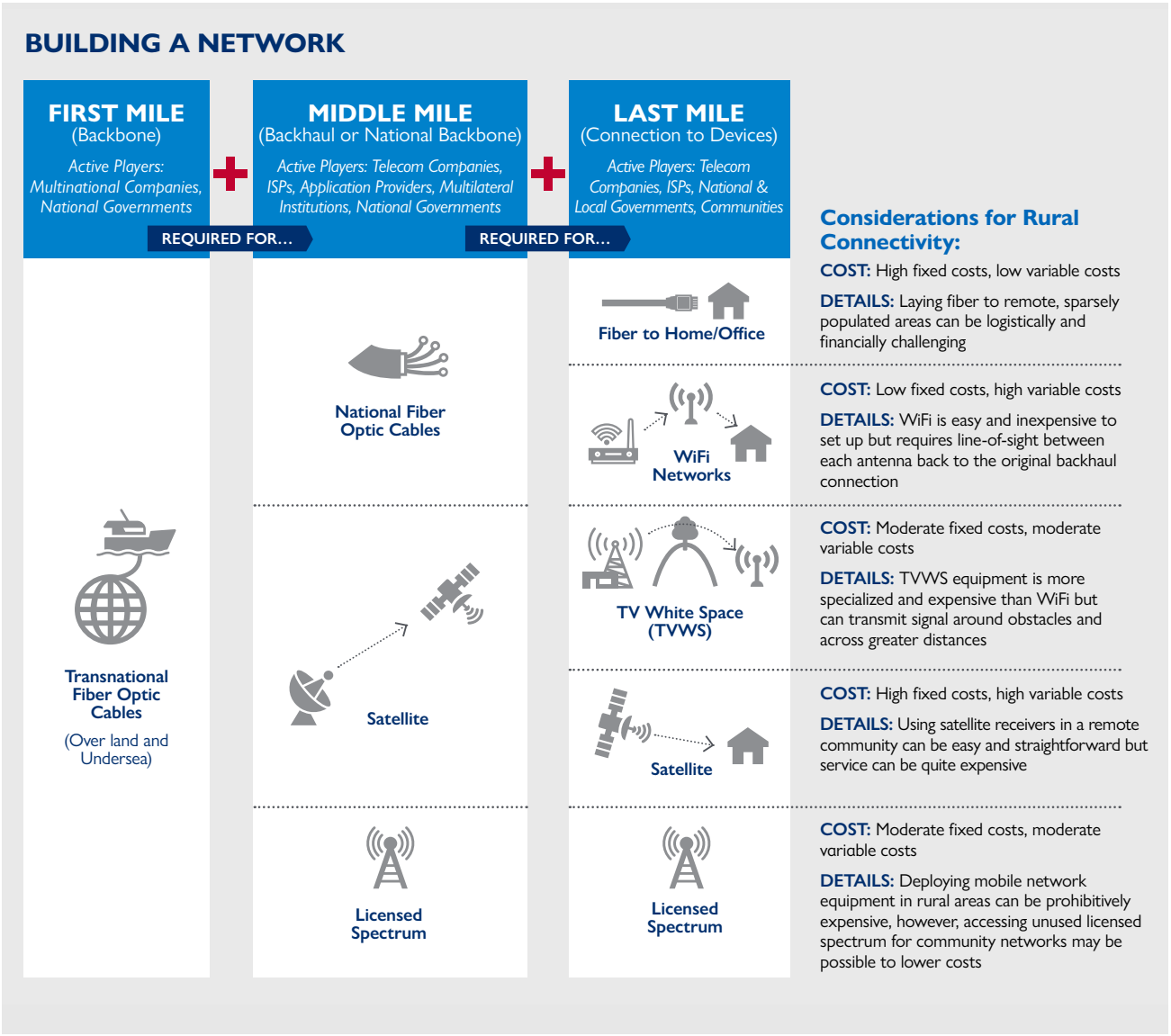
Given Honduras' history, the duopoly of Tigo and Claro, and the lack of regulations, expectations of creating a competitive market and expanding access through the entrance of a third MNO are marginal. Instead, to reach last-mile populations, rural ISPs can enable cost-effective alternative connectivity solutions, such as TVWS, WiFi networks, unlicensed spectrum, satellites, and more (see FIGURE 9).

126 We Are Social and Kepios, "Digital Honduras," *DataReportal*, 2022, https://www.slideshare.net/DataReportal/digital-2022-honduras-february-2022-v01.

127 World Economic Forum, "Global Gender Gap Report 2020," *World Economic Forum*, 2020, https://www3.weforum.org/docs/WEF_GGGR_2020.pdf.

128 Women and Girls Empowered (WAGE), "El Empoderamiento Económico de las Mujeres en Honduras: Barreras, Oportunidades y un Camino a Seguir," *American Bar Association*, October 2019, https://www.americanbar.org/content/dam/aba/directories/roli/misc/wage-wee-honduras-spanish-barriers-report.pdf.

FIGURE 9: Building a network



TV WHITE SPACE

TVWS is a technology that uses TV frequencies assigned to broadcasting stations that are not being used.[129] Colombia was the first country in the region to begin regulating TVWS in 2017 and began piloting it in 2018. In Colombia, Microsoft Airband partnered with ISP Anditel and infrastructure provider ATC to utilize TVWS frequencies to connect remote communities.[130] The pilot project used TVWS to establish a network that connected ten schools in the Nariño District. Since the pilot began, Microsoft Airband has worked with local partners to connect over 180 schools and community centers in Colombia alone.[131] In addition to providing broadband, these projects have worked with local industries, such as coffee cooperatives, to integrate digital

129 USAID, Caribou Digital, and Digital Impact Alliance, "Closing the Access Gap: Innovation to Accelerate Universal Internet Adoption," USAID, February 2017," *USAID*. https://www.usaid.gov/digital-development/closing-access-gap.

130 Microsoft Airband, "Broadband connects students, teachers, and new opportunities in rural Colombia," *Microsoft*, accessed October 2022, https://query.prod.cms.rt.microsoft.com/cms/api/am/binary/RE4WZ5n.

131 Nicolás Congote and Sylvie Duchamp, "Internet connectivity brings opportunity to remote region where violence once lived," *Microsoft News*, June 6, 2022, https://news.microsoft.com/innovation-stories/internet-connectivity-brings-opportunity-to-remote-region-where-violence-once-lived/.

literacy skills so that all users can leverage the benefits of technology.[132] The Microsoft Airband initiative has now expanded to Guatemala, India, Ghana, and Kenya,[133] where they partner with local ISPs to provide connectivity through TVWS and partner with USAID on gender-focused connectivity programming.[134]

In March 2021, CONATEL regulated the use of TVWS in Honduras. Upon publication of the regulation, Microsoft Airband partnered with Albavision to begin piloting a TVWS connectivity project in the Comayagua valley to benefit public schools[135]. The TVWS base station is located on a mountain near Comayagua and is more tolerant to interference than other communications systems that require full line of sight. (The base station still requires line of sight to a certain extent—see FIGURE 9: Building a network.)[136, 137] As noted by an ICT expert, "*This [project] was a big win for the educational sector and rural connectivity in general.*"[138]

This TVWS pilot is the first step for Honduras in terms of opening avenues to attract more investment and use alternative connectivity solutions for last-mile connectivity. The President of the Dynamic Spectrum Alliance mentioned in a blog that in her home of Colombia, she encountered many small ISPs that were unaware of the availability and access to TVWS as a potential solution for expanding their services into underserved communities.[139] Honduras has over 100 small ISPs—many of which likely have limited staff and capacity—that do not have time to stay abreast of policy changes, technology changes, and the opportunities available to them.[140]

BOX 5: Azacualpa "Comunidades Inteligentes" Community Network

In 2017, the Lenca women of the indigenous community of Azacualpa created Radio "La Voz de las Mujeres" (The Voice of Women) as a way of promoting gender equity, maintaining and sharing their cultural heritage, and helping promote recognition of indigenous rights.[141]

In 2018, upon seeing the success of La Voz de Las Mujeres and observing the communities' interest in technology and communication, Red de Desarrollo Sostenible (Sustainable Development Network Honduras, RDS-HN)—in partnership with the Internet Society Honduras Chapter and Beyond the Net—worked with the Lenca people of Azacualpa to establish a community WiFi network, connecting over 300 families in the area.[142] The project is called "Comunidades Inteligentes" or "Smart Communities." To ensure the community would take ownership of the WiFi network, with support from local leaders, RDS-HN held a town hall with the citizens and established several committees (administration, project governance, and technical management) that would oversee the development and

132 Microsoft Airband Initiative, "Connectivity strengthens livelihoods, preserves peace in Colombia," *Microsoft*, 2018, https://query.prod.cms.rt.microsoft.com/cms/api/am/binary/RE2MNfI.

133 Paul Mitchell, "Microsoft Airband Initiative," *Broadband Commission*, accessed October 2022, https://www.broadbandcommission.org/Documents/CaseStudies/CaseStudy_Microsoft.pdf.

134 USAID, "Microsoft Airband Initiative," *USAID*, accessed October 2022, https://www.usaid.gov/sites/default/files/documents/Microsoft_OnePager_formatted_1.pdf.

135 Brad Smith, "Answering the call: Microsoft's support for VP Harris' initiative to promote economic opportunity in Central America," *Microsoft Blog*, May 27, 2021, https://blogs.microsoft.com/on-the-issues/2021/05/27/harris-central-america-digital-skills-call-to-action/.

136 Digital Transformation expert, interviewed by DECA team, May 2022, online.

137 Private sector tech company, interviewed by DECA team, May 2022, online.

138 Digital Transformation expert, interviewed by DECA team, May 2022, online.

139 Martha Suárez, "TVWS Unlocking New Possibilities," *Dynamic Spectrum Alliance*, 2020, http://dynamicspectrumalliance.org/tvws-ecosystem-advancing-unlock-new-possibilities/.

140 Telecommunications expert, interviewed by DECA team, June 2022, online.

141 Agustina Callegari, "Las Marías of Azacualpa: Internet for Raising Women's Voices," *Internet Society*, August 2, 2018, https://www.internetsociety.org/blog/2018/08/las-marias-from-azacualpa-internet-for-raising-womens-voices/.

142 Nicoletta Metri, "How the Lenca Are Restoring the Past to Build Their Future," *Internet Society*, April 5, 2018, https://www.internetsociety.org/blog/2018/04/lenca-people-restoring-past-build-future/.

BOX 5 (CONTINUED): Azacualpa "Comunidades Inteligentes" Community Network

maintenance of the community network.[143] As part of the project, RDS-HN helped build a telecenter with five computers connected to the network and provided 70 smartphones to the community.[144] As part of the sustainability plan, groups received training on everything from digital literacy and cyber hygiene (see digital literacy) to resource management. Gender inclusion was a primary focus of the training, as 12 of the groups were all women.

The Network

The community network is composed of a series of wireless relay networks to bring internet access to rural areas. The relays begin with base stations in La Esperanza, which provides a backhaul connection to the internet through a fiber-optic cable. A series of radio towers are set up on mountain tops and connect to each other through point-to-point coverage across the region: 1) from La Esperanza – Quiaterique; 2) Quiaterique – Santa Catarina; and 3) Santa Catarina – Azacualpa (see FIGURE 10).[145]

FIGURE 10: Point to point: La Esperanza-Quiaterique

Tower 1: Data center and management teams.
Tower 2: Bridge for data transfer.
Green area: Coverage area.

From point to point, the towers use the 5GHz radio spectrum frequency, which can travel about 25 kilometers (~15 miles) to the next point. The tower in Azacualpa connects to end-users in the village using the 2GHz radio spectrum frequency and provides 2G wireless access to users.[146] Today, the Azacualpa community has a contract with the ASI Network, a medium-sized ISP with 13 offices across Honduras that provides point-to-point connectivity.[147]

143 Nancy Quiros, "In Azacualpa, Honduras: 'Smart Communities' Help Preserve Collective Memory," *Internet Society*, November 15, 2018, https://www.internetsociety.org/blog/2018/11/honduras-chapter-smart-communities-to-preserve-memory/.

144 Agustina Callegari, "Las Marías of Azacualpa: Internet for Raising Women's Voices," *Internet Society*, August 2, 2018, https://www.internetsociety.org/blog/2018/08/las-marias-from-azacualpa-internet-for-raising-womens-voices/.

145 NGO, interviewed by DECA team, May 2022, online.

146 NGO, interviewed by DECA team, May 2022, online.

147 ASI Network, "ASI Network Azacualpa," *Facebook*, accessed October 14, 2022, https://www.facebook.com/people/ASI-Network-Azacualpa/100054670470743/.

UNLICENSED SPECTRUM

Since 2000, the use of the 2.4GHz unlicensed spectrum band has been regulated for wireless solutions; however, this regulation has been modified several times, allowing solutions for intercity links, as well as adding regulation for 5GHz and 6GHz of available spectrum in 2021.[148] This new regulation allows any ISP to deploy WiFi networks and can even make intercity links from one municipality to another using the unlicensed spectrum. Additionally, licensed MNOs are not eligible to use unlicensed spectrum bands; only the spectrum bands they have paid for in spectrum auctions are exclusive to them, which helps to promote competition and access.[149] To ensure ISPs are able to access the unlicensed spectrum, CONATEL has begun to recognize these ISPs as legal entities. Although the spectrum itself is free, ISPs are required to register and pay service taxes, which many of them were not previously doing.[150]

With access to unlicensed spectrum, TVWS, and other broadband frequencies, ISPs can have an outsized impact on the market. However, ISPs have no support through association initiatives and little capacity building or training and thus may not understand the relevant rules and regulations. Additional efforts should be made to provide recognition, training, and initiatives that support and align ISPs.

When it comes to regulating unlicensed spectrum, Honduras is one of only eight countries in the LAC region (including Costa Rica and Guatemala) that have opened up the 6GHz band to unlicensed spectrum.[151] By supporting ISPs and continuing to explore flexible policies around alternative connectivity solutions, Honduras can begin to overcome some of its connectivity, affordability, and access challenges, even serving as a model for the region.

To support regulators in building their knowledge and understanding of the benefits of unlicensed spectrum, the Dynamic Spectrum Alliance, in collaboration with the Center for Advanced Studies on Broadband for Development (CEABAD), has developed a training program. The program has four modules that cover the history of WiFi, the economic benefits of unlicensed spectrum, the importance of spectrum sharing, and how to develop flexible policies and regulations to promote an open, competitive, and affordable market.[152]

BOX 6: Use-it or share-it[153]

Across the telecommunications community there is a growing practice of "use-it-or share-it" when it comes to spectrum allocation. While unlicensed spectrum is available to all, licensed spectrum is primarily auctioned to MNOs who have exclusive rights to the spectrum and are protected from interference from other frequencies—but that does not mean MNOs fully use the licensed spectrum. Most commonly, MNOs build networks in urban areas but do not allocate the spectrum in rural areas where there is no business case for their services. Thus, there is unused licensed spectrum that could be used for last-mile connectivity. Spectrum sharing, like unlicensed spectrum, is yet another means of improving the affordability and availability of wireless broadband.

148 Honduras Regulatory Expert, interviewed by DECA team, June 2022, online.

149 Honduras Regulatory Expert, interviewed by DECA team, June 2022, online.

150 Telecommunications expert, interviewed by DECA team, June 2022, online.

151 Telecommunications expert, interviewed by DECA team, June 2022, online.

152 CEABAD, "Invisible y Omnipresente, Wi-Fi y su evolución hasta hoy," *CEABAD*, August 2022, https://ceabad.com/producto/invisible-y-omnipresente-wi-fi-y-su-evolucion-hasta-hoy-agosto-2022/.

153 Michael Calabrese, "Use It or Share It," *New America*, 2021, https://www.newamerica.org/oti/reports/use-it-or-share-it/iii-major-benefits-of-a-use-it-or-share-it-policy.

BOX 6 (CONTINUED): Use-it or share-it

The challenge involves regulation, as MNOs may be reluctant to share their spectrum without a return benefit. One option is for MNOs to lease unused, licensed spectrum to ISPs. This benefits MNOs because they can profit off of unused frequencies, while ISPs will have access to protected frequencies and can expand their reach. Vertical industries[154] may also be interested in leasing or purchasing unused spectrum as a means of expanding their operations and improving outputs (a value-add to the economy). Flexible policies could be explored as part of the Spectrum National Plan.[155]

1.4 MAKING SPACE FOR DIGITAL LITERACY IN DIGITIZING EDUCATION

CONNECTIVITY CHALLENGES IN EDUCATION

The rate of school enrollment in Honduras was already declining prior to the COVID-19 pandemic, which halted in-person learning and exacerbated this decline. Between 2014 and February 2020, the national education system reported a loss of more than 150,000 enrolled students.[156] And in 2020, only 46 percent of registered students finished out the year; this is due, in part, to the fact that less than 40 percent of families had access to the internet to complete classes online in 2021.[157]

During the COVID-19 pandemic, lack of connectivity for families correlated with a decline in school attendance.[158] This educational dilemma poses new challenges for activities focused on reducing migration. The USAID MESCLA Activity 2021 found that each level of education completed corresponded with a reduced probability of intentions to migrate: those with some university-level education (9 percent probability of intentions to migrate), those who completed secondary education (12 percent), those with some primary education (20 percent).[159] Therefore, connectivity could help to reduce irregular migration by providing more students and families with access to educational resources, as well as job opportunities, skills, and information. These factors are shown to help reduce poverty, improve community development, and can even increase economic outputs and GDP. However, simply providing internet access and equipment is not enough, as emphasized by one interviewee, "*We are an important part of the digital issue to provide the service, but it is necessary to include education and equipment in the plans to support it [internet access], not only to think about connectivity. Alliances are important to provide infrastructure along with the educational component.*"[160] In other words, connectivity must be tied to digital literacy.

154 Vertical industries are defined as companies, industries, and public sector organizations operating in a specific sector, such as the coffee industry or manufacturing plants. GSMA, "Mobile Networks for Industry Verticals: Spectrum Best Practice," *GSMA*, July 2021, GSMA. https://www.gsma.com/spectrum/wp-content/uploads/2021/07/Mobile-Networks-Industry-Verticals.pdf.

155 Telecommunications expert, interviewed by DECA team, June 2022, online.

156 Fundación para la Educación Ricardo Ernesto Maduro Andreu and USAID, "Honduras: Educational Progress Report, *The Dialogue*, June 6, 2022, https://www.thedialogue.org/analysis/honduras-educational-progress-report/.

157 La Prensa Latina, "Honduran teachers ready to return to classrooms, but with conditions," *La Prensa Latina*, January 3, 2022, https://www.laprensalatina.com/honduran-teachers-ready-to-return-to-classrooms-but-with-conditions/.

158 Ibid.

159 Monitoring and Evaluation Support for Collaborative Learning and Adapting (MESCLA) Activity, "Snapshot of Migration Learning at USAID/Honduras," *USAID*, Dexis, https://pdf.usaid.gov/pdf_docs/PA00XXBK.pdf.

160 Representative, MNO, interviewed by DECA team, June 2022, online.

BOX 7: Spotlight on digital literacy programs in Honduras

There are several companies and organizations that are actively working in digital education.

- **Tigo:** In partnership with the USAID GENESIS project and the National Foundation for the Development of Honduras (FUNADEH), Tigo is providing free internet services and digital skills training to over 20 youth outreach centers in vulnerable communities, reaching close to 14,000 at-risk youth.[161] Tigo also recently partnered with the Grameen Foundation to create free learning modules through its Conectadas program (launched in Honduras in 2019). This new program focuses on bridging the gender digital divide, offering courses for women on digital and financial literacy, cyber hygiene, and leveraging social media to promote entrepreneurship.[162]
  - » On October 10-11, 2022, Tigo (Millicom) hosted the second virtual Congress of Maestr@s Conectad@s of Latin America. The program provides teachers with digital literacy skills and brings education experts from the region to train teachers on technology integration, 4.0 classroom skills, and soft skills needed for inclusive digital learning. The Congress of Maestr@s Conectad@s is free to all teachers, streamed through YouTube, and had over 50,000 participants in 2022. Since the beginning of the program in 2020, the Congress has trained more than 250,000 teachers across nine countries.[163]

- **Fundación Terra:**[164] The "Fundación Terra Te Conecta (Terra Foundation Connects You)" program is an education platform available to students through the EDUCATRACHOS platform. The platform can be used both online and downloaded onto devices for offline use. Students are paired with tutors (honor students from fifth to ninth grade) who support them in learning math and Spanish through the platform. In June 2020, Fundación Terra joined the U.S. Partnership for Central America as part of U.S. Vice President Kamala Harris' Call to Action.[165] As part of the partnership, Fundación Terra will provide further investments in programs to improve education on, access to, and use of digital technology, entrepreneurship, financial literacy, and the environment.

- **The Microsoft Global Initiative**:[166] began in Honduras as a response to Hurricane Eta in 2020, providing a platform to coordinate relief services. Since then, it has trained over 12,000 Hondurans with digital skills. As part of the U.S. Call to Action, Microsoft's Global Training Initiative will seek further partnerships with private, public, and non-profit organizations to provide digital skills training to help at-risk youth access opportunities in education, employment, and entrepreneurship.

- **Fundación Zamora Terán:**[167] Digital technology and digital literacy are at the heart of Fundación Zamora Terán's approach to education. From their virtual campus and courses on digital skills to providing digital literacy training to teachers and promoting the integration of Science, Technology, Engineering, Arts, and Mathematics (STEAM) through their Innovation Center, Fundación Zamora Terán is at the forefront of ICT and education.

161 Millicom and Tigo, "Digital Inclusion," *Millicom*, 2021, https://www.millicom.com/what-we-stand-for/society/digital-inclusion/.

162 Millicom, "Tigo to launch new digital 'Conectadas' platform for the digital skilling and inclusion of women and girls in Latin America," *Millicom*, April 28, 2022, https://millicom.gcs-web.com/news-releases/news-release-details/millicom-tigo-launch-new-digital-conectadas-platform-digital.

163 Millicom International Cellular, "Millicom (Tigo) announces its Second Congress of Maestr@s Conectad@s of Latin America," *yahoo!*, October 4, 2022, https://www.yahoo.com/now/millicom-tigo-announces-second-congress-162800611.html?guccounter=1&guce_referrer=aHR0cHM6Ly93d3cuZ29vZ2xlLmNvbS8&guce_referrer_sig=AQAAACLyaVFXRCeDUadFRrqfnHlq0PSTZGcDBG-vkjiIoAWCLGNrTGzxqXZ8Jw870xJq-Vm0LhPmmg--rfaXUOAS5sOtdvej3x.

164 Fundación Terra, "Home," accessed October 2022, https://terra-fundacion.org/en#carousel__image_tabs_134084.

165 Centroamérica Economía, "Fundación Terra se Incorpora a Partnership for Central America," *Centroamérica Economía*, June 13, 2022, /fundacion-terra-en-partnership-for-central-america/.

166 World Today News, "Microsoft joins a public-private initiative to promote economic opportunities and develop digital skills in Central America – Spanish Version," *World Today News*, June 3, 2021. https://www.world-today-news.com/microsoft-joins-a-public-private-initiative-to-promote-economic-opportunities-and-develop-digital-skills-in-central-america-spanish-version/.

167 Fundación Zamora Terán, "Home," accessed October 2022, https://fundacionzt.org/en/.

DIGITAL LITERACY

Low levels of digital literacy and lack of trust in digital tools are secondary barriers to the uptake of digital tools and services in Honduras. Honduras ranks 77th out of 100 countries on the Inclusive Internet Index and has low levels of availability and readiness, coupled with a lack of trust and low levels of internet safety.[168]

Improving digital literacy was a key initiative of the 2014-2018 Honduras Digital Agenda; it outlined the creation of a National Digital Literacy Plan to engage and promote the use of ICT, especially among vulnerable groups. While there is little evidence of implementation of the National Digital Literacy Plan, in 2020 the Ministry of Education launched a new initiative called the Programa Nacional de Transformación Educativa Digital (National Digital Education Transformation Program – PNTED).[169] PNTED's objectives are to close the digital divide in education through:

- Improving coordination across educational institutes (see BOX 8: Silos in education);
- Promoting virtual educational learning platforms;
- Connecting and equipping schools with technology, including technical support and maintenance;
- Updating pedagogies for 21st-century skills, such as communication, collaboration, and critical thinking; and
- Developing the skills and competencies of teachers.

In September 2022, the Ministry of Education (MoE) began to implement PNTED, piloting the program in 71 rural and urban schools across 16 departments.[170] However, it is not clear if digital literacy is included as part of the PNTED Plan to update the curriculum and pedagogies for both students and educators.

Digital literacy[171] encompasses the development of the skills and capacity to safely and effectively use digital devices to access and manage information online (see FIGURE 11). With the onset of COVID-19 and the shift to digital learning, digital literacy has become necessary for teachers, students, and parents alike in navigating virtual learning platforms, collaborating, communicating, and safely accessing information. However, while digitizing curriculums quickly became a priority, digital literacy was not included in the syllabi. As students and teachers engage online, they could be exposing themselves to risks and harm.[172] Digital literacy can help ensure that users (especially vulnerable and marginalized groups) are aware of and have the skills to identify and avoid threats online, threats including but not limited to (see Pillar 2 Cyber crimes: from fiction to reality):

- Exposure to gender-based violence (GBV) online or coercion, which can deter survivors from using digital technology;
- Influence of hate speech, misinformation, and disinformation online;
- Online bullying and gang violence; and
- Protecting privacy and security of personally identifiable information.

168 Availability looks at access to quality infrastructure for internet use; Readiness refers to the skills, capacity, and policies that enable access and use; Trust and Internet safety examines cultural norms and acceptance of the internet. *Economist Impact*, "Inclusive Internet Index 2022," The Economist Impact, accessed October 2022, https://impact.economist.com/projects/inclusive-internet-index/.

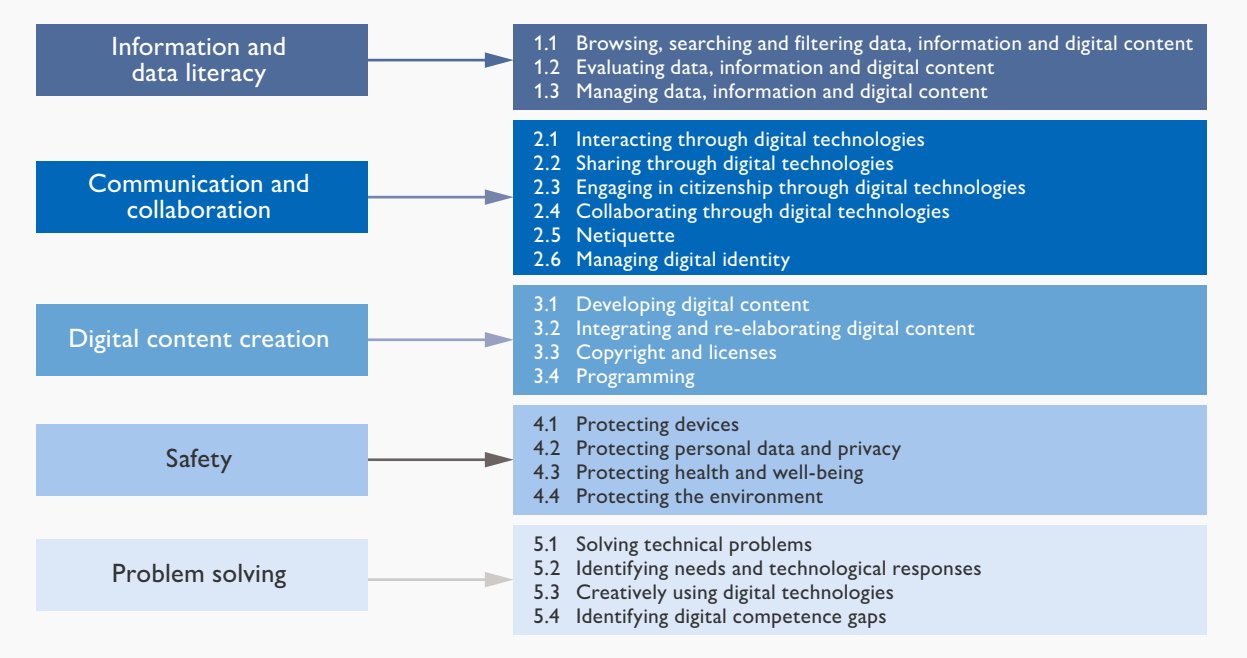
169 UNESCO, "Decreto Ejecutivo N° PCM-132/2020, Programa Nacional de Transformación Educativa Digital," *UNESCO*, SITEAL, 2020, https://siteal.iiep.unesco.org/bdnp/3646/decreto-ejecutivo-ndeg-pcm-1322020-programa-nacional-transformacion-educativa-digital.

170 Government of Honduras, "Gobierno lanza el Programa Nacional de Transformación Educativa Digital," 2022, https://tnh.gob.hn/gobierno/gobierno-lanza-el-programa-nacional-de-transformacion-educativa-digital/.

171 USAID, "Digital Literacy Primer: How to Build Digital Literacy into USAID Programming," *USAID*, 2022, Page 16, https://www.usaid.gov/sites/default/files/documents/USAID_Digital_Literacy_Primer.pdf.

172 Ibid.

FIGURE 11: DigComp 2.2 – Digital Literacy Competence Areas[173]



DIGITIZING EDUCATION

"*While the gap is narrowing, at the same time, progress must continue to be made in developing content that responds to the skills enhanced by technology and not just a transfer to digital. There is a lack of understanding of the subject. It is necessary to develop materials and resources. Develop local capacity for the creation of materials and adapt the enormous amount of material and resources already developed.*" — De Lectores a Líderes program

Before COVID-19 shut down schools, USAID's De Lectores a Líderes[174] Activity was at the forefront of digital education, working with the MoE to develop their first institutional site, EduCatrachos,[175] a portal where teachers could access digital resources.[176] In 2020, when schools closed, De Lectores a Líderes supported the MoE in using the Microsoft Learning Passport platform[177] to begin to digitize the national curriculum, turning paper lessons into 700 multimedia resources, each featuring a 3–5 minute video clip that composes part of the lesson plan and is distributed through WhatsApp as part of a full lesson. Teachers received digital skills training once a month as part of the pedagogical technical support, but this was mostly centered around the use of the digital platform. At the time of writing, De Lectores a Líderes and the MoE were preparing a third webinar to focus on additional digital literacy skills, such as file management and search navigation.

173 USAID, "Digital Literacy Primer: How to Build Digital Literacy into USAID Programming," *USAID*, 2022, Page 16, https://www.usaid.gov/sites/default/files/documents/USAID_Digital_Literacy_Primer.pdf.

174 USAID de Lectores a Lídere s, "USAID Honduras Reading Activity," *Education Development Center*, USAID, accessed October 13, 2022, https://www.edc.org/usaid-de-lectores-l%C3%ADderes-usaid-honduras-reading-activity.

175 Educatrachos, "Home," Edutrachos, accessed October 2022, http://www.educatrachos.hn/.

176 Literacy Specialist, USAID De Lectores a Líderes, interviewed by DECA team, May 2022, online.

177 Microsoft Education Team, "The Learning Passport provides learning continuity for millions of out-of-school children," *Microsoft Education Blog*, February 17, 2022, https://educationblog.microsoft.com/en-us/2022/02/the-learning-passport-provides-learning-continuity-for-millions-of-out-of-school-children.

KEY TERMS | BOX 4: Digitization, digitalization, and digital transformation

Digitization is the conversion of documents into an electronic format.

Digitalization denotes a more profound shift in work processes and organizational culture.

Digital Transformation refers to a large-scale, organization-level, profound change in multiple work processes and in organizational culture brought about by leveraging digital technologies.

One of the biggest challenges in digital education was the initial shift from in-person to online, especially for teachers who had to adapt to new technologies quickly. Anecdotally, interviewees mentioned that for teachers above the age of 40, this was especially challenging, as the teachers had very little experience using the equipment, had trouble understanding how to log into and manage platforms (such as Microsoft Teams or Zoom), and, at times, were reluctant to use the technology. Additional challenges cited include limited technology access and standardization of online engagement platforms. For these reasons, De Lectores a Líderes found that 90 percent of teachers preferred to utilize social media platforms (WhatsApp[178] and Facebook), considering them the most effective means of delivering content because they are familiar and easily adaptable. This may, however, have limited their interest in further digital literacy training.[179]

KEY TERMS | BOX 5: Cyber Hygiene

Cyber hygiene is a key digital literacy skill required to secure data and personally identifiable information on systems and digital devices. Poor cyber hygiene is often the root cause of system vulnerabilities and cyberattacks. Common cyber hygiene practices include: regularly changing passwords, using two-factor authentication, using and updating licensed software, backing up data, and limiting access to systems and platforms.[180]

Using social media and videos to deliver lesson plans promotes digital inclusion. The majority of students, teachers, and parents use social media as their primary means of communication and information gathering. Similarly, for parents who are illiterate, videos are accessible and can promote engagement. However, in communities where USAID works, students and teachers face violence and threats from gangs in schools—and this can extend to the digital world.[181] As examined in Pillar 2 Cyber crimes: from fiction to reality, youth on social media are vulnerable to hate speech, gender-based violence, and the influences of misinformation and disinformation, which can put their privacy and security at risk.[182] For example, USAID's Asegurando la Educación (School-Based Violence Prevention Activity) aims to reduce gender-based violence and make schools safe places to learn. The Actvity integrates gender and social inclusion activities across all of its programs to address harmful social norms and stereotypes and improve students' and teachers' mental and emotional health. The Asegurando la Educación focuses on building community and trust through in-person activities; however,

178 Gupshup, "WhatsApp for Education – A Complete Guide," *Gupshup*, September 29, 2021, https://www.gupshup.io/resources/blog/whatsapp-for-education-a-complete-guide.

