June 2018

MYANMAR LIVING CONDITIONS SURVEY 2017

REPORT 01

KEY INDICATORS REPORT

2nd Edition

MYANMAR CSO
CENTRAL STATISTICAL ORGANIZATION

UNDP
Empowered lives.
Resilient nations.

WORLD BANK GROUP

The 2017 Myanmar Living Conditions Survey (MLCS 2017) was implemented by the Central Statistical Organization, Ministry of Planning and Finance of the Republic of the Union of Myanmar. The MLCS was technically and financially supported by the UNDP and the World Bank.

Additional information about the 2017 MLCS can be obtained from the Central Statistical Organization, Ministry of Planning and Finance, Office No. 32, Nay Pyi Taw,
http://www.csostat.gov.mm; www.mmsis.gov.mm

Suggested Citation:
Central Statistical Organization (CSO), UNDP and WB (2018) "Myanmar Living Conditions Survey 2017: Key Indicators Report", Nay Pyi Taw and Yangon, Myanmar: Ministry of Planning and Finance, UNDP and WB.

June 2018

MYANMAR LIVING CONDITIONS SURVEY 2017

REPORT 01

KEY INDICATORS REPORT

This report has been possible because of the generous financial support of the governments of Australia, Denmark, Finland, Ireland, Korea, Sweden and the United Kingdom.

Ministry of Planning and Finance
Office No.1, Nay Pyi Taw, Myanmar
https://www.mopf.gov.mm/

Foreword

from Union Minister of Planning and Finance

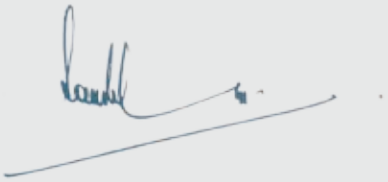
Ministry of Planning and Finance is one of the ministries, leading in making policies, National Planning and budget allocations for the development of Myanmar. In making policies for economic development of the country, the first and vital step is to understand economic and living conditions of our Myanmar citizens in perspective. Since the development policy of our government to achieve inclusive and sustainable development goals through people-centered approaches, it is important for policy makers to take the real conditions of people across the country taken into consideration. Moreover, it is also important to have insights into employment conditions of our citizens and how they allocate and expend their income or money earned in different areas such as education, healthcare and other necessities. Hence, obtaining reliable and accurate statistics is, indeed, critical for evidence-based policy making process.

In striving for nation-wide development, while it is important to achieve all-round development in socio-economic terms, the impacts of such development are necessary to be extensive and balanced growth work for the country. Thereby, policies can be made with the aims to achieve socio-economic development in sound balanced manner by the government.

Addition to an overall picture of the country as a whole, the survey also presents statistics, concerning subnational levels such as states/regional levels which can be applied in meeting with different development needs of individual state or region. Moreover, both income and other (non-income) poverty related indication are described in this survey, so that it can allow to consider socio-economic conditions of our citizens evenly in policy making process, regional planning and as well as in monitoring and evaluation.

Here, a special thank goes to the Central Statistical Organization for their leading role in this regard. I also appreciate the Development Partners, World Bank (WB) and the United Nations Development Program (UNDP) for the technical and financial assistance to conduct this survey. Likewise, I also have my sincere thanks to respective departments for their role in the consultation process. I do believe that provisions of this survey report will be useful in making development policies for our country. In addition to government departments, hopefully, this can also be useful and beneficial to those using statistics.

To conclude, I am urging all to keep in collaboration for the development of statistics sector in Myanmar.



(His Excellency U Soe Win)
Union Minister
Ministry of Planning and Finance

Empowered lives.
Resilient nations.

Foreword

The Myanmar Living Conditions Survey is a comprehensive assessment of the wellbeing of people in Myanmar. It provides reliable, accurate, and up-to-date data that can be used to inform policies for the future development of the country, to establish the baseline of Myanmar's Sustainable Development Plan and to monitor the Sustainable Development Goals within the context of the 2030 Agenda. This report is the first in a series of reports drawing from the MLCS that will be produced by the Central Statistical Organization (CSO), World Bank and UNDP.

For Myanmar to achieve a peaceful, prosperous and democratic future, progress must be inclusive. This report shows substantial improvements over time in multiple dimensions of living conditions. But it also demonstrates continued deep disparities, with areas or groups whose progress lags others and whose outcomes continue to fall far below the national average. For example, clear progress has been made in reducing the reliance on candles and kerosene for lighting and in bringing more rural households on to the public grid. The expansion of the public grid is however not taking everyone along, leaving substantial potential to close these gaps through proactive policies. Similarly, while impressive progress has been made in raising union level primary school enrollment rates, one in ten primary school aged children in Shan, Rakhine and Mon States remain out of school. Closing these gaps and ensuring equal opportunities for all children and people is vital for inclusive and balanced growth.

The MLCS followed international technical standards in core areas, from questionnaire design to report writing. The questionnaire was designed through extensive consultation and piloting, and benefitted from the knowledge of a wide spectrum of actors from government, research institutes, academia and international organizations. The survey used an updated sample frame, benefitting from the recently conducted 2014 Population and Housing Census. And the survey improves our understanding of seasonality since fieldwork was spread across the calendar year, the first exercise of this kind in Myanmar. Finally, the survey used a decentralized data entry system to support more reliable data collection.

We are grateful to Dr Wah Wah Maung, Director General of the CSO, for her strong leadership of this survey. We would also like to thank the broader CSO team for successfully managing the technical, administrative, procurement and financial aspects of the survey. We would furthermore like to thank the government representatives, researchers and representatives from non-governmental and international development organizations who have supported the survey through continuous inputs at data-user workshops.

We are pleased to launch this report at a time when the Myanmar Sustainable Development Plan is being finalised. We hope that the information in this report will assist policymakers in formulating policies, programs and plans to support a peaceful, inclusive, and prosperous Myanmar.

Peter Batchelor
Country Director
UNDP Myanmar

Ellen Goldstein
Country Director for Myanmar,
Cambodia and Lao PDR
World Bank

Acknowledgement

The 2017 Myanmar Living Conditions Survey (MLCS) is a large scale multi-topic living conditions survey implemented by the Central Statistical Organization of the Ministry of Planning and Finance, and supported by the World Bank (WB) and the United Nations Development Programme (UNDP). The MLCS follows from various households' surveys that have been previously conducted, in particular the *Integrated Household Living Conditions Assessment* (2005 and 2010), the *Household Income and Expenditure Survey* (between 1989 and 2012) and the *Myanmar Poverty and Living Conditions Survey* (2015). The MLCS brings the objectives of these previous household surveys together into a single survey, and provides a comprehensive source of living conditions information. This report presents the initial findings of the survey.

The survey aims to provide reliable, accurate, and up-to-date data for the country. The main statistical objectives of the survey are to produce estimates of poverty and living conditions, to provide core data inputs into the System of National Accounts and the Consumer Price Index and to support monitoring of the Sustainable Development Goals.

The successful completion of the 2017 MLCS was made possible through contributions of a range of actors at various stages across the regions in the process. The survey has undergone an extensive consultation process and has benefitted from multiple rounds of comments across the National Statistics System of the Government of Myanmar and its development partners. We would like to thank all the government representatives, researchers and representatives from nongovernmental and international development organizations who have supported this effort, through their comments at multiple data-user workshops at the conception, design and analysis stages. Especially, I appreciated the assistance provided by the Department of Population, Ministry of Labor, Immigration and Population, for providing the sampling frame and household lists and maps of the selected enumeration areas for the survey. Furthermore, the support and collaboration given by the national, state, and regional administration as well as local leaders played a large role in the successful implementation of the survey.

I wish to express my deep appreciation to the leaders and members of the UNDP and World Bank technical teams. Similarly, I would also like to acknowledge the Survey Section of the CSO for successfully managing the technical, administrative, and logistical aspects of the survey; the resident advisor and trainers for their support in developing, training and monitoring the field work; the over 140 supervisors, enumerators, listers and data processing staff for their tireless work throughout the whole year; the financial management team for their important work; the CSO regional coordinators and, in particular, the survey respondents.

This short report presents some of the initial findings and focuses on non-income indicators. Further poverty and socio-economic reports will follow, with greater detail and focus on poverty and expenditure. I hope that the information in this report will assist policymakers and program managers in policy formulation and monitoring and designing programs and strategies in Myanmar.

(Dr. Wah Wah Maung)
Director General
Central Statistical Organization
Ministry of Planning and Finance

Ministry of Planning and Finance
Office No.32, Nay Pyi Taw, Myanmar
Phone : +95 67 406325, +95 67 406328
Fax : + 95 67 406151
Email : dgcsomopf@gmail.com
wwmaung@gmail.com
Website : https://www.csostat.gov.mm
http://www.mmsis.gov.mm

Contents

Tables

Maps

Boxes

Figures

Figures

Acronyms

CAFE	Computer Assisted Field-based data Entry
CPI	Consumer Price Index
CSO	Central Statistical Organisation
DG	Director General
DHS	Demographic and Health Survey
DP	Development Partner
DOP	Department of Population
EA	Enumeration Area
EMIS	Education Management Information System
FY	Fiscal Year
JMP	Joint Monitoring Programme
LFS	Labour Force Survey
GOM	Government of Myanmar
HIES	Household Income and Expenditure Survey
IHLCA	Integrated Household Living Conditions Assessment
MLCS	Myanmar Living Conditions Survey
MNPED	Ministry of National Planning and Economic Development
MOIP	Ministry of Immigration and Population
MOLIP	Ministry of Labour, Immigration and Population
MOPF	Ministry of Planning and Finance
MPLCS	Myanmar Poverty and Living Conditions Survey
NGO	Non-Governmental Organisation
NSDS	National Strategy for the Development of Statistics
PAPI	Paper and Pencil Interviewing
PPS	Probability Proportional to Size
PSU	Primary Sampling Unit
PWD	Person with Disability
QA	Quality Assurance
SDG	Sustainable Development Goal
SNA	System of National Accounts
UNDP	United Nations Development Programme
WB	World Bank
WHO	World Health Organisation

Executive Summary

The Myanmar Living Conditions Survey 2017 (MLCS 2017) is an information packed household living standard survey conducted by Myanmar's Central Statistical Organization, from December 2016 to December 2017. The survey is representative of the Union Territory, its states and regions and urban and rural areas. It was conducted in all the districts and in 296 of the 330 townships of Myanmar. A total of 13,730 households were interviewed. It collects data on the occupations of people, how much income they earn, and how they use this to meet the food, housing, health, education and other needs of their families. The main focus of the survey is to produce estimates of poverty and living conditions, to provide core data inputs into the System of National Accounts and the Consumer Price Index and to support monitoring of the Sustainable Development Goals. The data collected can be used to formulate responsive policies for the future development of the country.

This report provides a first snapshot of key indicators of living standards in Myanmar. The indicators selected are those that can be produced rapidly but are also highly correlated with household well-being. They therefore provide information about how lives in Myanmar compare geographically and have evolved over time. Alongside the MLCS 2017, the report draws upon data products produced by multiple government departments in the National Statistics System, including administrative, survey and census data. This executive summary highlights key messages derived from this report.

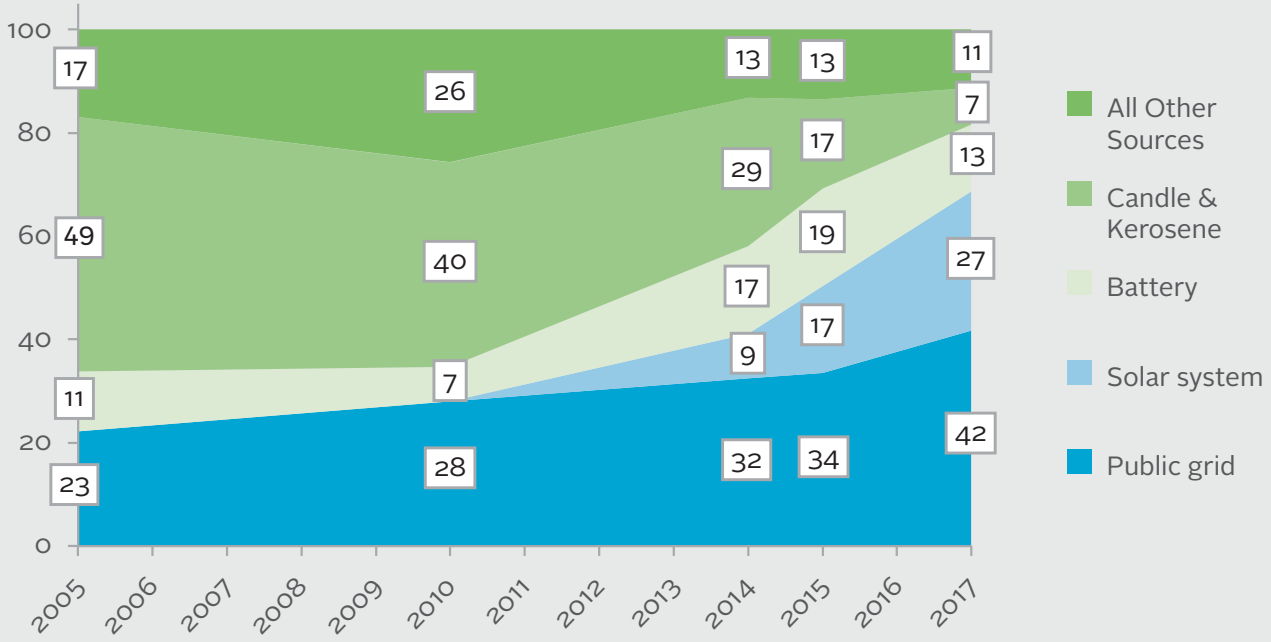
> “In 2005, 4 million households with 20.3 million members reported using candles and kerosene for lighting. In 2017, only 800 thousand households with 3 million members did so. The number of households that used electricity for lighting effectively doubled, from 1.8 million in 2005 to 4.7 million in 2017.”

The report documents some stark overtime changes in lighting, education, goods ownership and technology usage – but that progress still needs to be made in some parts of the country where outcomes are lagging. Changes can be seen in lighting sources due to the rise of solar technology and an expansion of the public grid, and in the ownership and use of cell phones. They can also be seen in education outcomes of the youngest generations and in gender gaps in education attainment among older generations, and in the ownership of household goods such as motorbikes and rice cookers. The survey also reveals that progress in key human development areas continues to lag behind in some parts of the country and in some indicators.

Lighting has been transformed in Myanmar since 2005. Two forces have been behind the transformation: the rise of off-grid solar solutions and the expansion of public grid electricity. Lighting can improve productivity, allowing the day to stretch beyond sunlit hours. With proper lighting, adults can continue to do work around the house and children can study after sunset.

The main changes are happening in Myanmar’s villages, while the same trend in towns and cities areas occurs at a more modest rate due to already high rates of electrification in these areas. Almost all of the growth in solar and public grid access comes from rural areas, where a third of households in 2017 used solar system to light their houses, compared to a baseline of zero in 2009/10.

ES1: Primary source of household energy for lighting at the union level



> “Electrification could increase by 11 percentage points by bringing off-grid households in on-grid locations into the network.”

There is substantial potential to increase electrification through intensifying connections in areas already connected to the public grid. One in ten households in Myanmar live in electrified villages or urban wards, but are not themselves connected to the grid. Solutions that reduce the cost of connections and also support last-mile connections would help to bring these households into the public grid, and would support more inclusive access since these households appear to be slightly worse off according to non-monetary indicators of wellbeing.

Consumer goods have shown substantial growth since 2015, with the rise of small home appliances partly linked to rising electrification. The growth of consumer goods over the last decade is likely to reflect improvements in household economic conditions, the expansion of electrification, deepening goods markets and related changes in the prices of

> There has been a technological upgrading occurring among communication and transportation goods.

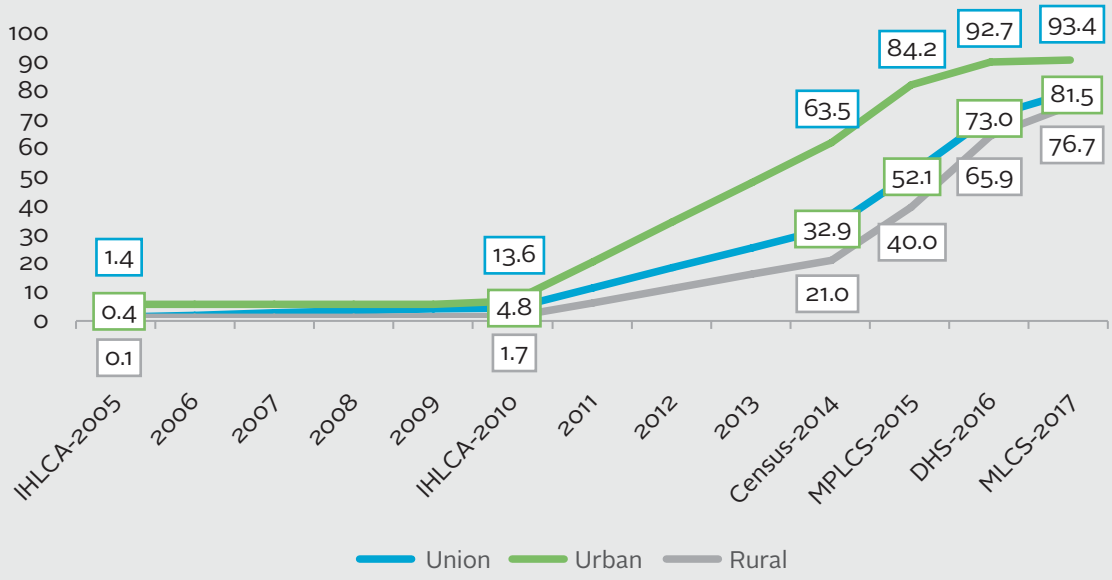
> In 2017, nearly 40 million people lived in households that owned a phone and, of these, 36 million lived in households with smartphones.

these goods, and increasing access to credit. The availability and price of consumer goods is also likely to have changed considerably due to exchange rate and trade reforms. Rural electrification has opened up new possibilities for the use of some small home appliances, opening up an otherwise dormant rural market. Trade and investment liberalization have increased opportunities for consuming imported products, and are also likely to have had an impact on the type of products consumed in Myanmar.

Mobile phones have seen the most rapid growth of all consumer goods; smartphones are the dominant technology used. Mobile phone technology potentially impacts the banking sector, education, agriculture and health and disaster management and, as illustrated below, mobile phone ownership is fast becoming universal. Ownership of phones is lowest in rural areas and in Chin and Rakhine, where network expansion does not appear to have reached all populations at the time of the survey. MLCS 2017 data suggest that, even though smart phone ownership is widespread, the actual usage of phones for frequent internet access still has room to develop.

A gender gap is seen in mobile phone and internet usage. Mobile ownership in female headed households is 78 percent compared to 82 percent in male headed households. Women are less likely to report internet and mobile phone usage: 57 percent of women aged 15 and above report using mobile phones compared to 68 percent of men, for internet usage the corresponding figures are 19 and 29 percent. These gender differences are seen for all ages apart from the 10-14 year old cohort, and are also seen in all states and regions. They may partly reflect lower literacy rates among older women, but cannot be explained by education alone.

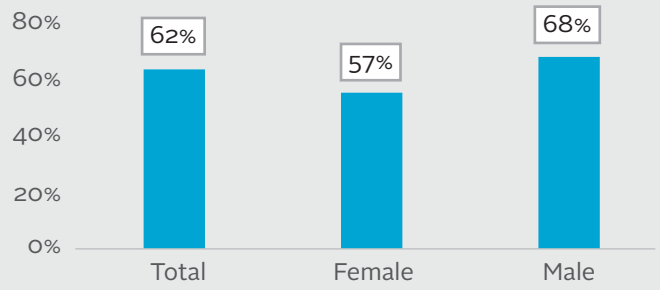
ES2: Percentage of households owning mobile phones



The gap between rural and urban areas in phone ownership expanded in the period immediately following the telecommunications reforms in 2014, but had contracted by 2017. The difference in phone ownership across rural and urban areas appears to be linked to purchasing power and socio-economic status rather than necessarily being constrained by infrastructure access. Unlike electrification, where lower rural rates of access to grid electricity continue to be largely driven by a lack of grid infrastructure, we see widespread geographic ownership of phones across Myanmar's rural areas. We see patterns consistent with lower ownership rates in rural areas reflecting purchasing power rather than physical network access limitations.

There are strong differences in goods ownership across states and regions. These differences likely reflect electrification, economic conditions, the availability of goods in local markets and the price of those goods. Asset ownership in Myanmar is strongly correlated with

ES3: Percentage of over 15 year olds using a mobile phone in the last 7 days



income, shown in earlier analysis of small asset ownership and expenditure deciles (MNPED et al, 2011). The regional diversity in ownership of assets may also reflect differences in cross-border trade patterns, availability of goods and prices.

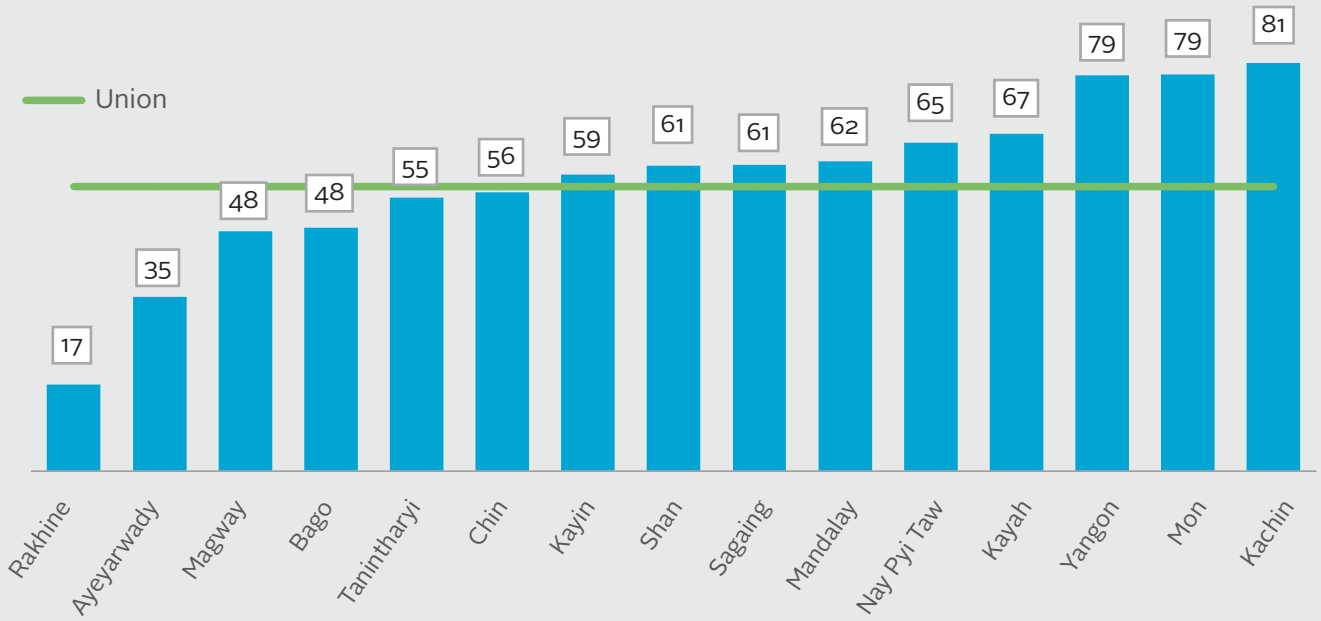
> “Eight in ten households had a quality roof in 2017, compared to four in ten in 2005.”

The quality of housing materials varies across households in Myanmar, showing considerable diversity across geography due to variations in climate, availability of raw materials and socioeconomic factors. Housing materials vary in their quality as well as in their ability to shelter households from their climate.

Access to improved water has increased since 2015, driven by private sector solutions. Access to water and sanitation are key determinants of public health and are core inputs into health indicators such as infant and child mortality, malnutrition, maternal and family wellbeing. They also influence economic productivity through multiple direct and indirect channels. Although improved water access has increased over time, it has been driven by the private expansion of bottled water rather than through increased and more sustainable use of piped and groundwater sources. Households in multiple states and regions have to transport water from source to consumption point, increasing the risk of contamination.

The use of surface water continues to be substantial in Rakhine and Ayeyarwady, and open defecation remains high in Rakhine, Kayin and Chin. In population dense Ayeyarwady and Bago, access to improved water sources increases between the dry and rainy season reflecting a switch between surface water and rainwater. These switches are not seen in Rakhine, where surface water continues to be used in the rainy season. Access to improved water in the dry season is limited in Rakhine and Ayeywarwady and, in Rakhine, continues to be limited in the rainy season as well.

ES4: Percentage of households with access to safe drinking water in the dry season



The percentage of households reporting open defecation has halved since 2014, from 14 percent of households to 6 percent. Nearly half of households however report open defecation in Rakhine and over 10 percent in Kayin and Chin. Although open defecation is relatively low on average,

> The number of households reporting no toilet facilities has halved, from 1.5m in 2014 to just under 700,000 in 2017. These households are concentrated in Rakhine, where just under 300,000 households reported no toilet facilities

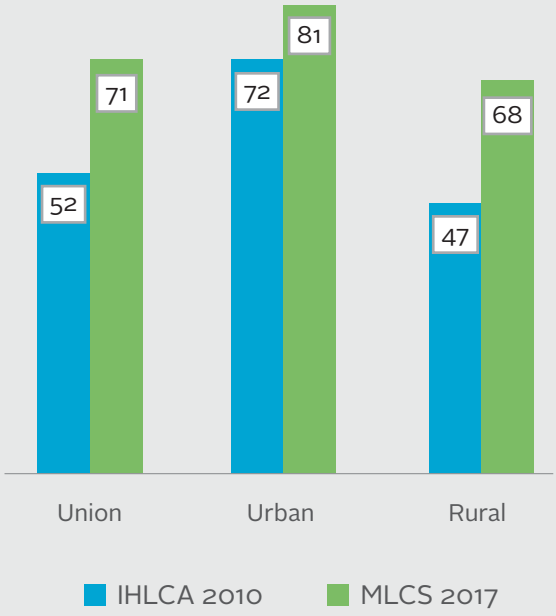
> Approximately 3.9 million of those aged 15 and above report themselves to be illiterate. Of these, a third were in Shan and 70 percent were women.

with 6 percent of households reporting having no toilet facilities or defecating in the bush or a field, it continues to be an issue in Rakhine, Kayin and Chin. Even though Kayin's rate remains high, it has seen the greatest overtime improvement in absolute terms.

The survey finds that literacy has risen across generations, and that gender gaps in literacy have closed at the national level. Half of the states and regions have literacy rates of 90 percent or higher, while the other half hovers around 80 percent or lower. The rise in average literacy is predominantly driven by women. As a consequence, gender gaps in literacy and numeracy rates are largest among the older generations and decrease significantly among younger populations.

Adult education outcomes are lowest in Shan, where a third of the adult population reports not being able to read and write a simple sentence in any language, the lowest percentage seen in any state or region in the country. These more limited adult education levels are carried over to the younger generation: net total primary education enrollment in Shan is the lowest in the country, with 86% of children of primary school age attending primary school and above.

ES5: Net total middle school enrollment



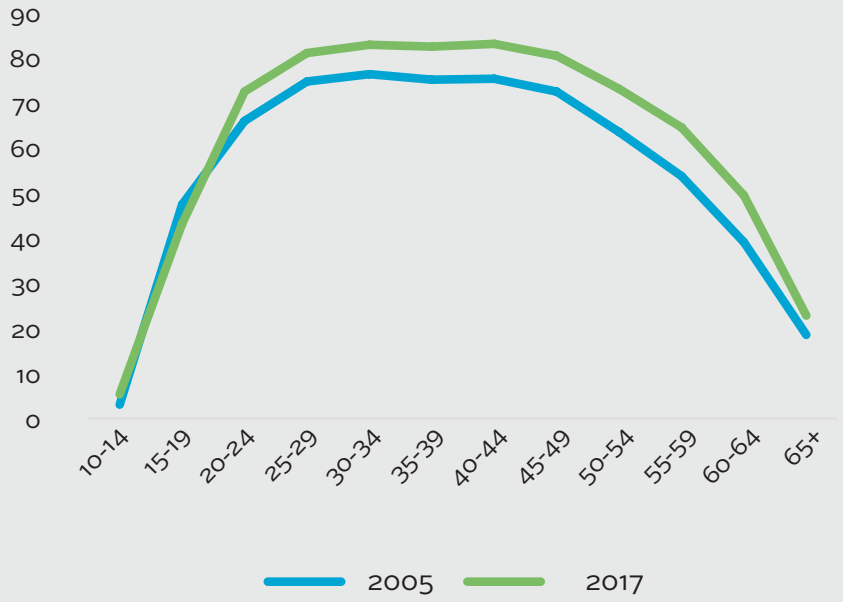
> “There’s substantial variation in primary school net enrollment across Myanmar. Primary enrollment rates are near universal in Bago, Mandalay, Nay Pyi Taw and Sagaing while in Shan, Mon and Rakhine one in ten children of primary school age are not at school.”

Steady progress has been made in raising net total enrollment rates in Myanmar over the last decade. These improvements are predominantly driven by rural areas. Primary net total enrollment in 2017 remains high, with a significant increase compared to the rates found in 2005. Enrollment drops between primary and middle school, and drops further as children transition into high school. The survey however shows marked improvements in middle and high school enrollment rates between 2005 and 2017. At every education level, the main driver of growth in enrollment rates comes from the rural areas.

Net total middle school enrollment rates in rural areas increased by about 20 percent from 2010 to 2017, while net total high school enrollment rate nearly doubled in the same period. Variation across states/regions is stronger for middle and high school than for the primary school level. At the lowest end of the spectrum, Kayin has net total enrollment rates of 27 and 52 percent for middle and high school respectively. Meanwhile, Mandalay sees as

much as 59 percent of its 15-16 years old population going to high school or above, and 86 percent of its 10-14 years old population going to middle school or above.

ES6: Union Labour Force Participation



> “Female labour force participation is evolving rapidly. When not in school, women are working more and working longer.”

Labour force participation has increased over time, and has increased most for women. Of the 35 million people aged 15 and above in Myanmar, 22 million reported being in the labour force. Labour force participation rates have increased slightly since 2005. Substantial changes have occurred by age group, as younger workers stay longer in education and women participate more. When not at school, women are increasingly participating in the labour force and are working longer. Labour force participation rates vary substantially between men and women. This does not reflect a lack of activity among women, but reflects a focus on domestic work. The share of women reporting domestic work as their main activity has declined since 2005, making way for greater participation in the labour market.

> There has been a decline in the share of the labour force participating in cultivation, fishing and rearing livestock activities between 2005 and 2017.

A structural transformation can be seen through a labour lens: a greater share of the labour force is working in industry and service activities, and there has also been an increase in the share of households earning income from non-agricultural work. Farming, fishing, livestock rearing and forestry are the most commonly reported labour activity. There has been a decline over time in the share of the workforce engaged in these sectors, and an increase in the share working in manufacturing and construction. In the cool season, we see that the share of the labour force participating in agriculture has declined from 57 percent to 50 percent between 2005 and 2017. Similarly, in the dry season it has declined from 53 to 47 percent over the same time horizon.

Team members contributing to the report

Name	Title	Organization
Dr Wah Wah Maung	Director General	Central Statistical Organization
U Than Zaw	Deputy Director General	Central Statistical Organization
Daw Khin Sett Yi	Assistant Director	Central Statistical Organization
Daw War War Myint	Assistant Director	Central Statistical Organization
Daw Ohn Mar Myint	Assistant Director	Central Statistical Organization
Daw Phyu Pyar Tun	Assistant Director	Central Statistical Organization
Daw Thet Htar Nwe	Assistant Director	Central Statistical Organization
Daw Ohnmar Soe	Staff Officer	Central Statistical Organization
Dr Reena Badiani-Magnusson	Senior Economist	World Bank
Ms Diane Steele	Survey Specialist	World Bank
Mr Clarence Tsimpo Nkengne	Senior Statistician/ Economist	World Bank
Ms Rachel Smith-Govoni	Resident Advisor	World Bank
Mr Espen Beer Prydz	Economist	World Bank
Ms Ikuko Uochi	Economist	World Bank
Mr Rivandra Royono	Economist	World Bank
Mr David Megill	Sampling Specialist	World Bank
Mr Scott Standley	Economist/ Policy Advisor	UNDP
Ms Hye Ran Kim	Project Manager	UNDP
Mr Felix Schmieding	Statistics Specialist	UNDP
Sa Sithu Htike San	Project Analyst	UNDP

01.

