



Ending the Gender Digital Divide in Myanmar: A Problem-Driven Political Economy Assessment

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List of Acronyms

2G	Second-generation digital technology
A4AI	Alliance for Affordable Internet
ADB	Asian Development Bank
ASEAN	Association of Southeast Asian Nations
CEDAW	Convention to Eliminate All Forms of Discrimination Against Women
CSO	Civil society organization
DfID	Department for International Development, Government of Great Britain
DFAT	Department of Foreign Affairs and Trade, Government of Australia
GAD	General Administration Department, Myanmar Ministry of Home Affairs
GoM	Government of the Republic of the Union of Myanmar
GONGO	Government-organized [quasi] non-governmental organization
ICT	Information and communication technology
ICT4D	ICTs for Development
INGO	international non-governmental organization
MBAPF	Myanmar Book and Preservation Foundation
MCIT	Ministry of Communications and Information Technology (dissolved 2016)
MCRB	Myanmar Center for Responsible Business
MIDO	Myanmar ICT Development Organization
MoE	Ministry of Education
MoTC	Ministry of Transportation and Communications (established 2016)
MPT	Myanmar Post and Telecommunications
NESP	National Education Strategic Plan
NLD	National League for Democracy
NSPA	National Strategic Plan for the Advancement of Women
PEA	Political economy analysis
SGBV	Sexual and gender-based violence
SMS	Short message service
STEM	Science, technology, engineering, and mathematics
TASCHA	Technology and Social Change Group, University of Washington
TVET	Technical and vocational education and training
UN	United Nations
UNDP	United Nations Development Program
UNESCO	United Nations Education, Social and Cultural Organization
USAID	United States Agency for International Development
VAW	Violence against women and girls
WASH	Water, sanitation, and hygiene

Executive Summary

Ensuring that women and girls engage in the digital world is fundamental to Myanmar’s democratic and economic growth. Yet women are 28% less likely than men to own a mobile phone, the primary means of internet access in the country, and experience related disparities in digital skills and use. To better understand this gap, IREX conducted a first-of-its-kind political economy analysis of Myanmar’s gender digital divide. The report offers a nuanced view of who is excluded and how, with tailored, practical recommendations to narrow the divide.

Myanmar is currently undergoing a technological revolution concurrent with systemic political and economic change. As the country transitions to a democratic, market-based economy, there has been a great deal of optimism about the potential for information and communication technology (ICT)¹ to optimize the positive impact of people-centered reforms in Myanmar. Yet the nearly unprecedented pace of adoption of mobile ICT devices² is uneven across gender, ethnic, geographic, and socioeconomic lines, which begs the question: **what does this sea change in interconnectedness mean for Myanmar’s women and girls, particularly those belonging to marginalized groups?**

This research report examines the extent to which nuanced **evidence** exists for gender-based differences in ICT access, digital skills, and benefits derived from ICTs among the diverse population of Myanmar and, in turn, gauges stakeholder **awareness** of how such differences may exacerbate existing disparities in development outcomes such as health, employment, and education.³ Applying a political economy analysis (PEA) through a gender lens, the research reveals how deeply ingrained **gender-based power dynamics, roles, and expectations** influence **individual differences** noted in ownership, usage, and benefits as well as **institutional incentives**—or lack thereof—to close the gap.

Global Context

There is a direct correlation between systemic uptake of information and communication technologies (referred to as “networked readiness”) and GDP,⁴ and the United Nations and other institutions have clearly articulated a link between ICTs and all seventeen of the UN Sustainable Development goals.⁵ While ICTs in general and internet access in particular are not a panacea, they are a critical component of sustainable and equitable economic and social development.

¹ ICTs consist of hardware, software, networks, and media for collection, storage, processing, transmission, and presentation of information (voice, data, text, images). See World Bank Group, *ICTs and MDGs: A World Bank Group Perspective*, December 2003.

² Mobile phones are the most widely available form of access to ICTs in Myanmar. Household mobile phone ownership jumped from 2 percent in 2012 (ITU) to 83 percent in 2016, while those who had never used a phone decreased from 31 percent in 2015 to 9 percent in 2016. Helani Galpaya, Ayesha Zainudeen, Suthaharan Perumpalam, Gayani Hurulle, Htaike Htaike Aung, and Phyu Phyu Thi, “*Mobile Phones, Internet, Information and Knowledge: Myanmar*,” LIRNEasia, January 2, 2017.

³ The Global Libraries program of the Bill and Melinda Gates Foundation data dashboard has extensive impact data related to public-access computers at public libraries in seventeen countries. See *glatlas.org*.

⁴ World Economic Forum, *Global Information Technology Report* (Geneva: World Economic Forum, 2016).

⁵ Ericsson & Columbia University Earth Institute, *ICTs & SDGs: How Information and Communications Technology Can Accelerate Action on the Sustainable Development Goals* (Stockholm: Ericsson, 2016); International Telecommunications Union (ITU), *Measuring the Information Society Report 2016* (Geneva: ITU, 2016).

IREX INSIGHT

Digital inclusion is fundamental to Myanmar’s democratic and economic growth—yet the extent to which women and girls are currently excluded is neither fully acknowledged nor appreciated as a brake on development.

“4G mobile telephone services are being rolled out across [Myanmar] at a pace unmatched in the rest of the world. This phenomenon alone could contribute more to a successful transition than any other single policy reform.”

—Lex Rieffel, “*Aung San Suu Kyi’s New Government*,” Brookings Institution, March 2016

Thus, it is cause for concern that 3.9 billion people worldwide lack access to the internet, the keystone of the ICT ecosystem.⁶ This gap persists despite widespread increases in basic availability.⁷ And this gap, together with interrelated disparities in digital skills, usage patterns, and both real and perceived benefits of ICTs, is known as the **digital divide**. As ICTs increasingly mediate both participation in and benefits of development processes, those who lack ICT access, skills, and benefits—disproportionately those who are female, rural, low income, illiterate, or elderly—risk increased marginalization.⁸

The **global gender digital divide** is the measurable gap between men and women in ICT access, skills, and benefits as both consumers and producers of digital information, products, and services. An estimated 250 million more women than men are offline worldwide.⁹ This divide is **expanding** globally,¹⁰ making

it imperative to improve understanding of how ICTs are becoming yet another barrier, enforced through policies, practices, and norms, that limits women’s and girls’ agency and voice

in arenas from civic participation and governance to education and economic opportunities.

RESEARCH QUESTIONS:

IREX analyzed 1) the extent to which **evidence** exists for gender-based differences in access, use, and perceived benefits; and 2) **awareness** among key stakeholders in Myanmar of how such differences deepen gaps in digital skills acquisition and real benefits derived from ICTs, such as improved health and educational outcomes.

- 1 **Key Finding 1:** Although manifestations of the gender digital divide in Myanmar are widely **perceived to be normative and personal choices** by women and girls, they are systemic and detrimental to women’s and girls’ full participation in or ability to benefit from development processes.
- 2 **Key Finding 2:** Among the three components analyzed (access, skills, and benefits), both (a) **gender-based control over ICT devices and skills acquisition** and (b) **lack of real and perceived benefits of ICT use** are more salient to the gender digital divide in Myanmar than issues of access, for which age/rural/urban lines are more strongly correlated.
- 3 **Key Finding 3:** The **lack of a local focal point**—whether a government agency or a high-capacity nonstate institution—to champion digital inclusion compounds low stakeholder awareness of how the gender digital divide functions as a brake on development.
- 4 **Key Finding 4:** There is **more political will to accelerate integration of ICTs** than for gender equality as a priority.

The internet promotes inclusion, efficiency and innovation.

—Digital Dividends,
World Bank 2016

“Women [in Myanmar] have the same potential as men, but there are barriers that women face that men do not. For example, online safety is a big challenge because of a popular perception that women are weaker than men—especially young women. Online harassment is more prevalent for women, particularly on Facebook.”

—Female volunteer at urban CSO

⁶ ITU, *ICT Facts and Figures 2016* (Geneva: ITU, 2016).

⁷ Ibid.

⁸ McKinsey & Company, “*Offline and Falling Behind: Barriers to Internet Adoption*,” September 2014.

⁹ International Telecommunications Union (ITU). *Connecting the Unconnected* (Geneva: ITU, 2017)

¹⁰ The global gap grew from 11 percent in 2013 to 12 percent in 2016, with the greatest divide (31 percent) in least developed countries (ITU, *ICT Facts and Figures 2016*).



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Although it is often difficult to discern existing incentive structures for key stakeholders in Myanmar, efforts to close the gender digital divide will be successful to the extent that they can demonstrate how narrowing the gap contributes to progress, peace and prosperity.

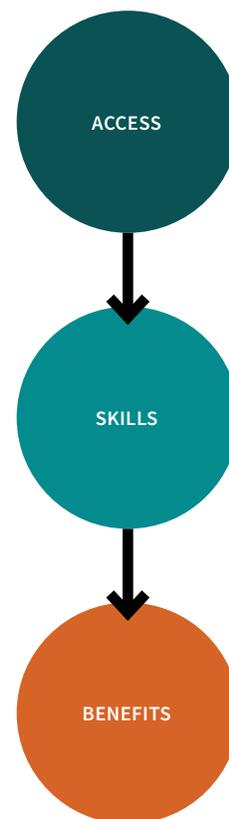
Recommendations

IREX employed a problem-driven PEA framework to identify **likely champions and potential spoilers** of efforts to narrow the gender digital divide in Myanmar, taking into consideration the incentive structures, enablers, and obstacles identified during the research.¹¹ Actionable rather than aspirational, both technically *and politically* feasible, the following recommendations represent “best fits” rather than “best practices”¹² and are grounded in a desire to optimize progress toward equitable, sustainable development in Myanmar. The recommendations flow from the key findings described above, particularly the political expediency of harnessing economic drivers of ICT integration—an objective that enjoys far more support than gender equality.

The recommendations are organized along the three components of the gender digital divide: **access**, **skills**, and **benefits**. The icons indicate the main stakeholders are involved.



Figure 1: The Three Components of the Gender Digital Divide



¹¹ For example, see Daniel Harris, *Applied Political Economy Analysis: A Problem-Driven Framework* (London: Overseas Development Institute, 2013).

¹² Diana Cammack, *Field Guide: USAID Applied Political Economy Analysis* (Washington, DC: USAID, February 2016).

Efforts to reduce barriers to **meaningful access** to ICT and internet for rural, ethnic, and very poor populations should also accommodate the specific needs and priorities of women and girls.

A key finding is that *access* to ICTs in Myanmar at the aggregate level is more strongly associated with *non-gender-related* aspects of digital disparities such as geography and age. Lack of reliable and affordable access is primarily a barrier for the 17 percent of households that do not *own* a phone.¹³ While gender-based differences in access do exist for this group, the key stakeholders currently expanding “last mile” connectivity in isolated and/or conflict-affected areas and for the very poor are incentivized to maximize territorial and population-based ICT coverage, not gender equality. Pragmatically, the recommendations hinge upon this interest.



Prioritize Equitable Access in Ongoing Infrastructure Investments: The ICT Sector Working Group should serve as a **focal point** to develop high-level government capacity to ensure equitable access for all, most urgently to champion the expansion of policy language in the draft **Universal Service Fund (USF)** strategy and draft **ICT Master Plan 2016–2020** to reflect the needs of vulnerable *groups* as well as underserved geographies and market segments. To this end, the Working Group should host non-ICT-sector digital divide allies to leverage parallel initiatives that also include (at least in part) digital access for vulnerable groups. At a minimum, this includes the Ministry of Education’s ICT Incentive Plan within the National Education Strategic Plan. UN Women could lead discussions on harmonizing priorities articulated in these documents with existing government commitments under CEDAW.¹⁴ For example, national and international commitments to equitable access to education and information can be translated into USF earmarks for female-friendly public-access computer venues like libraries and schools in conflict-affected and rural areas where the private sector lacks profit-based incentives.



Leverage Political Momentum Behind the Peace Process: Efforts to prioritize closure of the gender digital divide must underscore the divide’s **relevance** to the administration’s most pressing problem, thus tapping into the powerful forces incentivized to achieve a lasting peace. Specifically, INGO and CSO advocates of equitable development in conflict-affected areas should provide evidence-based case studies of the **peace dividends** of expanded ICT access to peace process participants on both sides of the table, such as ICT-related employment or TVET opportunities for demobilized combatants or women-headed households that contribute to a more skilled local workforce. Such benefits present win-win negotiating points where they align local socioeconomic needs with government and private-sector drivers of “last mile” investments for universal coverage.

The ICT Sector Working Group comprises development partners, the Government, the Myanmar Computer Federation, Myanmar Development Resources Institute, Myanmar IT for Development Organization (MIDO) and the Myanmar Centre for Responsible Business (MCRB)."

—MCRB 2015

✓ QUICK WIN

The ICT Sector Working Group should sponsor translation into Burmese of the World Bank’s *Checklist for the Planning, Design and Implementation of an ICT Project Incorporating Gender Issues* and distribute copies to all ministerial ICT focal points.

¹³ According to research from 2016, 83 percent of households and 61 percent of individuals over age fifteen owned a mobile phone. Phone sharing is common within households, and women are twice as likely to use a shared device. Galpaya et al., *Mobile Phones, Internet, Information and Knowledge*.

¹⁴ The NSPAW 2016–2021 lacks both funding and an implementation plan to operationalize its objectives, making it an unlikely vehicle to make progress on closing the gender digital divide.



Educators and employers must take into account the different challenges women and girls face at each level of the **digital skills pyramid**.

A second key finding is that gender-based differences in individual preferences, institutional rules, and occupational norms strongly influence both means and degree of skills acquisition in Myanmar. It is critically important to redress disparities in skills, despite the widespread perception of differences as normative and personal choices: digital skills are the bridge from passive access to ICTs (as described above) to meaningful usage that maximizes derived benefits for individuals and institutions (as described in the next section).



Embed Digital Literacy into Universal Education (Bottom of the Pyramid):

To counter disproportionately superficial ICT use among females in general and strong gender biases in informal skills acquisition in particular, donors and the government should fully fund *already planned* **formal and informal education** initiatives to integrate ICTs, as articulated in the National Education Strategic Plan 2016–2021 and the Public Library Master Plan 2017–2022. Priority should be given to efforts to (a) introduce appropriate tech-enabled pedagogy for low-resource primary and secondary classrooms through both preservice teacher training and inservice training for existing (primarily non-“digital native”) cadres; (b) reach out-of-school adolescent girls and boys through tech-savvy, gender-sensitive, informal educators and infomediaries; and (c) improve and expand mother-tongue instruction, including multigenerational approaches such as digital storytelling, to rapidly expand community-sourced materials from isolated and conflict-affected areas with lower rates of literacy and educational attainment. It is essential for the MoE and its partners to coordinate carefully with the MoTC to align rollout of ICT integration in schools with infrastructure improvements like electricity and high-speed fixed broadband to support applied learning.



¹⁵ Adapted from Desiree van Welsum and Bruno Lanvin, *e-Leadership Skills: Vision Report* (Brussels: European Commission, 2012).

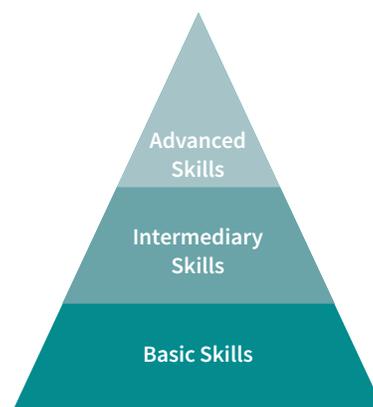
¹⁶ For example, see *10 Steps to Helping Communities Create Early Grade Reading Materials with Bloom*, software used by public librarians in the Philippines to co-create more than a thousand new texts in local languages.

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Digital skills are the bridge from passive access to meaningful usage of ICTs that maximizes impact on individuals and institutions.

✓ QUICK WIN

International non-governmental organizations (INGOs) and coalitions like the Myanmar Education Consortium should pilot low-cost education tools like open-source e-book software to enable educators and activists to create easily replicable, locally relevant digital educational materials in minority languages.¹⁶



Digital Skills Pyramid in Myanmar¹⁵



Catalyze Potential of Early Adopters to Change Norms (Middle of the Pyramid):

Recent gains in women's access to ICTs¹⁷ are tempered by the knowledge that female users remain more likely to use their devices for a narrow range of voice calls and text services. To most effectively expand the skills base of such early adopters—and maximize their potential ripple effect on institutional rules and occupational norms—strong existing government and donor support for TVET programs should be tapped to weave a broad repertoire of digital skills into vocational, occupational, and professional training. Focusing on female-dominated occupations that have a high degree of contact with rural and vulnerable populations in trusted venues, such as **educators, librarians, and health workers**, will optimize the downstream impact.



Support Innovation and ICT Jobs (Top of the Pyramid): Reproductive roles significantly limit women's acquisition of advanced digital skills that translate into ICT-sector employment, despite their overrepresentation among graduates of both secondary and tertiary education. To establish a virtuous cycle of better supply and increased demand, private-sector ICT firms should diversify their talent pools by actively recruiting female staff for technical rather than administrative positions, to increase digital content, products, and services for an untapped female market. Profit motives and an industry focus on user-centered design combine to make the private sector a champion of this narrow component of the gender digital divide.

✓ QUICK WIN

Government and INGO courses can adapt the existing open-source, mobile-first digital literacy curriculum¹⁸ available in Burmese into TVET materials used to train female professionals such as health and agricultural extension workers, civil servants, and so on, creating role models and organically transferring digital skills through existing public services.



¹⁷ As of 2016, 52 percent of women over age fifteen own a mobile phone, and 77 percent of these are smartphones. Galpaya et al., *Mobile Phones, Internet, Information and Knowledge*.

Women are more likely to extensively use ICTs if they perceive **benefits to investing time and resources to do so.**

In addition to subtle gender-based issues of access to ICTs and strong normative control at all levels of the digital skills pyramid, the research revealed that a large measure of the gender digital divide in Myanmar is due to the lack of benefits that currently accrue to women users of ICTs. Hampered by very basic digital skills; a reliance on family members or friends to share devices; limited exposure to the types of information, products, and services available online; and a dearth of relevant digital content by and for women to tempt them, women are more likely to report “no need” than “affordability” as the reason they do not own a mobile phone.



Align More Digital Content with Women’s Needs: Recent gender assessments strongly suggest that men and women in Myanmar have different governance priorities, with women more likely to cite health care, education, sanitation,



and microfinance as pressing issues. Current donor technical assistance to the Government of Myanmar in support of e-governance readiness should **boost**



women’s meaningful usage of ICT-enabled public services. It can achieve this through policies and programs to support e-government services in areas women prioritize, such as WASH, education, and income generation. For example,



expediting digital security measures like e-ID can increase women’s support for and likelihood to engage in e-commerce, online microcredit, and other financial services. Similarly, mEducation initiatives like parent-teacher communications using social media or SMS can increase engagement with technology by providing concrete benefits like timely or mother tongue information. In addition, to supplement government efforts, private ICT firms, CSOs, and international non-governmental organizations (INGOs) should work together to expand the ecosystem for digital services in health, education, and agriculture, such as crowdsourcing geodata on WASH hotspots to identify schools without safe water supplies or adding languages and targeted content like adolescent and geriatric health information to existing apps like iWoman to help those most affected by the digital divide.

✓ QUICK WIN

FHI360’s Gender and ICT Survey Toolkit enables INGOs to gather mobile-focused data on gender-based differences in user access and skills. The Toolkit focuses on digital financial services and mobile agriculture, but can be adapted to meet a wide range of community needs.



✓ QUICK WIN

Private-sector CSR initiatives should support CSO-led inclusive information campaigns to raise public awareness of basic digital safety and security best practices through universities, schools, libraries, mobile service providers' retail outlets, cyber cafes, telecenters, tea shops, police stations, banks, post offices, health centers, and other public venues serving diverse clientele.



Address Women's Digital Safety and Security Concerns: The Tatmadaw's constitutional and other broadly worded legislative mandates to protect national security make the pending cyber security bill politically charged and likely subject to closed-door negotiations. However, the bill is an important leverage point to address **widely perceived risks** accompanying women's and girls' access to and use of ICTs. Fear is a disincentive to deeper engagement with ICTs that can lead to greater benefits. Women's rights, legal, and media- and tech-focused CSOs should coordinate to advocate for clauses in the pending cybersecurity law that clearly define and establish punitive consequences for violations of privacy and online gender-based harassment. To foster effective implementation, all formal and informal digital skills training—from civil servants to youth—must include essentials of online safety that covers rights and responsibilities.



These recommendations highlight several **opportunities** to embed policies, practices, and norms to close the gender digital divide, with an eye to **constraints** that must be carefully considered by all stakeholders for progress to be possible.

Introduction

In 2016, an estimated 3.9 billion people worldwide lacked access to the internet.¹⁸ This gap persists, despite widespread increases in basic availability—for example, 95 percent of the global population live in an area covered by a basic 2G mobile-cellular network.¹⁹ This gap, together with interrelated disparities in ICT skills, usage patterns, and both real and perceived benefits of ICTs, is known as the **digital divide**. As ICTs increasingly mediate both participation in and benefits of development processes—from interactive pedagogy and online media to employability skills and health information—those who lack ICT access, skills, and benefits face additional obstacles to their personal and community development.



“The importance of ICT to both economic and social development explains the priority of bridging what has come to be known as the ‘digital divide.’ This is, in fact, a whole series of interlocking ‘divides’—the gaps that separate segments of society as well as whole nations into those who are able to take advantage of the new ICT opportunities and those who are not.”

—OECD, *Schooling for Tomorrow*

Furthermore, more women—an estimated 250 million more worldwide—are offline than men.²⁰ The global **gender digital divide** is the measurable gap between men and women related to ICT access, skills, and benefits, as both consumers and producers of digital products and services. In 2013, Intel estimated that closing the gender digital divide would boost global GDP by **\$4 to 5 billion USD**.²¹ Yet the gap continues to expand globally,²² making it imperative to improve understanding of how ICTs are becoming yet another obstacle—enforced through policies, practices, and norms—that limits women’s and girls’ empowerment and constrains progress toward gender equality.

¹⁸ ITU, *ICT Facts and Figures 2016*.

¹⁹ Ibid.

²⁰ ITU, *Connecting the Unconnected*.

²¹ Intel, *Women and the Web*.

²² ITU, *ICT Facts and Figures 2016*.

The gender digital divide is one of many **challenges facing the Republic of the Union of Myanmar**, the poorest country in Southeast Asia.²³ As it emerges from five decades of military rule, civil war, and international isolation, Myanmar needs to maximize the potential of its diverse population and minimize systemic barriers that limit the ability of certain social groups—particularly the 70 percent rural majority, the female demographic majority,²⁴ and the dozens of ethnic minorities—to participate in and benefit from development. This study looks at one such systemic impediment—the gender digital divide—using a gendered political economy analysis (PEA) to surface key factors involved in creating and maintaining the divide, then offers pragmatic recommendations to begin closing the divide.

Key Findings

Widespread political and economic reforms present a window of opportunity to eliminate the gender digital divide and optimize Myanmar’s transformation into a twenty-first-century information society. At the same time, there is considerable potential for the divide to be exacerbated as an unintended consequence of rapid changes in government policies, budget allocations, market conditions, and public ICT use. Unfortunately, beyond research on women and mobile phones,²⁵ none of the broad gender assessments conducted in Myanmar in recent years have analyzed the potential for the gender digital divide in Myanmar to become yet another obstacle to gender equality and sustainable development.²⁶

This study undertakes to remedy this **gap in the knowledge base**, with a specific focus on identifying opportunities and constraints within the current political economy to redress this aspect of gender inequality in Myanmar. The research complements available measures, such as the 28 percent gender gap in *control* over mobile phones—the most prevalent digital device available in Myanmar today—which is a common proxy for *access* to ICTs overall, given the very low number of fixed broadband subscribers and dearth of public access venues outside urban areas.²⁷ Notably, this analysis goes further to explore deeply entrenched structural, institutional, and cultural factors that govern **gender-based differences in acquisition of ICT skills and, most significantly, real and perceived benefits derived from ICTs**. The latter is particularly important, as women are more likely than men to say they “have no use” for a phone (34 percent versus 25 percent of non-owners) and to use shared devices, which restricts opportunities to expand their digital skills repertoire and reap more development benefits from ICTs.

IREX INSIGHT

There is considerable potential for today’s gender digital divide to be exacerbated as an unintended consequence of rapid changes in government policies, budget allocations, market conditions, and patterns of public ICT use.

²³ As measured by the Asian Development Bank (ADB), per monetary indicators (e.g., per capita GNI of \$1,270 versus \$1,660 in Lao PDR) for which data is available. Myanmar ranks higher on social indicators such as maternal maternity, access to improved drinking water, and primary school enrollment (but not completion) rates. See Asian Development Bank, *Basic Statistics 2016* (Manila: ADB, April 2016).

²⁴ There are 2 million more females than males in Myanmar, or 52 percent of the population, according to the 2014 census (Ministry of Immigration and Population, *The 2014 Myanmar Population and Housing Census: The Union Report*, Census Report, Vol. 2 (Naypyidaw: Republic of the Union of Myanmar, May 2015).

²⁵ GSMA and LIRNEasia, *Mobile Phones, Internet and Gender in Myanmar*.

²⁶ ADB, United Nations Development Programme, United Nations Population Fund, and United Nations Entity for Gender Equality and the Empowerment of Women, *Gender Equality and Women’s Rights in Myanmar: A Situational Analysis* (New York: United Nations, October 2016); ADB, *Myanmar: Interim Country Partnership Strategy Final Review Validation 2012–2014* (Manila: ADB, February 2016); Japan International Cooperation Agency (JICA) and INTEM Consulting, *Country Gender Profile: Republic of the Union of Myanmar Final Report* (Tokyo: JICA, 2013). Urbano, M and T. Dickinson (2016) *Women and the Economy in Myanmar: An Assessment of DFAT’s Private Sector Development Programs*, Australian Department of Foreign Aid and Trade

²⁷ Fee-based public access venues such as cybercafés and telecenters are concentrated in urban areas, and free public access via government institutions such as schools and public libraries is an exception rather than the rule.

RESEARCH QUESTIONS:

IREX analyzed 1) the extent to which **evidence** exists for gender-based differences in access, use, and perceived benefits; and 2) **awareness** among key stakeholders in Myanmar of how such differences deepen gaps in digital skills acquisition and real benefits derived from ICTs, such as improved health and educational outcomes.

- 1 **Key Finding 1:** Although manifestations of the gender digital divide in Myanmar are widely **perceived to be normative and personal choices** by women and girls, they are systemic and detrimental to women’s and girls’ full participation in or ability to benefit from development processes.
- 2 **Key Finding 2:** Among the three components analyzed (access, skills, and benefits), both (a) **gender-based control over ICT devices and skills acquisition** and (b) **lack of real and perceived benefits of ICT use** are more salient to the gender digital divide in Myanmar than issues of access, for which age/rural/urban lines are more strongly correlated.
- 3 **Key Finding 3:** The **lack of a local focal point**—whether a government agency or a high-capacity nonstate institution—to champion digital inclusion compounds low stakeholder awareness of how the gender digital divide functions as a brake on development.
- 4 **Key Finding 4:** There is **more political will to accelerate integration of ICTs** than for gender equality as a priority.

“There aren’t any specific groups opposing expansion of access to the internet, but there are many groups that are not prioritizing internet connectivity.”

—Urban CSO representative

Why a PEA?

This report utilizes a problem-driven political economy assessment framework,²⁸ adapted to incorporate a more explicit focus on gender analysis constructs that are largely missing from standard PEA—despite many commonalities.²⁹ As Browne describes in her extensive review of PEAs through a gender lens, **political economy analysis** explores political and economic processes to provide an in-depth analysis of the power relations between social groups.

Gender analysis explores power relations between men and women as social categories and has long championed the deconstruction of informal power dynamics for insight into how the “personal is political.”³⁰ Global research has extensively documented that men and women are social groups with different political and economic interests and motivations. Both formal and informal politics are highly gendered, particularly the ways in which power relations are produced and reproduced; the intersectionality of gender and other forms of marginalization is a key driver of conflict.³¹ Taken together, the two approaches enable deep understanding through a multifaceted analysis of a complex development challenge.

²⁸ For example, see Verena Fritz, Kai Kaiser, and Brian Levy, *Problem-Driven Governance and Political Economy Analysis: Good Practice Framework* (Washington, DC: World Bank, 2009); Harris, *Applied Political Economy Analysis*.

²⁹ Evie Browne, “*Gender in Political Economy Analysis*,” GSDRC Helpdesk Research Report 1071, Birmingham, UK: University of Birmingham, January 17, 2014.

³⁰ *Ibid.*

³¹ Agatha Ma and Kyoko Kusakabe, “Gender Analysis of Fear and Mobility in the Context of Ethnic Conflict in Kayah State, Myanmar,” *Singapore Journal of Tropical Geography* (2015): 342–56; Win Naung Toe and Roseanne Gerin, “*Myanmar’s Parliament Approves Controversial Interfaith Marriage Law*,” Radio Free Asia, July 7, 2015.

The problem-driven PEA framework is designed to understand the drivers of change behind a specific development challenge, particularly the political and economic incentive systems that favor the status quo or proposed reforms. This lens is particularly useful to dissect the gender digital divide in Myanmar for three reasons. First, colonialism, geopolitics, and a military dictatorship conspired to create loyalty-based incentive systems in Myanmar that have long been opaque and often function in parallel to formal institutions and processes.³² Second, official governance structures and actors appear to be experiencing unprecedented fluidity, which warrants a closer look at the shifting rules of the game. Finally, discrepancies between evidence of gender inequality presented by local and international researchers and assertions by political leaders and government-organized “non-governmental” organizations (GONGOs) that equality has been achieved indicate that gender in Myanmar is an overtly politicized subject, lending itself well to an analysis of incentives for stasis versus change at both the household and macro level. Thus, a gendered PEA surfaces both new opportunities to embed policies, practices, and norms to close the gender digital divide—and new constraints that all stakeholders must consider carefully for progress to be possible.

As framed by the USAID field guide,³³ in examining systemic incentive structures, applied political economy analyses look closely at **foundational factors**, or the deeply embedded structures that define the legitimacy of a state, such as class systems and international borders, and characteristics of an economy, such as natural resource endowments; the **rules of the game**, or the formal and informal, state and nonstate institutions and rules that shape actors’ behaviors, relationships, incentives, and capacity for collective action, such as legal codes and social norms; and **the here and now**, or recent events and actions of individual and group stakeholders in response to shifting political and economic dynamics, such as leadership changes and international sanctions. In addition, this study draws heavily upon gender analysis tools that effectively highlight informal power dynamics that govern men and women’s differential access to and control over resources and decision-making processes.



“Exploring the politics, history, social, and economic dimensions of a given development problem can help unpack the dynamics and incentives that structure actors’ choices and ultimately determine development success or failure.”

—Lessons Learned Using USAID’s Applied Political Economy Analysis Framework, 2016

“Women are more interested in sharing mobiles, and think it better for men to have phones because they leave the house. It doesn’t matter who holds the phone—the right person gets the message.”

—Urban ICT industry representative

³² Thant Myint-U, *The River of Lost Footsteps* (New York: Farrar, Straus, & Giroux, 2006).

³³ Cammack, USAID Applied Political Economy Analysis.

Although PEA policy and guidance notes do contain some gender questions, this is rarely reflected in the degree to which gender features in completed PEA studies.³⁴ A recent review of PEA studies found that consideration of gender issues was mostly limited to women’s rights in law (formal and customary), women’s asset ownership, women in positions of power and influence, and representation and influence of women’s groups. A gender analysis suggests additional questions, including differences in how men and women can access power and institutions and how gender dynamics contribute to or block change. These lines of inquiry do not appear to be addressed in most PEA studies.³⁵ This study attempts to encompass all of these issues to deepen understanding of the intersectionality of power dynamics relevant to the gender digital divide in Myanmar today. Given the rapid pace of reforms, there is significant potential to embed GDD-focused policies and activities into ongoing changes and programs and thus close the gap.

Methodology and Limitations

Within these frameworks, the research presented here combines previously published data and new data from focus group discussions and key informant interviews conducted in Myanmar to examine the extent to which **evidence** exists for gender-based differences in access, use, and perceived benefits, and in turn, **awareness** among stakeholders of how such differences deepen gaps in digital skills acquisition and real benefits derived from ICTs. Based on the key findings, recommendations are made for effective ways to address the gap before it expands, as predicted by global trends.³⁶

Field research was conducted in Yangon Region and Shan State in September and October 2016. Following PEA lessons learned,³⁷ the field research team represented diverse areas of expertise relevant to the study question, including an international development expert with a background implementing ICT4D programs in Georgia, Myanmar, and Tunisia; an international development expert with experience on PEA teams in Jordan and Ukraine; and a Myanmar economist with a minor in human rights advocacy. The field research team conducted twenty-six semi-structured Key Informant Interviews with representatives from the government, CSOs, INGOs, and multilateral donors as well as entrepreneurs, app developers, and educators (see [Annex A—Questionnaire](#)). Also, nine semi-structured focus groups discussions involving students, factory workers, parents and a women’s savings group were held with a total of fifty participants (see [Annex B—Consultation List](#)). The sixty-one women and fifteen men interviewed represented urban, periurban, and rural locales. Transcripts were coded and analyzed for gender-based access and control along fourteen dimensions related to ICTs using open-source software designed for qualitative and mixed-methods research. In addition, a literature review was conducted to supplement findings with data from various regions (areas in which ethnic Bamar constitute the majority of the population) and states (areas in which various ethnic minorities predominate) (see [Annex F—Bibliography](#)).