179 Literacy Specialist, USAID De Lectores a Líderes, interviewed by DECA team, May 2022, online.

180 USAID and DAI, "Cybersecurity Primer," USAID, October 26, 2021, https://www.usaid.gov/digital-development/usaid-cybersecurity-primer.

181 Claire Mcgilley and Lylli Moya, "Mainstreaming Gender Equity and Inclusion in Honduran Schools," DAI Publications, 2022, *DAI Publications*. https://dai-global-developments.com/articles/mainstreaming-gender-equity-and-inclusion-in-honduran-schools/.

182 USAID and Digital Frontiers, "Digital Literacy Primer: How to Build Digital Literacy into USAID Programming," *USAID*, 2022, https://www.usaid.gov/sites/default/files/documents/USAID_Digital_Literacy_Primer.pdf.

as noted in the gender digital divide section, offline violence is frequently linked to online gender-based violence.[183] Thus, students and teachers should know how to protect themselves offline and online.

A pillar of digital literacy is security[184] (FIGURE 11: DigComp 2.2 – Digital Literacy Competence Areas), which addresses the necessary skills and awareness to use digital tools safely while navigating potential threats. As connectivity expands and more people get online, digital literacy—specifiscally cyber hygiene—should be a core component of education, protecting internet users from online risks and harms, while promoting new opportunities for social and economic participation.

BOX 8: Silos in Education

The curricula developed for primary and secondary students by the MoE is mismatched with the requirements and coursework necessary for universities. An interviewee from the Universidad Tecnológica de Honduras noted that there is no communication between the Council for Higher Education and the MoE regarding students' skill levels.[185] Since digital skills are not requirements in the primary and secondary school curricula, many students do not enter universities prepared with the digital competencies to make it through higher education (skills such as information and data literacy and communication and collaboration—see FIGURE 11: Digital Competencies 2.2). Similarly, teachers graduating from the National Autonomous University of Honduras (UNAH) and the National Pedagogical University—the main institutions from where public teachers earn their degrees – were not adequately prepared to teach online or trained in digital skills until COVID-19 made it a requirement.[186] Another challenge for both students and teachers is access to equipment. As technology rapidly advances, computers, operating systems, and training materials become quickly obsolete and require ongoing financial investment to keep up.

UNAH Online

In 2017, well ahead of COVID-19, UNAH graduated 278 students across professions through its virtual telecenters, in which all classes were conducted online.[187] This model seeks to eliminate the geographic barriers that many students face when trying to achieve higher education. It combines the potential of ICT with innovative strategies to enable access to education. However, if students are not digitally literate and there is no communication around the necessary skills, then the impact is limited.

183 NORC at the University of Chicago and International Center for Research on Women, "Landscape Analysis of Technology-Facilitated Gender-Based Violence: Findings From The Asia Region," *International Center for Research on Women*, USAID, February 2022, https://www.icrw.org/wp-content/uploads/2021/09/USAID-TFGBV-Landscape-Analysis-Asia.pdf.

184 Ibid.

185 Universidad Tecnologica de Honduras, interviewed by DECA team, May 2022, online.

186 Universidad Tecnologica de Honduras, interviewed by DECA team, May 2022, online.

187 Yuri Yadira Vargas Elvir, "UNAH contribuirá en la creación de cuenta satelital de cultura y economía creativa," *Presencia Universitaria*, UNAH, July 20, 2022, https://presencia.unah.edu.hn/archivo/2017/unah-gradua-a-primeros-egresados-de-la-modalidad-virtual/.

PILLAR 2: DIGITAL SOCIETY, RIGHTS, AND GOVERNANCE

Digital Society, Rights, and Governance focuses on how digital technology intersects with government, civil society, and the media. This pillar is divided into three sub-pillars: Internet Freedom; Civil Society and Media; and Digital Government. Internet Freedom explores factors that enable or constrain the exercise of human rights and fundamental freedoms online. This includes individual rights to freedom of speech, privacy, and free assembly and the abuse of these rights through digital repression. Civil Society and Media identifies key institutions and how they report on, advocate around, and influence online freedoms. Digital Government looks at the government's efforts to manage internal information technology (IT) processes and systems, deliver citizen- and business-facing e-services, and engage with the public through digital channels.

KEY TAKEAWAYS

DIGITAL SOCIETY, RIGHTS, AND GOVERNANCE	
• There is no specific law regulating the protection of personal data and its use in public services or the private sector. • Honduras has no cybersecurity laws or government entities to oversee cybersecurity protection. And there is a need to promote confidentiality, integrity, and availability of systems and networks. • The Digital Republic is the official initiative that oversees the implementation of digital government services and guides public agencies to increase the use of technology in public services.	**RELEVANT RECOMMENDATIONS** 4. Support the creation of strategic plans for digital government, e-services, and cybersecurity 5. Promote cyber hygiene for CSOs, journalists, and digital rights activists to increase independent oversight and mitigate digital repression 6. Build the capacity of the security and justice sector to respond to cyber crimes

INTRODUCTION

Honduras aims to implement a digital transformation under its Digital Republic initiative. Throughout the past ten years, Honduras has supported digital government programs, albeit sporadically, to modernize administration, enhance the delivery of e-government services, and increase transparency and accountability. Civil society, the private sector, academia, and media have become key stakeholders in developing a more robust digital ecosystem and strengthening the digital institutional capacity.

2.1 DIGITAL GOVERNMENT

The first Honduras Digital Agenda 2014–2018[188] was launched by the then Technical Secretariat for Planning and International Cooperation, now known as the Results-Based Office of the Ministry of the Presidency. Its main strategic objectives were to increase digital connectivity, establish a digital government, and strengthen the institutional and legal framework. Still, the digital agenda met some of its goals, such as implementing the

188 Secretaría Técnica de Planificación y Cooperación Externa, "Agenda Digital de Honduras 2014–2018: Conectividad, Transparencia, Eficiencia," *SITEAL-UNESCO*, May 28, 2018, https://siteal.iiep.unesco.org/sites/default/files/sit_accion_files/siteal_honduras_5049.pdf.

Telecommunications Council and strengthening the EduCatrachos[189] education platform and the national procurement portal, Honducompras.[190]

The Digital Government Plan 2015–2019[191] was launched as part of the Digital Agenda, with a specific focus to work on the Digital Government Initiative to establish medium- and long-term milestones related to e-government. The initiative met some goals, such as creating the Ministry for Digital Government[192] and the launch of the e-government platform to offer some online and hybrid services.

With the new administration, Honduras is transitioning from implementing the Digital Government Initiative to a Digital Republic initiative to expand the reach and scope of its digital transformation and make it more inclusive.

DIGITAL REPUBLIC: MORE THAN BUILDING A WEBSITE

The new Digital Republic initiative has ushered in a transition in terms of coordinating digital government programs. The main objective of the Digital Republic[193] is to provide technological tools to modernize government services to guarantee access to public information and improve service delivery. During the interview phase of the DECA (May–July 2022), the ministry in charge of implementing the Digital Government Initiative was the Ministry of Transparency and Fight Against Corruption (MTFAC) (through its Digital Government Unit).

However, as of August 2022, the GOH restructured, placing the Results-Based Office of the Ministry of the Presidency in charge of the Digital Republic initiative.[194] The head of this office serves concurrently as President of the National Commission of Banking and Insurance (CNBS), leading different teams at both offices. The Results-Based Office has received financial and technical support from the IDB to design the Digital Republic Public Policy, which has five main lines of action, or "*Ejes*":

1. Efficient and transparent management
2. Connectivity for all
3. Digital inclusion and skills
4. Innovation, entrepreneurship, and digital development

In terms of governance, the policy will be implemented on four levels (see FIGURE 12), with the executing agency of the IDB digital loan serving as the main strategic governance body, which will become the Honduran Agency for the Digital Republic (HADR). The Agency will then establish a technical roundtable for each of the five lines of action. The roundtables will include the participation of government and external stakeholders, including civil society, the private sector, academia, and international organizations.

189 Government of Honduras, "Secretaría de Educación," *Educatrachos*, 2022, http://educatrachos.hn.

190 Government of Honduras, "Home," *Honducompras*, 2022, https://www.honducompras.gob.hn/.

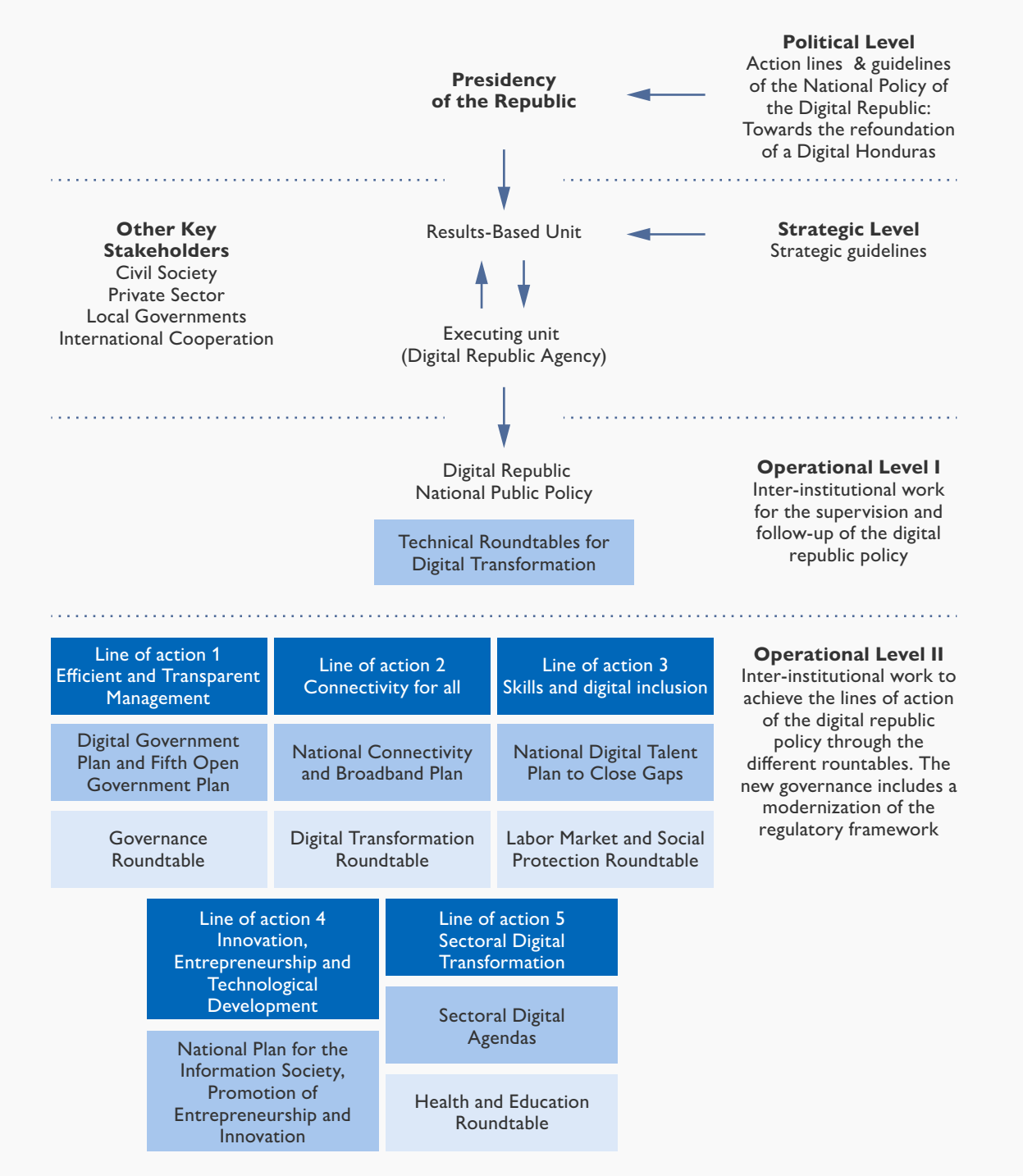
191 Government of Honduras, Secretaría de Coordinación General de Gobierno (SCGG) and Agencia Nacional de Promoción Industrial TI (NIPA), "Plan Maestro del Gobierno Digital para la República de Honduras," *UNESCO*, 2015, https://siteal.iiep.unesco.org/sites/default/files/sit_accion_files/plan_maestro_del_gobierno_digital_para_la_republica_de_honduras.pdf.

192 Red de gobierno electrónico de América Latina y el Caribe, "Marco Midence Juramentado Como Ministro De Gobierno Digital," *Red Gealc*, May 21, 2020, https://www.redgealc.org/contenido-general/noticias/marco-midence-juramentado-como-ministro-de-gobierno-digital/.

193 Government of Honduras, "Plan de Gobierno para Refundar Honduras 2022-2026," *Criterio*, n.d., https://criterio.hn/wp-content/uploads/2021/09/PLAN-DE-GOBIERNO-XIOMARA-CASTRO.pdf.

194 Honduras government official, interviewed by DECA team, September 2022, online.

FIGURE 12: Strategic and operational levels of the Digital Republic Public Policy



DELIVERY OF DIGITAL SERVICES

One of the transversal lines of action is the delivery of digital government services. The steps the Digital Republic Public Policy establishes for rolling out these services are:

- Establish a baseline of current services: identification of key services for citizens, such as procuring drivers licenses or criminal records. So far, the GOH has identified 274 citizen services.

- Red tape reduction: an administrative and legal review of procedures and a reduction of administrative processes.
- Digitalization: the development of technological tools and connectivity. As for interoperability, the GOH is currently evaluating the implementation of either in-house or external services.
- Monitoring and evaluation: creating a monitoring and evaluation system to measure the initiative's efficiency.

In terms of the digital implementation of these services, the GOH plans to slowly pilot a couple of services and roll them out to better understand public uptake of services and identify challenges.

As of the writing of this report, the Digital Republic[195] website offers six online services. However, only two are entirely online, namely criminal records and the authentication of university degrees; the rest are hybrid processes requiring users to go to the given agency in person to verify their identity.

BOX 9: Digital civic engagement to empower youth

On the 2020 E-Participation Index[196] (see FIGURE 13), Honduras scored 0.4881/1 and was ranked 114th out of 193. The Index measures government efforts to improve citizens' access to information and public services and promotes participation in shared decision-making.[197]

There are several digital initiatives to increase citizen participation and government accountability in Honduras. These initiatives are led by both the private sector and the government. The Honduras Digital Challenge (HDC) is a tech incubator co-financed by USAID and the IDB that has launched different digital projects related to education, finance, health.

- **Raise your voice:**[198] a platform for citizens to report local problems by uploading pictures on a map.
- **Power Observatory:**[199] a USAID-funded platform for transparency and accountability in the National Congress.

195 República Digital de Honduras, "Home," accessed October 2022, https://gobiernodigital.gob.hn/.

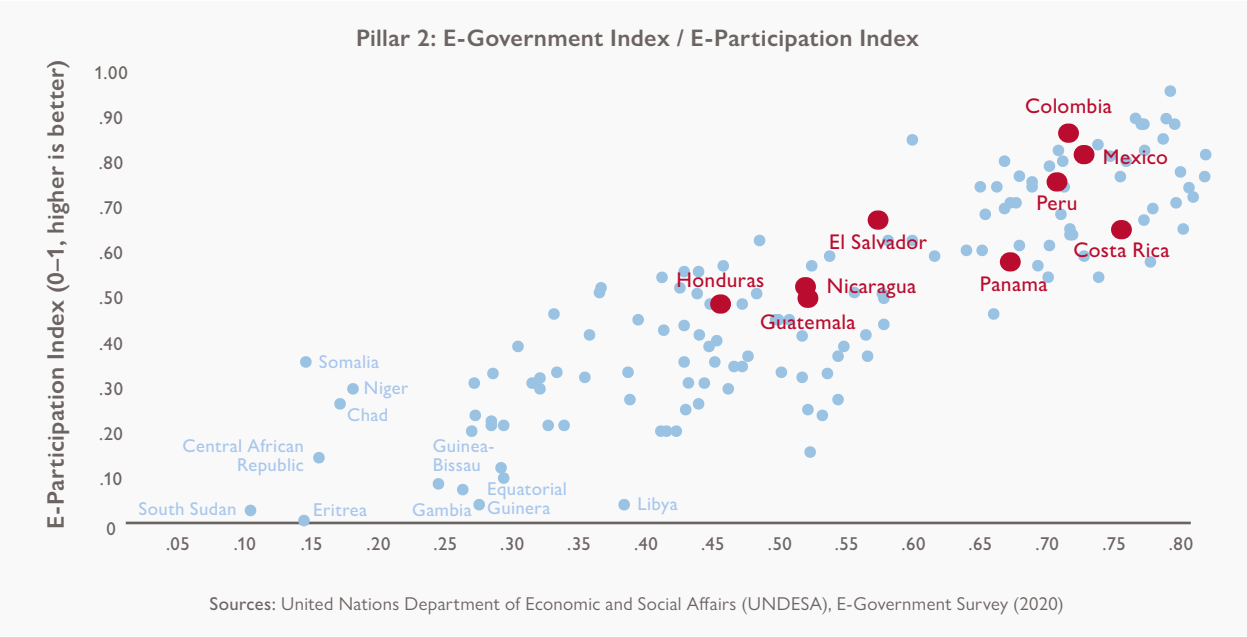
196 United Nations,"E-Participation Index," *UN E-Government Knowledgebase*, accessed October 2022, https://publicadministration.un.org/egovkb/en-us/About/Overview/E-Participation-Index.

197 Ibid.

198 "Alza tu voz - Apps on Google Play," Google Play, 2020, https://play.google.com/store/apps/details?id=hn.alzatuvoz.alzatuvozapp&hl=en&gl=US.

199 NIMD Honduras, "Conociendo al Observatorio del Poder," *Facebook*, 2020, https://www.facebook.com/nimdhon/videos/conociendo-al-observatorio-del-poder/639641529973486/.

FIGURE 13: E-Government and E-Participation Index

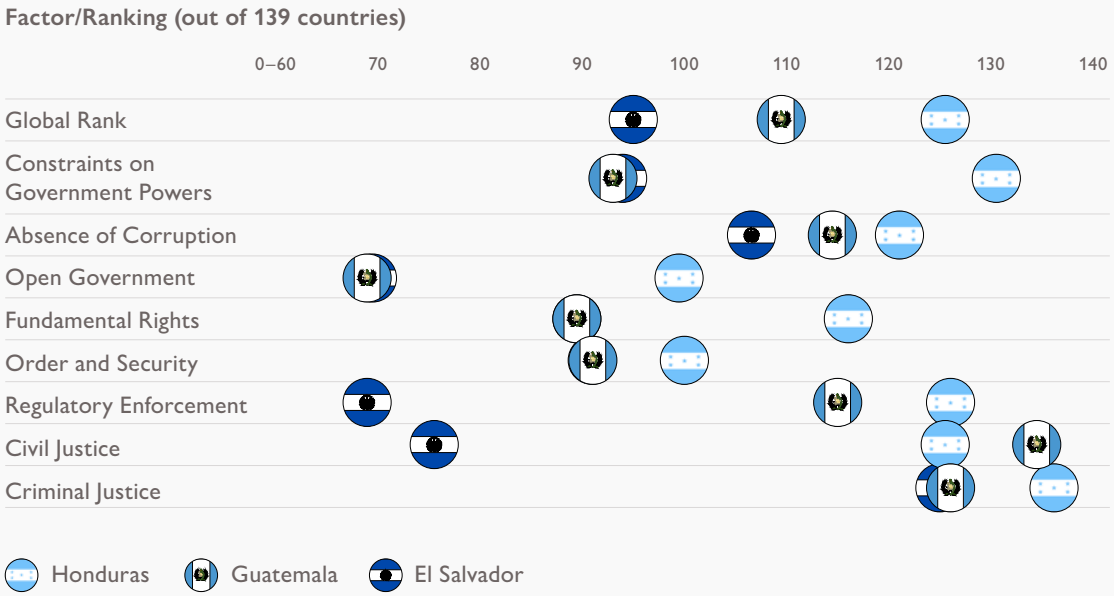


Sources: United Nations Department of Economic and Social Affairs (UNDESA), E-Government Survey (2020)

OPEN GOVERNMENT FOR TACKLING CORRUPTION

On the 2021 World Justice Project's Open Government Index, which ranks government openness according to publicized laws and government data, right to information, civic participation, and complaint mechanisms, Honduras obtained a low score in comparison with its regional neighbors, Guatemala and El Salvador. Its lowest ranking factor was criminal justice. Meanwhile, its best ranking factor was in open government.[200]

FIGURE 14: Regional comparison of the Open Government Index rankings.



200 World Justice Project, "Open Government Index," World Justice Project, 2021, https://publicadministration.un.org/egovkb/en-us/About/Overview/E-Participation-Index.

As for accountability and transparency portals, the 2021 Open Government Partnership self-assessment report[201] recognized that, at the national level, there is an intermediate level of progress with the Electronic Information System of Honduras (SIELHO). (This electronic information platform is discussed later in the freedom of information section).[202] The Open Government Partnership self-assessment report considered activities related to strengthening municipal mechanisms to increase access to public information as completed. Among these activities are training transparency officers and submitting municipal reports to the National Transparency Portal.[203] This website offers information regarding approximately 500 national and local public entities. However, the information presented by local authorities is over two years old. The portal highlights the number of public documents instead of the quality, arguing that the website has more than 1.3 million documents, but not all of these documents are useful for society. The USAID-funded Honduras Local Governance (HLG) activity supports local authorities in using the National Transparency Portal, providing digital tools and technical expertise to 89 municipalities conducting social auditing and helping strengthen the capacity of local governments, CSOs, and individuals.[204]

However, transparency and anticorruption CSOs need to strengthen their technical capacities to further use these transparency tools, including learning to use data sources and analytical methods. One interviewee from an international donor organization recognized, "*The main concern of the organizations we work with is how to have more access to information and auditing capacity of that information. Tools available to access information to make real-time assessments are lacking at this point.*"[205]

BOX 10: Open government in Honduras[206]

Transparency and Accountability Unit of the MTFAC: In line with the government plan of President Xiomara Castro and the country's anti-corruption agenda, the MTFAC, through its Transparency and Accountability Unit, leads the open government efforts towards a fair, inclusive, and citizen-centered government.

Open Government Partnership: The GOH has been a signatory party to the Open Government Partnership since August 2011. As part of this initiative, the GOH has co-created—together with civil society and the private sector—action plans that integrate commitments across the following strategic pillars: a) increased public integrity; b) efficient and effective management of public resources; c) improvement in public services; d) creating safer communities and increasing corporate responsibility; and e) institutional and private sector accountability.

Open Government Alliance Honduras (AGAH): Honduras has been an AGAH member country since 2011, and the AGAH is its primary deliberative mechanism. It comprises representatives from 60 government agencies (national and local), 41 CSOs, 12 academic institutions, and 11 private sector representatives.[207]

201 Open Government Partnership, "Honduras: End of term self-assessment 2018-2021," *Open Government Partnership*, 2021, https://www.opengovpartnership.org/wp-content/uploads/2021/12/Honduras_End-of-Term_Self-Assessment_2018-2021_EN.pdf.

202 At the intermediate level, some activities still need to be implemented in order to meet all the planned goals, such as an online portal with the national regulations and the interactive module. SIELHO, "Sistema de Información Electrónico de Honduras (SIELHO)," *Instituto de Acceso a la Información Pública*, accessed October 2022, https://sielho.iaip.gob.hn/inicio/.

203 Government of Honduras, "Portal Único de Transparencia," *Instituto de Acceso a la Información Pública*, Portal Único, accessed October 2022, https://portalunico.iaip.gob.hn/.

204 USAID governance project, interviewed by DECA team, May 2022, online.

205 Foundation donor organization, interviewed by DECA team, May 2022, online.

206 Honduras Government official, interviewed by DECA team, June 2022, online.

207 Alianza de Gobierno Abierto Honduras, "Alianza Gobierno Abierto Honduras – AGAH," *Facebook*, accessed October 2022, https://www.facebook.com/AGAHonduras.

BOX 10 (CONTINUED): Open government in Honduras

Open Government Plans (OGP): Open government stakeholders co-create two-year plans with concrete commitments across several topics. Honduras has implemented four open government action plans and is in the process of co-creating its fifth OGP. The fifth OGP will be designed in a participatory manner, with a territorial approach, and will include the participation of local governments and key stakeholders, such as civil society, social movements, women's groups, workers, farmers, indigenous peoples, youth, professional associations, boards of trustees, non-governmental organizations, the economic sector, academia, mayors, and the government sector.[208]

In relation to the anti-corruption agenda led by the MTFAC, all efforts are aligned with the National Transparency and Anti-Corruption Strategy[209] which is considered the governing document. In compliance with the work plan of the strategy, the GOH is co-creating the National Open Data Policy to strengthen a culture of transparency and accountability and to empower citizens through implementing a data culture.

The MTFAC is preparing a baseline assessment on transparency to identify institutional opportunities and to generate action plans to strengthen public institutions as a preventive measure against corruption. The baseline will constitute the primary input for elaborating the Transparency and Open Government Index.[210]

SMART ID: THE NATIONAL IDENTITY SYSTEM

The digital identification system can be traced back to 2018 when Congress questioned the validity of the national identity system database concerning previous elections. From there, a commission to audit the National Registry of Persons (RNP) was appointed and began auditing the census database, focusing on the under-registration of deaths.[211]

The commission also instituted several changes. The national identity system database was entered into a digital platform and later migrated onto Oracle cloud infrastructure.[212] The commission also expanded the scope of the RNP, which initially focused on maintaining a civil registry (births, deaths, marriage certificates) and issuing identity cards for citizens, to include a new national digital identification system that included biometric information.[213]

The collection of biometrics was implemented through a project called "Identifícate" (Identify Yourself),[214] funded by the United Nations Development Programme (UNDP); the program enrolled 5.5 million people (55 percent of the adult population) and concluded its activities in 2021. As for diversity and inclusion, this project created the first indigenous population database, the first database of adults with disabilities, and the first organ donation database. The RNP now allows transgender people to express their preferred identity in ID photos;

208 Open Government Partnership, "Honduras," Open Government Partnership, accessed October 2022, https://www.opengovpartnership.org/members/honduras/.

209 La Tribuna, "Secretaría de Transparencia entrega Estrategia de Lucha contra la Corrupción" *La Tribuna*, August 11, 2022, https://www.latribuna.hn/2022/08/11/secretaria-de-transparencia-entrega-estrategia-de-lucha-contra-la-corrupcion/.

210 Government official , interviewed by DECA team, June 2022, online.

211 Government of Honduras Official, interviewed by DECA team, June 2022, online.

212 Oracle, "Honduras confía en los datos del RNP gracias a Oracle," *Oracle*, June 10, 2022, https://blogs.oracle.com/oracle-latinoamerica/post/honduras-confia-de-los-datos-del-rnp-gracias-a-oracle.

213 Government of Honduras Official, interviewed by DECA team, June 2022, online.

214 United Nations Development Programme, "Identifícate | Programa De Las Naciones Unidas Para El Desarrollo," accessed October 13, 2022, https://www.undp.org/es/honduras/proyectos/identificate.

however, they still have to register under their gender assigned at birth.[215] The Identifícate project had a sustainable approach with a capacity-building activity that facilitated the transfer of knowledge, technology, and equipment to the RNP. The Identifícate project's main challenges were coping with the pandemic and the two hurricanes (Eta and Iota).

After the enrollment process, the RNP found that it took citizens too long to obtain birth certificates. To address this, the RNP developed an app (SIN RNP)[216] that scans an ID QR Code and all data linked to the person, including information about children, from RNP systems.[217] The app is intended to be used by all citizens who want to access a digital birth certificate. Currently, the app lacks security measures such as two-factor authentication that would protect personal identities if the phone was stolen. The RNP has several projects in the pipeline, including introducing the children's ID card, digitizing records to prevent illegal trafficking of identities, and utilizing electronic signatures.[218] This, together with a lack of data protection and privacy regulations in Honduras, suggests that there are multiple dimensions to consider regarding data protection, including the access, collection, and storage of data, especially for people with limited digital literacy or without access to smartphones.

TABLE 3: Stakeholders interested in the new ID system

Stakeholder	Support the ID development	Implementation	Validation of users' data	Orientation for returnees to get an ID	Support U.S. companies in the procurement process
RNP–Government					
Tigo- Private Sector					
International Organization for Migration–INGO					
International Trade Administration–USG					
United Nations Development Programme–INGO					

A MULTI-STAKEHOLDER APPROACH TO INTERNET GOVERNANCE

Multi-stakeholder dialogue on internet governance is under development. A stakeholder from the academic sector recognized that "*there is a need for a multisectoral roundtable for internet governance; providers are disconnected from the needs of society. Joint work should be sought in the multisectoral roundtables.*"[219]

215 Viena Hernández, "Todavía está por definirse procedimiento para cambio de identidad para personas trans: RNP," *Criterio*, June 16, 2022, .hn. https://criterio.hn/todavia-esta-por-definirse-procedimiento-para-cambio-de-identidad-para-personas-trans-rnp/.

216 SIN RNP App, Google Play Store, Sin RNP App. https://play.google.com/store/apps/details?id=info.rnphn.sin_rnp&hl=en&gl=US.

217 The RNP also stores addresses, phone numbers, and email addresses.

218 Government of Honduras Official, interviewed by DECA team, June 2022, online.

219 Technology Expert, interviewed by DECA team, May 2022, online.

Since 2019, a group led by the Universidad Tecnológica de Honduras (Honduras Technical University, UTH) has organized the Internet Governance Forum Honduras (IGF), a space for multi-stakeholder discussions on internet governance that brings together actors from civil society and the public and private sectors. This forum is a national version of the IGF that is organized annually by the United Nations. In 2019, the United Nations Secretariat officially recognized IGF Honduras as complying with their minimum IGF criteria: free of charge, inclusive, non-commercial, and designed with a bottom-up approach. IGF Honduras proposed to the GOH that it create a governing body with national scope and sufficient authority to oversee internet governance.[220]

BOX 11: RDS-HN: more than a registry operator[221]

Red de Desarrollo Sostenible Honduras (Sustainable Development Network Honduras, RDS-HN) started as a project of the United Nations Development Programme in 1992, becoming an independent NGO in 1994. Since then, RDS-HN has served as the registry operator of the country code top-level domain (.hn)[222] and provides different services, including hosting services, security certificates, cloud servers, website design, and portals. As domain administrators, RDS-HN is a member of several internet governance bodies, including the Internet Corporation for Assigned Names and Numbers (ICANN), the Internet Society, and others. RDS-HN is also a member of the Board of Directors of the Latin American and Caribbean Top-Level Domain Organization and has executed projects with the Internet Society. RDS-HN also serves as administrator to several websites with a community focus.

- Empleos.hn – the largest job search portal in Honduras.
- Eventos.hn – promotes different events: cultural, political, social development, and local fairs.
- Becas.hn – a repository of national and international scholarships.
- Sevende.hn – classifieds.

MIND THE GAP: DIVERGENCE BETWEEN CONSTITUTIONAL TEXT AND INSTITUTIONAL REALITY

The GOH has taken several steps to strengthen its legal framework for internet freedom. The Constitution of Honduras protects the right to information, the freedom of the press, and the right to the inviolability and secrecy of communications.[223] The current set of rights and policies are overseen by the MTFAC, but there is no specific legislation and limited information about how they are enforced.

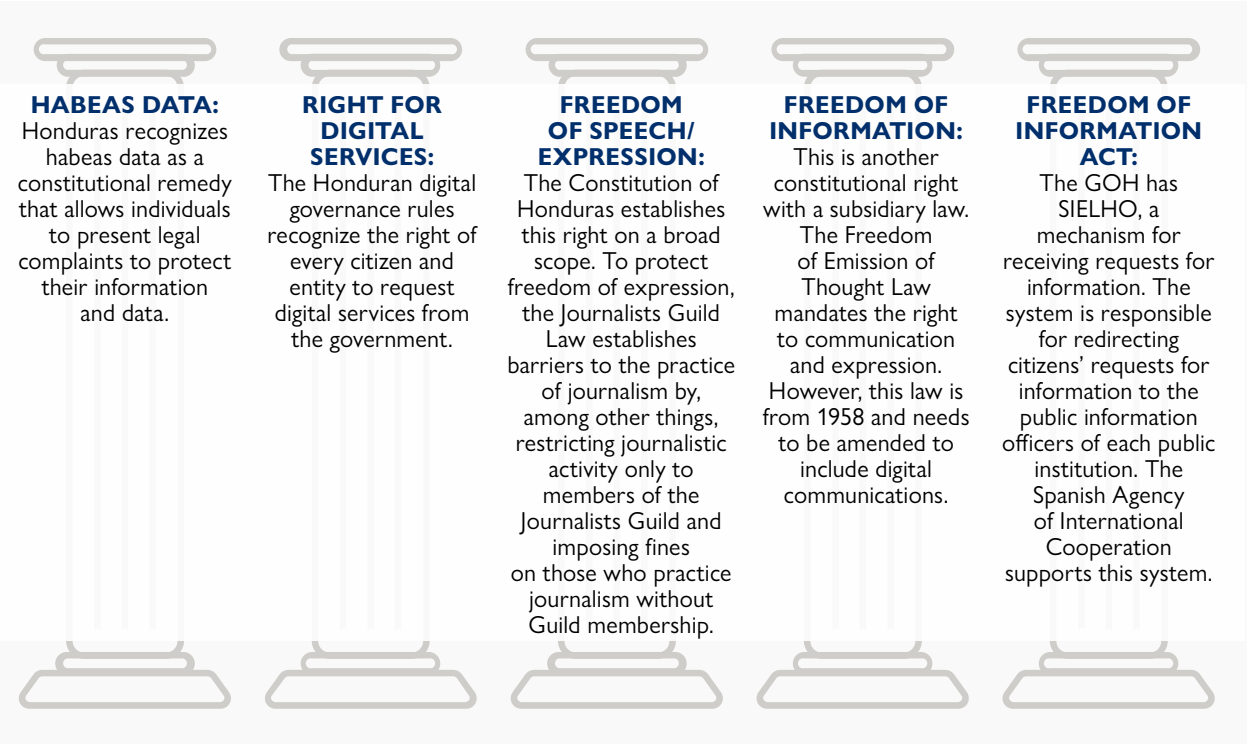
220 Internet Governance Expert, interviewed by DECA team, May 2022, online.