Introduction

1.1 Objective of this report

- **This report is the first in a series of analytical products that will be produced using the 2017 Myanmar Living Conditions Survey (MLCS).** The objective of this report is to produce highlights from the survey in a responsive and rapid manner. The results aim to give a flavour of the story that will be available, in greater depth, in the later socio-economic report.
- **The report focuses on some of the initial findings from the survey,** showing how patterns of living vary across the states and regions of Myanmar in 2017. For indicators for which over time comparisons are possible, it shows how living conditions have evolved. The report focuses on non-monetary indicators of living conditions. The tables and figures in this report do not uniformly include the standard errors or upper and lower bound margins of error. All the figures and tables contained in the report, alongside the standard errors of each indicator, can be downloaded from the Central Statistical Organization's (CSO) website.

- **This key indicator report will be followed by further in-depth analysis.** A key poverty indicators report will follow this report and will include a short analysis of poverty and expenditures. A more detailed socio-economic report will subsequently feature analysis of living conditions in Myanmar.
- **Alongside the MLCS, the report draws upon data products produced by multiple government departments in the National Statistics System.** The report references data from various household surveys, from the Population and Housing Census 2014 and from administrative sources. For over time comparisons, data that cross fiscal or calendar years are labelled according to the year that they are most representative of. The MLCS survey, which was enumerated for a full 12-month period, is accordingly labelled MLCS 2017, even though it started in December 2016. Similarly, the Integrated Household Living Conditions Assessment (IHLCA-I) enumerated in two rounds (November/December 2004 and May 2005) is denoted IHLCA-2005 and IHLCA-II (enumerated in December 2009 and May 2010) is denoted IHLCA-2010.

1.2 Introduction to the survey

This section puts forward a short introduction to the MLCS survey. A more detailed description of the methodology can be found in the Annex, and in the accompanying MLCS 2017 Survey Content and Quality Report. This annex also includes a short comparability assessment between the MLCS and earlier surveys.

The MLCS is a comprehensive study of how people in Myanmar live. It was carried out by the CSO with technical and financial support from the United Nations Development Programme (UNDP) and the World Bank (WB). It collects data on the occupations of people, how much income they earn, and how they use this to meet the food, housing, health, education and other needs of their families. The data collected can be used to formulate responsive policies for the future development of the country.

The MLCS had the following objectives:

- To provide updated estimates of poverty and living conditions at the national, urban/rural and State and Region level;
- To inform national data needs and selected SDG targets;
- To construct consumption weights for the national and regional Consumer Price Index (CPI) baskets; and
- To estimate private consumption expenditure for the System of National Accounts.

The MLCS builds off earlier household expenditure and living conditions surveys conducted in Myanmar, in particular the Integrated Household Living Conditions Assessment (IHLCA-2005 and IHLCA-2010), the Household Income and Expenditure Survey (HIES, conducted 5 times, every 6 years between 1989 and 2012) and the Myanmar Poverty and Living Conditions Survey (MPLCS, 2015). The MLCS brings all these previous household surveys together into a single survey, and provides one comprehensive source of living conditions information.

The MLCS 2017 is representative of the Union Territory, its states and regions and urban and rural areas. It was enumerated in all the districts and 296 of the 330 townships of Myanmar. In total 13,730 households participated in the survey. The survey was a representative sample for Myanmar of 1,145 enumeration areas.[1] The sample was based on the 2014 Population and Housing Census (Census) frame. Sampling weights were used to make estimates representative of the population and the sample provides statistics for the fourteen states and regions and Nay Pyi Taw Council of Myanmar.

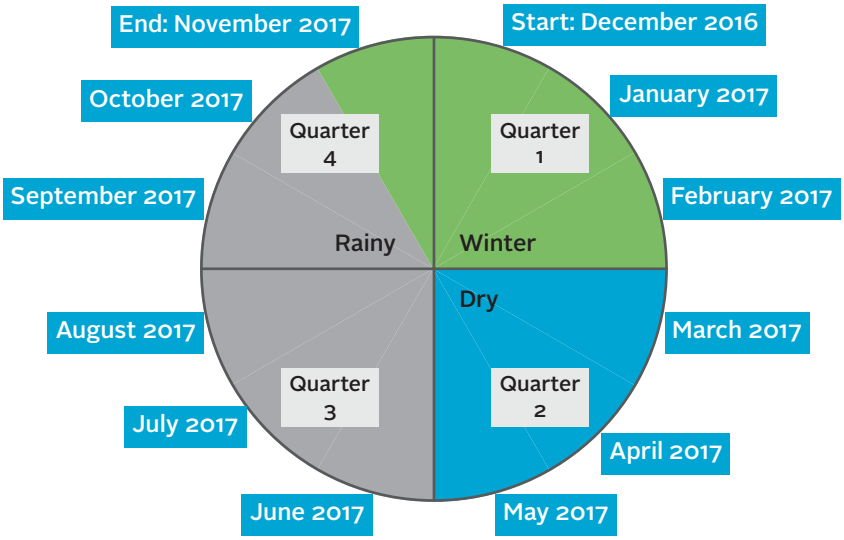
The survey was conducted continuously over a 12-month period from late December 2016 to November 2017. Interviewing began in the winter season (December to February) continued throughout the dry season (March to May) and the rainy season (June to October), ending in the winter season of 2017.

1 Outreach activities took place over the 12 months of data collection but it was not possible to interview in northern parts of Rakhine State (Maungdaw and Buthidaung) and the Wa Self-Administered Division. These exclusions are fully documented in the forthcoming MLCS 2017 Survey Content and Quality Report and can be seen in the maps presented within this report.

The survey sampling method allowed for quarterly representation: the data from each quarter can be treated as an independent national-level cross-sectional survey. Quarterly analysis can be done at the national level, but cannot to be done at a State and Region level. The quarters approximately map into Myanmar's seasons, with the first quarter firmly capturing winter season, the second quarter capturing the dry season, the third capturing the first half of the rainy season and the fourth capturing the rainy season and a month of early winter season.

Figure 1.1

The survey cycle



The chapters in this report are structured as follows:

2. Population and demographics
3. Energy sources
4. Household assets and housing
5. Water and sanitation
6. Technology: mobile phone, computer and internet usage
7. Education
8. Employment

02.

Population and Demographics

This section includes key population and demographic indicators. These indicators can help government and society to better prepare for the needs of the different youth, adult and elderly compositions, and to deal with the demands of population growth, ageing and migration. The demographic composition of households varies across urban and rural areas, and across states and regions. A wide variety of social outcomes are impacted by demographic processes and distributions. The indicators also help to benchmark the MLCS 2017 against the 2014 Population and Housing Census (MOIP, 2015). Since 3 years have passed between the survey and the Census, some indicators are expected to change, but at the aggregate level we look for relative similarity.

2.1 Population size and number of households

At the union level, the population and housing estimates of the conventional population from the 2017 MLCS are broadly consistent with those from the Census of 2014. The MLCS estimates that there are 47.4 million people in Myanmar living in 11.1m conventional households.[2] In comparison, the Census estimated that 49.1 million people lived in 10.9 million conventional households in 2014.[3] This differs from the total Census count, which includes institutional households.

The definition of what a household means differs across the Census and the MLCS 2017, due to the different objectives of these two statistical products. A Census provides data on the number and composition of a population at a given moment in time, while a living conditions survey captures an assessment of living conditions over a longer time frame, defining a household as those who eat and live together for at least 6 months during the last 12 months (a more detailed explanation of the MLCS 2017 household definition can be seen in Box 2-1 below). In comparison, the Census captures a snapshot of the population of Myanmar at a moment in time, following international practice. The Census defines a household as everyone who spent the night of 29 March 2014 in the household.

The distribution of the population across states and regions is expected to differ between the Census and MLCS, with potential implications for the population distribution across states and regions. Due to differences in definition of household and considerable migration in Myanmar, both internal and international, the distribution of the population across states and regions is expected to differ slightly between the Census and the MLCS 2017, even though the Union level average household size and population numbers are consistent across the two sources.

2 Conventional households include one or more persons who are either related or unrelated and share living quarters (single quarter or compound) and meals. They exclude those living in institutional households: a unit where a group of people are living together but is not a conventional home. Examples of institutional households include old people's homes, orphanages, hospitals, boarding schools, hotels, hostels and guest houses, institutions for people with disabilities, prisons, monasteries, convents, military and police barracks and camps for workers.

3 The Census household counts are based on the final results from the Population and Housing Census published in May 2015. The household count reflects conventional households, and does not include institutional households. The population count reported in this text of 49.1m includes both those that were enumerated in the Census and the estimated size of the non-enumerated population.

Table 2.1

Number of households and population, MLCS 2017 and Census 2014

	MLCS 2017				Census 2014	
	Estimated conventional households (in millions)	Share	Estimated population (in millions)	Share	Household count from the Census	Population count from the Census
Union	11.1	100.0	47.4	100.0	10.9	47.9
Urban	3.2	28.8	13.5	28.5	3.0	13.8
Rural	7.9	71.2	33.9	71.5	7.8	34.1
State and Region						
Kachin State	0.3	2.9	1.6	3.3	0.3	1.4
Kayah State	0.1	0.5	0.3	0.6	0.1	0.3
Kayin State	0.3	2.5	1.3	2.8	0.3	1.5
Chin State	0.1	0.9	0.5	1.0	0.1	0.5
Sagaing Region	1.1	9.6	4.9	10.3	1.1	5.1
Tanintharyi Region	0.3	2.4	1.3	2.8	0.3	1.4
Bago Region	1.2	10.5	4.8	10.1	1.1	4.7
Magway Region	0.9	8.0	3.6	7.5	0.9	3.8
Mandalay Region	1.3	11.8	5.6	11.8	1.3	5.8
Mon State	0.4	3.6	1.7	3.6	0.4	1.9
Rakhine State	0.6	5.4	2.7	5.7	0.5	2.0
Yangon Region	1.7	15.6	7.1	15.0	1.6	6.9
Shan State	1.2	10.7	5.3	11.1	1.2	5.5
Ayeyarwady Region	1.5	13.2	5.8	12.2	1.5	6.1
Nay Pyi Taw Council	0.3	2.3	1.0	2.2	0.3	1.1
Sex						
Male	-	-	22.3	47.0	-	22.6
Female	-	-	25.1	53.0	-	25.4
Age groups						
0-14	-	-	12.6	26.5	-	14.0
15-64	-	-	31.3	66.1	-	31.1
65 plus	-	-	3.5	7.4	-	2.8
Education of head						
Never attend school	1.2	10.4	5.1	10.7	-	-
Monastic	1.5	13.1	6.6	13.8	-	-
Primary school	6.3	56.7	27.1	57.2	-	-
Middle school	1.3	11.5	5.3	11.1	-	-
High school and above	0.9	8.2	3.4	7.2	-	-

Note: Population estimates from the MLCS are calculated by aggregating weights from the survey to State and Region level. Further detail on sampling and the construction of weights can be found in the accompanying survey quality report for the MLCS survey. The figures in the table above are not strictly comparable due to differences in coverage. The MLCS was not able to enumerate populations in Wa Self-Administered Division and in northern parts of Rakhine State (Maungtaw and Buthidaung townships). Wa Self-Administered Division is included in the Census population counts. However, the conventional household count does not include non-enumerated populations in Rakhine, Kayin and Kachin. These non-enumerated populations were covered by the MLCS, with the exception of those residing in two townships in northern parts of Rakhine State and in Kayin.

Box 2.1: What is a household in the MLCS 2017?

A person living alone or a group of people, either related or unrelated, who live together as a single unit in the sense that they have common housekeeping arrangements- they share or are supported by a common budget. There is a difference between family and household.

Family reflects social relationships, blood descent, and marriage.
Household, used in this survey, identifies an economic unit.

Families and households can be the same, but this is not always the case. For an individual to be considered a household member, he/she must meet two requirements:

1. **Eat and live with the other household members** for at least 6 months (does not have to be six months consecutively) in the past 12 months.
2. **Share a collective budget with others.** This means that that all expenditure of the member is paid from that budget.

There are four exceptions:

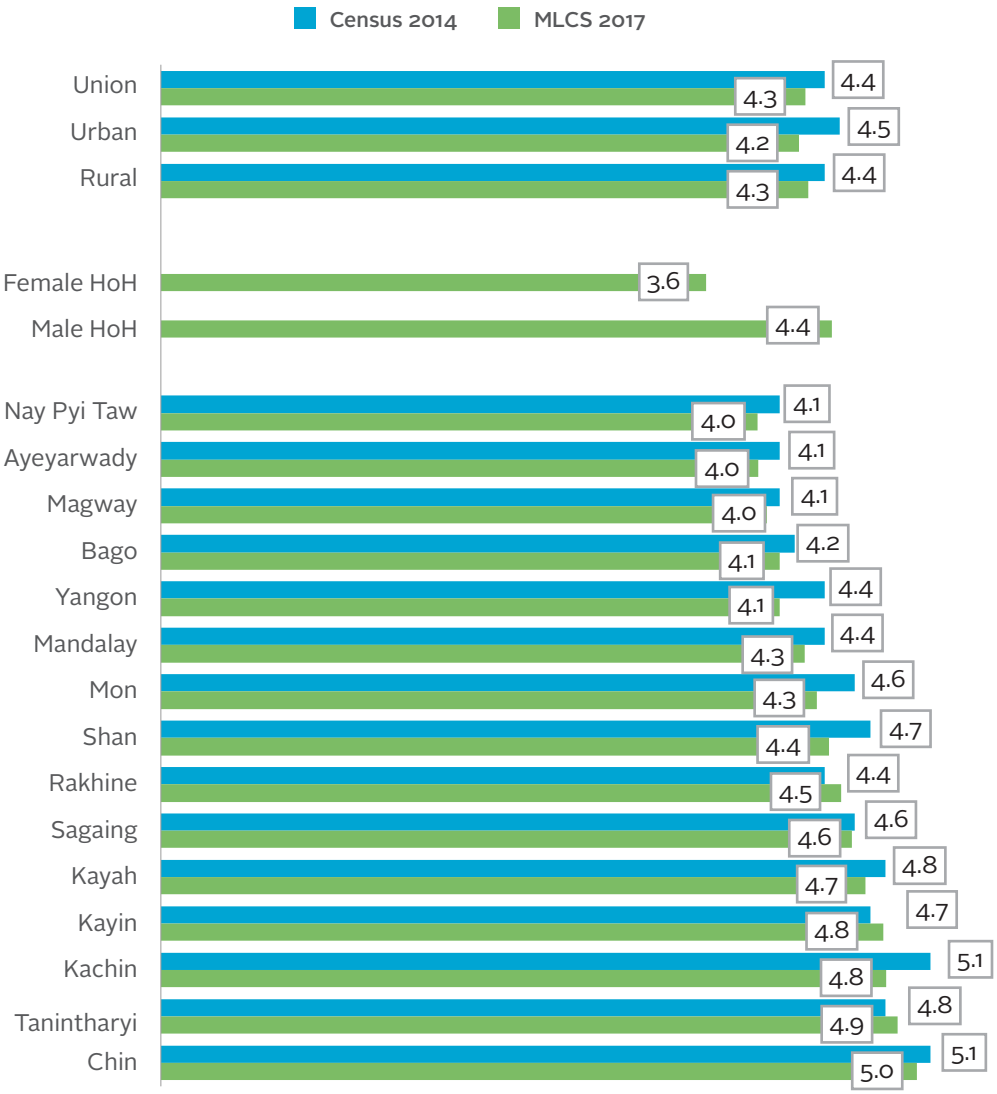
- **Head of household away for up to 12 months:** The head of household is considered a household member as long as s/he has not been away from the household for more than 12 months. If the person identified as the head of household has been away for more than 12 months, we ask the household to identify a new head.
- **Permanent leavers are not household members:** A person who has left the household permanently, even if recently. Examples: people who moved abroad or left to sea or the deceased.
- **Permanent joiners are household members:** A person who has joined the household recently and has not spent more than 6 months in the household in the past 12 months. Examples: brides moving to live in their husbands' homes, grooms moving to live in their brides' homes, people returning from the military.
- **Students supported by the household.** Students learning and studying in other areas of Myanmar are household members if they are supported by their household, even if they are away for more than 6 months.

2.2 Household size

There are no major changes in household size in the three years between the Census and the MLCS 2017. The survey estimates an average of four people (4.3) living in each household. These results are consistent with those from the 2014 Census with an average household size of 4.4 (see Figure 2.1). The average household sizes vary somewhat across the states and regions, reflecting in part regional differences in fertility rates. Fertility rates are highest in Chin, Kayin, Kayah and Tanintharyi (MOIP, 2015), which also have the highest average household sizes in the MLCS 2017.

Figure 2.1

Average household size in Census 2014 and MLCS 2017

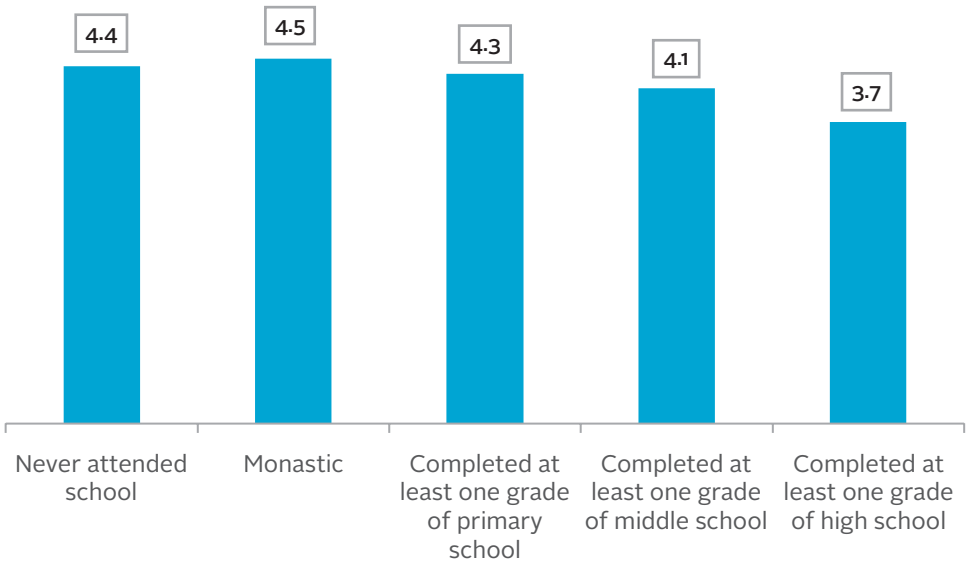


Note: Averages are given as the mean. MLCS n = 13,730. Census N =10,877,832 Male HoH refers to male head of household, while female HoH refers to female head of household.

Household size is closely correlated with socio-economic conditions. Households headed by people with higher levels of education have fewer members on average (Figure 2.2); this also reflects the urban-rural dimension of household size, with educated households being more likely to be found in urban areas. As shown in the results below on dependency ratios, the lower household size is due to having fewer children rather than having fewer elderly.

Figure 2.2

Average household size by the education level of the head of household



Note: Averages are given as the mean. MLCS n = 13,730, of which: 1,530 household heads have never attended school, 1,415 have attended monastic, 7,675 heads have completed at least one grade of primary, 1,759 heads have completed at least one grade of middle school, and 1,351 have completed at least one grade of high school or more.

2.3 Population age-sex pyramid

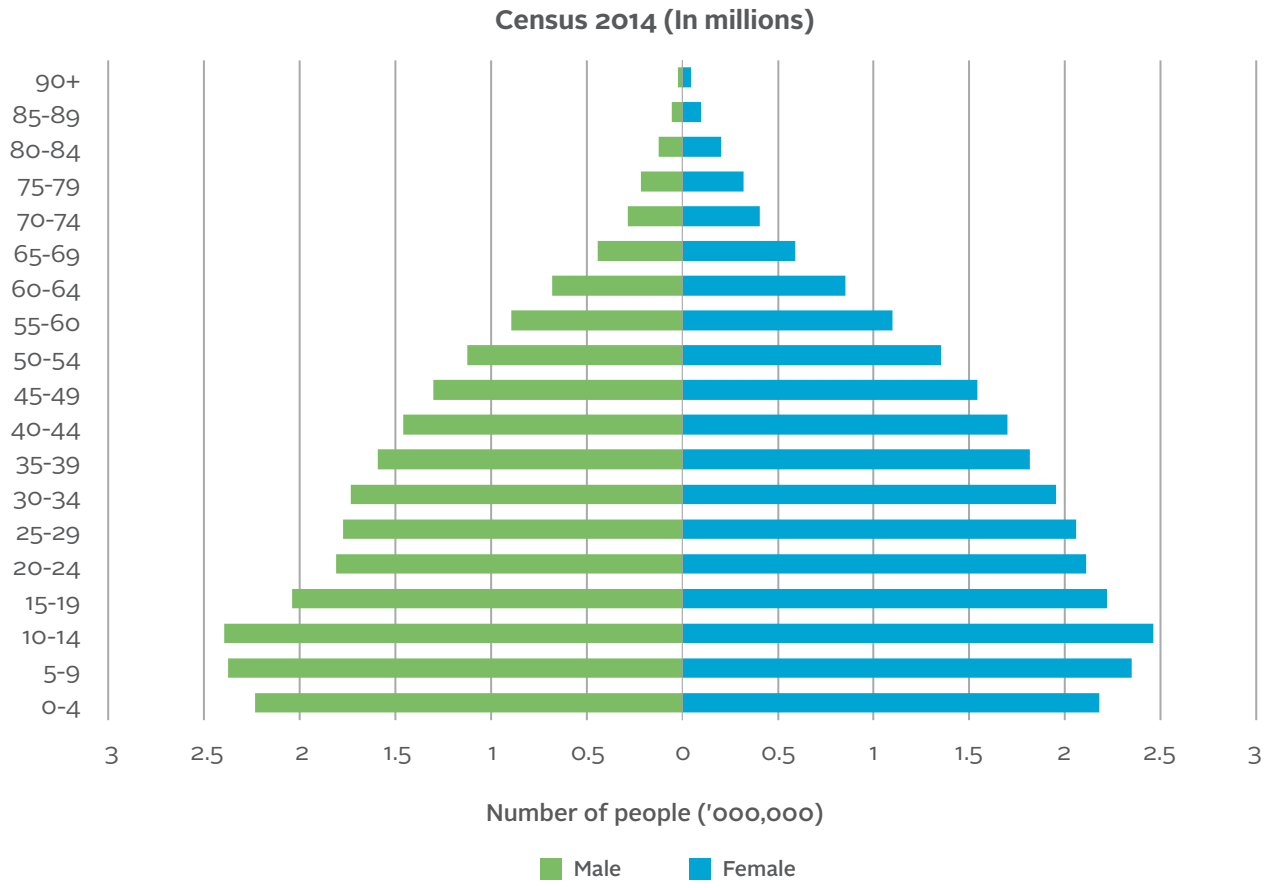
In 2017 a "pot-shaped" population pyramid can be observed, which is broadly similar to that seen in the 2014 Census (MOIP, 2015). Myanmar's population pyramid has evolved over time: from the broader bottom based pyramid that was captured in the 1983 census to the distribution shown in Figure 2.3.

A number of features of this distribution are note-worthy. First, the impact of reduced fertility rates can be seen in the figure. The Census documented a decline in the size of younger generations, the effects of reduced fertility rates that were documented since the 1970s. Between the mid-1970s and late 1990s, fertility declined at an average rate of slightly over one child per woman per decade (MOLIP, 2016a). Meanwhile, the growth of the older population, most notably those 45 years old and above, is indicative that Myanmar's population is living longer. This, in turn, points to development progress that has been likely made in the country, particularly in reproductive health and health more broadly.

It is now evident that there are many youth, especially in rural areas. Myanmar has a relatively young population: the median age is 29 and about 51 percent are under the age of 30, according to MLCS 2017. Those aged 15–29 accounted for about one-quarter of the population in 2017. A large population of adolescents entering the labour force and electorate can create unemployment unless new economic opportunities are created quickly enough. If opportunities are created, a 'demographic dividend' develops because productive working age individuals outweigh young and elderly dependents.

Figure 2.3

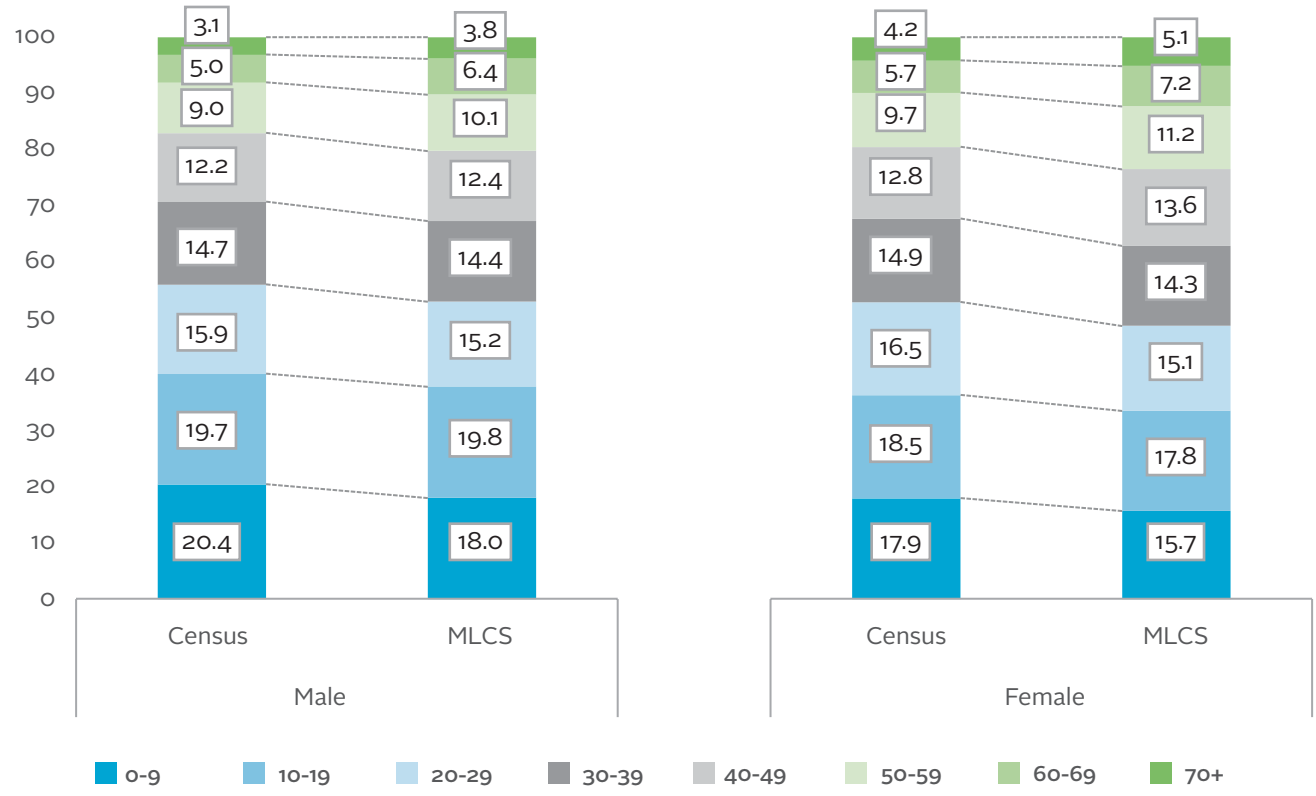
Age-sex pyramid of individuals living in conventional households: Census 2014[4]



4 The population distribution displayed in Figure 2.3 above differs from that shown in the main census report (MOIP, 2015) since it includes the population living in conventional households only.

Figure 2.4

Proportion of individuals living in different age groups: MLCS 2017 and Census 2014



Note: MLCS N = 13730. Census N =10,877,832.

The population pyramid shows that women live longer than men, a demographic trend that is seen across the world. The 2017 Statistical Yearbook (MOPF, 2017) reports that, in 2015, the average life expectancy for a woman is 69 years, compared to 60 years for a man. These life expectancy figures are consistent with those found in the 2017 thematic analysis of mortality using the Population and Housing Census (MOLIP 2016b).

2.4 Dependency Ratios

Dependency ratios can be used to examine structural changes in the population distribution, and are also closely related to socioeconomic conditions. In the MLCS 2017, the age distribution of people living in conventional households is as follows:

- 12.6 million people are aged between 0 and 14
- 31.3 million people are of working age (15 to 64 years)
- 3.5 million people are elderly (aged 65 and above)

Using these figures, it is possible to calculate the number of child and elderly dependents and the average number of individuals of working age in a household.

Child dependency ratio: The total number of children divided by the working age population.

Elderly dependency ratio: The total number of elderly divided by the working age population.

Total dependency ratio: The total number of dependents (0 to 14, and 65 and older) divided by the working age population.

The total dependency ratio for Myanmar is 51.3, while the child dependency ratio is 40.1 and the elderly dependency ratio is 11.2. Using these same descriptions, the dependency ratio estimated using the Census was 52.4, with a child dependency ratio of 43.7 and an elderly dependency ratio of 8.8 (MOIP, 2015). There has historically been a strong empirical relationship between the dependency ratio and well-being in Myanmar, shown in analysis of both the IHLCA and MPLCS data (MNPED et al, 2011; MOPF et al, 2017).

Table 2.2

Dependency ratios from MLCS 2017

	Total Dependency Ratio	Child Dependency Ratio	Elderly Dependency Ratio
Union	51.3	40.1	11.2
Urban	44.5	32.7	11.8
Rural	54.2	43.3	10.9
Household head education:			
Never attended school	65.4	49.4	16.0
Monastic	54.6	34.3	20.2
Completed at least one grade of primary	51.1	42.7	8.4
Completed at least one grade of middle school	42.4	33.9	8.5
Completed at least one grade of high school	42.5	29.0	13.6

Table 2.3

Dependency ratios from the MLCS 2017 and Census 2014

	MLCS 2017			Census 2014 (all population)		
	Total	Child	Elderly	Total	Child	Elderly
Union	51.3	40.1	11.2	52.4	43.7	8.8
Urban	44.5	32.7	11.8	42.9	34.4	8.5
Rural	54.2	43.3	10.9	56.8	47.9	8.9

There are fewer children per working age adult in urban households and those in households with better educated heads. Table 2.2 shows that the total dependency ratio is lower in households with more educated heads and that this is largely driven by there being fewer children in these households for each working age adult. Households in which the head has no education have a child dependency ratio of 49.4 compared to only 29.0 for households where the head has completed at least one grade of high school. In households with a lower educated head each potentially economic active person (aged 15 to 64) has to sustain more dependents. Interestingly the elderly dependency ratios for these two groups are not very different.

As would be expected, there have been no notable shifts in dependency ratios since the 2014 Population and Housing Census, but the longer-term decline in dependency ratios in Myanmar is noteworthy. The 1983 Population Census estimated a total dependency ratio of 73.9. There has been a major shift in demographic patterns over three decades. There have however been limited changes in the three years between the 2014 Census and the MLCS, as shown in Figure 2.5. Sagaing shows a reduction in child dependency, suggesting a falling birth rate. In comparison, Mon and Mandalay show higher elderly dependency rates that could be a sign of longer life expectancy or the migration of younger people. In terms of its ASEAN neighbours, Myanmar's total dependency ratio is most similar to Indonesia's and Cambodia's (Figure 2.6).