³⁴ Browne, “*Gender in Political Economy Analysis*.”

³⁵ Ibid.

³⁶ ITU, *ICT Facts and Figures 2016*.

³⁷ USAID and Integra Government Services International, *Lessons Learned Using USAID’s Applied Political Economy Analysis Framework* (Washington, DC: USAID, September 2016).

Two major constraints experienced during the research process were related to Myanmar's recent emergence from international isolation and military rule. First, the political and economic situation is rapidly evolving. Ministerial reorganization as the new government took office on April 1, 2016, coupled with ongoing liberalization and decentralization reforms, presented a challenge to obtaining timely and accurate information. In such a **highly dynamic political environment**, interviewees themselves lacked precise data or information to share on current political priorities and economic interests. Shifting responsibilities and cadre changes were also disincentives to be forthcoming. Loyalty, precedence, and hierarchy are the bedrock of Myanmar political economy, and it is difficult to determine chains of command, agency mandates, and budgets, particularly in regional and local government bodies.



Secondly, the **lack of existing reliable data** complicates efforts to provide a comprehensive examination of the many nuances involved in the gender digital divide, especially in the conflict-affected areas. Much of the ICT data is based on mobile use, and none of the recent broad gender assessments examined the scale or impact of the digital divide on inequality.³⁸ There is also a dearth of age-disaggregated gender data that makes generational comparisons more anecdotal than has been achieved elsewhere. In short, the research team experienced the same frustrations articulated in last year's Gender and Social Inclusion assessment of a rural development program in Myanmar: "There is a severe lack of data in Myanmar in all areas of interest for this study, including agricultural production, gender equality, ethnography, and other relevant subjects. This is a serious limitation for any desk research on the national-level socioeconomic situation in Myanmar, and even more so for localized studies. There is almost no historic data for any major economic and social indicators, such as Gross Domestic Product (GDP)."³⁹ This creates limitations inherent in comparing different data collected with different methodologies, and care has been taken to note them in this report.

³⁸ Urbano and Dickinson, *Women and the Economy in Myanmar*.

³⁹ Emerging Markets Consulting, USAID, and Winrock International, *Value Chains for Rural Development: Social and Gender Assessment* (Washington, DC: USAID, September 2015).

Structure of the Report

Section 1 presents a summary of available data on the extent and nature of the gender digital divide in a **global context**, as well as some key issues in Myanmar that frame the research.

Section 2 considers **foundational factors** of the political economy in Myanmar that shape the institutions (section 4) and individuals (section 5) that create and maintain the gender digital divide. Foundational factors are the deeply embedded structures that define the legitimacy of a state, such as class systems and international borders, and characteristics of an economy, such as natural resource endowments.

Section 3 explores the **rules of the game**, the formal and informal, state and nonstate institutions and rules that shape actors' behaviors, relationships, incentives, and capacity for collective action. Rules of the game include patronage networks and legal codes.

Section 4 presents a snapshot of the **here and now**, recent events and actions of individual and group stakeholders in response to shifting political and economic dynamics, such as leadership changes and international sanctions.

Section 5 presents actionable **recommendations** to key stakeholders. They seek to optimize the opportunities for equitable, sustainable development, taking into consideration the political economy enablers and obstacles to closing the gender digital divide discussed in sections 2 through 4.



Section 1

GLOBAL CONTEXT: Gender, ICTs & Development

GLOBAL CONTEXT: Gender, ICTs, and Development

1.1 The Global Gender Digital Divide

Around the world, women and girls face barriers to their human development that are linked to gender norms and structural discrimination. Unequal access to ICTs compounds their already limited access to educational, livelihood, and health information and services, presents another brake to their civic participation, and dampens economic and other opportunities for them to contribute to personal, community, and national development.⁴⁰ Women and girls without digital access and skills are unaware of the potential for ICTs to benefit them, setting up a cycle in which they neither seek ICTs for themselves nor prioritize them for their daughters. Information and opportunities to transform *de jure* rights into *de facto* realities are missed.

“Boys are better at technology. Why? They don’t have housework to do so they have extra time to learn by playing with technology. I’m afraid I’ll break my phone!”

—Urban factory worker



The extent and importance of addressing the global gender digital divide has been well documented by multilateral institutions such as the ITU⁴¹ and World Bank,⁴² international NGOs such as the World Wide Web Foundation,⁴³ private groups like McKinsey & Co.⁴⁴ and the Clinton Global Initiative,⁴⁵ and industry giants such as Facebook and Intel.⁴⁶ Both resources and political will have been committed to raise understanding of the critical link between the gender digital divide and equitable international development. Examples include international collaborative efforts such as the Women and the Web Alliance

⁴⁰ World Bank, *World Development Report 2016: Digital Dividends* (Washington, DC: World Bank, 2016).

⁴¹ ITU, *How Can We Close the Digital Gender Gap?* (Geneva: ITU, 2016).

⁴² World Bank, *World Development Report 2016*.

⁴³ World Wide Web Foundation, *Women’s Rights Online Digital Gender Gap Audit* (Washington, DC: World Wide Web Foundation, September 2016).

⁴⁴ McKinsey, “Offline and Falling Behind.”

⁴⁵ Clinton Global Initiative, “*Technology*,” 2016, Clinton Foundation.

⁴⁶ Intel, “She Will Connect,” 2017

(a public-private partnership of USAID, NetHope, Intel Corporation, World Pulse, World Vision, UN Women, and Women in Technology in Nigeria committed to bringing more than 600,000 young women online in Nigeria and Kenya by 2016)⁴⁷ and the *Action Plan to Close the Gender Digital Gender Gap*, launched in December 2015 (co-organized by the ITU and UN Women in partnership with the Association for Progressive Communications, Microsoft, Mozilla, and the governments of Costa Rica, Sweden, Switzerland, Tunisia, and the United States).⁴⁸ A recent mapping exercise by the ITU found more than 240 active projects addressing the gender digital divide around the world, primarily initiatives of CSOs (64 percent) followed by the private sector (23 percent).⁴⁹ See Annex D for this and other recommended resources.



There are several components to the global gender digital divide. First, women and girls around the world experience **unequal access** to ICTs due to wage disparities and affordability (devices as well as internet connectivity); disproportionate representation among the illiterate, elderly, and people with disabilities; safety issues around public access computing (PAC) venues⁵⁰; and gender norms around distribution and control of household resources, assets, and labor. Second, women and girls have **fewer digital skills** due to less extensive usage of ICTs; limited availability and affordability of formal and informal skills training; and normative and structural barriers to STEM education and ICT industry employment. Third, women and girls are more likely to **lack real and perceived benefits** from ICT use due to the lack of relevant digital products, services, and online content by and for women and girls. The lack of tangible benefits from ICT use sets up a negative cycle in which the dearth of relevant online content for women and girls and female ICT industry role models dampens interest in exploring the potential benefits of more advanced ICT functionalities and ICT sector employment.

These components are compounded for women and girls with disabilities, those who are illiterate or speakers of minority languages, and members of marginalized groups such as refugees and internally displaced people, all of whom face an additional layer of difficulty in accessing relevant and affordable online information and services.

⁴⁷ USAID, “*Women and the Web Alliance*,” February 26, 2016.

⁴⁸ ITU, *Action Plan to Close the Digital Gender Gap* (Geneva: ITU, 2016).

⁴⁹ ITU, *Mapping Gender Digital Inclusion Initiatives* (Geneva: ITU, November 2016).

⁵⁰ A. Sey, C. Coward, F. Bar, G. Sciadas, C. Rothschild, and L. Koepke, *Connecting People for Development: Why Public Access ICTs Matter* (Seattle: Technology & Social Change Group, University of Washington Information School, 2013).

1.2 Myanmar's Evolving Information Society

After fifty years of international isolation, Myanmar is undergoing a technological revolution concurrent with systemic political and economic change. Concrete steps toward **decentralization** and **demilitarization** of governance have been taken, generating hope for improved standards of living and resolution of ongoing armed conflicts. In the past five years, public administration at the local (village tract/ward) level successfully transitioned from a system of military appointments to elections (2012), while the national level saw a peaceful handoff from the military elite to Nobel Peace Prize laureate Aung San Suu Kyi's party, the National League of Democracy (NLD), following the 2015 parliamentary elections. These political changes are occurring alongside **liberalization** of growth sectors like telecommunications. Massive investments in infrastructure—the Norwegian telecommunications company Telenor alone has invested \$1.5 billion as of January 2017⁵¹—and regulatory changes (such as decreased taxes on SIM cards) have seen certain types of ICT access become both common and nearly affordable.

“In the twenty-first century, basic ICT skills are a must—and this is particularly important for girls and people in rural areas so they can communicate their needs and situation to people in urban areas.”

—Interview with CSO representative

KEY ICT-SECTOR ISSUES

Within this evolving political economy, the pace of uptake of ICTs since 2011 has been unprecedented, particularly mobile devices: 83 percent of households reported mobile ownership in a nationally representative survey conducted in 2016—a 46-percent jump since the preceding year.⁵² This increase included many women: whereas only 33 percent of women reported owning a mobile phone in 2015, one survey reported the proportion had increased to 52 percent by 2016⁵³—bringing Myanmar nearly up to the 54 percent average for the East Asia and Pacific region.⁵⁴ It is important to note that at the individual level, **men are 28 percent more likely to own their own phone**.⁵⁵ There is a high penetration rate of smartphones (78 percent of all mobile owners), but mobile data remains expensive (only 49 percent of handset owners use data services) and is underused, especially by women and rural users.⁵⁶ As access has increased, private ICT skills-training institutes in urban centers have emerged to meet growing demand.

⁵¹ Telenor Myanmar, “Telenor Network Carried a Record 7.2 Billion Text Messages in 2016,” press release, January 6, 2017.

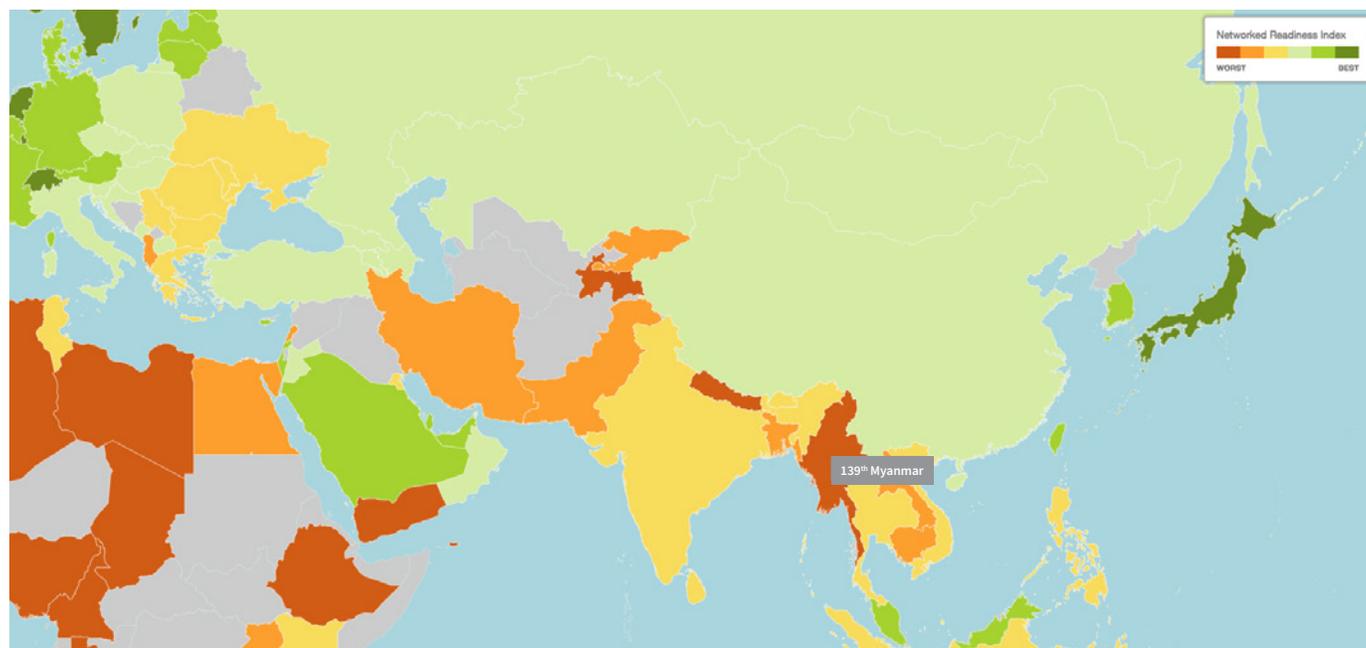
⁵² Galpaya et al., *Mobile Phones, Internet, Information and Knowledge*.

⁵³ Ibid.

⁵⁴ GSMA and LIRNEasia, *Mobile Phones, Internet and Gender in Myanmar*.

⁵⁵ Galpaya et al., *Mobile Phones, Internet, Information and Knowledge*.

⁵⁶ Ibid. See also GSMA and LIRNEasia, *Mobile Phones, Internet and Gender in Myanmar*.

Figure 2: Map of World Economic Forum’s Networked Readiness Index, 2015⁵⁸**LEGEND:**

- Green indicates high readiness, with institutions and policies aligned to support ICT contribution to socioeconomic performance.
- Dark orange indicates low readiness.
- Grey indicates no available data.

Despite marked improvements in the past five years, the World Economic Forum ranks Myanmar 135th out of 139 countries on its Network Readiness Index (see figure 2 above).

The following key issues contextualize the gender digital divide in Myanmar:

- Affordability is cited by 43 percent of non-owners as the reason they do not have a mobile phone,⁵⁸ with men slightly more likely to do so.⁵⁹
- Demand for ICTs—particularly internet-enabled products and services—is dampened by lack of content in local languages, low user skills, and digital safety concerns.
- Residents in conflict-affected areas lack reliable cellular coverage, and nearly everywhere low connectivity speeds lead to a negative user experience.⁶⁰
- Plans to modernize the education system with ICT-related teacher training, equipment, connectivity, and curricula with integrated digital skills are nascent.
- ICT policy coordination within the government is hampered by opaque and top-down decision making, lack of staff capacity within the civil service, and evolving mandates as new policies and regulations are adopted.

“During usability groups with rural women, we had to convince them that they need smartphones to learn about their rights, to access information, that these things are valuable to them. They didn’t know the advantages of accessing the internet—mostly they had heard about the negative impacts.”

—Urban female ICT industry employee

⁵⁷ World Economic Forum, Global Information Technology Report, 2016.

⁵⁸ Galpaya et al., *Mobile Phones, Internet, Information and Knowledge*.

⁵⁹ GSMA and LIRNEasia, *Mobile Phones, Internet and Gender in Myanmar*.

⁶⁰ Some conflict-affected areas report receiving mobile network coverage from China, such as the Wa Self-Administered Zone, but data are anecdotal. See Jonah Fisher, “Drugs, Money and Wildlife in Myanmar’s Most Secret State,” BBC News, November 17, 2016.

KEY GENDER ISSUES

Broadly speaking, all women in Myanmar face occupational segregation, a 30 percent wage gap, and extremely limited opportunities for public leadership at all levels. Although national rates of girls' primary and secondary enrollment and completion rates are slightly higher than those for boys, subtle educational and entrepreneurial barriers exist, such as requirements for female students to score higher on university entrance exams in certain fields and land titles that list women only as dependents, restricting access to finance for women-owned businesses.⁶¹ At the same time, there are large variations in the opportunities and constraints experienced by various groups of women within Myanmar.

Rural and ethnic minority women are disproportionately affected by:

- lack of ICT access (beyond mobile phones) and digital skills training outside urban areas.
- lack of accessible and relevant online content due to higher rates of female illiteracy in multilingual areas.
- highly gendered labor patterns in agricultural areas (including longer hours of unpaid household work).
- constrained mobility in isolated and conflict-affected areas, especially at night (which hampers skills training and employment opportunities).
- more female-headed households in conflict-affected areas.



“Gender relations are deeply embedded within a cultural or religious ‘coat’ which has made it difficult to put gender inequality onto the public agenda. Deeply held views passed on over generations also mean that hierarchical gender relations have become internalized among both men and women, making them not only hard to see, but also very hard to question. The result, according to women’s rights activists, has been that gender inequality claims are often brushed aside, denied or belittled.”

—Gender Equality and Social Norms in Myanmar, 2015

⁶¹ For example, entrance to the Yangon Institute of Technology requires a score of 396 for women and 380 for men. See Mia Urbano and Tony Dickinson, *Women and the Economy in Myanmar: An Assessment of DFAT’s Private Sector Development Programs* (Canberra: Australian Department of Foreign Affairs and Trade, 2016).

1.3 Special Focus on Education

Although the gender digital divide has been shown to impact all development sectors, this study incorporates a special focus on education as particularly useful to identifying relevant drivers of change in Myanmar. International research has established a correlation between educational parity and the digital gap⁶² that is acknowledged in Myanmar’s Comprehensive Education Sector Review and the resultant draft National Education Strategic Plan 2016–2020 (see section 3.3). Multinational donors⁶³ and Myanmar’s evolving ICT policy frameworks⁶⁴ also highlight the importance of the educational system to roll out ICT access and improve digital skills among the large youth population (28 percent of the population was under age fifteen, according to the 2014 census). Given the large number of out-of-school youth as well as the broad unmet need for digital skills among adult learners, this focus included formal, monastic, and informal education at both public and private institutions.



“Male students are much more active in learning how to use the internet. Girls are sometimes even afraid to touch a keyboard.”

—Urban CSO representative

The assessment team sought stakeholders interested in systemic improvements in education outcomes to identify allies with incentives and resources to close the gender digital divide, with anticipated positive ripple effects in sectors such as workforce development, health, media, civil society, and governance. Potential allies include the diverse government, multilateral institutions, INGOs, and CSOs working together to move the reforms forward. Interviews also revealed potential spoilers due to competing priorities or absence of incentives to support change.

In the following sections, the gender digital divide is examined through three conceptual pillars of a problem-driven PEA: **foundational factors**, **institutional rules of the game**, and **stakeholders here and now**. It concludes with pragmatic **recommendations** for policymakers and implementers that have been appraised as most likely to catalyze efforts to close the gender digital divide in Myanmar.

⁶² World Economic Forum and Boston Consulting Group, *New Vision for Education: Unlocking the Potential for Technology* (Geneva: World Economic Forum, 2015).

⁶³ ADB, *Developing Myanmar’s Information and Communication Technology Sector Toward Inclusive Growth*, ADB Economics Working Paper Series No. 462, November 2015.

⁶⁴ Myanmar Centre for Responsible Business, Institute for Human Rights and Business (IHRB), and Danish Institute for Human Rights (DIHR), *Myanmar ICT Sector-Wide Impact Assessment*, September 2015.

Section 2

FOUNDATIONAL FACTORS: System Legitimacy

FOUNDATIONAL FACTORS: System Legitimacy

This section looks briefly at foundational factors of the political economy system in Myanmar that shape the institutions and individuals that created and maintain the gender digital divide. They include the essentials of people and place (namely, demographics, conflict-affected areas and the natural environment); the technology ecosystem; gender and power; and the legal environment.

2.1 People and Place

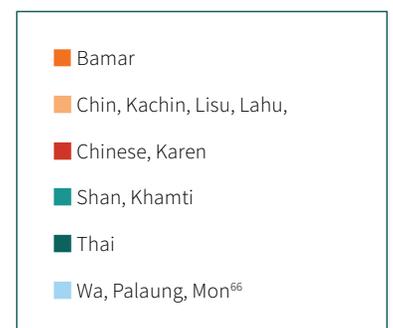
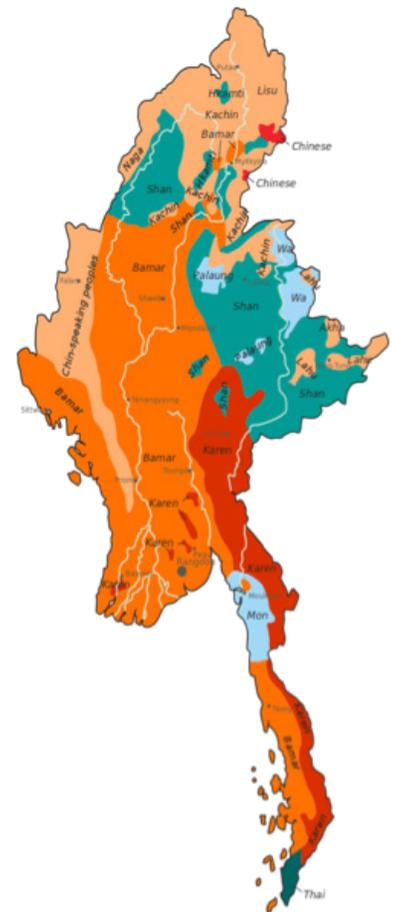
DEMOGRAPHICS

According to the provisional results of the 2014 Population Census, nearly one-third (28 percent) of the population of 52 million is under age fifteen—a cohort that, provided equitable ICT access and digital skills, will mature into **14 million digital natives**.⁶⁶ Females outnumber males by nearly 2 million, with more women than men in every age cohort over age fourteen. The total fertility rate (2.2) and average age at first marriage (twenty-six for women and twenty-seven for men) are more characteristic of high-income countries. Over 70 percent of the population lives in rural areas.

Myanmar has a rich demographic and historical tapestry that includes dozens of ethnic groups that speak more than a hundred languages, and **multilingualism** complicates access, skills, and perceived benefit for a **third of the population**. For example, the largest ethnic group after the majority Bamar (68 percent) is Shan (9 percent). However, the 5.8 million people who reside in Shan State represent more than a dozen different ethno-linguistic groups. For millions of citizens of Myanmar who speak and read only their native language, ICT use is restricted to voice calls and texts because the vast majority of online information is available in Myanmar language (sometimes referred to as Burmese) and, more widely, English—offering no benefit to nonspeakers.

Myanmar is also marked by **enormous disparities in wealth and human development** that affect the affordability of ICT access and skills. Asian Development Bank data indicate that the gross national income (GNI) per capita was \$1,270 in 2014, but there are significant geographic and rural/urban variations.⁶⁷ For example, according to United Nations Development Program data, the poverty incidence in Shan State was 33.1 percent in 2010. At the same time, the World Health Organization (WHO) estimated that approximately 42 percent of children under five in Southern Shan were stunted in 2009 and 2010—giving the area one of the highest levels of malnutrition in Southeast Asia.⁶⁸ While most statistics on poverty feature non-disaggregated household data, proxies such as labor-force participation, wage disparities, and time use indicate that women are disproportionately affected by poverty.⁶⁹

Figure 3: Map of Major Linguistic Groups in Myanmar, 2014



⁶⁵ Adapted from US Central Intelligence Agency, “An Ethnolinguistic Map of Myanmar,” May 2014

⁶⁶ Ministry of Immigration and Population, *The 2014 Myanmar Population and Housing Census: The Union Report*.

⁶⁷ ADB, Basic Statistics 2016.

⁶⁸ Shannon Wilson and Naw Eh Mwee, *Food and Nutrition Security in Myanmar* (Washington, DC: USAID, 2013).

⁶⁹ ADB et al., *Gender Equality and Women’s Rights in Myanmar*.

CONFLICT-AFFECTED AREAS

Since the country attained independence in 1948, tensions over resource management, opposing alliances during World War II, and regional geopolitics have fed a civil war that continues to this day. In 1962 a military coup ushered in five decades of **international isolation, political repression, and escalating armed resistance** from ethnic-based militias located in former frontier regions that had enjoyed relative autonomy under the British.⁷⁰

Key informants describe a tense political environment in which, broadly speaking, the ongoing conflict ensures that the parliament democratically elected in November 2015 places both real and rhetorical prioritization on peace and stability, and issues considered divisive or contentious (such as gender equality) find few champions. Significantly, the conflict diverts national and state-level resources that could potentially be dedicated to upgrading infrastructure and educational institutions in support of equitable, country-wide digital development, and prevents consensus and coordination of key investment decisions, such as locating fiber-optic cables and cell towers. But it also contributes to the gender digital divide by creating another category of (virtual) public space from which women, particularly minority women, are overwhelmingly excluded—the peace process.⁷¹ As social media is increasingly a tool of both nationalist agitators and supporters of the peace process, women are missing important opportunities to ensure their concerns (e.g., on mobility and sexual and gender-based violence in conflict-affected areas) are accounted for.

As noted by diplomats and think tanks alike, one of the underlying causes and **main spoilers to the peace process is the struggle for control over natural resources** among the military, oligarchs, and ethnic militias. One of these—hydro-power—is essential to meet the increasing demands of Myanmar’s developing information society on the electrical grid. While respondents in a recent national survey did not cite lack of electricity as an obstacle to purchasing a mobile phone,⁷² key informants close to large-scale infrastructure reform processes noted that adequate aggregate electricity supply is an issue for public institutions in rural and conflict-affected areas. Even the commercial capital, Yangon, is plagued by near-daily power outages, and swaths of the country have no electricity access.⁷³ Armed insurgents within Myanmar as well as neighboring countries such as China⁷⁴ and Thailand⁷⁵ have deeply vested interests, complicating the peace process and preventing equitable digital development throughout the country.

IREX INSIGHT

Poverty and conflict are the greatest structural barriers to equitable ICT access, skills, and benefits for all; gender norms further restrict digital skills acquisition and ICT-derived benefits for women who are poor, rural, and/or non-Myanmar speakers, particularly those living in conflict-affected areas.

“The fundamental tragedy of Myanmar is the civil war that has waged without interruption since independence in 1948 between the Buddhist ethnic majority residing in the central lowlands and a dozen major ethnic minorities residing in the country’s mountainous borders.”

—Rieffel 2016

⁷⁰ The military regime renamed the Union of Burma the Union of Myanmar in 1989.

⁷¹ Lan Show Tsai, “From the Margins to the Center: Step It Up for Women and Girls in Myanmar’s Peace Process,” UN Women, October 31, 2016.

⁷² Galpaya et al., Mobile Phones, Internet, Information and Knowledge.

⁷³ Catherine Trautwein, “Myanmar Entrepreneurs Take on Challenges in a Changing Landscape,” Unreasonable, October 10, 2016.

⁷⁴ Bertil Lintner, “Why US Is No Match for China’s Carrot and Stick in Myanmar,” This Week in Asia, September 17, 2016.

⁷⁵ Mary Callahan and David I. Steinberg, *Drivers of Political Change in Post-Junta, Constitutional Burma* (Washington, DC: MSA/USAID, February 2012).

THE NATURAL ENVIRONMENT

The climate and natural resources found in Myanmar affect digital divides in several ways. First, the **isolated and mountainous terrain** that forms the northeastern border with China and eastern border with Thailand has fewer cell towers and requires more costly investments to lay fiber-optic cables, decreasing access.⁷⁶ Negotiations to build new ones must be undertaken with armed groups that have controlled parts of the area for decades, and which are run by men (with a few notable exceptions⁷⁷) primarily interested in lucrative cross-border trade and content with telecom services from Chinese providers.⁷⁸ Second, GoM revenue streams are closely tied to natural resource industries such as jade, copper, timber, natural gas, hydro-power, and narco-trafficking. These industries thrive in the conflict-affected border regions and feed corrupt patronage networks that depend on relationships developed under the military regime (see text box).⁷⁹

While women's meaningful access to ICTs per se is not likely a threat to these billion-dollar empires, such vested interests are competitors for lucrative infrastructure contracts and kickbacks in rural and conflict-affected border areas, and thus represent potential obstacles to closing the rural/urban divide that forms a large component of the gender digital divide in Myanmar.



More generally, the fact that **70 percent of Myanmar's population is rural** means that real and perceived benefits from access and digital skills are closely linked to agricultural livelihoods. Gender differences in access, skills, and use of ICTs will increasingly affect rural women, including access to market and transportation information and better extension and financial services that may positively affect their income and resilience to climate change. For example, use of ICTs in isolated mountain communities to leverage proximity to major markets within Myanmar as well as in Thailand and China could benefit everyone, from

⁷⁶ Myanmar Centre for Responsible Business, Institute for Human Rights and Business (IHRB), and Danish Institute for Human Rights (DIHR). *Myanmar ICT Sector-Wide Impact Assessment*, September 2015.

⁷⁷ Jessica Harriden, *The Authority of Influence: Women and Power in Burmese History* (Copenhagen: NIAS Press, 2012).

⁷⁸ Fisher, *Drugs, Money, and Wildlife*.

⁷⁹ Global Witness, *Jade: Myanmar's "Big State Secret"* (London: Global Witness, October 2015).

“Global Witness estimates that the value of official jade production in 2014 alone was well over the US\$12 billion indicated by Chinese import data, and appears likely to have been as much as US\$31 billion. To put it in perspective, this figure equates to 48% of Myanmar’s official GDP and 46 times government expenditure on health. Clearly, if openly, fairly and sustainably managed, this industry could transform the fortunes of the Kachin population and help drive development across Myanmar.”

—Jade: Myanmar’s “Big Secret,” 2015

“To improve rural access to ICTs, better coordination among government ministries is needed - for example, when new roads are built, high speed fiber optic lines should be laid.”

—Urban CSO representative

smallholder farmers to international processors.⁸⁰ With 53 percent of the rural population owning a mobile phone in 2016, digital devices have clearly become a household asset. And where women lack control over those assets, the gender digital divide clearly contributes to women’s vulnerability to changes in the natural environment: “At the household level, the ability to adapt to changes in the climate depends on **control** over land, money, credit, and tools; low dependency ratios; good health and personal mobility; household entitlements and food security; secure housing in safe locations; and freedom from violence... Women at the study villages [near Inle Lake] are far away from being able to adapt [to] climate changes.”⁸¹

2.2 Gender and Power

Clearly, gender-based roles and expectations are vitally important to shaping the gender digital divide—and devising effective strategies to close it. Such norms shift over time and place, along the national timeline and individual life cycles. Given Myanmar’s ethnic diversity, wide disparities in wealth, and pronounced rural/urban divide, it is inaccurate to speak of any gender norms as countrywide. This section outlines broad categories of gender norms in Myanmar today that are useful to deepen understanding of the political economy of the gender digital divide.

DIFFERENT BUT EQUAL

Many accounts of gender relations from the colonial era depicted the “traditional” high status of women in Burma, celebrating their freedom, independence, and power (according to Western notions of power grounded in economic measures such as property ownership and inheritance customs), and international suffragist movements held Burma up as an example to emulate.⁸² Although more recent regimes in Myanmar have appropriated this image of gender equality, then as now, the story is more complex.

The field research conducted for this assessment confirmed an observation made in a recent country-wide study on culture and social norms in Myanmar: “There is, on the one hand, a failure [among respondents] to notice gender inequality. On the other hand, there is a tendency to justify gender-based differences with cultural and religious arguments and references.”⁸³ Deeply internalized norms about power relations related to gender, age, spirituality, precedence, and hierarchy mean that **differences are perceived as normal and right**, therefore requiring no special measures to achieve equity or equality. In this way, some gender norms function as obstacles to addressing the gender digital divide. It is either invisible or dismissed as inevitable.

IREX INSIGHT

Subtle control issues related to ICTs contribute more to the pervasive gender digital divide in Myanmar than access gaps between men and women.

“Burmese women have been told that they do not need to be empowered, that they already have the same rights as men. But they have been socialised to accept that men are leaders and they should be followers. Women have been taught to prioritise their families, their culture and their nation over the development of their own talents and potential. They have been encouraged to accept ideas, practices and institutions that deny them the same opportunities as men to exercise power and influence in their own society.”

—Harriden 2012

⁸⁰ Emerging Markets Consulting, USAID, and Winrock International, *Value Chains for Rural Development: Social and Gender Assessment* (Washington, DC: USAID, September 2015).

⁸¹ United Nations Development Programme (UNDP), *Gender Analysis at Intha, Pa-O, Danu and Taung-Yoe Villages Around Inle Lake* (Yangon: UNDP Myanmar, December 2012), 80.

⁸² Chie Ikeya, *Refiguring Women, Colonialism and Modernity in Burma* (Honolulu: University of Hawaii Press, 2012).

⁸³ Gender Equality Network (GEN), *Raising the Curtain: Cultural Norms, Social Practices and Gender Equality in Myanmar* (Yangon: Gender Equality Network, November 2015).

Applying a political economy lens, it is furthermore apparent that public perception of the gendered status quo as normative has become politicized and therefore highly sensitive. Because gender equality is a cultural narrative that has been embraced by the military government of Myanmar and the women-focused GONGOs it founded,⁸⁴ questioning it confronts secular as well as religious authorities⁸⁵ in ways that are deeply uncomfortable for many.

Although the lack of sex-disaggregated, reliable nationwide data on key international development measures (e.g., labor force participation by sector) for the past several decades complicated efforts by independent researchers to scrutinize the accepted narrative,⁸⁶ rich ethnographic material, efforts of dedicated CSOs and INGOs, and the first nationwide census in decades (conducted with UN support in 2014) have eased that task. This section sketches gender norms relevant to the gender digital divide. As elsewhere around the world, important nuances related to gender-based roles and expectations are tied to culturally specific distinctions between public/private spheres and access to and control of resources and decision making.