221 RDS-HN Representative, interviewed by Mauricio Bastien, May 2022, online.

222 A country code top-level domain is an internet domain reserved and used by a country.

223 The inviolability of communications includes the protection of all types of communications, including email exchanges, messaging chats, and social media.

FIGURE 15: Honduran legal framework for digital rights



- **Habeas data:** Honduras recognizes habeas data[224] as a constitutional remedy that allows individuals to present legal complaints to protect their information and data.[225]
- **Right for digital services:** The Honduran digital governance rules recognize the right of every citizen and entity to request digital services from the government.[226]
- **Freedom of speech/expression:** The Constitution of Honduras establishes this right on a broad scope. To protect freedom of expression, the Journalists Guild Law establishes barriers to the practice of journalism by, among other things, restricting journalistic activity only to members of the Journalists Guild and imposing fines on those who practice journalism without Guild membership.[227]
- **Freedom of information:** This is another constitutional right with a subsidiary law. The Freedom of Emission of Thought Law mandates the right to communication and expression. However, this law is from 1958 and needs to be amended to include digital communications.[228]
- **Freedom of Information Act:** The GOH has SIELHO, a mechanism for receiving requests for information. The system is responsible for redirecting citizens' requests for information to the public information officers of each public institution. The Spanish Agency of International Cooperation supports this system.

224 Government of Honduras, Honduras Constitution, Article 182, Poder Judicial, January 20, 1982, https://constitutionnet.org/sites/default/files/Honduras%20Constitution.pdf.

225 Citizens can file a habeas data case in court. However, only four cases are publicly available.

226 Government of Honduras, "Executive Decree PCM-086-2020, Digital Government Regulations," *Biblioteca Virtual – Tribunal Superior de Cuentas*, September 26, 2020, https://www.tsc.gob.hn/biblioteca/index.php/reglamentos/947-reglamento-sobre-gobierno-electronico.

227 Colegio de Periodistas de Honduras, "Ley Orgánica, Article 45," February 2006, http://colegiodeperiodistasdehonduras.hn/wp/wp-content/uploads/2017/11/Ley-Organica-del.pdf.

228 Government of Honduras, "Freedom of Emission of Thought Law," Observatorio de Cumunicacion, July 26, 1958, http://www.observatoriodecomunicacion.cl/sitio/wp-content/uploads/2012/11/honduras_emision_pensamiento.pdf.

BOX 12: Weak legal framework to protect personal data[229]

Honduras has a weak legal framework regarding data privacy and the collection of personal information by private stakeholders or government entities. No supervisory bodies enforce personal data protection or raise individual awareness about data protection. These problems were recognized by interviewees from international organizations, digital rights organizations, the private sector, and the Honduran government. The National Congress should reopen the debate on a bill for the protection of personal data; a bill was introduced in 2015 by the Institute of Transparency but has yet to be passed. The leading GOH agency that promotes this debate is the RNP. They will organize multi-stakeholder roundtables and introduce new topics, such as the right to erasure,[230] that were missing from the 2015 proposal.

2.2 CIVIL SOCIETY AND MEDIA

CSOs and journalist interviewees identified challenges that limit their capacity to participate in the digital ecosystem, particularly in debates around digital policy that impact the communities they serve. The issues most frequently cited were a lack of digital expertise, scarce resources, and surveillance by the government.

INNOVATION IN DIGITAL CIVIC ACTIVISM

According to Latinobarómetro, in 2020, 45 percent of Hondurans believed social media did not increase their political participation. There are, however, some notable efforts concerning civic activism on social media.[231] During the COVID-19 pandemic, the USAID-funded National Anti-Corruption Council (CNA) launched a Twitter and Facebook campaign called #DondeEstáElDinero ("Where is the money?") in response to financial mismanagement related to the procurement of COVID-19 mobile hospitals and 13 other cases. The campaign called for more transparency and accountability. In addition to messaging on Twitter, protestors used Google Maps to highlight one of the main sites where an actual protest took place; the "pin" has garnered reviews and photos of the rally, including one of a giant painting of the hashtag #DondeEstáElDinero on a newly-built, large bridge in Tegucigalpa.[232] Also, since 2018, the CNA has been producing an annual event called "Tecnópolis HN," which has become a platform for technological advocacy. An example of the work presented during Tecnópolis HN is the science-fiction "documentary" *Hora Zero*,[233] which portrays the use of emerging technologies, such as virtual reality, artificial intelligence, and drones, to promote an informed vote. The increased use of digital tools has also led to the protection of digital information measures and increased cybersecurity standards. As the CNA liaison mentioned: "*Information security is vital to the CNA, considering the information it handles. The system is the backup of more than 140 reports we have presented to the authorities. Thanks to the USAID activity 'Action Against Corruption and Impunity,' we have strengthened our information security system, and now we have the required equipment to keep sensitive information safe.*"[234]

229 Proposals for Digital Government. Digital Government Working Group, January 2022 Presidential Transition.

230 The right to erasure gives users the right to have their data erased, without undue delay. If the personal data is no longer necessary in relation to the purpose for which it was collected or processed, the entity possessing that information is legally obligated to securely erase it.

231 Latinobarometro. "Honduras: Social media use in politics survey," *Latinobarometro*, 2020, https://www.latinobarometro.org/oda/online.jsp?collection=2&ref=MjAyMTQ1MDI5NzY=.

232 Google Maps, Pin in Tegucigalpa #DondeEstaElDinero, https://goo.gl/maps/H3MEY9ZbFYGgcY7o8.

233 *Universo Tecnópolis HN 2021: Hora Zero*, directed by Ian Will, (2021; Honduras: CNA) https://www.youtube.com/watch?v=hUWbgBil4xM.

234 USAID CNA project, interviewed by DECA team, May 2022, online.

Online harassment against the LGTBQI+ community was identified on at least 17 percent of social media pages.[235] To prevent online hate speech against the LGBTQI+ community in Honduras, the organization Colectivo Unidad Color Rosa moderates a Facebook group of 500 members called "Exponiendo Homofóbicos," alerting members about hate speech against this community.[236]

As for digital rights, two regional organizations and networks work in Honduras:

- **Access Now** defends and extends the digital rights of users at risk around the world. They have written about freedom of expression, digital security, and repression in Honduras, with more than 25 outreach products.[237]
- **Derechos Digitales** is a regional NGO that works in the field of digital human rights. They have published about freedom of expression and the use of surveillance software by the GOH.[238]

FROM ONLINE THREATS TO REAL-LIFE HOMICIDES: SURVEILLANCE, HARASSMENT, AND MONITORING

According to a national survey produced by Honduras Verifica, 60 percent of journalists received digital threats in 2021,[239] most of which were anonymous threats, and more than two-thirds of the victims did not know where to go for support.[240] As for gender-based violence, at least 48 percent of female journalists[241] have suffered sexual, physical, or psychological harassment. From 2001 to May 2022, 96 journalists were killed,[242] and only ten cases have been solved to date. Over the same period, 48 journalists were prosecuted by the government for libel, defamation, and slander. Even though intervention in private communications is regulated in Honduras under the Special Law to Intercept Communications, the law establishes that interception by the National Intelligence Directorate, an agency of the executive branch, requires a judicial order to enact surveillance. Currently, there is a proposal by members of the National Congress to amend the law and transfer the wiretapping authority to the Attorney General's Office. This could have some implications for how often and for what purposes private communications are monitored since the Attorney General's Office is an independent and autonomous agency of the executive branch.

235 Honduras Verifica, "Unas 180 cuentas de Facebook difunden al día 400 mensajes de desinformación y odio," *Honduras Verifica*, March 14, 2022. https://hondurasverifica.com/facebook-odio-desinformacion-honduras-paginas/.

236 "Homofóbicos Group," *Facebook*, https://www.facebook.com/groups/274674716968293/.

237 Access Now, "Honduras search results," accessed October 2022, https://www.accessnow.org/?s=Honduras.

238 Derechos Digitales, "Honduras search results," accessed October 2022, https://www.derechosdigitales.org/?s=Honduras.

239 Honduras Verifica, "Seis de cada diez periodistas recibieron amenazas digitales en 2021," *Honduras Verifica,* May 26, 2022, https://hondurasverifica.com/en/seis-de-cada-diez-periodistas-recibieron-amenazas-digitales-en-2021/.

240 Academic and disinformation expert, interviewed by DECA team, May 2022, online.

241 Criterio, "Un 48% de mujeres periodistas en Honduras han sufrido acoso en las salas de redacción," *Criterio*, May 19, 2021, https://criterio.hn/un-48-de-mujeres-periodistas-en-honduras-han-sufrido-acoso-en-las-salas-de-redaccion/.

242 On the same day the DECA team planned to interview the journalist association C-Libre, one of their journalists was killed. C-Libre, "Asesinan a periodista Carlos Hurtado en San p.," *C-Libre,* May 10, 2022, http://www.clibrehonduras.com/cl/index.php/alertas/asesinato/1480-continuan-asesinatos-de-periodistas-96-casos-desde-2001-de-estos-90-sin-investigar-segun-informes-de-organismos-de-derechos-humanos-en-honduras.

KEY TERMS | BOX 6: Malinformation, misinformation, disinformation, and Coordinated Inauthentic Behavior

Malinformation is the deliberate publication of private information for personal or private interest, as well as the deliberate manipulation of genuine content. Note that this type of information is based in reality but is used and disseminated to cause harm.

Misinformation is information that is false but not intended to cause harm. For example, individuals who do not know a piece of information is false may spread it on social media in an attempt to be helpful.

Disinformation is false information that is deliberately created or disseminated with the express purpose of causing harm. Producers of disinformation typically have political, financial, psychological, or social motivations.

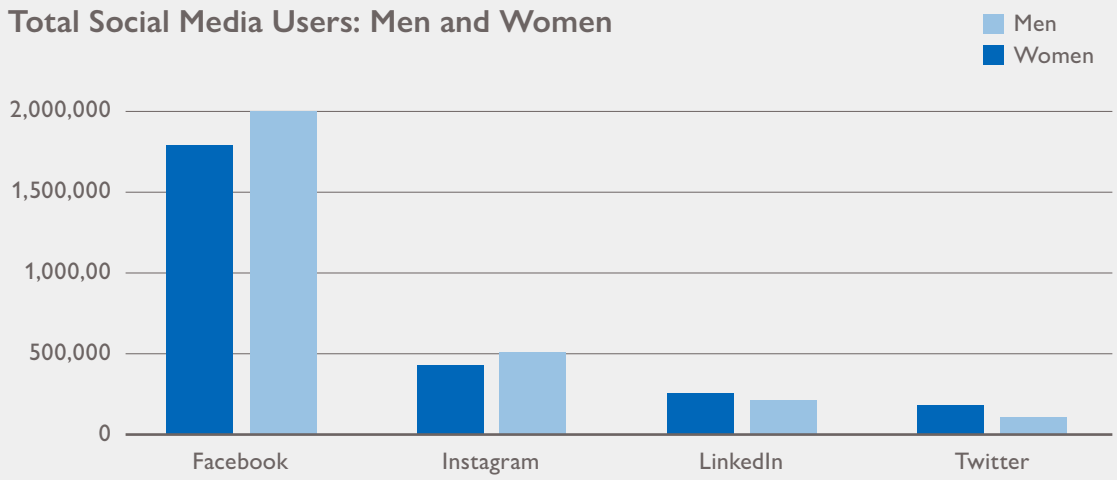
Coordinated Inauthentic Behavior (CIB) is the implementation of coordinated actions to manipulate the online public debate by creating a set of fake accounts and social media pages in order to mislead people.

Sources: USAID Disinformation Primer[243] *and Meta CIB Report*[244]

DISINFORMATION WARFARE: BOTNETS AND THEIR INFLUENCE

BOX 13: Social media use

It is not uncommon for social media to serve as the primary source of information and initial access point for internet services. In Honduras, roughly 42 percent of the population (4.10 million people) is active on social media, and 99 percent of social media users access their accounts through their mobile devices. Facebook is the most popular, followed by Instagram, LinkedIn, and lastly, Twitter.[245]



243 USAID, "Disinformation Primer," *ICTWorks*, February 2021, https://www.ictworks.org/wp-content/uploads/2021/10/usaid-disinformation-primer.pdf.

244 Meta, "Coordinated Inauthentic Behavior Report," *Meta*, November 1, 2021. https://about.fb.com/news/2021/11/october-2021-coordinated-inauthentic-behavior-report/.

245 We Are Social and Kepios, "Digital Honduras," *DataReportal*, 2022, https://www.slideshare.net/DataReportal/digital-2022-honduras-february-2022-v01.

FIGURE 16: Relative levels of exposure to foreign and domestic false information

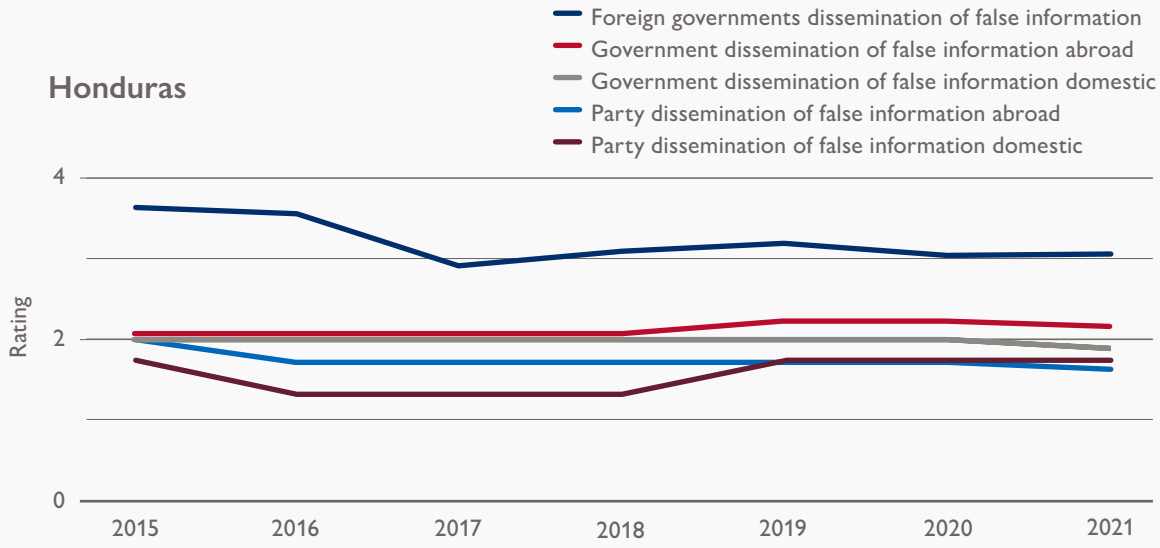


Figure 16 shows the results of the question: how often do 1) foreign governments, 2) the national government, and 3) political parties use social media to disseminate misleading viewpoints or false information to influence citizens, both domestic and abroad. Ratings range from 0: Extremely often. 1: Often. 2: About half the time. 3: Rarely. 4: Never, or almost neve

BOX 14: Efforts against disinformation

Honduras Verifica[246] estimates that 1.2 million Hondurans consume fake news. In 2019, Facebook removed 181 accounts and 1,488 Facebook pages involved in domestic-focused CIB in Honduras (FIGURE 17).[247]

CSOs and the media engage in fact-checking activities to counter disinformation campaigns. Currently, there are several initiatives, such as Honduras Verifica, I-Verify Honduras, and Laboratorio Ciudadano, among others, that implement activities to combat disinformation.

Their activities include safety training for activists, the promotion of fact-checking, collaboration with social media platforms to identify bot farms, and awareness-raising campaigns. However, one expert noted that "*Verification does not go at the same speed as disinformation. Information can be verified daily, but disinformation generates thousands more reactions and interactions than verified information. That is a real problem in the world. Fact-checking is falling short.*"[248]

According to interviewees from these organizations, USAID can support them by i) implementing training courses; ii) increasing access to digital infrastructure to analyze social media; and iii) facilitating the exchange of best practices and lessons learned among different Honduran and American fact-checking organizations.[249, 250]

246 Honduras Verifica, "Honduras Verifica presenta resultados de investigaciones y aportes en el combate de la desinformación," *Honduras Verifica*, May 9, 2022, https://hondurasverifica.com/en/honduras-verifica-presenta-resultados-de-investigaciones-y-aportes-en-el-combate-de-la-desinformacion/.

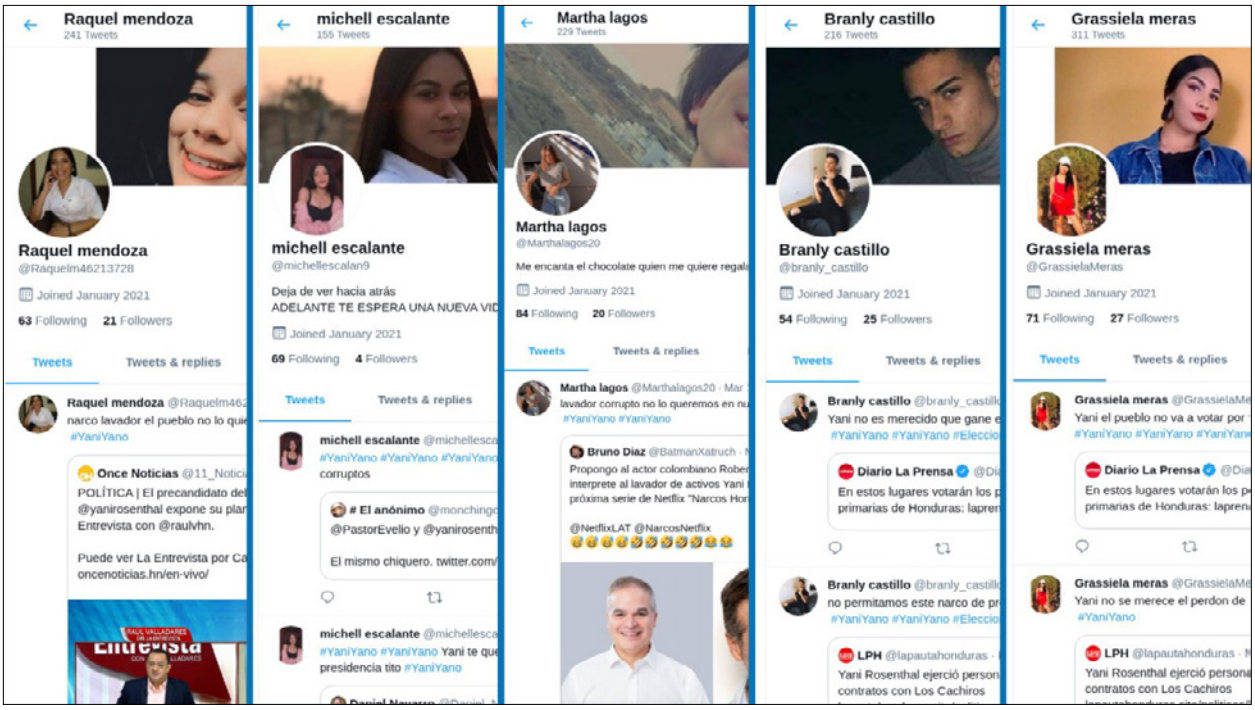
247 Meta, "Removing Coordinated Inauthentic Behavior in Thailand, Russia, Ukraine and Honduras," *Meta*, July 25, 2019, https://about.fb.com/news/2019/07/removing-cib-thailand-russia-ukraine-honduras/.

248 Academic and disinformation expert, interviewed by DECA team, May 2022, online.

249 Academic and disinformation expert, interviewed by DECA team, May 2022, online.

250 CSO, interviewed by DECA team, May 2022, online.

FIGURE 17: Bots amplifying a presidential campaign[251]



2.3 CATCHING UP ON CYBERSECURITY AND IDENTIFYING CYBER CRIMES

Honduras scored poorly on the 2020 ITU's Global Cybersecurity Index with 2.2/100 and ranked 178th out of 186 countries.[252] The Index measures government commitment to cybersecurity in terms of legal, technical, and organizational measures; capacity building; and cooperation. Honduras only scored 2.2 points for the legal measures indicator and scored zero points for all other indicators.

Honduras also scored poorly on the 2019 National Cyber Security Index (10/100) and ranked 144th out of 160 countries.[253] This index measures 12 indicators, including cybersecurity policy development, protection of digital services, protection of personal data, and cyber incident response. Honduras scored zero or one point in 11 of those indicators. The indicator with the highest score was "e-identification and trust services" with five points.

The 2020 Cybersecurity Capacity Maturity Model, presented by the IDB and the Organization of American States (OAS), recognizes that Honduras has improved its legal and regulatory framework.[254] In 2016, only seven indicators of the "Legal and Regulatory Framework" dimension received at least one point, and by 2020 all 13

251 Laboratorio Ciudadano Honduras (@labciudadanohn), "Varias subdominios y páginas del Gobierno de #Honduras fueron hackeados, dos han sido recuperados y otro aún en manos de cibercriminales," Twitter, March 22, 2022, https://twitter.com/labciudadanohn/status/1506448652453224457?s=20&t=DEaHJPSi8Ldap1UiBuQ-JQ.

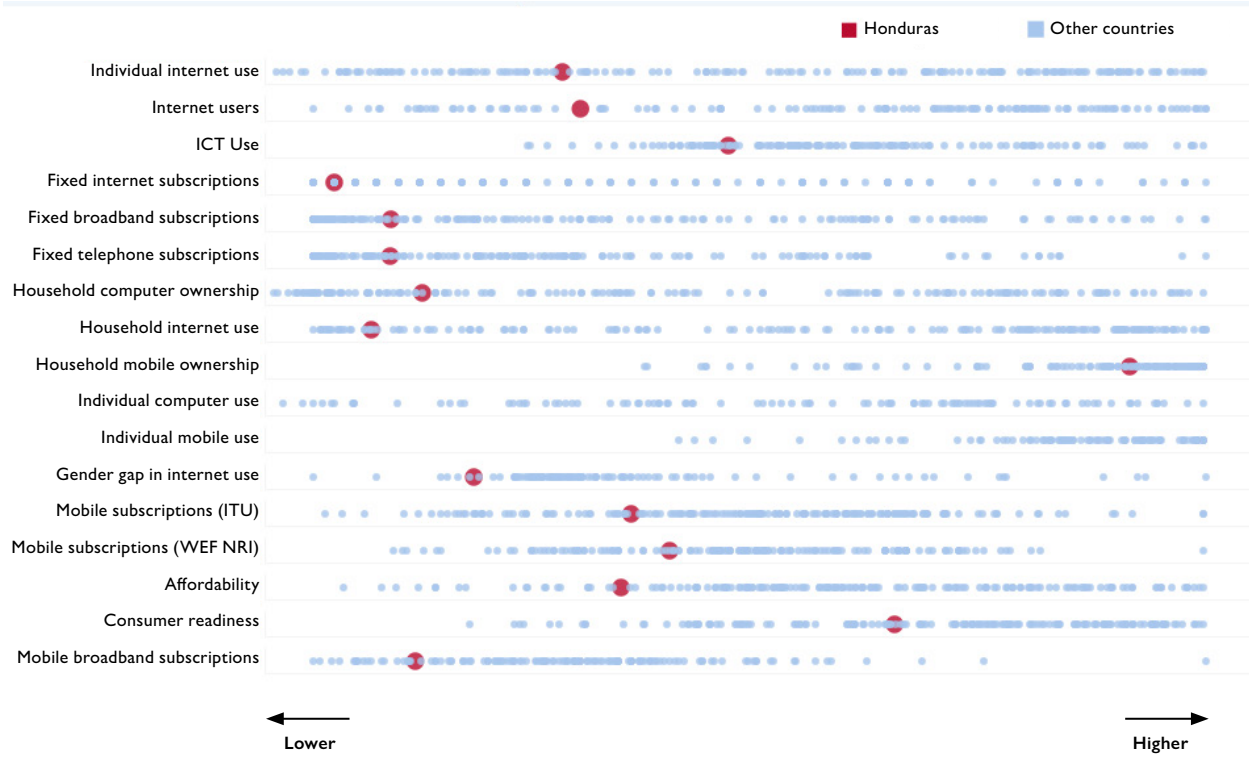
252 International Telecommunication Union, "Global Cybersecurity Index 2020," *ITU*, ITU Publications, 2022, https://www.itu.int/epublications/publication/D-STR-GCI.01-2021-HTM-E/.

253 E-Governance Academy Foundation, "2019 National Cyber Security Index," *NCSI*, accessed October 2022, https://ncsi.ega.ee/ncsi-index/?order=-ncsi.

254 IDB and OAS, "2020 Cybersecurity Report: Risks, Progress, and the Way Forward in Latin America and the Caribbean," IDB, 2020, https://publications.iadb.org/publications/english/document/2020-Cybersecurity-Report-Risks-Progress-and-the-Way-Forward-in-Latin-America-and-the-Caribbean.pdf.

indicators had at least one point. The same happened with the "Cyberculture and Society" dimension, which assesses the cybersecurity mindset within the government, the private sector, and users' understanding of personal information protection online. Honduras shows some improvements but has a long path to fulfill all these key indicators.

FIGURE 18: Honduras cyber capacity[255]



Sources:
Coppedge et al. 2022. "V-Dem Full+Others Dataset v12" Varieties of Democracy (V-Dem) Project. https://doi.org/10.23696/vdemds22 (2018–2021)
Global Cybersecurity Index, 4th edition. (2021) International Telecommunication Union (ITU). https://www.itu.int/en/ITU-D/Cybersecurity/Pages/GCI/GCIv4-ReportLaunch.aspx (2020)

One expert noted that GOH web pages were probably targeted due to the change of administration and weak cybersecurity measures characterized. For example, when the new National Congress convened in January 2022 amid political turmoil, there was no regulation for Congress's digital assets, such as the Facebook page or Twitter account. This led to a duplication of official accounts and pages, each sponsored from different sides of the political aisle.[256]

255 USAID, "Digital Ecosystem Country Assessment (DECA) Dashboard," *USAID*, accessed October 2022, https://share.usaid.gov/views/DECADashboard/SummaryDashboard?%3Aembed=y&%3Aiid=2&%3AisGuestRedirectFromVizportal=y.

256 National Congress of Honduras (@Congreso_HND), "ACLARACIÓN | las cuentas del Poder Legislativo continúan siendo las oficiales," Twitter, January 23, 2022, https://twitter.com/Congreso_HND/status/1485426296238837763?s=20&t=vrL7iPN87ALiVPF-AcUnsw.

KEY TERMS | BOX 7: Defining cyber crime and cybersecurity

Cyber crime: According to Interpol, cyber crime "refers to crimes against computers and information systems, where the aim is to gain unauthorized access to a device or deny access to a legitimate user."[257]

Cybersecurity: As clarified in the USAID Cybersecurity Primer, cybersecurity " is the way that people, systems, and technology protect information kept in digital formats from being taken, damaged, modified, or exploited."[258]

CYBERSECURITY GOVERNANCE: THE WAY FORWARD

Legal framework: There is currently no cybersecurity law in Honduras. However, some cybersecurity breaches are covered by the Criminal Code.[259] In 2019, Congress tried to approve a so-called Cybersecurity Law. Still, this law was more related to hate speech and censorship of information rather than explicitly tackling cybersecurity concerns. The lack of cybersecurity legislation has led private sector entities to establish their own practices and internal regulations, but they are stand-alone projects and will be addressed later in this report.[260]

Institutional capacity: The GOH needs to improve its interagency coordination to implement cybersecurity policies. Currently, the National Intelligence Directorate, with the supervision of the Office of the President and the proposed Honduran Agency for the Digital Republic (HADR), is designing the Honduran National Cybersecurity Establishment System. As a part of this effort, the government wants to include different stakeholders, including international agencies, for information sharing to maximize security.[261] The GOH is in the process of deciding if a CERT or a Security Operations Center (SOC) will be established in the future.[262] So far, there have been efforts from the private sector and academia to establish their CERTs. The UNAH currently has its own Computer Security Incident Response Team (CSIRT), and the Honduran Association of Banking Institutions is implementing its CSIRT.[263] Both response teams, however, only serve their communities.

Cybersecurity and cyber crime agreements: The GOH participated in the United Nations Ad-Hoc Committee to discuss a cyber crime convention. Together with other countries and the United States, the GOH submitted a position paper[264] that presents administrative procedures related to the convention process and highlights the importance of multi-stakeholder participation in the discussions. As for other international agreements, Honduras is not a member state of the Budapest Convention on Cyber crime,[265] even though the National Congress has recommended joining the Budapest Convention to strengthen the case for a national cybersecurity

257 USAID and DAI, "Cybersecurity Primer," *USAID*, October 26, 2021, page 12, https://www.usaid.gov/digital-development/usaid-cybersecurity-primer.

258 USAID and DAI, "Cybersecurity Primer," *USAID*, October 26, 2021, page 12, https://www.usaid.gov/digital-development/usaid-cybersecurity-primer.

259 Government of Honduras, "Poder Legislativo Decreto No. 130-2017, Criminal Code," Biblioteca Virtual – Tribunal Superior de Cuentas, https://www.tsc.gob.hn/biblioteca/index.php/codigos/830-codigo-penal-2019.

260 Within Honduras, there exist several chapters of international cybersecurity associations, such as the Information Systems Audit and Control Association (ISACA), the Open Web Application Security Project (OWASP), and the Internet Society.

261 Anonymous, Security Sector, interview by DECA team, July 2022, online.

262 Both a CERT and a SOC are mechanisms to respond to cybersecurity challenges. However, a SOC is broader in scope and includes several security aspects, such as monitoring, control, and evaluation, while a CERT focuses only on emergency response.

263 Asociación Hondureña de Instituciones Bancarias (AHIBA), "Contratación de Servicios de Equipo de Respuesta a Incidentes de Seguridad (CSIRT), Términos de Referencia 2022," *UNAH* (Tegucigalpa, Honduras: AHIBA, 2022), https://ahiba.hn/wp-content/uploads/2022/04/RFP-CSIRT-Honduras-Final-Abril-2022.pdf.

264 Ad Hoc Committee to Elaborate a Comprehensive International Convention on Countering the Use of Information and Communications Technologies for Criminal Purposes, "Proposed Outline and Modalities for the Ad Hoc Committee on Cyber crime," *UNODC*, 2021, https://www.unodc.org/documents/Cybercrime/AdHocCommittee/CRPs/V2100299.pdf.

265 Paris Call, "The Supporters," accessed October 2022, https://pariscall.international/en/supporters.

law.[266] As for private sector involvement in international agreements, the American Chamber of Commerce in Honduras is registered as the only Honduran entity that supports the Paris Call for Trust and Security in Cyberspace.[267]

CYBER CRIMES: FROM FICTION TO REALITY

The Interpol unit at the NPH investigates cyber crime cases. Meanwhile, the Special Prosecutor for Intellectual Property and Information Security oversees prosecuting cases related to cybersecurity breaches and cyber crimes.

To investigate and criminalize cases, these enforcement and prosecutorial agencies are authorized to request information from technology companies related to issues involving:

1. National security;
2. Copyright infringement;
3. Defamation;
4. Regulated goods and services; and
5. Privacy and security, among others.

However, over the past decade, these agencies have made few requests of the major technology companies:

- **Twitter:** From 2012 to 2021, Twitter received only one request from the GOH to disclose user data.[268] This contrasts Guatemala, which had a total of 32 information requests over the same period.[269]
- **Microsoft** has published regular reports of "law enforcement requests,"[270] for customer data since 2013, but Honduras has not submitted any requests.
- **Facebook:** Between 2016 and 2021, the GOH requested user data from Facebook 44 times (~ 9 requests/year).[271] Most requests were related to emergency disclosures when a person's physical safety may be at risk.
- **Google:** The company has not reported any requests made by Honduran authorities for content removal.[272]

According to the NPH, the "suitcase scam" is the most reported cyber crime in Honduras, together with extortion and child pornography. People are told that a relative has sent them a suitcase from the United States and that they must pay money to pick it up. The scammers pose as family members abroad and get the victims themselves to provide sensitive information. The people who make these scam calls appear to be foreigners living in Honduras. Since 2018, the NPH has received 619 "suitcase scam" complaints, with about 103 complaints

266 Cholusat Sur, "Ley de Ciberseguridad se adheriría a Convenio de Budapest sobre ciberdelincuencia," *Cholusatsur*, February 9, 2022, http://cholusatsur.com/ley-de-ciberseguridad-se-adheriria-convenio-de-budapest-sobre-ciberdelincuencia/.

267 Paris Call, "The Supporters," accessed October 2022, https://pariscall.international/en/supporters.

268 Twitter, "Honduras Transparency Report," accessed October 2022, https://transparency.twitter.com/en/reports/countries/hn.html.

269 Twitter, "Guatemala Transparency Report," accessed October 2022, https://transparency.twitter.com/en/reports/countries/gt.html.

270 Microsoft Corporate Social Responsibility, "Law Enforcement Requests Report," *Microsoft*, accessed October 13, 2022, https://www.microsoft.com/en-us/corporate-responsibility/law-enforcement-requests-report.

271 Meta, "Government Requests for User Data: Honduras," *Meta*, accessed October 13, 2022, "Law Enforcement Request Report." n.d. Facebook. Accessed October 13, 2022. https://transparency.fb.com/data/government-data-requests/country/HN/.