Figure 2.5

Total, child and elderly dependency ratios between Census 2014 and MLCS 2017

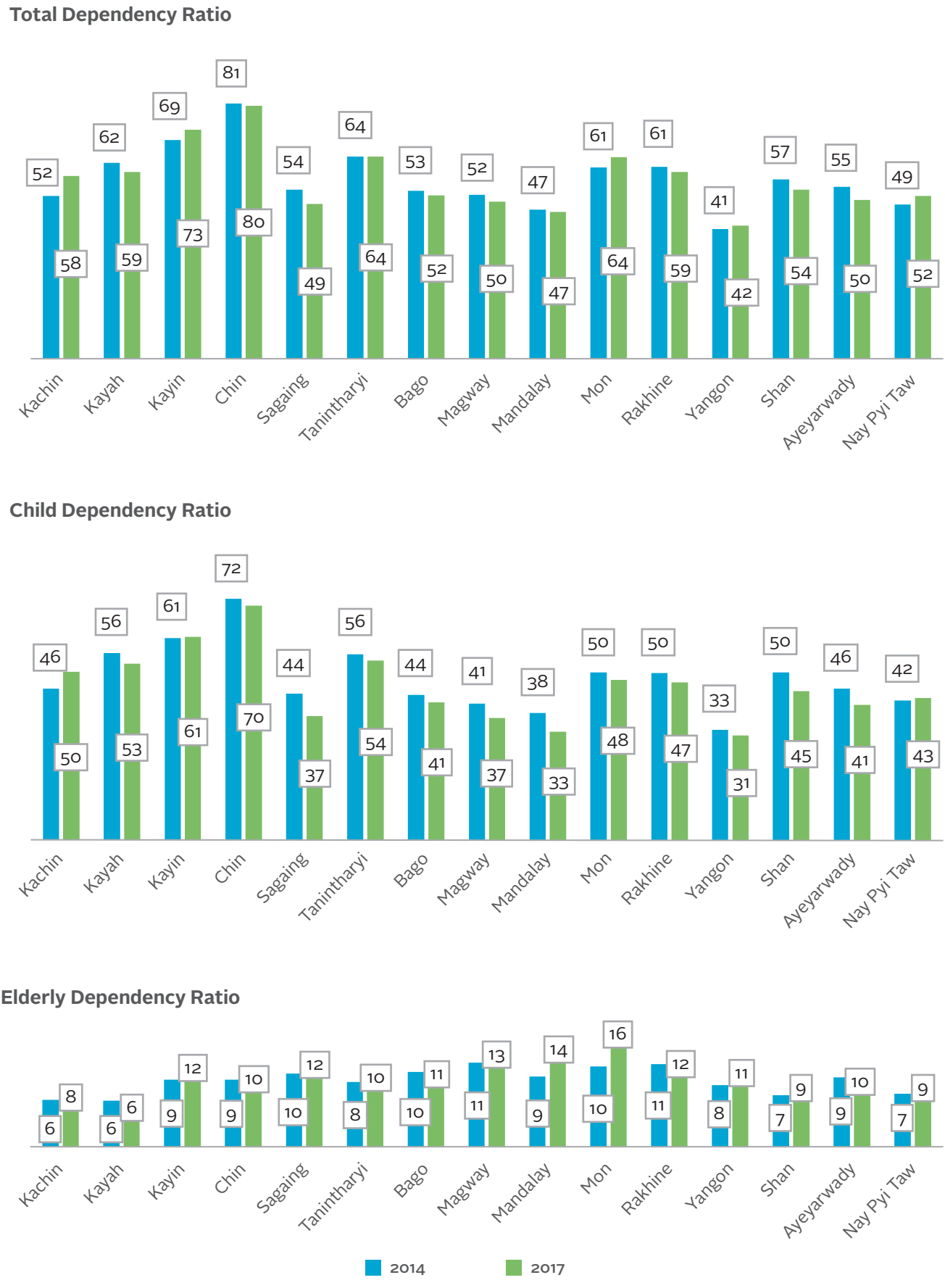
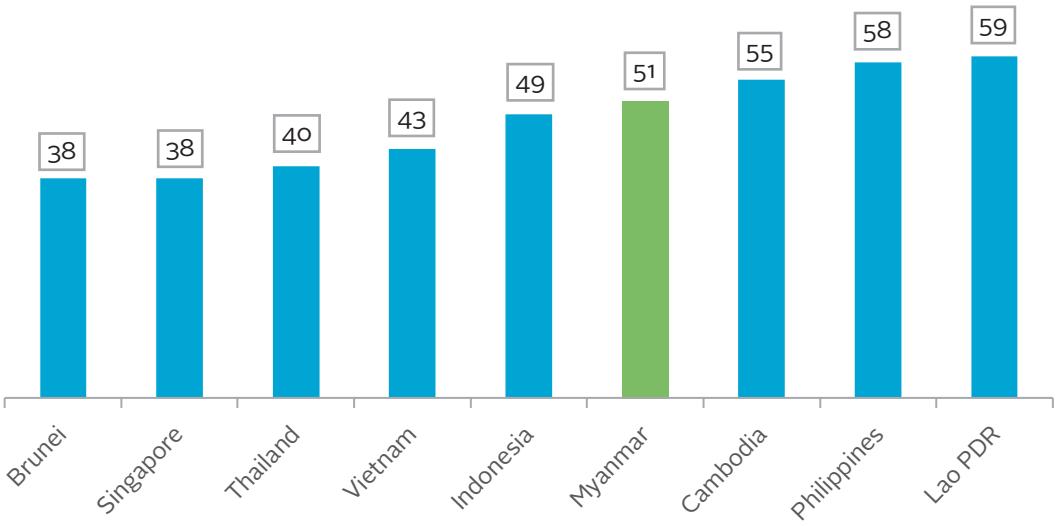


Figure 2.6

ASEAN total dependency ratios 2016



Source: World Bank staff estimates based on age distributions of United Nations Population Division's World Population Prospects, https://data.worldbank.org/indicator/SP.POP.DPND. Myanmar based on MLCS 2017.

2.5 Disability

Methodological differences across surveys make comparisons of disability reporting difficult. Persons with disabilities (PWD) in Myanmar have been measured in several surveys, but always with major methodological differences so comparing results is challenging. The first large scale survey of PWD's was the Myanmar National Disability Survey 2009/10 with a sample size of 108,000 households throughout Myanmar. The 2014 Myanmar Population and Housing Census provided the first nationally representative situation of disability and is the baseline for monitoring progress on the implementation of national and international development frameworks on disability. The 2015 Labour Force, Child Labour and School to Work Transition Survey also asked about disability. The differing results and methodologies can be seen in Table 2.4.

Table 2.4

Surveys capturing data on persons with disability

Survey	Definition of a PWD	Percentage of the population who are disabled
Myanmar National Disability Survey 2009/10	Is [NAME] limited in function and/or ability to conduct activities in daily living and to participate in society due to physical, seeing, hearing and intellectual or learning impairment?	2.3
Census 2014	Four of the Washington Group short set items:[5] Does [NAME] have any difficulty..... 1. Seeing 2. Hearing 3. Walking 4. Remembering or concentrating	4.6
LFS 2015	Six of the Washington Group short set items (but only to those aged 5 and above):[6] Does [NAME] have any difficulty.... 1. Seeing 2. Hearing 3. Walking 4. Remembering or concentrating 5. Self-care 6. Communicating	7.7
MLCS 2017	Is [NAME] considered disabled? 1. No 2. Yes physical 3. Yes hearing 4. Yes, visual 5. Yes, intellectual mental 6. Yes, other, 7. Yes, mixed	2.8

The MLCS 2017 reports a disability rate of 2.8 percent (items 2 to 7 above combined). In the same way that other surveys have found, the disability rate increases with age. Two thirds of disabled people are aged over fifty according to the questions fielded in the MLCS 2017. The recently published Policy Brief on Disability (MOLIP 2018) noted that the disabled populations are less likely to be in education, in employment or to be married.

5 The Washington Group on Disability Statistics (WG) is a UN city group established under the United Nations Statistical Division.

6 It is likely that, if data for the population aged 0-4 years were to have been included, the overall rate would decrease from 7.7 percent given that the percentage of disabled people in this age group is extremely low, based on data from other surveys.

03.

Energy and Electricity

Energy access is a major building block for economic growth, human development, and environmental sustainability. As the country continues to develop, ensuring sustainable access to energy will become a priority. This section examines how energy use in Myanmar has evolved in the last decade, both at the union and State and Region levels. It subsequently looks at the successes that the country has achieved and the challenges that lie ahead in improving access to energy. It first looks at the data for assessing energy sources, and subsequently discusses the sources of energy for lighting and access to grid electricity.

3.1 Overview of data collected on energy

The MLCS 2017 captured energy access through several different questions, a set of which were asked at the village or ward level, allowing for cross-checks to be made. The household questionnaire asked households: (i) whether they are connected to a public grid; (ii) whether they are connected to a community grid; (iii) what energy source is used as the main source of lighting; and (iv) what energy source is used as fuel for cooking. The information gathered allows us to distinguish whether the household was connected to the public grid, a community or mini-grid, and a border grid.[7] A community module, administered in the 1145 wards and villages where interviews were conducted, allows for the triangulation of household responses with information on community level infrastructure. In this community questionnaire, knowledgeable respondents were asked whether the village or ward has access to public, community-level, or border country grid.

Comparing data on access to electricity—and particularly on grid connections—across different surveys or sources can be challenging, yet clear patterns can still be revealed. The method of data collection significantly affects the information gathered. Most previous surveys in Myanmar relied entirely on responses from households. Since it cannot always be clear to households what the source of their grid connection is, this mode of data collection can impact how grid electricity is categorized into public, mini-grid and border sources. The MLCS asked supervisors to identify the electricity source, following grid lines if necessary, and to give this information to enumerators interviewing households. This approach helped to better enumerate the source of the grid in the household questionnaire.

3.2 Energy sources for lighting

In 2005, 4 million households with 20.3 million members reported using candles and kerosene for lighting. In 2017, only 800 thousand households with 3 million members did so.

The use of solar technology - predominantly solar lighting and home systems - to generate energy for lighting has expanded rapidly in Myanmar. A quarter of all households – more than 13 million people – used solar technology as their main source of lighting in 2017.

Good lighting can improve productivity, by allowing the day to stretch beyond sunlight hours. With proper lighting, adults can continue to do work around the house and children can study after sunset. This is the reason why lighting is one of the most basic uses of energy in households. As such, analysis on what a household uses as their main source of energy for lighting provides valuable insights on energy access. There is sufficient comparability between the MLCS data and earlier data sources to allow an analysis on how Myanmar households' access to energy has developed over time.

Households have shifted from a reliance on candle and kerosene to electricity for lighting in the 12 years between 2005 and 2017. Figure 3.1 shows the use of different sources of energy for lighting since 2005. About half of households reported using candles or kerosene for lighting in 2005, while about 37 percent had access to either public grid (23 percent) or community electricity sources (14 percent). There is a continuous and significant decline in the use of candle and kerosene between 2005 and 2017. By 2017, only 7 percent of households report using candles and kerosene for lighting. This decline took place as more households gained access to grid (public, community, or border), generator, solar lighting and home system, and battery, evidently showing that households were substituting candle and kerosene with electricity.

7 Community-level grid electricity can come from mini-hydro power plants or large generators that can supply enough electricity for several households. Border grid electricity typically comes from China and Thailand, hence it is only available in areas bordering those countries.

Box 3.1: Access to energy and Sustainable Development Goal (SDG) indicators

SDG indicator 7.1.1 seeks to measure the share of a population that has access to electricity. However, the definition of "access" goes beyond a simple yes and no measured; it also takes into account affordability and reliability. For this purpose, the SDG adopts the concept of the Multi-Tier Framework (MTF) for Measuring Energy Access, developed by the World Bank. The MTF approach assesses energy access on several different dimensions and categorizes it into a tier system, from "zero" to "five," with tier-0 indicating no service and tier-5 full service. The tier level is determined by the attributes which the service should meet. The attributes of the tier system include capacity, duration-day, duration-evening, reliability, quality, affordability, legality and health and safety. The table below shows the tier system of MTF and the attributes to be applied.

			TIER 0	TIER 1	TIER 2	TIER 3	TIER 4	TIER 5
ATTRIBUTES	1. Capacity	Power[1]		Very Low Power Min 3 W	Low Power Min 50 W	Medium Power Min 200 W	High Power Min 800 W	Very High Power Min 2 kW
		AND Daily Capacity		Min 12 Wh	Min 200 Wh	Min 1.0 kWh	Min 3.4 kWh	Min 8.2 kWh
		OR Services		Lighting of 1,000 lmhrs per day and phone charging	Electrical lighting, air circulation, television, and phone charging are possible			
	2. Duration	Hours per day		Min 4 hrs	Min 4 hrs	Min 8 hrs	Min 16 hrs	Min 23 hrs
		Hours per evening		Min 1 hrs	Min 2 hrs	Min 3 hrs	Min 4 hrs	Min 4 hrs
	3. Reliability						Max 14 disruptions per week	Max 3 disruptions per week of total duration < 2 hours
	4. Quality						Voltage problems do not affect the use of desired appliances	
	5. Affordability					Cost of a standard consumption package of 365 kWh per annum is less than 5% of household income		
	6. Legality						Bill is paid to the utility, prepaid card seller, of authorized representative	
	7. Health and Safety						Absence of past accidents and perception of high risk in the future	

Source: "Beyond Connections: Energy Access Redefined" (World Bank, 2015)

The MLCS collected mainly information on sources of energy households have access to. This includes (i) whether a household has access to electricity from public or community-level grid; (ii) the main source of lighting that a household uses (which includes different sources of electricity); and (iii) what kind of fuel a household uses for cooking. The survey did not collect specific information on energy access that is necessary to construct the more nuanced indicators under the MTF. As such, it cannot report on SDG indicator 7.1.1.

The main energy shift took place in rural areas, while the same trend in urban areas occurred at a more modest rate. The share of rural households that relies on candle and kerosene for lighting experienced a sharp decline from 62 percent in 2005 to 9 percent in 2017. At the same time, the number of rural households that use electricity for lighting has doubled. In contrast to the doubling in rural areas, urban areas have seen relatively little change due to the relatively high share of households using electricity in 2005. The share of urban households that rely on candle and kerosene dropped from 15 percent to 2 percent between 2005 and 2017, with a clear shift to electricity as the main source for lighting.

Solar lighting and home systems have increased. Solar technology in Myanmar is dominated by solar home and lighting systems: only 20 percent of those with solar sources report solar lanterns as their lighting source.[8] We therefore use the term "solar system" in this analysis. Solar lanterns do however account for nearly one quarter of all solar technology in Rakhine and Shan, and for just over a third in Kayah.

Solar systems have played an important role in improving access to electricity, especially in the rural areas. The reduction in candles' use during the 12 years between surveys has been accompanied by the significant rise in the use of solar lighting and home systems, which went from a negligible rate in 2009/10 to 27 percent in 2017 at the union level.[9] Almost all of this growth comes from rural areas, where a third of households in 2017 use solar system to light their houses, compared to a baseline of zero in 2009/10. Private generators, in contrast, are becoming less attractive over the years, both in urban and rural areas. Meanwhile, the use of battery has always been low in urban areas. Among rural households, battery use saw a significant increase starting 2009/10, but peaked at 2015 before dropping in 2017.

There is high variability across States and Regions in the growth of solar systems and the number of households using them. Figure 3.2 shows the growth of solar system use across regions/states between 2014 and 2017. The horizontal and vertical axes represent the share of households using a solar system as their main source of lighting in 2014 and 2017 respectively, while the relative size of each circle shows the estimated total number of households using a solar system in 2017. The straight diagonal line is the "equality line," on which every point represents zero growth in the use of a solar system; Kayah is positioned on this line, indicating that it has seen no increase in the rate of solar system use between 2014 and 2017. The farther a bubble "floats" above the equality line, the higher the growth of a solar system in the State or Region it represents in the 2014-2017 period. Shan has both the highest number as well as the highest share of households using a solar system in 2017, but has only seen moderate growth because the rate of use was already high in 2014. Rakhine, on the other hand, has experienced the highest growth: the State went from having one of the lowest rates of solar system use at 3 percent in 2014 to 48 percent in 2017, the second highest rate among all States and Regions behind only Chin (where 51 percent of household uses a solar system).[10]

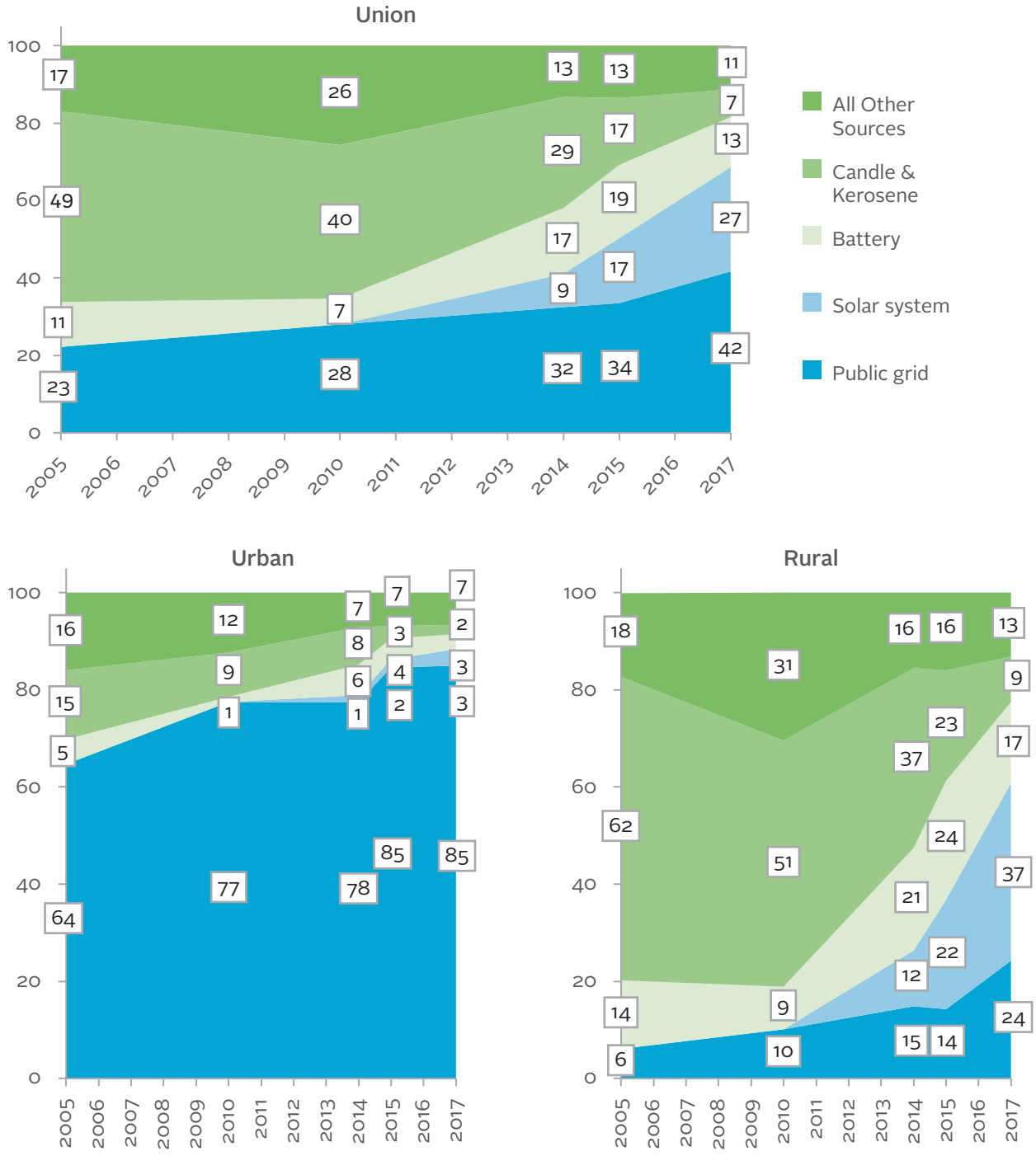
8 Solar system includes solar home system, solar lighting system, and solar lanterns. A solar home system would include large solar panels (typically installed on the roof of a house) that can provide enough electricity for medium size appliances such as a TV or a small refrigerator. In contrast, a solar lighting system refers to small solar panels that generate only enough energy for lighting and charging gadgets. Solar lanterns are small lamps that are recharged by putting them in the sun during the day. The differences in enumeration across different surveys make it impossible to differentiate between the three solar energy uses. Nonetheless, grouping the three into one category still provides a comprehensive picture of the progression of energy access among Myanmar households.

9 Solar system was not enumerated in IHLCA 2009/10, but would have had a maximum of 5 percent had all of the "other" sources been solar.

10 An important caveat for this observation is that Rakhine's representativeness in the MLCS is different from that in the census. Interested readers can go the survey report for more details.

Figure 3.1

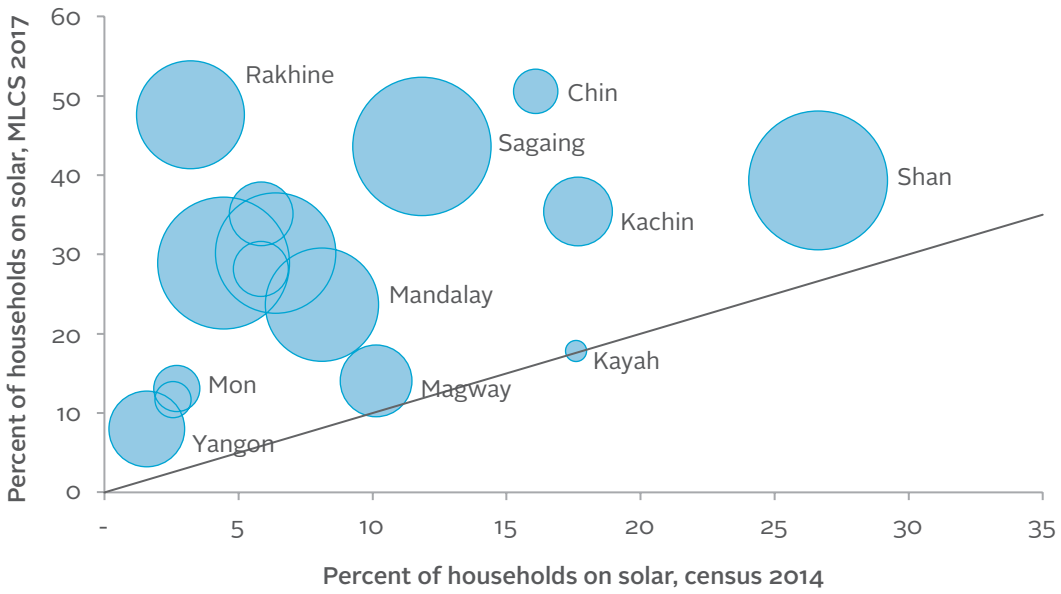
Source of electricity for lighting: percentage of households with various sources, 2005 to 2017



Note: Figures are household weighted. Households are asked their main source of energy for lighting. The categories that are consistently recorded across surveys have been highlighted above, notably: (i) candles and kerosene, (ii) public grid, (iii) solar (solar lantern, lighting system and home system), and (iv) batteries. "All other sources" includes: community or mini-grid, border grid, generator (private or community), water mills and "other". "Other sources" includes categories that varied across surveys in their: (i) inclusion, (ii) definition or (iii) enumeration, making it difficulty to provide consistent time trends at the category level. Figures from 2005 are from round one, IHLCA 2004/05. Figures from 2010 are from round one, IHLCA 2009/10. Figures from 2014 are from the 2014 Population and Housing Census. Figures from 2015 are from the 2015 MPLCS. IHLCA 2005 and 2010 recorded three sources of electricity (pubic, community or private) for lighting purposes as well as a range of other sources including generator. The 2014 Census recorded, among other, electricity and generator; generator likely captured both household generators and generators supplying a community grid. The MPLCS followed the structure of the Census lighting question and further asked a direct question about the households main electricity source, empirically confirming that "generator" was indeed enumerated as a combination of mini-grid and privately owned. The 2017 MLCS separates public grid, community grid, border grids and generators (private) in the lighting question, and also asks about access separately by grid type.

Figure 3.2

Percentage of households reporting solar for lighting in the MLCS 2017 and Census 2014



Note: The line indicates the exact same percentage of households using solar for lighting from both the census and MLCS. The relative size of circle in the figure represents the estimated total number of households using a solar system in 2017

Approximately 3 million households in Myanmar used some kind of solar system in 2017 to provide lighting in their homes, and there is still potential for growth. With about 7 percent of Myanmar households still relying on candles and kerosene, and with the decreasing trend in the use of generators and battery, there is still room for the shift to solar systems to continue. Reliance on solar is small wherever grid electricity is available. Of households with no access to any grid electricity, 54 percent rely on a solar system to light their homes. In contrast, less than 1 percent of households that are connected to a grid use a solar system for lighting. This shows a clear preference for grid over solar when the former is available.

3.3 Access to grid electricity

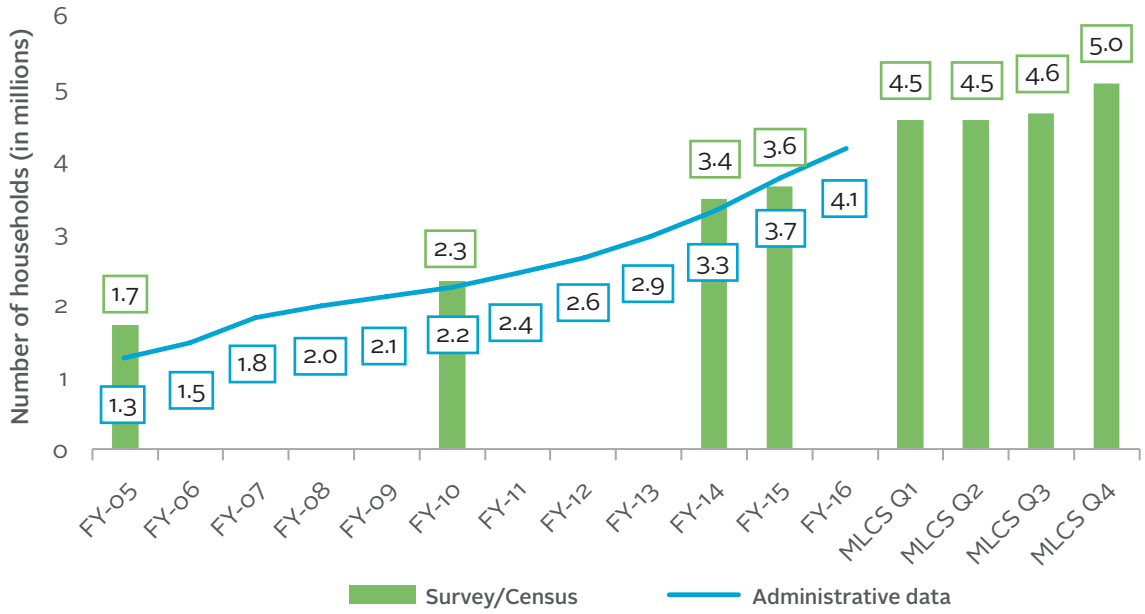
Shan has the greatest number of people relying on solar for lighting – about 2 million. Rakhine has seen the fastest growth in solar, from 3 percent of households in 2014 to just under half in 2017.

Data from various sources show that access to the public grid in Myanmar increased in the last decade. The 2015 MPLCS and 2017 MLCS confirm administrative data showing that there has been a steady increase in the number of households that are connected to the public grid. Government data on public grid connectivity is compiled by the Central Statistical Organization from six different sources: Department of Electric Power Planning, Department of Electric Power Transmission and System Control, Electric Power Generation Enterprise, Electricity Supply Enterprise, Yangon Electricity Supply Corporation, and Mandalay Electricity Supply Corporation.[11] Figure 3.3 shows the growth in the number of households connected to the public grid at the union level in the last decade. Government administrative data, represented by the blue line, shows a steady growth of billed electricity meters, from 1.3 million billed meters in Fiscal Year-2005 (FY-2005) to 4.1 million in FY-2016—more than a threefold increase in the span of a decade.

11 The data is available on the MMSIS (Myanmar Statistical Information Service) website mmsis.gov.mm and the 2017 Myanmar Statistical Yearbook (CSO, 2017).

Figure 3.3

Number of households (in millions) connected to the public grid: household survey data and administrative data.



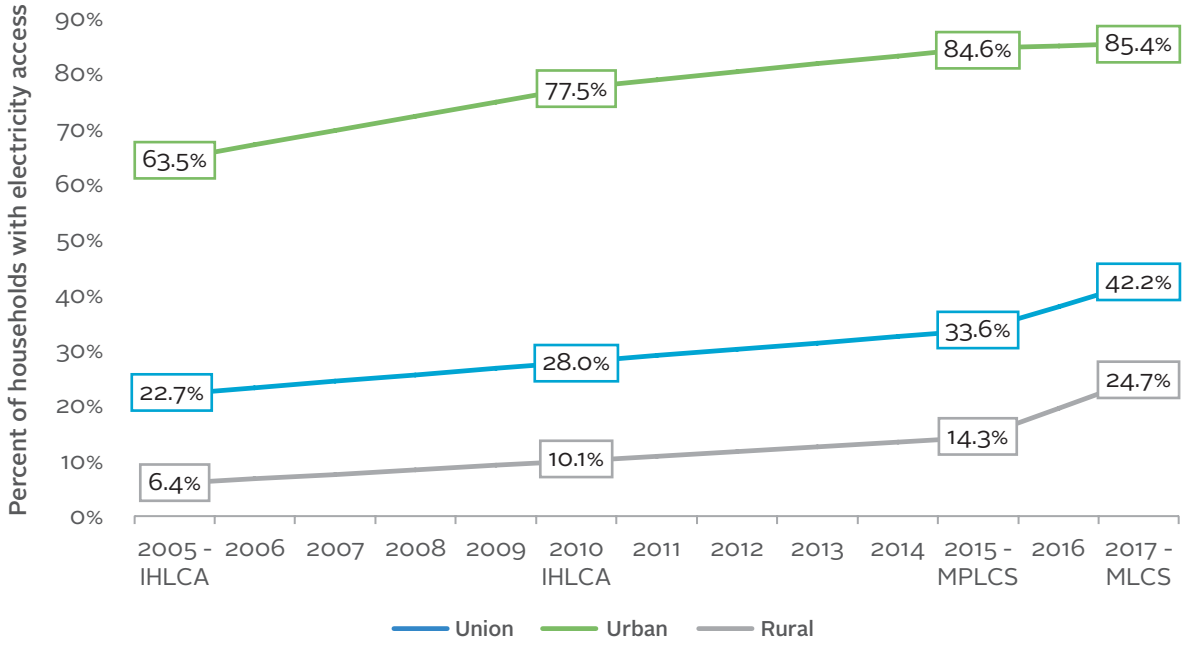
Note: MMSIS stands for Myanmar Statistical Information Service, developed and managed by the CSO, MOPF. Government data on public grid connectivity is compiled from six different sources: Department of Electric Power Planning, Department of Electric Power Transmission and System Control, Electric Power Generation Enterprise, Electricity Supply Enterprise, Yangon Electricity Supply Corporation, and Mandalay Electricity Supply Corporation. The data is available on mmsis.gov.mm and the 2017 Myanmar Statistical Yearbook (CSO, 2017). FY denotes "Fiscal Year", which ran from April to March between 2005 and 2017.

Differences between the administrative and household data could be attributable to two factors. First, some households in the MLCS were noted to have been on the public grid while they were on a mini-grid. Although substantial effort was made to distinguish between the two sources of electricity, it may have been difficult in some situations to do so. Second, the MLCS teams noted that in some villages only one village level connection is registered but multiple households are connected and share payment of the bill. Since administrative data captures the number of meters or electricity bills, these multiple household connections within the village would not be registered. In contrast, household survey data such as those collected in the MPLCS and the MLCS capture the actual number of households connected to the public grid, whether or not the household in question has its own meter. Since it's not clear how widespread this practice is, it is difficult to ascertain to what extent it can explain the discrepancies between the two data sources. A scenario in which 1 percent of meter-owning households actually have about a dozen more households connected to each of their meters is enough to reconcile the differences between the figures from MLCS and those from the administrative data.

The MLCS 2017 suggests that Myanmar has made great strides in its public electricity grid coverage. In 2017, approximately 42 percent of households had access to the public grid compared to 23 percent of those in 2005. Figure 3.4 indicates that the public grid electrification rate of households had a modest increase between 2005 and 2015, before experiencing a notable expansion from 2015 to 2017. A small share of households have access to non-public, alternative grids. At the union level, 7 percent of households are connected to community-level grids and an additional 1.3 percent are connected to grids from border countries. Further discussion on the use of these alternative grids is provided in subsequent sections of this chapter.

Figure 3.4

Percentage of households connected to the public grid between 2005 and 2017



Note: For years between household survey sources, linear interpolation is used. Data from the two IHLCA rounds and the MPLCS report the percentage of households using electricity from the grid as their main source of lighting. Data from the MLCS report the percentage of households that report being connected to the public grid.