“In rural areas, young girls don’t have a voice in their families or public space.”

—Rural CSO representative

PUBLIC AND PRIVATE SPHERES

In Myanmar as elsewhere, gender norms reflect an idealized division of labor that assigns to men and women different productive roles (work for “capital,” i.e., cash or goods/services) and reproductive roles (unpaid work for “human capital,” i.e., childbearing and rearing, cooking, cleaning). This division affects individuals’ agency and opportunities, particularly their time available to acquire new skills and assets. Significantly, a time-burden assessment conducted in ten rural Inn-Thai villages near Inle Lake in Shan State revealed that, on average, men and women spent roughly the same amount of time on productive activities

⁸⁴ Ibid., 20; Harriden, *Authority of Influence*, chapter 8.

⁸⁵ Harriden, *Authority of Influence*. See chapter 1 for a discussion of gender norms and spiritual values in Myanmar history.

⁸⁶ GEN, *Raising the Curtain*; JICA, *Country Gender Profile: Myanmar*.

(8 versus 6.4 hours daily), but women’s disproportionate share of reproductive tasks (6 hours versus 1 hour by men) meant they had almost no leisure time and less sleep than men (see figure 4 below).⁸⁷

Figure 4: Perceived Daily Activity Profile (Average and Range of Time in Hours), by Sex, Depicted as Clocks (*Inn-thar Village*)



Source: UNDP, Gender Analysis Around Inle Lake.

Reinforcing the identification of women with reproductive roles, culturally prescribed gender norms also firmly link men to the public sphere and women to the private. Such norms are reflected in data showing that women’s income-generating activities tend to be smaller in scale and located closer to home than men’s,⁸⁸ as well as in research revealing how conflict (and the absence of male combatants) opens space for women as community leaders.⁸⁹ Although many women perform very public productive roles, from working as agricultural wage laborers to running retail shops and open-air markets, such roles are carefully delineated by norms restricting women’s mobility (especially at night) and wage disparities that value men’s productive work in the public sphere.⁹⁰

⁸⁷ UNDP, *Gender Analysis Around Inle Lake*.

⁸⁸ ADB, *Technical Assistance to Myanmar on Skills Development for Inclusive Growth* (Manila: ADB, 2014).

⁸⁹ Ma and Kusakabe, “Gender Analysis of Fear.”

⁹⁰ GEN, *Raising the Curtain*.

“In addition to skills, we need to create the space and time for women to participate—women have strong management skills, but if they don’t have the time, they don’t have the chance.”

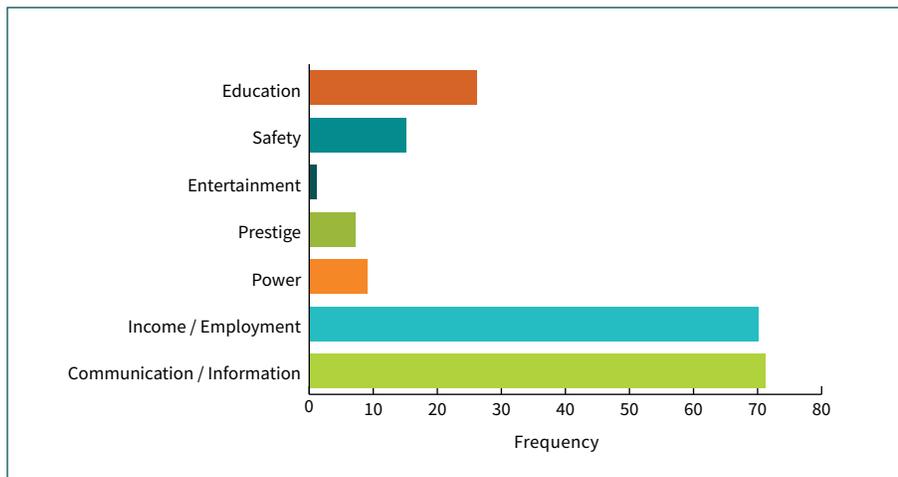
—Urban CSO representative

These norms contribute to the gender digital divide by limiting perceived benefits of ICT use and skills development among women who spend most of their time in narrowly defined appropriate spaces or accompanied by family members. When opportunities arise (such as income-generating activities, participation in development projects, or adoption of time-saving technologies), women must weigh their current responsibilities and available time against the anticipated benefits. Roles that women and their communities see as an extension of acceptable productive and reproductive roles require fewer incentives to adopt.⁹¹ When female survey respondents disproportionately reply that they “do not need” to own a mobile phone, it would be useful to inquire further whether this rationale is grounded in a disconnect with their responsibilities, a lack of available time to acquire digital skills, or a lack of understanding of the benefits. Some research indicates the former, with women non-owners viewing mobile phones as a means to stay in touch for those who spend their days outside the home—primarily men and youth.⁹² Our field research showed support for the latter, as a very narrow range of perceived benefits of ICT use by women was revealed (see figure 5 below).

“Communities are uncomfortable with girls entering the tech field because these jobs demand more time and require girls to work at night. These fields are also male-dominated, which makes the family feel uncomfortable. Girls internalize and accept this perception.”

—Urban CSO representative

Figure 5: Perceived Benefits of ICT Use



Gender norms identifying women with care work and unpaid household work performed primarily in the private sphere also limit women’s experience with public decision-making processes and corresponding influence on policies and political agendas. Although there are examples of powerful female political leaders during colonial times and after independence (including among repressed ethnic minorities), part of their success is ascribed to the fact that they were considered exceptions who did not pose a threat to national leaders.⁹³ Several key informants lamented the fact that Myanmar has very few role models and limited public space in which women can exercise leadership, despite strong financial management skills developed within their households. At the same time, elected MP Daw Aye Mya Mya Myo (of Yangon’s Kyauktan township) points out that “another reason for fewer women in politics is that most of the people in Myanmar—including my mother—think that being involved in politics is still dangerous. I hope to see more and more women [become involved] if we can prove that doing politics is safe for all Myanmar people.”⁹⁴

⁹¹ Ibid.

⁹² GSMA and LIRNEasia, *Mobile Phones, Internet and Gender in Myanmar*.

⁹³ Ibid.

⁹⁴ Fiona McGregor, “Woman MPs Up, but Hluttaw Still 90% Male,” *Myanmar Times*, December 1, 2015.

It bears repeating that gender norms are idealized roles and expectations; the lines are blurred in daily life and over an individual's life cycle.

SAFETY CONCERNS

A key gender-related power dynamic cited in gender assessments, during focus group discussions, and increasingly in media is public safety for women and girls. Gender norms that result in restricted economic and educational opportunities for women and girls are often couched in fears for their physical safety. In many environments, this is warranted, whether in response to sexual abuse perpetrated by armed combatants⁹⁵ or sexual harassment on city buses.⁹⁶ Another assessment notes a link between norms around women's mobility and ability to attend community meetings and expectations of deference to elders and religious authorities, underscoring that gender dynamics intersect with other power relations within any given political economy.⁹⁷ Safety issues are particularly salient for girls and young women, for whom gender and age-related norms are most restrictive. Participants in a CSO empowerment program for adolescent girls in an IDP camp in Kachin State shared "their fears of rape and sexual assault, the risk of trafficking, parental beatings, and the daily chores demanded of them as girls that keep them from education and leisure."⁹⁸

IREX INSIGHT

Mobile phones are simultaneously seen as empowering and endangering women and girls.

CASE STUDY: *Agriculture, Access and Control in Shan State*

A gender assessment among ethnic minority groups in the Inle Lake region of Shan State explored women's empowerment in terms of their access to and control of resources and benefits related to agricultural activities. Resources included land, equipment, labor, cash, and education or technical training; benefits included outside income, asset ownership, education, and political power. The respondents from Intha, Pa-O, Danu, and Taung-yoe communities agreed that **women and men generally share equal access to these resources and benefits**. However, they were nearly unanimous in their assessment that **women enjoy little if any control compared to men**. In the Inle Lake study, the only benefits where women had equal control with men related to basic needs such as food, clothing, and shelter.

In addition to concerns for physical safety, gender norms regulating acceptable levels of exposure to uncensored information and contacts outside the sphere of familial control are clearly playing a major role in narratives around online safety. One of the strongest themes to emerge during focus group discussions was the dangers of online dating, photo sharing, and social media connections with strangers (see figure 6 next page). One key informant, an educator, described her practice of confiscating students' mobile phones during school hours. In addition to asking each offender to unlock the phone so she could confirm with whom they have been communicating, she threatens to print out any inappropriate photos for the school walls and their parents. Indeed, both parents and educators lamented security

⁹⁵ Ma and Kusakabe, "Gender Analysis of Fear," 342–56.

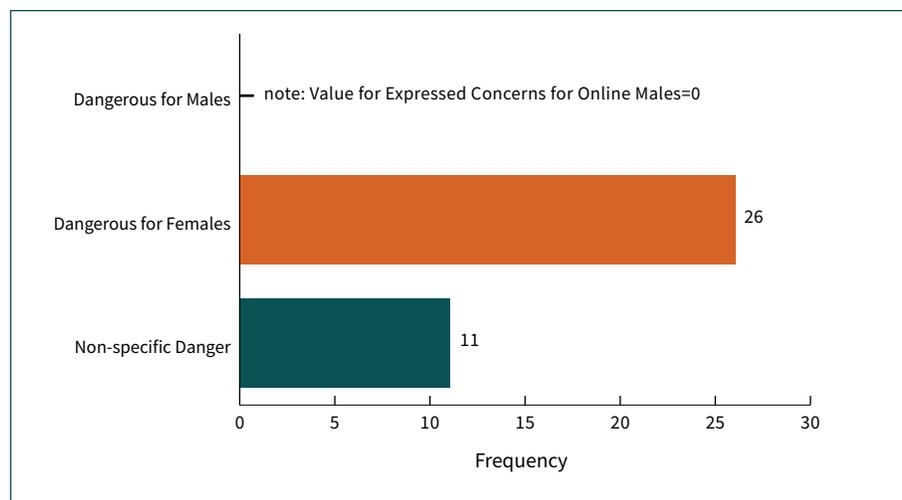
⁹⁶ Hanna Ingber, "Profiles in Courage: Myanmar's Other Female Leaders," PRI, June 15, 2012.

⁹⁷ UNDP, Gender Analysis Around Inle Lake.

⁹⁸ Fiona MacGregor, Teenage Girls in Burma Find Their Voices to Defend Their Rights, *Guardian*, February 11, 2015.

risks related to low levels of digital literacy among women, only 13 percent of whom can locate and adjust account and/or apps settings on their mobile phones.⁹⁹

Figure 6: Frequency of Expressed Gender-Specific Safety Concerns Associated with ICT Access



“Kids can now access inappropriate materials and run into risks—like young girls meeting men they don’t know online and then disappearing. There is lots of cyber harassment. Even one of our members receives harassing messages from random men. As an older woman, she knows not to respond. But younger girls often do not know better.”

—Rural CSO representative

SPECIAL FOCUS: GENDER & EDUCATION

While poverty and low return on investment in education are undoubtedly driving factors in Myanmar’s low completion rates overall (see section 3.3 below), gender norms subtly influence familial decision making around education. In 2012, one rural assessment in Shan State found that, with slight differences among ethnic groups, in general parents indicated that they would prefer to remove a son from school, if forced to choose. This was explained as because boys have more earning power than daughters,¹⁰⁰ which is indeed the case in Myanmar. At the same time, the drastic drop in completion rates for girls between primary and secondary (from 81 percent in grade 5 to 46 percent in grade 9) underscores that this preference is often outweighed by other considerations, including the need for daughters’ unpaid household labor and concerns about health and safety of adolescent girls attending schools without adequate water, sanitation, or hygiene facilities.¹⁰¹

Although sex-disaggregated data on university graduates by areas of study is unavailable, insights into how gender norms affect digital skills acquisition can be gleaned from key informants and focus-group respondents. When asked specifically about ICT skills, discussants described how girls are encouraged to study subjects like law, business administration, accounting—and ICTs only insofar as they support these pursuits, such as office productivity software (e.g., the Microsoft Office suite of products)—whereas boys are encouraged to study engineering, software programming, hardware repair, audio/video editing, and other ICT professional tracks. This **gendered socialization of educational preferences** begins within the family, where girls are not encouraged to apply to or attend educational institutions or courses in certain fields; this is reinforced by peers and educators. The resultant differences in access to and development of skills—advanced ICT skills,

⁹⁹ Galpaya et al., *Mobile Phones, Internet, Information and Knowledge*.

¹⁰⁰ UNDP, *Gender Analysis Around Inle Lake*.

¹⁰¹ ADB et al., *Gender Equality and Women’s Rights in Myanmar*, 102.

in particular—are perceived as reflecting differences in students’ professional interests according to what is culturally acceptable. For the most part, according to key informants and focus-group discussants, these differences are not generally articulated as intrinsic differences in technical ability among boys and girls but ascribed to personal preferences.

Gender norms around public and private-sphere activities also help to explain the disconnect between women’s educational attainment and post-education employment data that indicate lower labor-force participation rates and higher unemployment for women than men:¹⁰² After graduation, key informants explained, young women are typically expected to stay at home, regardless of the skills and knowledge they have acquired. For those who participate in the labor force, jobs requiring travel (such as in the growing tourism industry) or long hours (such as ICT startups) are deemed inappropriate—by women *and* their families, whether spouses or parents.

Interestingly, key informants involved in education denied gender differences in digital skills among professionals such as instructors at private schools and ICT institutes, but readily generalized about such differences in the general public. Men and boys were described as having more access and skills because they are more curious about mechanical devices (ICT hardware, cars, machines) and more motivated to learn about technology. In contrast, women and girls were described as more reluctant to try new things and learn new skills beyond the minimum needed to get a job. Several felt the generational digital divide was more marked. As one ICT instructor from Taunggyi in Shan State explained, “it is less about gender than age. People over fifty are not familiar at all with ICTs and don’t see how technology can help them.”

IREX INSIGHT

The subtlety of the gender digital divide especially among urban youth in Myanmar and the tendency to dismiss gaps in access and skills as natural are significant obstacles to closing the gap.



¹⁰² Ibid.

2.3 The Technology Ecosystem

Although rapidly evolving, it is possible to sketch several key elements of Myanmar’s current technology ecosystem to contextualize the gender digital divide: liberalization, the predominance of mobile devices, barriers to innovation, and the digital skills pyramid.

With support from the World Bank, the government of Myanmar has committed to **liberalization of the telecommunications sector**. In 2013 it denationalized the state-owned telecommunications company, MPT, and awarded the first telecom service licenses to foreign companies Ooredoo and Telenor in 2014.¹⁰³ The rollout obligations of providers have been significant, but with a focus on geographic coverage rather than vulnerable social groups. Unfortunately, the World Bank *Checklist for the Planning, Design and Implementation of an ICT Project Incorporating Gender Issues*¹⁰⁴ is not reflected in recent Government of Myanmar ICT-sector reforms. In addition, despite the geographic focus, coverage is still uneven across the country because land rights, particularly in conflict-affected areas, make it difficult to secure permission to build cell towers.



Recognizing the need for affordability and equitable access, in August 2015, the then-Ministry for Communication and Information Technology launched a tender for the design of a universal service strategy. The strategy will include parameters for a Universal Service Fund (USF) that will receive earmarks from telecom service providers for initiatives to narrow the service gap.¹⁰⁵ Although USFs around the world have come under scrutiny for lack of transparency and for not disbursing funds entrusted to them, they are a common mechanism to leverage champions within the government and CSO sectors for “last mile,” nonmarket solutions involving the most difficult-to-reach groups of unconnected consumers.¹⁰⁶ The “last mile” is on the horizon in Myanmar, where Telenor—with coverage

IREX INSIGHT

Expanding high speed internet connectivity and ensuring “last mile” coverage through a Universal Service Fund are key to supporting female-friendly digital access and skills venues like schools and libraries.

¹⁰³ ADB, *Developing Myanmar’s Information and Communication Technology Sector*.

¹⁰⁴ World Bank Group, “Checklist for the Planning, Design and Implementation of an ICT Project Incorporating Gender Issues,” *Engendering ICT Toolkit*, n.d. Accessed February 14, 2017.

¹⁰⁵ Myanmar Centre for Responsible Business, IHRB, and DIHR, *Myanmar ICT Sector-Wide Impact Assessment*, 92.

¹⁰⁶ Stephen L. Magjera, *Managing USFs for Telecommunications: An ASEAN Manual for Output-based Aid* (Washington, DC: USAID, 2009); GSMA and Ladcomm Corporation, *Sub-Saharan Africa—Universal Service Fund Study* (London: GSMA, September 2014).

in 90 percent of townships across the country—reported that its average revenue per user (in local currency) decreased by 28 percent in 2016 from 2015 due to increased penetration in rural areas and a tougher competitive environment.¹⁰⁷ Not coincidentally, a USF working group¹⁰⁸ convened by the Alliance for an Affordable Internet in Yangon in November 2016 included discussion of gender-responsive ICT policy and regulations, as USFs can be instrumental in narrowing digital divides including gender.¹⁰⁹ It must be noted that telecommunications companies as a rule oppose the taxes that fund USFs¹¹⁰ and thus may function as spoilers to the USF development process in Myanmar.

According to telecommunications giant Ericsson, in 2016 Myanmar had about 36 million **mobile subscribers**—increasing by 5 million in the first quarter alone—and is second only to India in terms of growth.¹¹¹ A recent survey found *proportionate increases* in mobile ownership among men and women from 2015 to 2016; this means that while 52 percent of women now report owning a mobile phone, the 28 percent gender gap remains.¹¹² Smartphone penetration among mobile owners is remarkably high (see Table 1), although statistics on data use underscore that owning internet-enabled devices does not equate with internet use.¹¹³ These figures are similar to data provided by Ooredoo Myanmar for smartphones on its network, although self-reported use of data services is less than the 57 percent of Telenor Myanmar subscribers who use data monthly. The state-owned telecom MPT reported 12 million data users at the end of October 2015.¹¹⁴

Table 1: Smartphone Ownership and Use, by Sex, Residence and Type of Age, 2016

	Men	Women	Rural	Urban	Under Age 24	Over Age 55
Own a Smartphone	78%	77%	74%	82%	93%	55%
Use Data Services	51%	47%	44%	57%	n/a	n/a

Despite public enthusiasm for mobile devices, international and local industry experts interviewed for this report cautioned that Myanmar needs to invest in **expanding high-speed broadband availability** in order to achieve truly accessible and affordable internet usage. The World Bank is supporting government plans to divide the country into three service areas for faster internet connectivity via government-licensed ISPs. Given that mobile data is more expensive than fixed-line data, faster connection speeds would benefit

¹⁰⁷ Steve Gilmore, “Telenor Posts Higher Revenues Despite Increased Competition in Telco Industry,” *Myanmar Times*, October 27, 2016; Telenor Myanmar, “Telenor Network Carried a Record 7.2 Billion Text Messages in 2016.”

¹⁰⁸ For member list, see Alliance for Affordable Internet, “A4AI-Myanmar Coalition Members,” n.d. Accessed February 14, 2017.

¹⁰⁹ Alliance for Affordable Internet, “A4AI Myanmar Coalition Working Group Meeting Report,” press release, November 18, 2016.

¹¹⁰ GSMA, “GSMA Calls for Re-evaluation and Reduction of the Universal Service Fund Levy,” press release, April 10, 2013.

¹¹¹ Ericsson, *Ericsson Mobility Report on the Pulse of the Networked Society* (Stockholm: Ericsson, November 2016).

¹¹² Galpaya et al., *Mobile Phones, Internet, Information and Knowledge*.

¹¹³ Ibid.

¹¹⁴ Catherine Trautwein, “Myanmar Named Fourth Fastest-Growing Mobile Market in the World by Ericsson,” *Myanmar Times*, November 20, 2015.

“I don’t use internet because I don’t want to break the phone—I just use the phone for calling and games.”

—Urban female factory worker

“I don’t even want to learn how to use my phone for more than calls—I don’t have time!”

—Urban mother of female factory worker

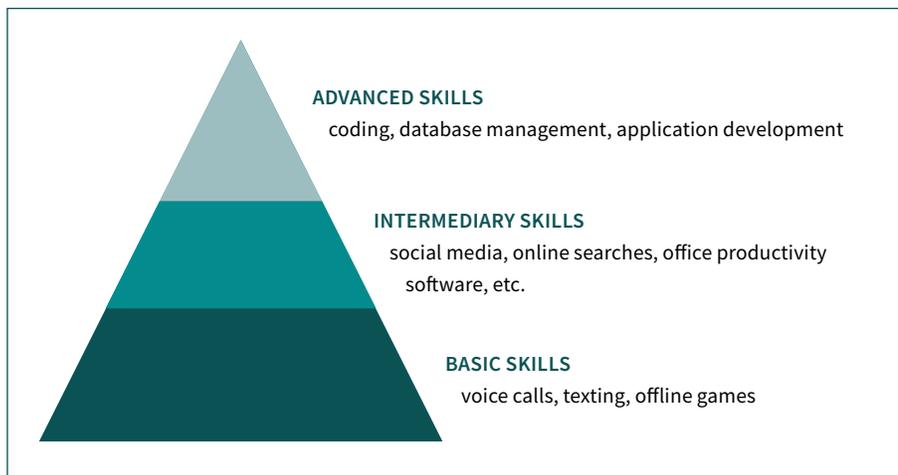
institutions with high-volume data demand, such as schools and hospitals, as well as banks and some SMEs. It remains to be seen whether this is politically feasible in today's environment. In 2013, one IT professional stated publicly his conviction that the government was controlling download speeds for political reasons rather than technical limitations: "The speed can be fixed," Aung Bar Lay said. "You only need to have good connections with the government. I have heard people talking about giving extra amount of money under the table just for them to have better internet connections." He went on to say, "If the government really wants to improve the speed of the internet, it can. It is using fiber-optics so it must be reliable and fast."¹¹⁵

Among the negative consequences of international sanctions and isolation was a **lack of support for innovation**, including tech hubs and business incubators, which are relative newcomers in Yangon.¹¹⁶ From digital artists and app developers to online security experts, the talent pool in Myanmar cannot currently meet demand.¹¹⁷ Innovation is critically important to closing digital divides as it increases the availability of locally relevant products, services, and online content. Locally sourced innovation is particularly important in Myanmar to meet fundamental needs, such as developing Unicode-compliant fonts for additional minority languages, and for increased transparency of ongoing reform processes and efficiency of essential public services. To the extent that innovation is coupled with diversity, such as including women and linguistic minorities on development teams, it may also address specific aspects of the gender digital divide, such as higher rates of illiteracy among ethnic-minority women.

IREX INSIGHT

The ICT industry talent pool in Myanmar is neither large enough nor diverse enough to meet current demand for user-focused products and services.

Figure 7: Digital Skills Pyramid



Adapted from Van Welsum and Lanvin 2012

Finally, one of the most salient aspects of the technology ecosystem today is the **digital skills pyramid**. Although mobile ownership numbers have skyrocketed since 2011 and data usage is increasing, advanced skills are concentrated among a very small elite. Recent

¹¹⁵ Jefry Tupas, "Is Burma's 'Disconnectivity' Deliberate?" *Prachatai*, March 9, 2013.

¹¹⁶ Project Hub and USAID, *Mapping Yangon's Emerging Startup Ecosystem* (Washington, DC: USAID, 2015).

¹¹⁷ Myanmar Centre For Responsible Business, Institute For Human Rights And Business (Ihrb), And Danish Institute For Human Rights (Dih). *Myanmar Ict Sector-Wide Impact Assessment*, September 2015.; Steve Gilmore, "Constructing Myanmar's Virtual Worlds," *Myanmar Times*, September 2, 2016.

research,¹¹⁸ key informants and focus group participants consistently describe a situation in which expanded access to technology has not led to a corresponding increase in digital *skills*. The overwhelming majority of those who now enjoy access to ICTs are underutilizing these technologies' potential to create and consume relevant information and services. This is especially true of female users.

Figure 8: Reliance on Formal ICT Training, by Gender

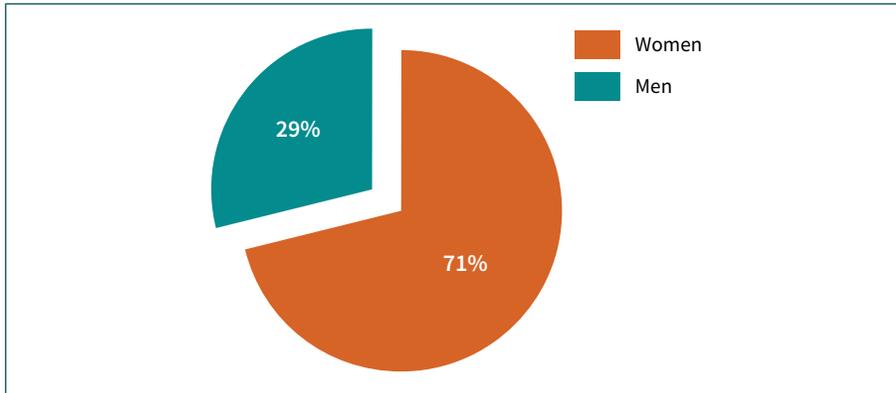
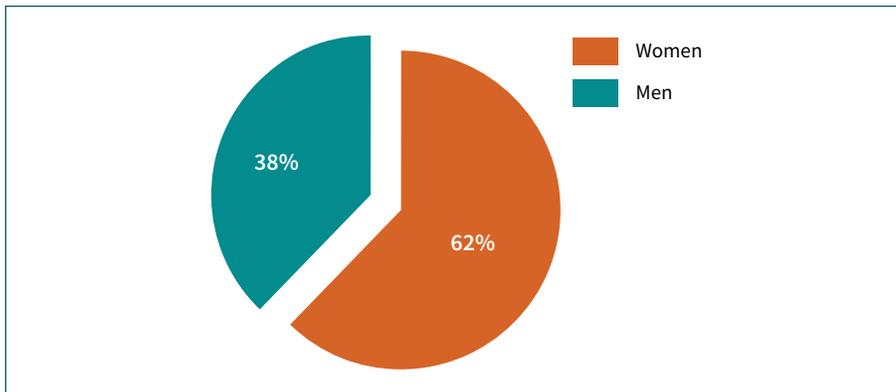


Figure 9: Reliance on Informal ICT Training, by Gender



There are several reasons for this. First, ICT users in Myanmar have access to a **limited range of ICT hardware and digital training**. Recent public-private initiatives to equip schools¹¹⁹ and libraries¹²⁰ with technology have focused on mobile tablets; cyber cafes and telecenters¹²¹ with public-access computers are primarily available in urban areas. One key informant, a businessman who has provided hardware, connectivity, and ICT training for teachers in a rural primary school in the Delta region, stated that most rural children had

¹¹⁸ GSMA and LIRNEasia, *Mobile Phones, Internet and Gender in Myanmar*; IREX, *Why Young Women Need Digital Skills Now to Participate in Myanmar's Information Society* (Washington, DC: IREX, 2016).

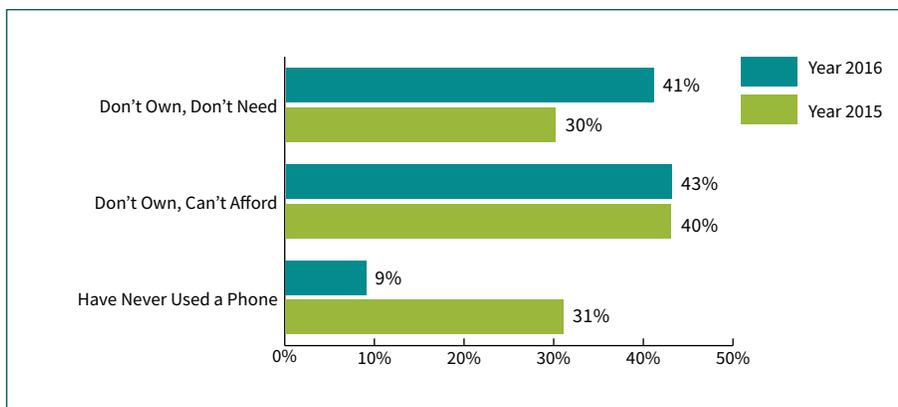
¹¹⁹ In 2016, *Connect to Learn* equipped thirty-one schools and provided ICT training to 155 teachers and approximately 21,000 students in a partnership among DfID, UNESCO, Ericsson, Qualcomm, Columbia University, and the Ministry of Education.

¹²⁰ From 2015 to 2016, *Beyond Access Myanmar* equipped ninety libraries and provided ICT training to 88 librarians. Those librarians trained an additional 470 librarians and approximately 175,000 patrons with funding from BMGF, Ooredoo, and the Dariu Foundation.

¹²¹ MIDO has established sixty-two telecenters for local entrepreneurs with funding from Telenor and plans to build 200 more by 2018.

never seen a computer but all were familiar with mobile phones. Indeed, in 2016, only 3 percent of the population reported ever having used a computer.¹²² Other entrepreneurs, ICT professionals, and students of technology confirmed that computers are seen as back-office tools. Few people have experience with them, and gender-based occupational segregation affects both who uses computers and how. Men are more likely to pursue more lucrative ICT tracks such as coding, database maintenance, and digital security, whereas women choose courses in administrative, financial, and legal software. This differentiation among young men and women was confirmed by focus-group discussants as well as staff at a chain of private ICT training institutes that are proliferating to meet demand for short-term, employment-focused courses. Sex-disaggregated data on enrollment and course preferences among students of the twenty-six computer science universities and five technological colleges was unavailable.

Figure 10: Reasons Cited by Non-Owners of Mobile Phones , 2015 vs 2016



Source: LIRNEasia and MIDO, 2016

Second, **lack of exposure to the range of available features** on mobile phones significantly dampens the perceived benefit of ICTs and contributes to their underutilization (see figure 10 above). Key informants and focus-group participants shared myriad examples of ICT owners and users who experience a degree of technophobia—scared to search online, touch a keyboard, or download apps for fear of breaking their device—and this was described as particularly (though not exclusively) characteristic of women. Outside the urban elite at the top of the digital skills pyramid, it is reportedly uncommon for individuals to customize their mobile devices for their own needs and interests. Instead, retail outlets select settings, preload applications, and even retain administrative passwords, requiring the purchaser to return to the shop to make any adjustments. This fear may stem in part from the cost of replacing damaged or lost digital devices, which represent a considerable financial outlay for most families (see discussion of affordability below), but also reflects narrow experience with mobile phones as preferred devices for voice communications and instant messaging rather than powerful means for reliable access to locally relevant information, products, and services. This preference is particularly true of female users, with men more likely to report using mobiles for livelihood-related purposes¹²³ and for accessing Facebook, downloading applications, and playing games.¹²⁴ During fieldwork for this

¹²² Galpaya et al., *Mobile Phones, Internet, Information and Knowledge*.

¹²³ GSMA and LIRNEasia, *Mobile Phones, Internet and Gender in Myanmar*.

¹²⁴ Ibid.



report, the communications applications Facebook and Viber were referenced repeatedly as being generally popular in Myanmar and examples of the narrow use of features. In the words of one entrepreneur who regularly uses social media to connect with his customers, in Myanmar “the meaning of internet is only two things, Facebook and Viber. The rest they don’t know, they don’t care.”¹²⁵

Third, despite vast reductions in the cost of digital devices and SIM cards in the past five years—for example, from \$1,500 for a SIM card in 2010 to \$1.50 in 2015¹²⁶—**affordability of data** remains a major reason for the broad bottom of the digital skills pyramid (see figure 10 above). With GNI per capita at \$1,270, the 26 percent of the population living on less than \$1 a day—millions of potential subscribers—cannot meet the UN Broadband Commission’s target of entry-level broadband at less than 5 percent of household income.¹²⁷ For those in the lower third of the pyramid, a 2G feature phone or SIM card may be obtainable, but it does not follow that data plans are. In addition to actual cost, there is great variation in the perceived benefit of the more expensive features available with a smartphone and data plans. Key informants highlighted the fact that in rural areas, which have high illiteracy rates, and conflict zones with unreliable connectivity, residents are less likely to perceive an adequate return on their investment in devices or connectivity costs that provide greater access to information and online services, reducing their ability to develop more advanced digital skills informally. It was also noted that women, who have lower rates of labor force participation and compensation, are less able to afford extensive internet usage and skills development for themselves and less likely to prioritize purchasing mobile data from household funds they manage. These observations echo recent research on ICT use in Myanmar, including a disconnect between increased smartphone ownership and extensiveness of use, including data services and apps.¹²⁸

¹²⁵ Facebook Free Basics, which allows users free mobile Internet access via the Facebook app, launched in Myanmar in late 2016. It was not mentioned by key informants as a factor narrowing perceptions of the benefits of Internet access.

¹²⁶ GSMA and LIRNEasia, *Mobile Phones, Internet and Gender in Myanmar*.

¹²⁷ Alliance for Affordable Internet, *Case Study: Delivering Affordable Internet in Myanmar* (Washington, DC: Alliance for Affordable Internet, 2015; ADB, *Basic Statistics 2016*).