272 Google, "Government requests to remove content," *Google*, accessed October 13, 2022, https://transparencyreport.google.com/government-removals/government-requests?hl=en.

per investigator and a rate of zero convictions.[273] As for cyber crimes committed by gang members, the NPH has not yet formally identified any.

In terms of international cooperation on cyber crime prevention, the United Nations Office on Drugs and Crime (UNODC), through its Global Cyber crime Program, has implemented the following activities to prevent and investigate cyber crimes in Honduras:[274]

- **Legal framework:** provide technical support for the design of regulations.
- **Institutional capacity:** facilitate training and workshops to strengthen the technical capability and provide collaboration spaces for security and judicial agencies.
- **Prevention:** develop materials to raise awareness of cyber threats and cyber crimes.

"The Online Trafficking of Synthetic Drugs and Synthetic Opioids in Latin America and the Caribbean,"[275] a report published by UNODC, identified at least one ecstasy vendor shipping from Honduras and operating in one of the several darknet marketplaces,[276] accumulating an average of five reviews per week.[277]

BOX 15: Non-consensual dissemination of intimate images

In 2020, an organized criminal group started operations related to the non-consensual dissemination of intimate images of Honduran women. The group operates by impersonating Instagram influencers and posting stories requesting contact details to sign up for modeling opportunities. Once women provide their personal contact information, including passwords, the hackers access any intimate photos stored on the cloud and sell the images on Telegram[278] groups. So far, one activist identified three Telegram groups and more than 550 victims from the main urban cities in Honduras[279]. This led the activist to seek support from Laboratorio Ciudadano to establish an emergency hotline to provide psychological and legal guidance for victims and to increase digital investigation efforts to counter these criminal groups.[280]

The USAID-funded Justice, Human Rights, and Security Strengthening Activity ("Unidos por la Justicia") implemented efforts to raise awareness about this form of technology-facilitated gender-based violence by promoting a soap opera called "Vencer el pasado" ("Overcome the past") and by hosting panels with experts from the government and civil society on preventing cyberbullying.[281]

273 MS-13 profiles in Honduras, Facebook, accessed October 2022, https://www.facebook.com/search/people/?q=%23ms13%20honduras.

274 International organization representative, interviewed by DECA team, Junes 2022, online.

275 Oficina de las Naciones Unidas contra la Droga y el Delito (UNODC), "El tráfico en línea de drogas sintéticas y opioides sintéticos en América Latina y el Caribe," *UNODC*, 2022, https://www.unodc.org/res/opioid-crisis/index_html/01_TraficoEnLinea_Reporte2022_Revised.pdf.

276 FBI, "A Primer on DarkNet Marketplaces: WhatThey are and What Law Enforcement is Doing to Combat Them," *FBI*, November 1, 2016, https://www.fbi.gov/news/stories/a-primer-on-darknet-marketplaces.

277 Oficina de las Naciones Unidas contra la Droga y el Delito (UNODC), "El tráfico en línea de drogas sintéticas y opioides sintéticos en América Latina y el Caribe," *UNODC*, 2022, https://www.unodc.org/res/opioid-crisis/index_html/01_TraficoEnLinea_Reporte2022_Revised.pdf.

278 Telegram is an encrypted, cross-platform instant messaging service.

279 Activist against online gender-based violence, interviewed by DECA team, May 2022, online.

280 Iris Alas (@iriswingsc), "@labciudadanohn abrió una linea de ayuda para víctimas violencia digital. Guarden el número por si en algún momento ustedes o alguna amiga llega a necesitarlo, Twitter, May 23, 2022, https://twitter.com/iriswingsc/status/1528940892526084096?s=20&t=S7dsLZoSVS-MIJjCS2eqOg.

281 USAID project, interviewed by DECA team, May 2022, online.

BOX 15 (CONTINUED): Non-consensual dissemination of intimate images

In April 2022, a bill was introduced at the National Congress to criminalize the non-consensual dissemination of images. As of the writing of this report, the bill has not yet been passed.[282]

As one digital rights activist recognized: "*When a woman reports that photographs have been disclosed online, the victims are sent to a psychologist for an evaluation, but nothing else is done. Some women are losing their lives because of the psychological and emotional impact of having their images exposed online and the constant online pressure that that generates.*"[283]

FIGURE 19: Flier that promotes the helpline for victims of digital violence

The flier promotes: *"Assistance documenting, quickly removing, and reporting non-consensual dissemination of intimate images on Facebook and Twitter"*

MIGRANT SMUGGLING: COYOTES GOING ONLINE

Coyote services are advertised online via Facebook Marketplace. Coyotes operate by promoting their services as "*Viaje con coyote a Estados Unidos*" and showing photographs of border crossings, buses, and routes. Based on a USAID survey on consumption of media and migration: "Facebook is the most commonly used form of social media. In the five urban areas of Tegucigalpa, San Pedro Sula, Choloma, La Ceiba, and Tela, more than three-quarters of individuals ten years or older who access the Internet use Facebook."[284] Respondents mentioned TV as the primary source, social media and digital platforms, as the second most-used source of information to learn where to migrate and to obtain information on safe migration.

282 Laboratorio Ciudadano Honduras, "Bill presented to the National Congress," *Facebook*, April 28, 2022, https://ms-my.facebook.com/labciudadanohn/videos/542264553903498.

283 Cybersecurity expert, interviewed by DECA team, May 2022, online.

284 MESCLA Activity and Dexis, "Media consumption and public perception in Honduras," *USAID*, July 1, 2019, https://pdf.usaid.gov/pdf_docs/PA00W5TN.pdf.

The IOM implemented the Think Twice campaign[285] to counter migrant smuggling services and other fraudulent offers related to irregular migration. This campaign is based on communicating with the target audience (Honduran youth who intend to migrate irregularly) by understanding their needs, interests, and means of accessing information. The campaign includes a webpage called "Somos Colmena" ("We are a hive"), a virtual community that promotes verified information about regular migration and opportunities for local development.[286] IOM officers recognized that "*We need to develop digital strategies for a population that only connects through data packages on cell phones, not necessarily high-end connectivity; we want them to consume content that perhaps they cannot consume or are not interested in consuming.*"[287] This statement implies that the classic approach of developing interesting content for youth sometimes does not work under existing connectivity and digital norms. There is a need to try something different.

Currently, the HLG activity is part of Think Twice, participating in the "Community Marathon on Migration,"[288] a socio-educational model in which the IOM trains trainers who then facilitate the program sessions with young people from Honduran communities on issues such as human rights, regular migration, and the risks of irregular migration.

285 United Nations International Organization for Migration (IOM) Regional Office in San José, Costa Rica, "IOM invites Honduran Youth to 'Think Twice' to Avoid Becoming Victims of Human Trafficking and Smuggling of Migrants," *IOM*, August 27, 2021, https://rosanjose.iom.int/en/news/iom-invites-honduran-youth-think-twice-avoid-becoming-victims-human-trafficking-and-smuggling-migrants.

286 Somos Colmena (enlacolmena), Instagram, *Meta*, accessed October 2022, https://www.instagram.com/enlacolmena/?hl=es.

287 INGO, interviewed by DECA team, June 2022, online.

288 United Nations International Organization for Migration (IOM) Norte de Central America, "Inicia la 'Maratón Comunitaria sobre Migración' para pensarlo dos veces antes de iniciar la ruta migratoria," *IOM*, February 15, 2022. https://nortedecentroamerica.iom.int/es/news/inicia-la-maraton-comunitaria-sobre-migracion-para-pensarlo-dos-veces-antes-de-iniciar-la-ruta-migratoria.

PILLAR 3: DIGITAL ECONOMY

Digital Economy explores the role digital technology plays in increasing economic opportunity and efficiency, trade and competitiveness, and global economic integration. Areas of inquiry include digital financial services (credit or debit cards, payment apps, mobile money, and digital savings and loan products), financial inclusion, regulation of digital finance, digital trade, e-commerce, and the financial technology (FinTech) enabling environment. This pillar also assesses strengths and weaknesses in the local digital talent pool and the tech startup environment; a healthy digital economy requires a supply of ICT skills that matches the demand and an ecosystem that promotes technological innovation.

KEY TAKEAWAYS

DIGITAL ECONOMY	
• The level of financial inclusion in Honduras continues to be low. A challenging operating environment for non-bank financial service providers, a narrow supply of relevant financial services, and poor connectivity widen financial inclusion gaps. • E-commerce is slow to take off. The lack of a clear regulatory framework, a weak logistics infrastructure, and a high level of business informality are contributing to limited numbers of online sales and purchases. • The digital talent pool does not currently meet the labor market demand, though efforts are underway to narrow the digital talent gap.	**RELEVANT RECOMMENDATIONS** 7. Improve the human-centered design of digital financial services to advance digital financial inclusion. 8. Foster a digital entrepreneurship culture to engage youth. 9. Continue to promote workforce development initiatives by strengthening linkages between industry, universities, and technical and vocational training institutions.

INTRODUCTION

The digital economy in Honduras is becoming increasingly dynamic, with the delivery of financial services, purchase of consumer goods, creation of jobs, and more all available at one's fingertips. However, many facets of the digital economy are not equally and readily accessible for all Hondurans. As one interviewee put it, such marks of progress are taking place in a bifurcated society that has popularized the saying, "*Hay una Honduras de aquí y una Honduras de allá*,"[289] which loosely translates to, "There's a Honduras of over here and a Honduras of over there."

3.1 THE SUPPLY AND DEMAND OF DIGITAL FINANCIAL SERVICES AND WHAT IT MEANS FOR FINANCIAL INCLUSION

The GOH has long been committed to promoting financial inclusion and, in recent years, has explored how its role should evolve in an increasingly digital environment. As explained further below, this has helped enable FSPs to expand their offerings of DFS. While large FSPs dominate the DFS market, a handful of small FSPs, including FinTechs, have managed to make names for themselves. (TABLE 4 provides an overview of the key financial sector stakeholders that are relevant for this assessment.) Nevertheless, regulatory measures and the availability of digital products are necessary but not sufficient conditions for getting people to access, use, and benefit from DFS. A wide array of factors—ranging from systemic weaknesses such as poor connectivity

289 Digital transformation expert, interview by DECA team, May 2022, online.

infrastructure to more sectoral-specific challenges such as a scant supply of relevant products and services — continue to undermine efforts to promote greater financial inclusion.

TABLE 4: Summary of key stakeholders relevant for financial inclusion

	ENTITY	DIGITAL ROLE
Regulator	**National Commission of Banking and Insurance (CNBS)**	The CNBS supervises and regulates a wide range of FSPs.[290]
	The CNBS supervises and regulates a wide range of FSPs.	The BCH manages the country's monetary policy and oversees the national payments system.
	Central Bank of Honduras (BCH)	The Central American Single Declaration (CONSUCOOP) manages the savings and loans cooperatives, among other cooperatives representing a wide array of sectors.
FSP	**Commercial bank**	The commercial banking sector is moderately concentrated and, as of June 2022, comprised 15 banks.[291, 292] The largest five banks in terms of total assets and deposits are Banco Ficohsa, Banco Atlántida, BAC/Honduras, Banco del Occidente, and Banco del País.
	Public bank	There are three public banks, including BANHPROVI, which is also authorized to engage in commercial lending.
	Financial company	Financial companies have less flexibility than banks in the types of services they deliver and have much stricter capital requirements. There are nine financial companies regulated by the CNBS.
	Private Financial Development Organization (OPDF)	OPDFs are strictly lending organizations. There are five OPDFs regulated by the CNBS.
	Non-Bank Institution that Provides Payment Services Using Electronic Money (INDEL)	INDELs are non-bank institutions that provide payment services using e-money. There are two INDELs currently operating.
	Savings and loan cooperative	There are slightly over 300 savings and loan cooperatives. Of these, 88 have one million USD in assets and are supervised by CONSUCOOP. The remaining ones are supervised by the Superintendency of other Subsectors of Cooperatives.[293]
	Rural credit union	There are an estimated 4,000 rural credit unions, which are not regulated.[294]
	FinTech	There are approximately two dozen FinTechs, the majority of which are not regulated.

290 Comisión Nacional de Bancos y Seguros, "Instituciones supervisadas por la Comisión Nacional de Bancos y Seguros," *CNBS*, 2022, https://publicaciones.cnbs.gob.hn/boletines/Paginas/Listado-de-Instituciones-Supervisadas.aspx.

291 Banco Central Honduras (BCH), "Informe de Estabilidad Financiera," *CNBS*, BCH, 2021, https://www.bch.hn/estadisticos/EF/LIBINFORMEEF/IEF%20Diciembre%202021.pdf.

292 Comisión Nacional de Bancos y Seguros. "Posición del Sistema de Bancos Comerciales – Posición del Sistema de Sociedades Financieras," *CNBS*, 2022, https://publicaciones.cnbs.gob.hn/boletines/_layouts/15/xlviewer.aspx?id=/boletines/Ranking%20NIIF/Ranking.xlsx&Source=https%3A%2F%2Fpublicaciones%2Ecnbs%2Egob%2Ehn%2Fboletines%2FPaginas%2FRanking%2DNIIF%2Easpx.

293 Consejo Nacional Supervisor de Cooperativas, "Superintendencia de Otros Subsectores de Cooperativas – CONSUCOOP," CONSUCOOP, 2018, https://consucoop.hn/circulares-sosc/.

294 César Valenzuela and Daniela Cruz, "Estudio de caso sobre estrategias para promover la inclusión financiera de pequeños productores rurales en Honduras," CEPAL, United Nations, 2017, https://repositorio.cepal.org/bitstream/handle/11362/40912/1/S1700681_es.pdf.

THE REGULATORY FRAMEWORK AIMS TO ADVANCE FINANCIAL INCLUSION, BUT LACKS COHESION

Over the past decade, the GOH has strived to build a regulatory framework that supports innovation in the design and delivery of financial services to advance financial inclusion (see TABLE 5). Two exemplary regulations are the Agent Banking Law[295] and a law governing digital payments providers known as the INDEL Law.[296, 297] The promulgation of the Agent Banking Law in 2013 was critical at a time when FSPs were looking to offset the high cost of maintaining their branch operations.[298] Specifically, it authorizes entities regulated by the CNBS to contract third-party agents to conduct services on their behalf. These services include the opening of basic savings accounts,[299] deposits and withdrawals of funds, loan payments, domestic transfers, remittance payments, government payments, and bill payments. As for the INDEL Law, its passing in 2016 was an important development for the expansion of mobile money, which is a financial instrument that can support the financial well-being of low-income individuals (see BOX 16). The INDEL law paved the way for non-financial institutions such as MNOs to offer basic e-payment services (see below for an overview of the mobile money market).

BOX 16: Deploying government-to-person cash transfers in Honduras via mobile money[300]

The GOH partnered with the UNDP to digitally deliver nearly 10 million USD in non-conditional cash transfers to approximately 170,000 independent workers whose livelihoods were affected by COVID-19.[301] The UNDP, the University of Oxford, and the GOH created a robust methodology to select participants based on vulnerability criteria. The deployment of the cash transfers was facilitated with the assistance of a bank and a mobile money provider, which demonstrates the important role that FinTechs can play to boost local economic activation. Each beneficiary was sent a one-time payment of 2,000 HNL (approximately 82 USD) via Short Messaging Service (SMS), obviating the need to have a smartphone or internet connection, that could be redeemed for food, medicine, hygiene, or bio-safety material at participating stores and local markets.

295 Comisión Nacional de Bancos y Seguros (CNBS), "Circular CNBS No.251/2013," *CNBS*, December 17, 2013, https://www.cnbs.gob.hn/files/GE/Compendio/2013/251-2013.pdf.

296 Banco Central de Honduras, "Reglamento para la Autorización y Funcionamiento de las Instituciones no bancarias que brindan servicios de pago utilizando dinero electrónico, Acuerdo No. 01/2016," *La Gaceta – Diario Oficial de la República de Honduras*, UNAH, February 24, 2016, https://investigacionjuridica.unah.edu.hn/assets/Investigacion-Juridica/paginas/boletin-informativo-2016/REGLAMENTO-PARA-LA-AUTORIZACION-Y-FUNCIONAMIENTO-DE-LAS-INSTITUCIONES-NO-BANCARIAS-QUE-BRINDAN-SERVICIOS-DE-PAGO-UTILIZANDO-DINERO-ELECTRONICO.pdf.

297 INDEL is the Spanish acronym for "non-bank institutions that provide payment services using e-money."

298 The agent banking model lowers the cost of reaching marginalized, formerly unbanked populations. Agents can provide financial services to consumers in areas where banks do not have sufficient incentive or capacity to establish physical branches or ATMs.

299 With a lower minimum deposit, no minimum account balance requirement, and a simplified know-your-customer (KYC) process, the basic savings account is designed to increase financial access to individuals who would otherwise be excluded or underserved.

300 INGO, iInterview by DECA team, May 2022, online.

301 United Nations Development Programme, "Honduras launches innovative transfer program in response to COVID-19," *UNDP*, October 14, 2020, United Nations Development Programme. https://www.undp.org/latin-america/press-releases/honduras-launches-innovative-transfer-program-response-covid-19.

TABLE 5: Track record of select laws and regulations relevant for financial inclusion

YEAR	LAW	DESCRIPTION
2012	Strengthening of Transparency, Financial Culture, and Financial Customer Service[302]	Establishes that financial users have the right to receive financial education from the CNBS. In order to facilitate this, the law requires that credit card-issuing institutions submit a financial education plan on an annual basis.[303] This law is akin to a financial consumer protection law, as it also provides communication guidelines for FSPs.
2013	Basic Savings Account[304]	Allows CNBS-regulated entities to issue basic savings account with the following functionalities: cash withdrawal and deposit, receipt and rendering of payments, and domestic and international transfers. It can be opened with a minimum deposit of 10 HNL (approximately 0.50 USD), no minimum account balance requirement, and a simplified know-your-customer (KYC) process. The maximum account value increased from 10,000 HNL to 15,000 HNL (approximately 400 USD to 600 USD) in 2020.[305]
	Agent Banking[306]	Allows any CNBS-regulated entity to contract a third-party agent to conduct services on its behalf. Agents must be registered as a business, participate in anti-money laundering training, and comply with other requirements.
2015	Payment and Securities Settlement Systems[307]	Aims to ensure proper settlement and clearance in the payment systems overseen by the BCH, including the Automated Clearing House (ACH) and Real-Time Gross Settlement (RTGS).
2016	INDEL[308]	Allows for the establishment of INDELs provided that they meet the minimum capital requirement of 30 million HNL. INDELs can offer the following services: opening of mobile money wallets, payments, and cash-in and cash-out.
2022	Below-Balance Fee Removal[309]	Removes minimum balance requirements and prohibits commission charges on checking and savings accounts.

302 Comisión Nacional de Bancos y Seguros, "Normas para el Fortalecimiento de la Transparencia, la Cultura Financiera y Atención al Usuario Financiero," *Biblioteca Virtual – Tribunal Superior de Cuentas*, accessed October 10, 2022, https://www.tsc.gob.hn/biblioteca/index.php/normas/291-normas-para-el-fortalecimiento-de-la-trasparencia-la-cultura-financieray-atencion-al-usuario-financiero.

303 Consumer Empowerment and Market Conduct (CEMC) Working Group, "Financial Education in Latin America and the Caribbean," *Alliance for Financial Inclusion*, 2020, https://www.afi-global.org/wp-content/uploads/2020/12/AFI_CEMC_FI_CS_AW_digital.pdf.

304 Comisión Nacional de Bancos y Seguros, "Circular CNBS No.011/2015," *CNBS*, 2015, https://www.cnbs.gob.hn/files/CIRCULARES/CNBS2015/C011-2015.pdf.

305 Mesa Editorial, "Amplían a 15.000 lempiras el monto límite de transacción de la billetera electrónica," *Dinero HN*, April 20, 2020, https://dinero.hn/amplian-a-15-000-lempiras-el-monto-limite-de-transaccion-de-la-billetera-electronica/.

306 Comisión Nacional de Bancos y Seguros (CNBS), "Circular CNBS No.251/2013," *CNBS*, December 17, 2013, https://www.cnbs.gob.hn/files/GE/Compendio/2013/251-2013.pdf.

307 Government of Honduras, "Ley de Sistemas de Pago y Liquidación de Valores," *La Gaceta – Diario Oficial de la República de Honduras*, Tribunal Superior de Cuentas, September 14, 2015, https://www.tsc.gob.hn/web/leyes/Ley_Sistemas_de_pago_y_liquidacion_valores.pdf.

308 Banco Central de Honduras, "Reglamento para la Autorización y Funcionamiento de las Instituciones no bancarias que brindan servicios de pago utilizando dinero electrónico. Acuerdo No. 01/2016," *La Gaceta – Diario Oficial de la República de Honduras*, UNAH, February 24, 2016, https://investigacionjuridica.unah.edu.hn/assets/Investigacion-Juridica/paginas/boletin-informativo-2016/REGLAMENTO-PARA-LA-AUTORIZACION-Y-FUNCIONAMIENTO-DE-LAS-INSTITUCIONES-NO-BANCARIAS-QUE-BRINDAN-SERVICIOS-DE-PAGO-UTILIZANDO-DINERO-ELECTRONICO.pdf.

309 Comisión Nacional de Bancos y Seguros, "Circular CNBS No.009/2022," *CNBS*, April 21, 2022, https://www.cnbs.gob.hn/files/CIRCULARES/CNBS2022/C009-2022.pdf.

There is evidence of the decreasing level of financial inclusion over the past five years, as discussed further below (see: Financial inclusion is on the line). This decrease is in spite of the implementation of the National Financial Inclusion Strategy (ENIF), which defined targets for promoting access to and use of financial services between 2015 and 2020.[310, 311] The ENIF fell short on key components that characterize effective strategies. For example, it was not designed with an intersectional approach. While it importantly prioritized economically vulnerable segments of the population, including MSME entrepreneurs and remittance recipients, the ENIF did not emphasize the need to address the gaps in financial inclusion for socially marginalized groups, including women and the afro-indigenous population. Furthermore, given the dearth of nationally representative data, the targets of the ENIF drew on the regional average values published by the World Bank and the Latin American Federation of Banks.[312] Finally, interviews gave little indication that the ENIF was broadly socialized or adopted by key stakeholders.

There is also a perception that the national regulatory framework contains critical gaps that, if addressed, could help to improve financial inclusion. For example, there are currently no laws or regulations that govern FinTechs in Honduras. By default, FinTechs must comply with the legal framework used for traditional FSPs.[313] In addition, those FinTechs that offer payment services must operate in accordance with the INDEL Law, which requires a minimum capital of 30 million HNL (1.2 million USD) and thus can be prohibitively costly.[314] The relatively small number of FinTechs—approximately 25—can be attributed to this ambiguous legal territory that they have had to navigate and the difficulty of accessing startup capital.[315] Financial regulators are aware of the high barriers to entry for FinTechs and are actively working to address them.[316, 317] The establishment of the FinTech and Technological Innovations Committee (CFIT) in 2019 is a step in the right direction.[318] Composed of representatives from the private and public sectors, the CFIT convenes on a regular basis to explore key themes such as the role of a regulatory sandbox and the possibility of passing a FinTech law.[319] The participation of the FinTech Association of Honduras, which was established in 2020, in the CFIT is intended to channel the interests and concerns of the FinTech community directly to the regulators.

The absence of a comprehensive cybersecurity law (see Pillar 2) is another area of concern in light of the surging rate of phishing attacks on the banking system.[320] While data on the prevalence of cyber financial crime in Honduras is hard to come by, one software firm specializing in cybersecurity estimates that there were at least

310 Comisión Nacional de Bancos y Seguros, "Estrategia Nacional de Inclusión Financiera en Honduras," CNBS, July 2015, https://docplayer.es/220286839-Estrategia-nacional-de-inclusion-financiera-en-honduras.html.

311 An official version of the ENIF was not publicly available at the time of this writing. However, secondary sources, such as a planning document used to inform the ENIF (see previous footnote) and an analysis report (https://www.cepal.org/sites/default/files/news/files/inclusion_financiera._estudio_de_caso_honduras-min.pdf), conducted by the United Nations Economic Commission for Latin America and the Caribbean, were consulted.

312 AFI and CNBS, "Honduras: Competitiveness' Chain Reaction for Financial Inclusion." Alliance for Financial Inclusion, August 2018, https://www.afi-global.org/wp-content/uploads/publications/2018-08/AFI_MS_Honduras_AW_digital.pdf.

313 Comisión Nacional de Bancos y Seguros, Banco Central de Honduras, and Banco Interamericano de Desarrollo, "Exploratory Study on FinTechs in Honduras," *CNBS*, 2021, https://www.cnbs.gob.hn/wp-content/uploads/2021/11/Analisis-Exploratorio-Fintech-Honduras.pdf.

314 Ibid.

315 This estimate takes into account data from BCH's FinTech map, which was last updated in January 2021, and considers data provided by the FinTech Association of Honduras via email in June 2022.

316 Anonymous, Banking expert, Interview by DECA team, June 2022, online.

317 Anonymous, Bank information security expert, Interview by DECA team, May 2022, online.

318 CNBS, "Qué es FINTECH y CFIT?" *CNBS*, accessed October 10, 2022, https://www.cnbs.gob.hn/fintech/.

319 Anonymous, Banking expert, Interview by DECA team, June 2022, online. Bank information security expert, Interview by DECA team, May 2022, online.

320 "Phishing" is a cyber crime in which a target or targets are contacted by email, telephone, or text message by someone posing as a legitimate institution in order to lure individuals into providing sensitive data, such as personally identifiable information, banking and credit card details, and passwords.The information is then used to access important accounts and can result in identity theft and financial loss.

600,000 cases related to phishing campaigns in Central America in 2021, which is a 53-percent increase from the prior year.[321] This is a worrying trend, as it risks eroding consumer confidence and undermines efforts to promote financial inclusion.[322] To mitigate these risks, the private sector has stepped up. In April 2021, the Honduran Association of Banking Institutions (AHIBA)'s assembled a CSIRT for the banking sector.[323, 324] In an interview with an AHIBA member who is leading this effort, he explained that "*[...] we are not going to wait for regulation. There is a huge deficit in terms of legislation in the country. With delays in the creation of laws such as data privacy and others associated with cyber crime, we cannot wait and continue to expose ourselves to greater risks. It is up to us to work as a united front to counteract these threats.*"[325]

BANKS LEAD THE WAY IN DIGITAL TRANSFORMATION AS SMALLER FSPS INCH ALONG

Commercial banks in Honduras have made significant headway on their digital transformation journeys and have supported digitalization efforts beyond the financial sector (see BOX 16).[326] Virtually every bank offers online banking services, has their own mobile applications, and engages with customers through a variety of channels, including WhatsApp chatbots and email.[327] Banks have also integrated digital solutions on their back-end to enhance their risk management and operational capabilities. For example, most banks have established a connection between their management information system and the RNP's web database, allowing the banks to use the national identity document to perform their know-your-customer process electronically (see Pillar 2).[328] This has been instrumental in enabling remote account opening and significantly reducing the risk of fraud. [329]

Despite their best efforts to digitalize, smaller FSPs such as savings and loans cooperatives and microfinance institutions (MFIs) must grapple with more challenging operating environments and limited resources.[330] For example, many smaller institutions do not have the staff and IT infrastructure to make the necessary back-end configurations to connect with the RNP's National Document Identification (DNI) verification web service, nor do they have sufficient funds to contract or purchase an ID validation front-end software.[331] Therefore, the benefits of remote account opening and fraud protection cannot be as readily accessed by customers of smaller FSPs, who tend to be underserved.

321 Fátima Romero, "New phishing threat highlights the need to classify cyber crimes in Honduras," *Bloomberg Línea*, April 23, 2022. https://www.bloomberglinea.com/2022/04/23/nueva-amenaza-de-phishing-evidencia-necesidad-de-tipificar-delitos-ciberneticos-en-honduras.

322 Silvia Baur-Yazbeck, Judith Frickenstein, and David Medine, "Cyber Security in Financial Sector Development: Challenges and Potential Solutions for Financial Inclusion," CGAP and GIZ, November 2019, https://www.rfilc.org/wp-content/uploads/2020/08/Cyber-security-in-financial-sector-development.pdf.

323 Asociación Hondureña de Instituciones Bancarias (AHIBA), "Contratación de Servicios de Equipo de Respuesta a Incidentes de Seguridad (CSIRT), Términos de Referencia 2022," *AHIBA*, 2022, https://ahiba.hn/wp-content/uploads/2022/04/RFP-CSIRT-Honduras-Final-Abril-2022.pdf.

324 See Pillar 2 for more details on CSIRTs and CERTs.

325 Bank information security officer, interview by DECA team, June 2022, online.

326 Redacción La Prensa, "Inversión de bancos en tecnología crece un 12.5%" LaPrensa, October 30, 2020, https://www.laprensa.hn/economia/honduras-inversion-bancos-tecnologia-crece-125-CALP1419038.

327 Redacción El Heraldo, "La banca acelera la digitalización de sus servicios," *El Heraldo*, May 4, 2021, https://www.elheraldo.hn/economia/dineroynegocios/la-banca-acelera-la-digitalizacionde-sus-servicios-GXEH1461465.

328 Government of Honduras Official, interviewed by DECA team, June 2022, online.

329 Banking sector experts, Interview by DECA team, May 2022, online.

330 Micro-finance officers, Interview by DECA team, May 2022, online.
Financial Inclusion experts, Interview by DECA team, June 2022, online.
FinTech expert, Interview by DECA team, May 2022, online.
Micro-finance expert, Interview by DECA team, July 2022, online.

331 Financial Inclusion experts, Interview by DECA team, June 2022, online.

BOX 17: Commercial banks support the digital transformation of other sectors

It is worth highlighting that banks have also played a central role in digitalization efforts within other domains, such as digital governance, the startup ecosystem, and e-commerce. For example:

- **E-government:** In 2019, the creation of the first Honduran chapter of the Information Systems Audit and Control Association (ISACA)[332], an international professional association focused on IT governance, was spearheaded by professionals in the banking sector.[333] ISACA members regularly lend their expertise to a variety of GOH initiatives, including the design of the Digital Republic and the preliminary discussions related to the formulation of a national cybersecurity strategy (Pillar 2).[334]
- **Tech startup environment:** Banco Atlántida, one of the largest banks in the country, is a founding sponsor of the Honduras Digital Challenge, which is the landmark event for startups (discussed further below).
- **E-commerce:** As part of its initiative to bring more MSMEs into the fold of e-commerce, the bank BAC Credomatic launched a feature called "Compra Click"[335] that allows MSMEs to generate a shareable payment link.

MOBILE MONEY PROVIDERS DOMINATE THE FINTECH LANDSCAPE

The most prominent FinTechs in the country are mobile money service providers Tigo Money, Tengo, and Dilo, all of which have launched their own mobile money wallets. According to the 2022 CNBS Financial Inclusion Report, there are approximately 1.73 million mobile money users in Honduras.[336] The most popular mobile money services in order of transaction volume are: cash-in and cash-out, airtime purchases, public utility payments, merchant payments, and remittances.[337] Based on estimates, most mobile money activity consists of over-the-counter transactions whereby customers transact in cash with an agent who executes the electronic payment on their behalf.[338] In 2021, there were approximately 12 agents for every 10,000 adults, making up 65 percent of all financial access points.[339] The agents do not operate exclusively, which means that they can facilitate transactions for more than one mobile money provider, and they can also carry out transactions on behalf of banks.[340]

Tigo Money operates as an INDEL—a non-bank institution that provides payment services using e-money (see above)—and owes its 82-percent market share in large part to its affiliation with Tigo, the largest MNO in Honduras (see Pillar 1). By leveraging Tigo's extensive broadband network coverage, Tigo Money has been able

332 ISACA, "ISACA Welcomes First Chapter in Honduras," *ISACA*, July 29, 2021, https://www.isaca.org/why-isaca/about-us/newsroom/press-releases/2021/isaca-welcomes-first-chapter-in-honduras.

333 International IT association officer, Interview by DECA team, May 2022, online.

334 Ibid.

335 La Tribuna, "BAC Credomatic lanza campaña y plataforma de apoyo a los comercios nacionales y la economía," *Diario La Tribuna*, June 19, 2020, https://www.latribuna.hn/2020/06/19/bac-credomatic-lanza-campana-y-plataforma-de-apoyo-a-los-comercios-nacionales-y-la-economia/.

336 Comisión Nacional de Bancos y Seguros, "Reporte de Inclusión Financiera 2022," *CNBS*, 2022, https://analitica.cnbs.gob.hn/Home/Viewer/Publicaciones%20Estad%C3%ADsticas%20y%20Financieras%2FInclusión%20Financiera%2FReportes%20de%20Inclusión%20Financiera/Reporte%20de%20Inclusión%20Financiera%202022.pdf.

337 Based on author's calculations using data from the 2021 CNBS Financial Inclusion Report.

338 According to an email correspondence with the CEO of Tengo in October 2022, about 60 percent of their transactions are over-the-counter and the rest are customer-managed in their app. Tigo Money did not disclose this data.

339 Comisión Nacional de Bancos y Seguros, "Reporte de Inclusión Financiera 2022," *CNBS*, 2022, https://analitica.cnbs.gob.hn/Home/Viewer/Publicaciones%20Estad%C3%ADsticas%20y%20Financieras%2FInclusi%C3%B3n%20Financiera%2FReportes%20de%20Inclusi%C3%B3n%20Financiera/Reporte%20de%20Inclusi%C3%B3n%20Financiera%202022.pdf.