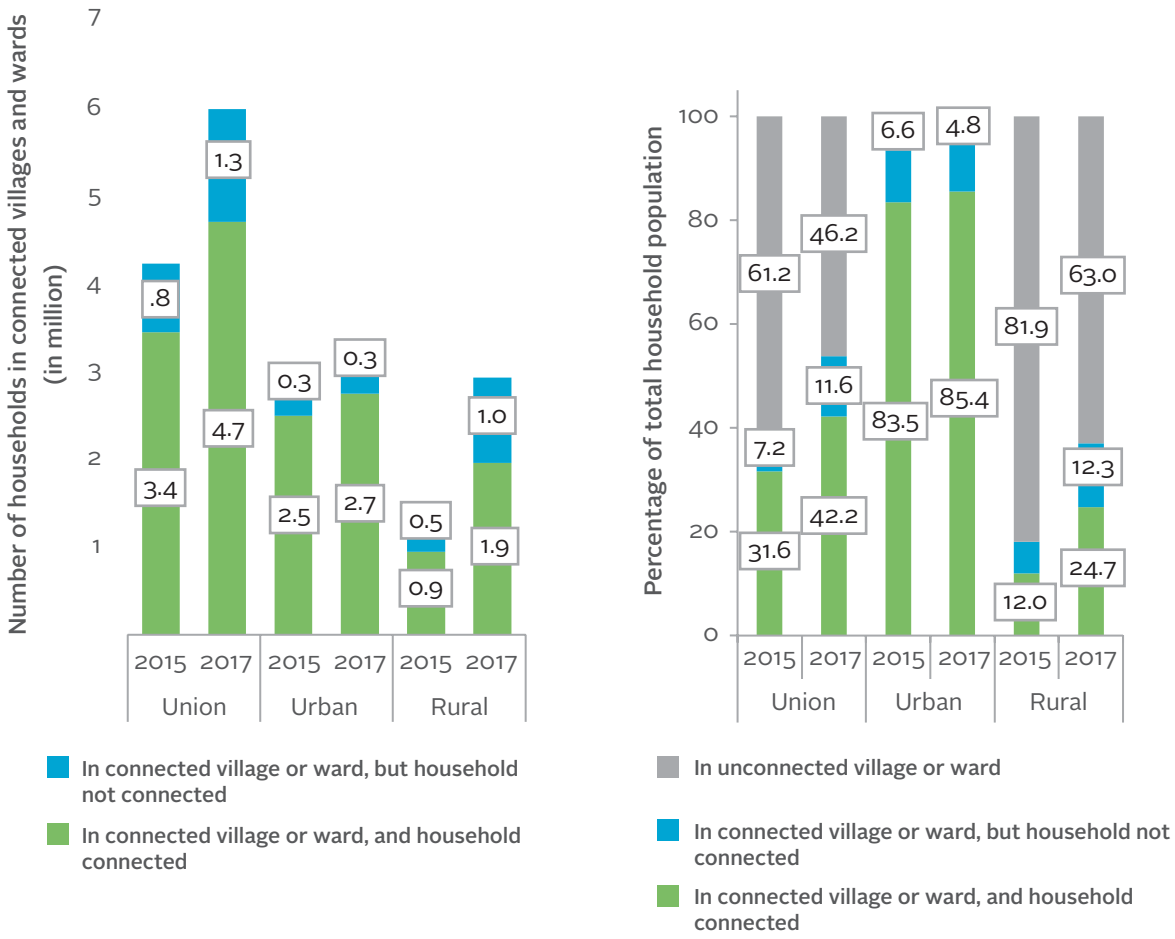
The number of households connected to the public grid increased from approximately 3.6 million in January-April 2015 to 4.5 million in early 2017 (Figure 3.3). A significant growth in electrification is seen during 2017, with about a ten percent increase in the number of connected households between the first and last quarters of the year (see again Figure 3.3 above). A notable success is that the increased access is mainly seen in rural areas, where there were 1.9 million households reporting public grid connections. In these areas, this means that twice as many households were connected to the public grid in 2017 compared to two years prior. The high growth rate does however reflect a low base, with only one in ten households earlier connected to the public grid. Growth in urban connectivity has been more modest, with an increase of about 200,000 connected households in the 2015-2017 period (see Figure 3.5 left panel).

An estimated 6 million households are situated in villages or wards that are connected to the public electricity grid—a substantial increase from the approximately 4.2 million households in 2015. About 1.3 million of the 6 million households, however, still do not have access to grid electricity, even though their villages or wards are connected (Figure 3.5, left panel). This represents areas where immediate electricity expansion can potentially be made, since providing access to households in villages that are already connected to the public grid would be less challenging than establishing new connections.

The majority of Myanmar households are still not connected to the public grid. While the growth in public grid connectivity in Myanmar has been substantial, challenges still lie ahead. Six in ten households (58 percent) do not have a public grid connection–46 percent of households are in villages/wards that have no connection, while an additional 12 percent are in connected villages/wards (Figure 3.5 right panel). The biggest challenge is to expand connection in rural areas, where 63 percent of households are situated in villages that are not yet connected.

Figure 3.5

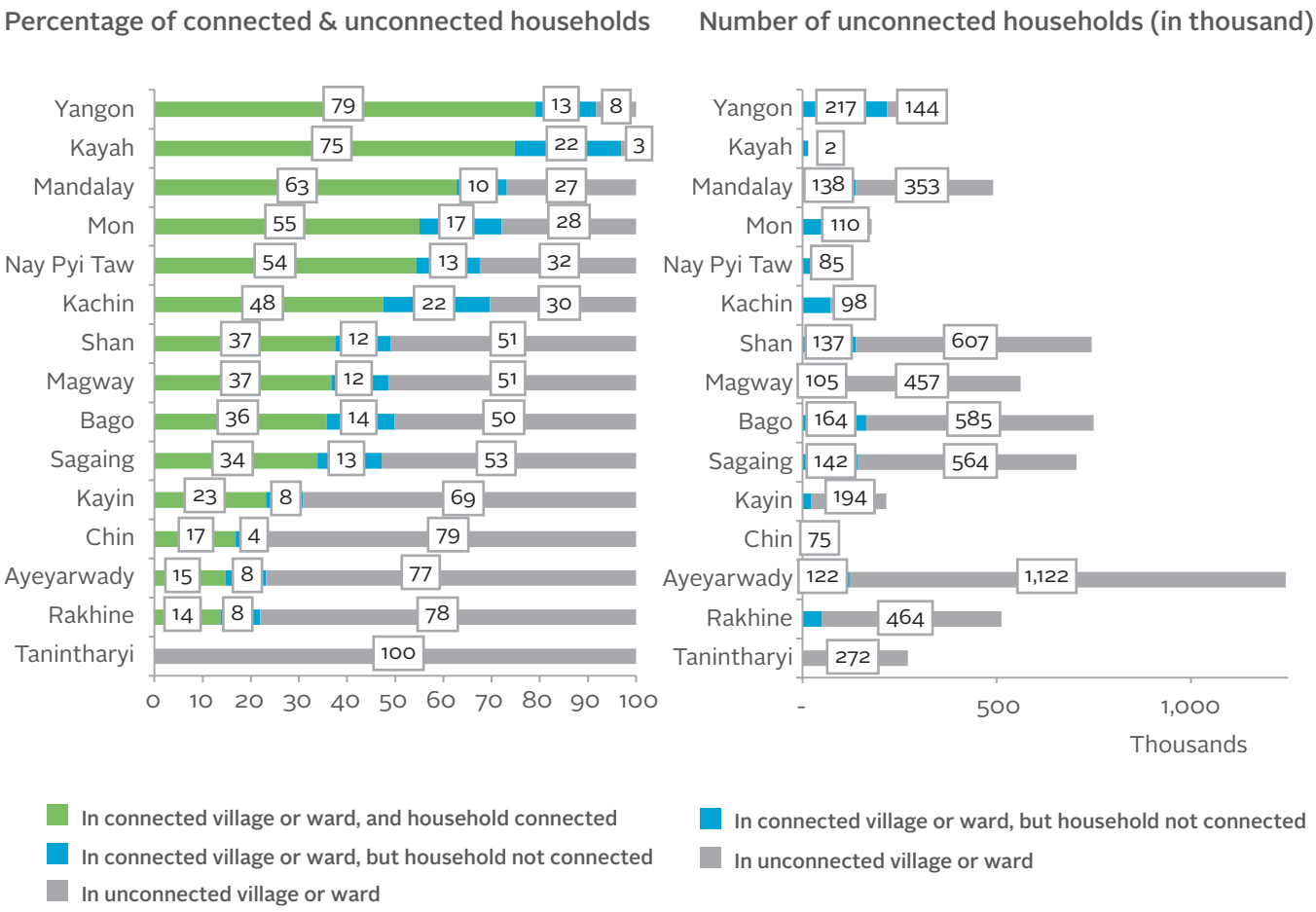
Number and percentage of households living in villages or wards connected to the public grid whose household is either connected or not connected, 2015 and 2017



There is significant variation across regions and states in both the share and number of households that are connected to the public grid. Figure 3.6 highlights this variation. The left panel provides the share of households that are (i) connected to the public grid and by default situated in villages or wards that are connected; (ii) not connected to the public grid but situated in villages or wards that are connected; and (iii) in villages/wards not connected to the public grid. The right panel gives the number of unconnected households, identified by whether or not they are in a connected village or ward. The share of connected households is as high as 79 percent in Yangon, down to zero in Tanintharyi. Ayeyarwady, on the other hand, has the highest number of unconnected households at 1.2 million; only about 100,000 of those households are in connected villages or wards. Shan, Magway, Bago, and Sagaing are in a similar situation, with slightly more than a third of their households connected, leaving about 600,000 to 700,000 households with no access to the public grid, about 100,000 of which are already in villages or wards with connections.

Figure 3.6

Percentage of households with and without public grid connection, and number of households without public grid connection



Tanintharyi Region has the highest share of households using a community grid.

A small share of households relies on alternative grids instead of a public grid connection, indicating high demand for the public grid and constraints in finding substitutes. Of households that do not have access to the public grid, about 12 percent have managed to get connected to a community-level or private grid, while another 2 percent is connected to grids from border countries. This substitution phenomenon varies across states and regions, seemingly depending on both the respective states and regions access to the public grid as well as the constraint of finding alternative grids. Annex table A5 shows how households across different states and regions find alternatives to the public grid. About 14 percent of Shan and Kayin households rely on border grids to substitute for public grid from Myanmar. Households in Tanintharyi, which have no access to the public grid, rely heavily on community grid to make up for that lack of access. Meanwhile, Bago and Ayeyarwady seem to be facing serious constraints to find viable alternatives to the public grid.

04.

Assets and Housing Materials

This section examines the expansion and spatial distribution of household investments in consumer goods and housing. It does this in two parts. It first examines the ownership of household goods such as televisions, radios and rice cookers. It then turns to the construction materials used by households for their housing.

4.1 Household asset ownership

There has been a technological upgrading occurring among communication and transportation goods. Mobile phones and motor cycles have increased year by year but radio-cassette and bicycle have decreased over time.

Consumer goods are a growth item in a household's expenditure basket and are also highly responsive to improvements in economic conditions. Earlier analysis found these items to display a highly elastic response to expenditure growth in Myanmar: a one percent increase in household expenditure translated into a three percent increase in a household's use value of durables goods (MOPF and World Bank, 2017b).

The growth of consumer goods over the last decade is likely to reflect improvements in household economic conditions, the expansion of electrification, deepening of goods markets and related changes in the prices of these goods, and increasing access to credit. The availability and price of consumer goods is likely to have changed considerably as a consequence of exchange rate liberalization (MOPF and World Bank, 2017a). Rural electrification – both grid and solar - has also opened up new possibilities for the use of small electronic home appliances, opening up an otherwise dormant rural market. Trade and investment liberalization have opened up opportunities for consuming imported products, and are also likely to have had an impact on the type of products consumed in Myanmar.

The household goods module in the MLCS captures information on 35 different types of consumer goods, including home appliances, home furnishing and transportation items. The survey captures goods in two ways: (i) purchased in the last twelve months, as an input into the CPI; and (ii) assets owned, even if purchased a long time ago, as an input into the consumption aggregate used to measure household well-being and poverty. Since goods ownership is highly responsive to improvements in income, this data can be seen as a proxy indicator for income.

There has been a clear increase in the ownership of most consumer goods. Figure 4.1 and Table 4.1 show over time changes in the percentage of households that own various consumer goods at the national, urban and rural level. Television and motorcycle ownership have increased continuously over time and, for the first time in history, more than half of households in Myanmar reported owning televisions and motorcycles in 2017. In 2005 just a quarter of households owned televisions (25 percent) compared to over half in 2017 (54 percent). The expansion of motorcycles has been even more pronounced: from one in ten households in 2005 (9 percent) to over half in 2017 (52 percent). This expansion can be seen in both rural and urban areas.

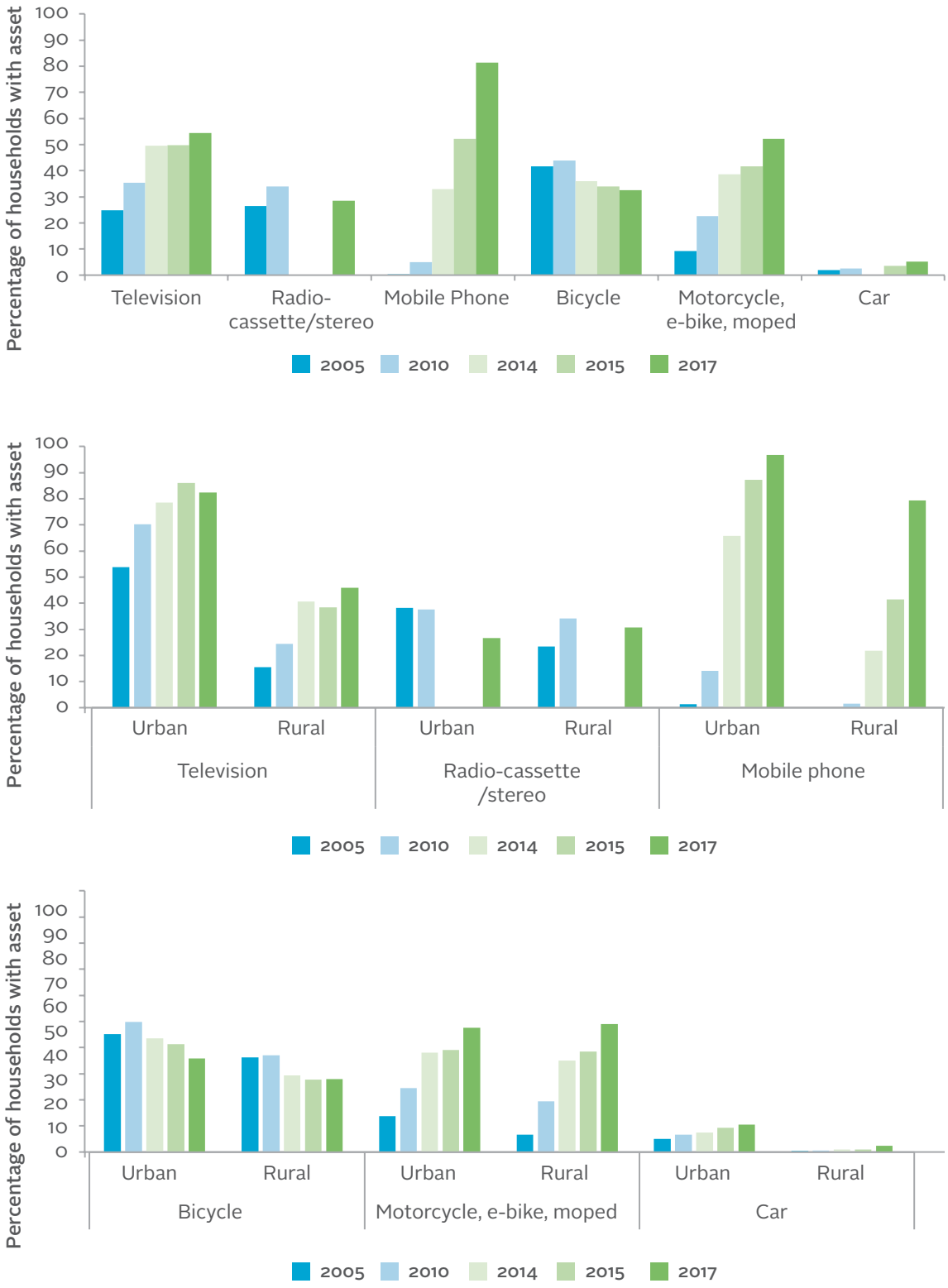
The goods that are declining over time are being replaced by items further up the technology chain. The initial expansion and subsequent decline of radio ownership captures the policy and living standard changes that have been seen in Myanmar since 2005. The expansion of radios seen between 2005 and 2014 likely reflected the increases in purchasing power noted during this period (MOPF and World Bank, 2017a). Since 2014, televisions and smartphones have been replacing radio-cassettes as a source of entertainment and information. The onset of telecommunications reforms and the deepening of the electronic goods market linked to trade liberalization allowed a shift in preferences and consumption patterns to manifest themselves.

Motorcycles are as common in rural areas as in urban areas. In urban and rural areas, they have been replacing bicycles as a preferred transportation option. There is a small but noteworthy increase in car ownership in urban areas – one in ten urban households reported owning a car or other motor vehicle in 2017, compared to one in twenty in 2005.

Grid electricity access has increased across Myanmar, enabling households to utilize more small home appliances, such as rice cookers and fans. Households using alternative sources of energy for lighting, including community grids and solar, are markedly less likely to own these items, potentially reflecting the lower voltage capacity and higher reported cost of electricity from these sources. The items that utilize higher and more stable voltage have not seen the same levels of expansion. Goods that require both stable and consistent electricity supply, such as fridges, are owned more rarely than those that are less energy intensive and can be used selectively, such as rice cookers. These items are also owned almost exclusively by households with connection to the public grid in both urban and rural areas. For example, 25 percent of rural households report using public grid electricity as their main source of lighting. Among those who own a rice cooker in rural areas, 90 percent use public grid for lighting. The expansion of televisions is less aligned with grid electrification, partly reflecting the more recent availability of battery powered televisions that can be used in off-grid sites.

Figure 4.1

Percentage of households owning consumer durables 2005 to 2017, by area



Note: 2005 data are from IHLCA-I (first round), 2010 data are from IHLCA-II (second round), 2014 data are from the Population and Housing Census, 2015 data are from the MPLCS and 2017 data are from the MLCS. Radio-cassette/stereo definition varies slightly across sources and is only shown for the most comparable sources. In the IHLCA data, it included a pocket radio, radio-cassette without CD player and a stereo/HiFi player with CD player. In the MLCS, it includes a radio, a cd player and stereo speakers.

Table 4.1

Percentage of households that own at least one functioning item

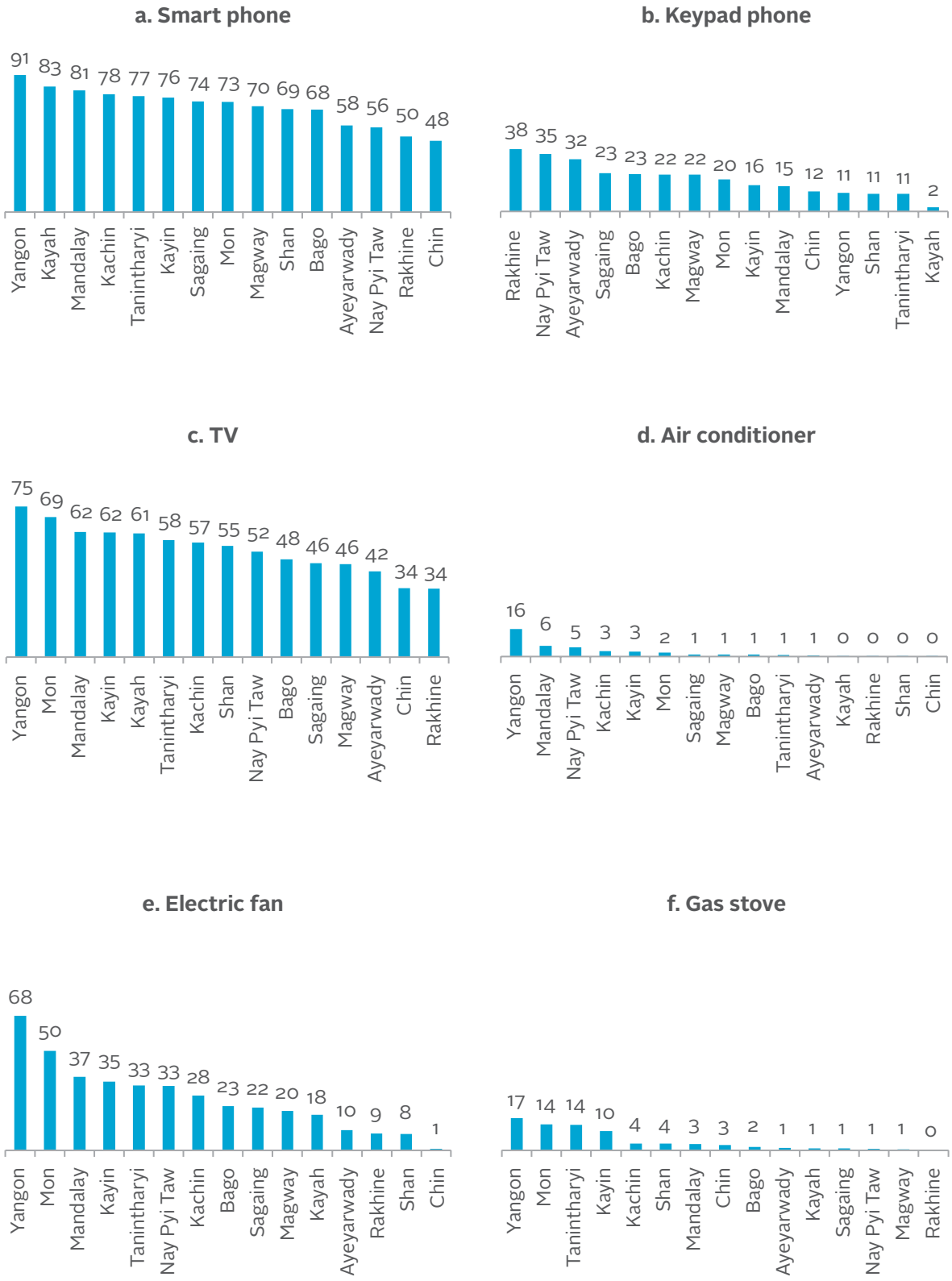
Item	2017			2005		
	Union	Urban	Rural	Union	Urban	Rural
Smart phone	72.2	87.3	66.1	0.4	1.4	0.1
Keypad phone	20.3	19.0	20.9			
TV	54.5	79.4	44.4	24.8	51.9	15.1
Radio-cassette/stereo	28.5	25.7	29.6	26.5	37.0	22.7
Air-conditioner	4.2	13.1	0.6	1.2	4.5	0.0
Electric fan	29.0	63.2	15.1	9.8	31.5	2.0
Gas stove	5.3	13.6	1.9	1.5	5.2	0.2
Charcoal stove	25.4	47.6	16.4	22.8	64.6	7.8
Fridge	17.9	43.7	7.4	5.2	18.1	0.6
Rice cooker	37.6	76.9	21.7	9.3	31.2	1.5
Bicycle	32.6	38.6	30.2	41.6	48.6	39.1
Car	5.3	11.4	2.8	1.8	5.6	0.5
Motorcycle	52.3	51.2	52.7	9.3	14.9	7.3

Note: Figures are household weighted. They therefore represent the percentage of households that own these items. For MLCS, N=13730 and for IHLCA-I N=18660. The IHLCA data come from the first round of data collection.

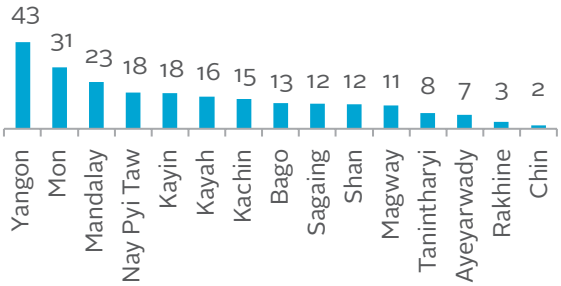
The variation in asset ownership across states and regions reflects economic conditions, the availability of goods in local markets and the price of those goods. Asset ownership in Myanmar is strongly correlated with income, shown in earlier analysis of small asset ownership and expenditure deciles (MNPED et al, 2011). The regional diversity in ownership of assets may also reflect differences in cross-border trade patterns, availability of goods and prices.

Figure 4.2

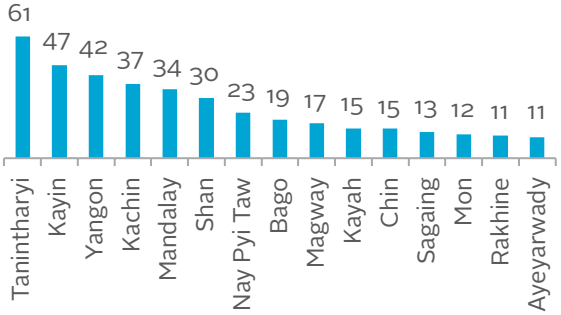
Percentage of households that own the item, by State and Region



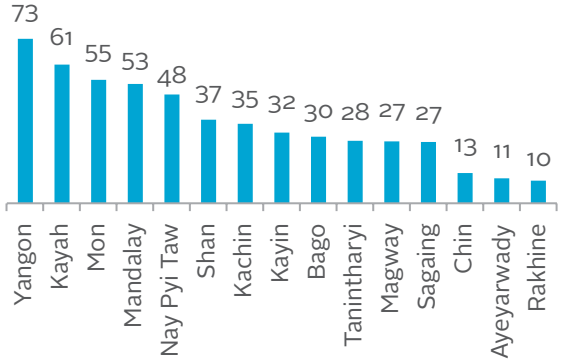
g. Refrigerator



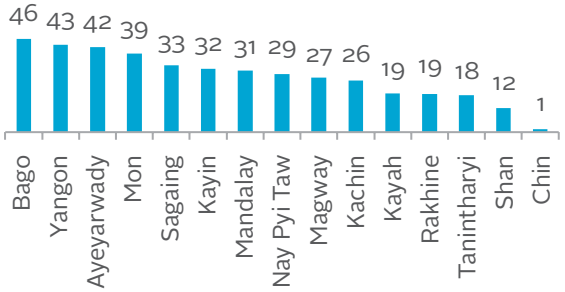
h. Charcoal stove



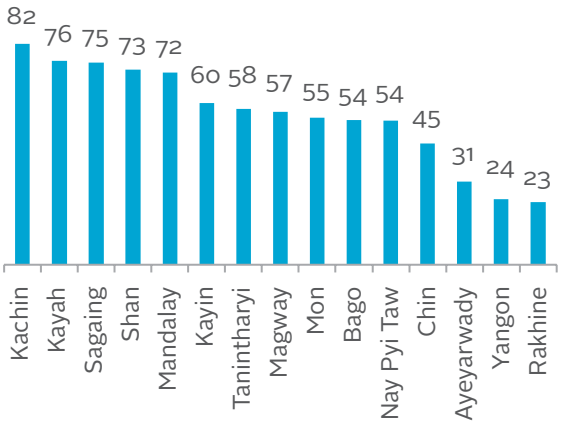
i. Rice cooker



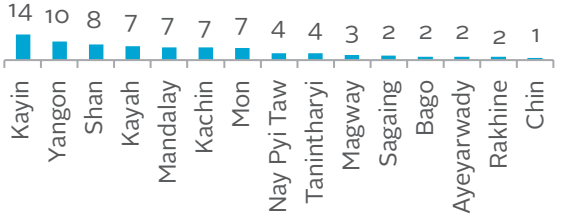
j. Bicycle



k. Motorcycle/moped



l. Car



4.2 Housing materials

The quality of walls and roofs have increased year by year. Corrugated sheets are used frequently for roofs. Eight in ten households (82 percent) had a quality roof in 2017, compared to four in ten in 2005 (44 percent).

The quality of housing materials varies considerably across households in Myanmar, showing considerable diversity across geography due to variations in climate, availability of raw materials and socioeconomic factors. Housing materials vary in their quality as well as in their ability to shelter households from their climate. The needs of households vary according to the weather elements they are exposed to: since the climate in the delta regions of lower Myanmar is typically hotter and wetter than areas in the hills and mountains, households of similar economic status would select different materials to help protect them from the elements. For example, tin roofs help to protect households in colder climates from snow and ice, but are also seen as less effective than thatched roofs (made of theke or dhani for example) in combating heat during the hot season.

We distinguish between 'quality' and 'sub-standard' construction materials for a household's roof, walls and floor. Table 4.2 shows the percent of households living in dwellings built with quality materials. For roofing, quality includes: (i) iron sheets, (ii) tiles and (iii) concrete; while sub-standard includes (i) thatch/leaves/palm and dhani, (ii) bamboo, (iii) earth and (iv) wood. For walls, we define quality as: (i) bricks (cement, sundried, baked) (ii) concrete and (iii) corrugated sheets; while sub-standard includes the same categories as roofing. Finally, for flooring we define quality materials as: (i) wood, (ii) concrete or cement, (iii) tiles and (iv) parquet.

Four in ten households in Myanmar live in dwellings that use quality materials for their roof, floor and walls. The use of quality materials varies by attribute: houses are more likely to have quality roofs or walls than quality floors: four fifths (81 percent) of households in 2017 lived in houses with a quality roof, three quarters (75 percent) in houses with quality floors while less than a half (45 percent) had quality walls.

Access to quality roofing has increased overtime, a reflection of an increased use of corrugated iron in Myanmar. 81 percent of households have quality roofing in 2017, a significant increase from its 2005 level of 44 percent. The increase in quality roofing is predominantly driven by corrugated iron, which has almost doubled in usage in the space of a decade, from 42 percent of households in 2005 to 79 percent in 2017. Corrugated iron is the dominant roofing material used in 2017, with thatch, dhani and palm in second place accounting for 18 of roofs. By contrast, in 2005 thatch, dhani and palm accounted for 50 percent of roofs with bamboo accounting for an additional 6 percent.

Table 4.2

Percentage of households with dwellings a quality wall, floor and roof by urban/rural and States and Regions

	Quality Wall	Quality Floor	Quality Roof	All Three
Union	44.9	75.2	81.5	40.5
Urban	65.6	88.7	94.7	62.6
Rural	36.5	69.7	76.1	31.6
State and Region				
Kachin State	43.7	74.8	86.6	40.3
Kayah State	74.8	86.7	93.4	71.7
Kayin State	78.3	91.1	80.2	69.5
Chin State	72.1	84.0	88.5	70.5
Sagaing Region	34.6	64.4	82.4	29.7
Tanintharyi Region	66.8	91.8	41.3	36.1
Bago Region	33.7	77.3	82.7	31.9
Magway Region	28.9	48.8	84.5	25.2
Mandalay Region	32.1	67.8	91.4	30.2
Mon State	76.3	92.7	78.2	70.1
Rakhine State	38.8	75.5	57.4	26.4
Yangon Region	65.6	90.5	92.5	62.6
Shan State	59.6	66.9	92.7	56.2
Ayeyarwady Region	28.5	80.8	61.9	25.8
Nay Pyi Taw Council	35.9	75.2	88.0	34.3

Note: A quality roof includes iron sheets, tiles and concrete, a quality wall includes wood, bricks (cement, sundried, baked), concrete and corrugated sheets. Quality flooring includes wood, concrete or cement, tiles or parquet.

Variation in building materials is large in Myanmar, partly reflecting differences in climate and the availability of different materials locally. By the coast, households are more likely to use dhani, theke or bamboo for their walls or roof. For example, 40 percent of households in Ayeyarwady use dhani for their walls while 58 percent of households in Tanintharyi use it for their roofs. Overall the use of corrugated sheet for walls is low in Myanmar (2 percent) but in Chin this rises to 9 percent. This is explained by the cold weather in Chin, situated in a mountainous area. The use of bamboo for walls is high overall in Myanmar (43 percent), this is particularly the case in the hot and relatively dry regions of Sagaing, Magway, Mandalay and Nay Pyi Taw where more than 60 percent of households have bamboo walls.

Figure 4.3

Percentage of households with a quality roof, wall and floor, 2005 to 2017

Note: 2005 data are estimated from round 1 of the IHLCA-I; 2010 data are estimated from round 1 of the IHLCA-II; 2014 data are from the Census reports (MOIP, 2015); 2015 data are estimated from the MPLCS; 2017 data are estimated from the MLCS.

Table 4.3

Percentage of households with different types of walls for their dwellings

	Dhani/ theke/in leaf	Bamboo	Earth	Wood	Tile/brick/ concrete	Corrugated sheet	Other	Total
Union	8.7	42.8	0.4	19.2	24.1	1.6	3.1	100
Urban	2.2	28.8	0.4	17.0	45.3	3.3	3.1	100
Rural	11.4	48.5	0.5	20.1	15.5	0.9	3.1	100
State and Region								
Kachin State	0.4	55.2	0.6	20.2	21.2	2.2	0.2	100
Kayah State	6.1	17.8	0.4	43.2	30.8	0.8	0.9	100
Kayin State	5.6	15.2	0.4	59.7	18.4	0.3	0.4	100
Chin State	3.3	23.5	0.4	58.1	4.8	9.2	0.7	100
Sagaing Region	0.6	63.6	0.6	18.2	16.4	0.1	0.5	100
Tanintharyi Region	5.0	26.2	0.1	36.2	30.0	0.6	2.0	100
Bago Region	3.7	46.6	0.1	17.4	15.8	0.4	15.9	100
Magway Region	5.8	65.2	0.0	8.9	19.9	0.1	0.1	100
Mandalay Region	2.1	65.1	0.3	3.5	28.2	0.5	0.3	100
Mon State	10.6	12.8	0.2	45.7	30.2	0.4	0.1	100
Rakhine State	9.9	49.9	0.3	30.9	5.7	2.2	1.2	100
Yangon Region	6.4	21.6	0.4	16.6	43.6	5.4	6.0	100
Shan State	0.1	38.9	1.5	17.8	40.5	1.3	0.0	100
Ayeyarwady Region	40.3	28.7	0.3	20.3	6.6	1.6	2.2	100
Nay Pyi Taw Council	1.0	62.9	0.2	13.8	22.0	0.1	0.0	100

Table 4.4

Percentage of households with different types of roofs for their dwellings

	Thatch/ palm/ dhani	Bamboo	Earth	Wood	Corrugated sheet	Tile/brick/ concrete	Other	Total
Union	17.7	0.4	0.0	0.9	78.8	1.8	0.4	100
Urban	4.4	0.3	0.1	0.7	88.8	5.2	0.5	100
Rural	23.1	0.4	0.0	0.9	74.7	0.4	0.3	100
State and Region								
Kachin State	12.6	0.6	0.0	0.4	85.2	0.9	0.2	100
Kayah State	5.6	0.0	0.0	0.6	92.4	0.5	1.0	100
Kayin State	19.8	0.0	0.0	1.5	77.8	0.9	0.1	100
Chin State	9.8	1.1	0.0	1.9	86.5	0.2	0.6	100
Sagaing Region	16.6	1.0	0.0	0.6	81.2	0.5	0.0	100
Tanintharyi Region	58.1	0.1	0.1	0.8	37.7	2.7	0.4	100
Bago Region	15.5	0.4	0.0	1.1	81.2	0.4	1.4	100
Magway Region	14.5	0.5	0.2	0.6	83.5	0.3	0.3	100
Mandalay Region	7.4	1.0	0.0	0.2	90.8	0.4	0.2	100
Mon State	21.2	0.2	0.2	0.8	76.6	0.8	0.2	100
Rakhine State	42.2	0.3	0.1	1.1	56.1	0.2	0.0	100
Yangon Region	6.5	0.1	0.1	0.8	83.7	8.0	0.8	100
Shan State	7.2	0.1	0.0	0.8	90.9	1.0	0.0	100
Ayeyarwady Region	37.8	0.1	0.0	1.5	59.9	0.5	0.2	100
Nay Pyi Taw Council	11.7	0.1	0.1	1.3	84.6	2.1	0.0	100

05.