¹²⁸ GSMA and LIRNEasia, *Mobile Phones, Internet and Gender in Myanmar*; Galpaya et al., *Mobile Phones, Internet, Information and Knowledge*.

2.4 The Legal Environment

Current laws, regulations, and policies underpin existing constraints to gender equity in digital access and skills and also frame windows of opportunity. Broadly speaking, the legal environment is supportive of both digital development and gender equity. While many of the most restrictive rules have been lifted—for example, internet cafes are no longer required to register or photograph users¹²⁹—there are still concerns about lack of protections for digital security, freedom of expression, and intellectual property. Despite strong *de jure* support for most women’s rights, there are also serious gaps in reproductive rights, land reforms, and restrictions on interfaith marriage that undermine gender equality.¹³⁰ Perhaps most tellingly, the political will to enforce those rights enshrined in law is lacking.¹³¹ In addition, there is a complete lack of coordination on legislation affecting the two sectors, missing important means to harmonize policies and leverage mutually beneficial support and resources to close the gender digital divide.

In the past five years, the GoM and international stakeholders have invested considerable time and resources¹³² into **modernizing Myanmar’s legal and regulatory framework in support of an information economy**. The Myanmar Centre for Responsible Business conducted an exhaustive ICT sector impact assessment in 2015 that included a review of all relevant ICT laws, regulations, and policies that are in force, pending, or planned.¹³³ These include regional instruments such as the 2015–2020 ASEAN ICT Master Plan as well as the national Telecommunications Master Plan and the Electronic Transactions Law of 2004, which is reportedly being revised with assistance from the World Bank. Although there have been three five-year ICT Master Plans since 2001, these were developed and issued by the Myanmar Computer Federation rather than the MCIT and thus lacked a clear mandate for implementation of planned initiatives such as ICT teacher training and connectivity for 1,000 schools. The most impactful framework was the 2012–2015 Framework for Economic and Social Reform (FESR), which (among other things) prioritized ICT regulatory reforms such as liberalization of the telecommunications market and infrastructure improvements, which have largely been carried out (see section 2.3 above). Another positive development was the revocation in 2012 of the 2008 ban on Voice over Internet Protocols (VoIP) such as Skype.¹³⁴

Despite this progress, vestiges of military control remain and serve as a brake upon digital development. For example, insufficient protections for online freedom of expression came to the fore in 2016, when former information minister Ye Htut called for Fiona MacGregor, investigative reporter for the English-language *Myanmar Times*, to be charged under section 66(d) of the relatively recently revised Telecommunications Law of 2013, which criminalizes online defamation.¹³⁵ The Telecommunications Law also includes vaguely

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Embedding equity targets into existing gender-blind legal frameworks for ICT integration is the most likely means to incentivize policy changes that narrow the gender digital divide.

¹²⁹ Tupas, “Is Burma’s ‘Disconnectivity’ Deliberate?”

¹³⁰ Adopted in July 2015, the law requires Buddhist women and men of other faiths to register their intent to marry with local authorities, who will display a public notice of the engagements. Couples can marry only if there are no objections; but if they violate the law, they could face imprisonment. See Agence France-Presse, “Myanmar’s Parliament Approves Controversial Interfaith Marriage Law,” Radio Free Asia, July 7, 2015.

¹³¹ Gender Equality Network and Global Justice Center, *Report on Obstacles to Gender Equality in Myanmar* (Yangon: Gender Equality Network, July 2016).

¹³² Primarily the World Bank’s \$31.5 million Telecommunications Sector Reform Project (2014–19).

¹³³ Myanmar Centre for Responsible Business, Institute for Human Rights and Business (IHRB), and Danish Institute for Human Rights (DIHR). *Myanmar ICT Sector-Wide Impact Assessment*, September 2015, 55–84.

¹³⁴ ADB, *Developing Myanmar’s Information and Communication Technology Sector*, 10.

¹³⁵ Reporters Without Borders, “RSF Calls for Probe into Reporter’s Dismissal by *Myanmar Times*,” press release, November 26, 2016.

worded clauses that empower the government to filter “a specific type of communication” content, arbitrarily disrupt or disconnect internet access “in the interest of the public,” and “temporarily control and use the telecommunications service provider businesses and equipment.”¹³⁶ Other legal and regulatory gaps include a lack of data privacy and protection policies, cybersecurity standards, or an intellectual property law in an environment where copycat products and outright piracy are rampant, which is a disincentive for local innovation.



Some aspects of **legal gender equality**, particularly women’s political and economic rights, were adopted decades ago. In 1935 Myanmar became the second country in what is now ASEAN to grant women the right to vote, and since then women have had constitutional rights to equal participation in politics (for actual rates of participation, [see section 3.1 below](#)). In customary law, Bamar women have long had the legal right to division of property in divorce and equal rights of inheritance; according to statutory law, all Myanmar citizens, regardless of ethnic or religious affiliation, enjoy this provision.¹³⁷ Constitutional equality for men and women is guaranteed in Article 75 of the 2008 Constitution, and the new minimum-wage law enacted in 2015 specifies that it applies equally to men and women.¹³⁸ However, gaps remain, such as the lack of legal prohibitions against sexual harassment at the workplace¹³⁹ or online.¹⁴⁰ And the recent National Strategic Plan for the Advancement of Women 2013–2022 (NPSAW), developed by the Myanmar National Committee for Women’s Affairs and the Department of Social Welfare, makes no mention of the gender digital divide, ICTs, or the impact of Myanmar’s evolving information society.¹⁴¹

¹³⁶ Myanmar Centre for Responsible Business, Institute for Human Rights and Business (IHRB), and Danish Institute for Human Rights (DIHR). *Myanmar ICT Sector-Wide Impact Assessment*, September 2015, 71–76.

¹³⁷ ADB, *Technical Assistance to Myanmar*.

¹³⁸ Urbano and Dickinson, *Women and the Economy in Myanmar*.

¹³⁹ *Ibid.*

¹⁴⁰ Myanmar Centre for Responsible Business, Institute for Human Rights and Business (IHRB), and Danish Institute for Human Rights (DIHR). *Myanmar ICT Sector-Wide Impact Assessment*, September 2015, 226–27.

¹⁴¹ United Nations Population Fund and Myanmar National Committee for Women’s Affairs, *National Strategic Plan for the Advancement of Women (2013–2022)* (Yangon: UNFPA, 2013).

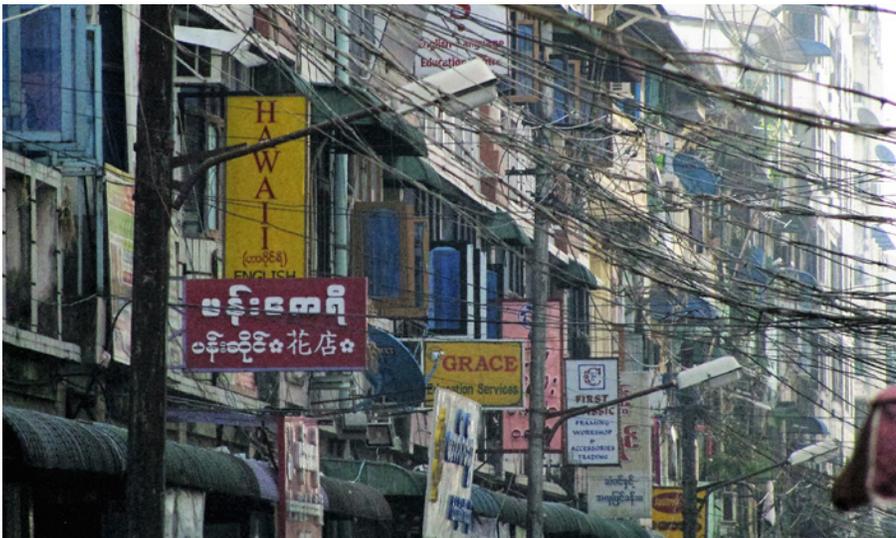
While it is encouraging that Myanmar’s transition to a quasi-civilian government in 2011 has led to limited democratic reforms, increasing engagement with the international community and a sharp increase in foreign direct investment, women have, in large part, not been the beneficiaries of these reforms. Advances to ensure women’s rights and improve the situation of women in Myanmar have, in general, been noticeably absent from reform efforts, in part due to the absence of women from decision-making positions and in politics. Even the Government’s reporting to this Committee identifies efforts to improve women’s rights as prospective rather than on-going, demonstrating the Government’s lack of political will to prioritize women’s issues.

—Gender Equality Network
Shadow Report to CEDAW,
July 2016

In 1997 Myanmar became a signatory to the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW). Since then the government has produced three reports on the status of women (in 1999, 2007, and 2015). Significantly, the CEDAW Committee expressed concern that the 2008 Constitution

included references to women principally as mothers, maintaining that this may reinforce the gendered stereotype of women as quintessential mothers and in need of protection; that neither the Constitution nor domestic legislation, when approved, provided for temporary special measures to achieve gender equality; that some laws and customs discriminate against women “on grounds of ethnicity and within ethnic groups”; that despite prohibiting gender discrimination in appointments to government posts, the Constitution also clearly states that “nothing in this section shall prevent appointment of men to positions that are naturally suitable for men only.”¹⁴²

Indeed, despite the range of international and national legal frameworks related to women’s rights, key informant interviews and gender assessments from the past five years document many ways in which **implementation is weak or lacking**.¹⁴³ Significantly, the national government either has not mandated or not budgeted for incorporation and enforcement of CEDAW, NPSAW, and other gender equity laws and policies. For example, in 2014 the government disseminated a draft National Land Use Policy (NLUP) intended to provide a framework to guide the creation of a National Land Law and “harmonize” existing laws pertaining to land. Despite the mandate for rural women’s rights in Article 7c of the NSPAW, no women participated in the drafting of the NLUP, and women were underrepresented during the consultative process. Furthermore, the draft English-language version called explicitly for equal rights in land tenure and land use management between women and men, while the Burmese-language version omitted all mention of women or gender, except for references to taxation on husbands and wives.¹⁴⁴



¹⁴² ADB et al., *Gender Equality and Women’s Rights in Myanmar*, xviii.

¹⁴³ ADB, *Technical Assistance to Myanmar*; Emerging Markets Consulting, USAID, and Winrock International, *Value Chains for Rural Development: Social and Gender Assessment* (Washington, DC: USAID, September 2015); ADB et al., *Gender Equality and Women’s Rights in Myanmar*.

¹⁴⁴ Emerging Markets Consulting et al., *Value Chains for Rural Development*, 8–9

Another example is the pending anti-violence-against-women (VAW) law, under development since 2013. Commitments made under CEDAW Article 5 require the government to revise the outdated and discriminatory Penal Code of 1860, and the Department of Social Welfare drafted a national law on all forms of violence against women with support from the Gender Equality Network and the UN Gender Theme Group.¹⁴⁵ Notably, the law was not passed in time to be included in the latest report to the CEDAW committee in 2015. According to key informants close to the process, the delay was occasioned in part by debates among some members of parliament as to whether VAW is really a state matter. The bill was still in committee as of November 2016. It intersects uncomfortably with highly politicized issues of VAW in the conflict-affected areas, including rape and other abuses committed by government forces, no doubt invoking scrutiny from spoilers in the military bloc in the parliament as well as the military-controlled Ministry of Border Affairs (see section 3.1 below).

Furthermore, there are no legal protections for sexual minorities or recognition of nonconforming gender identities, and same-sex relations are punishable under section 377 of the penal code by fines or imprisonment up to ten years.¹⁴⁶ Human rights CSOs that provide legal aid to the LGBTIQ community report police abuse and digital harassment concerns.¹⁴⁷

Finally, there is a need to **improve coordination of legal frameworks for digital development and gender equality** to address policy aspects of the gender digital divide to strengthen both. The former are gender-blind, ignoring important differences in access, skills, and real and perceived benefits among male and female ICT consumers and creators that go beyond the tech industry to affect Myanmar's economic development in general. The latter are primarily reactive to international obligations, lack enforcement, and would have more impact on institutional and individual behavior if embedded in widespread social trends, such as expanding technology-enabled education and training. Such coordination should also include downstream regulations and policies related to rolling out recent legislation on educational reforms, an important leverage point for inclusion of digital access and skills as well as gender equality provisions. This will require patient diplomacy and diligence, as some reforms—such as the National Education Law passed in September 2014—are strongly associated with well-publicized student protests.¹⁴⁸ The law was contentious due to continued centralized control over universities, but it did include some welcomed reforms—such as expanding free education to the tertiary level and developing ethnic-language schooling in marginalized communities—and was amended in 2015 to include some of the protesters' demands, such as a target to increase the education budget to 20 percent of the total national budget (albeit without a timeline).¹⁴⁹ However, subsequent anticipated laws to reform educational subsectors particularly important to digital skills development, including TVET, have not yet been introduced.

¹⁴⁵ ADB et al., *Gender Equality and Women's Rights in Myanmar*

¹⁴⁶ See national and state laws on LGBT rights at Equaldex, "LGBT Rights in Myanmar," 2016.

¹⁴⁷ Charlotte England, "Myanmar's Transgender People Not Just Chasing Rainbows in Fight for Equality," *Guardian*, February 2, 2016.

¹⁴⁸ Paul Mooney, "Myanmar Students Protest Against Education law for Third Day," Reuters, November 16, 2014; Amnesty International, "Myanmar: End Relentless Crackdown on Student Protesters," press release, March 10, 2016.

¹⁴⁹ Oxford Business Group, "Proposed Reforms for Myanmar's Education Sector," 2015.

Section 3

RULES OF THE GAME: Institutions and Norms

RULES OF THE GAME: Institutions and Norms

This section will describe relevant state and nonstate institutions, formal and informal institutions, and rules and norms that affect digital access, skills, and benefits derived from ICTs for women and girls in Myanmar, especially those who face additional obstacles due to poverty or rural residence or as members of marginalized groups. The analysis of institutions maintains the focus on education as a key driver of change for addressing the gender digital divide, and covers national and regional governance institutions, patronage networks and other incentives, educational institutions, private-sector interests, and civil society.

3.1 National and Regional Governance Institutions

Changes to the Constitution adopted in 2008 paved the way for the relaxation in military control that began in 2011 and subsequent NLD landslide in the November 2015 parliamentary elections, but they also ensured that the military retains considerable powers. These include control of the three key security ministries (defense, home affairs, and border affairs), and a 25 percent bloc of unelected legislators (providing veto power over any proposed constitutional change). Despite its popular mandate, Daw Aung San Suu Kyi's administration is in "an uncomfortable cohabitation with the military"¹⁵⁰ that complicates the pace and content of political and economic reforms, including those affecting the gender digital divide.

MILITARY: TATMADAW

The Tatmadaw (national armed forces) remains the most powerful institution in the political economy of Myanmar. After seizing control in a coup in 1962, the military ruled Myanmar for five decades in a closed, socialist planned economy renowned for its human rights abuses, including use of ICT-related legislation such as the Electronic Transactions Law of 2004 to incarcerate citizens for online sedition. Its proposed constitution was ratified by what many deemed a fraudulent referendum in 2008, and the regime's first parliamentary elections were allowed in November 2010. Noting that 89 percent of new legislative members that year were still military, regional experts concluded, "Although there has been no shift in **who rules** (male, Burman retired or active-duty military officers) in elite level positions of authority, there exists a new political fluidity that potentially may change **how they rule**" (emphasis in original).¹⁵¹ The potential for this fluidity to extend to *who rules* appeared in October 2013, when, after more than fifty years of formal exclusion from the Tatmadaw, the rules were changed to allow women to join.¹⁵²

"In Burma it's not simply getting the military out of the business of government. It's creating the state institutions that can replace the military state that exists."

—Myint-U Thant, 2007

¹⁵⁰ International Crisis Group, "Myanmar's New Government: Finding Its Feet?" Report No. 282/Asia, July 29, 2016.

¹⁵¹ Callahan and Steinberg, *Drivers of Political Change*, 1.

¹⁵² ADB, *Technical Assistance to Myanmar*.

While the November 2015 elections saw the military’s legislative representation decrease from 89 percent to 25 percent, its strong foothold in the legislative branch is reinforced by executive controls. For example, the military retains jurisdiction over the General Administration Department (GAD) under the Ministry of Home Affairs. The head of the GAD, which acts as the civil service for the state and region governments and administers districts and townships,¹⁵³ is appointed by the commander in chief rather than the president, and many staff are former military or have familial or financial ties to the Tatmadaw and are well positioned to function as spoilers of the new administration’s reforms at local level.

In the NLD’s first six months in office, “the military has been willing to play by the established, constitutional rules, for now, and to work with the new government in its implementation of its legislative and executive mandates.”¹⁵⁴ For its part, as the NLD does not control all the line ministries, it must avoid provoking the military with reforms within the pillars that it does control. Given this, there seems **little government incentive to loosen online surveillance and ICT disruption powers** such as those contained in the Telecommunications Act of 2013, or to invest heavily in ICT infrastructure in conflict-affected areas until any peace settlements have been achieved. This, in turn, affects ICT uptake among women with very limited mobility in those areas.

For Tatmadaw-related economic disincentives to supporting reforms such as a USF that would help close the gender digital divide, [see section 3.2 below](#).



LEGISLATIVE: *HLUTTAW*

Reinstated in 2012, the union (national) legislature, known as the Pyidaungsu *Hluttaw*, is comprised of the Pyithu *Hluttaw* (Lower House) and Amyotha *Hluttaw* (Upper House).¹⁵⁵ As noted above, only 75 percent of members of parliament are elected by popular vote, and the remainder are appointed by the military.

¹⁵³ Kyi Pyar Chit Saw and Matthew Arnold, *Administering the State in Myanmar: An Overview of the General Administration Department*, Discussion Paper No. 6 (Yangon: Asia Foundation and Myanmar Development Resource Institute Centre for Economic and Social Development, October 2014).

¹⁵⁴ Kyaw Sein and Nicholas Farrelly, *Myanmar’s Evolving Relations: The NLD in Government* (Stockholm: Institute for Security and Development Policy, October 2016).

¹⁵⁵ Between 1988 and 2011, there was no functional *hluttaw* (legislative body), as the military regime ruled through the State Peace and Development Council.

Political analysts note that since the 2015 elections handed the NLD 60 percent legislative majorities in both houses, the government has tamped down the previously “assertive oversight of the executive” by the legislature and eliminated nonpartisanship.¹⁵⁶ NLD lawmakers must submit their questions and motions for scrutiny by a committee that serves as a party whip before presenting to the legislature for debate, which has reportedly frustrated some of the more active NLD lawmakers.¹⁵⁷ A description of the Pyithu *Hluttaw* from 2014 (“with its committees and commissions, [the lower house] wields the strongest power, frequently calling ministers and officials for questioning, altering legislation and often, ignoring the president’s suggested changes to legislation”¹⁵⁸) is at complete odds with the institution today. The kinds of power plays seen in the past, like an *n*th-hour parliamentary motion to halt the telecom licensing process by protectionists who objected to foreign firms participating without local partners, have not been in evidence.¹⁵⁹



Although a great deal of press following the 2015 parliamentary elections has been devoted to the marked change in the political parties represented—both the overwhelming NLD majority and the sharp decrease in representation of ethnic parties—**female candidates also saw a historic level of success.** In the 2012 parliament, 6 percent of elected MPs were women (4 percent if military appointees are included); in the 2016 parliament, the proportion of elected women MPs more than doubled to 13.6 percent¹⁶⁰ (10.2 percent with appointed MPs).¹⁶¹ Although this is the lowest rate among ASEAN countries, it represents a marked improvement in the likelihood of follow-through should the national leadership elevate any gender equality issues within the NLD agenda.

¹⁵⁶ Kyaw Sein and Farrelly, Myanmar’s *Evolving Relations*.

¹⁵⁷ *Ibid.*, confirmed by key informant interviews.

¹⁵⁸ Gwen Robinson, *Myanmar’s Transition: Economics or Politics? Which Came First and Why It Matters* (London: Legatum Institute Transitions Forum, 2014).

¹⁵⁹ Niheer Dasandi and David Hudson, *The Political Road to Digital Revolution: How Myanmar’s Telecoms Reform Happened*, Development Leadership Program, University of Birmingham, 2017.

¹⁶⁰ Paul Minoletti, *Gender (In)equality in the Governance of Myanmar: Past, Present and Potential Strategies for Change* (Manila: ADB, UKAID, and DFAT, April 2016).

¹⁶¹ Gender Equality Network and Global Justice Center, *Report on Obstacles to Gender Equality in Myanmar*.

This low level of political representation in national legislative bodies reflects gender norms regarding women's exercise of leadership in public spaces as well as rational choices made by women given time deficits and the relative lack of power exercised by the *hluttaw* in the Myanmar political economy (and particularly true of state and regional *hluttaws*, which, unsurprisingly, have even lower levels of female MPs—see discussion beginning on page 55 below). At the same time, however, women are excluded from rent-seeking opportunities and patronage networks that could enable them to amass other forms of power, which would in turn increase their ability to close the gender digital divide in other capacities, such as growing influence as local entrepreneurs and philanthropists.

Beyond empowering women political leaders to benefit individually from negative aspects of Myanmar's political economy, such as cronyism, more diverse governance may lead to *positive* systemic benefits such as those found elsewhere: women's political participation often leads to more inclusive decision-making and more attention to policy concerns articulated by women, such as health care,¹⁶² as well as decreased corruption in certain conditions.¹⁶³

However, early indications from female MPs elected in 2015 are not promising. In addition to the weakened role of the legislative branch under the NLD administration in general, indifference to gender issues from the highest levels has reportedly frustrated female MPs. The difficulty in passing legislation on violence against women—despite an obligation to do so under CEDAW—is a case in point (see section 2.4 above). The ability of NLD representatives to introduce interests outside the party line appears to be severely curtailed; for example, they are reportedly forbidden from direct contact with local journalists to ensure all messaging is carefully controlled from above. Unless the NLD leadership embraces digital divides as a priority—and Aung San Sui Kyi received global coverage of comments lamenting the amount of time children waste online¹⁶⁴—it is unlikely the *hluttaw* will focus on legislative changes explicitly designed to close any digital divides, much less the gender divide, in the near future. This makes it imperative to embed digital access and skills into relevant executive branch policies, regulations, and reforms in sectors with strong support, such as education (see section 3.3 below).

Even if the political will to redress the gender digital divide arises, capacity in the union *hluttaw* to do so is further limited by **extremely low digital skills among MPs and their staff**. A government report confirmed that initiatives for e-voting and digitizing parliamentary records have been accompanied by training on ICT use for *hluttaw* staff and estimated that the number of staff would expand from 1,180 in 2015 to 2,615 in 2016.¹⁶⁵ CSOs have also provided ICT training for dozens of parliamentarians,¹⁶⁶ but there is still evidence of unmet needs. For example, staff from one INGO supporting e-governance initiatives were entrusted with the majority of MPs' email and social media passwords to facilitate frequent requests for technical support on issues ranging from basic email operations to hacked

Dr. Nyo Nyo Thinn, a member of the Yangon Region Parliament (2012–16), reported that sexual harassment of women on crowded buses in Yangon is an issue of considerable concern to her female constituents, and proposed the introduction of women-only buses to the Yangon Region Parliament. Her efforts on this issue were largely met with indifference by her male colleagues.

—Asian Development Bank, 2014

¹⁶² Minoletti, *Gender (In)equality in the Governance of Myanmar*.

¹⁶³ Justin Esarey and Gina Chirillo, "Fairer Sex' or Purity Myth? Corruption, Gender and Institutional Context," *Politics & Gender* 9 (2013): 361–89.

¹⁶⁴ Tom Batchelor, "Aung San Suu Kyi Says Burmese Children Are 'Wasting Time' on Technology," *Independent*, 2016.

¹⁶⁵ Kyaw Soe, "The Myanmar Hluttaw and the Role of ICT in Its Development." Interparliamentary Union, Hanoi Session, March 2015.

¹⁶⁶ Galpaya et al., *Mobile Phones, Internet, Information and Knowledge*.

accounts. The situation is improving—over the past five years, regional and state *hluttaw* members have gone from lacking local cell coverage to nearly universal use of Facebook accounts for constituent relations—but beyond using mobile phones for social media communications, their overall technical capacity and understanding of the link between digital divides and broader social development remain low.



EXECUTIVE

Unlike the gains in women’s political representation in the legislature, the number of women in the cabinet decreased from two to just one—Daw Aung San Suu Kyi herself. In its first law-making action after the transfer of power, on April 5, 2016 the legislature approved a bill creating a new “state counsellor” executive position for Suu Kyi by name, which made her the *de facto* head of state. Although vaguely defined, the position provides legal authority for her to “advise both executive and legislative branches, sidestepping the strict separation of powers enshrined in the constitution—a point strongly criticized by military and some opposition lawmakers.”¹⁶⁷ For more on the long shadow Suu Kyi casts on the political economy of Myanmar, see section 4.1 below.

In addition to nominating a cabinet, the president decides the number and scope of ministries (except for the three that remain under military control, as noted above). The new administration that transitioned to power in April 2016 chose to reduce the number of line ministries from thirty-six to twenty-one.¹⁶⁸ The reorganization mainly involved consolidating ministries rather than making a significant cut in the number of departments or functions. For example, as described above, the staff and mandates of the Ministry of Communications and Information Technology, Ministry of Rail Transport, and Ministry of Transport were consolidated into a new **Ministry of Transport and Communications** (MoTC).¹⁶⁹ The Department of Social Welfare, which bears responsibility for women’s issues, remains within

IREX INSIGHT

While the MoE and MoTC are the key drivers of change, it is essential to calibrate awareness and skill-building efforts with institutional absorptive capacity.

¹⁶⁷ International Crisis Group, *Myanmar’s New Government*.

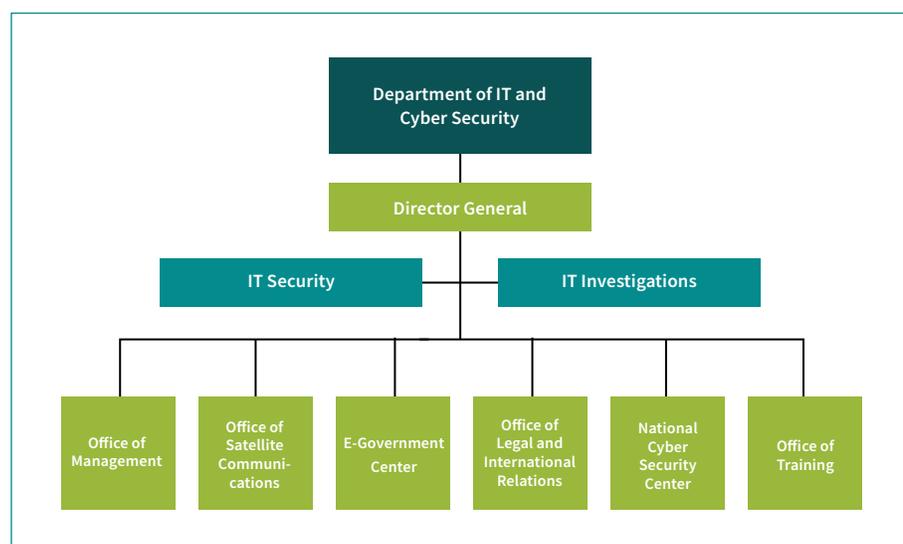
¹⁶⁸ Official Website of the Office of the President of the Republic of the Union of Myanmar. Accessed January 2017.

¹⁶⁹ Ministry of Transportation and Communications website. Accessed February 14, 2017.

an unchanged Ministry of Social Welfare, Relief and Resettlement.¹⁷⁰ The cabinet is a mix of senior, male NLD members and independent technocrats who have proven loyalty to Suu Kyi and the party (see section 4.1 below on relevant stakeholders).¹⁷¹

There are considerably **more union executive institutions involved in various aspects of digital divides** (particularly the rural/urban infrastructure gaps that create unequal access) **than the one department actively addressing gender equality.** The main player is the MoTC. Within the Ministry, the relevant departments include Myanmar Post and Telecommunications (MPT), the Department of Communications (responsible for the World Bank–MCIT telecoms reform project, including the USF strategy described in section 2.3 above) and the **Department of IT and Cyber Security** (responsible for drafting and overseeing implementation of the next ICT Master Plan as well as housing the e-Government Agency and the National Center for Cyber Security, see figure 11).

Figure 11: Organizational Chart of the Department of IT and Cyber Security, Ministry of Transport and Communications



Source: <http://www.mcit.gov.mm/content/org-itcs.html>

In addition to MoTC, the **Ministries of Information and Education** have also supported public-private partnerships to expand access to the internet & digital skills projects in public libraries and schools, respectively.¹⁷² Such partnerships are aligned with the priorities outlined in the Ministry of Education’s Comprehensive Education Sector Review (CESR), which has been under way since 2012 with extensive support from ADB, AusAID, British Council, Denmark, DfID (UKAid), EU, GIZ, JICA, Myanmar Education Consortium, Norwegian Embassy, Open Society Institute, Save the Children, Swiss Agency for Development and Cooperation (SDC), UNESCO and UNICEF.¹⁷³ Following a rapid assessment phase that

¹⁷⁰ Department of Social Welfare website. Accessed February 14, 2017.

¹⁷¹ Aung Htin Kyaw, “U Htin Kyaw’s Inaugural Cabinet: A Demographic Profile,” *Fifty Viss*, March 26, 2016.

¹⁷² See Case Study box on p 55

¹⁷³ Official Website of the Comprehensive Education Sector Review, “Partnerships.” Accessed February 14, 2017.

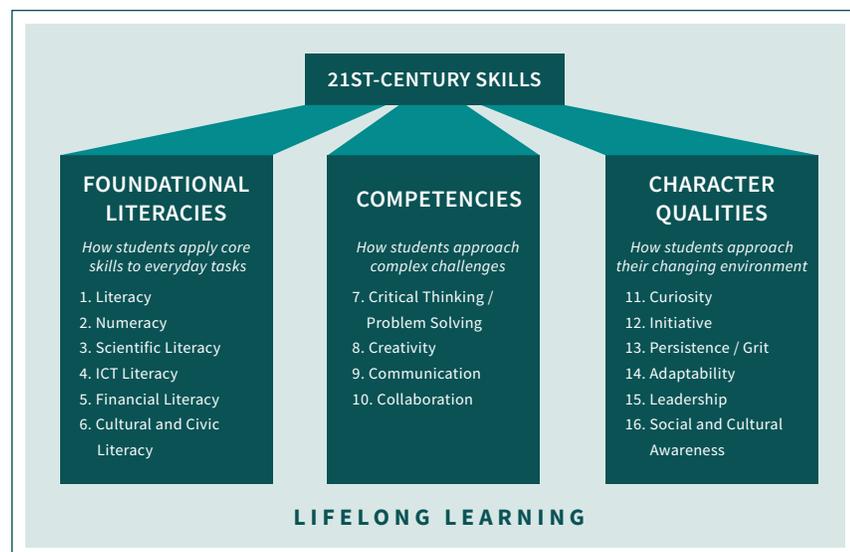
“There is a tremendous staff capacity issue in government bodies—and a need to move from pen and paper to digital tools.”

—Representative of donor agency

analyzed TVET and labor-market needs,¹⁷⁴ secondary education,¹⁷⁵ and higher education,¹⁷⁶ the second CESR phase was an in-depth analysis with concrete recommendations to improve educational outcomes by bringing infrastructure, instruction, and achievement up to ASEAN standards; both ICTs and equity (including but not limited to gender) were examined as key cross-cutting issues.

The third (current) phase is the development of a **National Education Strategic Plan 2016–2021** (NESP). It is clear from the NESP that improving digital access and skills for administrators and educators is a high priority. The blueprint calls for the MOE to draft a Basic ICT Tools Investment Plan detailing needs for ICT tools throughout the national education system, which will be implemented pending EC approval and funding. Envisioned needs include use of tablet computers or mobile devices to collect and automatically report annual data from schools and educational institutions, a smartphone-based Teacher Communication and Learning Network to connect all government basic-education teachers, and an accessible and affordable e-learning center network among higher education institutions for students and instructors.¹⁷⁷ Significantly, it does not include information or digital literacy in its definition of twenty-first-century skills,¹⁷⁸ unlike the OECD and World Economic Forum (see figure 12).¹⁷⁹

Figure 12: Students Require Sixteen Skills for the 21st Century



Source: World Economic Forum¹⁸⁰

¹⁷⁴ ADB, *Myanmar Comprehensive Education Sector Review Phase I: Technical Annex on Labor Market Analysis—The Demand for Higher Education and TVET Graduates* (Manila: ADB, January 2013).

¹⁷⁵ ADB, *Myanmar Comprehensive Education Sector Review Phase I: Rapid Assessment: Technical Annex on the Secondary Education Subsector* (Manila: ADB, March 2013).

¹⁷⁶ ADB, *Myanmar Comprehensive Education Sector Review Phase I: Rapid Assessment: Technical Annex on the Higher Education Subsector* (Manila: ADB, March 2013).

¹⁷⁷ Myanmar Ministry of Education, *National Education Strategic Plan 2016–2021*.