340 According to an email correspondence with the CEO of Tengo in October 2022, Tengo is currently rolling out a survey among their agents to determine how many agents are offering services on behalf of other providers.

to convert mobile subscribers into mobile money users. Tigo Money is also the only one of the providers that uses USSD technology, which enables individuals without a smartphone or data to use mobile money.[341] Although Tengo's market share of 18 percent is relatively smaller, one of its main strengths has been its capacity to design, test, and bring to market tailored solutions in a relatively short period of time. This is thanks to the ecosystem that its team of developers built around its core. For example, for one initiative, Tengo's team customized specifications for users without mobile data to receive an electronic coupon via short messaging service (SMS) that can be presented to any of its agents and be redeemed for designated items.[342]

While there is not much data available on Dilo, given its recent launch in 2021, its presence brings more choices for mobile money users. By the same token, it draws greater attention to the issue of interoperability, which currently is not enabled in Honduras.[343] This has the potential for creating silos or "closed-loop" environments within the mobile money market wherein mobile money transactions cannot be completed between providers.[344] To date, no formal discussions have taken place calling for the providers to shift towards an interoperable model nor are there any plans to do so in the foreseeable future.

A WELL-FUNCTIONING PAYMENTS SYSTEM, BUT NOT FULLY INTEROPERABLE

Commercial banks have access to several payment systems, of which the Automated Clearing House (ACH) and the Real Time Gross Settlement System (RTGS) are the two most relevant for this assessment. The former processes inter-bank transfers worth up to 20,000 USD, and the latter processes transactions with a value of 20,000 USD and above.[345] They are both managed by the Interbank Processing Center (CEPROBAN), as authorized by the BCH.[346] Prior to undergoing an upgrade in 2017, the ACH only had the capacity to process transfers in batches at set times twice a day but it now can process a transfer instantaneously. While this is a significant improvement, the current fee of 1.50 USD per transfer represents a high cost for smaller-value transactions, which ultimately affects low-income individuals. That said, it is encouraging that the BCH is currently reviewing a proposal to allow non-bank FSPs, including INDELs and cooperatives, to join the ACH as "indirect participants," because it will allow them to reduce their operational costs and expand their DFS offerings.[347]

FINANCIAL INCLUSION IS ON THE LINE

The level of financial inclusion in Honduras is low. According to the Global Findex, only 38 percent of Honduran adults had an account at a financial institution or used a mobile money service in 2021, compared to 73 percent of adults in the LAC region (see FIGURE 21).[348, 349] In fact, account ownership in Honduras took a dip of seven percentage points since 2017, when account ownership was at 43 percent.[350] A more in-depth study is required to pinpoint the reasons for this trend reversal and may need to account for population growth and migration

341 USSD stands for "Unstructured Supplementary Service Data."

342 Mobile money expert, interviewed by DECA team, June 2022, online.

343 However, each provider has bilateral agreements with partner FSPs which allow their agents to conduct services on their behalf in accordance with the Agent Banking Law (see above).

344 Lamia Naji, "How mobile money is increasingly interoperable," *GSMA*, June 12, 2020, https://www.gsma.com/mobilefordevelopment/blog/how-mobile-money-is-increasingly-interoperable/.

345 Banking expert, Interview by DECA team, June 2022, online.

346 AHIBA, "Ceproban lanza ACH Pronto," *AHIBA*, November 8, 2017, https://ahiba.hn/ceproban-lanza-ach-pronto/.

347 Ibid.

348 Asli Demirgüç-Kunt, et al., *The Global Findex Database 2021: Financial Inclusion, Digital Payments, and Resilience in the Age of COVID-19*, (Washington, D.C.: World Bank Group, 2022), https://www.worldbank.org/en/publication/globalfindex.

349 Launched in 2011 by the World Bank, the Global Findex is a comprehensive dataset of how people use financial products and services. The data are collected every three years, with the most recent data collection completed in 2021.

350 Ibid.

trends. However, Hondurans cited the following reasons for not having an account in 2021: insufficient funds (63 percent), high cost of financial services (62 percent), distance from a financial institution (35 percent), and lack of trust in financial institutions (33 percent).[351] On the issue of cost, the lending interest rate in Honduras in 2021 was 16 percent, which is among the highest in the LAC region.[352] In addition to the aforementioned factors, there is a perception that commercial banks are not actively pursuing vulnerable population groups and that the lack of relevant financial services is driving them to rely on more informal financial services. For example, an analysis of international remittance flows shows that even though banks are the preferred modality to receive remittances, there is a significant amount of cash leakage from the banking system, as most recipients cash out their remittances rather than channel their funds into other products (see BOX 18).[353]

BOX 18: Remittances: a lifeline for many Hondurans and a missed opportunity for financial service providers (FSP)

According to a USAID-funded report that focuses primarily on international remittances in Honduras, the remittance market is complex and dynamic.[354] It can be summarized as follows:

- It is dominated by money transfer operators (MTOs), such as Western Union and MoneyGram, with extensive agent networks across the country. Migrants primarily use MTOs because their documentation requirements are relatively less onerous than those of FSPs, many of which have lost interest in the remittance market due to declining profit margins.
- Cash is still the predominant form of money to conduct transactions, despite the fact that it is more costly than using formal financial products. Speed, ease, and habits are cited as primary reasons for a preference for cash.
- The supply of digital remittances is small, but growing. However, rates of adoption are highly uneven across genders and age groups and are hindered by Honduras' overall low number of adults with a bank account.

Although remittances made up 23 percent of GDP in 2020,[355] only a fraction stays within the formal financial system. Most financial products are not designed to meet the needs of remittance recipients, largely because of the underutilization of remittance data and other types of data that could help to better understand their financial behaviors. Since there is no readily-accessible, centralized system that could serve as a source of this data, FSPs rely on their customers to provide manual remittance receipts. This is onerous for the customer, as receipts can be lost or discarded and the process of requesting receipts from remittance agents can take weeks to be fulfilled.[356]

The Omnis Finclusion Foundation, an NGO that is building digital infrastructure for greater financial inclusion, with an emphasis on enabling the use of alternative financial data for individuals with thin credit files, noted in an interview with the DECA team that accessing this data is challenging, but not impossible.[357] The BCH maintains a database called the BALCAM,[358] to which all regulated banking entities are required to report all transactions, including remittance payments. Currently, the database is only used as an aggregating tool for statistical purposes. However, citizens can request such information using their habeas data rights (see Pillar 2), which they can in turn share with FSPs to use as alternative data for designing digital remittance and remittance-linked products to better target remittance recipients.

351 Ibid.

352 World Bank, "Lending interest rate statistics," *World Bank*, accessed October 10, 2022, https://data.worldbank.org/indicator/FR.INR.LEND?end=2021&locations=HN-AR-BZ-BO-BR-CO-DO-DM-GD-GT-GY-HT-JM-MX-NI-PY-PE-LC-VC-SR-VE-SV-CR-EC&start=2016.

353 USAID, "Economic Analysis of the Honduras Remittances Ecosystem: An Assessment of the Role Remittances have on Financial Inclusion and Development Outcomes," *USAID*, 2022, https://pdf.usaid.gov/pdf_docs/PA00Z69J.pdf.

354 Ibid.

355 Ibid.

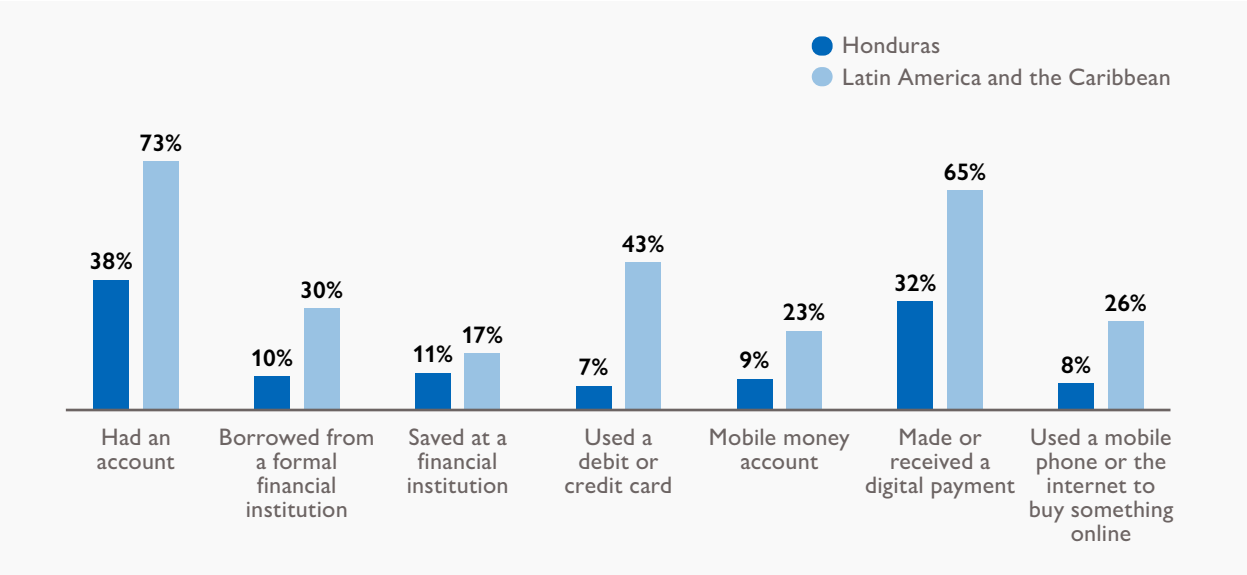
356 FinTech inclusion experts, interviewed by DECA team, June 2022, online.

357 Ibid.

358 Banco Central de Honduras, "Balanza Cambiaria," *Banco Central de Honduras*, September 30, 2022, https://www.bch.hn/politica-institucional/politica-cambiaria/estadistica-cambiaria/balanza-cambiaria.

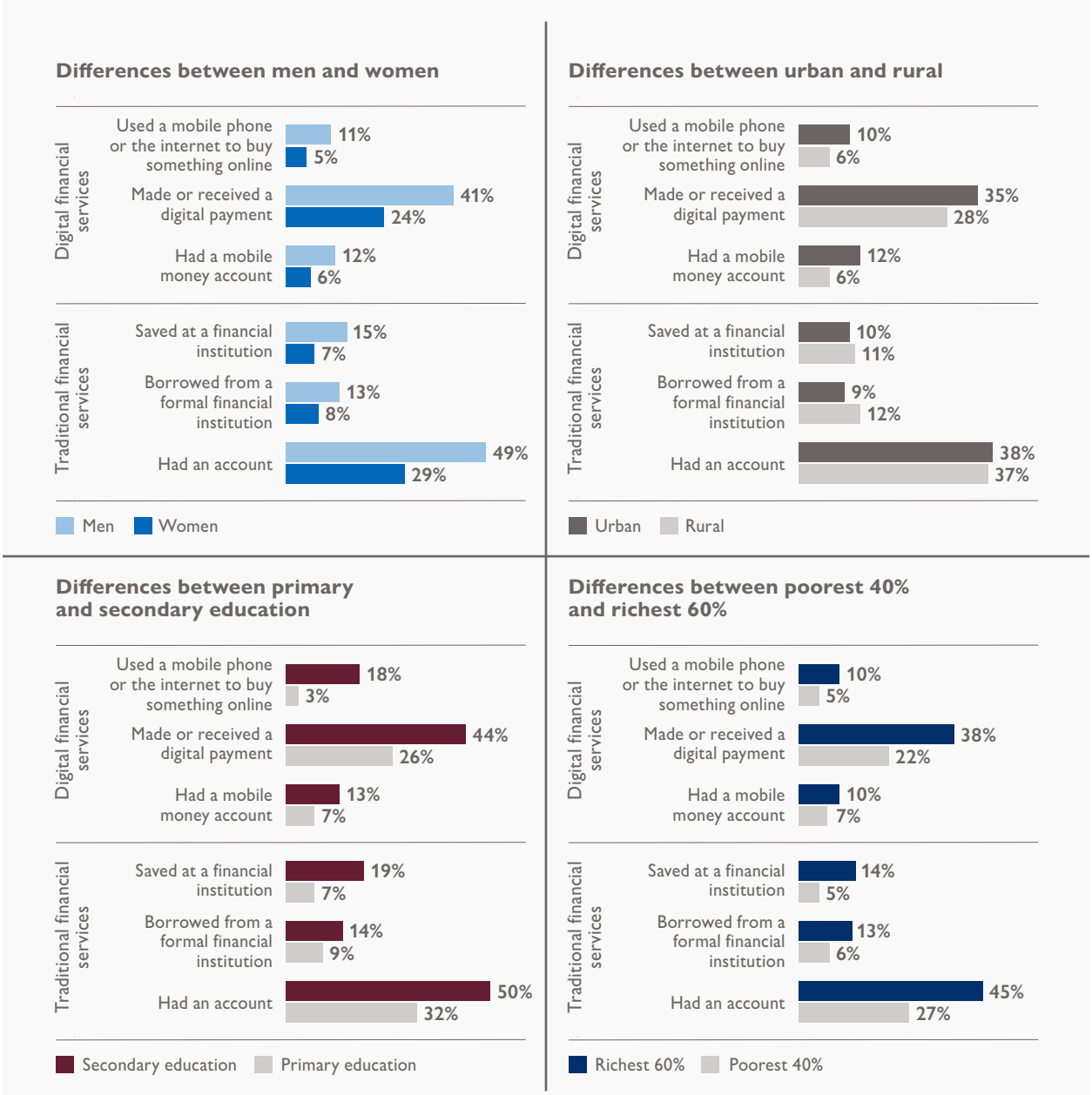
Homing in on the use of DFS reveals that there is still a long way to go to improve digital financial inclusion in Honduras. For example, as shown in FIGURE 21, the share of adults who made or received digital payments in 2021 was far lower in Honduras than it was in the LAC region (32 percent versus 65 percent), and an even bigger difference can be observed in the share of adults who used a debit or credit card (seven percent versus 43 percent).[359] The low use of DFS may not be too surprising in light of the challenges with accessing reliable and affordable broadband and mobile services. To illustrate, the difference between adults in rural and urban areas in account ownership is marginal (one percentage point). However, a substantially bigger difference can be observed when examining the data on transactions that require an internet connection, such as the use of mobile money (six percentage points) and digital payments (seven percentage points) (see FIGURE 22).

FIGURE 20: Select financial inclusion indicators in Honduras and LAC (percent of adults 15 years old and older)



359 Asli Demirgüç-Kunt, et al., *The Global Findex Database 2021: Financial Inclusion, Digital Payments, and Resilience in the Age of COVID-19*, (Washington, D.C.: World Bank Group, 2022), https://www.worldbank.org/en/publication/globalfindex.

FIGURE 21: Differences in financial inclusion across population groups (percent of adults 15 years old and older)



Source: Global Findex 2021

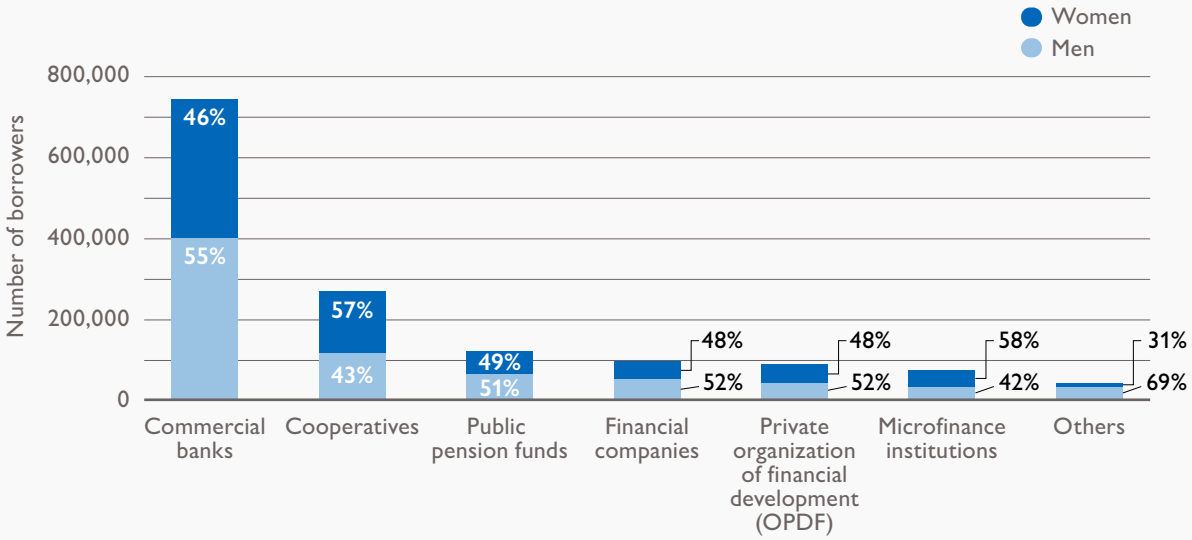
WOMEN'S FINANCIAL WELLBEING IS AT RISK

The gender divide across various dimensions of financial inclusion is striking. In 2021, the gender gap in account ownership was 20 percentage points, while the difference between the share of women and men sending and receiving digital payments was 17 percentage points.[360] By contrast, in 2017 these differences were nine percentage points and 11 percentage points, respectively. One possible explanation for these worsening trends could be that the current suite of products and services offered by the largest FSPs (in terms of borrower

360 Asli Demirgüç-Kunt, et al., *The Global Findex Database 2021: Financial Inclusion, Digital Payments, and Resilience in the Age of COVID-19*, (Washington, D.C.: World Bank Group, 2022), https://www.worldbank.org/en/publication/globalfindex.

base) are not designed for women. To illustrate, women comprise only 46 percent of the borrower base of commercial banks, which is significantly smaller compared to cooperatives (57 percent) and microfinance institutions (58 percent) (see FIGURE 23). FSPs are leaving a lot on the table by not actively pursuing women customers. According to a diagnostic review conducted by Data2x, unserved and underserved women, customer segments in Honduras represent a market opportunity of an estimated 446 million USD in annual revenue for FSPs.[361] And yet this is a conservative estimate, as data on women's financial behavior is scarce. It is promising that the CNBS launched the Women's Financial Inclusion Plan in 2019 to narrow the gender divide.[362] As part of the Plan, the CNBS committed to coordinating more closely with bank and non-bank FSPs to collect sex-disaggregated data. Some banks, such as Banco LAFISE, have begun integrating gender metrics into their management information systems. The CNBS has also conducted focus group discussions with a diverse range of women across the country to better understand their financial behaviors and constraints.[363]

FIGURE 22: Gender breakdown of borrowers by type of financial service provider



Source: CNBS Financial Inclusion Report 2022

3.2 E-COMMERCE'S UNREALIZED POTENTIAL

E-commerce has yet to take hold in Honduras except for in the two largest cities, Tegucigalpa and San Pedro Sula. The vast majority of Hondurans continue to shop in person, with the share of adults who have purchased goods online increasing from four percent in 2017 to only eight percent in 2021.[364] As captured by the 2020 United Nations Conference on Trade and Development (UNCTAD) Business to Consumer (B2C) E-commerce Index,[365] a combination of limited connectivity, low levels of financial inclusion, and poor postal reliability puts

361 Women's Financial Inclusion Data (WFID) Partnership, "Towards Women's Financial Inclusion: A Gender Data Diagnostic of Honduras," Data2X, WFID Partnership, 2022, https://data2x.org/wp-content/uploads/2022/06/06.21_DataDiagnostics-Honduras.pdf.

362 Comisión Nacional de Bancos y Seguros, "Impulsan mayor inclusión financiera para las mujeres de Honduras," *CNBS*, 2022, https://www.cnbs.gob.hn/noticias/news1-18/.

363 Ibid.

364 Asli Demirgüç-Kunt, et al., *The Global Findex Database 2021: Financial Inclusion, Digital Payments, and Resilience in the Age of COVID-19*, (Washington, D.C.: World Bank Group, 2022), https://www.worldbank.org/en/publication/globalfindex.

365 United Nations Conference on Trade and Development (UNCTAD), "The UNCTAD B2C E-Commerce Index 2020: Spotlight on Latin America and the Caribbean, UNCTAD Technical Notes on ICT for Development No17.," UNCTAD, https://unctad.org/system/files/official-document/tn_unctad_ict4d17_en.pdf.

Honduras in 98th place out of 152 countries (see TABLE 6). The e-commerce sector is largely under-regulated,[366] with findings from the DECA interviews suggesting that Honduras' 2015 Electronic Commerce Law[367] does little beyond assigning legal value to documentation generated from digital transactions. Data on e-commerce activity is currently sparse. This may change, however, as the GOH is considering proposals to institute a tax regime.[368] On the supply side, nearly two-thirds of MSMEs are estimated to not have an online presence,[369] which in large part is due to the fact that they do not have the resources to invest in technology.[370] Of those businesses that do have an online presence, the majority operate payment and delivery through WhatsApp and have not fully integrated into an e-commerce website or platform.[371]

TABLE 6: UNCTAD B2C E-commerce Index Indicators, 2020

	2020 Rank (Out Of 152)	Share of Individuals Using the Internet (2019 or Latest)	Share of Individuals With a Bank Account (Adults 15+, 2017)	Secure Internet Servers (Normalized, 2019)	Universal Postal Union (UPU) Postal Reliability Score (2019 or Latest)
Latin America & the Caribbean	N/A	64	53	50	29
Costa Rica	56	86	68	59	63
Dominican Republic	67	75	56	40	67
Panama	87	64	46	62	26
Belize	89	47	48	85	14
Mexico	93	70	37	46	34
Honduras	98	39	45	38	54
El Salvador	106	51	30	38	29
Nicaragua	122	46	31	37	2

366 IPANDETEC, ECIJA Legal, and Thomson Reuters Foundation, "Comercio Electrónico en Centroamérica y República Dominicana," *IPANDETEC*, 2020, N.p.: Creative Commons. https://www.ipandetec.org/wp-content/uploads/2020/11/ECOMMERCE-2020.pdf.

367 Government of Honduras, "Ley sobre Comercio Electrónico. Decreto No. 149-2014," (Tegucigalpa, Honduras: La Gaceta – Diario Oficial de la República de Honduras, 2015), https://www.tsc.gob.hn/web/leyes/Ley_sobre_Comercio_%20Electronico.pdf.

368 El Pulso, "SAR 'a la caza' de impuestos en plataformas digitales," *El Pulso*, October 21, 2020, https://elpulso.hn/2020/10/21/sar-a-la-caza-de-impuestos-en-plataformas-digitales/.

369 Kleymer Baquedano, "Mipymes que no den salto a la digitalización fracasarán," *La Prensa*, January 29, 2021, https://www.laprensa.hn/sanpedro/honduras-mipymes-salto-digitalizacion-fracasaran-OCLP1438723.

370 It is worth noting that some businesses do not lend themselves to digitalization, because they do not differentiate much (such as a neighborhood corner store) or because they sell products that can only be bought in person (like a gas station).

371 Honduras Center for Economic and Social Investigation (UNAH-IIES), Council of Private Enterprise Honduras (COHEP), and USAID/Honduras Transforming Market Systems (TMS) Activity, "Honduras Market Systems Diagnostic 2020," *ACDI/VOCA*, April 15, 2021, https://www.acdivoca.org/wp-content/uploads/2021/06/TMS-Market-Systems-Diagnostic.pdf.

THE MOVEMENT OF GOODS IS MIRED BY A PATCHY TRANSPORTATION NETWORK

Honduras' weak logistical infrastructure is also one of the factors hindering trade and, more broadly, the e-commerce sector. It currently ranks 125th out of 160 countries on the Universal Postal Union's 2021 Postal Development Report[372] and 120th out of 141 countries on the Road Connectivity Index.[373] According to interviewees, there are still many parts of the logistics value chain that need to be optimized, especially to help strengthen the export of food and agricultural products.[374] One interviewee representing a large logistical firm noted the progress made to facilitate maritime trade but said that the poor road conditions on the mainland routes between Honduras, Guatemala, and El Salvador have been costly for business.[375]

In terms of last-mile delivery, the availability of options is expanding, albeit unevenly. The COVID-19 pandemic made app-based transportation platforms such as Hugo and Ocho indispensable for urban consumers. International couriers such as FedEx, DHL, and UPS are prohibitively costly for the average Honduran, and the state postal service has historically been unreliable. Parcel forwarding services and smaller logistics firms called *encomiendas* are instrumental in connecting Honduran consumers with global e-commerce platforms, such as Amazon and eBay, that do not yet operate in Honduras.[376] However, these services are neither regulated nor standardized. As such, their costs can be high, and the quality of service is not guaranteed.

THE CREATIVE ECONOMY CATCHES ON IN HONDURAS

Hondurans are increasingly participating in activities that form part of the creative economy.[377] Also referred to as the "orange economy," the creative economy is based on ideas that are transformed into cultural goods and services, the monetary value of which is determined by intellectual property. Examples of such goods and services include the sale of digital art for non-fungible tokens[378] and the production of a Netflix documentary called *Stories of a Generation*.[379] The establishment of the Orange Economy Commission in 2018 signaled the GOH's interest in actualizing the potential value of the creative economy.[380]

The implementation of the Commission's mandate has been marked by a series of fits and starts due to COVID-19 and most recently with its dissolution by the Castro Administration.[381] A creative economy expert at the IDB remains optimistic about the role the sector can play in promoting livelihoods, especially for youth and women.[382] The newly-formed Ministry of Culture, Arts, and Heritage (SECAPPH) will effectively take over the

372 Mauro Boffa, Fernão De Borba, and Lukasz Piotrowski, "Postal Development Report 2021: Taking stock of a new reality," *UPU*, Universal Postal Union, 2021, UPU. https://www.upu.int/UPU/media/upu/publications/Postal-development-report-2021.pdf.

373 The World Bank, "GCI 4.0: Road connectivity index," *GovData360*, accessed October 10, 2022, https://govdata360.worldbank.org/indicators/h3b01ce64?country=HND&indicator=41361&countries=BRA&viz=line_chart&years=2017,2019.

374 Ibid.

375 American Chamber of Commerce in Honduras, Interview by DECA team, May 2022.

376 Jorge Monzón, "Ropa y electrónica, lo que más compran por internet," *La Prensa*, August 22, 2020, https://www.laprensa.hn/sanpedro/honduras-ropa-electronica-mas-compran-internet-pandemia-covid-CBLP1403177.

377 Margarita Seminario and Arianna Kohan, "The Creative Economy in Latin America," *Center for Strategic and International Studies*, September 15, 2020, https://www.csis.org/analysis/creative-economy-latin-america.

378 Non-fungible tokens (NFTs) are unique cryptographic tokens on a blockchain that are minted from digital objects and can represent real-world tangible and intangible items. NFT have unique identification code, and unlike cryptocurrencies, which are fungible tokens, cannot be traded or exchanged at equivalency. The unique identification code of each NFT is used to certify authenticity and ownership and has potential for several use cases, including artwork, real estate, ticketing, and more.

379 El Tiempo Editorial, "Hondureños producen serie de Netflix que realza vida de doña Austra," *Diario Tiempo*, December 29, 2021, https://tiempo.hn/hondurenos-produccion-netflix-madre-de-bertha/.

380 Banco Centroamericano de Integración Económica, "Honduras se viste de naranja," *BCIE*, March 22, 2019, https://www.bcie.org/novedades/noticias/articulo/honduras-se-viste-de-naranja.

381 Government of Honduras, "IAIP - Dirección de Cultural, Artes y Deportes," Portal Único de Transparencia, June 14, 2022, https://portalunico.iaip.gob.hn/portal/index.php?portal=417.

382 Creative Economy Expert, Interview by DECA team, May 2022, online.

previous Commission's effort.[383] In July 2022, SECAPPH announced plans to create a satellite account in collaboration with UNAH and the IDB in order to capture the creative economy's contribution to GDP (see BOX 19).[384, 385]

In parallel, the National Property Institute has launched campaigns in the form of workshops and other public events to raise public awareness about the significance of intellectual property.[386] The Institute also signed a memorandum of understanding with the National Secretary of Science, Technology, and Innovation to establish Technology and Innovation Support Centers where the public can access resources to deepen their understanding of intellectual property.[387]

BOX 19: The book industry showcases the challenges of measuring the size of the creative economy[388]

In an interview, a creative economy expert noted that the book industry exemplifies some of the challenges that come with the digitalization of arts and other creative economic activities. Local authors find the process of obtaining an International Standard Book Number (ISBN) at the national ISBN registrar to be expensive and cumbersome, with the software used to register their books often malfunctioning.[389] As a workaround, authors are going directly to Google Books or Amazon, where they can acquire an ISBN for free and without any hassle. The interviewee suspects that similar scenarios are happening with music, audiovisual, and other digitally-mediated forms of art and culture. This makes the real size and potential of the Honduran creative economy difficult to quantify and adds to the challenge of validating the need for allocating government support and resources.

3.3 ADVANCES AND BOTTLENECKS IN DIGITAL TRADE

Since the late 1980s, the contribution of trade to GDP in Honduras has continued to outpace that of its peers in the Northern Triangle.[390] In 2021, the trade-to-GDP ratio in Honduras was 100 percent compared to 84 percent in El Salvador and 49 percent in Guatemala.[391] Furthermore, Honduras' position on the global trade map has been elevated with the recent completion of the Canal Seco,[392] which serves as an alternative land

383 Government of Honduras, "IAIP – Dirección de Cultural, Artes y Deportes," Portal Único de Transparencia, June 14, 2022, https://portalunico.iaip.gob.hn/portal/index.php?portal=417.

384 A "satellite account" is a term developed by the United Nations to describe an extension of the System of National Accounts measuring the size of the economic sectors, such as the creative economy, that do not fit within the traditional classification standards used in the computation of national accounts.

385 Yuri Yadira Vargas Elvir, "UNAH contribuirá en la creación de cuenta satelital de cultura y economía creativa," *Presencia Universitaria*, UNAH, July 20, 2022, https://presencia.unah.edu.hn/noticias/unah-contribuira-en-la-creacion-de-cuenta-satelital-de-cultura-y-economia-creativa/.

386 Hondudiario Editorial, "IP y PI conmemoran el Día Mundial de la Propiedad Intectual, en fomento a las pymes," *Hondudiario*, April 26, 2021, https://hondudiario.com/sin-categoria/ip-y-pi-conmemoran-el-dia-mundial-de-la-propiedad-intectual-en-fomento-a-las-pymes/.

387 Primicia Honduras, "SENACIT firma convenio con el Instituto de la Propiedad, para la instalación del CATI," *Primicia Honduras*, July 27, 2022, https://primiciahonduras.hn/senacit-firma-convenio-con-el-instituto-de-la-propiedad-para-la-instalacion-del-cati/.

388 Creative Economy Expert, Interview by DECA team, May 2022, online.

389 The ISBN is the unique identifier that allows for the ordering, tracking, and selling of books.

390 World Bank, "Trade (% of GDP) – Honduras, El Salvador, Guatemala," *World Bank*, accessed October 2022, https://data.worldbank.org/indicator/NE.TRD.GNFS.ZS?locations=HN-SV-GT.

391 Ibid.

392 Portal Portuario, "Honduras: Inauguran Canal Seco que conectará océanos Pacífico y Atlántico," *Portal Portuario*, 2022, https://portalportuario.cl/honduras-inauguran-canal-seco-que-conectara-oceanos-pacifico-y-atlantico/.

route to the increasingly congested Panama Canal.[393] Given the role that trade plays in Honduras' economic development, the urgency for advancing digital trade facilitation cannot be overstated.

According to the UN Global Survey on Digital and Sustainable Trade Facilitation, Honduras has made considerable progress in the two interconnected areas of paperless trade and cross-border paperless trade.[394] The country's notable strengths include the full implementation of an electronic customs system, e-payment of customs duties and fees, and laws and regulations for electronic transactions.[395] As a member state of the Central American Integration System (SICA), which is a multilateral economic and political organization based in Guatemala, Honduras has put in place a number of digitally-enabled mechanisms designed to simplify trade procedures.[396, 397] One such mechanism is the Central American Single Declaration (DUCA), which traders can complete online in advance of initiating cross-border trade.[398] The integration of the DUCA has helped to significantly reduce customs clearance times from hours down to minutes.[399]

In November 2021, the Ministry of Economic Development launched the Integral Management Portal for Exterior Commerce (PGICE) through which traders can obtain step-by-step guidance on importing and exporting procedures for goods based on origin and destination.[400] More importantly, the PGICE lays the foundation for a single-window system (SWS), which enables parties involved in trade and transport to lodge standardized information with a single entry point and fulfill all import, export, and transit-related regulatory requirements.[401] Parallel efforts are underway to make progress on the GOH's goal of operationalizing the SWS by 2027. On the regulatory front, every entity that has equity in the SWS is currently reviewing its operating legal framework to ensure that it has adequate provisions for the establishment of an SWS.[402] The GOH is also considering drafting a law for the creation of an Import Procedures Center to complement the work of the Export Procedures Center (CENTREX).[403]

Despite these advances, interviewees largely agreed that operationalizing the SWS by the 2027 deadline would not be an easy undertaking. This is especially because it requires massive interagency coordination, which can be challenging due to the lack of systems interoperability and differences in digital maturity across agencies. Furthermore, until recently. The Honduras Customs Administration (ADUANAS) had underinvested in its technological and communications infrastructure.[404] Connectivity between the various customs points was not reliable, and their equipment was near obsolete—both of which greatly affected the agency's ability to carry

393 The Canal Seco connects the port city of Puerto Cortés on the Caribbean coast with the Gulf of Fonseca on the Pacific side.

394 N Global Survey on Digital and Sustainable Trade Facilitation, "Trade Facilitation and Paperless Trade in Honduras," UN Global Survey on Digital and Sustainable Trade Facilitation, accessed October 10, 2022, https://www.untfsurvey.org/economy?id=HND&year=2017.

395 This is based on data from 2017, as Honduras did not participate in the survey in 2019 and 2021.

396 Central America Integration System (SICA), "Integration at a Glance," accessed October 10, 2022, https://www.sica.int/sica/vista_en.aspx.

397 Other full members of SICA are Belize, Costa Rica, El Salvador, Guatemala, Nicaragua, and Panama. The Dominican Republic is an Associated Member.