Water and Sanitation

Access to water and sanitation are key determinants of public health and are core inputs into health indicators such as infant and child mortality, malnutrition, maternal and family well-being. They also influence economic productivity through multiple direct and indirect channels. This section examines how access to water and sanitation has evolved over time in Myanmar, and also puts forward patterns of access by geographical location and household head characteristics.

The MLCS does not fully capture the information needed to report on the water and sanitation SDGs, which require complementary information on water quality. The MLCS does however capture components of the SDG indicators, which are reported in this text. Goal 6 of the SDGs is to ensure available and sustainable management of water and sanitation for all. The first two targets relate to water (target 6.1) and sanitation and hygiene (target 6.2). The indicators for these targets - most notably indicators 6.1.1. and 6.2.1 - draw upon data from household survey sources. Beyond household survey data, these indicators also require water quality testing to ensure that drinking water is free of faecal contamination and information on the treatment of excreta (see Box 5.1 and section 5-2-2 below).

This section reports on the components of the two SDG indicators that can be captured using the MLCS 2017, notably for indicator 6.1.1: (i) access to an improved water source, by location of the water source; (ii) access to improved sanitation facilities that are not shared with other households.

5.1 Drinking water

Water is a fundamental input to household health for drinking, cooking and washing, among other domestic uses. Since water plays such as fundamental role in human life, its absence can have substantial economic as well as social implications, for example through households having to devote substantial time to fetching water or due to having to ration water usage to only the most essential purposes.

Water indicators typically start by capturing the source and proximity of drinking water. The source of water has an impact on the quality of water, for example the likelihood of the water being contaminated, polluted or carrying water borne diseases. The closer a water source is to the household's consumption point, the less likely it is that the water is contaminated during transportation and storage.

Myanmar's earlier measures of water access focused on source of access. This focus was in line with the criteria used in the Millennium Development Goals (MDGs) monitoring framework. Earlier measures of water quality used as part of the monitoring of the MDGs focused on the source of water, but not its proximity. In this earlier monitoring period, the concept of 'improved' water sources was developed as a proxy for 'safe water'. The SDG monitoring framework introduced an indicator of "safely managed drinking water services" that captures concepts of accessibility, availability and quality in one measure.

Box 5.1: Definition of safe water access under Goal 6 and definition of water access used in this report

Goal 6: Ensure availability and sustainable management of water and sanitation for all

Target 6.1: By 2030, achieve universal and equitable access to safe and affordable drinking water for all.

Indicator 6.1.1: Proportion of the population using safely managed drinking water services is currently being measured by the proportion of the population using an improved basic drinking water source which is located on premise, available when needed and free of faecal (and priority chemical) contamination.

We follow the concepts from the Joint Monitoring Program (JMP) by the WHO and UNICEF to identify access to improved water sources according to the location of the source.

Concepts:

- *Improved drinking water sources* include the following: piped water into the dwelling, yard or plot; public taps or standpipes; boreholes or tube wells; protected dug wells; protected springs; packaged water; delivered water (including by tanker/truck and bottled water) and rainwater. This is captured in the MLCS 2017.
- *On premise:* A water source is considered to be 'located on premises' if the point of collection is within the dwelling, yard, or plot. This is captured in the MLCS 2017.
- *Available when needed:* implies that households are able to access sufficient quantities of water when needed. This is not captured in the MLCS 2017.
- *Free from faecal and priority chemical contamination:* water complies with relevant national or local standards. An assessment of water quality is not captured in MLCS 2017.

Unlike the JMP, we are unable to include an availability and water quality criteria that capture whether: (i) water is available when needed and (ii) is free from faecal and priority chemical contamination.

We use the following categories to characterize water usage:

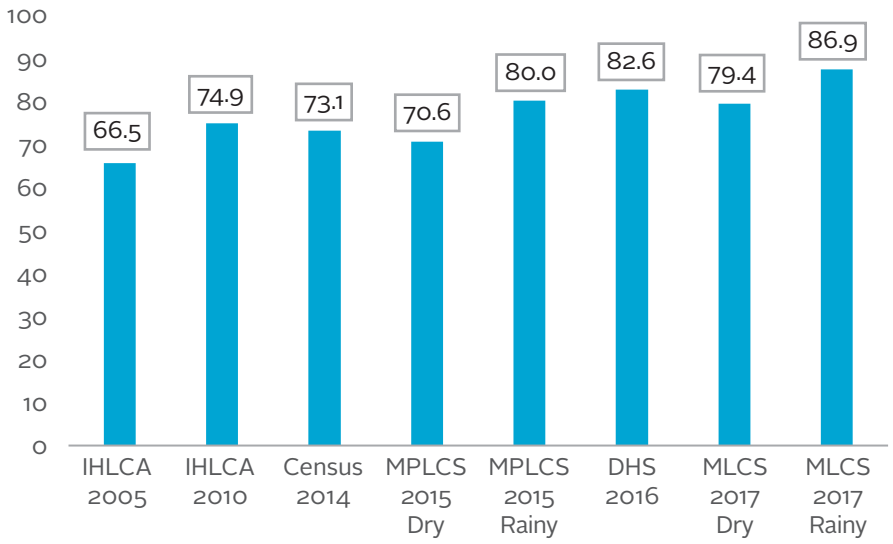
1. *Safely managed:* drinking water from an improved water source which is located on premises. Unlike the JMP definition, we are unable to include if the water is available when needed and is free from fecal and priority chemical contamination.
2. *Basic improved:* drinking water from an improved water source, provided collection time is not more than 30 minutes for a roundtrip (excluding queuing).
3. *Limited improved:* drinking water from an improved source, for which collection time exceeds 30 minutes for a roundtrip (excluding queuing).
4. *Unimproved:* drinking water from an unprotected dug well or unprotected spring.
5. *Surface water:* drinking water directly from a river, dam, lake, pond, stream, canal or irrigation canal.

Note that the JMP indicators on collection include queuing, not captured in the MLCS 2017.

At the Union level, the data shows some progress in the percentage of the households using an improved drinking water source since 2005. Figure 5.1 shows the fraction of the households that is consuming water from an improved water source, defined in Box 5.1 above. The figures reported for earlier years differ slightly from those reported in the original reports, reflecting an update in the measure of improved water sources to include water delivered by tanker/truck and bottled water. Both the MLCS and earlier data show substantial differences in the source of water used in the rainy and dry season. The comparisons of access to improved water sources over time must be treated with caution since earlier surveys did not specify the season in question. There does however appear to be a marked increase over previous estimates by 2017, with both rainy and dry season estimates for use of improved drinking water being greater than estimates coming from earlier reports.

Figure 5.1

Percentage of population using improved drinking water



Note: This figure assesses the fraction of the population using improved drinking water sources defined in Box 5.1. All survey figures capture the share of the population that report drinking water from an improved source. The 2014 Population and Housing Census captures the percent of the population using these sources. The corresponding household statistics from the MLCS can be found in the supplementary online tables. MLCS 2017 and MPLCS 2015 distinguished between water sources in dry and rainy seasons, while the other surveys did not.

There has been an increase in the use of improved water in the dry and rainy seasons. In urban areas use of improved sources is consistently high across seasons while in some rural areas it displays considerable variability.

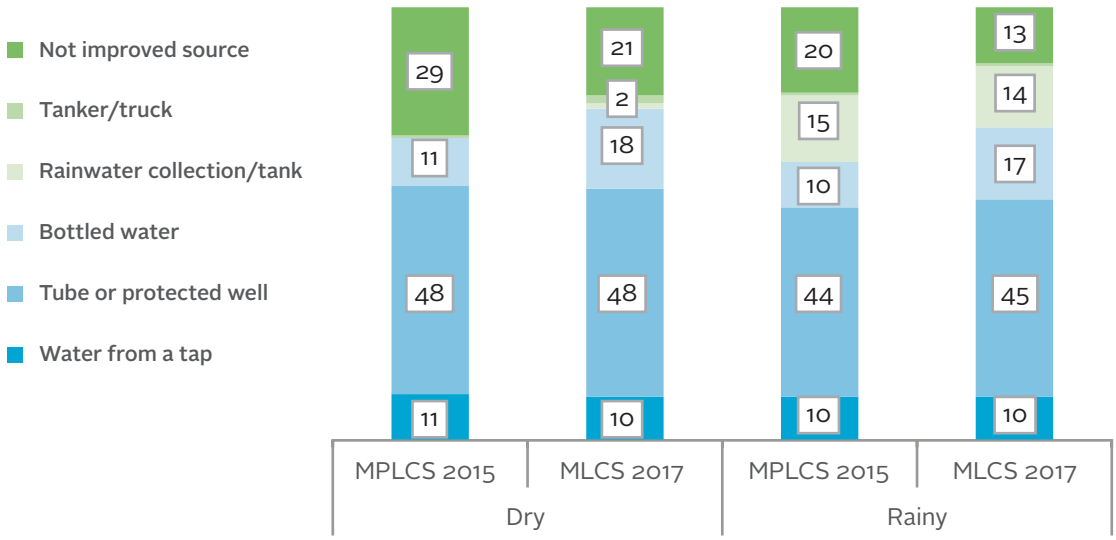
Use of improved water sources is substantially higher in the rainy season than in the dry season. In the dry season, 9.7 million people rely upon unimproved water sources, of which over two thirds – 7.2 million people - draw upon surface water sources. Figure 5.2 shows the disparity between access in the rainy and dry season in 2015 and 2017. There has been an increase in the use of improved water in both seasons – during the dry season, this has gone from 70 percent of the population in 2015 to 79 percent in 2017, and during the rainy season from 80 percent to 87 percent. The proportion of the population drawing from wells has remained fairly constant over the last two years. Tube wells and boreholes appear to be a dependable source of water in both seasons. Not improved sources (ponds, rivers and water delivered in trucks) are used more in the dry season.

This finding is driven by rural areas. In urban areas use of improved sources is consistently high across seasons. In urban areas, there is no statistically difference in access to improved water over the two seasons: 93 percent of the population reported improved drinking water during the dry season, compared to 95 percent in the rainy season. In rural areas, you see both considerably lower levels of access to improved water and greater differences in access across seasons: only 74 percent of rural population report improved water sources in the dry season, compared to 84 percent during the rainy season.

Within improved water sources, there has been a notable increase in bottled water over time, which may be partly responsible for the long-term increase in improved drinking water usage. Figure 5.2 examines the source of water in the dry and rainy seasons using MPLCS 2015 and MLCS 2017 to detect changes at the Union level. Since 2015 there has been a sizable increase in households purchasing bottled water, which seems to be their preferred source of water throughout the year. This increase reflects a longer-term trend, seen in Figure 5.3. In urban areas, bottled water went from accounting for approximately 6 percent of all drinking water in 2005 to nearly half in 2017.

Figure 5.2

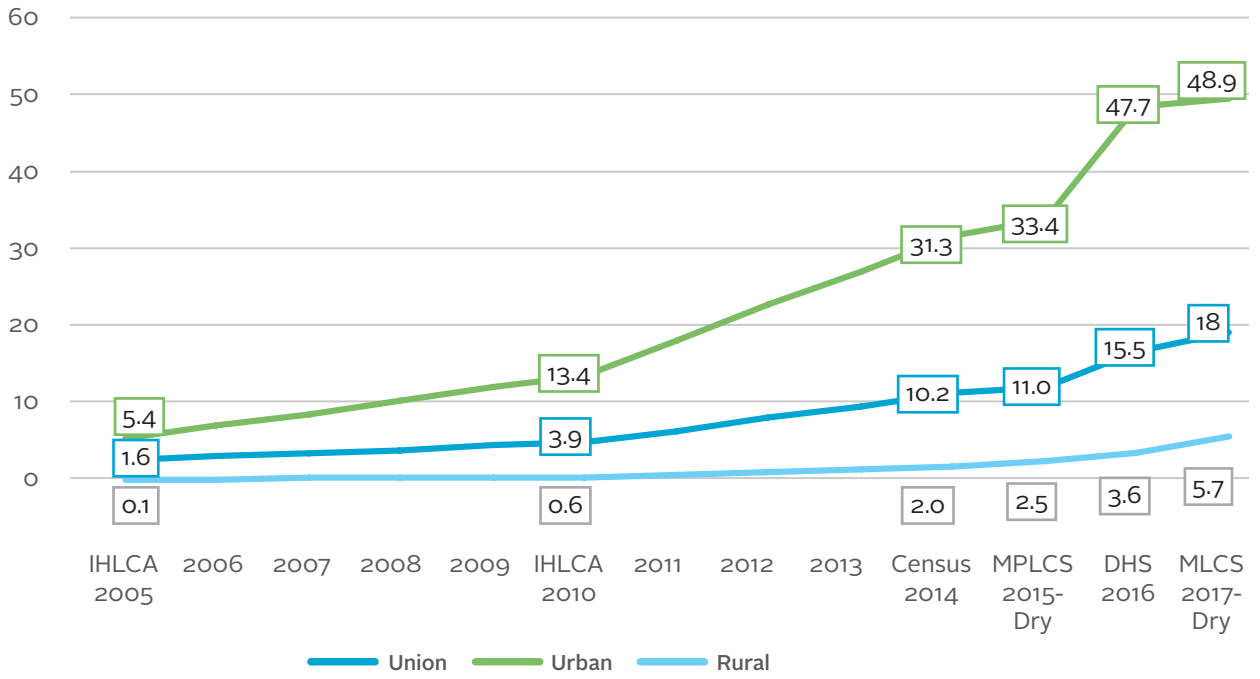
Percentage of the population using various drinking water source, by season, for 2015 and 2017



Note: Figures are population weighted.

Figure 5.3

Bottled water as the main source of drinking water, 2005 to 2017



Note: The enumeration of tap water and wells appears to be inconsistent across data sources in Myanmar, making it difficult to look at long-term changes over time in how these sources of water have changed. Figures are population weighted.

Ayeyarwady and Rakhine have the lowest rates of improved water access.

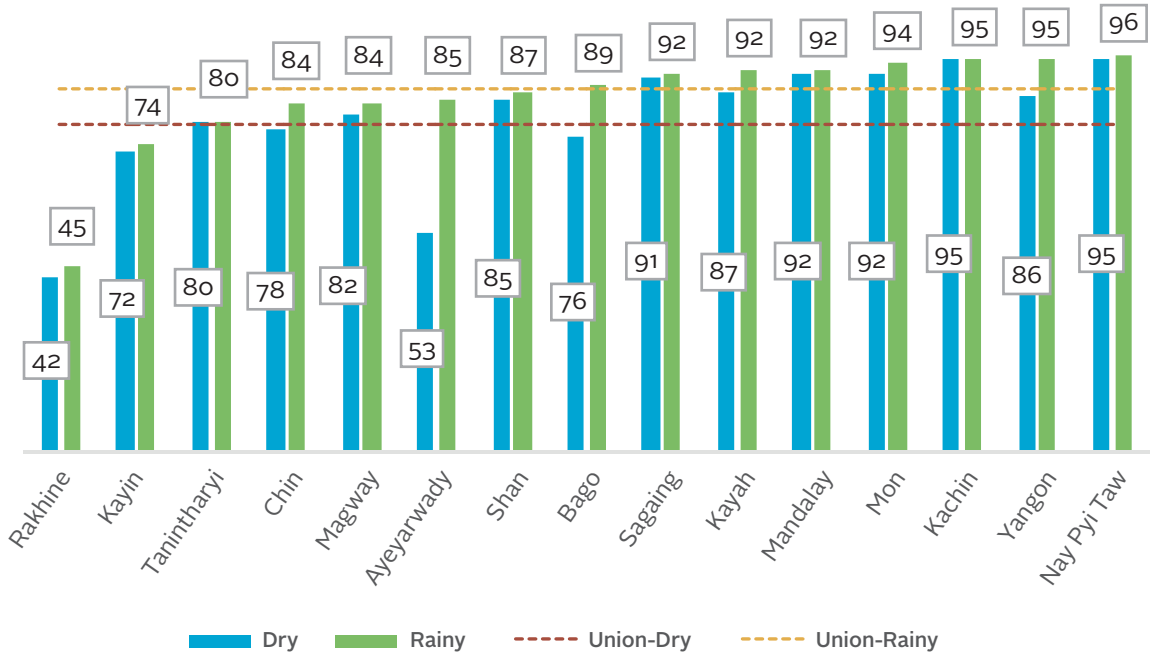
There is considerable variability by State and Region in both the use and seasonality of improved water sources. Ayeyarwady and Rakhine are the worst performing region and state in terms of access. The lowest improved water access can be found in Rakhine, where only 40 percent of the population has access to improved water in both the dry and rainy seasons. This is nearly half the national average during both seasons. Similarly, limited access is reported in Ayeyarwady during the dry season, where just over half of people (53 percent) have access to an improved water source. Rakhine and Ayeyarwady differ markedly however in their access over the dry and rainy season: in Rakhine, access remains low in both the dry and rainy season, while in Ayeyarwady access to an improved water source rises to 85 percent of the population in rainy season.

Seasonality is only pronounced in 3 regions: Ayeyarwady, Bago and Yangon. In these three Delta regions, seasonality is attributable to switching from unimproved water sources in the dry season to rainwater in the rainy season. In Ayeyarwady, four in ten people (43 percent) used a surface water source in the dry season, compared to only 13 percent in the rainy season. The majority of these people appear to be switching to rainwater capture and usage, which rises from 2 percent of water sources in the dry season to just over 40 percent in the rainy one. The limited increase in bore well usage across seasons in these three regions indicates that water consumption patterns are not linked to shifts in groundwater availability but rather to shifts between rainwater and surface water. Similar – but less pronounced – patterns are seen in Bago and Yangon, with rainwater accounting for nearly 20 percent of drinking water in the rainy season compared to less than 2 percent in the dry. In Bago, we see a 5-percentage point decrease in tube well usage in the rainy season, signaling that households may have both rainwater storage facilities and groundwater access.

There is no clear seasonality in access in the worst performing state, Rakhine. This may reflect limited rainwater storage facilities. Across the country, we see some degree of source switching to rainwater during the rainy season. Rakhine is the exception to this pattern. In Rakhine, few people live in households that draw upon rainwater during the rainy season – despite rainfall monitoring stations in Rakhine receiving an above average rainfall during the rainy months. Just over half of the population of Rakhine covered by the survey - almost 2.7m people - drew their drinking water from a river, pond, pool or stagnant water source during both the rainy and dry season. This may reflect a lack of rainwater storage facility as well as preferences over water from different sources. It should be noted that efforts to reduce contamination of surface water and to improve quality through treatment are not going to be reflected in these figures, which focus purely on the source of water.

Figure 5.4

Percentage of population in households with access to improved water in dry and rainy seasons



Note: "Water from a tap" in Chin households are commonly water from a nearby stream in the mountains that are piped into the house. Figures are population weighted.

Proximity of source needs to be considered alongside whether it is improved or not, since transportation and its duration can affect water quality. Proximity is captured by examining the time taken to conduct a round-trip to source. We divide households into three categories: those households that have their drinking water source on their premise, those whose drinking water source is off-site but within 30 minutes round-trip (excluding queuing) and those who must travel more than 30 minutes to the source. By combining this information with the source of water, we can capture whether a household is able to access an improved water source and can reduce the risk of contamination, through having a limited transition from source to consumption.

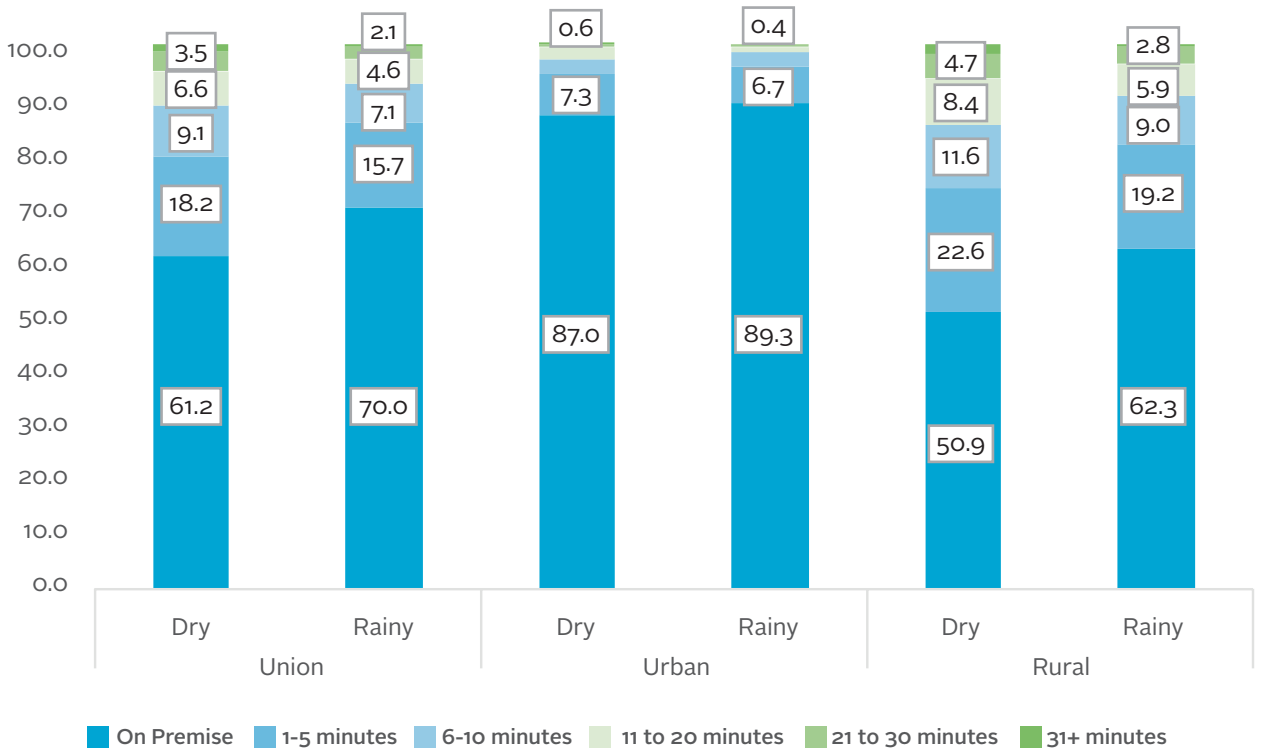
Approximately 40 percent of the population - 18.5 million people – live in households that need to transport water from source at some point in the year. Transportation of water is predominantly an issue in rural areas, but also affects one in ten urban dwellers. Overall, six in ten people live in households with water on premise all year around. This figure is higher for urban areas, where the vast majority of households (87 percent) have water on premise all year around, compared to approximately half of those in rural areas. Proximity to source varies by season, with 70 percent of people having drinking water sources on premise in the rainy season compared to 61 percent in the dry season. This means that approximately one in ten individual's lives in a household that moves from on-premise water sources to off-premise water sources during the dry season. Once an urban household has water source on premise, that water source tends to be used by the household during both the dry and rainy season. There are however a significant number of people in urban areas who remain disconnected from on-premise water supply throughout the year: this accounts for 13 percent of the urban population, or 1.8 million people. The households that shift from on-premise to off-site are in rural areas: 16.7 million people in rural areas live in households where water is not available on-site, requiring time to be devoted to fetching water on a daily basis.

Kachin, Yangon and Mon have the highest rates of access to water source on premise, while Rakhine has the lowest. Just over eight in ten people in Kachin, Yangon and Mon have access to water on their premises, compared to a national average of six in ten. By contrast, only two in ten people in Rakhine (18 percent) have on-site water, under half the rate of the next lowest access rate seen in Ayeyarwady where only 43 percent of households have year around on-site water access.

The average round-trip to collect water is 10 minutes in the rainy season, 12 in the dry season. The vast majority of round-trip are under 30 minutes. The averages vary across states and regions, with shorter average collection times in Nay Pyi Taw (7 minutes) and longer in Mandalay, Magway and Kayah (greater than 14 minutes on average). Overall in Myanmar, slightly under half of those who must transport water face short roundtrips of 1 to 5 minutes.

Figure 5.5

Percentage of population living in households according to the distance from their drinking water source



Note: Figures are population weighted.

Travel for water collection varies by State and Region. People in Rakhine and Magway have longer round-trips to collect water and appear to do so throughout the year. In Rakhine, where the fraction of households that have water on premise is far below union average, nearly a quarter of households face a 11 to 30 minute round-trip for water collection – 14 percent report needing to walk 11 to 20 minutes while a further 10 report a 20 to 30 minute walk. Magway has a higher fraction of people with water on premise (50 percent), but similarly high proportions of those facing a 20 to 30 minute round-trip to collect water in the dry season.

Figure 5.6

Drinking water source on site: Percent of population in households with on-premise access by season

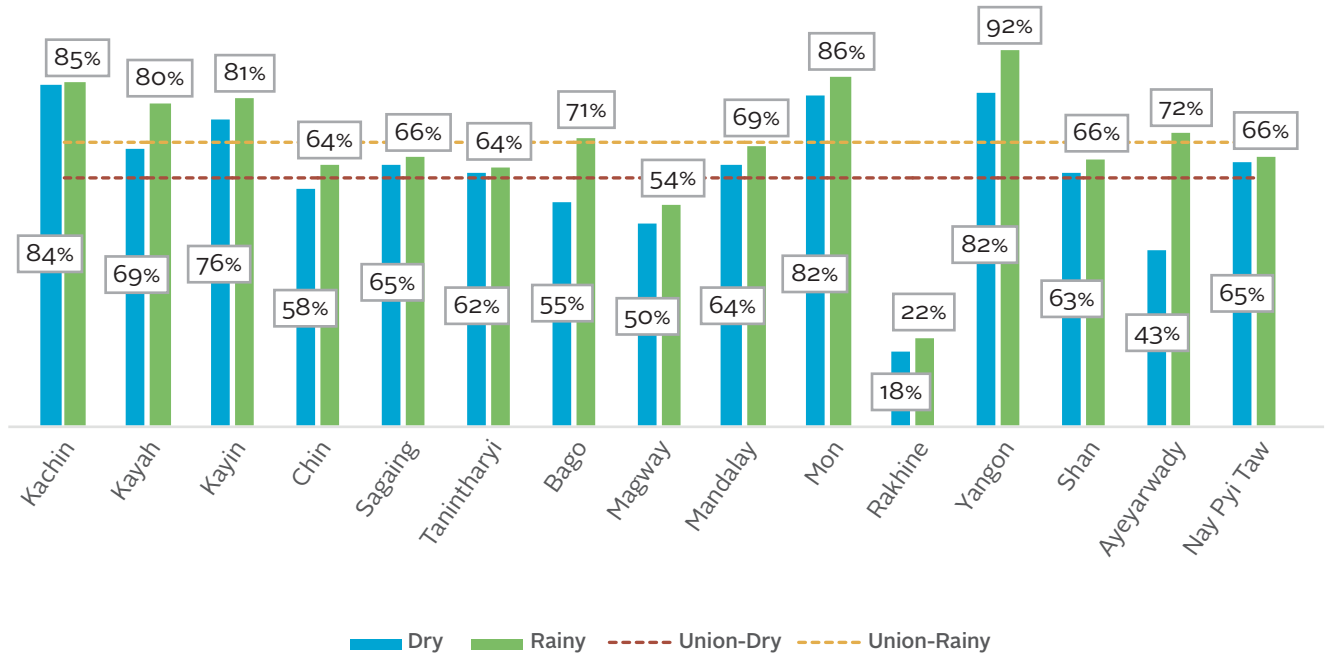
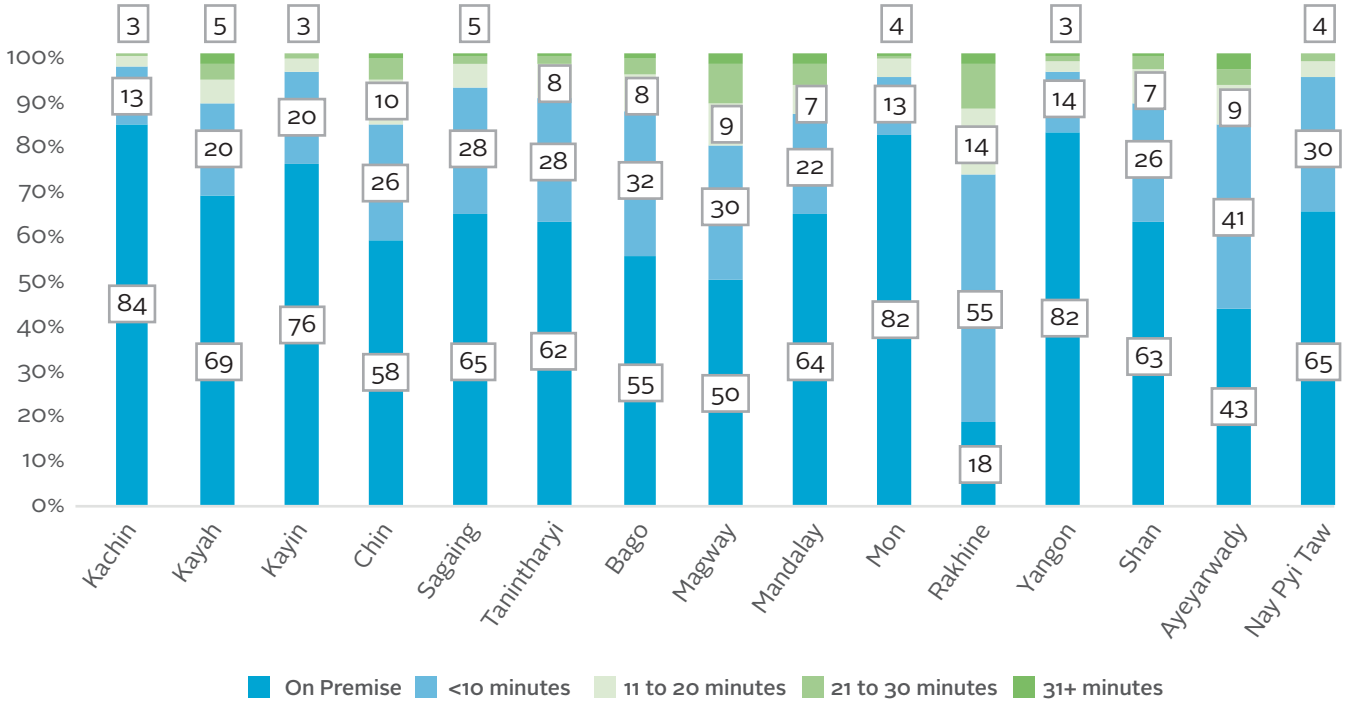


Figure 5.7

Drinking water source on site: percent of population in households according to the roundtrip to water source in dry season, by state and region



Note: Figures are population weighted.

We now turn to examining the overlap of these two aspects of water access - whether the water comes from an improved source and is near the household. This follows the approach set out in measuring SDG 6.1.1, notably to consider a combination of features of what a safely managed water supply implies.

Among those with improved drinking water source access, nearly a third risk contamination due to transportation. Table 5.1 examines the proportion of the population who has access to an improved water source and need to transport the water from source, at the union and urban/rural level. Seasonality of on-premise improved water access mostly affects rural areas, where dry season access is significantly more limited than rainy season access. Of the population who reported access to an improved water source, 20 percent needed to transport the water during the rainy season and 21 percent during the dry season. Transportation times are however typically short – in rural areas, 16 percent of those with improved water access have less than a 5 minute round-trip to the water source, and a further 7 percent have a 6 to 10 minute round-trip. Only 2 percent of the population has a round-trip of more than 30 minutes.