¹⁷⁸ Myanmar Ministry of Education, *National Education Strategic Plan 2016–2021*, 254: “The Curriculum Framework emphasizes 21st century skills as expected competencies students attain after learning activities. The 21st century skills, which is based on a skill model suggested by Partnerships for 21st Century Learning in the USA, is composed of intellectual strength, physical strength, moral and ethical strength, social strength and economic strength. In addition, it also includes higher-order thinking skills, cognitive skills, creative skills, problem-solving skills and leadership skills as cross-cutting competencies.”

¹⁷⁹ Jenny Soffel, “What Are the 21st Century Skills Every Student Needs?” World Economic Forum blog, March 10, 2016.

¹⁸⁰ Ibid.

In addition, the NESP blueprint featured gender equity, in particular the need for additional data to understand gendered patterns of enrollment, completion, and achievement rates, with nods to gender-responsive teacher training and classroom instruction. Given low MoE staff capacity in general, calls for highly technical skills such as gender-responsive budgeting and gender-sensitive quality assurance standards may be overly ambitious.

In 2016, the Ministry of Education also created a new **Department of Alternative Education** (DAE) responsible for technology education and using technology for education, with an emphasis on reaching the 3.5 million nonmatriculated school-aged youth. The DAE plans to explore how social media, smartphones, and 2G/3G feature phones can be deployed to meet the educational needs of hard-to-reach populations, such as underage youth working in the informal economy. The Department has expressed interest in working with INGOs and CSOs through venues such as public libraries to provide digital and life skills training.



While there seem to be few institutional spoilers in the NLD-controlled parts of the executive branch for expanding access to the internet and digital skills in general, there are many **bureaucratic obstacles**. Delays and confusion caused by cabinet reshuffling and consolidation, lack of incentives for innovation, low capacity within the civil service, and competing priorities have led to a situation in which effective collaboration across administrative jurisdictions is not yet happening. In the fall of 2016 the World Bank hosted inter-ministerial discussions with ICT points of contact from all ministries, but cooperation is sporadic and slow. For example, the Ministry of Construction is not participating in meetings around the MoTC-led process to create a Universal Access Fund designed to support initiatives like connecting rural schools and getting fiber-optic cable to the “last mile.” Furthermore, many executive bodies are not prioritizing internet connectivity as an integrated activity within their own mandates or providing the technical staff and budgets to support increased citizen engagement with government through e-services or social media, despite international technical assistance to that end. It is difficult to prioritize nuanced obstacles like the gender digital divide, which affect broad public needs and constituent services in myriad ways, when your own offices and staff lack adequate equipment,

connectivity speeds, and training on skills and gender issues. To address this lack of incentive, one public-private partnership to pilot cloud-based educational technology in thirty-one schools provided special training for MoE staff by professional, private ICT trainers to help them move from abstract understanding to a concrete sense of how digital technology can strengthen educational outcomes (see case study Connect to Learn on page 56). Feedback from the trainers indicated that the audience of civil servants required substantial extra time to complete the curricula, whereas feedback from MoE staff stated that the technology trainers went too fast, illustrating the need to calibrate awareness and skill-building efforts with institutional absorptive capacity.

Given that there have been and are currently no stated government priorities related to the gender digital divide specifically, interviewees pointed to ongoing efforts to develop a **universal service strategy as the most likely “home” for a gender digital divide champion**. Led by the MoTC with support from the World Bank, Intelcon Research, A4AI, and the Myanmar Computer Federation,¹⁸¹ the goal is an enforceable universal service strategy with dedicated resources to expand public access, improve infrastructure, and provide renewable power in underserved areas. If the conversation can be shifted from underserved *areas* to include underserved *groups*, then the gender digital divide is clearly within the strategy’s priority areas.

Alternatives include the four institutional mechanisms cited in the most recent large-scale gender assessment as likely champions of equality initiatives: the **Department of Social Welfare (DSW)**, which is the government focal point on gender equality and women’s rights; the **Myanmar National Committee for Women’s Affairs**, an interministerial policy-related mechanism established in 1996 and tasked with implementation of the CEDAW and the Beijing Platform for Action; the **Myanmar Women’s Affairs Federation**, established in 2003 as a government-resourced and staffed NGO that assists the National Committee for Women’s Affairs to implement CEDAW and the Beijing Platform for Action nationwide; and the **Myanmar Maternal and Child Welfare Association**, which was established in 1991 to promote maternal and child health and wellbeing in remote areas. Only DSW carries out discernible activities such as employability training for women, but to date it has not embraced digital literacy as part of its work. Interestingly, the latter two of the four are GONGOs that have historically been associated with military wives and a lack of discernible grassroots activities (see section 3.5 below).¹⁸²

STATE AND REGIONAL GOVERNANCE BODIES

For the first time in Burmese history, the 2008 Constitution created a decentralized system of fourteen subnational governments based on territorial and ethnic divisions.¹⁸³ The president was empowered to appoint chief ministers of the seven state and seven regional governments; within the states there are also six ethnically-determined self-administered zones. As a result of this centralized control over appointments, the leadership of the regional executive bodies does not necessarily reflect local election results or the corresponding makeup of the state and regional legislatures. Indeed, in 2016, the president appointed NLD legislative representatives to all fourteen subnational chief minister

¹⁸¹ Alliance for Affordable Internet, “A4AI Myanmar Coalition Working Group Meeting Report.”

¹⁸² Harriden, *Authority of Influence*.

¹⁸³ Callahan and Steinberg, *Drivers of Political Change*, 36

positions, even in Shan and Rakhine States, where the NLD did not win the most seats.¹⁸⁴ In March 2016, Dr Lei Lei Maw and Nan Khin Htwe Myint were appointed as chief minister in Tanintharyi Region and Kayin State, respectively, becoming the first women to hold this position; chief ministers in the other twelve states and regions are all male.¹⁸⁵

CASE STUDY: *Connect to Learn*

The pilot Connect to Learn public-private partnership is integrating ICTs into pedagogy in thirty-one schools (June 2016 to March 2017). Partners include the MoE, MPT, UNESCO, UKAid, Qualcomm, Ericsson, Finja 5, and Columbia University in New York City. Ericsson worked with MPT to upgrade 2G networks to 3G in towns where the project is being implemented, and MPT committed to cover internet connectivity for two years. In 2016, UNESCO trained 150 teachers of grades seven through ten in thirty-one schools, who then reached about 21,000 students, about half of whom were female. The teachers, the majority of whom are women, were using tablets and cloud-based technology in their classrooms for the first time. The project provided tablets preloaded with an Android app for mathematics, English, and life skills that is aligned with the standard grade-level curricula. The app has tailored content for boys and girls; life skills include information on human rights, peacebuilding, leadership, and sexual and reproductive health. The app is currently only available in the Myanmar language and there are no plans to add other languages. In fall of 2016, UNESCO and the MoE were in discussions about the MoE potentially assuming ownership of the app in order to scale the program in the future.

Women political leaders are progressively rarer the more local the position (see figure 13 below). Prior to 2015, women accounted for only 3 percent of locally elected MPs across the states and regions and only 2 percent of state and regional ministers. The situation improved incrementally with the November 2015 elections: taken together, women MPs make up 9 percent of the 884 total (13 percent if you exclude appointed MPs). The largest proportion was in Mon State with 19 percent, whereas three states have no female MPs at all (Chin, Kayah, and Rakhine).¹⁸⁶

An extensive report on women's participation in subnational governance in Myanmar by the ADB found that at the township level and village it is almost nonexistent—0 percent of administrators were at township level and 0.11 percent were village heads.¹⁸⁷ Significantly, township administrators are described as key decision-makers at the township level, who are appointed by the Tatmadaw-controlled GAD (as were village/ward tract administrators up until 2012¹⁸⁸). In an interview with ADB, a senior national-level GAD official stated that there are no rules prohibiting women from becoming township administrators.

¹⁸⁴ International Crisis Group, *Myanmar's New Government*.

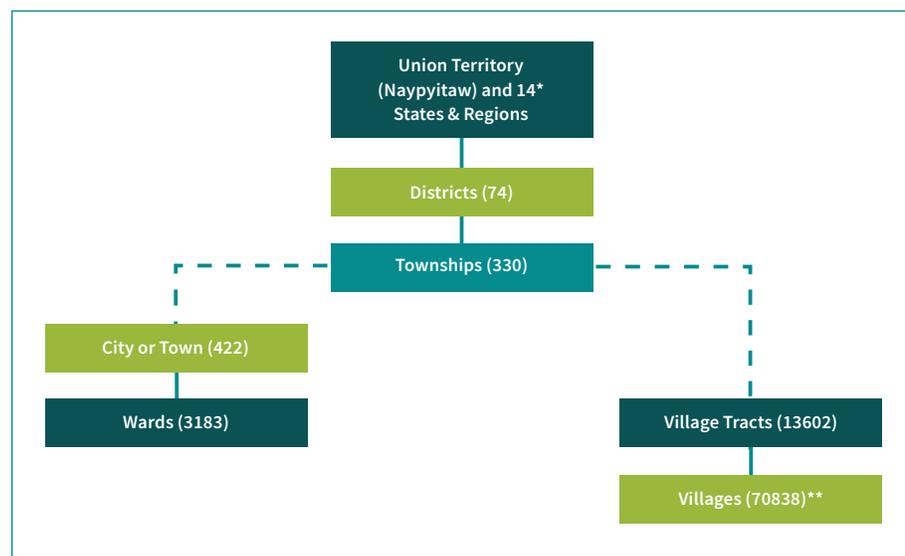
¹⁸⁵ Minoletti, *Gender (In)equality in the Governance of Myanmar*.

¹⁸⁶ Ibid.

¹⁸⁷ Paul Minoletti, *Women's Participation in the Subnational Governance of Myanmar*, Discussion Paper No. 3, (Manila: ADB, UKAID, and DFAT, June 2014).

¹⁸⁸ UNDP Myanmar, *Women in Local Leadership: Leadership Journeys of Myanmar's Female Village Tract/Ward Administrators* (Yangon: UNDP Myanmar, November 2015).

Figure 13: National and Subnational Governance Structure



The interviewee also reported that there are very few women in decision-making positions anywhere in the GAD even though women make up, on average, 38 percent of GAD staff below “officer” level in the state and region, township, and ward/village tract administrations.¹⁸⁹

More recent research by UNDP released in December 2015 found that out of 16,785 village/ward administrators,¹⁹⁰ only forty-two or .25 percent are women. Previously appointed positions, they are now elected for five-year terms and serve as a bridge between village/ward administration and the township AD. In a [video](#) accompanying the research report, three of the six women village/ward administrators featured mentioned that their fathers had been ward administrators, and two had less than sixth-grade educations. The near-invisibility of women at the most local level of government administration speaks to deeply entrenched gender norms about public leadership by women, women’s relative lack of leisure time compared to men, and the continuing strong influence of township-level GAD-appointed civil servants with military ties on the newly elected village/ward administrators.

Several key informants described a system in which local governments have become used to merely relying on the national government to hand down tasks for them to carry out, as most policy and budgetary decisions are made at the union level. This indicates that township-level advocacy efforts by CSOs and other stakeholders to bridge the gender digital divide should focus on implementation and enforcement rather than policy development. At least one CSO reported that the Department of Social Welfare is assessing NSPAW-related tasks to assign to local township administrations; to encourage this development, they planned to conduct more trainings and events for female township staff. But women’s access to local governance through male family members and as civil servants must not be conflated with control over resources and decisions, making it critically important to incentivize male allies to support equitable ICT access and skills for all.

IREX INSIGHT

With approval power over local development projects and very opaque incentive structures, local GAD appointees are potential spoilers of more equitable ICT access and skills acquisition at the township, city and village/ward level.

¹⁸⁹ Ibid.

¹⁹⁰ Village tract administrators govern rural areas, whereas ward administrators are in urban areas.

3.2 Patronage Networks and Other Incentives

As in many planned economies, dictatorships, and other political economies with opaque decision-making and budget processes, the formal governance institutions described above are intertwined with an intricate behind-the-scenes system of patronage networks, rents, prerogatives, and other incentives derived from state-owned enterprises, local and foreign businesses, military interests, and criminal groups. Even when outgoing seventy-eight-year-old military leader General Than Shwe announced he did not plan to run for president in 2010 and retired, he “is believed to have hand-picked his successors in both the government and the military in a way to ensure their inability to threaten his personal, familial, or commercial interests.”¹⁹¹

Overall, the Tatmadaw’s commercial interests are extensive. In 1988 it created two large holding companies, the Myanmar Economic Corporation and Myanmar Economic Holdings Ltd. (MEHL), both of which were controlled by the Ministry of Defense. According to the *Economist’s* Intelligence Unit, “at least some of its enterprises make money legitimately, and will make more as the country prospers. MEHL, for example, makes Myanmar Beer, the most popular brand, and Red Ruby, one of the most popular cigarettes. However, the army and its cronies have also grown rich from gem and jade mines—and vast tracts of land that many contend were illegally seized.”¹⁹²

Although there were some very public examples of power shifts in 2011 (such as the announcement by then-Minister of Railways of an end to MEHL’s monopoly over car imports¹⁹³), more recently, the outgoing administration issued a mobile telecommunication operator license to a newly formed joint venture between Vietnamese military-linked Viettel, local firms, and a subsidiary of the Myanmar Economic Corporation “in a move that observers said advantaged the military’s financial interests.”¹⁹⁴ While increased foreign investment presents many rich opportunities for rent-seeking, it may also displace existing rent flows and patronage networks as economic sectors shift in relative importance, inadvertently catalyzing—or blocking—progress toward narrowing digital divides.

While the large state economic enterprise sector has functioned as a tool of the rich and powerful for decades and is a major spoiler to reforms that upset the status quo in general, liberalization of tech sector giants like the state-owned telecom MPT indicate that incentive structures are indeed changing. For example, the Tatmadaw relinquished considerable control over public access to information when it ended the monopoly that the military-owned MEC and MPT held over SIM cards through 2013 via a state-run monthly lottery for SIM cards.¹⁹⁵ At the same time, delays with certain legal reforms related to digital security and privacy¹⁹⁶ may indicate that the new incentives are not sufficient enticement for it to cede control over ICTs as surveillance tools, posing a distinct challenge to champions of equitable and secure access to online information.

“Historically most government officials and employees have been more interested in their entitlements (rent-seeking) than providing services to the public. Culturally they are accustomed to operating in a patronage system with orders coming down from the top and little accountability for results.”

—Rieffel 2016

¹⁹¹ Callahan and Steinberg, *Drivers of Political Change*, 4.

¹⁹² *Economist*, “Myanmar’s Economy: Miles to Go,” August 6, 2016.

¹⁹³ *Ibid.*, 15.

¹⁹⁴ Freedom House, *Freedom on the Net 2016—Silencing the Messenger: Communication Apps Under Pressure* (Washington, DC: Freedom House, 2017).

¹⁹⁵ *Ibid.*

¹⁹⁶ Myanmar Centre for Responsible Business, Institute for Human Rights and Business (IHRB), and Danish Institute for Human Rights (DIHR). *Myanmar ICT Sector-Wide Impact Assessment*, September 2015.

In addition to abiding concerns over cybersecurity, well-connected military, government, and business interests undoubtedly view liberalization of the ICT sector as an opportunity to further enrich themselves and their families. This is nothing new—an example from 2004 involved kickbacks in the tens of millions paid by Chinese telecom company ZTE as part of a \$150 million loan to MPT.¹⁹⁷ Among growth sectors in Myanmar today, telecom is one of the most coveted, estimated by analysts to be worth billions of dollars—and some very visible corruption scandals in 2013 were clearly removing obstacles to rent-seekers behind the scenes.

In an interview, following the 2013 corruption scandal at the Ministry of Communications and Information Technology, a Myanmar expert at Macquarie University in Sydney described Minister Thein Tun’s resignation in the wake of the scandal as a “net positive” for telecom reform, since Tun was regarded by Myanmar watchers as an opponent of cheaper SIM cards (at the time, still in excess of \$150) and “a logjam generally in the process of reform” in the sector.¹⁹⁸ Following his ouster, the bidding process for mobile network providers was the first large public tender outside the natural-resources sector to include foreign companies and was “widely praised by consultants and participating companies as ‘world class.’”¹⁹⁹

The 2012 local and 2015 parliamentary elections ushered in new political cadres, although many, including Prime Minister Shwe Mann, merely fill different positions, and their appointees and staff are likely to uphold patronage networks based upon old loyalties. In addition, while it is important to acknowledge that the military still has constitutional and extralegal control of the economic and security environment, it is also crucial to understand that Daw Aung San Suu Kyi’s NLD retains many of the traits that enabled it to function successfully as essentially an underground movement until 2011, including reliance on personal loyalties over competence or merit, and a vertical decision-making structure in which secrecy is paramount.



¹⁹⁷ Larry Jagan, “Politics of Corruption in Myanmar,” *Asia Times*, April 15, 2013.

¹⁹⁸ Shibani Mahtani, “Telecom Officials Face Corruption Probe in Myanmar,” *Wall Street Journal*, January 24, 2013.

¹⁹⁹ Gwen Robinson, “Myanmar Telco Auction: The Good and the Bad,” *Financial Times*, June 28, 2013.

CASE STUDY: Red Link Communications

In 2010 MPT gave Red Link Communications—owned by sons of the regime’s third-topmost military official, Shwe Mann—a lucrative contract to operate fiber-optic-sourced internet connections around Yangon and Mandalay.²⁰¹ At the time, Red Link charged installation fees of \$1,000 to \$1,500 and monthly fees of \$600 to 700 in a country whose per capita GNI the World Bank estimates at \$1,270. In 2013, when the former Minister of Communications and Information Technology and dozens of MPT officials were under investigation for graft, Red Link’s founder publicly denied that the contract was the result of his family’s influence with government officials. According to its website, Red Link now offers internet access, data and voice services, corporate VPN, satellite communications, fiber-optics, and long-range data communication technologies. Despite losing his re-election bid in 2015, Shwe Mann is currently head of a parliamentary commission tasked with advising on legal and “special issues,” which he created in 2011.²⁰²

In addition to changes wrought by the new composition of political party affiliations in the *hluttaw*, the increased number of female elected officials may affect patronage networks, rents, and other incentives. While international studies on gender and corruption are inconclusive, it is possible to say that less access to patronage networks that have traditionally flowed through military services is likely to lead to different types and possibly lower levels of corruption in present-day Myanmar. For example, studies from India show that corruption among women village heads was linked to lack of prior experience and decreased over time. In research conducted in Myanmar in 2013, the authors noted that interviewees in Kachin State

expressed that “women are better at fighting corruption than men,” and (in Kayin State) that female village heads “commit less corruption than men.” Interviewees also reported that female village heads in Kayin State were able to more successfully negotiate with armed groups operating in the area to reduce the level of extorted money, goods, and/or labor demanded by these groups than male village heads.²⁰²

However, whether female officials are merely perceived to be less corrupt or have fewer incentives or opportunities to engage in rent-seeking behavior may have little bearing on effective government support to closing the gender digital divide. As noted in the ADB gender assessment, women who are appointed to decision-making positions on the basis of male patronage tends to be less able to promote the group interests of women. Furthermore, women who obtain governance roles based on familial relations are less able to foster inclusive decision-making that goes beyond local elite circles.²⁰³

²⁰⁰ Tupas, Jeffrey Is Burma’s Disconnectivity Deliberate? Sept 3, 2013

²⁰¹ Htoo Thant and Ei Ei Toe Lwin, “Thura U Shwe Mann Appointed to Head Own Legislative Commission,” Myanmar Times, February 8, 2016.

²⁰² ADB, *Technical Assistance to Myanmar*, 26.

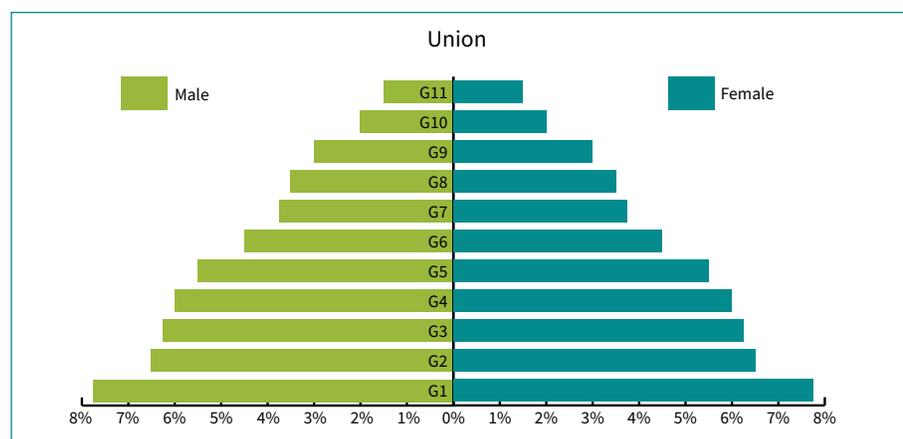
²⁰³ Ibid.

3.3 Educational Institutions

Basic literacy and numeracy are prerequisites to digital literacy, but five decades of **underinvestment in the education sector** have resulted in significant backsliding since the mid-twentieth century. According to the 2014 census, 16 percent of adults over age 25 had no formal education and 45 percent had only completed primary school; corresponding figures for rural adult women are 19 percent and 52 percent.²⁰⁴ And while the 2014 census recorded high self-reported literacy rates for those over age 15 (93 percent for men and 87 percent for women), rates for rural areas and ethnic minorities vary greatly. For example, overall in Shan State, 52 percent of rural women are literate, but in the Wa Autonomous Self-Administered Division (ASAD) within Shan State, only 16 percent of rural women are functionally literate—a predominantly rural, isolated, and conflict-affected area.²⁰⁵ Data on wildly divergent local literacy rates, ranging from 95 percent among female residents in Yangon region to a low of 6 percent among female residents of certain townships within the Wa ASAD,²⁰⁶ underscore the variation in access to and quality of education throughout Myanmar. As described in [section 3.1 above](#), the MoE is addressing these challenges with considerable international support for both strategic plans and grassroots activities (see map of fifty-five education projects in 2016 in [Annex E](#)).

The formal education system in Myanmar is based on a three-tier system: five years of primary school education, four years of lower secondary education, and two years of upper secondary education (plans to include a twelfth year are underway). Of the **nearly 9 million students** who attend school, less than 300,000 make it to grade eleven, of whom only 30 percent pass the matriculation exams.²⁰⁷ There are marked differences by gender as well as rural/urban residence, particularly in upper secondary school (see figure 14 below).²⁰⁸ Those who do graduate from upper secondary school may then further their education at a university or a technical school, including any of twenty-six computer science colleges.

Figure 14: Composition of Basic Education Students, by Sex and Grade (academic 2010–2011)



Source: Asian Development Bank

²⁰⁴ Ministry of Immigration and Population, *The 2014 Myanmar Population and Housing Census: The Union Report*.

²⁰⁵ Ministry of Immigration and Population, *The 2014 Myanmar Population and Housing Census: The Shan State Report, Census Report Volume 3-M* (Naypyidaw: Republic of the Union of Myanmar, May 2015).

²⁰⁶ Ibid.

²⁰⁷ Myanmar Ministry of Education, *National Education Strategic Plan 2016–2021*, 100.

²⁰⁸ ADB, *Phase I: Rapid Assessment: Technical Annex on the Secondary Education Subsector*.

IREX INSIGHT

Existing educational reform initiatives hold great promise to address access and skills deficits for those at the bottom of the pyramid due to strong political will and the diversity of local and international supporters.

Figure 14: Composition of Basic Education Students, by Sex and Grade (academic 2010-2011) [continued]



The official languages of instruction are Myanmar (Burmese) and English; the 2014 National Law on Education guarantees the right to use minority or multiple languages in the educational system. The MoE and the regional and state governments must coordinate to develop curricular materials and pay for such instruction; in one recent example, UNICEF also contributed funds for printing costs.²⁰⁹ **Minority-language instruction** faces many hurdles, as there is a shortage of materials and teachers have few incentives—such instruction is to be offered after regular school hours, and they receive an additional stipend of only \$25 a month, paid annually.²¹⁰

²⁰⁹ Nay Aung, Asho Chin Literature Coming to Magwe Region Textbooks, *Myanmar Times*, August 10, 2016.

²¹⁰ Ibid.; and Mwe Khur, "Challenges in Teaching Ethnic Language in Burma." *Burma News International*, January 10, 2017.

GOVERNMENT SCHOOLS

Official data claim that Myanmar had achieved **gender parity** of enrollment in both primary and secondary education by 2010, and there are more women than men at the tertiary level.²¹¹ These positive gains are tempered, however, by enrollment and completion figures that decrease drastically from primary to secondary school (see Table 2 below).

Gender parity and high (over 80 percent) net enrollment through grade five indicates that integrating digital literacy into primary grades would be an effective strategy to prevent the gender digital divide from expanding, assuming that NESP-envisioned upgrades such as ICT equipment, connectivity, ICT-integrated pedagogy, and quality teacher training are realized countrywide. The extent to which this occurs is intertwined with the peace process as much as with available resources.

Table 2: Student enrollment and completion rates, by sex, 2014–15.

	Male percent	Female percent
Primary enrollment	82	90
Primary (G5) completion	80	81
Middle (G9) completion	44	46
High (G11) completion	25	28
Any post-secondary	13	18

Source: Myanmar Ministry of Education, National Education Strategic Plan 2016–2021, 69.

However, there was consensus among key informants and focus group respondents that, as a general rule, neither primary nor secondary government schools currently have ICT equipment, connectivity, or digital skills training for either teachers or students. Respondents of the global Executive Opinion Survey ranked Myanmar 135th out of 139 countries on the question “In your country, to what extent is the internet used in schools for learning purposes?”²¹²

There are isolated **“edtech” initiatives** around the country, such as a pilot funded in 2013 by the Danish Ministry of Foreign Affairs to equip thirty high schools in Chin state²¹³ and UNESCO’s Strengthening Pre-Service Teacher Education in Myanmar (STEM) Project, which began developing ICT capacity at Myanmar’s twenty-three education colleges in 2015.²¹⁴ The blueprint for the NESP does envision plans for the systemic introduction of equipment, training, and integrated, technology-enabled administrative and pedagogical changes, but the focus is managerial efficiency, assessment capacity, and teacher training more than digital literacy as a core twenty-first-century skill.²¹⁵ Even fewer teachers have been exposed to gender-responsive pedagogical methods. Indeed, a pilot project to introduce cloud-

²¹¹ Myanmar Ministry of Education, *National Education Strategic Plan 2016–2021*, 2016

²¹² World Economic Forum, *Global Information Technology Report 2016*.

²¹³ Tupas, “Is Burma’s ‘Disconnectivity’ Deliberate?”

²¹⁴ With support from the Australian government and in partnership with the Ministry of Education, UNESCO’s STEM project conducted an in-depth assessment of ICT infrastructure and its use in pre-service teacher training courses at Myanmar’s twenty-three education colleges (ECs) and developed a five-year framework for upgrading ICT capacity in ECs. In November 2016 UNESCO facilitated a five-day workshop for sixty-four ICT teacher-educators, who created more than thirty classroom activities tailored to fit each chapter of the ECs’ ICT curriculum. Each activity was tested to ensure it could be implemented successfully with resources available at all education colleges, even the most remote.

²¹⁵ Myanmar Ministry of Education, *National Education Strategic Plan 2016–2021*; see discussion in section 3.1 above.



based educational technology in thirty-one schools found that the participating teachers required coaching in order to redress their habit of soliciting only male volunteers to set up the technology (tablets, projectors, etc.) in the classroom.²¹⁶

As described above (see section 3.3), the new Department of Alternative Education is exploring how social media, smartphones, and 2G/3G feature phones can be deployed to meet the educational needs of the **3.5 million out of school youth**, including child laborers. The DAE has expressed interest in working with INGOs and CSOs through venues such as public libraries to provide digital and life skills training as essential components on the path out of poverty.

There are, in fact, many plans to change the status quo. Among other things,

NESP reforms will be critical to strengthen pathways linking secondary education to TVET and higher education and also strengthening secondary education's role in preparing the majority (in the near term) of youth to enter the labor market by ensuring that information technology provides relevant and flexible knowledge and competencies to all students, irrespective of their sex or location.²¹⁷

The pace and extent of rollout of systemic reforms will have a direct bearing on the extent and nuances of the gender digital divide experienced by the youth of Myanmar.

UNIVERSITIES AND COLLEGES

While few young women reach university (18 percent), those who do comprise approximately 60 percent of all students at the tertiary level, and the share increases at higher levels (e.g., 59 percent of undergraduate degrees, but 80 percent of master's and doctoral degrees). They form particularly large proportions of faculties of law, finance, teacher education, and languages.²¹⁸ Interestingly, there are differing reports as to their share of what are, in Myanmar, traditionally male-dominated fields of study: one source presented

²¹⁶ UNESCO Bangkok, "Myanmar: TVET as Key to Educational Opportunities for All Learners," March 31, 2015.

²¹⁷ ADB et al., *Gender Equality and Women's Rights in Myanmar*, 107–108.

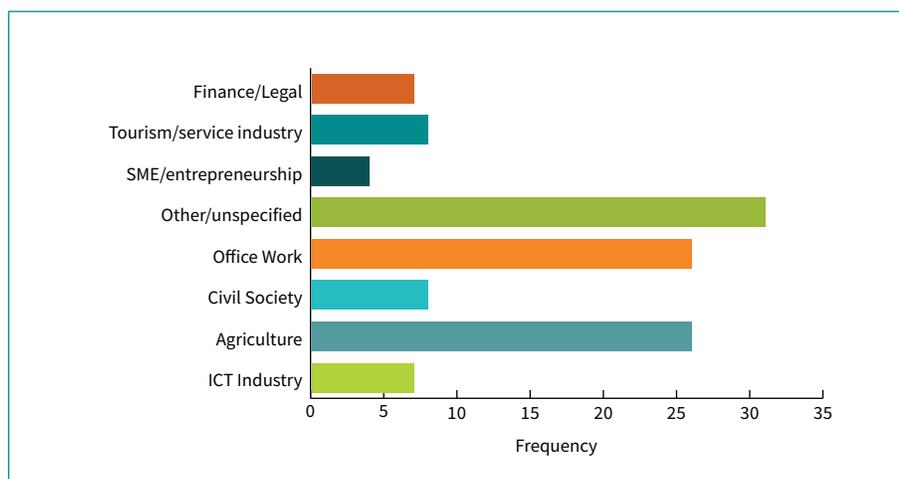
²¹⁸ Urbano and Dickinson, *Women and the Economy in Myanmar*.

anecdotal evidence that women are minorities at technical colleges and computer science universities,²¹⁹ which was contradicted in accounts from several key informants. Another source cited a news article claiming that women account for about 90 percent of the Yangon Technological University’s 285 civil-engineering students and outnumber men majoring in architecture four to one.²²⁰ It may be that preferences are shifting as foreign investment affects jobs growth, or that opportunities are opening up in concert with male economic emigration.

In addition to deficits in primary and secondary educational institutions, universities and colleges have long complained of inadequate facilities for digital technologies. Indeed, in 2013 a professor in Yangon said the “snail-paced speed” of the university’s internet connection rendered it almost useless. “The professor, who asked to be identified only as Zey, suspects that the slow connection, which usually turns off students, is yet another form of censorship.”²²¹

In 2015 the Asian Development Bank assessed the ICT capacity of universities as part of a study on the e-governance readiness of Myanmar. The study found that “some universities in Myanmar produce high-caliber industry ready graduates with skills and expertise in ICT. However...skilled and experienced manpower [sic] at various levels (program managers, ICT infrastructure specialists, IT operation experts, architects, cyber-security specialists etc.) were in significant short supply both in the government and in the private sector.”²²² The extent of the shortfall—10,000 average annual graduates with “basic degrees”—may be compared to Singapore, with 135,000 similar graduates yearly.²²³ Despite this apparent demand, interviewees rarely linked digital skills explicitly with ICT sector-specific employment opportunities for women (see figure 15).

Figure 15: Frequency of Reported ICT-Associated Employment Opportunities in Myanmar for Females, by Sector



²¹⁹ Ibid.

²²⁰ ADB et al., *Gender Equality and Women’s Rights in Myanmar*.

²²¹ Tupas, “Is Burma’s ‘Disconnectivity’ Deliberate?”

²²² ADB, Myanmar: *Design of eGovernance Master Plan and Review of ICT Capacity in Academic Institutions* (Manila: ADB, July 2015), 21.

²²³ Ibid., 23.

As described above (see section 3.3 above), the Ministry of Education has committed to creating an e-learning network for professors and university students to improve access to digital learning materials as well as digital skills. This could make a substantial impact, if coupled with high-speed broadband throughout the country to improve upload/download times and make web-based learning tools a feasible option. It would also embed opportunities to learn and exercise advanced digital skills for well-educated young women, potentially expanding their post-graduation career opportunities. Initiatives to address the top of the digital skills pyramid should combine advanced technical skills with employability skills, hands-on work experience such as internships and apprenticeships, and networking events from career fairs to tech expos in order to counterbalance existing gender-based educational and occupational segregation.