398 SIECA and SICA, "Declaración Única Centroamericana (DUCA)," *SIECA*, accessed October 10, 2022, https://www.sieca.int/index.php/plataformas-electronicas/servicios-en-linea/declaracion-unica-centroamericana/.

399 Bill Gain and Mayra Alfaro de Morán, "Leave your hammocks at home: How a customs union between Guatemala and Honduras cut trade times from 10 hours to 15 minutes," *World Bank Blogs*, January 30, 2019, https://blogs.worldbank.org/trade/leave-your-hammocks-home-how-customs-union-between-guatemala-and-honduras-cut-trade-times-10-hours.

400 Secretaría de Desarrollo Económico, "CNL lanzó hoy Portal de Gestión Integral de Comercio Exterior (PGICE)," Secretaría de Desarrollo Económico, November 9, 2021, https://sde.gob.hn/2021/11/09/cnl-lanzo-hoy-portal-de-gestion-integral-de-comercio-exterior-pgice/.

401 World Trade Organization, "Honduras – Operation of the single window," *Trade Facilitation Agreement Database*, accessed October 10, 2022, https://tfadatabase.org/members/honduras/article-10-4-3

402 Private sector business executive, Interview by DECA team, May 2022, online.

403 Ibid.

404 Government official, interview with DECA team, July 2022, online.

out its services, including cargo verification and customs processes in real time.[405] In light of the massive cyberattack on the Government of Costa Rica, however, Honduras' new administration is ramping up its efforts to strengthen its technological capabilities.[406] Scaling projects such as the USAID-funded Aduanas sin Papeles,[407] which equips customs officials in Puerto Cortés with tablets for conducting cargo verification, is also a priority.

3.4 A NASCENT TECH STARTUP ENVIRONMENT

The tech startup ecosystem in Honduras is still in the very early stages of development. One interviewee who is a member of the FinTech Association of Honduras characterized the tech startup environment as follows: "*There is very little opportunity for tech solutions to be born here. Uber and Airbnb are not businesses that could have been thought of in countries like Honduras. There are lots of conditions that are not in place, especially this lack of trust.*" An IDB study found that Honduras represents less than 0.1 percent of the startup ecosystem value in the LAC region, with only one startup having successfully raised one million USD or more as of 2021.[408] By comparison, Mexico City's thriving startup community has raised more than 916 million USD in early-stage funding.[409]

TECH STARTUPS STAND LITTLE CHANCE OF ACCESSING FINANCE

The biggest challenge that Honduran tech startups face is access to capital. Interviews with tech startups affirmed that Honduras is not a country international investors typically have on their radar.[410] This is due to a confluence of factors, most notably corruption and a weak rule of law, both of which make the country a high-risk investment environment. The Honduran private sector has long urged the GOH to address these concerns.[411, 412] Opportunities for tech startup entrepreneurs to raise funds locally are slim to none unless they are well-connected to the elite class of Honduras. Bank loans are not tenable because they tend to come with restrictive terms, such as high-interest rates and guarantees in the form of physical assets, which most tech startups do not have.[413] Furthermore, Honduras does not have a strong investment culture despite there being a latent demand for investment opportunities.[414]

405 Ibid.

406 David Bolaños and Kate Conger, "Russian Hacking Cartel Attacks Costa Rican Government Agencies," *The New York Times*, May 17, 2022, https://www.nytimes.com/2022/05/17/us/politics/russia-hacking-costa-rica.html.

407 La Tribuna Editorial, "Aduanas sin Papeles reduce el tiempo de trámites en un 30%" *La Tribuna*, October 29, 2021, https://www.latribuna.hn/2021/10/29/aduanas-sin-papeles-reduce-el-tiempo-de-tramites-en-un-30/.

408 Ignacio Peña, "Tecnolatinas: The LAC Startup Ecosystem comes of Age," *Inter-American Development Bank*, 2021, https://publications.iadb.org/publications/english/document/Tecnolatinas-2021-The-LAC-Startup-Ecosystem-Comes-of-Age.pdf.

409 Startup Genome, "Mexico City," *Startup Genome*, accessed October 10, 2022, https://startupgenome.com/ecosystems/mexico-city.

410 Digital transformation expert, interviewed by DECA team, May 2022, online. Private sector organization, interview by DECA team, May 2022, online.

411 U.S. Department of State, "2022 Investment Climate Statements: Honduras," U.S. Department of State, accessed October 10, 2022, https://www.state.gov/reports/2022-investment-climate-statements/honduras/.

412 COHEP (@COHEPHonduras), ""Este documento reiteramos es un diagnóstico de lo que tiene Honduras actualmente. Son las mismas preocupaciones del sector privado desde hace más de cuatro años. Hay mensajes para el poder legislativo, ejecutivo y judicial. Armando Urtecho,DE #COHEP 2022," Twitter, July 29, 2022, https://twitter.com/COHEPHonduras/status/1553081632659234817.

413 Start-up organization, interview by DECA team, June 2022, online.
Private sector organization, interview by DECA team, May 2022, online.
Start-up organization, interview by DECA team, June 2022, online.

414 Anonymous, Honduran Tech Sector Expert, interview by DECA team, June 2022, online.
Private sector organization, interview by DECA team, May 2022, online.

INCUBATORS AND ACCELERATORS WORK TO JUMPSTART THE STARTUP ECOSYSTEM

Several initiatives aim to support the tech startup and broader startup ecosystems. The Honduras Digital Challenge (HDC) is the landmark initiative for tech startups to network and gain exposure.[415] Established in 2017 by Banco Atlántida in collaboration with the World Bank and the IDB, the HDC offers a three-month training program and maintains a strong alumni network, with many former participants serving as mentors.

A few universities are home to innovation programs. Tech4Dev is a collaboration between the Central American Technological University (UNITEC) and the IDB and aims to support tech startup entrepreneurs in the education, health, and safety sectors by offering an acceleration program, hackathons, and training content through digital channels. In 2022, UNITEC also launched iLab, which is an innovation lab where students can create prototypes using digital modeling and fabrication techniques, such as 3D printing and computer numerical control.[416]

Entrepreneurs are also participating in loosely connected informal networks through which they leverage each other's expertise and share information about fundraising opportunities and other resources. One such network is the Association of Entrepreneurs, which was founded in 2021 by about 20 entrepreneurs to promote activities that can benefit the entrepreneurial sector. To date, this network has hosted informative talks, collaborated with other regional entrepreneurship associations, and served as a resource for budding entrepreneurs.[417]

3.5 A BROAD BUT SHALLOW DIGITAL TALENT POOL

Interviewees across the board remarked that Honduras is home to many professionals who are applying their digital talents towards developing a wide variety of solutions, ranging from building super apps to promoting disaster risk management (see BOX 20). However, interviewees noted that the national digital talent pool does not currently meet the labor market demand.

BOX 20: How can a strong digital talent pool combat food insecurity, climate change, and other pressing challenges?

The limited availability of digital talent represents one of the biggest obstacles to not only developing a strong digital economy but also in responding to pressing societal challenges. For instance, many agribusinesses that participated in the Honduras Digital Agriculture Assessment noted that farmers were hesitant to use and adopt digital tools that could support the digital transformation of their businesses.[418] This hesitancy can translate to increased inefficiencies and smaller food production yields.

Agua de Honduras is a water management and resource management platform that was designed through multi-stakeholder coordination (including USAID and the GOH). While it is used widely by stakeholders in the agriculture sector, the key challenge to scaling it further is the lack of capacity among institutions to manage basic digital tools. In an interview, representatives from the International Center for Tropical Agriculture (CIAT), which built and maintains

415 Honduras Digital Challenge, "HDC Alumni: Las startups más destacadas Equipos que han sobresalido por su alto rendimiento dentro y fuera de Honduras Digital Challenge," *Honduras Digital Challenge*, accessed October 10, 2022, https://hondurasdigitalchallenge.com/.

416 UNITEC, "Inauguración del Innovation Lab (iLab) de UNITEC San Pedro Sula," *Blog UNITEC*, February 25, 2022, https://blog.unitec.edu/2022/02/25/inauguracion-del-innovation-lab-ilab-de-unitec-san-pedro-sula/.

417 Digital Transformation expert, interviewed by DECA team, May 2022, online.
Start-up organization, interviewed by DECA team, June 2022, online.
Private sector organization, interviewed by DECA team, May 2022, online.

418 Strategic Impact Advisors, "Honduras Digital Agriculture Assessment: A report for USAID/Feed the Future," *Digital Frontiers,* March 2022, https://files.digitalfrontiersdai.com/media/documents/Public_Final_Honduras_Digital_Agriculture_Assessment.pdf.

BOX 20 (CONTINUED): How can a strong digital talent pool combat food insecurity, climate change, and other pressing challenges?

the platform, noted that officials in charge of institutions collecting data could not navigate basic tools like Excel.[419] As they were building the Agua de Honduras application, CIAT had to physically go to the offices of their government counterparts to collect data stored on computers, because officials did not know where or how to access it despite having received training.

Many examples also exist of how digital talent in Honduras can be channeled into the fields of disaster risk management and climate change mitigation and adaptation. One notable example includes the successful launch of the Morazan satellite in 2022.[420] The satellite was the result of a partnership between UNAH and scientists and researchers from a group of universities based in Costa Rica and Guatemala; it will generate data that will allow for better decision-making aimed at disaster risk management in the region.

GOH WORKFORCE DEVELOPMENT EFFORTS AIM TO IMPROVE DIGITAL SKILLS

The GOH has put in place several workforce development (WFD) programs that aim to address the digital talent gap. The most notable of these is the National Vocational Training Institute (INFOP), for which the GOH has mandated that all companies with five employees or more allocate one percent of their payroll budget.[421] The INFOP uses the funds to provide vocational training, including courses and technical tracks that focus on the development of digital skills, to help individuals meet the demands of the labor market. In response to strong pressure from the private sector, INFOP has increased its reliance on third-party training providers in order to create training programs that are more demand-oriented.[422]

THE DIGITAL TALENT GAP IS COSTLY FOR BUSINESSES

The shallow digital talent pool has direct and indirect cost implications for Honduran businesses. An interviewee from the banking sector noted that his human resources team still has to train new hires in what he considers to be basic digital skills.[423] This is consistent with the feedback shared by private sector stakeholders who were engaged in the USAID-funded Empleando Futuros Project, which aimed to strengthen INFOP's capacity to prepare at-risk youth for the workforce.[424] One of their key takeaways was that without access to affordable and reliable internet and tech equipment, participants could not practice the knowledge and skills that they acquired through the project. Another interviewee, who owns a firm that provides technology services to companies, remarked that her local clients are not nearly as meticulous in their handling of data and other sensitive protocols as their foreign counterparts.[425] This cybersecurity skills gap increases the risk of cyberattacks, which tend to be more costly for enterprises in developing countries.[426] As for indirect costs, the limited digital

419 ICT Agriculture expert, interviewed by DECA team, June 2022, online.

420 La Prensa, "Morazán, primer satélite diseñado en Honduras que llegará al espacio en 2022," *La Prensa*, September 28, 2021, La Prensa. https://www.laprensa.hn/honduras/morazan-primer-satelite-disenado-en-honduras-que-llegara-al-espacio-en-2022-AK2286772.

421 Government of Honduras, "Ley del Instituto Nacional de Formación Profesional," 1972, http://www.ahm-honduras.com/Leyes/LEY-DEL-INFOP-1972.pdf.

422 Veronica Michel and Ian Walker, "Jobs Diagnostic – Honduras," The World Bank Group, 2019, https://openknowledge.worldbank.org/bitstream/handle/10986/33304/Jobs-Diagnostic-Honduras.pdf?sequence=7.

423 Anonymous, banking sector representative, Interview by DECA team, May 2022, online.

424 USAID, "Empleando Futuros Final Report," USAID, 2021, https://pdf.usaid.gov/pdf_docs/PA00Z3C9.pdf.

425 Tech company, interview by DECA team, June 2022, online.

426 Seharish Gillani, Ahmed Dermish, and Jeremiah Grossman, "The role of cybersecurity and data security in the digital economy," United Nations Capital Development Fund, February 2022, https://static1.squarespace.com/static/5f2d7a54b7f75718fa4d2eef/t/62082f066a25c62651a9ae40/1644703527175/EN-UNCDF-Brief-CyberSecurity-2022.pdf.

talent pool in Honduras risks stifling innovation and productivity in the long run, as enterprises must forgo the use of more advanced tech stacks. For example, one interviewee who runs a software development company mentioned that some of the solutions his clients' request are long outdated.[427]

UNIVERSITIES ARE DOING THEIR PART, BUT UNIVERSITY-INDUSTRY LINKAGES CAN BE STRENGTHENED

Higher education institutions play a key role in creating a digital talent pipeline.[428] The estimated number of graduates with a bachelor's degree in an ICT-related field in 2015 was approximately 14,000 per year, of which women made up 44 percent.[429, 430] Interviewees nearly unanimously identified that UTH, UNAH, and UNITEC stand out for producing high-caliber digital talent. One of these universities' strengths is their partnerships with international computer science academies, including Cisco Networking Academy, Oracle Academy, and Huawei Academy. In a separate example of how universities are trying to keep pace with the changing demand of the labor market, one interviewee highlighted UNITEC's partnership with Coursera, a massive open online course (MOOC) platform.[431] As part of this partnership, professors are granted ten hours of free courses in any topic relevant to their area of expertise, with the expectation that they transmit knowledge gained to their students.

However, Honduras' low performance across various indicators on the 2022 Global Innovation Index suggests that a university degree alone is insufficient to prepare students to join the digital talent pool.[432] Honduras ranked 118th out of 141 countries when it comes to university-industry linkages. Furthermore, many universities are underinvesting in new technology that could confer a competitive edge to students, as noted by one interviewee in the private sector.[433] Considering these trends, interviewees representing tech startups indicated that they have shifted their talent acquisition strategy. Where they used to approach universities to recruit talent, they are now increasingly relying on LinkedIn and social media platforms to circulate job postings.[434]

INDIVIDUALS TAKE CHARGE OF THEIR OWN DIGITAL UPSKILLING

Individuals are often the ones who ultimately bear the burden of their digital upskilling, as they have to invest their own resources and forge their own paths to acquire the digital skills necessary to remain competitive. One interviewee reflected, "*It is not easy because formal education in terms of technology is still not considered that important in the country. We have senior developers who […] will tell you that they learned 80 percent of*

427 Start-up Tech company, interview by DECA team, May 2022, online.

428 International Labour Organization, "Changing demand for skills in digital economies and societies: Literature review and case studies from low- and middle-income countries," (ILO, 2021), https://www.ilo.org/skills/areas/skills-training-for-poverty-reduction/WCMS_831372/lang--en/index.htm.

429 Government of Honduras, "Catalog of Graduates by Degree between 2015-2017," GOH Ministry of Education, https://www.se.gob.hn/media/files/articles/Catalago_Graduados_por_Modalidad_2015_2017.pdf.

430 This estimate is based on data published by the Honduran Administrative System for Educational Centers (SACE) for 2015–2017. It was calculated by adding the number of graduates in ICT-related fields in 2015 (see rows 23, 47, 85, and 101 in Table 20), as the data for 2016 and 2017 were incomplete. The authors did not find any more recently published data.

431 UNITEC Honduras, "UNITEC y CEUTEC consolidan alianza con Coursera para fortalecer las competencias de docentes y colaboradores," *UNITEC*, July 2020, https://blog.unitec.edu/2020/07/23/unitec-consolida-alianza-con-coursera-para-fortalecer-las-competencias-de-docentes-y-colaboradores/.

432 World Intellectual Property Organization, *Global Innovation Index 2022: What is the future of innovation-driven growth?* (Geneva: WIPO, 2022), https://globalinnovationindex.org/Home.

433 Anonymous Private Sector Professional, interview by DECA team, May 2022, online.

434 Start-up tech company, Interview by DECA team, May 2022, online.
Entrepreneur, interview by DECA team, June 2022, online.

what they know online and 20 percent in school."[435] This resonates with the findings of a GIZ-funded study, which found that participants of WFD programs in Honduras often take it upon themselves to come up with alternative ways to access the internet and even guide their instructors on what tools should be taught.[436] While MOOCs have become increasingly popular among students and professionals in Honduras, time constraints may affect course completion rates, as highlighted in a USAID-funded study on the use of MOOCs in developing countries.[437] Further, those individuals without resources to pay for additional courses will look for free courses that may not be subjected to quality or content controls.

BOX 21: Generating Entrepreneurs and Sustainable Synergies (GENESIS) Activity[438]

Obtaining a university degree is an aspirational goal for many Honduran youth who live in low-income communities with a high prevalence of violence. Growing up in precarious environments can limit one's pathway to employment, potentially increasing the risks of irregular migration. Exposure to violence also has detrimental neurological effects and is correlated with poor learning outcomes, as an IDB study shows.[439]

An implementing partner for the USAID-funded GENESIS Activity, FUNADEH aims to tackle these challenges by creating alternative pathways to employment for at-risk youth across 66 outreach centers in five municipalities.[440] A core component of the program is the provision of classes that help to strengthen digital competencies that range from the basic operation of computer equipment to more specialized functions, such as the use of graphic design and programming tools. The GENESIS program employs a community-based model by having local volunteers serve as facilitators, which helps to generate trust among participants.

FUNADEH leverages existing resources and partnerships to carry out its program objectives. For example, by collaborating with UNAH, FUNADEH can take advantage of the university's partnership with the Cisco Networking Academies.[441] It has also purchased licenses for the Microsoft Imagine Academy to access curricula and certifications designed to help users succeed in a digital economy.[442] FUNADEH has also partnered with the Honduras Manufacturers Association and INFOP to oversee the management of the Programmers Academy, a one-year program designed to train software specialists fit for Honduras' large manufacturing sector.

Interviewees also consistently remarked on the high prevalence of English speakers across professionals in the tech industry and beyond.[443] Although not directly related to the development of digital skills, individuals with a good command of English can take advantage of a large repertoire of English-based technical resources that can be used to upskill and improve one's candidacy for jobs in international companies.

---

435 Start-up tech company, Interview by DECA team, May 2022, online.
International professional IT association, Interview by DECA team, May 2022, online.
Anonymous, public sector employee, interview by DECA team, June 2022.

436 Inbas, et al., "Investigación de Utilización de Tecnologías de la Información y Comunicación Utilización de Tecnologías de la Información y Comunicación en los Procesos de Enseñanza Aprendizaje en Formación Profesional," Cooperación Alemana/GIZ, https://www.fopronh.info/familias-profesionales/seec/investigacion-de-utilizacion-de-tecnologias-de-la-informacion-y-comunicacion-utilizacion-de-tecnologias-de-la-informacion-y-comunicacion-en-los-procesos-de-ensenanza-aprendizaje-en-formacion-profesion/.

437 IREX, "Advancing MOOCs for Development Initiative Final Report January 2015 – July 2016," *USAID*, 2016, https://pdf.usaid.gov/pdf_docs/PA00M93Z.pdf.

438 Digital education and technology Projects Coordinator, Interview by DECA team, May 2022, online.

439 María L. Biehl, Raquel Fernández-Coto, and Hazel Elizondo Barboza, *Menos violencia, más aprendizaje: Un análisis neurocientífico de jóvenes en Honduras*, (Honduras: Inter-American Development Bank, 2021), http://dx.doi.org/10.18235/0003229.

440 USAID, "GENESIS Performance Evaluation Key Findings (Report)," *USAID*, n.d.,USAID. https://pdf.usaid.gov/pdf_docs/PA00XGNN.pdf.

441 UNAH, "Academias Cisco – Tegucigalpa," UNAH, 2022, UNAH. https://degt.unah.edu.hn/yoaprendoencasa/academia-cisco.

442 Microsoft, "Microsoft Imagine Academy: Technology Skills & Certification,"*Microsoft*, accessed October 11, 2022, https://www.microsoft.com/en-us/education/imagine-academy.

443 University coordinator, Interview by DECA team, June 2022, online; Business representatives, interview by DECA team, May 2022, online.

Recommendations for USAID/Honduras

USAID and other international development actors can support and strengthen Honduras' digital ecosystem in many ways. This section outlines recommendations for specific actions and partnerships as well as general guidance for digitally enabled programming. The section is organized by DECA pillar themes.

Table 7 below summarizes each recommendation as follows:
What: Links to the recommendation details
Why: Provides the motivation or intended impact of the recommendation
How: Summarizes the approach actors in the international development community can use to implement the recommendation

The **detailed recommendations section that follows** provides further explanation of how USAID and other international development actors can implement each recommendation, including

- Relevant context, recommended partners, and ways to build on existing programming
- Available resources and implementation and funding mechanism.
- Important considerations, including unknowns and potential challenges
- Key opportunities to draw upon and align with the Principles for Digital Development and/or the SDGs

When acting on any of these recommendations, information on best practices in digital development program design can also be helpful. The Principles for Digital Development[444] and the USAID Digital Investment Tool are great resources; the section below provides background and guidance on how to use them.

444 These principles are nine living guidelines that provide best practices for every phase of the project life cycle. They were created in consultation with various international development organizations, including USAID.

TABLE 7: Summary of DECA recommendations for USAID and the broader international development community

	WHAT?	WHY?	HOW?
PILLAR 1: DIGITAL INFRASTRUCTURE AND ADOPTION			
1	Support broader uptake of alternative connectivity solutions to enable more affordable internet	Improve last-mile connectivity to bridge the digital divide.	Build on existing initiatives, such as Microsoft Airband TVWS and Community Networks to close the gender digital divide. Support ISPs to access and effectively use unlicensed spectrum through advocating for CONATEL to adopt flexible policies that promote long-term solutions.
2	Engage with key stakeholders working to update Telecommunications policy and regulation for digital connectivity	Promote a competitive telecommunications market to increase affordability.	Provide technical assistance to support the ITU, which is conducting a regulatory assessment of the telecommunications policy. Convene an internet affordability working group to promote collaborative regulation and a competitive regulatory environment.
3	Work with the Ministry of Education to integrate digital literacy initiatives into the curriculum	Decreased risks and vulnerabilities and increased economic opportunities for all.	Support the IDB to implement PNTED and UNICEF Giga to integrate digital literacy. Provide technical assistance to the MoE to integrate safety information and data literacy into the national curriculum to reduce risks and increase economic opportunities.
PILLAR 2: DIGITAL SOCIETY, RIGHTS, AND GOVERNANCE			
4	Support the creation of strategic plans for digital government, e-services, and cybersecurity	Strengthened digital government services and development of critical policy frameworks.	Partner with donors such as the IDB digital transformation project to promote transparency and interoperability across government agencies. Provide technical assistance to the National Digital Agency to help develop the policy framework and strengthen institutional capacity.
5	Promote cyber hygiene for CSOs, journalists, and digital rights activists to increase independent oversight and mitigate digital repression	Increased capacity of CSOs to identify and mitigate online threats, to improve transparency and accountability.	Encourage the use of online training courses, such as the National Democratic Institute's cybersecurity course. Support skill-building by identifying best practices and producing a cyber hygiene manual for CSOs that covers internet safety for digital activists, privacy, and encryption.
6	Build the capacity of the security and justice sector to respond to cyber crimes	Strengthened cyber capacity, prosecution of cyber crimes, and improve violence prevention.	Provide technical assistance to increase the institutional capacity of the NPH and the Attorney General's Office. Support the use and dissemination of criminal investigation tools, developed by technology companies, within justice and security agencies.

TABLE 7 (CONTINUED): Summary of DECA recommendations for USAID and the broader international development community

	WHAT?	WHY?	HOW?
PILLAR 3: DIGITAL ECONOMY			
7	Improve the human-centered design of digital financial services to advance financial inclusion	Increased financial inclusion for low-income households and mitigate economic shocks.	Support CNBS and BNH with the design and implementation of an updated national financial inclusion strategy and engage the private sector to enable last-mile financial inclusion.
8	Continue to foster a digital entrepreneurship culture to engage youth	More economically active and digitally engaged youth population.	Increase income-generating opportunities for youth by continuing to support the digital transformation of MSMEs and building a digital creative economy component into current and future design and implementation of entrepreneurship- and youth-focused programs.
9	Promote workforce development initiatives through partnerships between industry, universities, and technical and vocational training institutions	Strengthened workforce capacity and employment opportunities.	Expand the digital talent pool by engaging the private sector to invest in apprenticeship and internship programs and by employing a project-based learning approach to digital skills programs, with a focus on targeting women and other marginalized groups.

DETAILED RECOMMENDATIONS

1. SUPPORT BROADER UPTAKE OF ALTERNATIVE CONNECTIVITY SOLUTIONS TO ENABLE MORE AFFORDABLE INTERNET

Access to connectivity is one of the biggest barriers to the uptake of digital technology in Honduras. Underlying this barrier is Tigo and Claro's duopoly and the lack of competition among MNOs, allowing Tigo and Claro to keep costs high and dictate where to expand infrastructure. Given Hondutel's financial situation and lack of capacity to expand and no immediate plans to auction the 700MHz spectrum band, there are limited options for increasing competitiveness, expanding last-mile connectivity, and reducing costs. Entrance of a third MNO is unlikely, but CONATEL's Spectrum National Plan offers several opportunities to close connectivity gaps using alternative connectivity solutions, such as TVWS and unlicensed spectrum.

A. Build on existing Microsoft Airband initiatives with TVWS and promote digital inclusion

Microsoft Airband is already working with partner Albavision[445] to begin piloting a TVWS connectivity project to connect 50 schools in Comayagua. The USAID/Microsoft Airband Initiative[446] also provides gender-focused connectivity programming to help women develop their digital literacy skills and use digital to build leadership skills and engage in workforce and entrepreneurship training. USAID and other international development partners can engage in this partnership with Microsoft Airband to help sustainably scale this project, applying lessons learned from the USAID /Microsoft Airband Initiative's work with New Sun Road in Guatemala and with Anditel[447] in Colombia.

B. Support an ISP association and competitive access to spectrum

As part of the Spectrum National Plan, ISPs can access 6GHz unlicensed spectrum to build out last-mile connectivity solutions in rural regions. ISPs are often small and don't have the bandwidth to focus on the technical nature of infrastructure and business development, and the policy and regulatory environment.[448] Honduras has over 100 ISPs, many of which could benefit from sharing infrastructure, information, and general collaboration. As a first step, CONATEL has begun recognizing ISPs as legal entities; relevant actors in the international development community can work with CONATEL to help set up a communications campaign that engages ISPs as part of their registration process. The campaign can provide newsletters and information on updates to rules and regulations, training, and capacity building. As part of the communications campaign, stakeholders can support ISPs to develop an association where they can connect with each other to share information and best practices, develop strategies, identify joint projects, advocate for policy development, and support infrastructure and equipment sharing.

C. Encourage flexible spectrum management

Honduras is one of eight countries in the LAC region that is regulating the use of unlicensed spectrum, joining Costa Rica and Guatemala, which have also opened the 6GHz band.[449] International development actors can work together to encourage a flexible, pragmatic approach that considers the long-term needs of rural

445 Brad Smith, "Answering the call: Microsoft's support for VP Harris' initiative to promote economic opportunity in Central America," *Microsoft Blog*, May 27, 2021, https://blogs.microsoft.com/on-the-issues/2021/05/27/harris-central-america-digital-skills-call-to-action/.

446 USAID, "USAID/Microsoft Airband Initiative: Closing the Gender Digital Divide," *USAID*, 2021, https://www.usaid.gov/sites/default/files/documents/Microsoft_OnePager_formatted_1.pdf.

447 Microsoft Airband, "Broadband connects students, teachers, and new opportunities in rural Colombia," *Microsoft*, accessed October 2022, https://query.prod.cms.rt.microsoft.com/cms/api/am/binary/RE4WZ5n.

448 USAID Connectivity Capital, "Research Report: Barriers to Investing in Last-Mile Connectivity," *USAID*, 2020, https://www.usaid.gov/digital-development/barriers-investing-last-mile-connectivity.

449 Telecommunications Expert, interviewed by DECA team, June 2022, online.

communities, the political realities of spectrum allocation, and the future trajectory of today's technologies. In general, this can mean advocating for more flexibility in the regulation of spectrum, for example:

- Encouraging and training policymakers on flexible spectrum policy. CEABAD and the Dynamic Spectrum Alliance offer an online training course for regulators[450] to improve their knowledge and understanding of unlicensed spectrum. The course examines everything from the history of WiFi to the benefits of spectrum and how to develop inclusive and open policies.
- Promote use-it-or-share-it[451] spectrum policies, where MNOs lease unused licensed spectrum to ISPs (see BOX 6 for more information). This is a win-win strategy where MNOs can profit from unused frequencies in rural areas, and in turn, ISPs can have access to secure spectrum frequencies to expand rural connectivity.
- **USAID's Digital Invest**[452] is a new mechanism under the Digital Connectivity and Cybersecurity Partnership that engages private fund managers to mobilize investment in developing markets in order to finance connectivity infrastructure and promote long-term market growth for ISPs and FinTechs to build secure and reliable networks. Funding partner Connectivity Capital[453] is developing an impact fund focused on last-mile connectivity and supporting ISPs to build and expand infrastructure and improve access to affordable broadband. USAID/Honduras can use this mechanism to identify and support ISPs looking to expand their infrastructure in remote areas.
- **Rhizomatica**[454] is a non-profit that advocates for and supports community networks and flexible spectrum use. In Mexico, they worked with the regulator to open unused licensed spectrum for community networks in indigenous communities. In 2015, the Mexican regulator designated parts of the 850MHz spectrum band[455] for social use. Rhizomatica provided open-source software and worked with the communities to build capacity and train them to manage the community network. International development actors can support Rhizomatica to help advocate for flexible spectrum policy and build community networks (see below).

D. Promote wider use of community networks

Community networks are a proven way to sustainably connect rural communities, especially indigenous and marginalized groups. These networks are cost-effective, relatively easy to maintain, instill local ownership, and empower those communities who own the network.[456] Building on experience from the Azacualpa "Comunidades Inteligentes" community network, international development actors can partner with the Internet Society of Honduras and Rhizomatica to help build community networks in remote areas. The Internet Society has pledged to help build 100 community networks worldwide by 2025 and has developed extensive resources[457] to help those who are interested in building community networks. Beginning with

450 CEABAD, "Invisible y Omnipresente, Wi-Fi y su evolución hasta hoy – Agosto 2022," *CEABAD*, August 2022, https://ceabad.com/producto/invisible-y-omnipresente-wi-fi-y-su-evolucion-hasta-hoy-agosto-2022/.

451 Michael Calabrese, "Use It or Share It," *New America*, 2021, https://www.newamerica.org/oti/reports/use-it-or-share-it/iii-major-benefits-of-a-use-it-or-share-it-policy.

452 USAID, "Digital Invest | Digital Development," USAID, 2022, https://www.usaid.gov/digital-development/digital-invest.

453 Connectivity Capital, "Home," accessed October 2022, https://www.connectivitycap.com/.

454 Rhizomatica, "About," accessed October 2022, https://www.rhizomatica.org/about/.

455 USAID, Caribou Digital, and Digital Impact Alliance, "Closing the Access Gap: Innovation to Accelerate Universal Internet Adoption," USAID, February 2017," *USAID*. https://www.usaid.gov/digital-development/closing-access-gap.

456 Íbid.

457 Internet Society, "Start a Community Network," *Internet Society*, accessed October 12, 2022, https://www.internetsociety.org/action-plan/2022/community-networks/start-a-community-network/.

a Community Network Readiness Assessment Handbook[458] will help determine the readiness of communities to deploy and maintain a community network.

- Potential Partners:
  - Rhizomatica
  - Internet Society, Honduras Chapter
  - Microsoft Airband
  - CONATEL
  - Connectivity Capital
  - CEABAD

- Relevant Resources:
  - Barriers to Investing in Last-Mile Connectivity (USAID, 2020)
  - Microsoft Airband (USAID, 2020)
  - Promoting American Approaches to ICT Policy and Regulation (USAID, 2022)
  - Investing to Connect (USAID)
  - Closing the Access Gap: Innovation to Accelerate Universal Internet Adoption (USAID, 2017)
  - Digital Invest | Digital Development (USAID, 2022)
  - Community Network Readiness Assessment Handbook (Internet Society, 2022)
  - Use-It or Share-It (New America, 2021)

> *These recommendations were designed with the following Principles for Digital Development and SDGs in mind: Principles for Digital Development,[459] "understand the existing ecosystem," "build for sustainability," and "be collaborative"; and SDGs 9 (industries, innovation, and infrastructure) and 10 (reduced inequalities).[460]*

2. ENGAGE WITH KEY STAKEHOLDERS WORKING TO UPDATE TELECOMMUNICATIONS POLICY AND REGULATION FOR DIGITAL CONNECTIVITY

A strong policy and competitive regulatory environment underpin the success of the entire digital ecosystem. A4AI estimates that in markets that lack competition, consumers pay 3.42 USD more per GB[461] for mobile data than consumers in markets with healthy competition. Many of the connectivity challenges that Honduras encounters are due to a three-decade-old policy that does not enable new entrants to a competitive market. Until a new policy is passed, Tigo and Claro could continue to monopolize the market, keeping costs high and limiting ISPs from accessing the equipment and infrastructure necessary to expand connectivity.

A. Engage with ITU on recommendations to CONATEL for new telecoms policy

The ITU is conducting an assessment[462] of the telecommunications market and regulations in Honduras and will make recommendations that will support the development and implementation of a new set of laws. USAID/Honduras and supporting international development actors can engage with the ITU and

458 Sol Luca de Tena, "Community Network Readiness Assessment Handbook," *Internet Society*, April 15, 2022, https://www.internetsociety.org/resources/doc/2022/community-network-readiness-assessment-handbook/.