Table 5.1

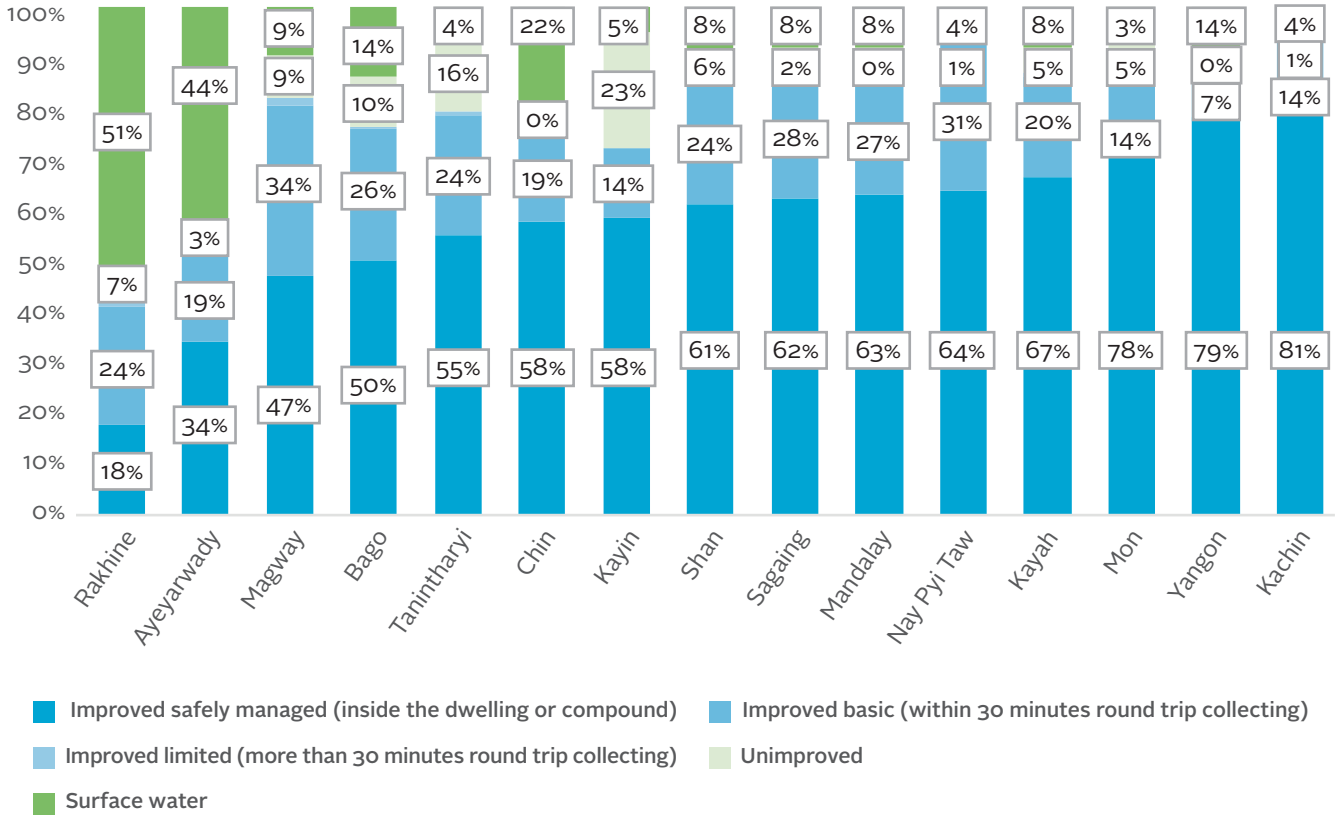
Percentage of population with access to water, by category

	Union		Urban		Rural	
	Dry	Rainy	Dry	Rainy	Dry	Rainy
Improved safely managed (inside the dwelling or compound)	57	67	84	87	47	59
Improved basic (within 30 minutes round trip collecting)	21	20	10	9	26	24
Improved limited (more than 30 minutes round trip collecting)	1	0	0	0	1	0
Unimproved	5	4	1	1	6	6
Surface water	16	9	6	4	20	11

Rakhine, Ayeyarwady and Magwe stand out in terms of access to improved water, with less than half of the households able to reach improved safely managed water on premise. Figure 5.8 below shows the fraction of population at households with access to improved, unimproved and surface water in the dry season by State and Region, where improved water is separated by distance from the household. Given the substantial rainfall and groundwater potential of both Rakhine and Ayeyarwady, the low rates of on-site water access signal low investments in localized water capture.

Figure 5.8

Percentage of population with access to improved water on premise in dry season, by State and Region



Note: Unimproved water includes unprotected wells or springs and other sources of water. The data label is only shown in those states or regions where unimproved water accounts for more than 3 percent of drinking water sources.

Table 5.2

Percentage of population living in households with access to improved drinking water in the dry season by urban/rural and State and Region

	Improved								Not Improved				
Dry Season: Drinking Water Source	**Piped water into dwelling**	**Piped water into yard**	**Public tap**	**Tube well or borehole**	**Pro-tected dug-well**	**Rain water collection**	**Bottled water**	**Tanker/ Truck**	**Unpro-tected well**	**Pool**	**River**	**Other**	**Total**
Union	2.3	5.6	2.3	34.0	14.0	1.8	18.0	1.3	4.7	10.8	4.4	0.7	*100*
Urban	3.7	5.5	1.2	23.2	7.2	1.1	48.9	2.6	0.9	3.2	1.0	1.5	*100*
Rural	1.8	5.7	2.8	38.3	16.8	2.0	5.7	0.8	6.2	13.9	5.7	0.4	*100*
State and Region													
Kachin State	3.5	5.7	2.8	39.8	30.6	0.1	12.3	0.5	0.8	0.9	2.8	0.2	*100*
Kayah State	7.8	13.9	1.3	8.3	36.1	3.2	14.8	1.6	5.3	3.8	3.1	0.8	*100*
Kayin State	3.7	5.9	1.5	3.0	39.6	1.4	16.4	0.9	22.8	0.7	4.0	0.0	*100*
Chin State	21.9	20.4	26.8	1.3	4.3	0.2	0.6	2.3	0.2	5.9	16.2	0.0	*100*
Sagaing Region	0.6	9.9	1.2	58.0	11.8	0.9	7.6	0.5	1.6	5.3	2.2	0.3	*100*
Tanintharyi Region	9.5	10.0	1.6	6.3	35.1	0.0	16.1	0.9	16.0	0.7	3.3	0.4	*100*
Bago Region	0.4	0.1	0.0	59.1	7.2	1.1	8.0	0.5	9.9	9.9	2.1	1.5	*100*
Magway Region	4.3	5.7	0.8	54.8	8.7	1.3	5.6	0.7	8.7	5.7	3.6	0.0	*100*
Mandalay Region	2.5	3.7	0.2	48.0	11.2	2.1	23.7	0.5	0.5	4.1	3.5	0.1	*100*
Mon State	4.1	5.3	0.9	2.7	61.6	0.2	15.9	1.0	5.0	3.3	0.0	0.0	*100*
Rakhine State	0.7	2.3	1.3	10.9	22.0	0.0	4.7	0.1	6.8	50.1	0.8	0.2	*100*
Yangon Region	3.4	4.6	0.5	19.2	1.9	2.3	49.7	4.2	0.2	10.8	0.6	2.8	*100*
Shan State	1.4	15.8	13.4	8.8	21.6	4.0	20.4	0.0	6.5	3.1	4.8	0.3	*100*
Ayeyarwady Region	0.0	0.0	0.0	39.3	3.8	2.7	5.3	2.3	3.0	27.1	16.4	0.1	*100*
Nay Pyi Taw Council	0.9	1.3	0.2	59.9	5.1	0.3	27.1	0.4	0.6	0.3	3.9	0.0	*100*

N= 13,700. Note: Households in Chin commonly use water from mountain streams that are piped into their homes. These have been enumerated as piped water, but the source of the water is likely to actually be surface water. Figures are population weighted.

Table 5.3

Percentage of population living in households with access to improved drinking water in the rainy season by urban/rural and State and Region

	Improved								Not Improved				
Rainy Season: Drinking Water Source	**Piped water into dwelling**	**Piped water into yard**	**Public tap**	**Tube well or borehole**	**Pro-tected dug-well**	**Rain water collection**	**Bottled water**	**Tanker/ Truck**	**Unpro-tected well**	**Pool**	**River**	**Other**	**Total**
Union	2.3	5.5	2.4	32.0	13.2	13.6	17.1	0.7	4.3	5.2	3.2	0.5	*100*
Urban	3.7	5.4	1.2	21.5	6.9	8.2	46.9	1.6	0.8	1.7	0.9	1.2	*100*
Rural	1.8	5.6	2.9	36.2	15.7	15.8	5.2	0.3	5.6	6.6	4.1	0.2	*100*
State and Region													
Kachin State	3.5	5.3	2.8	39.8	30.7	0.6	12.2	0.5	0.8	0.9	2.8	0.2	*100*
Kayah State	7.3	14.0	1.5	5.9	36.7	12.7	13.3	0.7	4.1	0.9	2.8	0.1	*100*
Kayin State	3.7	5.3	1.4	3.0	40.1	4.2	16.1	0.5	22.8	0.1	2.8	0.0	*100*
Chin State	22.8	21.0	29.3	1.4	2.9	4.6	0.4	1.5	0.0	4.8	11.2	0.0	*100*
Sagaing Region	0.6	10.0	1.2	56.7	11.9	3.1	7.6	0.5	1.3	4.9	1.9	0.2	*100*
Tanintharyi Region	9.5	10.6	1.7	6.3	35.1	0.8	15.6	0.3	16.2	0.7	3.0	0.1	*100*
Bago Region	0.4	0.1	0.0	52.9	6.6	21.8	7.3	0.1	6.5	2.3	1.5	0.7	*100*
Magway Region	4.5	6.1	1.0	52.1	7.5	7.7	5.3	0.2	8.8	2.9	4.0	0.0	*100*
Mandalay Region	2.5	3.7	0.2	46.1	8.3	8.0	23.4	0.1	1.6	2.8	3.2	0.1	*100*
Mon State	4.2	4.8	0.8	2.4	60.6	6.6	14.2	0.4	4.8	1.3	0.0	0.0	*100*
Rakhine State	0.7	2.7	1.6	10.4	21.7	3.2	4.6	0.1	5.5	48.5	1.0	0.1	*100*
Yangon Region	3.1	3.6	0.5	17.3	1.1	20.8	45.7	3.3	0.2	1.7	0.4	2.3	*100*
Shan State	1.4	16.0	13.3	8.3	20.9	6.4	20.4	0.0	6.3	2.2	4.5	0.3	*100*
Ayeyarwady Region	0.0	0.0	0.0	36.0	3.1	41.1	4.5	0.2	2.0	4.3	8.7	0.1	*100*
Nay Pyi Taw Council	0.9	1.2	0.1	59.4	4.5	2.1	27.2	0.3	0.5	0.3	3.6	0.0	*100*

N= 13,700. Note: Households in Chin commonly use water from mountain streams that are piped into their homes. These have been enumerated as piped water, but the source of the water is likely to actually be surface water. Figures are population weighted.

5.2 Access to improved sanitation facilities

5.2.1 Improved toilets

Most households in Myanmar use flush toilets, but there is variation across states and regions. Few households have no toilet, but in Rakhine state nearly half of households have no toilet facilities (open defecation).

The use of improved toilet facilities, defined as non-shared facilities that prevent people coming in contact with human waste, helps reduce the transmission of communicable diseases such as cholera and typhoid.

Data from previous surveys shows that the biggest change has come from a transition from "no facilities" to any type of pit toilet (Table 5.4). There has not been a sizable change in the use of flush toilets.

Table 5.4

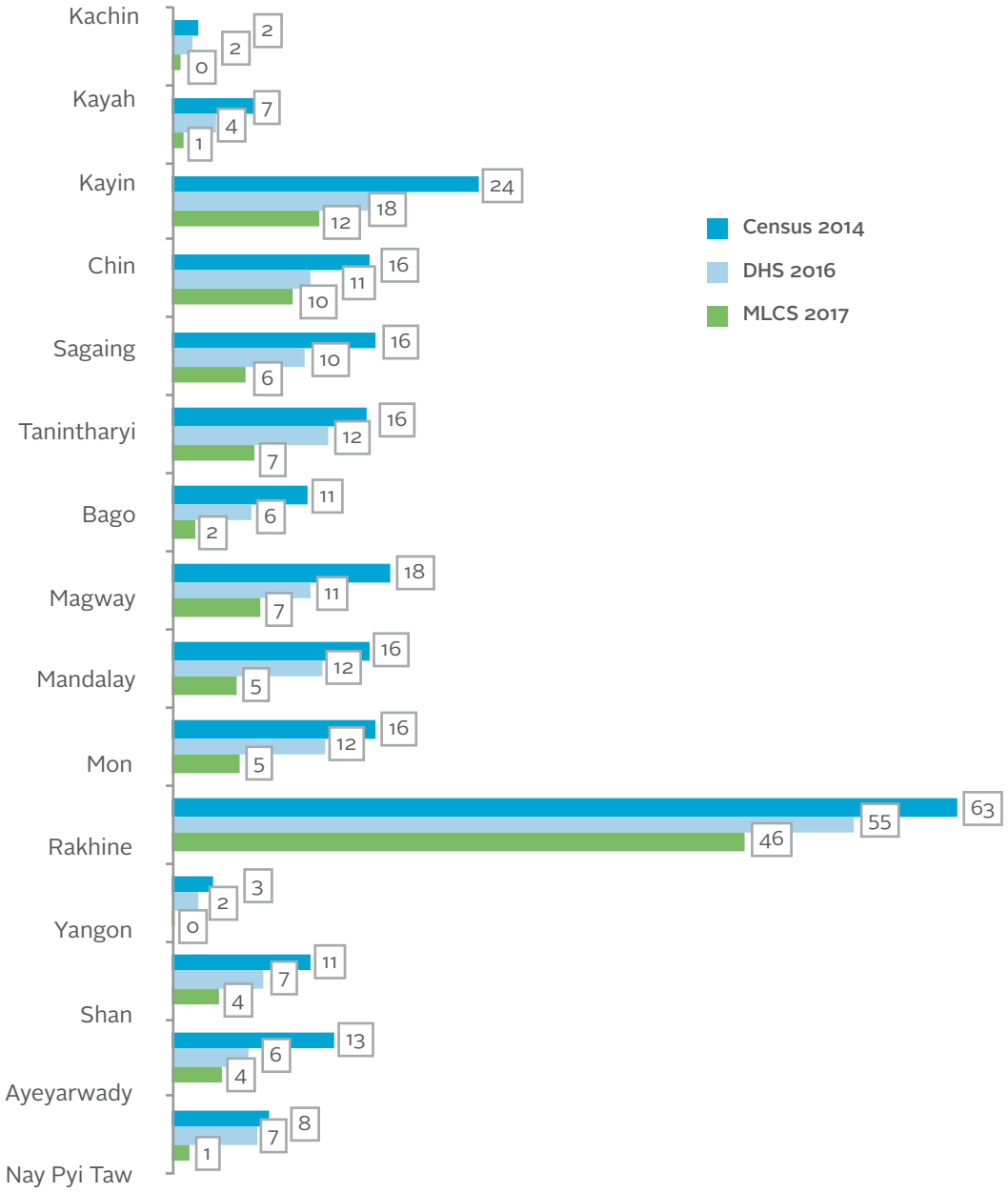
Percentage of households with different types of toilets, over time

	Flush toilet	Pit latrine	None (Open Defecation)	Other	Total
Census 2014	74	11	14	1	100
MPLCS 2015	79	8	13	0	100
MLCS 2017	76	16	6	2	100

Note: The MLCS identified: 1) flush, to piped sewer system, 2) flush, to septic tank, 3) flush, to pit latrine, and 4) flush, to elsewhere; three types of pit latrine, namely 1) ventilated improved pit latrine, 2) pit latrine with slab, and 3) pit latrine without slab/open pit; three types of other toilets, 1) composting toilet, 2) hanging toilet, and 3) others. No toilet facility and defecation behind bush or in the field is identified as open defecation.

Figure 5.9

Percentage of households without toilet facilities by State and Region, 2014 to 2017



Although the percentage of households who report no toilet facilities and therefore openly defecate has declined in all states and regions since 2014, it remains disproportionate. The share of households with no toilet facilities and thus who use open defecation practices declined from 14 percent in 2014 (Census) to 6 percent in 2017. In Rakhine, however, this measure went from 63 percent to 46 percent – almost four times higher than the second worst performing state (Kayin). The same pattern was also identified in the DHS 2016.

Table 5.5

Percentage of population by type of toilet

	Improved							Not Improved						
	Flush, to piped sewer system	Flush, to septic tank	Flush, to pit latrine	Ventilated improved pit latrine	Pit latrine with slab	Compo-sting toilet	Total (impro-ved toilet)	Pit latrine without slab/open pit	Flush, to elsew-here	Hanging toilet	No facilities, (open defecation in bush, field)	Other	Total (not improved toilet)	Total
Union	0.8	20.5	53.9	1.0	12.8	0.0	89.0	1.8	1.3	1.0	6.4	0.5	11.0	*100*
Urban	1.0	46.3	42.4	0.7	6.0	0.1	96.4	0.8	1.5	0.5	0.5	0.4	3.6	*100*
Rural	0.7	10.2	58.5	1.1	15.5	0.0	86.1	2.3	1.2	1.2	8.7	0.5	13.9	*100*
State and Region														
Kachin State	0.3	15.4	54.1	1.2	26.4	0.0	97.4	0.5	1.5	0.0	0.6	0.0	2.6	*100*
Kayah State	1.1	6.5	89.0	0.6	1.0	0.0	98.0	0.3	0.8	0.0	0.7	0.2	2.0	*100*
Kayin State	2.5	39.2	31.5	0.3	1.2	0.0	74.6	0.3	11.9	0.0	12.9	0.3	25.4	*100*
Chin State	1.8	1.1	80.2	0.8	1.6	0.0	85.4	3.7	2.0	0.0	8.8	0.0	14.6	*100*
Sagaing Region	1.6	13.3	77.6	0.0	0.0	0.1	92.6	1.1	0.5	0.0	5.7	0.1	7.4	*100*
Tanintharyi Region	0.5	0.2	59.1	0.3	11.1	0.0	71.1	7.6	1.2	12.4	7.3	0.5	28.9	*100*
Bago Region	0.2	19.3	72.8	0.7	0.9	0.0	94.0	0.6	0.4	1.3	1.9	1.8	6.1	*100*
Magway Region	0.4	1.3	21.0	0.0	69.0	0.0	91.7	0.8	0.1	0.0	7.5	0.0	8.3	*100*
Mandalay Region	0.8	30.9	45.3	0.0	16.9	0.1	94.0	0.2	1.2	0.1	4.5	0.0	6.0	*100*
Mon State	0.7	1.0	61.5	0.2	24.4	0.0	87.9	2.9	2.7	0.8	5.7	0.0	12.1	*100*
Rakhine State	0.5	3.4	45.5	1.3	1.7	0.0	52.4	1.5	0.4	0.7	44.8	0.4	47.6	*100*
Yangon Region	1.2	62.6	31.2	0.0	0.1	0.0	95.2	0.2	2.1	0.9	0.2	1.5	4.8	*100*
Shan State	0.7	10.5	63.8	2.6	12.5	0.1	90.1	5.3	0.5	0.0	4.0	0.0	9.9	*100*
Ayeyarwady Region	0.3	6.2	63.7	3.6	14.2	0.0	87.9	4.1	0.8	2.6	4.5	0.1	12.1	*100*
Nay Pyi Taw Council	1.4	11.3	75.9	0.2	8.3	0.0	97.0	0.4	1.3	0.0	1.2	0.0	3.0	*100*

Note: Figures are population weighted.

5.2.2 Improved sanitation

SDG indicator 6.2.1 captures the proportion of the population using safely managed sanitation services including a handwashing facility with soap and water), improved sanitation facility has four broad criteria; 1) using improved types of toilets, 2) exclusively used by one household, 3) having handwashing facility, and 4) faecal waste system which is safely disposed in situ or treated off-site.

The SDG indicator 6.2.1 follows the MDG indicator in categorizing the following types of toilet which are not shared with other households as selected types of improved toilets - flush or pour flush toilets to sewer systems, septic tanks or pit latrines, ventilated improved pit latrines, and pit latrines with a slab, and composting toilets.

Moreover, SDG indicator 6.2.1 also includes the following faecal waste system in classifying the safely managed sanitation service as:treated and disposed in situ, or stored temporarily and then emptied and transported to treatment off-site; or transported through a sewer with wastewater and then treated off-site.

We follow the concepts of the Joint Monitoring Programme (JMP) of the WHO and UNICEF, who have developed a sanitation ladder capturing five types of sanitation service:

1) *Safely managed:* Use of improved facilities which are not shared with other households and where excreta are safely disposed in situ or transported and treated off-site
2) *Basic:* Use of improved facilities which are not shared with other households
3) *Limited:* Use of improved facilities shared between two or more households
4) *Unimproved:* Use of pit latrines without a slab or platform, hanging latrines or bucket latrines
5) *Open defecation:* Disposal of human faeces in fields, forests, bushes, open bodies of water, beaches and other open spaces or with solid waste

Using the MLCS, it is not possible to follow the definition of SDG 6.2.1 because the data collected can meet only three criteria, notably: (i) using improved types of toilets, (ii) not sharing with other households, and (iii) having hand washing facility. MLCS does not provide information on faecal waste system of the toilet. Therefore, adopting the SDG indicator 6.2.1 and JMP (WHO/UNICEF), it is possible to provide the following categories:

1) Basic: Use of improved toilets including hand washing facility which are not shared with other households.
2) Limited: Use of improved toilets including hand washing facility, but shared between two or more households.
3) Unimproved: Use of pit latrines without a slab or platform, handing latrines or bucket latrines (regardless of whether a household has washing facilities and doesn't share their facilities with other households).
4) Open defecation: Disposal of human faeces in fields, forests, bushes, open bodies of water, beaches and other open spaces or with solid waste (regardless of whether a household has washing facilities and doesn't share their facilities with other households).

Figure 5.10

Percentage of population in households in each sanitation sub-category in 2017

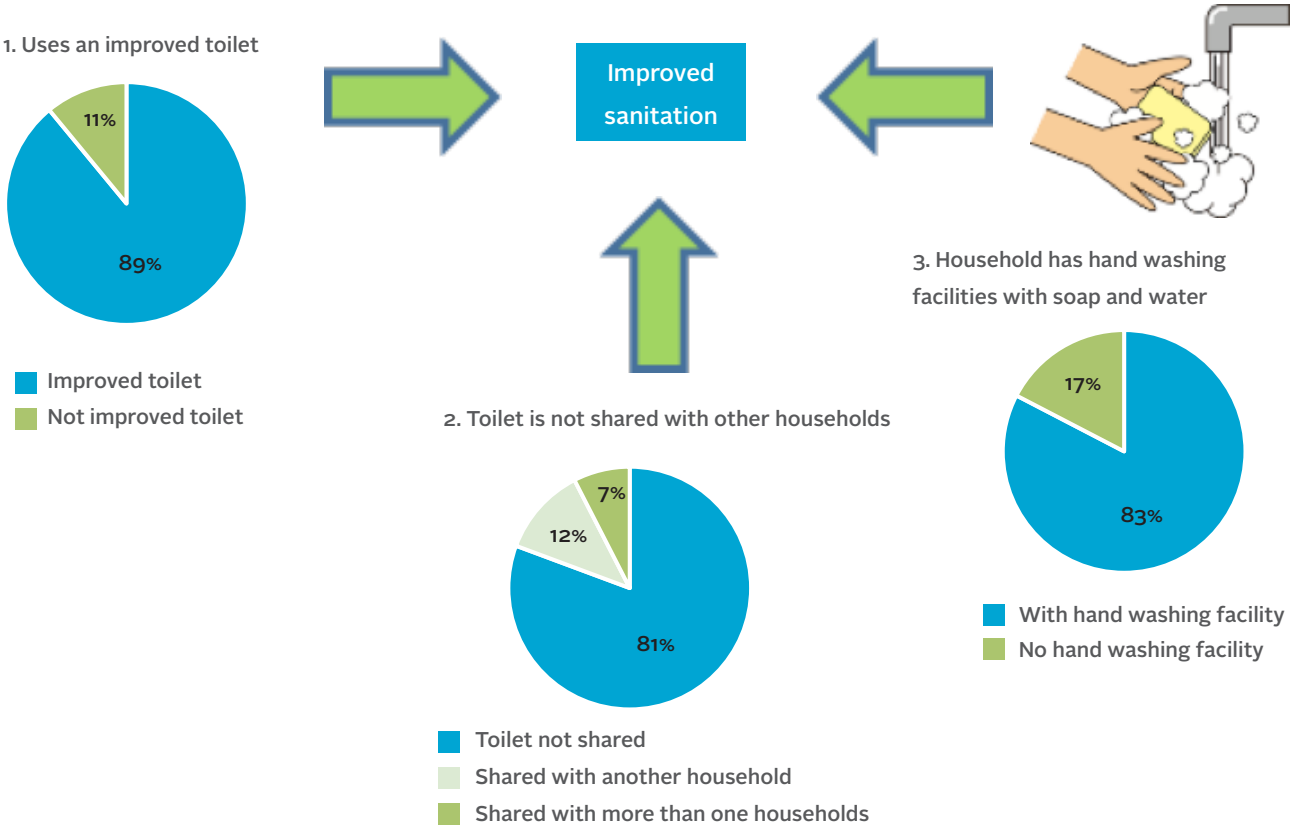
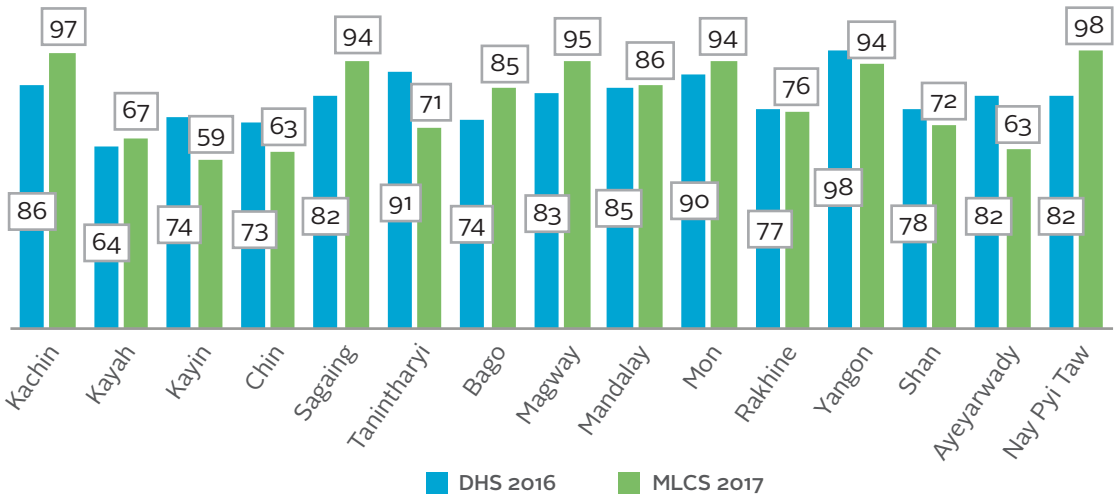


Figure 5.10 demonstrates the definition of improved sanitation used in MLCS 2017, in which improved sanitation means use of improved toilet with hand washing facilities, without sharing with any other households. Data from MLCS 2017 shows that 89 percent of the population use improved type of toilets (see Table 5.5), 81 percent use non-shared toilets, and 83 percent of have hand washing facilities with soap and water.

Figure 5.11

Percentage of households with access to a place for hand washing with soap and water



There's substantial variation across States and Regions in access to a place for washing hands using soap and water. A lower figure is most clearly seen in Kayin, Chin, Tanintharyi and Ayeyarwady, while a higher figure is higher in access to hand washing facilities are found in Kachin, Sagaing, Bago, Mandalay and Nay Pyi Taw.

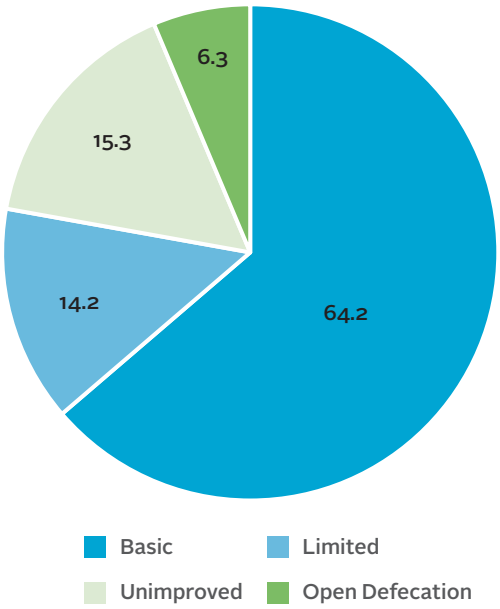
Six in ten people have access to improved sanitation at the Union level (64 percent). Kachin has the highest level of improved sanitation – eight in ten people (85 percent) have access compared to only five in ten in Kayin (50 percent).

With the above-mentioned definition, Figure 5.12 describes the proportion of population at households with different types of sanitation services. About 64 percent of population at households with access to improved sanitation, thus using improved types of toilet with hand washing facilities without sharing with any other households. Households with limited sanitation account for around 14 percent, which are using improved types of toilet with hand washing facilities but sharing with another or more than one households. Around 15 percent of the population are using unimproved sanitation and a further 6 percent of the population do not have a toilet, they engage in open defecation.

Map 5.1 shows the percentage of population in households with access to basic sanitation (access to an improved, non-shared toilet and hand washing facilities). The map clearly shows the positive situation in Kachin where 85 percent of the population have access to improved sanitation. This is compared to a low percentage of the population at households with access to improved sanitation in Kayin (50 percent) and Rakhine (41 percent). Kachin has the highest score in access to basic sanitation compared to other regions and states. This is because Kachin state performs well in all three components of the definition of basic sanitation (improved type of toilet, non-shared toilets and hand washing facilities) compared to other Regions and States. For example, comparing Kachin and Nay Pyi Taw (69 percent), Kachin has 97 percent of people using an improved type of toilet while Nay Pyi Taw also has the same, 97 percent. On hand washing facilities, Kachin has 97 percent of people with access to hand washing facilities and Nay Pyi Taw has 98 percent of people with access to hand washing facilities. On the question of whether the toilet is shared with another household, Kachin has 90 percent of people using non-shared toilets and Nay Pyi Taw has 72 percent for that. While the percentage of population at households with using improved type of toilet and access to hand washing facilities are more or less the same in Kachin and Nay Pyi Taw, percentage of population living at households with using non-shared toilet are higher in Kachin than in Nay Pyi Taw.