TVET

Although underutilized—official data report less than 1 percent of male or female students pursuing post-secondary technical and vocational education and training (TVET)²²⁴—TVET is an important part of the educational system in Myanmar and has particular relevance for closing the gender digital divide. TVET includes digital and soft skills identified by key informants and focus groups as barriers to digital inclusion, particularly for girls and young women who cannot afford alternatives such as private ICT training. However, as with higher education, women are overrepresented in TVET areas such as language training while underrepresented in skill areas such as light mechanics and information technology.²²⁵ This phenomenon is due at least in part to structural gender-based channeling by educational institutions. For example, Department of Social Welfare training courses for women are

offered primarily in areas traditionally considered to be the work of women, such as sewing, planting, laundry, and so forth. The training programs need to better respond to particular demands for skills or incorporate practical business skills. New avenues for income generation are opening up, for example, as tourism expands in Myanmar; and training programs can be designed to prepare poor women to take up these opportunities in remote and rural areas where many tourist sites are located.²²⁶

TVET reform enjoys support from many donors and development partners, including the World Bank and ADB; bilateral donors such as Switzerland, Germany, South Korea, Singapore, and the European Union; and multilateral agencies like UNESCO, ILO, and to a lesser extent UNDP.

²²⁴ Myanmar Ministry of Education, National Education Strategic Plan 2016–2021.

²²⁵ ADB, *Technical Annex on the Higher Education Subsector*.

²²⁶ ADB et al., *Gender Equality and Women's Rights in Myanmar*, 108–109.

Given the strength of the gender digital divide in such locations, it is imperative that TVET efforts consciously integrate digital skills into offerings for those with limited ICT access, skills, and experience with the benefits of online information, products, and services for personal as well as community development.

Currently there are many donors and development partners providing assistance for TVET reform, including the World Bank and ADB; bilateral donors such as Switzerland, Germany, South Korea, Singapore, and the European Union; and multilateral agencies like UNESCO, ILO, and to a lesser extent UNDP. The MoE and these allies are focusing their support on

1. **providing technical advice, capacity development, and training;**
2. **developing solutions as models for replication across the system; and**
3. **providing loans and/or direct funding for purchase of physical resources and capital development (buildings, equipment, and facilities).²²⁷**

At least one past initiative was designed to increase opportunities for women: in 2013, the ADB supported pilots by what was then the Ministry of Science and Technology (eliminated in the 2016 reshuffle) and the Ministry of Industry to test new models of competency-based modular short courses, with specific targets for encouraging females to be trained and successfully employed in traditionally male-dominated skill areas.²²⁸ This could be a useful model for TVET courses that focus on or embed digital skills that are in demand locally.

MONASTIC SCHOOLS

In response to large areas of unmet need for basic education, there are nearly 1,600 monastic schools that serve more than 300,000 children,²²⁹ especially those in remote and conflict-affected areas, migrant children, working children, those in poor health, children from ethnolinguistic minority groups, and children with disabilities. Enrollment is open to boys and girls, with slightly more boys (except in Chin state and Thanintharyi region). Loosely regulated by the Ministry of Religious Affairs rather than the MoE, teachers (88 percent of whom are female) in monastery schools are not required by law to attain a certificate in education; many work voluntarily due to a lack of resources for salaries. Monastic schools also lack basic facilities, teaching and learning materials, and adequate sanitation and hygiene facilities.²³⁰ Some international donors, INGOs, and Myanmar philanthropists provide basic support.²³¹ Data on the ICT capacity of such schools is lacking, but it seems plausible that it is extremely low. While monastic schools are well positioned to meet the needs of youth at the bottom of the skills pyramid, they are unlikely to be able to do so. However, they could tap available resources such as University of Washington's **mobile literacy curriculum**, which was tested in Myanmar among mobiles-first users (see **Annex D**).

²²⁷ UNESCO Bangkok, "Myanmar: TVET as Key to Educational Opportunities for All Learners."

²²⁸ ADB, *Technical Assistance to Myanmar*.

²²⁹ Myanmar Information Management Unit, "Monastic Education in Myanmar, 2015-2016," August 30, 2016.

²³⁰ Burnet Institute and Monastic Education Development Group, *Monastic Schools in Myanmar—A Baseline Study* (Pahran, Australia: Burnet Institute, 2014).

²³¹ Burnet Institute, "Strengthening Monastic School Education in Myanmar," n.d. Accessed January 2017.



PRIVATE EDUCATIONAL INSTITUTES

Exceptions to the low-capacity government and monastic schools described above are available to the very wealthy in urban centers and cater to students in the middle of the digital skills pyramid. One director of a private secondary school in Taunggyi stated that teachers routinely use websites and Facebook pages with teaching aids and new pedagogical techniques, and that her school offered courses in computer-assisted design (like AutoCAD), accounting and statistics software, and Microsoft Office to broaden pupils' opportunities for further study.

Statistics for enrollment at private ICT training institutes or public technical universities, both of which are typically located in urban areas, were unavailable. However, key informant interviews indicated both enrollment parity and **gendered tracks** that echo those found in universities, as discussed above. While no instances of private institutes presenting structural barriers (such as gender-based differences in required university entrance-exam scores) were identified, gender norms were repeatedly referenced by respondents describing culturally accepted tracks for boys and girls that are in large part accepted by youth themselves. This is often expressed as a preference for girls to study subjects like law, business administration, and accounting—and ICTs only insofar as they support these pursuits, such as office productivity software (including the Microsoft Office suite of products). As a result, few young women acquire advanced ICT skills and ascend to the top of the digital skills pyramid. Boys, who are encouraged to study engineering, software programming, hardware repair, audio/video editing, and other ICT professional tracks, more often do so.

“Men are more motivated to continue learning technology skills. Young women learn what they need in order to get a job.”

—Rural educator

3.4 Private Sector Interests

Ten months into its first year, the NLD administration has yet to share a detailed policy framework for economic development, releasing only a three-page brief outlining its economic principles rather than long-awaited policy priorities. The most important takeaway “was the emphasis put on national reconciliation. “Balancing of sustainable resource mobilization and allocation across states and regions” received top billing on the twelve-point plan.”²³² This emphasis indicates that the NLD leadership is incentivized to pursue the degree of equitable telecommunications investment required to impact the gender digital divide in conflict-affected areas. However, whether the administration plans to solicit bids for public-private partnerships (as with the corporatization reform of MPT) or pursue other means of investment remains unknown.

There are distinct categories of private-sector interests that can play an instrumental role in bridging the gender digital divide. They include large (primarily multinational) telecommunications and ICT companies (such as Ooredoo, Telenor, Ericsson, Microsoft, Google, etc.) eager to invest in an expanding market; telecenters and cyber cafés that provide fee-based public internet access, particularly for the urban poor; ICT training institutes and bootcamps that are best positioned to address the enormous public need for digital skills until educational reforms can take root; local ICT firms that support innovation and entrepreneurship; and firms in growth sectors like tourism and agricultural processing that seek employees with the skills to create tech-enabled competitive advantages.

MULTINATIONAL INTERESTS

Deeply entrenched commercial interests with ties to the former military regime—estimated by one insider to represent nearly one-third of Myanmar’s economy²³³—now vie with foreign investors. Overall foreign investment grew from \$1.9 billion in 2011–12 to \$2.7 billion in 2012–13, primarily from China, India, the United Kingdom, and the United States, and the ICT industry is one of the fastest-growing sectors in terms of investment and employment.²³⁴ Telenor recently reported that it has already invested \$1.5 billion since receiving a license in 2014 to offer telecommunications services.²³⁵ The current regime has encouraged the growth of the ICT industry and provided both regulatory and fiscal support for public-private infrastructure improvements (see section 2.3 above). Furthermore, many telecom retail outlets are key points of access and control to mobile digital skills with significant gender dynamics. Rather than provide skills training or demonstrations, they preload mobile devices and retain admin passwords, necessitating a return visit if a consumer desires to adjust settings or download additional apps.

IREX INSIGHT

Private businesses are key drivers of change with a reliable profit motive to bring more citizens of Myanmar online and expand their digital fluency in order to boost demand for locally relevant, affordable products and services.

²³² *Economist*, “Twelve-Point Economic ‘Plan’ Disappoints,” August 4, 2016.

²³³ In January 2016, oligarch U Chit Khine, a former NLD rep at the township level and now an owner of Hilton hotels in Nay Pyi Taw and other properties, estimated that cronies and military-owned enterprises controlled “about 30 percent” of the economy. See Kyaw Phone Kyaw, “Myanmar’s Tycoons Unfazed by NLD Victory,” *Frontier Myanmar*, January 7, 2016.

²³⁴ Most of this foreign investment was in the energy sector, garment industry, information technology, and food and beverages. World Bank Group, “Myanmar Economic Monitor, October 2013,” 2013.

²³⁵ Telenor Myanmar, “Telenor Network Carried a Record 7.2 Billion Text Messages in 2016.”

FEE-BASED PUBLIC INTERNET ACCESS POINTS

As discussed above, the technology ecosystem currently includes very few *free* public access points via government institutions such as schools and public libraries (see section 2.3).

Rather, cyber cafes, telecenters,²³⁶ and tea houses are important for the urban poor; notably, they are not considered female-friendly due to gender norms governing appropriate public spaces and digital security concerns. Not all offer digital skills training or have trained staff.

ICT TRAINING INSTITUTES AND BOOTCAMPS

Urban centers offer a range of private ICT-skills training options, including intense short courses known as bootcamps. For example, the KMD training company has a countrywide network of private institutes offering short- and long-term in-person ICT courses. In Yangon, enrollment figures are approximately 5,000 per month in short courses and 2,000 per year in year-long courses (professional/advanced). In Taunggyi, KMD offers only basic ICT skills such as office productivity software (e.g., Microsoft Office); students who desire advanced training must travel to Yangon or Mandalay.

While KMD does not collect sex-disaggregated data on students, key informants noted that their hardware courses (such as networking) are male-dominated, whereas more women pursue short-term courses (such as graphic design). This gender divide was reflected in the staff: although most of KMD's instructors are female, only two of the networking/hardware training courses offered in Yangon are taught by women. Interestingly, when asked to explain the difference, one key informant claimed it was not due to differences in skill level. Rather, young men have aspirations for ICT technician careers that often require travel, while most female students prefer to learn software for office jobs—echoing gender norms around public and private space and expectations of women's availability to perform unpaid household labor (see section 2.2 above).



²³⁶ MIDO plans to increase its network to 200.

“Skills differences are especially marked for poorer women who cannot afford ICT training. The only places for them to learn digital skills are male-dominated internet cafes where they feel uncomfortable.”

—Urban CSO representative

“The unstructured business environment creates an unpredictable atmosphere for any business to operate. From creating unscheduled appointments to high-value verbal deals done without a contract, doing business in Myanmar really depends on [the] mood of key decision makers, not the processes and policies. This creates both opportunities and challenges, but as we try to create a business environment for international investors, these will have to be changed.”

—Codeboratory leader
Kaung Sitt

LOCAL ICT FIRMS

Yangon has a small but growing ICT entrepreneur community that has received support from donors (mSTAR, Project Hub, UN Economic and Social Commission for Asia and the Pacific). It includes some firms that have already contributed to closing the gender digital divide through partnerships with multinational companies (e.g., Koe Koe Tech, which developed Oordeo’s *maymay* maternal health app) and donors (e.g., Geek Girls, which developed UNDP’s *iWomen* app). Phandeeyar (“creation space”) is an innovation lab that offers ICT training, a business accelerator, and co-working space for tech startups as well as CSOs and media. A female key informant from the local ICT sector described a glass ceiling and low salaries as disincentives for women to become developers. According to her, those who experience discrimination often switch jobs rather than trying to change workplace gender norms prescribing male leadership in the head office.

“In tech companies, even if women and men have the same skill levels, men are preferred in leadership positions and get promoted more quickly.”

—Urban female ICT industry employee



NON-ICT GROWTH SECTORS WITH ICT NEEDS

Beyond the ICT sector itself, other sectors such as tourism, finance, and banking are increasingly reliant upon technology-enabled services and digitally savvy staff, and the latter are predominantly female occupations in Myanmar.²³⁷ A key informant from the tourism sector provided insight into gender-based differences among jobs in the industry. She said that women predominate in office-based, sedentary work like tour operators that require skills such as typing and online information searches. Men, on the other hand, are 80 percent of tour leaders who must travel and need mobile phones to stay in contact with their clients and home office. Another key informant from the retail sector mentioned that a combination of digital and English language skills were in demand. Given that women predominate in language training in both TVET and higher education institutions, embedding digital skills into such courses is another opportunity to close the gender digital divide.

²³⁷ Urbano and Dickinson, *Women and the Economy in Myanmar*.

3.5 Civil Society

During the five decades of military rule, civil society was comprised of government-organized “non-governmental” organizations (GONGOs) that often took the form of membership associations, such as the Myanmar Maternal and Child Welfare Association, which claimed to have approximately 14 million voluntary members in 2011,²³⁸ or the Myanmar Computer Enthusiasts Association (MCEA), which reportedly had 100,000 student members.²³⁹ Women-focused GONGOs like the MMCWA or Myanmar Women’s Affairs Federation (MWAFF) often mediated visible commitments to gender equality like CEDAW and the MDGs, and officially they had representatives at ward/village tract, township, state, regional, and national levels.²⁴⁰ They stood staunchly by the party line that Myanmar enjoyed gender equality.²⁴¹ However, a gender analysis conducted by the ADB prior to 2014 found little evidence of active work, and during field work for this report none of the historically prominent GONGOs was mentioned, not even related to the NSPAW. ICT-focused GONGOs like MCEA or the Myanmar Computer Federation (MCF) seem to have provided limited input on government technology policy (for example, MCF is involved in the current USF Working Group) but also lack grassroots membership services.



Civil society today faces legal and financial obstacles to sustainability, despite political changes since 2011 that have allowed significant growth of independent CSOs, including a handful that focus explicitly on the gender digital divide (see section 4.4 below). Several recent gender assessments have noted that women in Myanmar are well represented among leaders and staff in CSOs and INGOs working on development issues. For example,

²³⁸ Cited in ADB, *Technical Assistance to Myanmar*, footnote 47.

²³⁹ We were unable to verify, but this was cited by Myanmar Centre for Responsible Business, Institute for Human Rights and Business (IHRB), and Danish Institute for Human Rights (DIHR). *Myanmar ICT Sector-Wide Impact Assessment*, September 2015.

²⁴⁰ Minoletti, *Women’s Participation in the Subnational Governance of Myanmar*.

²⁴¹ Harriden, *Authority of Influence*.

the ADB assessment found that several interviewees in Kachin State reported that women's opportunities for active participation in decision-making there are highest in NGOs and civil society, lowest in government, and somewhere in between for political parties, church-led social organizations, and informal institutions such as community forestry groups and village-level implementation committees established by CSOs or INGOs.²⁴² Key informant observations indicate that this seems to hold true for ICT-focused CSOs and INGOs also. CSOs provide an important public space for women to exercise leadership and advocate for social change.

At the same time, even tech-savvy CSOs face technical constraints to serving members and accessing and sharing information due to the expense and limited availability of high-speed internet, as well as censorship risks. One INGO reported having to bring its own wi-fi and other technical equipment to all workshops held outside large cities, and even in the capital it experienced ongoing connectivity problems within its head office. Another key informant noted that some women's CSOs and individual activists are subject to gender-based online harassment in opposition to their specific causes as well as their vocal and public leadership in general.



In Myanmar today, the civic tech community is growing, with positive examples such as the locally designed *Open Hluttaw* app. There are several strong and capable tech-focused CSOs working to close digital divides and a few, such as Geek Girls, that focus specifically on gender-related barriers. Several focus on legal and regulatory issues, such as the Myanmar ICT Development Organization (MIDO), and have been actively pursuing dialogue and participation in government reform processes. During development of the USF strategy, the World Bank has followed best practices to ensure opportunities for CSO input. There is also keen interest in building momentum to close the legal and regulatory gaps identified in [section 2.4 above](#), such as the lack of data privacy and protection policies. As recently as December 2016, a forum was held in Yangon at which government representatives and CSO

²⁴² ADB, Technical Assistance to Myanmar; Urbano and Dickinson, *Women and the Economy in Myanmar*.

activists—including MIDO’s executive director Ko Nay Phon Latt, who was jailed for four years by the military regime for his political blog²⁴³—met to discuss digital rights and privacy issues.²⁴⁴

CSOs of all sectors recognize the potential of social media to increase government transparency and accountability through its ability to mobilize citizens around a cause and pressure the government to make changes. Indeed, stakeholders have the powerful example of an effective, internet-based activist movement from which to take inspiration, or regard as a cautious tale—the powerful exile activist community. In the words of one exile, such activists “by the late 1990s were aggressively using the internet, which soon sprouted hundreds of specialized Burmese political sites, chat rooms, newspapers and message boards,” which together with expats, successfully lobbied for more sanctions (passed in 1998, with more in 2004) and divestiture of international giants such as Walmart, Pepsi-Cola, and Levi Strauss.²⁴⁵ After the 2007 monk protests, “a new group on Facebook (“Support the Monks’ Protests in Burma”) attracted nearly half a million people.”²⁴⁶



Finally, the cross-cutting nature of both gender and technology concerns means that diverse CSOs are adversely affected by the gender digital divide and thus may be motivated to work collaboratively to close it, even if it falls outside their main areas of focus. For example, the Myanmar Education Consortium, in partnership with World Education and Save the Children Thailand, has been facilitating CSO input to the Ministry of Education’s draft National Education Strategic Plan to ensure that it adequately addresses issues such as informal education and minority language instruction that have been identified above as key barriers or opportunities related to the gender digital divide.²⁴⁷

²⁴³ Tupas, “Is Burma’s ‘Disconnectivity’ Deliberate?”

²⁴⁴ Helena Galpaya, “LIRNEasia at Myanmar Digital Rights Forum,” LIRNEasia, December 18, 2016.

²⁴⁵ Myint-U, *River of Lost Footsteps*, 343.

²⁴⁶ *Ibid.*, 351.

²⁴⁷ Myanmar Education Consortium, “National Education Sector Plan,” n.d. Accessed February 14, 2017.

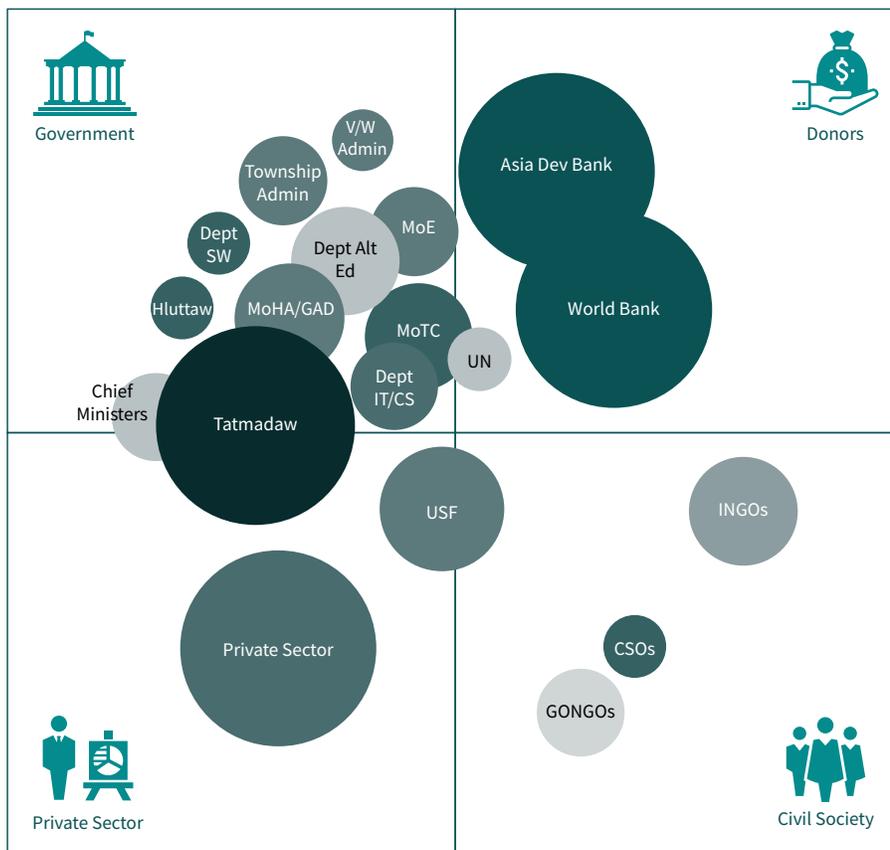
Section 4

HERE AND NOW: Current Players and Dynamics

HERE AND NOW: Current Players and Dynamics

The political economy of Myanmar operates within a relatively opaque, hierarchical system of decision making and resource flows in which power dynamics are carefully shielded from public scrutiny. It is possible to identify main categories of current stakeholders and actors who play pivotal roles—as enablers or obstacles, champions or spoilers—to addressing the gender digital divide and, in some cases, individuals within those categories. These stakeholders wield both resource-based and non-resource-based influence to varying degrees, as depicted graphically in the matrix below (see figure 16).

Figure 16: Stakeholders in the Gender Digital Divide



LEGEND:

Each circle simultaneously represents the following aspects of stakeholders in the gender digital divide (GDD):

Color = non-resource-based influence (the darker the color, the greater the non-resource influence on GDD)

Size = resource-based influence (the larger the circle, the greater the resource-based influence on GDD)

Spacing along axes = degree of current closeness or distance from efforts to address the GDD

Note: adapted from MSI's Advancing Policy and Institutional Change (APIC) framework

4.1 Military Leaders & Politicians

As noted, the 2015 elections saw a landslide victory for the NLD at the union level and in twelve of the fourteen state and regional *hluttaws*. The new government that took power April 1, 2016, is nominally headed by **President Htin Kyaw**, the first elected civilian head of state since 1962. The president is a long-time confidant of Suu Kyi and is a low-profile but widely respected individual with long NLD links and the son of a famous poet.²⁴⁸ His relationship to champions and spoilers of the gender digital divide is unknown, beyond his general support of the NLD agenda for peace and prosperity. However, his administration's strong anti-corruption rhetoric does not translate into full transparency. Despite the fact that the NLD had publicly pressured the previous administration to release a list of assets declared by its cabinet members (as required by section 101 of the Union Government Law adopted in 2012), the President's Office announced in July 2016 that it had collected the information but had no intention of making it public.²⁴⁹ The Constitution also requires that the president and both vice presidents declare their personal assets to the Pyidaungsu *Hluttaw*, but whether the new administration complied has never been confirmed publicly.

“For many many years we have been left behind because our education system was weak, because our political system was undemocratic and because our people were never given the chance to realize their potential.”

—Aung San Suu Kyi, *Going Global Conference speech*, June 1, 2015



As discussed above (see section 3.1), the newly created position of “state counselor” makes **Daw Aung San Suu Kyi** the *de facto* head of state, with Htin Kyaw serving as a proxy. Although she resigned her seat in the legislature and may not take part in party activities while in office in accordance with constitutional restrictions on legislators and party members appointed to executive positions, as state counselor she advises both the executive and legislative branches. Key informants and political analysts agree that she continues to wield huge authority over the NLD and thus over law-making.²⁵⁰

No evidence was found of Suu Kyi's economic ties to either champions or spoilers of the gender digital divide, although she is chairperson of the Yangon-based Daw Khin Kyi

²⁴⁸ International Crisis Group, Myanmar's New Government.

²⁴⁹ Lynn Nyan Hlaing, “NLD Will Not Release List of Cabinet Ministers' Assets,” *Frontier Myanmar*, July 29, 2016.

²⁵⁰ International Crisis Group, Myanmar's New Government.

Foundation,²⁵¹ which supports health and education projects, including local CSO-led mobile library, computer, and ESL training initiatives that are directly relevant to closing the gender digital divide. Most analyses of the power she wields dwell on her family's political legacy, her personal charisma, and the extensive political patronage networks she developed as the NLD opposition leader. Historically, she has not been a vocal supporter of women's rights, which appears to be linked to her own traditionalist views and to the many ways the military attempted to portray her gender as a liability.²⁵² On the other hand, she has political ties to human rights and freedom of expression associations around the world, and is an honorary board member of the INGO Article 19, which espouses access to information as a human right under the Universal Declaration of Human Rights. She has received numerous international human rights awards, at least two of which (the 1991 Nobel Peace Prize and the 2002 Freedom Forum Free Spirit of the Year Award²⁵³) exceeded \$1 million.

Suu Kyi is the only woman in the president's cabinet, and she holds three positions. In addition to her new position of State Counselor, she is the Union Minister for President's Office as well as Minister of Foreign Affairs. There are also two vice-presidents, who mainly carry out ceremonial and diplomatic functions, though the constitution does assign them positions on key bodies such as the National Defense and Security Council and the Financial Commission. **First Vice President U Myint Swe** of the former military leader Than Shwe's **Union Solidarity Development Party** is considered a hardline officer who, though retired, is likely to continue representing the interests of the military and old political elite.²⁵⁴

Second Vice President U Henry Van Thio of the **NLD** was an elected MP from Chin State whose nomination raised the ire of Buddhist nationalists, as he is the first non-Buddhist Vice President in Myanmar (he is Christian).²⁵⁵ With the exception of the three Lieutenant Generals who are appointed to the posts of Minister of Defense, Minister of Home Affairs, and Minister of Border Affairs by the military, the other ministers are all NLD loyalists and will presumably follow Suu Kyi's lead, prioritizing job creation and the peace process. To the extent that top officials are incentivized to move forward initiatives for ICT-related entrepreneurship, investment, and peace dividends in conflict-affected areas, progress toward closing the gender digital divide may occur without any explicit government champion.

Although the Tatmadaw has allowed significant liberalization and decentralization since 2011, there has reportedly been speculation for more than a year as to whether the tenure of **Commander-in-Chief Senior General Min Aung Hlaing** may be a point of contention with Suu Kyi and the NLD. When he was appointed in 2011—a surprise choice, considered too junior in rank to act radically against the president or parliament—he described his objective as moving “the military-as-institution from its former roles in administration and governance to a relatively more limited set of “professional” responsibilities that involved defending the constitution and territory.”²⁵⁶ Since then, he has proven unable to implement ceasefires and, since he has reached the normal retirement age of sixty in 2016, speculation

A “three-year investigation by Sweden-based cyber security firm Unleash Research Labs working to protect independent news outlets... has identified the army as a key player in a sting of defacements of media websites since 2012.”

—Hannah Hindstrom “[Is Myanmar’s Military Behind Shadowy Cyber Attacks?](#)” Diplomat, February 27, 2016.

²⁵¹ A charitable foundation established in 2012 in honor of her mother, it appears to be a fulfillment of a pledge she made in 1991 to support education and health projects in Myanmar with her Nobel Prize money. Richard Friebe, “How Nobel Winners Spend Their Prize Money: Aung San Suu Kyi,” *TIME*, 2008.

²⁵² Harriden, *The Authority of Influence*.

²⁵³ Freedom Forum, “About the Al Neuharth Free Spirit of the Year Award,” June 2, 2008.

²⁵⁴ Ibid.

²⁵⁵ Aung Kyaw Min, “Nationalists Rally Against Both Vice Presidents,” *Myanmar Times*, April 5, 2016.

²⁵⁶ Callahan and Steinberg, *Drivers of Political Change*, 14.

abounds as to his longevity in the post.²⁵⁷ However, in a meeting with the media in May 2016, he asserted that at the rank of senior general the constitution allows him to decide on his retirement, and that he intended to continue in service “as long as I am still fit for the post.”²⁵⁸ He represents the security interests and old patronage networks that act as spoilers for the expanded transparency and accountability that universal ICT access can facilitate, particularly in conflict-affected areas.



Former parliamentary speaker and chair of the Union Solidarity and Development Party **Thura U Shwe Mann** is another key player, despite having lost his bid for re-election in 2015. Once considered a contender for president himself,²⁵⁹ he is close to both Suu Kyi and President Htin Kyaw, and cabinet appointments reportedly reflect his blessing too. He has been appointed to head a commission he created in 2011 while speaker, the union-level Commission for the Assessment of Legal Affairs and Special Issues, a legislative review and advisory body. He is joined on the commission by eleven USDP members thought to be experienced in parliamentary matters but loyal to him personally.²⁶⁰ As described earlier, his son is the founder of the telecom Red Link, which was connected to a corruption scandal involving the MPT in 2013 (see p. 57). The extent to which his commercial ties to the telecom industry or his role in the attempted parliamentary scuttling of the 2014 telecom licensing process will affect efforts to narrow the gender digital divide are not clear. However, it seems likely that the weakened legislative branch undermines the political power base he developed under previous administrations, which could cause fissures in the NLD’s national reconciliation cabinet.

²⁵⁷ Prashanth Parameswaran, “Will Myanmar’s Military Chief Stay On?” *Diplomat*, February 17, 2016.

²⁵⁸ International Crisis Group, *Myanmar’s New Government*.

²⁵⁹ Htoo Thant and Ei Ei Toe Lwin, “Thura U Shwe Mann Appointed to Head Own Legislative Commission,” *Myanmar Times*, February 8, 2016.

²⁶⁰ Ei Ei Toe Lwin, “The Continued Influence of Thura U Shwe Mann,” *Myanmar Times*, April 6, 2016.

There are three important stakeholders at the Ministry of Transport and Communications (MoTC), which plays a central role in resolving all digital divides. The Minister is **U Thant Sin Maung**, a retired general manager of Myanmar Railways. The Ministry is involved in discussions with the ADB about liberalizing or corporatizing the MPT, but otherwise his commercial and political interests are firmly linked to transportation sector development. The Deputy Minister **U Kyaw Myo** spent thirty-two years in the Department of Civil Aviation followed by six years managing two private airlines (Air Mandalay and Mann Yadanarpon Airlines) before accepting his appointment as Deputy Minister. Thus, the top two ostensible champions of closing digital divides have stronger ties to tourism and transportation than to ICTs. Given that the cabinet reshuffle eliminated the former Ministry of Science and Technology and subsumed the former Ministry of Communications and Information Technology under Transport (echoing the parliamentary committee for Transport, Communications and Construction), it is possible that the new administration sees ICT development as primarily a question of infrastructure rather than technology-driven innovation.



The third and most likely champion at MoTC is **U Sai Saw Lin Tun**, Deputy Director General of the IT and Cyber Security Department. Chair of the MPT under the previous administration, U Sai Saw Lin Tun is an experienced technocrat who clearly understands the educational dividends of closing digital divide.²⁶¹ In late 2016, Deputy Minister U Kyaw Myo joined U Sai Saw Lin Tun for the presentation of results of a nationally representative survey of ICT use in Myanmar.²⁶² This indicates that the Department reports to the Deputy Minister, and he should be considered an informed stakeholder.

See [Annex C](#) for a detailed stakeholder analysis of champions and spoilers within the governance bodies.

²⁶¹ Oxford Business Group, “U Sai Saw Lin Tun, Chairman, Myanmar Post and Telecoms (MPT): Interview,” 2015

²⁶² Gayani Hurlle, “ICT Use in Myanmar 2016 Survey Results Presented to Deputy Minister,” LIRNEasia, January 2, 2017.

4.2 Oligarchs & Entrepreneurs

CHAMPIONS

Many ICT industry multinational and national firms are solid supporters of equitable access to the internet, ICT equipment, and digital skills across Myanmar. For the most part, this is driven by their business models, apart from Telenor and Ooredoo activity in less profitable rural areas, which is required under the rollout terms of their licenses. Drawing upon the talents of business as well as corporate social responsibility principles and staff, international firms such as Telenor, Ooredoo, Ericsson, Qualcomm, Microsoft, and Intel have sponsored events like hackathons and sustainability press conferences, co-funded locally -led development of new products and services (like the maternal health app *maymay* and a pre-loaded tablet with secondary-school curriculum and digital and life skills exercises), shared data with GSMA and other researchers seeking to understand the nuances of digital divides, and coordinated with donors and INGOs to support innovation. Local firms have designed and delivered training for rural teachers and the MoE, co-designed apps, and led usability studies to ensure relevant local content, products, and services. According to a case study on the evolution of *maymay*, the primary motivation of the private-sector/INGO consortium involved was expanding market share and increasing profits, with maternal health outcomes a secondary consideration (the fact that 32 percent of registered users of the app were male was seen as a new market rather than a potential design or usability flaw).²⁶³

The Alliance for Affordable Internet (A4AI) Myanmar coalition has many members that have devoted time to ensure equitable ICT access and are likely champions of efforts to close the gender digital divide. For example, Cindy Chaw Khin Khin is the Group CEO of MCC Group, which offers education and ICT services. She is also involved with CSOs such as Geek Girls (see section 4.4 below), the Myanmar Women Entrepreneurs Association, and the Asian Institute of Technology's eWomen Project.²⁶⁴ The motivations of professional women in the ICT industry include business advantages, but also extend to serving as role models for other women to expand access at the top of the digital skills pyramid as well as the satisfaction of creating digital products for underserved women and girls at the bottom of the skills pyramid. Key informants very eloquently described how gender norms at work—from decision-making to business travel—shape access to and control of ICT jobs to create glass ceilings within the industry.

SPOILERS

Individuals and groups who have leveraged ties with the military and government officials to enrich themselves, their families, and their political interests are adept at operating in the shadows of Myanmar's political economy. Oligarchs with vested interests in the telecommunications sector are potential spoilers for further liberalization, particularly for transparent and competitive tenders in the future that will affect key gender-digital-divide issues identified earlier, such as affordable data-plan pricing for individuals and reliable high-speed connectivity for institutions like schools and libraries. They could conceivably

IREX INSIGHT

While anticipated champions among female officials and CSOs are relatively disempowered as a legacy of the military regime, rent-seeking related to liberalization of the telecom sector may inadvertently incentivize support from otherwise agnostic stakeholders to close all digital gaps, including gender.