459 Principles for Digital Development, "Design With the User," Principles for Digital Development, accessed October 12, 2022, https://digitalprinciples.org/principles/.

460 United Nations, "Global Partnerships – United Nations Sustainable Development," United Nations Sustainable Development Goals, accessed October 12, 2022, https://www.un.org/sustainabledevelopment/sustainable-development-goals/.

461 Alliance for Affordable Internet, "Affordability Report 2019 - Executive Summary," *A4AI*, 2019, https://a4ai.org/wp-content/uploads/2022/03/A4AI_2019_AR_ExecSum_EN_Screen_AW.pdf.

462 ITU, "ICT Policy Impact Lab," ITU, accessed October 12, 2022, https://app.gen5.digital/lab/study/introduction.

CONATEL to support the passage and implementation of an updated telecommunications policy that addresses the regulatory practices necessary for an inclusive and resilient digital ecosystem. This could include providing dedicated technical assistance and capacity building to partner governments and regulators through embedded technical experts. For example, in Timor-Leste, the USAID Promoting American Approaches to ICT Policy and Regulation (ProICT) mechanism[463] worked with ICT and legal regulatory experts to support the government in drafting a new national ICT policy, which was passed in August 2020. The new policy serves to strengthen private sector engagement and provides a foundation for developing new legislation around data protection, data privacy, cyber crime, and e-commerce.

B. Join the Connectivity for All roundtable

The Xiomara Castro administration's National Program for Reducing the Digital Divide focuses on developing regional plans for connectivity, integrating digital literacy into the basic national curriculum, and advocating for the inclusion of vulnerable groups. Fortunately, as we have seen, there are already multiple actors working on each one of these topics, from the ITU working with CONATEL to update the telecoms policy to the IDB implementing the National Digital Education Transformation Program and the Giga initiative connecting schools. As part of the new Digital Republic, the GOH is establishing working group roundtables for each of the five strategies, including one entitled "Connectivity for All.. International development actors are invited to join this working group to support the successful implementation of the National Program for Reducing the Digital Divide. Some actions the international development community can take in the working group include:

- Advocate for fair rules[464] for market entrance for ISPs and community networks, such as developing clear requirements and regulations around infrastructure sharing to improve access to affordable equipment and sustainable networks.
- Promote an environment of collaborative regulation[465] to support the implementation of the National Broadband Plan and provide oversight and strategic recommendations to CONATEL to create a more competitive telecommunications market.
- Develop inclusive, evidence-based policies to establish a competitive regulatory environment and make broadband more affordable. Encourage re-opening the internet exchange point (IXP) at UNAH to help ISPs reduce costs of data flows and improve the quality of internet services. The A4AI Affordability Reports[466] provides guidance on how to support governments in promoting competitive and diverse broadband markets, implementing Universal Service and Access Funds, and how effective National Broadband Plans can improve affordability.
- Support initiatives to extend last-mile infrastructure and help lower the cost of data and devices, especially in rural communities. Broadband aggregation enables implementing partners that work in underserved areas to work together to negotiate better prices and service levels for improved connectivity (essentially creating a business case). For practical guidance on aggregating telecom demand

463 Digital Frontiers Staff - DAI. 2021. "Advancing ICT Policy to Accelerate Equitable Digital Development." September 24, 2021. https://www.marketlinks.org/blogs/advancing-ict-policy-accelerate-equitable-digital-development.

464 Alliance for Affordable Internet, "How can ICT regulators support market competition?" *A4AI*, 2019, https://a4ai.org/wp-content/uploads/2022/03/A4AI_AR19_MarketComp_English_Screen_AW.pdf.

465 ITU, "Joining forces to boost ICTs for development," *ITU News*, 2016, https://www.itu.int/en/itunews/Documents/2016-03/2016_ITUNews03-en.pdf.

466 A4AI, "The A4AI Affordability Report," Alliance for Affordable Internet, August 10, 2022, https://a4ai.org/research/affordability-report/affordability-report/.

across USAID implementing partners, refer to *Better Connectivity, Better Programs: How to Implement a Broadband Demand Aggregation Program.*[467]

- Engage partners to collect data on the digital divide. A key challenge in understanding the extent of Honduras' digital divide is the lack of updated, accessible data (especially when it comes to vulnerable communities). To effectively implement the national program, the Castro administration should collect and publish data to understand the extent of the digital divide in Honduras (geographical, economic, gender, social, etc.). The ITU regularly publishes this data on their Digital Development Dashboard.[468]

Preliminary recommendations for members of the Connectivity for All Working Group include: *CONATEL, COMTELCA, Internet Service Providers, Hondutel, Tigo, Claro, ITU, UNICEF-ITU GIGA, IDB, UNAH, Honduras Internet Society, Inter-American Telecommunication Commission, and the Dynamic Spectrum Alliance.*

- Key Partners:
  - See affordability working group members above
- Relevant Resources:
  - Better Connectivity, Better Programs: How to Implement a Broadband Demand Aggregation Program (USAID, 2018)
  - A4AI Affordability Report (A4AI, 2022)
  - Collaborative regulation (ITU, 2016)
  - ICT Regulatory Tracker (ITU, 2020)
  - Promoting American Approaches to ICT Policy and Regulation (USAID, 2022)

This recommendation was designed with the following Principles for Digital Development and SDGs in mind: Principles for Digital Development,[469] *"understand the existing ecosystem" and "be collaborative;" SDGs 17 (partnerships) and 9 (Industries, Innovation and Infrastructure).*[470]

3. WORK WITH THE MINISTRY OF EDUCATION TO INTEGRATE DIGITAL LITERACY INITIATIVES INTO NATIONAL CURRICULA

Prior to the COVID-19 pandemic, enrollment, and completion of primary and secondary school in Honduras was on the decline. Unfortunately, the pandemic pushed even more children out of school by requiring them to continue their education online when many of them did not have access to connectivity. As Honduras and the world becomes increasingly technology-driven, there is no option to go back to analog.[471] While some might disregard the need for digitalization when basic needs (such as safety, food security, and electrification) still need to be met, there is also a risk in ignoring digital transformation. It has become

467 USAID, "Better Connectivity, Better Programs: How to Implement a Broadband Demand Aggregation Program," *USAID*, 2018, https://www.usaid.gov/sites/default/files/documents/15396/Better_Connectivity_Better_Programs_April2018.pdf.

468 ITU, "Digital Development Dashboard," *ITU*, 2019, https://www.itu.int/en/ITU-D/Statistics/Dashboards/Pages/Digital-Development.aspx.

469 Principles for Digital Development, "Design With the User," Principles for Digital Development, accessed October 12, 2022, https://digitalprinciples.org/principles/.

470 United Nations, "Global Partnerships – United Nations Sustainable Development," United Nations Sustainable Development Goals, accessed October 12, 2022, https://www.un.org/sustainabledevelopment/sustainable-development-goals/.

471 Fundación para la Educación Ricardo Ernesto Maduro Andreu and USAID, "Honduras: Educational Progress Report, *The Dialogue*, June 6, 2022, Inter-American Dialogue. https://www.thedialogue.org/analysis/honduras-educational-progress-report/.

even more imperative to provide digital literacy training to teachers and students to protect them from digital harms and to support them in accessing social, political, and economic opportunities online.[472]

A. Provide technical support to the MoE in their creation of a detailed national digital literacy strategy and curriculum

The IDB is supporting the implementation of the PNTED initiative.[473] The goal of the initiative is to close the digital divide in education through collaboration, establishing connectivity, access to virtual learning platforms, and training teachers. In the last two years, the IDB has supported the roll-out of Educatrachos 2.0, a free digital library containing content for all levels of education. The IDB has also supported training teachers with the International Society for Technology in Education through its online teaching academy.[474] However, there is currently no strategy in PNTED to support or implement digital literacy in primary and secondary education.

Under the PNTED framework, USAID/Honduras and international development actors can partner with the IDB and relevant CSOs working in the digital education field—such as Fundación Terra and Fundación Zamora Terán—to identify best practices and provide technical assistance to the MoE to develop a strategy and implement digital literacy courses. Technical assistance can include:

- Supporting coordination between the Council of Higher Education and the MoE to align digital literacy qualifications across education levels, particularly for teaching degrees and for students entering higher education (see BOX 8: Silos in Education).
- Ensuring the MoE has the capacity and skills to monitor and evaluate education platforms, like Educatrachos 2.0. PNTED has launched a pilot program with 71 schools, and outcomes and data should be carefully tracked for learning and scaling. *USAID's How-To Note: Information and Communications Technology for Education*[475] presents techniques and tools for monitoring and evaluating programs and incorporating digital into the program cycle. This resource outlines key steps and resources required for a national education policy dialogue that may be helpful to use for discussions with the Honduras MoE.
- Developing safeguards to ensure that children are safe online. Since many teachers are using social media platforms such as WhatsApp and Facebook to disseminate and conduct classes, digital literacy components should focus on the basics of safety (protecting identity, privacy, and devices online) and information and data literacy (browsing, filtering, and managing information) (FIGURE 11: DigComp 2.2 – Digital Literacy Competence Areas).
- USAID/Honduras and other International development actors can support building digital literacy and cyber hygiene by providing targeted training across their organizations and programs. *USAID's Digital Literacy Primer*[476] includes a detailed section covering key steps and resources needed to embed digital literacy into programs.

472 Regional Education Expert, Interviewed by DECA team, May 2022, online.

473 UNESCO and SITEAL, "Programa Nacional de Transformación Educativa Digital," Office for Latin America and the Caribbean, UNESCO, 2020, of IIEP UNESCO. https://siteal.iiep.unesco.org/bdnp/3646/decreto-ejecutivo-ndeg-pcm-1322020-programa-nacional-transformacion-educativa-digital.

474 Raquel Fernández, Liz Miller, Díaz Díaz, and Luis Espinal, "Online Education: Creating Effective Experiences in Honduras," IDB, August 11, 2022, Blogs iadb. https://blogs.iadb.org/educacion/en/online-education-experiences-honduras/.

475 Anthony Bloome and Cynthia Chassy, "Information and Communication Technology for Education (ICT4E) How-To Note," *USAID*, Bureau for Economic Growth, Education, and the Environment, Office of Education, December 2019, https://www.edu-links.org/sites/default/files/media/file/USAID%20ICT4E%20How-To%20Note%20Final.pdf.

476 USAID and Digital Frontiers, "Digital Literacy Primer: How to Build Digital Literacy into USAID Programming," *USAID*, 2022, https://www.usaid.gov/sites/default/files/documents/USAID_Digital_Literacy_Primer.pdf.

- Supporting Giga to build out the infrastructure for connectivity (see below).

B. Collaborate with Giga to connect schools

UNICEF and ITU's Giga initiative has already identified over 16,000 schools in Honduras that do not have access to the internet (see BOX 4: Giga in Honduras). Connecting these schools is a daunting goal and can be accomplished through coordination with and resource management from the private sector, government, donors, and civil society. Relevant international development actors can assist Giga by sharing data and information about school challenges from partners on the ground, and ensuring digital literacy training is provided to those schools and communities once they are connected. *USAID's Investing to Connect*[477] provides a framework to assess and identify the best business models for catalyzing investment in last-mile connectivity.

- Key Partners:
  - Honduras Ministry of Education
  - UNICEF-ITU Giga
  - IDB
  - Fundación Terra
  - Fundación Zamora Terán
- Relevant Resources:
  - How-To Note: Information and Communications Technology for Education (USAID, 2019)
  - USAID Digital Literacy Primer (USAID, 2022)
  - Investing to Connect (USAID)

> *This recommendation was designed with the following Principles for Digital Development and SDGs in mind: Principles for Digital Development,*[478] *"Design With the User" and "Build for Sustainability" and SDGs 4 (Quality Education) and 17 (partnerships).*[479]

4. SUPPORT THE CREATION OF STRATEGIC PLANS FOR DIGITAL GOVERNMENT, E-SERVICES, AND CYBERSECURITY

Honduras displays a strong push toward digitalization; however, a lack of capacity among government institutions without adequate policy frameworks slows the process. The digital government structure is in the design phase. Therefore, there is a window of opportunity for USAID/Honduras and other international donors in Honduras to support digital transformation and improve collaboration within the proposed HADR.

National cybersecurity strategies and policies should focus on protecting individuals, society, and the state. The current extent of Honduras' proposed cybersecurity strategy design is too narrow and considers only the protection of critical government infrastructure. Cybersecurity is essential to ensuring that sensitive and private information is protected from actors with malign interests. USAID and International actors

477 USAID, et al., "Investing to Connect: A framework for assessing the commercial opportunity and social impact of mobile and internet connectivity," *USAID*, n.d., https://www.usaid.gov/document/investing-connect.

478 Principles for Digital Development, "Design With the User," Principles for Digital Development, accessed October 12, 2022, https://digitalprinciples.org/principles/.

479 United Nations, "Global Partnerships – United Nations Sustainable Development," United Nations Sustainable Development Goals, accessed October 12, 2022, https://www.un.org/sustainabledevelopment/sustainable-development-goals/.

can promote an ecosystem for data protection and cybersecurity through legislation and multi-stakeholder engagement, thus ensuring its programming activities do not harm any users in terms of their privacy.

A. Enhance the institutional capacity framework of the National Digital Agency

Technical assistance is necessary to build the policy framework and strengthen institutional capacity. USAID/Honduras and other international donors can conduct multi-stakeholder roundtables with its partners, other international donors (such as the IDB and the European Union, among others), and government staff in partnership with the Office of the President and the proposed HADR, identifying gaps and strategies regarding policy frameworks. The *USAID Digital Government Model*[480] offers a framework that includes three core components: i) management of internal government systems and processes; ii) delivery of government services; and iii) stakeholder engagement.

B. Promote the adoption of anti-corruption digital information systems

USAID/Honduras and international development partners have the opportunity for critical engagement with strategic agencies of the GOH (e.g., the MTFAC, NPH, the judiciary) and can encourage the adoption of transparency-promoting digital information systems, such as open data and civic engagement platforms. In advocating for these systems, it is essential to integrate guidance for following the Principles for Digital Development, particularly "use open standards, open data, open source, and open innovation."[481] International development actors could also promote the implementation of the International Standard 37001[482] to combat corruption by helping organizations develop an anti-bribery culture through the integration of ethics and integrity codes. This could be achieved based on USAID/Honduras' experience at the local level and working with CSOs, such as the CNA.

In partnership with donors such as the IDB, which supports the digital transformation process,[483] USAID/Honduras can advocate for interoperability across all government administrative bodies. Technical assistance for e-government services could include:

- Identifying champions in specific departments for addressing human resources and budget needs to fund new investments in e-government.
- Supporting the GOH in developing and implementing new e-government services through the "República Digital"[484] by building an initiative similar to the *U.S. Digital Service*,[485] housed in the General Services Administration, that aims to "prioritize the greatest good for the most significant number of people in the greatest need."
- Supporting the interoperability of systems and data sharing among institutions. One example could be utilizing ProICT activity[486] implemented by the USAID Digital Inclusion team).

---

480 USAID, "Digital Government Model," *USAID*, June 13, 2022, https://www.usaid.gov/digital-development/digital-government-model.

481 Principles for Digital Development, "Use Open Standards, Open Data, Open Source, and Open Innovation," Principles for Digital Development, accessed October 12, 2022, https://digitalprinciples.org/principle/use-open-standards-open-data-open-source-and-open-innovation/.

482 ISO, "ISO 37001 Anti-bribery management systems," ISO, accessed October 2022, https://www.iso.org/iso-37001-anti-bribery-management.html#:~:text=It%27s%20the%20International%20Standard%20that,business%20associates%2C%20implementing%20financial%20and.

483 Government of Uruguay, Agencia de Gobierno Electrónico y Sociedad de la Información y del Conocimiento, "Delegación de Honduras visitó Uruguay para conocer la Estrategia de Gobierno Digital," August 15, 2022, https://www.gub.uy/agencia-gobierno-electronico-sociedad-informacion-conocimiento/comunicacion/noticias/delegacion-honduras-visito-uruguay-para-conocer-estrategia-gobierno-digital.

484 Government of Honduras, "República Digital de Honduras," accessed October 12, 2022, https://gobiernodigital.gob.hn/.

485 U.S. DS, "United States Digital Service," accessed October 2022, https://www.usds.gov/.

486 USAID, "Promoting American Approaches to ICT Policy and Regulation (ProICT)," USAID, 2020, https://www.usaid.gov/digital-development/pro-ict-factsheet.

- Promoting the exchange of best practices and learnings with other governments that have successfully implemented detailed roadmaps for digital transformation. For example, the Saint Lucia DigiGov Project[487] is developing an integrated e-services platform to deliver 154 government services across nine ministries and 13 government agencies. During the planning and piloting phase, the project met with different stakeholders to understand specific needs and requirements for the platform and services.

C. Strengthen existing mechanisms to increase civil society participation in policymaking processes

One starting point could be the IGF Honduras chapter,[488] which has implemented several roundtables with CSO, the private sector, and the GOH. The goal of the roundtable is to ensure that regulatory and decision-making processes cover a range of digital issues, including the legal foundations for a multi-stakeholder approach to internet governance, data privacy, and cybersecurity. These roundtables could be good entry points for international donors to start working on digital governance.

D. Provide technical assistance to the government to engage and support implementation of the new ID system

Technical assistance could include oversight of drafts laws and regulations, ensuring that the laws enable and support data privacy and security, especially around the collection, storage, and use of biometric data. USAID/Honduras and international development actors can advise the GOH on implementation approaches that support interoperability with services, such as banking and social programs, and the development of an identification system for children.

E. Support the development of a national cybersecurity strengthening strategy

Through the *Digital Connectivity and Cybersecurity Partnership*,[489] USAID/Honduras and international development actors can work together with public, private, and academic representatives to co-create a national cybersecurity strengthening strategy that the government can adopt. The framing of the strategy should focus on protecting individuals, society, and the state. Such as creating a national CERT to be integrated with existing private sector initiatives, including the banking sector and the UNAH CERTs. This could help build more robust systems to increase the government's ability to detect, respond to, and deter cyber-attacks. As well as developing national cybersecurity standards that organizations such as banks, ISPs, and the private sector can adopt.

- Key Partners:
  - Government: Office of the President (proposed National Digital Agency), Ministry of Transparency and Fight Against Corruption, National Registry of Persons, National Intelligence Directorate, National Police of Honduras
  - Civil Society: Internet Governance Forum-Honduras Chapter, National Anti-Corruption Council
  - International organizations: Inter-American Development Bank, European Union

- Relevant Resources:
  - Civil Society Organization Sustainability Index (FHI360, 2022)
  - Case Study – National Democratic Institute Open Source Platforms (Digital Principles, 2022)
  - Anti-bribery management systems (ISO, 2016)

487 USAID, Digital Frontiers, and DAI, "Digital Ecosystem Country Assessment (DECA): Eastern and Southern Caribbean," USAID, September 2022, usaid.gov/sites/default/files/documents/Eastern_and_Southern_Caribbean_DECA.pdf.

488 Internet Governance Forum Honduras, "IGF Honduras," *IGF*, accessed October 2022, https://uth.hn/igfhonduras/home/que-es-el-igf/igfhn/.

489 USAID, "Digital Connectivity and Cybersecurity Partnership (DCCP) | Digital Development | U.S. Agency for International Development." 2022. USAID. https://www.usaid.gov/digital-development/digital-connectivity-cybersecurity-partnership.

- How To: Create Digital ID for Inclusive Development (USAID, 2020)
- How to Secure Private Data Stored and Accessed in the Cloud (Digital Principles, 2022)
- Cybersecurity Self-Assessment Tool for Governments (IDB, 2021)
- Cybersecurity guide for smart cities (IDB, 2021)
- Digital Connectivity and Cybersecurity Partnership (DCCP) (USAID, 2018)
- Saint Lucia digiGov (Saint Lucia, 2022)

This recommendation was designed with the following Principles for Digital Development and SDGs in mind: Principles for Digital Development,[490] "Use Open Standards, Open Data, Open Source, and Open, Innovation" and "address privacy and security." and SDG[491] 16.6 (Develop effective, accountable, and transparent institutions at all levels).

5. PROMOTE CYBER HYGIENE FOR CSOs, JOURNALISTS, AND DIGITAL RIGHTS ACTIVISTS TO INCREASE INDEPENDENT OVERSIGHT AND MITIGATE DIGITAL REPRESSION

CSOs and independent media are at high risk of cyber harms, such as distributed denial-of-service attacks, data breaches, surveillance, and ransomware, because they often lack the awareness and capacity to mitigate or prevent these threats. USAID/Honduras and other development actors can support CSOs and independent media to develop cyber strategies and strengthen their digital skills, so they have the tools to better protect digital rights and internet freedom, thus improving transparency and accountability.

A. Provide training to CSOs to build their cybersecurity and digital safety capacit.

Honduran digital rights CSOs and independent media require training and capacity building to sustain their work and impact. Training could include access to online courses, such as the *National Democratic Institute's cybersecurity course*,[492] which includes modules in strategies for sustainability, cybersecurity practices, internal administration, and developing communications plans. Capacity building can model learnings from similar projects, like Colombia,[493] where USAID supported the cybersecurity capacity of CSOs to improve their digital health and protect against cyber threats. This support will help ensure that digital rights CSOs and independent media can increase their institutional capacity.

International development actors can support digital skills-building by producing a cyber hygiene manual. The USAID *Guide to Strengthening Civil Society Through Social Media*[494] covers topic. about internet safety for digital activists, including privacy, encryption, and other best practices. A cyber hygiene manual could also lead to more involved training or workshops for CSOs on specific topics, such as identifying and preventing online gender-based violence.

490 Principles for Digital Development, "Design With the User," Principles for Digital Development, accessed October 12, 2022, https://digitalprinciples.org/principles/.

491 United Nations, "Global Partnerships – United Nations Sustainable Development," United Nations Sustainable Development Goals, accessed October 12, 2022, https://www.un.org/sustainabledevelopment/sustainable-development-goals/.

492 National Democratic Institute, "Practical Cybersecurity for Organizations," NDI Learning Portal, accessed October 12, 2022, https://ed.ndi.org/courses/course-v1:NDI+CSO+2021/about.

493 USAID Digital APEX Activity, "Building cybersecurity capacity of civil society organizations in Colombia to improve digital health and protect against cyber threats," BIXAL, accessed October 2022, https://www.bixal.com/case-studies/digital-apex/.

494 Counterpart International, "Social Networking: A Guide to Strengthening Civil Society Through Social Media," *USAID*, 2014, https://www.usaid.gov/sites/default/files/documents/1866/SMGuide4CSO.pdf.

USAID/Honduras' Democracy and Governance Office's projects, such as the CNA activity, have already explored innovative technology approaches for improving the digital safety of social leaders, including the implementation of a social media safety protocol. USAID/Honduras and international development partners can replicate these efforts with other organizations and agencies, such as the Electoral Commission. Many interviewees expressed a connection between cybersecurity, digital harm, and the physical security of CSO leaders and journalists.

B. Protect internet freedoms online

USAID's *Greater Internet Freedom initiative*[495] program aims to combat abuses of the freedoms of expression, assembly, and association online. USAID/Honduras and other international development actors can encourage public participation in internet governance and can assist partners with capacity building and cyber hygiene of media and civil society groups. These activities could expand the scope of future programming of electoral activities, including the use of social media for communications purposes by electoral authorities and by CSOs seeking to promote voters' access to information. Honduras Verifica, C-Libre, and I-Verify Honduras are potential partners, given their current fact-checking work in Honduras.

- Key Partners:
  - Civil society: National Anti Corruption Council
  - Independent Media: C-Libre, Honduras Verifica, I-Verify Honduras
  - USAID activity: Greater Internet Freedom

- Relevant Resources:
  - Guide to Strengthening Civil Society Through Social Media (USAID, 2014)
  - Greater Internet Freedom Activity (USAID, 2021)

This recommendation was designed with the following Principles for Digital Development and SDGs in mind: Principles for Digital Development,[496] *"build for sustainability" and "address privacy and security." and SDG*[497] *16 (Peace, Justice, and Strong Institutions).*

6. BUILD THE CAPACITY OF THE SECURITY AND JUSTICE SECTOR TO RESPOND TO CYBER CRIMES

Individuals are often unaware of digital risks and increasingly fall victim to extortion, scams, and misuse of personal information. Security and justice sector agencies in Honduras lack the institutional capacity and coordination to address these challenges. Currently, digital criminal investigations are handled by the Interpol unit in Honduras. Digital crime units at the NPH and Attorney General's Office have worked on more than 300 investigations over the last two years. As of the writing of this report, however, they have made zero convictions. Unless there is more institutional capacity developed, the NPH and the Attorney General's Office might continue to amass a backlog of cases, keeping impunity rates high.

495 USAID, "Greater Internet Freedom (GIF)" Internews, accessed October 2022, https://greaterinternetfreedom.org/.

496 Principles for Digital Development, "Design With the User," Principles for Digital Development, accessed October 12, 2022, https://digitalprinciples.org/principles/.

497 United Nations, "Global Partnerships – United Nations Sustainable Development," United Nations Sustainable Development Goals, accessed October 12, 2022, https://www.un.org/sustainabledevelopment/sustainable-development-goals/.

A. Support security and justice agencies develop the capacity to prevent cyber crimes

International development actors can provide technical assistance to increase the institutional capacity of the NPH and the Attorney General's Office. This could include coordinating with the Immigration and Customs Enforcement Cyber Crimes Center,[498] the Cybersecurity and Infrastructure Security Agency,[499] and the UNODC Global Programme on Cyber crime,[500] around international investigations into cross-border crimes and to promote the exchange of best practices with Honduran agencies.

B. Continue developing digital tools with a victims-centric approach

Security and justice agencies are not aware of the tools and provisions that social media and software companies have available for assisting in criminal investigations. Social media platforms popular in Honduras—namely Facebook, Instagram, WhatsApp, and Twitter—each has different provisions for working with security and justice agencies (e.g. the Facebook Law Enforcement Online Requests system).[501] International development actors could help support the dissemination of these tools within the GOH and raise awareness within tech companies of how these platforms are being used to commit crimes in Honduras.

Currently, there is no "one-stop shop" for victims of cyber crimes that offers legal, medical, and psychological support. Tools such as mobile alerts are being tested with the goal of improving women's physical security. To scale and expand the scope of mobile alerts, USAID/Honduras and international development actors could coordinate with the NPH and Ciudad Mujer (a one-stop shop for women's services) to collaborate on emergency response protocols and promote awareness of comprehensive services for victims of cyber crimes. Laboratorio Ciudadano is a potential partner, given its work implementing a helpline for victims of online gender-based violence.[502]

- Key Partners:
  - Government: National Police of Honduras, Attorney General's Office
  - International organizations: United Nations Office for Drugs and Crime
  - Civil society: Global Initiative Against Transnational Organized Crime (GI-TOC), Laboratorio Ciudadano

- Relevant Resources:
  - Best Practices for Victim Response and Reporting of Cyber Incidents (U.S. Department of Justice, 2018)
  - Cybersecurity Primer (USAID, 2021)
  - Guide to prevent, identify and eliminate extortions in Central America (GI-TOC, 2020)
  - Cryptocurrencies and Darknet Investigation Training Course (UNODC, 2022)

498 U.S. Immigration and Customs Enforcement, "HSI Cyber Crimes Center," *ICE*, accessed October 2022, https://www.ice.gov/partnerships-centers/cyber-crimes-center.

499 U.S.Cybersecurity and Infrastructure Security Agency, "CISA," accessed October 2022, https://www.cisa.gov/.

500 "Global Programme on Cyber crime." n.d. UNODC. Accessed October, 2022, https://www.unodc.org/unodc/en/cyber crime/global-programme-cyber crime.html.

501 Facebook, "Law Enforcement Online Requests system," Accessed October, 2022, https://www.facebook.com/records/login/.

502 "Laboratorio Ciudadano Honduras," n.d. Facebook. Accessed October, 2022, https://m.facebook.com/labciudadanohn/.

This recommendation was designed with the following Principles for Digital Development and SDGs in mind: Principles for Digital Development,[503] "address privacy and security." and SDG[504] 16 (Peace, Justice, and Strong Institutions).

7. IMPROVE THE HUMAN-CENTERED DESIGN OF DIGITAL FINANCIAL SERVICES TO ADVANCE FINANCIAL INCLUSION

The Global Findex 2021 report[505] highlights that the growth in account ownership in developing markets is attributed to the technological revolution and accelerated adoption of digital solutions. However, this observation does not apply to Honduras. In fact, between 2017 and 2021, it was one of only a few countries that recorded a decrease in account ownership across many indicators of "traditional" and digital financial inclusion. This backsliding is, in part, the result of a mismatch between how policymakers and FSPs perceive the financial needs and preferences of different customer segments and their customers' actual needs and preferences. As such, the DFS market offers products that are not designed to meet the unique needs and preferences of customers. Nevertheless, there is an immense opportunity to shift the design of DFS products in a manner that can help low-income households mitigate economic shocks and minimize the risks for irregular migration, ultimately building stronger pathways out of poverty.

A. Support the design and implementation of an updated national financial inclusion strategy

Honduras' National Financial Inclusion Strategy (ENIF) expired in 2020 and has not been updated as of the writing of this report. This presents an opportunity for USAID/Honduras and other international development actors to support the relevant government agencies, including CNBS and BCH, in systematically identifying and addressing implementation gaps and playing a convening role in kickstarting a new ENIF. To do this, relevant actors should convene a multi-stakeholder group of experts from the public and private sectors to co-create a new financial inclusion strategy. Non-government stakeholders should include commercial banks, representatives from FinTechs, microfinance cooperatives, and local community organizations. It is also important to engage key stakeholders in the telecommunications sector to encourage their buy-in for advancing financial inclusion efforts. With the majority of DFS accessible and delivered through mobile phones, there is increasing convergence between the financial and telecommunications sectors. Telecommunications data can be triangulated with financial access and usage data to identify financial and digital deserts to better inform the design of DFS.[506]

B. Engage the private sector to enable last-mile financial inclusion

USAID's *2019 FinTech Partnerships Playbook*[507] offers recommendations for engaging the private sector to strengthen digital finance ecosystems. It outlines different ways, or "plays," for engaging with donor roles and highlights implications for market dynamics, key performance indicators, and illustrative real-world

503 Principles for Digital Development, "Design With the User," Principles for Digital Development, accessed October 12, 2022, https://digitalprinciples.org/principles/.

504 United Nations, "Global Partnerships – United Nations Sustainable Development," United Nations Sustainable Development Goals, accessed October 12, 2022, https://www.un.org/sustainabledevelopment/sustainable-development-goals/.

505 Asli Demirgüç-Kunt, et al., *The Global Findex Database 2021: Financial Inclusion, Digital Payments, and Resilience in the Age of COVID-19*, (Washington, D.C.: World Bank Group, 2022), https://www.worldbank.org/en/publication/globalfindex.

506 Rory Macmillan and Scott Garvey, "Security, Infrastructure and Trust Working Group: Use of telecommunications data for digital financial inclusion," *ITU*, 2021, https://www.itu.int/dms_pub/itu-t/opb/tut/T-TUT-DFS-2021-5-PDF-E.pdf.

507 USAID, "FinTech Partnerships Playbook How donors can pursue private sector engagement to strengthen digital finance ecosystems," *USAID*, 2019, https://www.usaid.gov/sites/default/files/documents/15396/FinTech_Partnerships_Playbook.pdf.

examples. Considering the context of Honduras' digital ecosystem, the plays that may have the greatest impact include:

a. **Play No. 1: Fill knowledge gaps about market segments to justify, inform, and de-risk market investment in underserved communities.** International development actors can conduct market research that will help quantify the business case for designing DFS for target population groups, such as women who live in high-migration areas. Research can also aim to better understand the financial behavior, needs, and digital financial literacy of target market segments, including women. The research findings can be triangulated with the demand-side studies that the IDB and International Finance Corporation[508] are conducting on specific population segments, including women. The CNBS mentioned that this kind of support would be invaluable, as COVID-19 halted their plans for disseminating a financial inclusion survey in 2020 with the National Statistics Institute.

b. **Play No. 2: Apply market insights to product design.** USAID/Honduras and international development actors can foster collaboration between non-bank FSPs and FinTechs. This could include encouraging non-bank FSPs to submit proposals to USAID's Digital Invest[509] program which seeks to mobilize private capital for digital finance and ISPs serving traditionally excluded consumer populations. USAID/Honduras and international development actors can draw on lessons learned from other similar efforts, like the USAID Partnering to Accelerate Entrepreneurship (PACE) initiative.[510] As part of the PACE initiative, USAID and FINCA International developed a platform to explore how bringing together early-stage FinTechs and FSPs in a pilot testing environment can enable FSPs to affordably and systematically develop and scale innovations.

c. **Play No. 9: Build awareness and understanding of formal financial services among consumers and MSMEs.** The international development community can continue to design and deliver awareness campaigns on the benefits of DFS that leverage social media platforms. In cases where target populations are less connected, radio campaigns may be better fits. Digitally-delivered awareness campaigns should be carefully monitored and evaluated to determine their real impact on financial inclusion.

- Key Partners:
  - National Commission of Banking and Insurance
  - Central Bank of Honduras
  - National Supervisory Council of Cooperatives
  - Financial service providers
  - Omnis Finclusion Foundation

- Relevant Resources:
  - FinTech Partnerships Playbook (USAID, 2019)
  - Women & Money – Insights and a Path to Close the Gender Gap (IDEO.org, 2019)
  - Human-Centered Design for Financial Products: Workshop Facilitator's Guide (USAID, 2019)
  - Regulatory Technology ("RegTech") Readiness in Honduras (USAID, 2020)
  - Report on the Gender Gap in the Financial System of Honduras (CNBS, 2021)

508 Women's Financial Inclusion Data (WFID) Partnership, "Towards Women's Financial Inclusion: A Gender Data Diagnostic of Honduras," *Data2X*, WFID Partnership, 2022, https://data2x.org/wp-content/uploads/2022/06/FINAL_DataDiagnostics-Honduras.pdf.