Figure 5.12

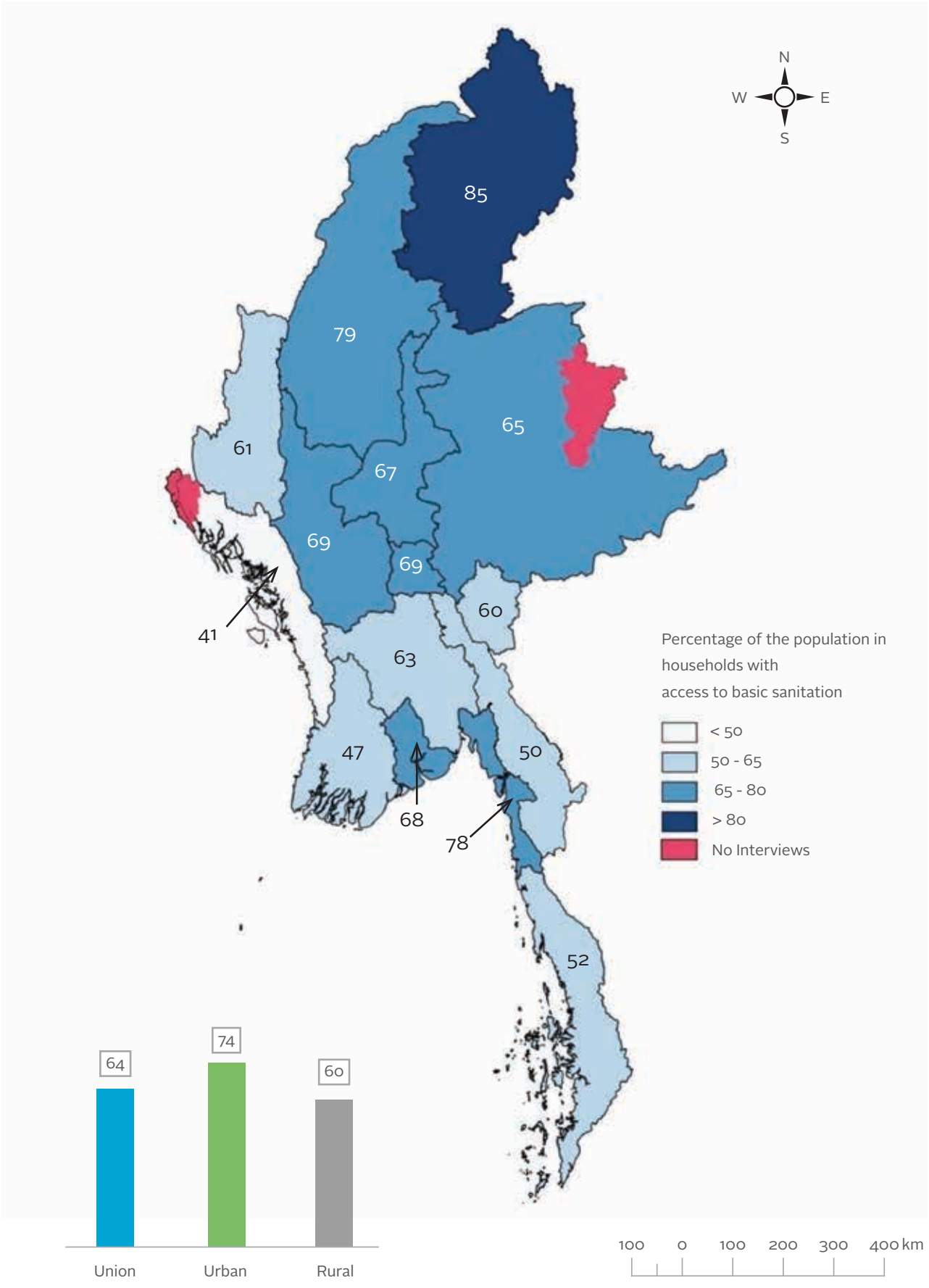
Percentage of population in households using different types of sanitation services



Note: Figures are population weighted.

Map 5.1

Percentage of Population living in Households with Access to Basic Sanitation



06.

Technology: mobile phone, computer and internet

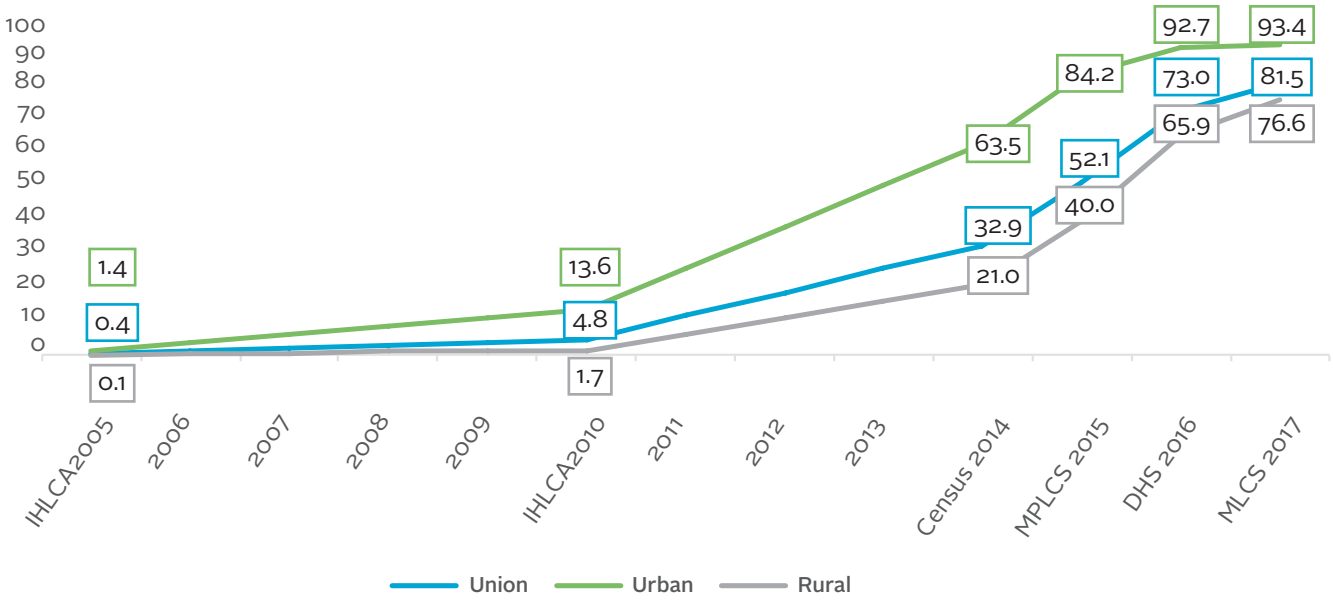
Myanmar has seen a clear transformation in the way that people are connected to each other and to the world, due to the widespread adoption of mobile phones and of the internet. In this section, this report examines how the expansion of mobile phone ownership and usage has evolved because of changing technology and market liberalization. We also examine the ownership and use of computers and internet, both becoming increasingly prevalent.

6.1 Phones

Myanmar has seen a rapid expansion of mobile phones since 2010. In 2017, 40 million people lived in households with at least one phone. Of these, 35.8 million were in households than owned at least one smart phone. The increase in phone ownership over time has been rapid, and the intensity with which Myanmar uses smartphones places it at the forefront of smartphone penetration among countries with a similar development level. Myanmar's telecommunications sector has changed dramatically since 2005, with a reform to markets in 2013 paving the way for greater connectivity. Prices have dropped over time as a consequence of changing technology, reforms and market evolution: sim card prices have declined from 1,500,000 kyat in 2004 to 500,000 kyat in 2012, 200,000 kyat in 2013 and 1,500 kyat in 2014 (current prices). An expansion of coverage has also followed the evolution of market structure: in 2013, the market was reformed from being serviced by a single operator – Myanmar Post and Telecommunications (MPT) - to including three operators in 2013. The two new operators – Ooredoo and Telenor – started expansion in August and September 2014 respectively. By contrast, over the same period there has been no growth in fixed line telephone access: in 2017 only 2 percent of households reported having an active fixed line telephone compared to 4 percent in 2010.[12]

Figure 6.1

Percentage of households owning mobile phones



Note: This figure captures whether a household owns a mobile phone and is weighted using household weights. In the IHLCA, Census, MPLCS and DHS households were asked if they owned a mobile phone. Data from IHLCA-I uses round 1 and data from IHLCA-II draws upon round 2. In the MLCS 2017 survey, households were asked if they owned a smart phone or a non-smart phone. The ownership rates between survey years are based on linear growth patterns. It is likely that the growth pattern between 2010 and 2014 was non-linear.

12 Enumeration of fixed lines varied across the two surveys. In the IHLCA 2010, household were asked if they owned a fixed line phone. In the MLCS 2017, households reported monthly charges to a fixed line connection.

The gap between rural and urban areas in phone ownership expanded in the period immediately following the telecommunications reforms but had contracted by 2017. In 2014, 33 percent of households reported owning mobile phones, with far greater ownership in urban areas (64 percent) than in rural (21 percent) (MOIP, 2015). The gap between rural and urban areas has narrowed in the 3 years since the Census: ownership in rural areas in 2017 was nearly four times the 2014 rates (77 percent compared to 21 percent).

The share of households owning mobile phones stabilized in urban areas between 2016 and 2017, while it continued to grow in rural areas. By 2016, the ownership of phones in urban areas stabilized at 93 percent of households – signaling that 7 percent, or just over 200,000 households and 700,000 people, remained to be connected. In rural areas, the share of households owning mobile phones grew consistently between 2014 and early 2017, but did not show any growth over the quarters of survey enumeration.

Smartphones dominate, but are slightly less prevalent in rural areas than in urban. The MLCS asked households to report whether they owned a smartphone or non-smartphone separately, allowing the survey to track what type of phones have access to data as well as phone services.[13] The survey reveals that smartphone penetration is extremely high, implying that households in Myanmar have moved directly to purchasing smartphones, leapfrogging earlier technologies. Among the households that own mobile phones, nearly 90 percent own smartphones. This leapfrogging has occurred more intensively in urban areas, where 93 percent of households who own a phone own at least one smartphone, compared to 86 percent of those in rural areas.

The difference in phone ownership across rural and urban areas appears to be linked to purchasing power and socio-economic status rather than necessarily being constrained by infrastructure access. Unlike electrification, where lower rural rates of access to grid electricity are largely driven by a lack of grid infrastructure, there is widespread geographic ownership of phones across Myanmar's rural areas. There are very few enumeration areas in the survey where fewer than 2 of the 12 households enumerated owned a phone. This suggests that lower ownership rates in rural areas may reflect purchasing power rather than physical access limitations.

Phone ownership is lower among female headed households and among those with less educated household heads. More limited smartphone penetration in rural than in urban areas is highly linked to socio-economic indicators. Since the telecommunications rollout has included both data and voice calls, the different rates of smartphone ownership is likely linked to cost rather than the form of network in rural areas. The households who remain disconnected from the phone network have less educated household heads and are potentially worse off than those who are connected (Figure 6.2).

13 Previous nationwide surveys did not separate phones by type.

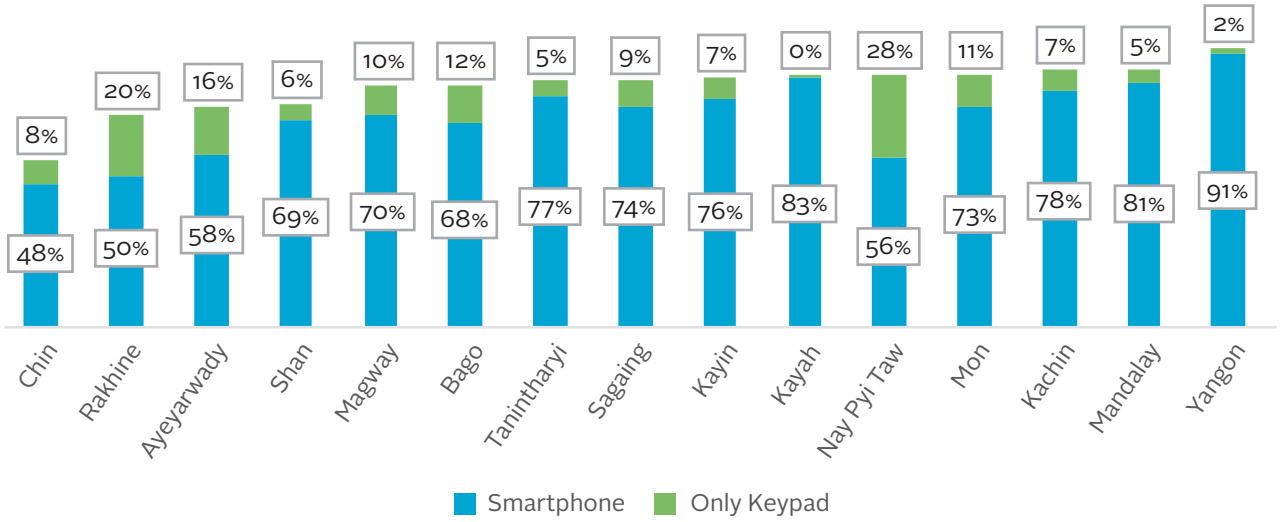
Figure 6.2

Household phone ownership: type of phone owned by education, gender of head and area

Note: Figures are household weighted.

Figure 6.3

Percentage of households owning at least one phone, by type of phone



Note: Figures are household weighted.

Chin State has the lowest share of mobile phone ownership, while Yangon Region has both the highest percent of ownership and the highest share of smartphones. Low ownership of smartphones in Chin is likely attributable to a lower penetration of the telecommunications network – this is the state where indicators of physical access restrictions are most prevalent. Rakhine has the second lowest rate of mobile phone ownership, with seventy percent of households owning phones of which approximately 70 percent were smartphones. Yangon is substantially ahead of the second most connected region - Mandalay – both in the percentage of households with a phone (93 percent compared to 86 percent) and in the high share of smartphones (98 percent compared to 94 percent).

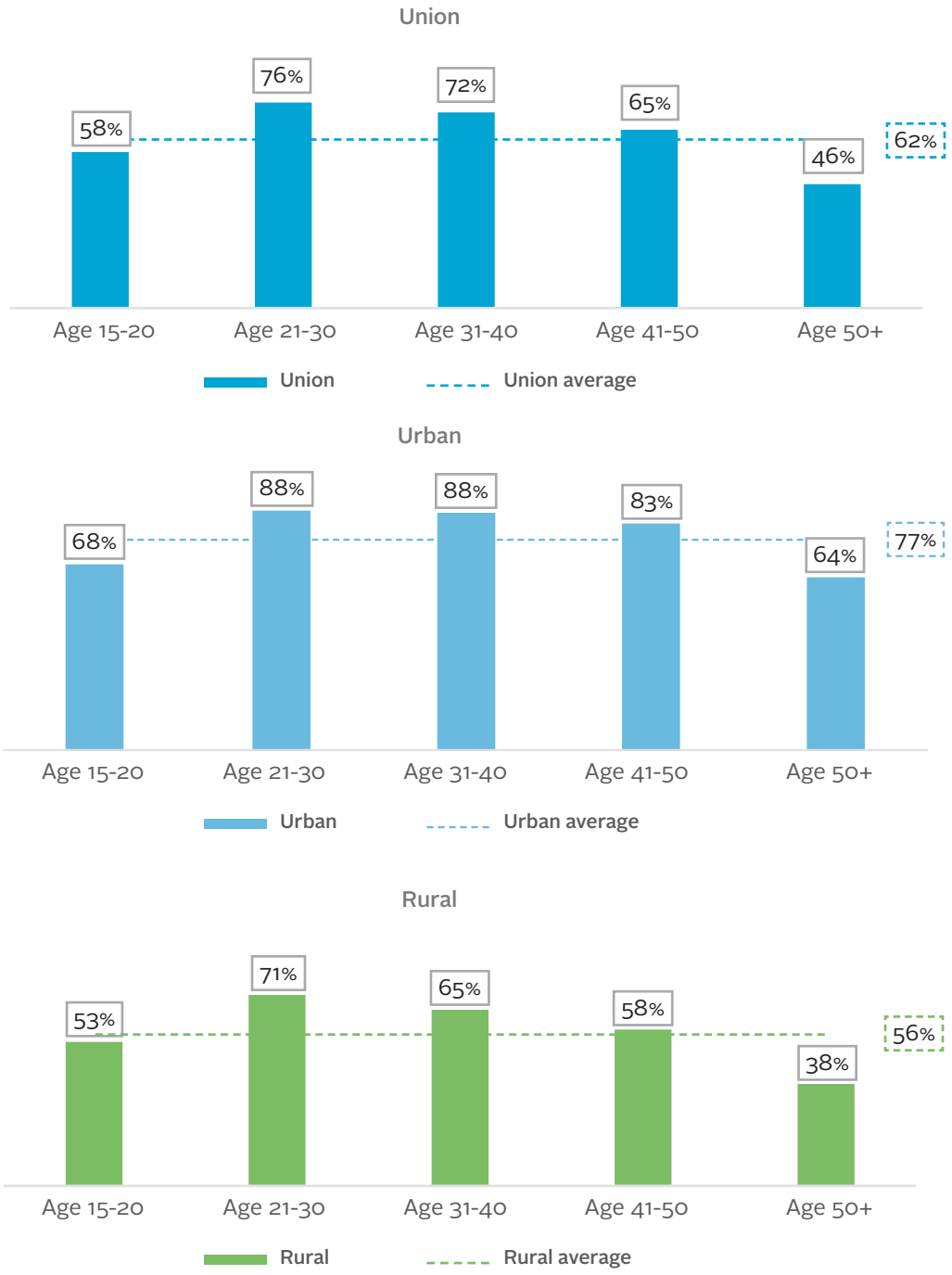
Usage of phones in the 7 days before the survey is high at a household level, but not everyone in the household uses the phone. Among households who own phones, someone in the household reports having used the phone in the last 7 days in 98 percent of households. Use however clearly varies within a household, with those aged 21 to 40 most likely to report using a phone compared to younger (15 to 20) and older people (over 50 years old). The lower rates of usage among the youngest cohort – typically the most technologically active – may reflect purchasing power, since these individuals are also less likely to contribute to household income. Within households that have phones, individuals with higher levels of education are more likely to use the phone, even after accounting for age and sex.

The lower usage of phones in Chin reflects the lower percentage of households owning a phone. In all states and regions, once a household has a phone they are likely to be using it. Figure 6.5 shows the fraction of individuals aged over 15 that report using a mobile phone in the last 7 days, by State and Region. The ranking of states and regions is similar, but not identical, to Figure 6.3 which shows the share of households that report owning a phone. Ayeyarwady has the third lowest share of households owning phones but the third highest share of individuals aged over 15 using one. This reflects two aspects of phone use. First, phone sharing within a household occurs more than in other states and regions. In Ayeyarwady, there are 0.6 phones per person aged 15 and above per household, compared to 0.64 at the union level. Second, people in households who do not own phones are also more likely to use a phone than in other states and regions. This likely reflects sharing

across households (mobile phone markets are observed to be limited): within the 26 percent of households who don't own a phone in Ayeyarwady, 11 percent of people used a phone. Yangon Region is leading in terms of phone ownership, usage and the number of phones owned per person aged 15 and above in a household, while Chin trails on the same three dimensions. In Chin State, the lower usage figures reflect an overall lower fraction of ownership – among those households that do own a phone, average phones and use is similar to other states and regions.

Figure 6.4

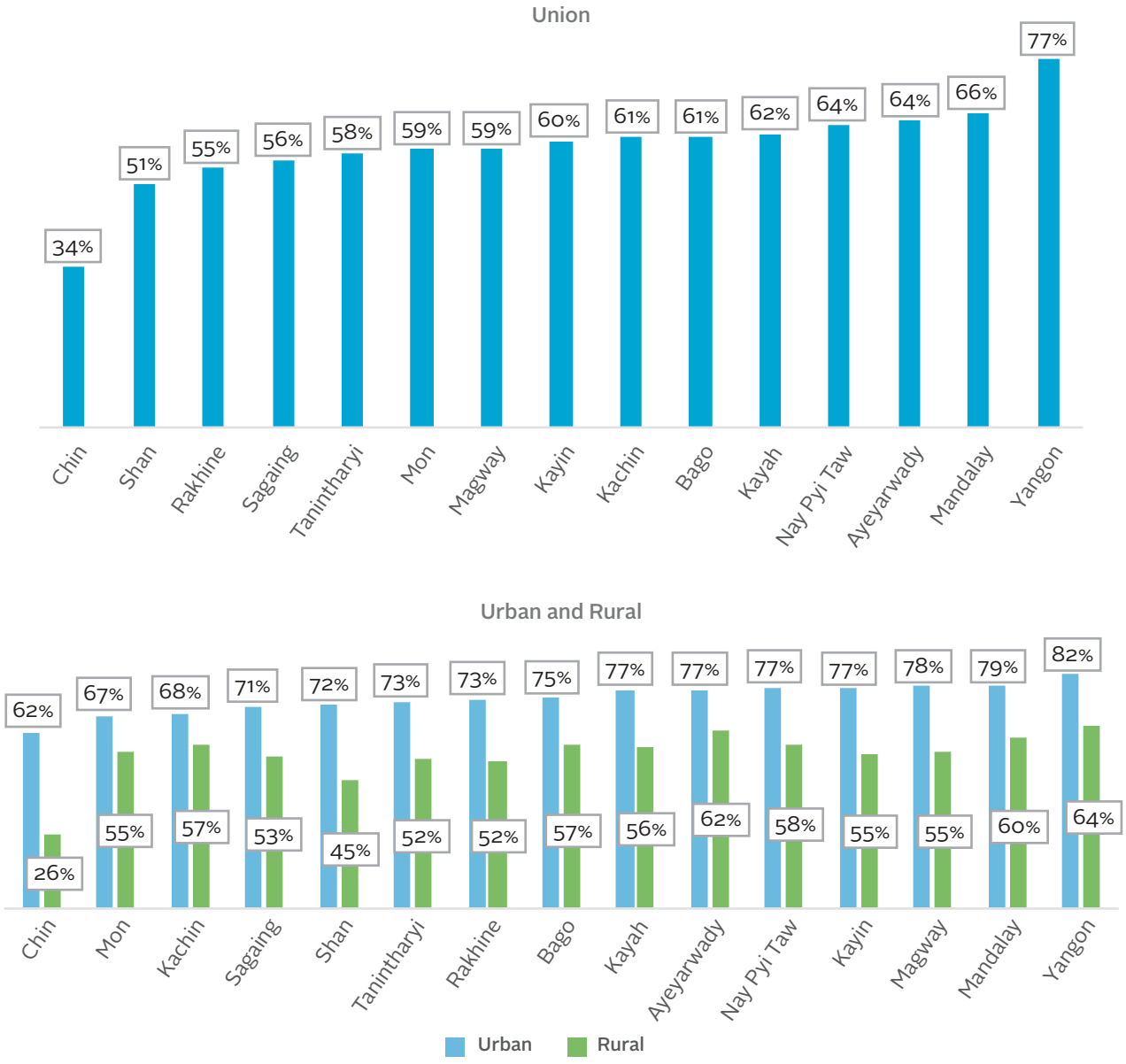
Percentage of individuals aged 15 and above using a phone, by age and urban/rural



Note: This captures the fraction of people aged 15 and above who reported using a mobile phone in the last 7 days. The figures above are not conditional upon the household owning a mobile phone. Usage is higher when the sample is constrained to those living in households that own at least one mobile phone.

Figure 6.5

Percentage of individuals aged 15 and above using a phone in the last 7 days, by State and Region



Note: This captures the fraction of people aged 15 and above who report using a mobile phone in the last 7 days. The figures above are not conditional upon the household owning a mobile phone. Usage is higher when the sample is constrained to those living in households that own at least one mobile phone.

6.2 Internet

Internet usage in Myanmar is almost entirely via smartphone. In 2017, 24 percent of the population aged 15 and above - 8.2m people - used the internet. Of these people, 7m used it at least once a day.

This section examines household access to the internet. The MLCS asks about access to internet in two ways: (i) an individual level report on whether the person used the internet in the 7 days prior to the interview; (ii) a household level report on whether the household has a fixed line internet connection.

Very few households and people have access to fixed line sources in Myanmar – the majority of internet access appears to occur via smartphone platforms. Fixed line internet connections are very uncommon in Myanmar – less than 1 percent (0.16 percent) of households report a fixed line connection. In rural areas, not a single household reports a fixed line connection.

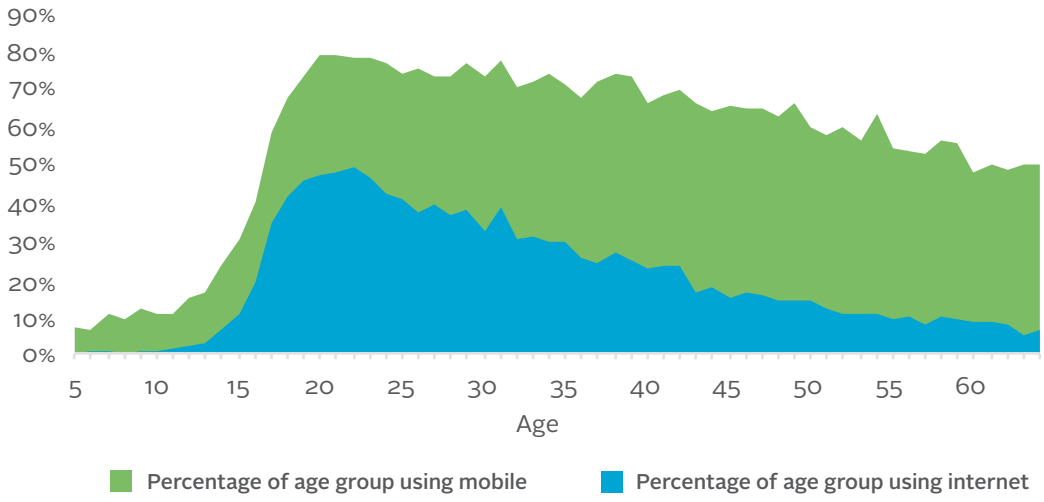
A substantial gender difference can be seen in both mobile phone and internet usage. Nearly a quarter of people aged 15 and above in Myanmar – 24 percent – used the internet in the 7 days preceding the survey. Internet use rises to four in ten people (41 percent) in urban areas compared to one in six in rural areas (16 percent). In both rural and urban areas, men are approximately 10 percentage points more likely to report internet and mobile phone usage than women (Table 6.1). A gender gap can be seen for all ages but appears to be largest for older cohorts.

Younger people are using smart phones differently to older people: they're more likely to use the internet, while older people are more likely to only be making calls. Internet use varies by demographic: people aged 15 to 30 are the most likely to use the internet and people aged above 45 the least likely to do so. The above-average figure for 15 to 20 year olds stands in contrast to their lower than average rates of mobile phone usage. Younger people are using smartphone differently from older cohorts. This can be clearly seen in Figure 6.6, which shows the increase in phone and internet usage by age.

Once a person starts using internet, they tend to use it at least once a day. At the union level, 85 percent of those people who use the internet do so at least once a day. The intensity of internet use is higher in urban than in rural areas (88 percent using once a day in urban versus 83 percent in rural) and also varies by region. In Kachin, only 70 percent of internet users used the internet daily compared to 93 percent of internet users in Rakhine, Tanintharyi and Nay Pyi Taw. Table 6.1 shows the fraction of the population aged 15 and above using the internet and doing so daily by State and Region. In Kachin, 21 percent of the population (aged fifteen and above) used the internet but only 15 percent use the internet daily. In Rakhine the percentage of the population using the internet is lower (16 percent) but almost all those people use it on a daily basis (15 percent).

Figure 6.6

Percentage of the population aged 5 to 64 who used a mobile phone or the internet (from any source) in the last 7 days



Note: This captures the fraction of people aged 5 to 64 who reported using a mobile phone or the internet in the last 7 days. The figures above are not conditional upon the household owning a mobile phone. Usage of phones and the internet is higher when the sample is constrained to those living in households that own at least one mobile phone.

Figure 6.7

Percentage of population aged 15 and above who used internet (from any source) in the last 7 days, by State and Region

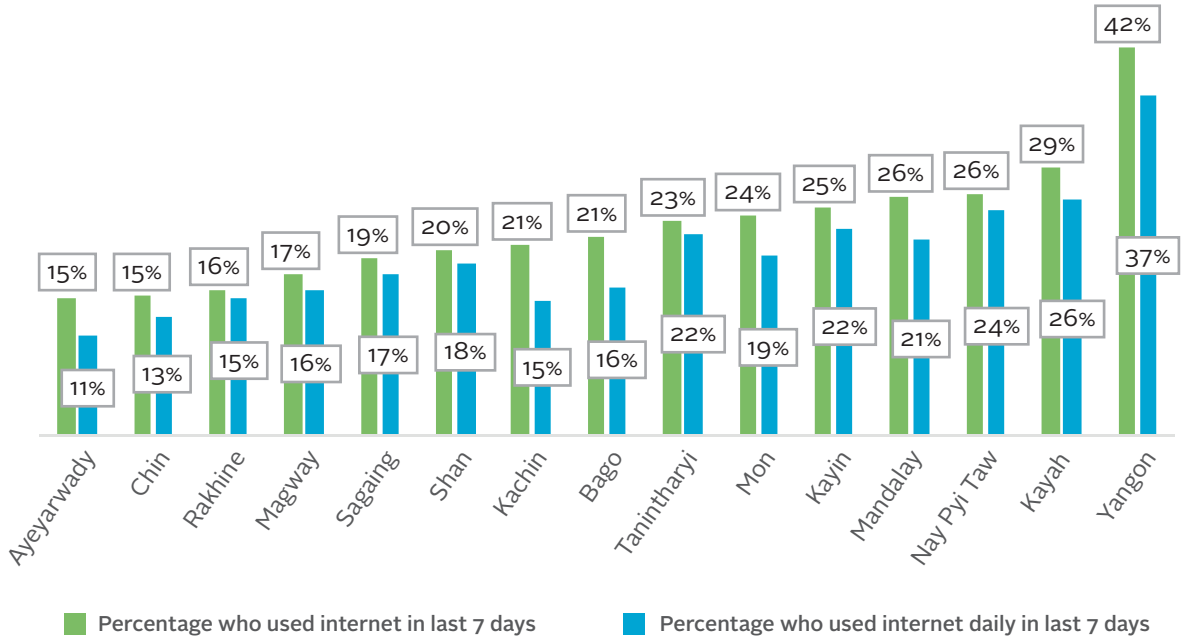


Table 6.1

Percentage of population aged 15 and above using mobile phone and internet in the last 7 days[14]

	Mobile			Internet		
	Total	Female	Male	Total	Female	Male
Union	62	57	68	24	19	29
Urban	77	73	82	41	36	48
Rural	56	50	62	16	12	20
State and Region						
Kachin State	61	57	65	21	20	22
Kayah State	62	54	69	29	25	33
Kayin State	60	56	65	25	22	27
Chin State	34	29	40	15	14	16
Sagaing Region	56	50	64	19	14	25
Tanintharyi Region	58	56	60	23	19	27
Bago Region	61	55	69	21	17	27
Magway Region	59	54	65	17	13	23
Mandalay Region	66	59	74	26	19	34
Mon State	59	56	62	24	22	26
Rakhine State	55	51	60	16	12	20
Yangon Region	77	73	83	42	37	48
Shan State	51	46	57	20	17	23
Ayeyarwady Region	64	62	67	15	11	19
Nay Pyi Taw Council	64	57	72	26	21	32
Age Group						
15-20	58	55	61	33	28	37
21-30	76	73	80	41	37	46
31-40	72	69	75	28	24	33
41-50	65	60	72	17	12	22
51 and above	46	39	55	7	5	10

14 Includes Facebook usage.

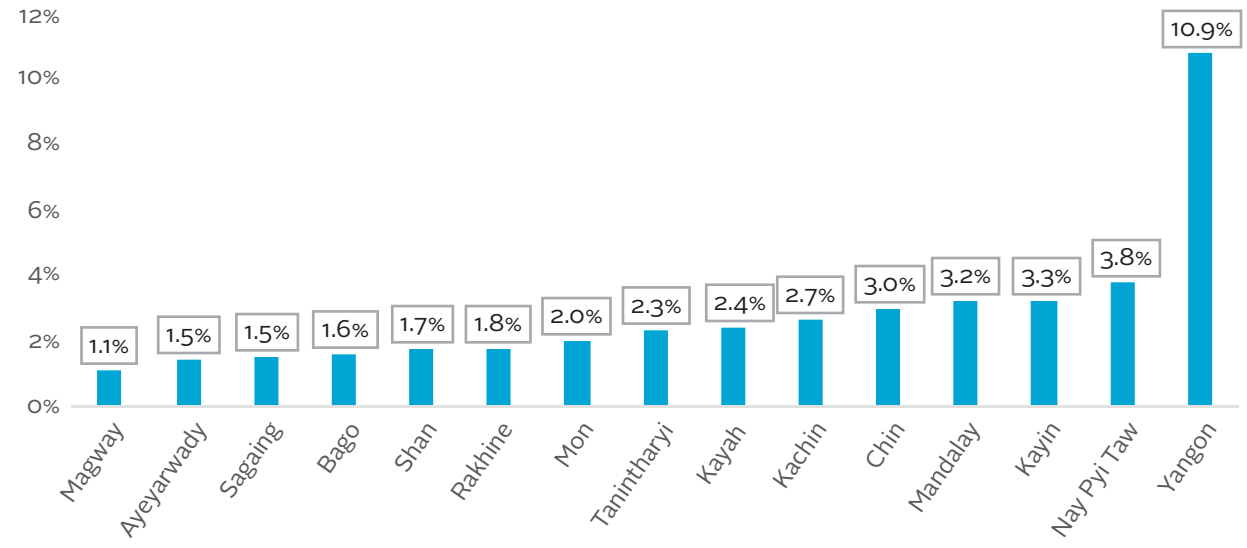
6.3 Computers

Computers are not yet widely used in Myanmar, but there is evidence that they are starting to be more widely used by some population pockets. One in thirty households (3.3 percent) report owning a computer at the union level. While this represents an increase over the 2 percent of households reporting this asset in 2010, computer penetration is still limited. Computer ownership is three times higher than the national average in Yangon (10.9 percent), and slightly higher than the national average in Nay Pyi Taw (3.8 percent). Computer usage is almost exclusively among those with high school education and above. One in five individuals with a tertiary education reported using a computer in the last 7 days, and a further one in ten of those with higher education.