²⁶³ GSMA, Case Study, Ooredoo Myanmar: Myanmar, Mobile and Maternal Health, March 2015.

²⁶⁴ Sarina Thapa, "Dr. Ram C. Bhujel Highlighted the AIT's eWomen Project During Myanmar Economic Forum in Yangon, 11-12 January 2016," Asian Institute of Technology, January 18, 2016.

also oppose unprofitable “last-mile” inclusivity solutions via the Universal Service Fund strategy. While their corporate and individual identities as well as their operations are for the most part protected by elaborate webs of cronyism and opaque business practices, some activists have successfully exposed evidence by following the “paper trail” related to registering offshore companies, which was a popular option to evade sanctions, which made import/export and international banking difficult.



One fascinating example of how power has changed hands in the telecommunications sector involves SkyLink Communications Ltd. According to a 2013 exposé by the International Center for Investigative Journalism, SkyLink was registered in the British Virgin Islands by the Singaporean-headquartered Portcullis TrustNet on behalf of former dictator U Ne Win’s son-in-law U Aye Zaw Win in the 1990s.²⁶⁵ “Self-styled as the largest independent operator in Asia,” TrustNet had faced allegations of data breaches and facilitating tax evasion by relatives of region dictators, according to the ICIJ. In 2000 SkyLink had a \$114 million deal with MPT to install a Global System for Mobile communications to support 135,000 GSM mobile phones in thirteen cities, which was (among other benefits) to bring the price of cell phones down from \$6,000 to \$1,540 each.²⁶⁶ A year later, the system still had not been implemented when Brigadier-General Win Tin, Minister for Telecommunications, Post and Telegraph, was replaced by Brigadier-General Thein Zaw.²⁶⁷ Two years later, U Aye Zaw Win and his three sons (Aye Ne Win, Kyaw Ne Win, and Zwe Ne Win) were imprisoned and sentenced to death for treason.²⁶⁸ While they languished in prison, the United Wa State Party (UWSP) gradually acquired almost 100 percent of SkyLink, at the time (2004) the country’s only GSM cellular operator.²⁶⁹ The telecoms operator was initially run by Aik Htain and Aik Hauk, both nephews of United Wa State Army chief Pao Yu-chang; more recent information is unavailable.

²⁶⁵ General U Ne Win formally ruled Myanmar from 1962 to 1988, and retained power as party leader until 2002.

²⁶⁶ San Tun Aung, “Mobile Phone Network Ready in ‘Weeks,’” *Myanmar Times & Business Review*, vol 1, no.10, March 6–12, 2000 (archived at burmalibrary.org).

²⁶⁷ *Hurriyet Daily News*, “Telecom Minister Axed in Myanmar,” May 12, 2001.

²⁶⁸ Wai Moe, “Burma’s Fallen First Family,” *Irrawaddy*, March 9, 2011; Ah Thone Lone, “Ne Win’s Grandson Urges Government to Free More,” *Myanmar Refugees International*, November 16, 2013.

²⁶⁹ *Irrawaddy*, “UWSP Diversifies into Wireless Telecoms,” August 2004.

Freed only in 2012 and 2013 under an amnesty, recent press coverage links Ne Win's grandsons to companies (such as Omni Focus Co. Inc.) that are involved in banking, tourism, transportation, and construction projects, including electricity and solar power.²⁷⁰ While it appears their main interests now lie outside telecommunications, they will conceivably follow government plans to expand rural electrification and fixed-line broadband closely and potentially thwart efforts that threaten their bottom line.

4.3 Educators and Students

Despite the institutional challenges they face, like systemic lack of ICT training, equipment, and connectivity (see section 3.3 above), educators (school and university administrators, teachers and professors, and occupational trainers) and students comprise an important stakeholder group. On the one hand, they represent enormous latent demand for *general* ICT access and skills that can, in theory, be systematically addressed countrywide through coordinated efforts to integrate ICTs and digital literacy into educator training and curricula. According to MoE data, there are roughly 9 million children and youth currently in government schools (51 percent of whom are female). The new Department of Alternative Education, INGOs, and CSOs serve another roughly 3.5 million out-of-school youth.

CASE STUDY: *Tech Age Teachers Tunisia*

In 2014, IREX and the Tunisian Ministry of Education's National Center for Pedagogical Innovation and Research and the General Inspectorate for Pedagogy in Education launched the Tech Age Tunisia program. The collaborative initiative was designed to meet the Government's goal to **address skills gaps that contribute to the youth unemployment crisis**. With financial support from the Dream Blue Foundation and technical assistance from IREX, in just two years more than **1,500 teachers**—over 50% of them women—developed concrete technology, leadership, and professional skills to modernize their classrooms, streamline administration, and connect with other teachers. They also launched popular extracurricular Youth Tech Clubs for over 4,000 students—over 50% of them girls—aged 4-18 at primary and secondary schools in rural and urban areas. In addition, 40 specialist ICT teachers were prepared to deliver effective, practical, and relevant training to their colleagues, ensuring a sustainable ripple effect. The successful initiative was incorporated by the Ministry of Education into its National Dialogue process to identify priorities for reform in 2015 and beyond.

On the other hand, educators are one of the main modes of reinforcing and transmitting norms that contribute to the gender digital divide. There is an extensive body of research that examines how educational systems—from curricular tracks to teachers' behavior-management strategies—reinforce deeply held beliefs about differences in boys' and girls' needs, abilities, and eventual adult roles,²⁷¹ and this is no less true in Myanmar (see section 2.2 above). In addition, educators' ability to address the gender digital divide is hampered

²⁷⁰ Kyaw Su Mon, "Ne Win's Grandsons Propose Airport Upgrade in Shan State," *Irrawaddy*, October 31, 2016.

²⁷¹ Elaine Unterhalter, "Measuring Gender Inequality and Equality in Education," University College London, October 2015.

by their own internalization of gender norms. One key informant noted that most teachers are women who themselves tend to lack experience and confidence using—and creatively exploring—technology in the classroom. In part, this challenge is related to the rote learning methods of the past, in which the educator was a position of authority who dispensed knowledge, unquestioned. To some extent, it can be addressed as UNESCO is doing, by introducing technology to teachers along with interactive pedagogical methods in which the educator is a guide who facilitates learning by doing.

“Public libraries have educational value—they offer useful skills like debate and critical thinking, as well as opportunities to practice and expand digital skills.”

—Urban CSO representative



In addition, most students and youth—Myanmar’s first generation of digital natives—are incentivized to promote digital development, as they reasonably stand to benefit from tech-enabled educational and employment opportunities for which older generations lack preparation or exposure. Since adolescence involves exploring social norms as part of negotiating the transition to adulthood, youth also tend to be more comfortable with shifts in or challenges to traditional norms, including gender-based roles and expectations. It is worth noting that in Myanmar university students in particular have historically played a very visible role in demanding social change. To the extent that digital access and skills are seen as entitlements or tools of empowerment rather than means of increased government surveillance or state propaganda, students can be broadly expected to champion them.

At the same time, there will be subsets of marginalized youth for whom digital development may remain an unobtainable luxury indefinitely due to cost, linguistic barriers, or geopolitics. For others, particularly adolescent girls and young women, it may remain a tightly controlled family asset in line with normative, socioeconomic, or security concerns.

4.4 CSO Activists

No interviewees mentioned any of the historical GONGOs, like Myanmar Maternal and Child Welfare Association (MMCWA) or Myanmar Women’s Affairs Federation (MWAFF) as key players, not even for the NSPAW. The natural champions are the few CSOs working explicitly on the gender digital divide, such as Geek Girls and the Myanmar Book and Preservation Fund, and those working on general digital divide issues, such as Myanmar ICT for Development Organization (MIDO) and Myanmar Fifth Estate. However, other CSOs working on broader gender issues, such as Girl Determined, Phan Tee Eain, and the Gender Equality Network, are well positioned to boost understanding of how the gender digital divide intersects with other obstacles faced by women and girls. CSOs working primarily in regions and states with more marginalized populations could also play an important role in sharing evidence and success stories related to the divide, such as the National Network of Rural Women and the Shan Women’s Action Network.

4.5 Consumers

Generally speaking, in Myanmar the public does not hold nuanced political power as an electorate, and historically political movements such as the student protests of 1988 and 2014 have been violently suppressed and are thus rare. However, consumers have considerable and growing economic power since Myanmar opened to foreign investors and international sanctions eased. Given the country’s reliance on individually owned mobile phones rather than public access via schools, telecenters, cyber cafés, or modern public libraries, consumers represent a potential market of more than 30 million people that wields remarkable influence over ICT industry trends overall, influencing online and digital-content aspects of the gender digital divide in particular. For the 61 percent of people over age fifteen in Myanmar who already own a mobile phone, this influence may take the shape of demand for more and better apps in local languages or lower-cost data plans to enable them to derive more extensive, more meaningful benefits from ICT usage. For the 39 percent who do not, their influence on demand for new digital products and services is comparatively muted but still felt via shared devices (often undercounted in surveys) and public-access venues such as libraries and telecenters that serve those at the bottom of the pyramid. One network of ninety modernized public libraries enabled more than 23,000 patrons to access the internet for the first time in less than eighteen months.²⁷²

Multilaterals, INGOs, CSOs, private companies, market research firms, think tanks such as LIRNEasia,²⁷³ and industry associations such as GSMA can and have helped aggregate and articulate consumer demands. Trade unions, farmers’ cooperatives, and youth groups can also serve this function.

“Our office cleaner uses Viber to schedule jobs, and google translate to work with international clients.”

—Urban CSO representative

²⁷² Beyond Access program data for the period Feb 2015–Nov 2016.

²⁷³ LIRNEasia is a regional ICT policy and regulation think tank active across the Asia Pacific: <http://lirneasia.net/>

Section 5

RECOMMENDATIONS

RECOMMENDATIONS

A problem-driven political economy analysis seeks to surface the informal, invisible, and often extralegal ways politics and business get done in any given context in order to make actionable rather than aspirational recommendations to address the problem under study. It seeks to identify “best fits” rather than “best practices” to make recommendations that are both technically and *politically feasible*.²⁷⁴

As detailed in the preceding sections, the political economy of the gender digital divide in Myanmar today contains many complex and intertwined foundational factors, institutional rules of the game, and key players jockeying for influence—and, doubtless, additional internal power dynamics and resource flows within stakeholder relationships that are not easily detectable to outside researchers. As a result, it is entirely possible that *technically* reasonable recommendations to address the gender digital divide may ultimately be unsuccessful. Therefore, informed by the analysis undertaken in this study, the section below presents a list of recommendations that are both *technically and politically* feasible, and thus more likely to result in progress by finding local champions and overcoming potential spoilers.

The recommendations are organized along the three components of the gender digital divide: **access**, **skills**, and **benefits**. The icons indicate which stakeholders are involved.

Efforts to reduce barriers to **meaningful access** to ICT and internet for rural, ethnic, and very poor populations should also accommodate the specific needs and priorities of women and girls.

A key finding is that *access* to ICTs in Myanmar at the aggregate level is more strongly associated with *non-gender-related* aspects of digital disparities such as geography and age. Lack of reliable and affordable access is primarily a barrier for the 17 percent of households that do not *own* a phone.²⁷⁵ While gender-based differences in access do exist for this group, the key stakeholders currently expanding “last mile” connectivity in isolated and/or conflict-affected areas and for the very poor are incentivized to maximize territorial and population-based ICT coverage, not gender equality. Pragmatically, the recommendations hinge upon this interest.

Prioritize Equitable Access in Ongoing Infrastructure Investments: The ICT Sector Working Group should serve as a **focal point** to develop high-level government capacity to ensure equitable access for all, most urgently to champion the expansion of policy language in the draft **Universal Service Fund** (USF) strategy and draft **ICT Master Plan 2016–2020** to reflect the needs of vulnerable *groups* as well as underserved geographies and market

STAKEHOLDERS



Government



Civil Society



Private Sector



Donors

²⁷⁴ Cammack, Field Guide: USAID Applied Political Economy Analysis.

²⁷⁵ According to research from 2016, 83 percent of households and 61 percent of individuals over age fifteen owned a mobile phone. Phone sharing is common within households, and women are twice as likely to use a shared device. Galpaya et al., *Mobile Phones, Internet, Information and Knowledge*.

segments. To this end, the Working Group should host non-ICT-sector digital divide allies to leverage parallel initiatives that also include (at least in part) digital access for vulnerable groups. At a minimum, this includes the Ministry of Education's ICT Incentive Plan within the National Education Strategic Plan. UN Women could lead discussions on harmonizing priorities articulated in these documents with existing government commitments under CEDAW.²⁷⁶ For example, national and international commitments to equitable access to education and information can be translated into USF earmarks for female-friendly public-access computer venues like libraries and schools in conflict-affected and rural areas where the private sector lacks profit-based incentives.

Leverage Political Momentum Behind the Peace Process: Efforts to prioritize closure of the gender digital divide must underscore the divide's **relevance** to the administration's most pressing problem, thus tapping into the powerful forces incentivized to achieve a lasting peace. Specifically, INGO and CSO advocates of equitable development in conflict-affected areas should provide evidence-based case studies of the **peace dividends** of expanded ICT access to peace process participants on both sides of the table, such as ICT-related employment or TVET opportunities for demobilized combatants or women-headed households that contribute to a more skilled local workforce. Such benefits present win-win negotiating points where they align local socioeconomic needs with government and private-sector drivers of "last mile" investments for universal coverage.

✓ QUICK WIN

The ICT Sector Working Group should sponsor translation into Burmese of the World Bank's *Checklist for the Planning, Design and Implementation of an ICT Project Incorporating Gender Issues* and distribute copies to all ministerial ICT focal points.

Educators and employers must take into account the different challenges women and girls face at each level of the digital skills pyramid.²⁷⁷

A second key finding is that gender-based differences in individual preferences, institutional rules, and occupational norms strongly influence both means and degree of skills acquisition in Myanmar. It is critically important to redress disparities in skills, despite the widespread perception of differences as normative and personal choices: digital skills are the bridge from passive access to ICTs (as described above) to meaningful usage that maximizes derived benefits for individuals and institutions (as described in the next section).

Embed Digital Literacy into Universal Education (Bottom of the Pyramid): To counter disproportionately superficial ICT use among females in general and strong gender biases in informal skills acquisition in particular, donors and the government should fully fund *already planned formal and informal education* initiatives to integrate ICTs, as articulated in the National Education Strategic Plan 2016–2021 and the Public Library Master Plan 2017–2022. Priority should be given to efforts to (a) introduce appropriate tech-enabled pedagogy for low-resource primary and secondary classrooms through both preservice teacher training and inservice training for existing (primarily non-“digital native”) cadres; (b) reach out-of-school adolescent girls and boys through tech-savvy, gender-sensitive, informal educators and infomediaries; and (c) improve and expand mother-tongue instruction, including multigenerational approaches such as digital storytelling, to rapidly expand community-

²⁷⁶ The NSPAW 2016–2021 lacks both funding and an implementation plan to operationalize its objectives, making it an unlikely vehicle to make progress on closing the gender digital divide.

²⁷⁷ Desiree van Welsum and Bruno Lanvin, *e-Leadership Skills: Vision Report* (Brussels: European Commission, 2012).

sourced materials from isolated and conflict-affected areas with lower rates of literacy and educational attainment. It is essential for the MoE and its partners to coordinate carefully with the MoTC to align rollout of ICT integration in schools with infrastructure improvements like electricity and high-speed fixed broadband to support applied learning.

Catalyze Potential of Early Adopters to Change Norms (Middle of the Pyramid): Recent gains in women’s access to ICTs²⁷⁹ are tempered by the knowledge that female users remain more likely to use their devices for a narrow range of voice calls and text services. To most effectively expand the skills base of such early adopters—and maximize their potential ripple effect on institutional rules and occupational norms—strong existing government and donor support for TVET programs should be tapped to weave a broad repertoire of digital skills into vocational, occupational, and professional training. Focusing on female-dominated occupations that have a high degree of contact with rural and vulnerable populations in trusted venues, such as **educators, librarians, and health workers**, will optimize the downstream impact.



Support Innovation and ICT Jobs (Top of the Pyramid): Reproductive roles significantly limit women’s acquisition of advanced digital skills that translate into ICT-sector employment, despite their overrepresentation among graduates of both secondary and tertiary education. To establish a virtuous cycle of better supply and increased demand, private-sector ICT firms should diversify their talent pools by actively recruiting female staff for technical rather than administrative positions, to increase digital content, products, and services for an untapped female market. Profit motives and an industry focus on user-centered design combine to make the private sector a champion of this narrow component of the gender digital divide.

²⁷⁸ For example, see *10 Steps to Helping Communities Create Early Grade Reading Materials with Bloom*, software used by public librarians in the Philippines to co-create more than a thousand new texts in local languages

²⁷⁹ As of 2016, 52 percent of women over age fifteen own a mobile phone, and 77 percent of these are smartphones. Galpaya et al., *Mobile Phones, Internet, Information and Knowledge*.

✓ QUICK WIN

International non-governmental organizations (INGOs) and coalitions like the Myanmar Education Consortium should pilot low-cost education tools like open-source e-book software to enable educators and activists to create easily replicable, locally relevant digital educational materials in minority languages.²⁷⁹

✓ QUICK WIN

Government and INGO courses can adapt the existing open-source, mobile-first digital literacy curriculum¹⁸ available in Burmese into TVET materials used to train female professionals such as health and agricultural extension workers, civil servants, and so on, creating role models and organically transferring digital skills through existing public services.

Women are more likely to extensively use ICTs if they perceive **benefits to investing time and resources to do so.**

In addition to subtle gender-based issues of access to ICTs and strong normative control at all levels of the digital skills pyramid, the research revealed that a large measure of the gender digital divide in Myanmar is due to the lack of benefits that currently accrue to women users of ICTs. Hampered by very basic digital skills; a reliance on family members or friends to share devices; limited exposure to the types of information, products, and services available online; and a dearth of relevant digital content by and for women to tempt them, women are more likely to report “no need” than “affordability” as the reason they do not own a mobile phone.

Align More Digital Content with Women’s Needs: Recent gender assessments strongly suggest that men and women in Myanmar have different governance priorities, with women more likely to cite health care, education, sanitation, and microfinance as pressing issues. Current donor technical assistance to the Government of Myanmar in support of e-governance readiness should **boost women’s meaningful usage** of ICT-enabled public services. It can achieve this through policies and programs to support e-government services in areas women prioritize, such as WASH, education, and income generation. For example, expediting digital security measures like e-ID can increase women’s support for and likelihood to engage in e-commerce, online microcredit, and other financial services. Similarly, mEducation initiatives like parent-teacher communications using social media or SMS can increase engagement with technology by providing concrete benefits like timely or mother tongue information. In addition, to supplement government efforts, private ICT firms, CSOs, and international non-governmental organizations (INGOs) should work together to expand the ecosystem for digital services in health, education, and agriculture, such as crowdsourcing geodata on WASH hotspots to identify schools without safe water supplies or adding languages and targeted content like adolescent and geriatric health information to existing apps like iWoman to help those most affected by the digital divide.

Address Women’s Digital Safety and Security Concerns: The Tatmadaw’s constitutional and other broadly worded legislative mandates to protect national security make the pending cyber security bill politically charged and likely subject to closed-door negotiations. However, the bill is an important leverage point to address **widely perceived risks** accompanying women’s and girls’ access to and use of ICTs. Fear is a disincentive to deeper engagement with ICTs that can lead to greater benefits. Women’s rights, legal, and media- and tech-focused CSOs should coordinate to advocate for clauses in the pending cybersecurity law that clearly define and establish punitive consequences for violations of privacy and online gender-based harassment. To foster effective implementation, all formal and informal digital skills training—from civil servants to youth—must include essentials of online safety that covers rights and responsibilities.

✓ **QUICK WIN**
Private-sector CSR initiatives should support CSO-led inclusive information campaigns to raise public awareness of basic digital safety and security best practices through universities, schools, libraries, mobile service providers’ retail outlets, cyber cafes, telecenters, tea shops, police stations, banks, post offices, health centers, and other public venues serving diverse clientele.

Conclusion

In a report quantifying the potential impact of gender parity on global economic development, the McKinsey Institute concluded that “economic development enables countries to close gender gaps, but progress in four areas in particular—**education level, financial and digital inclusion, legal protection, and unpaid care work**—could help accelerate progress.”²⁸⁰ This study has particularly focused on strengthening digital inclusion, but recognizes that women’s lived experiences in all four areas is inextricably intertwined with and governed by gender norms that shape culturally accepted roles and expectations—in particular, those regulating access and control over resources and decision-making—for men and women, girls and boys.

To understand the potential for progress towards full digital inclusion as a fundamental component of economic development in Myanmar, it is useful to highlight several characteristics of the political economy in Myanmar in 2017 that may constrain full implementation of the recommendations made in this report.

First, a recent PEA that examined the potential for liberalization of rice production in Myanmar in 2015 contained several observations on political economy constraints that are also relevant to liberalization of the telecommunications sector and investment-related ICT reforms overall, primarily 1) **deep distrust of market-led development** among Myanmar’s political leaders as a result of isolation from functioning markets for over two generations; and 2) the existence of **vested economic interests** that previously prevented foreign direct investment.²⁸¹ The latter is perhaps mitigated somewhat in the telecommunications sector, where potential profits—albeit now shared with private foreign firms—from the rapidly increasing user base may offset the loss of revenues once enjoyed by the state-owned monopoly over a much smaller market.

In addition to these two factors, the **continued influence of political players from earlier regimes** functions as a brake to infrastructure- and revenue-related reforms that upset the established web of interdependent relationships, from the president’s cabinet to the township level. Even those moderate stakeholders who did not directly benefit from economic interests that actively prevented foreign investment are engaged in an **ongoing process of renegotiating power dynamics, rents, and other prerequisites** of their new positions—whether elected, appointed, or vis-à-vis new foreign competitors. For example, it has been noted that the USDP is now “legislatively impotent,” with only 6 percent of seats following the 2015 elections,²⁸² yet it retains considerable spoiler power through USDP leader Thura Shwe’s new legal advisory body within the union *huttaw* and behind the scenes through innumerable USDP loyalists and their cronies. The NLD also effectively displaced the ethnic parties in the union parliament, which collectively hold only 9 percent of seats in the new union legislature, and have voiced their displeasure that the NLD appointed exclusively NLD representatives as chief ministers to the fourteen regional bodies.²⁸³

“Applied PEA research makes connections between national level policies and local level realities, breaking down obstacles into manageable parts and determining possible approaches that can trigger new ways of addressing seemingly intractable problems.”

—USAID, *A Summary of Lessons Learned*, 2016

²⁸⁰ McKinsey, “Offline and Falling Behind.”

²⁸¹ Vikram Nehru, “The Political Economy of Reform in Myanmar: The Case of Rice and the Need for Patience,” Carnegie Endowment for International Peace, October 21, 2015.

²⁸² International Crisis Group, *Myanmar’s New Government*.

²⁸³ Ibid.



At the same time, there are considerable **grounds for optimism**. The current administration appears committed to carrying through educational and digital development reforms begun under its predecessor, and both private-sector interests and multilateral donors are heavily vested in their success. The cabinet reshuffle in 2016 placed clear precedence on the peace process, and if a military solution is not off the table, it has at least been joined by serious diplomatic overtures. If the government can end the longstanding civil war and ensure the territorial integrity of the union, it will free massive resources for reinvestment in Myanmar's social development—including bolstering its nascent information society. With billions of dollars in foreign investment in the telecommunications sector alone, market incentives to close socioeconomic and geographic digital divides may be sufficient to overcome stakeholder ambivalence about prioritizing equitable ICT access, skills, and benefits, paying a gender dividend in the process.

Annex A: Stakeholder Questionnaire

Interviewee name/gender: _____ Organization/occupation/sector: _____

Interview date & by whom: _____ Where: _____

Intro for all interviews and focus groups: There have been many socioeconomic changes in Myanmar in the past 5 years, including the introduction of new information and communication technologies (ICT). We would like to discuss your opinion of how ICTs are changing life in Myanmar.

STAKEHOLDER TYPE: EMPLOYER, CSO, EDUCATOR, INFOMEDIARY

Section I: The Personal is Political	
Q1. Have new ICTs changed the sector in which you work? Please describe.	A1.
Q2. Have new ICTs changed your own work specifically? Please give an example of positive or negative change. [prompt: do you have Internet access at work? Do you use a computer, mobile phone or other technology for work?]	A2.
Q3. Do women and men have the same access to ICTs in the sector in which you work?	A3. If no, how does access differ?
Q4. Do women and men have the same skills needed to use ICTs in the sector in which you work?	A4. If not, how do the skills differ?
Q5. Have new ICTs changed your life outside of work? Please describe. (prompt: do you have Internet access at home? Do you own a mobile phone? Have ICTs changed your communication with family members, media consumption habits, level of participation in community activities, new education or employment opportunities?)	A5.
Q6. Have new ICTs changed life for your female relatives? Male relatives? Please describe.	A6.
Q7. Are there ways in which you think better ICT access or stronger skills <i>could</i> improve life for you or your relatives? Please describe.	A7.
Section II: Broadening the Perspective: Access	
Q8. In Myanmar, only 2% of people report having online access to digital information (the internet) which is much lower than in other countries. In what ways do you think increasing such access could change life in Myanmar?	A8.

Q9. In your opinion, WHO would benefit most if there were expansion of such access to homes, schools and other community sites and WHY? [prompt: in terms of age, occupation, urban/rural residence, education, gender, social groups, income level?]	A9.
Q10. Are some individuals, groups or institutions likely to <i>oppose</i> increasing access to the Internet?	A10.1 Yes → Why? Please share examples
	A10.2 No → Why not?
<p>Q11. In your opinion, do the following present <i>challenges</i> for increasing access to ICTs for everyone in Myanmar:</p> <p>a) Cost (to individual/family)</p> <p>b) Infrastructure (cost to gov/business)</p> <p>c) Lack of political will/undue influence of special interests</p> <p>d) Lack of demand/people don't need it</p> <p>e) Different customs for men and women governing control over household resources, types of work, etc.</p> <p>[If at least one YES] Which of these challenges most affects access for women/girls specifically?</p>	<p>A11.</p> <p>11(a) YES___ NO____</p> <p>11(b) YES___ NO____</p> <p>11(c) YES___ NO____</p> <p>11(d) YES___ NO____</p> <p>11(e) YES___ NO____</p> <p>11(f) Ranked #1_____</p>
Q12. In your opinion, DO men and women, boys and girls enjoy the same access to ICTs in Myanmar?	A12. No → Why not?
Q13. In your opinion, SHOULD men and women, boys and girls enjoy the same access to ICTs in Myanmar?	A13. No → Why not?
Section III: Broadening the Perspective: Skills & Education	
Q14. People with skills to use new ICTs—"digital skills"—often have different educational opportunities. In your opinion, are there ways in which stronger digital skills influence opportunities for people seeking education in Myanmar? In your community?	A14.
Q15. Specifically, what kinds of digital skills, if any, do you think are most relevant to students in Myanmar today? [prompt: skills to use a mobile phone? To do what? To use a computer? To do what? To create online content? To code?]	A15. Try to capture differences in functions (devices/app/program) and type of student (secondary vs tertiary vs TVET vs informal)

Q16. Where can such skills be learned? Are there limits to WHO can access such places (cost, location, gender, age). Please give specific examples.	A16.
Q17. In Myanmar today, DO boys and girls have different levels or types of digital skills? Please give an example.	A17.
Q18. In Myanmar today, SHOULD boys and girls have different levels or types of digital skills? Please give an example.	A18.
Q19. In your opinion, who would benefit most if there were expansion of digital skills training in schools, institutes and other community sites? [prompt: in terms of age, occupation, urban/rural residence, education, gender, social groups, income level?]	A19.
Q20. Are some individuals, groups or institutions likely to oppose increasing availability of digital skills? Please describe.	A20.
Section IV: Broadening the Perspective: Skills & Employment	
Q21. People with skills to use new ICTs—“digital skills”—often have different employment opportunities. How can increasing digital skills make a change for people seeking employment in your community?	A21.
Q22. Specifically, what kinds of digital skills, if any, do you think are most relevant to people seeking new or better employment in Myanmar today? [prompt: skills to use a mobile phone? To do what? To use a computer? To do what? To create online content? To code?]	A22. Try to capture differences in functions (devices/app/program) and type of employment (informal, wage labor, industry-specific)
Q23. Where can such skills be learned? Are there limits to WHO can access such places (cost, location, gender, age). Please give specific examples.	A23.
Q24. In Myanmar today, do men and women HAVE different levels or types of digital skills? Please give an example.	A24.
Q25. In Myanmar today, do men and women NEED different levels or types of digital skills? Please give an example.	A25.
Optional: is there anything you would like to add or ask us?	