509 USAID, "Digital Invest | Digital Development | U.S. Agency for International Development." 2022. USAID. https://www.usaid.gov/digital-development/digital-invest.

510 USAID, "Finca International: Bringing Fintech, SGBs and MFIs Together through FINCA Forward," *USAID*, 2020, https://www.usaid.gov/sites/default/files/documents/15396/finca_pace_one-pager_jan_2020.pdf.

- Migrant-centric and Gender-smart Digital Remittances (UNCDF, 2021)
- Towards Women's Financial Inclusion: A Gender Data Diagnostic of Honduras (Data2x, 2022)
- Economic Analysis of the Honduras Remittances Ecosystem (USAID, 2022)

This recommendation was designed with the following Principles for Digital Development and SDGs in mind: Principles for Digital Development[511] "understand the existing ecosystem," "build for sustainability," and "be collaborative" and SDG[512] 8 (decent work and economic growth) and 10 (reduced inequalities).

8. CONTINUE TO FOSTER A DIGITAL ENTREPRENEURSHIP CULTURE TO ENGAGE YOUTH

According to a global survey conducted by the International Trade Center, youth-led enterprises were much more likely than adult-led enterprises to switch to online sales during the COVID-19 pandemic.[513] In addition to helping increase resilience to economic shocks, digitalization can serve as an indirect pathway to business formalization.[514] USAID/Honduras can leverage these trends in order to engage youth, especially those from vulnerable communities. To mitigate the risks of cyber crime and to incorporate the principle of "Do No Harm," any activity related to this recommendation should emphasize the importance of good cyber hygiene practices and highlight the risks of doing business online.

A. Continue to support the digitalization of MSMEs

- **Promote social commerce:** As youth constitute the largest share of social media users, the development community can leverage social commerce to promote digital entrepreneurship among younger Hondurans. Social commerce is a subset of e-commerce whereby sales and purchases of products and services are conducted on social media channels. International development actors can explore what a partnership might look like, potentially tailoring and rolling out digital entrepreneurship programs. For example, programs offer training in digital tools for MSMEs on three Meta platforms, namely Facebook, Instagram, and WhatsApp Business. Meta has initiated talks with the Ministry of Economic Development to lay out plans for co-designing MSME development programs.
- **Strengthen digital financial capacity of young women entrepreneurs:** Women tend to have lower levels of digital financial capacity, which is the combination of knowledge, skills, and understanding to access financial services delivered through digital technologies. International development actors can build on their experiences and learnings to design programs and promote the digital financial capacity for young women entrepreneurs. For example, Project Kirana is a joint partnership between USAID and the Mastercard Center for Inclusive Growth that is currently being implemented in India and aims to increase revenue streams, expand financial inclusion, and enable the adoption of digital payments

511 Principles for Digital Development, "Design With the User," Principles for Digital Development, accessed October 12, 2022, https://digitalprinciples.org/principles/.

512 United Nations, "Global Partnerships – United Nations Sustainable Development," United Nations Sustainable Development Goals, accessed October 12, 2022, https://www.un.org/sustainabledevelopment/sustainable-development-goals/.

513 International Trade Centre, "Blog: Tailored assistance for agile young entrepreneurs in times of crises," *ITC News*, June 2, 2020, https://intracen.org/news-and-events/news/blog-tailored-assistance-for-agile-young-entrepreneurs-in-times-of-crisis.

514 International Labour Organization, "Small goes digital - how digitalization can bring about productive growth for micro and small enterprises," *ILO*, 2021, https://www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_ent/---ifp_seed/documents/publication/wcms_808632.pdf.

and other digital tools by women-owned and women-operated small grocery shops (called "kiranas").[515] Hey Sister! Show Me the Mobile Money is an activity under the USAID Agent Network Strengthening Program with the goal of increasing the digital financial capability of women in developing countries.[516]

B. Build a digital creative economy component into current and future design and implementation of entrepreneurship- and youth-focused programs

Another way to engage youth entrepreneurs is through the creative economy in which ideas are transformed into cultural goods and services, the value of which is determined by intellectual property (see The creative economy catches on in Honduras). While traditional MSMEs, such as those selling retail and consumer goods, may not appeal to some, the creative economy presents a viable alternative for youth looking to channel their energy, passion, and dynamism into their work. For example, international development actors can support the Transforming Market Systems Activity[517] developing the tourism and creative industries through reputation management and public-private partnerships. With tourism returning to pre-pandemic levels, there are opportunities for youth to create digital content such as short films and documentaries that highlight Honduras' cultural heritage.[518] Another option is to partner with digital platforms on which local experts could host in-person or online activities.

For example, the Airbnb Entrepreneurship Academy collaborates with NGOs, small business centers, and academic institutions, to support "tourism entrepreneurs" in their communities.

- Key Partners:
  - Government: Central Bank of Honduras; Ministry of Culture, Arts, and Heritage; Ministry of Economic Development
  - Local partners: Digital arts-focused NGOs, vocational training
  - Private sector: Digital platforms
  - International organizations: Inter-American Development Bank

- Relevant Resources:
  - Business Her Own Way: Creating Livelihoods Through Informal Online Commerce (CGAP, 2021)
  - Digitization and Informality: Harnessing Digital Financial Inclusion for Individuals and MSMEs in the Informal Economy (OECD, 2018)
  - The Digital Transformation of SMEs (OECD, 2021)
  - The Orange Economy: An Infinite Reality (CAF/IDB, 2021)
  - The Culture Fix – Creative People, Places and Industries (OECD, 2022)
  - Youth in Development Policy (USAID, 2022)

515 USAID and Mastercard Partnership Fosters Digital Empowerment of Women | Press Release | India | U.S. Agency for International Development." 2022. USAID. https://www.usaid.gov/india/press-releases/mar-17-2022-usaid-and-mastercard-partnership-fosters-digital-empowerment.

516 "Digital Financial Capabilities Campaign Replication Guide." 2022. USAID. https://www.usaid.gov/sites/default/files/documents/USAID_Digital_Finance_Campaign_Replication_Guide.pdf.

517 USAID Transforming Market Systems Activity, "Transforming Market Systems Activity – Fifteenth Quarterly Progress Report," USAID, Accessed November 14, 2022, https://pdf.usaid.gov/pdf_docs/PA00ZG6D.pdf.

518 Fátima Romero, "Honduras recupera niveles prepandemia en la llegada de viajeros internacionales," *Bloomberg Línea*, April 25, 2022, https://www.bloomberglinea.com/2022/04/25/honduras-recupera-niveles-prepandemia-en-la-llegada-de-viajeros-internacionales/.

This recommendation was designed with the following Principles for Digital Development and SDGs in mind: Principles for Development[519] "be collaborative" and "build for sustainability"; and SDG[520] 17 (strengthen implementation and global partnerships for sustainable development).

9. PROMOTE WORKFORCE DEVELOPMENT INITIATIVES THROUGH PARTNERSHIPS BETWEEN INDUSTRY, UNIVERSITIES, AND TECHNICAL AND VOCATIONAL TRAINING INSTITUTIONS

Honduras has a growing youth population with entrepreneurial aspirations that seeks to develop businesses and find jobs in the digital economy. Improved digital literacy can open doors for participation in the digital economy and, therefore, increase incomes and reduce economic inequalities. If USAID/Honduras and international development actors support the development of new programs and partnerships on digital skills development and ICT education, more Honduran young adults could acquire the relevant skills and competencies to find employment in the digital economy. This will help to improve both community resilience and national competitiveness and will ultimately address one of the root causes of irregular migration.

A. Engage the private sector to invest in apprenticeship and internship programs

USAID/Honduras and International development actors can facilitate partnerships between international and local tech companies and university IT programs, co-designing apprenticeship and internship programs to ensure better job-matching. Apprenticeship or internship programs can be critical to ensuring that higher education degrees translate to jobs. These programs can iterate on the work carried out by the USAID/Honduras *Empleando Futuros* workforce development (WFD) Activity[521] and *Creando mi Futuro Aquí* Activity.[522] Programs should include opportunities for non-degree or vocational education institutions, and include non-traditional ICT tracks, as industries that are technology-light often need to employ staff with digital skills who can adapt to new technologies. This could lead to home-grown technology innovations that solve some of the country's most pressing challenges, such as food insecurity.

B. Employ a project-based learning approach to digital skills programs

International development actors can integrate a project-based learning (PBL)[523] approach into the design of digital skills programs. PBL is a teaching approach that involves students designing, developing, and constructing hands-on solutions to real-world problems, enabling them to learn deeply and develop core employability skills. One example is YouthMappers, a global community of students, researchers, educators, and scholars that uses public geospatial technologies to highlight and directly address development challenges worldwide. Development actors can leverage the experience of the *YouthMappers* chapter at UNAH to support the establishment of additional chapters in other universities, including UNITEC and UTH. It can help organize "mapathons" with other universities (Universidad Centroamericana José Simeón Cañas in El Salvador, Universidad Galileo in Guatemala, and Universidad de San Carlos de Guatemala – Centro

519 Principles for Digital Development, "Design With the User," Principles for Digital Development, accessed October 12, 2022, https://digitalprinciples.org/principles/.

520 United Nations, "Global Partnerships – United Nations Sustainable Development," United Nations Sustainable Development Goals, accessed October 12, 2022, https://www.un.org/sustainabledevelopment/sustainable-development-goals/.

521 USAID, "Empleando Futuros Final Report," *USAID*, 2021, https://pdf.usaid.gov/pdf_docs/PA00Z3C9.pdf.

522 USAID, "Creando Mi Futuro Aquí," https://www.dai.com/our-work/projects/honduras-creando-mi-futuro.

523 Lory Hough, "Project-Based Learning is Great, But Students Still Need to Learn Something," Harvard Graduate School of Education, 2022, https://www.gse.harvard.edu/news/uk/22/01/project-based-learning-great.

Universitario de Occidente in Guatemala) to develop early warning models for irregular migration or related development challenges, such as food insecurity and crime.[524]

Another potential resource is *Google Applied Digital Skills*,[525] which is a free online curriculum that allows students ranging from elementary to adult learners to practice basic digital skills using Google's "G Suite for Education" applications such as Gmail, Docs, and Sheets on their own or in a classroom setting. The projects can be group-based, so students can learn other relevant skills, such as communication and critical thinking. Teachers can access free, ready-to-use videos that can be adapted to fit their contexts. .

- Key Partners:
  - National Vocational Training Institute
  - Centro Asesor para el Desarrollo de los Recursos Humanos
  - Comisión Nacional Para el Desarrollo de la Educación Alternativa No Formal
  - Universidad Nacional Autónoma de Honduras, Universidad Tecnológica Centroamericana, Universidad Tecnológica de Honduras, and other universities

- Key Resources:
  - Changing Demand for Skills in Digital Economies and Societies (ILO, 2021)
  - Digital Skills Insights 2021 (ITU, 2021)

This recommendation was designed with the following Principles for Digital Development and SDGs in mind: Principles for Development[526] *"understand the existing ecosystem," "build for sustainability," and "reuse and improve"; and SDGs*[527] *4 (quality education), 8 (decent work and economic growth,) and 10 (reduced inequalities)..*

524 USAID, "Youth Mappers," YouthMappers|Humanitarian Mapping|University Students, accessed October, 2022, https://www.youthmappers.org/.

525 Google. "Applied Digital Skills: Teach & Learn Practical Digital Skills." Google for Education, accessed October 2022, https://applieddigitalskills.withgoogle.com/s/en/home.

526 Principles for Digital Development, "Design With the User," Principles for Digital Development, accessed October 12, 2022, https://digitalprinciples.org/principles/.

527 United Nations, "Global Partnerships – United Nations Sustainable Development," United Nations Sustainable Development Goals, accessed October 12, 2022, https://www.un.org/sustainabledevelopment/sustainable-development-goals/.

Appendices

A. DEFINITIONS

Definitions from the USAID DECA Toolkit unless otherwise mentioned.

Affordability: Whether a person can afford the cost of data relative to their income, measured as gigabytes (GBs) of data per percentage of monthly income. The Alliance for Affordable Internet (A4AI) uses a "1 for 2""1 for 2" measure for affordable internet. Affordable internet is where 1GB of mobile broadband data is priced at 2 percent or less of average monthly income.

Agent/Branchless Banking: The delivery of banking services outside conventional bank branches, usually through a network of agents equipped with point of sale (POS) devices or mobile phones. Agents can take many forms including individuals at small shops, petrol stations, and supermarkets. Financial services provided by agents can include cash-in and cash-out points, credit, loans, insurance, bill payment, and person-to-person transfers.

Artificial Intelligence (AI): The science and technology of machines that perform activities normally thought to require human intelligence. One subset of AI is Machine Learning (ML), a technique in which computers "learn" to recognize patterns in existing data, creating systems that can be more flexible, responsive, and adaptable than previously possible. Some AI systems use computers to automatically make decisions, while others create recommendations for human decision-makers.

Blockchain: An example of a distributed ledger technology (DLT), which is a type of shared, peer-to-peer computer database that enables all network participants to agree on a set of facts or events without needing to rely on a single, centralized, or fully trusted intermediary party. Blockchains are the most common form of DLT and require data on the "chain" to be structured in linked, sequential "blocks."

Censorship: The suppression of free speech by governments or private institutions based on the assumption that said speech is objectionable or offensive. In addition to hard forms of censorship (handed down officially through laws and regulations), soft forms of censorship exist (applied through financial and/or reputational pressure).

Civil Society Organization (CSO): Organizations including formal, non-government organizations (NGOs) as well as formal and informal membership associations (labor unions, business and professional associations, farmers' organizations and cooperatives, and women's groups). CSOs articulate and represent the interests of their members, engage in analysis and advocacy, and conduct oversight of government actions and policies. .

Cyber Hygiene: The practices and steps that users of computers and other devices take to maintain system health and improve online security. These practices are often part of a routine to ensure the safety of identity and other sensitive details that could be stolen or corrupted.

Cybersecurity: The prevention of damage to, protection of, and restoration of computers, electronic communications systems, electronic communications services, wire communication, and electronic communication, including information contained therein, to ensure its availability, integrity, authentication, confidentiality, and non-repudiation.

Data Governance: Policies, strategies, frameworks, and practices that governments implement to regulate data collection, management, use, and sharing in the public and private sectors. This broad topic can include data privacy practices, data sovereignty, data stewardship roles and authorities, cross-border data flows, regulations on AI, and data infrastructure (e.g., open data portals and interoperability layers).

Data Privacy: The right of an individual or group to maintain control over and confidentiality of information about themselves. Data privacy can be at risk both from unintentional sharing and from undue or illegal gathering and use of data about that individual or group.

Data Protection: The practice of ensuring the protection of data from unauthorized access, use, disclosure, disruption, modification, or destruction, to provide confidentiality, integrity, and availability.

Digital Divide: The distinction between those who have access to the internet and can make use of digital communications services and those who are excluded from these services. Multiple and overlapping digital divides stem from inequities in access, literacy, cost, or the relevance of services. Factors such as high cost and limited infrastructure often exacerbate digital divides.

Digital Economy: The use of digital and internet infrastructure by individuals, businesses, and governments to interact with one another, engage in economic activity, and obtain access to both digital and non-digital goods and services. As the ecosystem supporting it matures, the digital economy might grow to encompass all sectors of the economy—a transformation driven by the rise of new services and entrants, as well as backward linkages with the traditional, pre-digital economy. A diverse array of technologies and platforms facilitate activity in the digital economy; however, much activity relies in some measure on the internet, mobile phones, digital data, and digital payments.

Digital Ecosystem: The stakeholders, systems, and enabling environment that together empower people and communities to use digital technology to gain access to services, engage with one another, or pursue economic opportunities. Although certain aspects of the digital ecosystem have country-wide reach, other features differ across geographies or communities. USAID's framework for understanding the digital ecosystem is structured around three pillars: Digital Infrastructure and Adoption; Digital Society, Rights, and Governance; and Digital Economy.

Digital Financial Inclusion: The use of digital technology to reach financially excluded and underserved populations with a range of formal financial services suited to their needs, responsibly delivered to customers, and sustainable for providers.

Digital Financial Services (DFS)/FinTech: Financial services enabled by or delivered through digital technology (e.g., mobile phones, cards, the internet). DFS (e.g., payments, credit, insurance, savings, advisory) can be offered by a range of providers, from banks to a host of non-bank financial institutions, such as microfinance institutions, digital credit providers, payment providers, technology vendors, and electronic money issuers.

Digital Government: The use of digital technologies as an integrated part of government modernization strategies to create public value. This includes how the government manages internal information technology (IT) processes and systems, delivers citizen- and business-facing e-services, and engages with the public through

digital channels. Digital government is often used interchangeably with terms like "e-governance" and "e-government."

Digital Identity: A set of attributes that uniquely describe an individual or entity. Digital identification (ID) systems often require registering individuals into a computerized database and providing certain credentials associated with each individual (e.g., birth certificates, identifying numbers, cards, digital certificates) as proof of identity. Digital ID systems sometimes use biometrics (fingerprints, iris scans, etc.) to identify individuals, but many advanced systems do not. Government actors can set up these systems to create foundational, national ID programs, or donors or NGOs can set them up for functional purposes to identify beneficiaries (e.g., for humanitarian assistance and servicedelivery).

Digital Literacy: The ability to access, manage, understand, integrate, communicate, evaluate, and create information safely and appropriately through digital devices and networked technologies for participation in economic, social, and political life. This may include competencies that are variously referred to as computer literacy, ICT literacy, information literacy, and media literacy.

Digital Payments: Payments initiated or received by electronic means. For an end-user, these payments might be made through a text message, mobile application, website, or merchant-level point-of-sale device, such as a dongle or QR code. A financial institution—e.g., bank, switch, MFI, or payment service provider—might facilitate these payments to or from a range of instruments that might include: prepaid wallets (e.g..., electronic money accounts), cards, transaction or bank accounts, and other instruments that serve as stores of value and permit payments.

Digital Repression: The use of digital tools and technology to suppress internet freedoms; includes five techniques: surveillance, censorship, social manipulation and harassment, internet shutdowns, and targeted persecution of online users. This term can include offline actions taken to penalize online speech (e.g., arrests, physical violence), as well as online actions that seek to suppress freedoms in online and offline spaces.

Digital Rights: The fundamental rights and freedoms that individuals can exercise online, as well as a respect for privacy and ownership of data.

Digital Trade: The delivery of products and services over the internet by firms in any industry sector and of associated products such as smartphones and internet-connected sensors.

Disinformation: False information that is deliberately created or disseminated with the express purpose of causing harm. Producers of disinformation typically have political, financial, psychological, or social motivations.

E-commerce: The sale or purchase of goods or services, conducted over computer networks by methods specifically designed for the purpose of receiving or placing orders.

Emerging Technologies: Technologies for which ethical, policy, and regulatory frameworks are struggling to keep pace with the rate of technological progress. They often lack rigorous testing in the real world, so their implications on people and societies remain less well-understood. These include artificial intelligence (AI), the internet of things (IoT), blockchain, drones, and 3D printing, among others. As these technologies become more affordable and widespread, they may have a significant impact on digital ecosystems and on development.

Information and Communications Technology (ICT): Diverse set of technological tools and resources used to transmit, store, create, share, or exchange information. These technological tools and resources include computers, the internet (websites, blogs, and emails), live broadcasting technologies (radio, television, and

webcasting), recorded broadcasting technologies (podcasting, audio and video players, and storage devices), and telephony (fixed or mobile, satellite, video-conferencing, etc.).

Internet Freedom: The online exercise of human rights and fundamental freedoms regardless of frontiers or medium. Where internet freedom is respected, the same rights that people have offline are also protected online.

Internet Service Provider (ISP): An organization that delivers access to end-users using both fixed-line and wireless technologies. Wireless ISPs (especially those in rural areas) often take advantage of low licensing and equipment costs by delivering service using unlicensed spectrum. ISPs range in size and scope from small, local providers to providers with international and even global reach.

Interoperability: The ability of computer systems or software to exchange and make use of information from other systems. For example, interoperable data systems allow for data sharing and reuse with common formats and definitions, and interoperable payment systems allow digital transfers of money between different financial service providers.

Internet Governance: The development and application by governments, the private sector, and civil society, in their respective roles, of shared principles, norms, rules, decision-making procedures, and programs that shape the evolution and use of the internet.

Last-Mile Connectivity: Where the end-users access the internet using devices (mobile phones, laptops, tablets, computers) through local access networks.

Malinformation: Information that is false but not intended to cause harm. For example, individuals who do not know a piece of information is false may spread it on social media in an attempt to be helpful. Disinformation, a type of misinformation, refers to misinformation that is spread with malicious intent.

Media Literacy: The ability to access, analyze, evaluate, create, and participate with messages in a variety of forms—from print to video to the internet. Media literacy builds an understanding of the role of media in society as well as essential skills of inquiry and self-expression needed for citizens of a democracy.

Misinformation: Information that is false but not intended to cause harm. For example, individuals who do not know a piece of information is false may spread it on social media in an attempt to be helpful. Disinformation, a type of misinformation, refers to misinformation that is spread with malicious intent.

Mobile Money: A technology that enables people to receive, store, and spend money using a mobile phone. Can also be referred to as a mobile wallet or e-money.

Mobile Network Operator (MNO): An entity that provides voice and data services primarily via wireless terrestrial networks. MNOs typically use licensed spectrum bands, which tend to deliver a higher quality, more reliable (and more cost-intensive) service because they are not shared.

Open Government Data: A philosophy—and increasingly a set of policies—that promotes transparency, accountability, and value creation by making government data available to all.

Radio Spectrum: Refers to the range of frequencies of electromagnetic radiation that are used to deliver radio transmissions. A critical function of telecommunications sector regulatory authorities is to designate specific frequency ranges (or bands) for different purposes, including telecommunications (but also for applications such as radio astronomy or other industrial uses). Some bands (e.g., WiFi) are unlicensed, meaning that anyone

can use them without seeking explicit prior permission. *Licensed*[528] spectrum requires users (e.g., commercial cellular networks or FM radio broadcasters) to secure a regulator's approval prior to use. Licenses are typically assigned through spectrum auctions, which seek to establish the economic value of spectrum, which is a finite natural resource.

Transparency: An environment where governments and public officials engage in the clear disclosure of rules, plans, processes, and actions in a form that is readily accessible to all. Transparency promotes accountability by providing the public with information about what the government is doing.

TV White Space (TVWS): The unused spectrum between TV stations that can be capitalized upon for increased connectivity. This block of spectrum is considered ripe for innovation and experimental use, holding rich potential for expanding broadband capacity and improving access for many users and for developing technologies that can expand this type of spectrum access to other frequencies and services to greatly increase the ability to use spectrum.

Universal Service Funds (USF): A mechanism designed to promote network infrastructure development in areas that commercial access providers deem uneconomical. Essentially established as subsidy programs, USFs are resourced through contributions drawn from the revenues of telecommunications operators. USF funds are often applied to help de-risk or otherwise complement network investments in underserved or unserved areas. In many cases, USFs target projects that serve schools, hospitals, and other anchor institutions where demand for services can be aggregated.

Virtual Currency: No globally accepted definition exists, but a virtual currency can be considered a digital representation of value intended to be used as a medium of exchange, unit of account, or store of value. It is not issued by a government and not treated as legal tender. As an umbrella term, virtual currency can include fully decentralized cryptocurrencies like Bitcoin as well as alternatives that are issued, stored, transacted, or redeemed in a centralized fashion. Virtual currencies are distinguished from proposed government-issued digital forms of cash, typically referred to as central bank-issued digital currencies (CBDCs).

528 While permissions are not required for unlicensed spectrum use, users are typically limited to technical parameters (such as transmission power or antenna specifications).

B. METHODOLOGY

The Honduras DECA included three components:

A. **USAID/Honduras engagement:** USAID/Honduras designated a Mission DECA Team from the USAID/Honduras program office. The Mission DECA team helped identify stakeholders; reviewed relevant documents during planning, interviews, and the analysis and report-writing stages; and attended selected interviews during the interview phase.

The Mission DECA Team also helped organize the introduction and post-interview presentations with USAID/Honduras. These meetings were important to socialize the DECA purpose and preliminary findings across various USAID/Honduras technical offices.

This engagement was important not only for ensuring an appropriate mix of interviewees but also for building the Research Team's understanding of USAID/Honduras priorities.

B. **Desk research:** The desk research used a standardized template organized around three pillars (digital infrastructure and adoptions; digital society, rights, and governance; digital economy). The desk research included three components: 1) review of USAID/Honduras CDC. and digitally relevant programming; 2) quantitative analysis of open-source data and indices to produce regional comparisons (e.g., GSMA, World Economic Forum, ITU); and 3) internet research guided by high-level questions under each pillar about the state of Honduras' digital ecosystem.

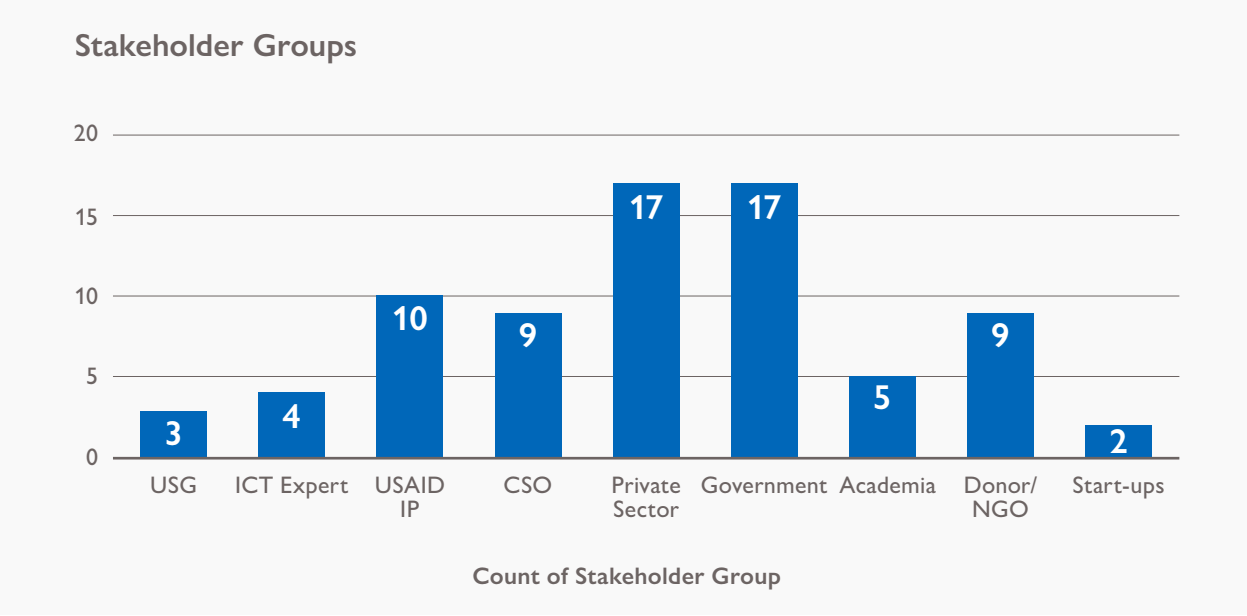
The Research Team shared the desk research with the Mission DECA Team before interviews and used it to inform the interview guide questionnaires.

C. **Interviews:** The Research Team collaborated with USAID/Honduras to compile a list of target stakeholders across civil society, academia, international organizations, the private and public sectors, and within USAID/Honduras. The Research Team and USAID/Honduras networks secured initial interviews. Additional interviewees were added throughout the research process through referrals from completed interviews.

During the interview phase, the Research Team conducted anywhere from 7–15 interviews per week. Most interviews were attended by at least two team members, with a lead interviewer and a notetaker. To best triangulate findings and to test different interview styles, team members rotated with whom they paired on interviews. Each interviewee was asked a general set of questions, which were developed before the interview phase, tailored to be targeted to interviewees, and based on learnings from previous interviews.

To ensure a diverse mix of interviewees, the Research Team evaluated the list of scheduled interviews and conducted additional outreach in an attempt to fill identified gaps. The graph below and Appendix C show the 76 interviews by sector (informed by 55 female interviewees and 83 male interviewees).

FIGURE 23: Interviews, by stakeholder group



Analysis

The Research Team conducted the bulk of the preliminary analysis during the virtual interview phase. The team conducted weekly debriefs, which not only ensured that all team members were briefed on each interview but also facilitated the triangulation of emerging themes that could then be tested in subsequent interviews. Midway through the interviews, the team identified primary themes based on these initial findings. Upon completing the interview phase, the team convened to revisit these themes, confirmed their validity against some interview notes, and proceeded to organize the findings around the three pillars outlined in this report (digital infrastructure and adoption; digital society, rights, and governance; and digital economy).

Limitations

Research Team members were limited, to an extent, by their technical expertise. Team members were chosen to provide coverage of key technical areas identified in a preliminary review, particularly around digital adoption, digital governance, and digital finance. This may introduce some bias—weighting the specializations of team members more heavily than other areas, such as emerging technology and digital agriculture.

Many interviewees were selected through USAID/Honduras and Research Team networks, which may have excluded stakeholders who are less comfortable engaging with U.S. government representatives. Most interviews took place virtually; as a result, information is limited to Tegucigalpa-based interviewees' knowledge and work across the country. Rather than rigorous qualitative methods (e.g., thematic coding), analysis of interview notes depended on Research Team members triangulating findings and attempting to balance thematic gaps by consulting technical experts and seeking additional interviewees.

Research team

The Research Team was composed of digital development generalists and specialists with technical expertise in digital governance and digital economy. Team members who were technical experts attended most interviews that were relevant to their expertise.

C. INTERVIEWEE LIST

	COUNTRY OR SECTOR EXPERTS (ACADEMICS/ICT EXPERTS)
1	Honduras Internet Governance Forum and Honduras Cibersegura
2	Representative Programa Nacional de Transformación Educativa Digital
3	Innovation Lab (iLab) at Universidad Tecnológica Centroamericana (UNITEC)
4	Internet Governance Forum (IGF)/Technological University of Honduras (UTH)
5	University Institute of Democracy, Peace and Security, Universidad Nacional Autónoma de Honduras (UNAH)
6	Creative Economy Expert
7	Tech4Dev
8	Connectivity Expert
9	Universidad Tecnológica de Honduras
	PUBLIC SECTOR
10	Administración Aduanera de Honduras
11	Banco Central de Honduras
12	Banco Hondureño para la Producción y la Vivienda (Banhprovi)
13	Centro de Trámites de Exportación (CENTREX)
14	Comisión Nacional de Bancos y Seguros (CNBS)
15	Comisión Nacional de Telecomunicaciones (Conatel)
16	Consejo Nacional Superior de Cooperativas (CONSUCOOP)
17	Dirección Nacional de Defensa y Seguridad (DNII Ciberseguridad)
18	Ministerio Público – Attorney General's Office
19	MP Ciberdelitos
20	Office of the President
21	Policía Honduras
22	Policía Nacional-Cibercriminales
23	Registro Nacional de Personas (RNP)
24	Secretaría de Transparencia & República Digital
25	Secretaría de Finanzas (SEFIN)
26	National Banking Commission
	DONORS, INTERNATIONAL NGOS, INTERNATIONAL DEVELOPMENT ORGANIZATIONS
27	CARE
28	Giga Connect

INTERVIEWEE LIST (CONTINUED)

29	Inter-American Development Bank (IDB) – Connectivity and Digital Government, Digital ID & Education
30	IOM Think Twice Campaign
31	International Telecommunication Union
32	Omnis Finclusion Foundation
33	Seattle International Foundation (SEAIF) – Independent Media Fund
34	United Nations Development Programme (UNDP)
35	UNODC Cyber crime Honduras
CIVIL SOCIETY / MEDIA	
36	Despierta Honduras
37	Dynamic Spectrum Alliance
38	Honduras Digital Challenge
39	Honduras Verifica
40	International Women's Media Foundation
41	Laboratorio Ciudadano
42	Red de Desarrollo Sostenible .HN
43	Seattle Foundation
44	Universidad Nacional Autónoma de Honduras/Honduras Internet Society
PRIVATE SECTOR / STARTUPS	
45	(ISACA Honduras Chapter) and Chief Information Security Officer of Banco Lafise
46	Albatros Services
47	American Chamber of Commerce (AmCham) in Honduras
48	Banco Atlantida
49	Banking Sector CSIRT
50	Cloud Biz
51	Consejo Hondureño de la Empresa Privada (COHEP)
52	Data Guard
53	Dilo
54	Dokto
55	Meta (Facebook)
56	Ocho
57	ODEF Financiera

INTERVIEWEE LIST (CONTINUED)

58	Prisma/REDMICROH
59	SBA
60	Sube / Asociación de Fintech Honduras
61	Tengo
62	Tigo
63	Tigo Money
USAID IMPLEMENTING PARTNERS	
64	Alliance of Bioversity International and the International Center for Tropical Agriculture (CIAT)
65	Consejo Nacional Anticorrupción (CNA)
66	De Lectores a Líderes
67	Fundación Nacional para el Desarrollo de Honduras (FUNADEH-Tornabe)
68	Honduras Local Governance Activity (GLH) – Civil Society, Education & Governance Specialists
69	ICT4AG Assessment
70	Transforming Market Systems Activity
71	Unidos por la Justicia
72	USAID Asegurando la Educación
73	YMCA Honduras
USG	
74	International Trade Administration
75	U.S. Treasury
76	USAID/Honduras

USAID
FROM THE AMERICAN PEOPLE

BUREAU FOR DEVELOPMENT, DEMOCRACY, AND INNOVATION (DDI)
INNOVATION, TECHNOLOGY AND RESEARCH HUB (ITR)
usaid.gov/usaid-digital-strategy