Annex B: List of Consultations

Businesses	
KMD Center Taunggyi	Ohma Htun, Lecturer Thithi Aung Myint, Lecturer Student Focus Group
KMD Center Yangon	Bo Bo Lin, Director Kyaw Thurein Tun, Site Administrator
Khattar Oo Co, Ltd	Dr. Hla Soe, Managing Director Khin Myo Tun, Director
Proximity Design	Phyu Hninn
Organizations	
World Bank	Tenzin Norbhu
Girls Determined	Nant Thazin, Director Focus Group (Volunteer/Facilitator)
iWomen (Mobile App)	Khin Sandar Win, Founder
Pact Myanmar	Thet New, M&E Officer Michael Florian, Senior M&E Specialist
Thone Pan Hla Association	Ma Thandar Ko Factory Workers Focus Group Factory Workers' Parents Focus Group
Myanmar Young Entrepreneurs Association	Su Su Hlaing
Myanmar Centre for Responsible Business	Wai Phyo Myint, Regional Outreach Manager
Winrock	Julio Noguera, Field Team Coordinator
International Republican Institute (IRI)	Rhonda Mays
Myanmar IT for Development Organization (MIDO)	Htaike Aung, Program Manager
UNESCO	Nwe Ni Win, Program Assistant Antony Tam, ICT for Education Expert Htain Lynn Aung, Program Officer
Phan Tee Eain	Chi Chi, Program Coordinator Agatha Ma, Gender Expert
Government	
Ministry of Education	Dr. Khine Mye, Director General, Department of Alternative Education
Other	
Independent Consultant (Youth and Peace Building Expert)	Irena Grizelj
Independent Consultant (formerly NDI Myanmar)	Rick Nuccio
Women Entrepreneurship Working Group, Shan State	Daw Nan Moe Moe Thida, President
Shwe Inle Self Reliance Township Leading Group	7 women members of village savings group
Nyuang Shwe Women's Group	4 women entrepreneurs and 1 woman educator
Tech Age Girls Focus Group	5 women age 16-22
ICT4D Working Group	5 representatives from INGOs, CSOs and the private sector

Annex C: Key GDD-Related Institutions and Agencies

Key actors and mandate (as of December 2016)	Strengths and progress toward closing GDD (policies/processes)	Capacity gaps and obstacles to GDD reform
National State Entities		
Presidential Cabinet	Pinnacle of highly centralized formal political power hierarchy. No evident champions	The only woman and arguably most powerful member of Cabinet, Aung San Sui Kyi , has both supported ICT skills training through her family foundation and lamented the negative influence of digital technologies on children
Peace and Security Council	Renewed peace process (“21st century Panglong”) may close gaps in mobile network coverage and enable expansion of high speed internet connectivity country wide.	<p>Low women’s participation in peace process—only 13% of Panglong delegates in August 2016 were women, below CEDAW 30% target</p> <p>Need data to link GDD and access to info to peace process.</p> <p>Need impact data on benefits of ICT uptake on poverty alleviation in Myanmar to cultivate champions and counterbalance historic examples of exile community using ICT to mobilize boycotts and divestiture campaigns against the regime.</p> <p>Unclear what if any role in reviewing or approving pending cyber security law.</p>
Tatmadaw	Allowed tender for foreign telecom service providers, allowed local and parliamentary elections, allowed release of student protesters and other dissidents during NLD transition period in 2016.	<p>No incentive to close GDD</p> <p>Controls appointments to civil service via GAD (see below) and low capacity is major spoiler</p> <p>Retains veto power within <i>hluttaw</i> and control of three security-related ministries (Home Affairs, Border Affairs and Defense).</p> <p>Blocked 2015 VAW bill because “not a state issue.”</p> <p>Unclear what if any role in reviewing or approving pending</p> <p>Evidence of role in cyber attacks against independent media</p>
Union <i>Hluttaw</i>	Increased gender diversity (13% female MPs) Mandate for decentralization and modernization Potential champions via Amyotha (upper) <i>Hluttaw</i> fifteen member ad hoc Committee for Women’s and Children’s Rights (includes Chair Dr Mya Thaung and Secretary Naw Susanna Hla Hla Soe)	<p>Tatmadaw bloc 25%</p> <p>Low capacity of new MPs and staff on GDD issues</p> <p>Unlikely that Pyithu (lower) <i>Hluttaw</i> ad hoc Committee for Transportation, Communications and Construction will focus on end user issues—subsuming telecommunications in this way indicates focus on infrastructure</p>
Ministry of Home Affairs	Union Minister Lt-Gen Kyaw Swe Potential to address understanding of GDD among regional as well as grassroots civil service through GAD (runs civil service for state and region governments and administers districts and townships) Civil servants are 38% female, but fewer at higher levels	<p>Low capacity of administrative staff on GDD</p> <p>Staff appointed by the commander in chief rather than the president</p> <p>Many staff are former military or have familial or financial ties to the Tatmadaw and are well positioned to block the new administration’s reforms at local level, particularly those that threaten patronage networks or increase transparency like e-governance</p>

Ministry of Transport and Communications	<p>Union Minister U Thant Sin Maung Deputy Min U Kyaw Myo Deputy Director General of the IT and Cyber Security Department U Sai Saw Lin Tun, reports to Kyaw Myo (above)</p> <p>Multiyear telecom reforms package under way with World Bank support, held tender for USF, which is #1 priority.</p> <p>USF strategy being developed with input from diverse stakeholder USF Working Group</p>	<p>Low capacity of administrative and technical staff on GDD</p> <p>Many high level military families have financial interests in telecom firms</p> <p>Need to update ICT Master Plan 2014-15</p> <p>Lack of transparency around ICT focal points in other agencies</p> <p>Lack of coordination with MoE</p> <p>Lack of gender focal points</p> <p>Mobile penetration of 83% means need now is last mile, hardest to reach</p>
Ministry of Information	<p>Union Minister Dr Pe Myint</p> <p>MoI supports internet access and digital skills training at public libraries in partnership with Beyond Access</p> <p>Recent <i>Master Plan for Public Libraries</i> addresses GDD, and there are more than 7,000</p>	<p>Low capacity of administrative and infomediary staff on GDD</p> <p>Telecoms Law of 2013 has vague provisions that could be used to take over service providers or censor content.</p> <p>Telecoms Law used in Oct 2016 against online news outlet for Rohingya coverage</p>
Ministry of Education	<p>Union Minister Dr Myo Thein Gyi</p> <p>Recent MoE strategic planning documents (CESR and NESP 2016-2020) strongly support ICT integration and digital skills for teachers and students at all levels including TVET</p> <p>Director General, Department of Myanmar Education Dr. Khine Mye</p> <p>DAE has mandate for ICTs to meet needs of out-of-school youth</p>	<p>Low capacity of administrative and teaching staff on GDD</p> <p>Massive and countrywide capital, equipment, curricular, and training needs</p> <p>Gender norms create educational tracks that channel girls into less skilled, less remunerated jobs as consumers rather than producers of ICTs</p>
Department of Social Welfare	<p>Director Dr. San San Aye</p> <p>Mandate for women's advancement</p> <p>Responsible for NSPAW and CEDAW reporting</p> <p>Offers TVET courses for marginalized women</p> <p>Participates in UN/INGO/CSO efforts to include women in peace process</p>	<p>Low capacity of administrative and training staff on GDD</p> <p>Lack of NSPAW implementation plan</p> <p>No positioning power or budget</p> <p>No explicit focus on GDD</p>
Subnational State Entities		
State and Region Chief Ministers	<p>Appointed by President</p> <p>Strong incentive to support universal service coverage and rural electrification</p>	<p>Varied incentives to close GDD, especially conflict-affected areas</p> <p>Low capacity of appointed and administrative staff on GDD</p> <p>All NLD, only 2 of 14 women</p>
State and Region Hluttaws	<p>12.5% female MPs</p> <p>Control over funding for languages of instruction</p> <p>Decentralization underway</p>	<p>Low capacity of new MPs and their staff on GDD</p>
Township Administrators	<p>Appointed by GAD</p> <p>Strong incentive to at least improve skills of own workforce as counter balance to increase in elected positions</p>	<p>Zero women as of 2017.</p> <p>Low capacity of managerial and administrative staff on GDD</p> <p>Unclear role for this crucial link between village/wards and regional/state administrative bodies, e.g., for rolling out edtech reforms locally</p>

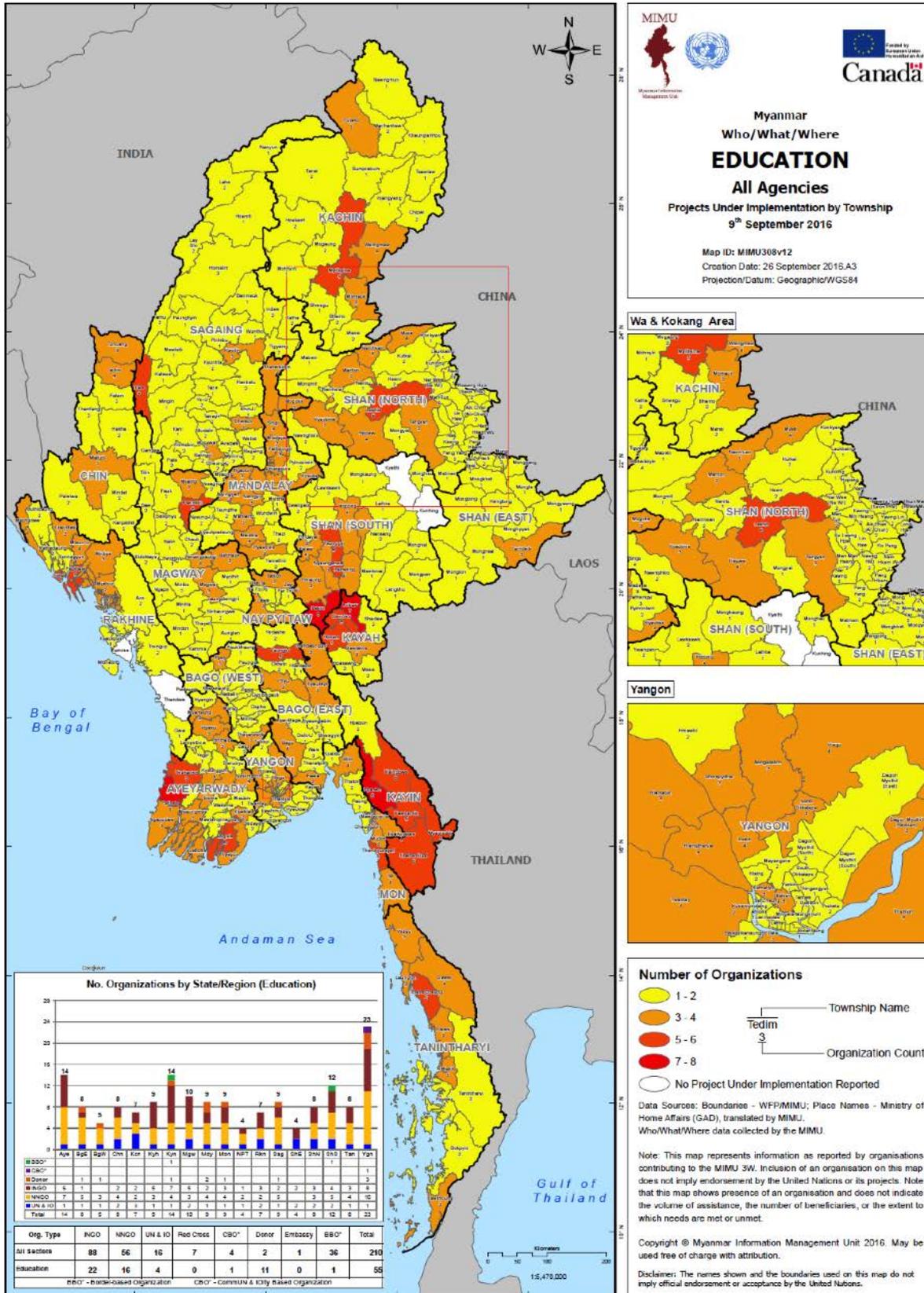
Village Tract/Ward Administrators	Appointed until 2011, first ever elected in 2012 Understand local school and workforce skills needs	Less than 1% women. Very low administrative capacity on GDD
Other Relevant Entities		
World Bank	Multi-year telecom reforms technical assistance package Useful checklist for ICT & gender initiatives	Commitments of \$10 million USD to support development of USF strategy in 2017 and ~88 million MMK (~\$63,000 USD) to education sector programs for 2014-18
Asian Development Bank	Multiple projects to support economic growth, CESR, e-governance	No explicit focus on GDD in 2014 gender assessment Macro development lens
UKAid/DfID	Strong mandate for gender equality and ICT4D Supported PPP edtech pilot <i>Connect to Learn</i> Myanmar included among target countries for Leave No Girl Behind funding	Commitment to education sector programs for 2014-16 ~4 million MMK (~\$3,000 USD)
USAID	Strong mandate for gender equality and ICT4D mSTAR, etc.	Commitment to education sector programs for 2016 \$2.3 million Myanmar not included among target countries for Let Girls Learn funding
AusAid/DFAT	Strong mandate for economic development projects in region as well as gender equality 2016 gender assessment of women's economic activity	No explicit GDD focus Commitment to education sector programs for 2012-16 ~12.5 million MMK (~\$9,000 USD)
UNESCO	Strong mandate for TVET including digital inclusion Provided training under PPP edtech pilot <i>Connect to Learn</i>	
UNDP	Hosts excellent data platform including map of donor-funded education projects by township http://www.themimu.info/about-us	No explicit GDD focus
UNFPA	Strong mandate for youth, including adolescent health. Supported 2014 census	No explicit GDD focus
UN Women	Strong mandate to close GDD including EQUALS campaign with ITU Supported iWomen app Coordinate CEDAW reporting including regional level, which could incentivize GoM/CSOs	Limited funding for GDD
BMGF	Funded access to information projects including Beyond Access (support to modernize public libraries) and TASCHA (mobile-first information literacy curriculum)	BMGF's Global Libraries program ending in 2018

Multinational ICT Firms	Highly incentivized to expand undertapped female market and to collect data on GDD Ooredoo co-funded <i>maymay</i> app and 90 BA libraries, Ericsson and Qualcomm co-funded <i>Connect to Learn</i> with multilaterals (see above), Telenor funding MIDO's 200+ telecenter network	USF tax kicks in Year 5, may be a disincentive to address GDD through CSR budgets
National ICT Firms	Highly incentivized to innovate, use HCD to expand under-tapped female market and collect data on GDD Several have experience on GDD-related projects including Phandeeay (Yangon tech hub), Koe Koe Tech (<i>maymay</i> app), Myanmar 5th Estate (Open <i>Hluttaw</i> app) Proximity Design (app for agricultural extension agents)	Some have ties to Tatmadaw, such as Red Link Less incentive for low-ROI last mile solutions
Other private sector	High demand for employees with digital skills in banking; health; retail; tourism; agr processing	Occupational gender segregation, wage disparities despite law
GONGOs	Several GONGOs provide ICT4D policy input and digital training for government officials and others (eg Myanmar Computer Federation and the Myanmar Computer Enthusiasts Association). Women-focused GONGOs such as the Myanmar Women's Affairs Federation, are nominally involved in women's issues on the national stage.	Have always maintained there is no inequality Close ties to Tatmadaw Low capacity of technical and administrative staff on GDD Unclear funding
INGOs	Active ICT4D Working Group of INGO, CSO and private sector representatives meets monthly to coordinate activities. Several have expertise and tools (e.g. training curricula) to address aspects of gender digital divide within Myanmar and other countries (IREX, A4AI, TASCHA). Dozens have established relationships with local CSOs, private sector and government partners through projects for difficult to reach offline groups that could incorporate activities to address aspects of gender digital divide in Myanmar	Successful online advocacy campaigns by exile/émigré INGOs in recent decades may be seen as encouraging by GDD champions, or cautionary tale for spoilers
National CSOs	Several have strong mandates and visible activities in support of ICT4D or gender equality, most notably Myanmar ICT for Development Organization (digital skills training and national surveys on ICT use), Myanmar Book and Preservation Fund (Co-Chair of USF Working Group and digital skills training), Geek Girls (women in ICT industry), Phan Tee Eain (women and girls empowerment), Girl Determined (rural women and girls empowerment), Gender Equality Network (CEDAW shadow reports)	Few CSOs working on nexus between gender equality and ICT integration Lack of coordination between women's and ICT4D CSOs on GDD Limited funding Limited regional reach Lack of consensus on extent of inequality
Educators & Infomediaries	Private ICT training institutes (eg KMD network), public libraries, monastic schools are highly motivated to provide digital skills training for males and females.	In general teachers, administrators and librarians themselves need digital skills training and equipment. Often reinforce gender norms, especially 1) concerns about ICTs expanding girls' access to real and virtual public spaces and 2) gendered skills tracks.

Annex D: Recommended Resources

1. Alliance for Affordable Internet [*A4AI-Myanmar Coalition Members*](#) (2017)
2. Association for Progressive Communications [*Gender Evaluation Methodology for Internet and ICTs: A Learning Tool for Change and Empowerment*](#) (interactive site)
3. Beyond Access [*Why Young Women Need Digital Skills Now to Participate in Myanmar's New Information Society*](#) Preliminary Gender Assessment Findings (2016)
4. FHI360 [*Gender and ICT Survey Toolkit*](#) (anticipated March 2017)
5. Girl Effect [*Principles for Data Security, Privacy and Safety*](#) (2016)
6. IREX [*Creating Supportive Learning Environments for Girls and Boys: Guide for Educators*](#) 2016
7. IREX [*Hacking Literacy: A Beyond Access Guide*](#) (2016)
8. ITU [*Mapping Gender Digital Inclusion Initiatives*](#) (2016)
9. Ministry of Information [*Public Library Master Plan*](#) (anticipated 2017)
10. SimLab [*Framework for Context Analysis of Inclusive Technologies in Social Change Projects*](#) (January 2017)
11. University of Washington's Technology and Social Change Group [*Mobile Information Literacy Curriculum*](#) (2015)
12. University of Washington's Technology and Social Change Group [*Connecting People for Development: Why Public Access ICTs Matter*](#) (2013)
13. World Bank Group [*Checklist for the Planning, Design and Implementation of an ICT Project Incorporating Gender Issues*](#) (undated)
14. World Wide Web Foundation [*Women's Rights Online: Digital Gender Gap Audit*](#) (2016)

Annex E: Map of Education Projects, by Township



Annex F: Bibliography

- Agence France-Presse. “[Myanmar’s Parliament Approves Controversial Interfaith Marriage Law](#),” Radio Free Asia, July 7, 2015.
- Ah Thone Lone. “[Ne Win’s Grandson Urges Government to Free More](#),” *Myanmar Refugees International*, November 16, 2013.
- Alliance for Affordable Internet. “[A4AI Myanmar Coalition Working Group Meeting Report](#),” press release, November 18, 2016.
- Alliance for Affordable Internet. “[A4AI-Myanmar Coalition Members](#),” n.d. Accessed February 14, 2017.
- Alliance for Affordable Internet. *Case Study: Delivering Affordable Internet in Myanmar* (Washington, DC: Alliance for Affordable Internet, 2015; ADB, [Basic Statistics 2016](#)).
- Asian Development Bank, United Nations Development Programme, United Nations Population Fund, and United Nations Entity for Gender Equality and the Empowerment of Women. *Gender Equality and Women’s Rights in Myanmar: A Situational Analysis* (New York: United Nations, October 2016).
- Asian Development Bank. [Basic Statistics 2016](#) (Manila: ADB, April 2016).
- Asian Development Bank. [Developing Myanmar’s Information and Communication Technology Sector Toward Inclusive Growth](#), ADB Economics Working Paper Series No. 462, November 2015.
- Asian Development Bank. *Myanmar Comprehensive Education Sector Review Phase I: Technical Annex on Labor Market Analysis—The Demand for Higher Education and TVET Graduates* (Manila: ADB, January 2013).
- Asian Development Bank. *Myanmar Comprehensive Education Sector Review Phase I: Rapid Assessment: Technical Annex on the Secondary Education Subsector* (Manila: ADB, March 2013).
- Asian Development Bank. *Myanmar Comprehensive Education Sector Review Phase I: Rapid Assessment: Technical Annex on the Higher Education Subsector* (Manila: ADB, March 2013).
- Asian Development Bank. *Myanmar: Design of eGovernance Master Plan and Review of ICT Capacity in Academic Institutions* (Manila: ADB, July 2015), 21.
- Asian Development Bank. *Myanmar: Interim Country Partnership Strategy Final Review Validation 2012–2014* (Manila: ADB, February 2016).
- Aung Htin Kyaw. “[U Htin Kyaw’s Inaugural Cabinet: A Demographic Profile](#),” *Fifty Viss*, March 26, 2016.
- Aung Kyaw Min. “[Nationalists Rally Against Both Vice Presidents](#),” *Myanmar Times*, April 5, 2016.
- Batchelor, Tom. “[Aung San Suu Kyi Says Burmese Children Are ‘Wasting Time’ on Technology](#),” *Independent*, 2016.
- Browne, Evie. “*Gender in Political Economy Analysis*,” GSDRC Helpdesk Research Report 1071, Birmingham, UK: University of Birmingham, January 17, 2014.
- Burnet Institute and Monastic Education Development Group. *Monastic Schools in Myanmar—A Baseline Study* (Pahran, Australia: Burnet Institute, 2014).
- Burnet Institute. “[Strengthening Monastic School Education in Myanmar](#),” n.d. Accessed January 2017.
- Callahan, Mary, and David I. Steinberg. *Drivers of Political Change in Post-Junta, Constitutional Burma* (Washington, DC: MSA/USAID, February 2012).
- Cammack, Diana. *Field Guide: USAID Applied Political Economy Analysis* (Washington, DC: USAID, February 2016).
- Clinton Global Initiative. “[Technology](#),” 2016, Clinton Foundation.
- Dasandi, Niheer, and David Hudson. *The Political Road to Digital Revolution: How Myanmar’s Telecoms Reform Happened*, Development Leadership Program, University of Birmingham, 2017.
- Economist*. “[Myanmar’s Economy: Miles to Go](#),” August 6, 2016.
- Economist*. “[Twelve-Point Economic ‘Plan’ Disappoints](#),” August 4, 2016.
- Ei Ei Toe Lwin. “[The Continued Influence of Thura U Shwe Mann](#),” *Myanmar Times*, April 6, 2016.
- Emerging Markets Consulting, USAID, and Winrock International. *Value Chains for Rural Development: Social and Gender Assessment* (Washington, DC: USAID, September 2015).

- Emerging Markets Consulting, USAID, and Winrock International. *Value Chains for Rural Development: Social and Gender Assessment* (Washington, DC: USAID, September 2015).
- England, Charlotte. “[Myanmar’s Transgender People Not Just Chasing Rainbows in Fight for Equality](#),” *Guardian*, February 2, 2016.
- Equaldex. “[LGBT Rights in Myanmar](#),” 2016.
- Ericsson & Columbia University Earth Institute. *ICTs & SDGs: How Information and Communications Technology Can Accelerate Action on the Sustainable Development Goals* (Stockholm: Ericsson, 2016).
- Ericsson, *Ericsson Mobility Report on the Pulse of the Networked Society* (Stockholm: Ericsson, November 2016).
- Esarey, Justin, and Gina Chirillo. “‘Fairer Sex’ or Purity Myth? Corruption, Gender and Institutional Context,” *Politics & Gender* 9 (2013): 361–89.
- Fisher, Jonah. “[Drugs, Money and Wildlife in Myanmar’s Most Secret State](#),” BBC News, November 17, 2016.
- Freedom Forum. “[About the Al Neuharth Free Spirit of the Year Award](#),” June 2, 2008.
- Freedom House. *Freedom on the Net 2016—Silencing the Messenger: Communication Apps Under Pressure* (Washington, DC: Freedom House, 2017).
- Friebe, Richard. “[How Nobel Winners Spend Their Prize Money: Aung San Suu Kyi](#),” *TIME*, 2008.
- Fritz, Verena, Kai Kaiser, and Brian Levy. *Problem-Driven Governance and Political Economy Analysis: Good Practice Framework* (Washington, DC: World Bank, 2009).
- Galpaya, Helani, Ayesha Zainudeen, Suthaharan Perumpalam, Gayani Hurulle, Htaike Htaike Aung, and Phyu Phyu Thi. “[Mobile Phones, Internet, Information and Knowledge: Myanmar](#),” LIRNEasia, January 2, 2017.
- Galpaya, Helena. “[LIRNEasia at Myanmar Digital Rights Forum](#),” LIRNEasia, December 18, 2016.
- Gender Equality Network and Global Justice Center. *Report on Obstacles to Gender Equality in Myanmar* (Yangon: Gender Equality Network, July 2016).
- Gender Equality Network. *Raising the Curtain: Cultural Norms, Social Practices and Gender Equality in Myanmar* (Yangon: Gender Equality Network, November 2015).
- Gilmore, Steve. “[Constructing Myanmar’s Virtual Worlds](#),” *Myanmar Times*, September 2, 2016.
- Gilmore, Steve. “[Telenor Posts Higher Revenues Despite Increased Competition in Telco Industry](#),” *Myanmar Times*, October 27, 2016.
- Global Witness. *Jade: Myanmar’s “Big State Secret”* (London: Global Witness, October 2015).
- GSMA and Ladcomm Corporation. *Sub-Saharan Africa—Universal Service Fund Study* (London: GSMA, September 2014).
- GSMA, *Case Study, Ooredoo Myanmar: Myanmar, Mobile and Maternal Health*, March 2015.
- GSMA. “[GSMA Calls for Re-evaluation and Reduction of the Universal Service Fund Levy](#),” *press release*, April 10, 2013.
- Harriden, Jessica. *The Authority of Influence: Women and Power in Burmese History* (Copenhagen: NIAS Press, 2012).
- Harris, Daniel. *Applied Political Economy Analysis: A Problem-Driven Framework* (London: Overseas Development Institute, 2013).
- Htoo Thant and Ei Ei Toe Lwin. “[Thura U Shwe Mann Appointed to Head Own Legislative Commission](#),” *Myanmar Times*, February 8, 2016.
- Hurriyet Daily News*. [Telecom Minister Axed in Myanmar](#),” May 12, 2001.
- Hurulle, Gayani. “[ICT Use in Myanmar 2016 Survey Results Presented to Deputy Minister](#),” LIRNEasia, January 2, 2017.
- Ikeya, Chie. *Refiguring Women, Colonialism and Modernity in Burma* (Honolulu: University of Hawaii Press, 2012).
- Ingber, Hanna. “[Profiles in Courage: Myanmar’s Other Female Leaders](#),” PRI, June 15, 2012.
- Intel, “[Women and the Web: Bridging the Internet Gender Gap](#),” 2013.
- Intel*. “[She Will Connect](#),” 2017.
- International Crisis Group. “[Myanmar’s New Government: Finding Its Feet?](#)” Report No. 282/Asia, July 29, 2016.
- International Telecommunications Union (ITU). *Action Plan to Close the Digital Gender Gap* (Geneva: ITU, 2016).
- International Telecommunications Union (ITU). *Connecting the Unconnected* (Geneva: ITU, 2017).
- International Telecommunications Union (ITU). *How Can We Close the Digital Gender Gap?* (Geneva: ITU, 2016).

- International Telecommunications Union (ITU). *ICT Facts and Figures 2016* (Geneva: ITU, 2016).
- International Telecommunications Union (ITU). *Mapping Gender Digital Inclusion Initiatives* (Geneva: ITU, November 2016).
- International Telecommunications Union (ITU). *Measuring the Information Society Report 2016* (Geneva: ITU, 2016).
- IREX. *Why Young Women Need Digital Skills Now to Participate in Myanmar's Information Society* (Washington, DC: IREX, 2016).
- Irrawaddy. "UWSP Diversifies into Wireless Telecoms," August 2004.
- Jagan, Larry. "Politics of Corruption in Myanmar," *Asia Times*, April 15, 2013
- Japan International Cooperation Agency (JICA) and INTEM Consulting. *Country Gender Profile: Republic of the Union of Myanmar Final Report* (Tokyo: JICA, 2013).
- Kyaw Phone Kyaw. "*Myanmar's Tycoons Unfazed by NLD Victory*," *Frontier Myanmar*, January 7, 2016.
- Kyaw Sein and Nicholas Farrelly. *Myanmar's Evolving Relations: The NLD in Government* (Stockholm: Institute for Security and Development Policy, October 2016).
- Kyaw Soe. "*The Myanmar Hluttaw and the Role of ICT in Its Development*." Interparliamentary Union, Hanoi Session, March 2015.
- Kyaw Su Mon. "*Ne Win's Grandsons Propose Airport Upgrade in Shan State*," *Irrawaddy*, October 31, 2016.
- Kyi Pyar Chit Saw and Matthew Arnold. *Administering the State in Myanmar: An Overview of the General Administration Department*, Discussion Paper No. 6 (Yangon: Asia Foundation and Myanmar Development Resource Institute Centre for Economic and Social Development, October 2014).
- Lan Show Tsai, "*From the Margins to the Center: Step It Up for Women and Girls in Myanmar's Peace Process*," UN Women, October 31, 2016.
- Lintner, Bertil. "*Why US Is No Match for China's Carrot and Stick in Myanmar*," *This Week in Asia*, September 17, 2016.
- Lynn Nyan Hlaing. "*NLD Will Not Release List of Cabinet Ministers' Assets*," *Frontier Myanmar*, July 29, 2016.
- Ma, Agatha, and Kyoko Kusakabe. "Gender Analysis of Fear and Mobility in the Context of Ethnic Conflict in Kayah State, Myanmar," *Singapore Journal of Tropical Geography* (2015): 342–56.
- MacGregor, Fiona. *Teenage Girls in Burma Find Their Voices to Defend Their Rights*, *Guardian*, February 11, 2015.
- Magiera, Stephen L. *Managing USFs for Telecommunications: An ASEAN Manual for Output-based Aid* (Washington, DC: USAID, 2009)
- Mahtani, Shibani. "Telecom Officials Face Corruption Probe in Myanmar," *Wall Street Journal*, January 24, 2013.
- McGregor, Fiona. *Woman MPs Up, but Hluttaw Still 90% Male*, *Myanmar Times*, December 1, 2015.
- McKinsey & Company, "*Offline and Falling Behind: Barriers to Internet Adoption*," September 2014.
- Ministry of Immigration and Population, *The 2014 Myanmar Population and Housing Census: The Union Report, Census Report*, Vol. 2 (Naypyidaw: Republic of the Union of Myanmar, May 2015).
- Ministry of Immigration and Population. *The 2014 Myanmar Population and Housing Census: The Shan State Report*, Census Report Volume 3-M (Naypyidaw: Republic of the Union of Myanmar, May 2015).
- Minoletti, Paul. *Gender (In)equality in the Governance of Myanmar: Past, Present and Potential Strategies for Change* (Manila: ADB, UKAID, and DFAT, April 2016).
- Minoletti, Paul. *Women's Participation in the Subnational Governance of Myanmar*, Discussion Paper No. 3, (Manila: ADB, UKAID, and DFAT, June 2014).
- Mooney, Paul. "*Myanmar Students Protest Against Education law for Third Day*," Reuters, November 16, 2014; Amnesty International. "*Myanmar: End Relentless Crackdown on Student Protesters*," *press release*, March 10, 2016.
- Mwe Khur, "*Challenges in Teaching Ethnic Language in Burma*," *Burma News International*, January 10, 2017.
- Myanmar Centre for Responsible Business, Institute for Human Rights and Business (IHRB), and Danish Institute for Human Rights (DIHR). *Myanmar ICT Sector-Wide Impact Assessment*, September 2015.
- Myanmar Education Consortium. "*National Education Sector Plan*," n.d. Accessed February 14, 2017.
- Myanmar Information Management Unit. "*Monastic Education in Myanmar, 2015-2016*," August 30, 2016.
- Myanmar Ministry of Education. *National Education Strategic Plan 2016–2021*, October 2016.

- Nay Aung. *Asho Chin Literature Coming to Magwe Region Textbooks*, Myanmar Times, August 10, 2016.
- Nehru, Vikram. "*The Political Economy of Reform in Myanmar: The Case of Rice and the Need for Patience*," Carnegie Endowment for International Peace, October 21, 2015.
- Oxford Business Group. "*Proposed Reforms for Myanmar's Education Sector*," 2015.
- Oxford Business Group. "*U Sai Saw Lin Tun, Chairman, Myanmar Post and Telecoms (MPT): Interview*," 2015
- Parameswaran, Prashanth. "*Will Myanmar's Military Chief Stay On?*" *Diplomat*, February 17, 2016.
- Project Hub and USAID. *Mapping Yangon's Emerging Startup Ecosystem* (Washington, DC: USAID, 2015).
- Reporters Without Borders. "*RSF Calls for Probe into Reporter's Dismissal by Myanmar Times*," *press release*, November 26, 2016.
- Rieffel, Lex. "Aung San Suu Kyi's New Government: What to Look for in Myanmar," Brookings Institute, March 30, 2016.
- Robinson, Gwen. "*Myanmar Telco Auction: The Good and the Bad*," *Financial Times*, June 28, 2013.
- Robinson, Gwen. *Myanmar's Transition: Economics or Politics? Which Came First and Why It Matters* (London: Legatum Institute Transitions Forum, 2014).
- San Tun Aung. "*Mobile Phone Network Ready in 'Weeks'*," *Myanmar Times & Business Review*, vol 1, no.10, March 6–12, 2000 (archived at burmalibrary.org).
- Sey, A., C. Coward, F. Bar, G. Sciadas, C. Rothschild, and L. Koepke. *Connecting People for Development: Why Public Access ICTs Matter* (Seattle: Technology & Social Change Group, University of Washington Information School, 2013).
- Soffel, Jenny. "*What Are the 21st Century Skills Every Student Needs?*" World Economic Forum blog, March 10, 2016.
- Telenor Myanmar. "*Telenor Network Carried a Record 7.2 Billion Text Messages in 2016*," *press release*, January 6, 2017.
- Telenor Myanmar. "*Telenor Network Carried a Record 7.2 Billion Text Messages in 2016*."
- Thant Myint-U. *The River of Lost Footsteps* (New York: Farrar, Straus, & Giroux, 2006).
- Thapa, Sarina. "*Dr. Ram C. Bhujel Highlighted the AIT's eWomen Project During Myanmar Economic Forum in Yangon, 11-12 January 2016*," Asian Institute of Technology, January 18, 2016.
- Trautwein, Catherine. "*Myanmar Entrepreneurs Take on Challenges in a Changing Landscape*," *Unreasonable*, October 10, 2016.
- Trautwein, Catherine. "*Myanmar Named Fourth Fastest-Growing Mobile Market in the World by Ericsson*," *Myanmar Times*, November 20, 2015.
- Tupas, Jefry. "*Is Burma's 'Disconnectivity' Deliberate?*" *Prachatai*, March 9, 2013.
- UNESCO Bangkok, "*Myanmar: TVET as Key to Educational Opportunities for All Learners*," March 31, 2015.
- United Nations Development Programme (UNDP). *Gender Analysis at Intha, Pa-O, Danu and Taung-Yoe Villages Around Inle Lake* (Yangon: UNDP Myanmar, December 2012), 80.
- United Nations Development Programme Myanmar. *Women in Local Leadership: Leadership Journeys of Myanmar's Female Village Tract/Ward Administrators* (Yangon: UNDP Myanmar, November 2015).
- United Nations Population Fund and Myanmar National Committee for Women's Affairs. *National Strategic Plan for the Advancement of Women (2013–2022)* (Yangon: UNFPA, 2013).
- Unterhalter, Elaine. "*Measuring Gender Inequality and Equality in Education*," University College London, October 2015.
- Urbano, Mia, and Tony Dickinson. *Women and the Economy in Myanmar: An Assessment of DFAT's Private Sector Development Programs* (Canberra: Australian Department of Foreign Affairs and Trade, 2016).
- US Central Intelligence Agency, "An Ethnolinguistic Map of Myanmar," May 2014.
- USAID and Integra Government Services International. *Lessons Learned Using USAID's Applied Political Economy Analysis Framework* (Washington, DC: USAID, September 2016).
- USAID, "*Women and the Web Alliance*," February 26, 2016.
- Van Welsum, Desiree, and Bruno Lanvin. *e-Leadership Skills: Vision Report* (Brussels: European Commission, 2012).
- Wai Moe. "*Burma's Fallen First Family*," *Irrawaddy*, March 9, 2011.
- Wilson, Shannon, and Naw Eh Mwee. *Food and Nutrition Security in Myanmar* (Washington, DC: USAID, 2013).

- Win Naung Toe and Roseanne Gerin. "Myanmar's Parliament Approves Controversial Interfaith Marriage Law," Radio Free Asia, July 7, 2015.
- World Bank Group. "[Checklist for the Planning, Design and Implementation of an ICT Project Incorporating Gender Issues](#)," *Engendering ICT Toolkit*, n.d. Accessed February 14, 2017.
- World Bank, *World Development Report 2016: Digital Dividends* (Washington, DC: World Bank, 2016).
- World Economic Forum and Boston Consulting Group, *New Vision for Education: Unlocking the Potential for Technology* (Geneva: *World Economic Forum*, 2015).
- World Economic Forum, *Global Information Technology Report* (Geneva: *World Economic Forum*, 2016).
- World Wide Web Foundation. [Women's Rights Online Digital Gender Gap Audit](#) (Washington, DC: World Wide Web Foundation, September 2016).