Education is related not only to whether a technology is used but also the way that it used. Use of all three of the technologies discussed in this chapter increases with education. The use of mobile phones is near universal for those with tertiary education (96 percent), and these individuals are also more likely than other groups to use their phone for accessing the internet (75 percent). In comparison, those with no or less than primary education only use mobile phone for making calls – one in two of those with some but not completed primary education use a mobile phone, but only one in fourteen uses the internet. Of all three technologies detailed in this chapter, computer usage displays the greatest gap across education groups, partly reflecting the more advanced cognitive skills needed to use computers compared to smartphones.

Figure 6.8

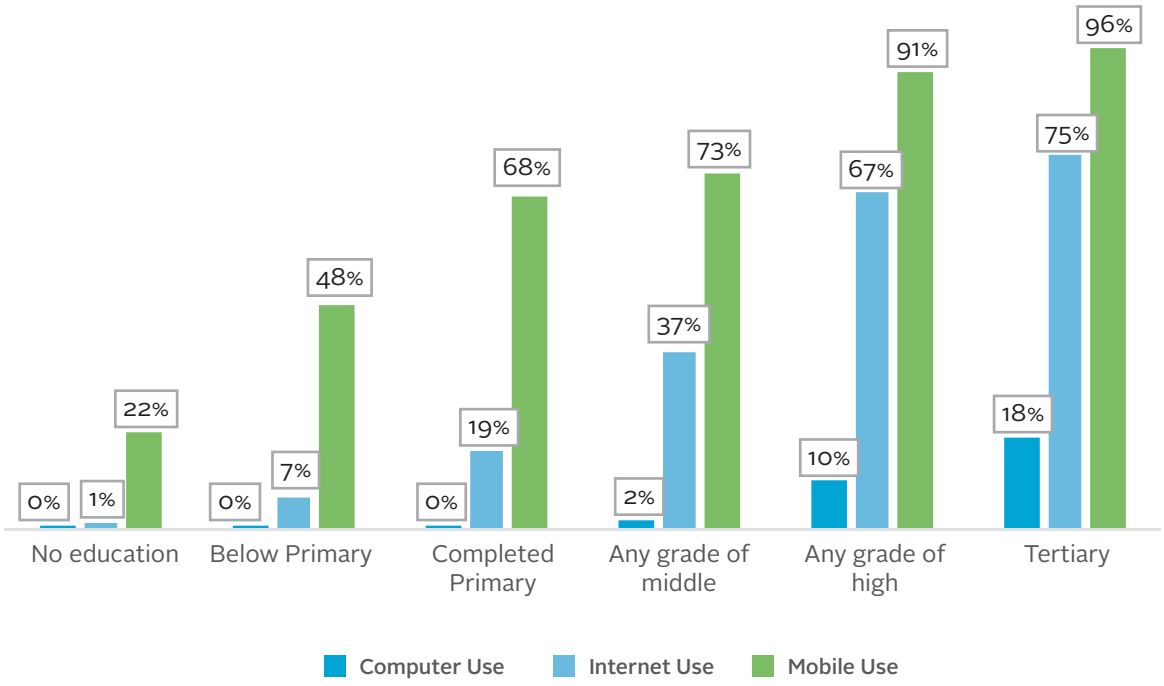
Percentage of households that report owning computers, by State and Region



Note: This captures the percentage of households who report owning a computer, regardless of when the computer was purchased.

Figure 6.9

Percentage of individuals aged 15 and above reporting using a phone, computer or internet in the last 7 days, by education level



Note: This captures the fraction of people aged 15 and above who report using a mobile phone, the internet or a computer in the last 7 days. The figures above are not conditional upon the household owning either a phone or computer.

07.

Education

This section focuses on education among the population. The analysis first focuses on basic self-reported literacy and numeracy among adults and youth; this is the first time that self-reported numeracy has been enumerated in a nationwide survey in Myanmar. The section then turns to the education outcomes of younger cohorts, focusing on enrollment in the basic education system.

7.1 Literacy and numeracy

Literacy and numeracy have increased across generations. Half of the states and regions have literacy rates at 90 percent or higher, the other half hovers around 80 percent or lower. Shan is the lowest in both literacy and numeracy and Kayin has the second lowest literacy rate.

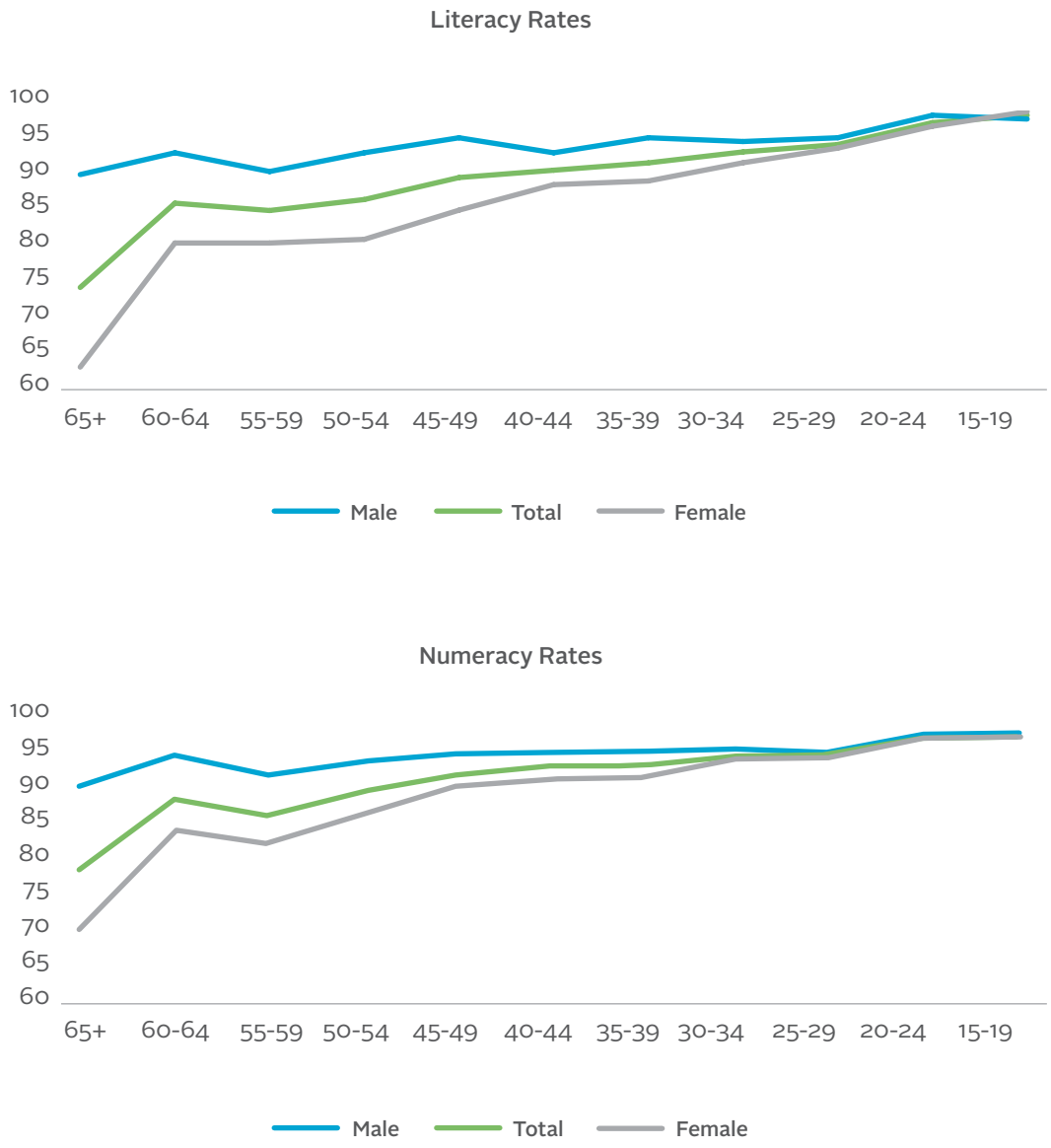
Literacy and numeracy have risen over time in Myanmar, with higher literacy rates among successive cohorts of labour market entrants. This section uses self-reported literacy and numeracy to assess literacy and numeracy rates in the working age population. Among older individuals who are no longer engaged in basic education, we treat education as a "stock" variable that can show whether progress was made by the education system in improving outcomes across generations.[15] Figure 7.1 shows how literacy (top panel) and numeracy (bottom panel) vary by age group. We find that both self-reported literacy and numeracy have increased across generations. Self-reported literacy has risen on average by 10 percentage points across the generations born between 1953 and 1957 (those aged 60 to 64 in 2017) and those born in the late 1990s and early 2000s (those aged 15 to 19 in 2017).

Beyond the rise in average literacy and numeracy over time, we see that the gender gap in these outcomes has closed across generations. The rise in average literacy is predominantly driven by rising female literacy, which has increased from 80 percent for those aged 60 to 64, to 96 percent for the youngest cohort aged 15 to 19. Male literacy has also risen over time, from 91 percent among those aged 60 to 64 to 96 percent for those aged 15 to 19. The increase in numeracy rates is slightly more modest, but only because they started off from a higher baseline. As a consequence, gender gaps in literacy and numeracy rates are largest amongst the older generations and decrease significantly among younger populations. The literacy gender gap is effectively zero in the 15 to 19 years age group. The gender gap in numeracy rates closes faster and is close to zero among 25 to 29 year olds. Both the decreasing gender gaps and rising literacy and numeracy rates signal an increasing access to basic education services over time.

15 Education levels of working age individuals can be updated by retraining and by further education. Both of these appear to be quite limited in Myanmar, with only 2 percent of the working age population reporting training outside the formal education system over the course of their lifetimes (MOLESS and CSO, 2015).

Figure 7.1

Literacy and numeracy rates in the population aged 15 and above, by gender and age cohort



Note: Literacy was measured by asking an individual if they could read and write a simple sentence in any language. Numeracy was measured by asking if an individual can do simple addition and subtraction calculations without using a calculator or phone.

Adult literacy and numeracy in 2017 is high among the working age population, with almost 9 out of 10 adults being literate and numerate at the union level. Self-reported numeracy is higher than self-reported average literacy. This is comparable to Indonesia, Thailand, and Vietnam, with literacy rates of 95, 93, and 93 percent respectively. Myanmar's self-reported literacy rate is higher than those of Cambodia (at 74 percent in 2012) and Lao PDR (at 73 percent in 2012).[16]

16 Literacy rates for Indonesia and Thailand were retrieved from https://data.worldbank.org/indicator/ SE.ADT. LITR. ZS while those for Vietnam, Cambodia, and Lao PDR were retrieved from www.unicef.org. International comparisons are based on the adult population aged 15 and above.

High average literacy and numeracy rates mask large discrepancies between the states and the regions of Myanmar. While about half of the fifteen States and Regions have literacy rates at 90 percent or higher, the other half hovers around 80 percent or lower. Kayin and Shan have two of the lowest literacy rates in the country at 75 percent and 65 percent respectively (see Figure 7.2). Numeracy rates tend to be higher than literacy rates across the board, with the most significant difference observed in Kayin, where the numeracy rate is on par with that of the union level. Shan once again ranked the lowest at 74 percent numeracy rate.

Figure 7.2

Percent of those aged 15 and above who report being literate and numerate by State and Region

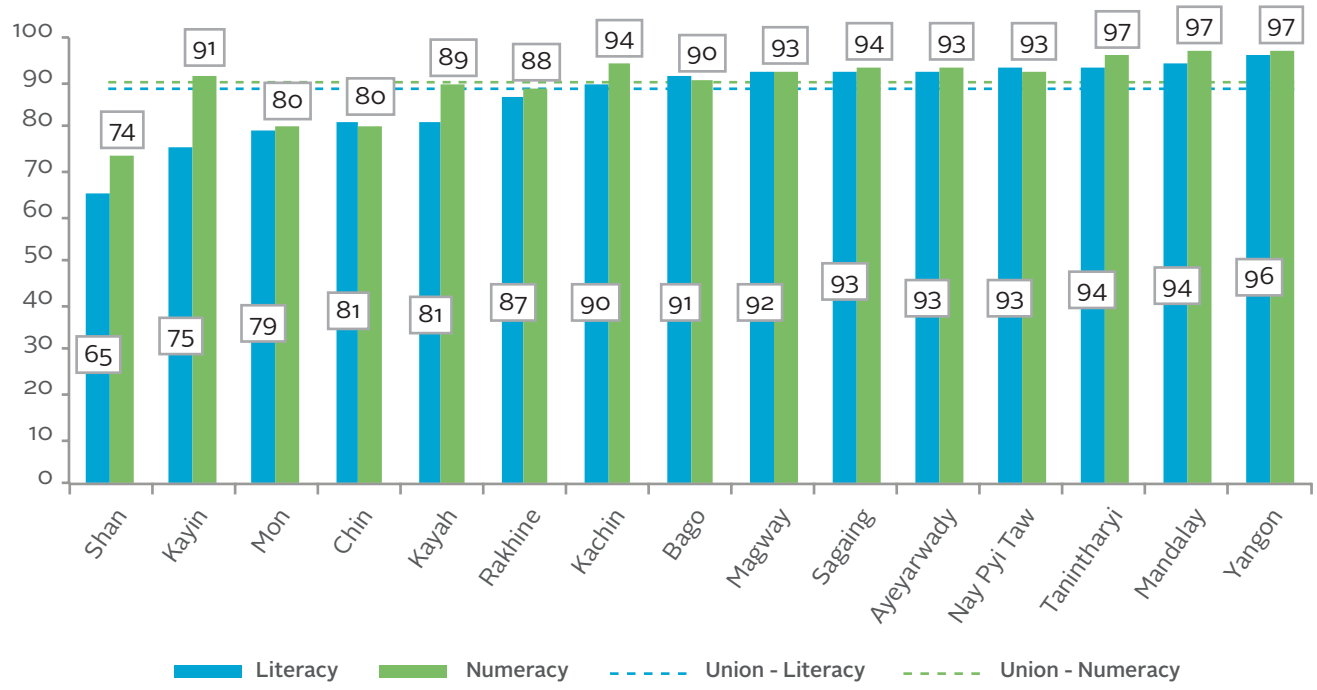


Table 7.1

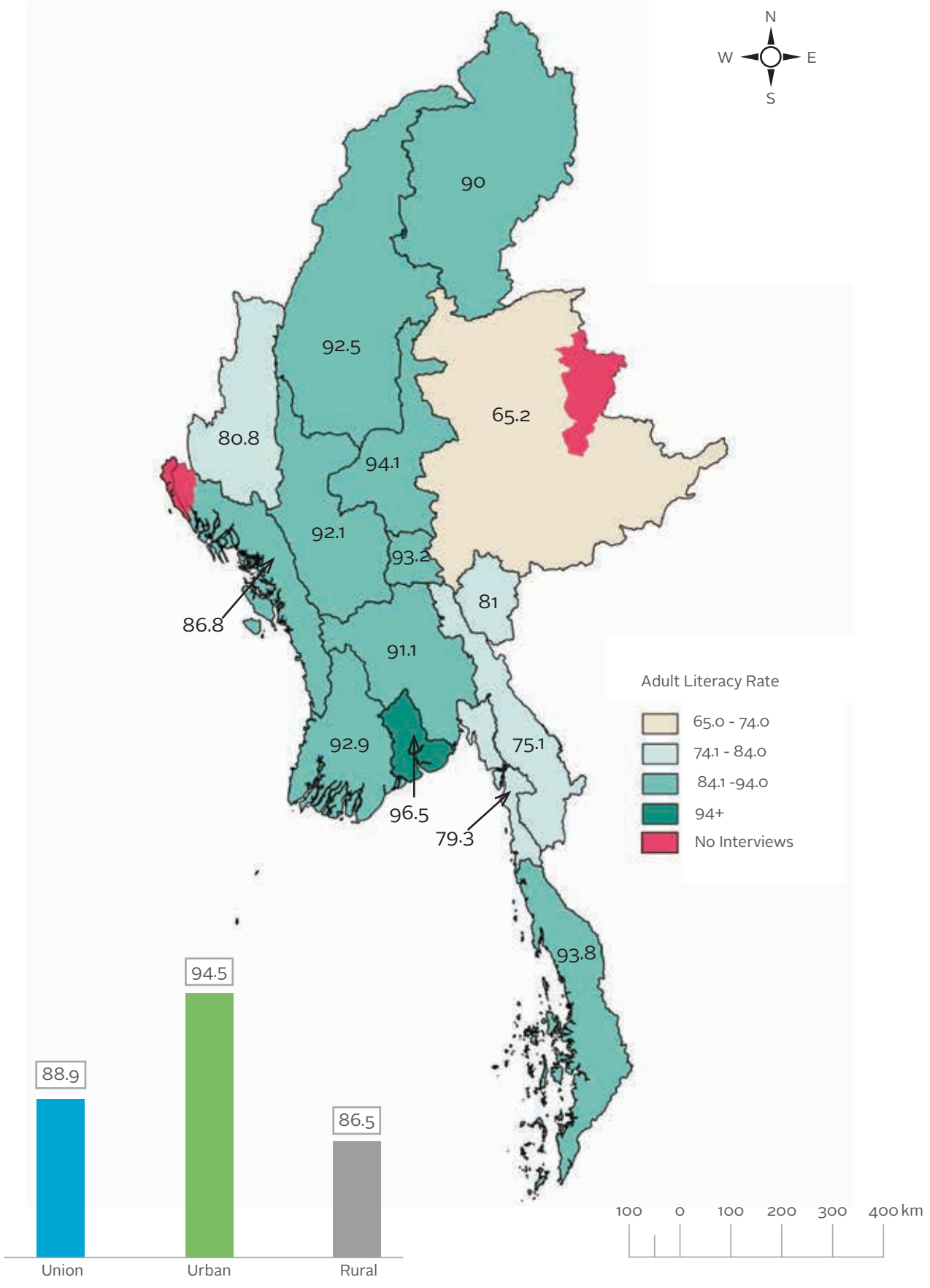
Percentage of individuals aged 15 and above who report being literate or numerate

	Literacy			Numeracy		
	Total	Male	Female	Total	Male	Female
Union	88.9	92.8	85.6	91.2	94.1	88.7
Urban	94.5	97.0	92.5	95.8	97.7	94.2
Rural	86.5	91.0	82.6	89.2	92.5	86.4
State and Region						
Kachin State	90.0	92.5	87.6	94.3	96.3	92.4
Kayah State	81.0	86.1	76.1	89.3	91.8	86.8
Kayin State	75.1	80.4	70.6	91.1	93.2	89.3
Chin State	80.8	90.1	73.1	80.4	89.6	72.8
Sagaing Region	92.5	95.8	89.7	93.5	96.1	91.3
Tanintharyi Region	93.8	95.8	92.0	96.7	97.1	96.3
Bago Region	91.1	95.7	87.1	90.5	94.4	87.2
Magway Region	92.1	97.3	88.4	92.5	96.9	89.3
Mandalay Region	94.1	97.4	91.5	97.2	97.9	96.7
Mon State	79.3	83.1	76.4	80.2	80.9	79.6
Rakhine State	86.8	93.9	80.8	88.3	95.1	82.6
Yangon Region	96.5	98.1	95.2	97.2	98.2	96.3
Shan State	65.2	73.4	57.4	73.9	80.4	67.7
Ayeyarwady Region	92.9	95.6	90.5	93.2	95.6	91.0
Nay Pyi Taw Council	93.2	97.8	89.3	92.9	97.4	89.1

Note: The table covers individuals aged 15 and above. N=43,244, of which 17,507 are in urban areas and 25,737 are in rural areas.

Map 7.1

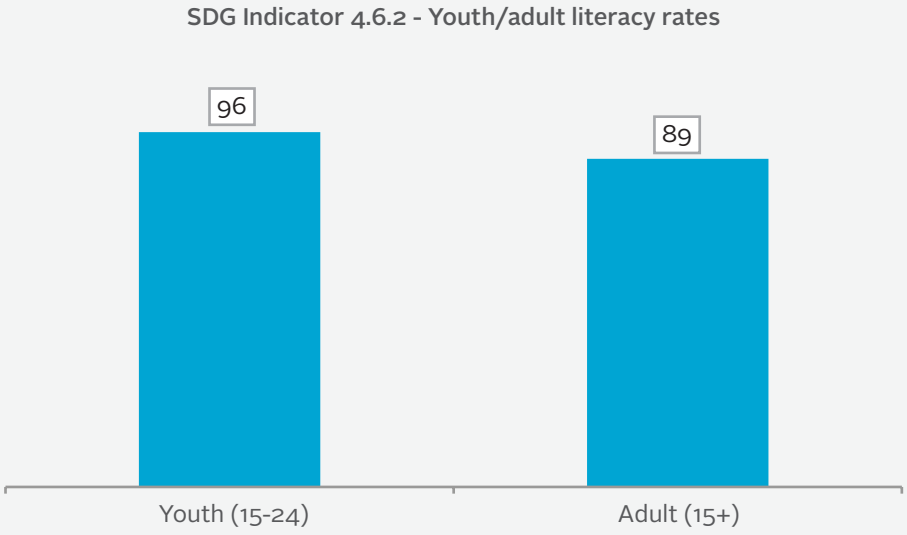
Percentage of those aged 15 and above who report being literate



Box 7.1: SDG education indicators: literacy and numeracy rates

There are two SDG indicators linked to literacy and numeracy. SDG Indicator 4.6.1 seeks to measure the share of the population with a fixed level of proficiency in functional literacy and numeracy. This level of proficiency is meant to be identified through a skills assessment survey, such as the Programme for the International Assessment of Adult Competencies (PIAAC). Meanwhile, Indicator 4.6.2 measures the share of youth (aged 15-24) and adult (aged 15 years and older) who have the "ability to both read and write, understanding, a short, simple statement about everyday life." Indicator 4.6.2 is expected to be collected through self- or household-declaration in household surveys or censuses that rely on the 'able to read and write a simple statement' definition of literacy.

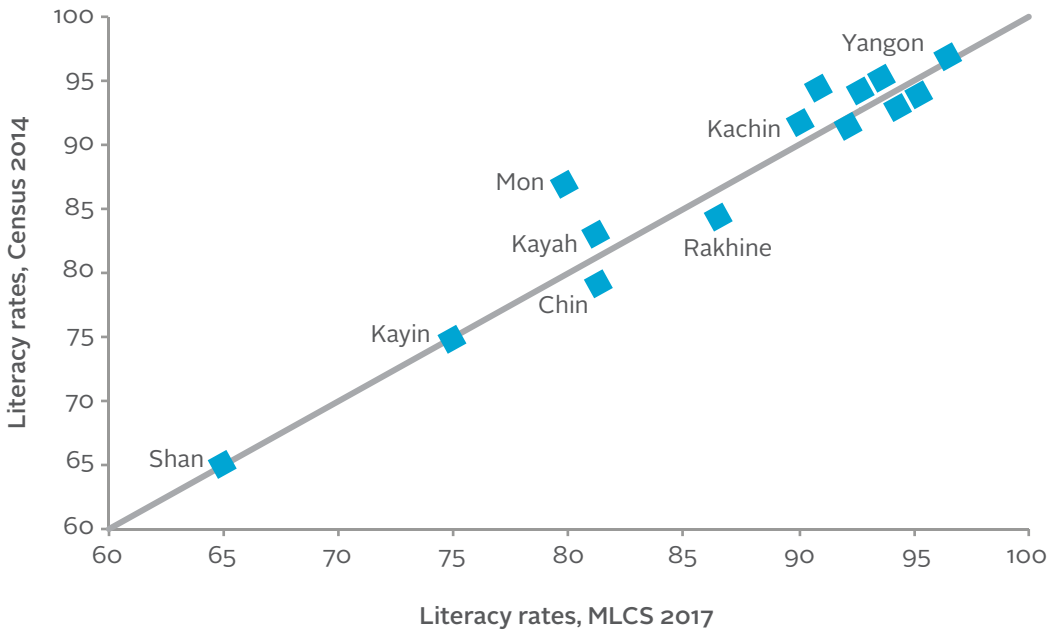
Both literacy and numeracy skills in MLCS 2017 were self-reported and not objectively assessed. Literacy was identified by asking an individual if they could read and write a simple sentence in any language, and therefore captures literacy in any language in Myanmar. Self-reported numeracy asks if the individual can do simple addition and subtraction calculations, without using a calculator or phone. While these indicators do not comply with SDG Indicator 4.6.1, the literacy indicator does meet the definition and requirement of Indicator 4.6.2. In 2017, youth literacy rate in Myanmar is estimated to be at 96 percent, while adult literacy rate is estimated to be at 89 percent.



Data on adult literacy from the MLCS are aligned to those from the 2014 Census. Figure 7.3 compares the literacy rates at the State and Region level from the Census and MLCS. Any point on the straight 45-degree line indicates the exact same literacy rate coming from both the Census and MLCS. As the figure shows, all fifteen states and regions (represented by the dots) are very close to the line, demonstrating the alignment of the data.

Figure 7.3

Literacy rates in the Census 2014 and MLCS 2017

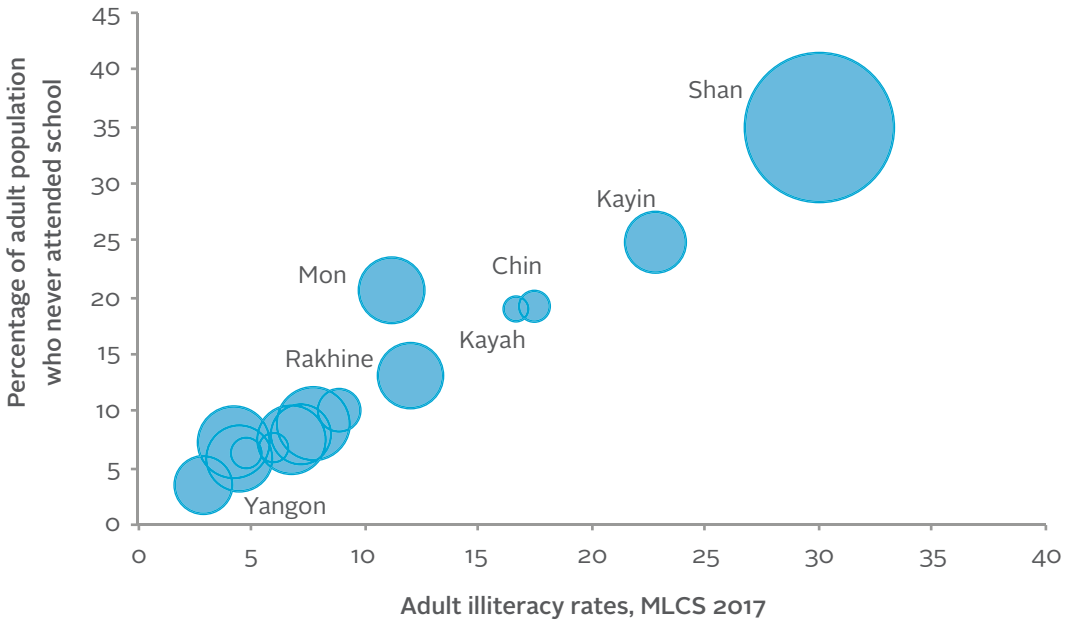


Approximately 3.9 million adults report themselves to be illiterate, predominantly those who have never been to school.[17] There is a strong correlation between the share of adults who never attended school and the share of adults who cannot read (i.e. the illiteracy rate) at the State and Region level. States with a higher share of adults who never attended school tend to have higher illiteracy rates. Figure 7.4 illustrates this correlation, with the horizontal axis showing the adult illiteracy rate and the vertical axis showing the share of the State and Region adult population who never attended school. The size of each circle represents the number of adults who cannot read within the respective State and Region. It is apparent that Shan has the biggest challenge: the state has the largest illiterate adult population among the fifteen states and regions (1.3m illiterate adults) and also has highest share of adults who never attended school.

17 By definition, illiteracy rate is the inverse of literacy rate; that is, illiteracy rate = 100 percent - literacy rate.

Figure 7.4

Percentage of individuals aged 15 and above who never attended school and who report being illiterate



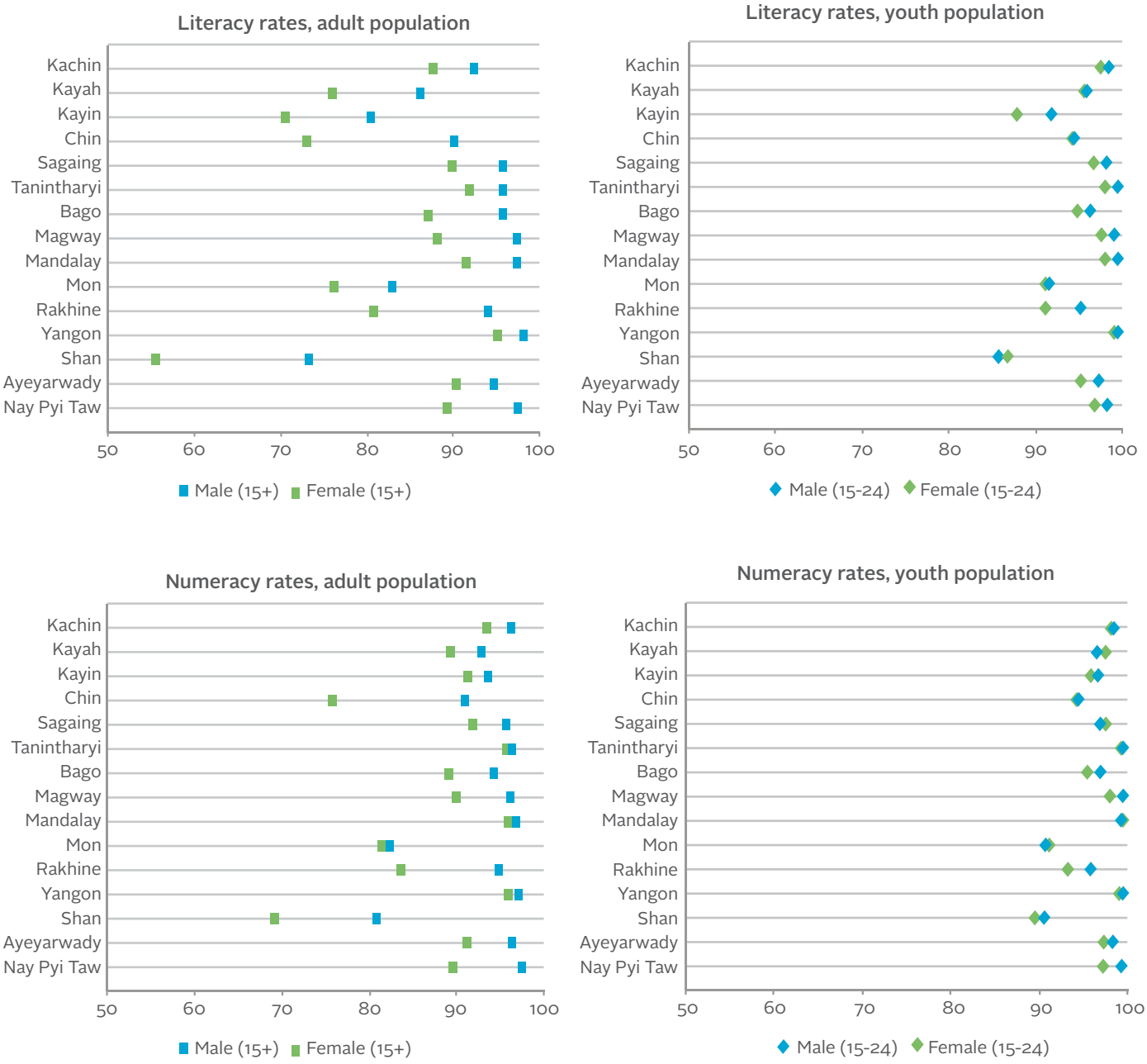
Note: The size of the circles represents the number of the illiterate people.

In all states and regions there has been a decline in gender gaps across older and younger cohorts. Average literacy and numeracy rates have increased among younger generations.

Variation across states and regions can be seen in both the level of literacy and numeracy rates and in the magnitude of gaps between men and women. The narrowing of gender gaps at a national level can also been seen at a sub-national level. However, by comparing the figures for adults (age 15 and above) and youth (age 15 to 24), the gap has decreased significantly in the past years (see Figure 7.5). While the overall adult population in every state has a relatively large gender gap, with women having lower literacy and numeracy rates than men (figures on the left), those gaps have significantly narrowed among the youth population (figures on the right). Furthermore, it is apparent that improvement has also been made in the overall literacy and numeracy rates. Among all States and Regions, Shan started at the lowest baseline in both rates and gender gaps, but it has also made the most significant improvements.

Figure 7.5

Adult and youth literacy and numeracy by sex and State and Region



The evidence suggests that increasing access to education would not only increase overall literacy and numeracy rates, it would also close the gaps between men and women. Myanmar has made significant progress at this front, and States and Regions that were lagging are catching up. Continuing the trend of opening access to education needs to be a policy imperative. To get a better picture of the situation, we will now turn to school enrollment.

7.2 School enrollment rates

The analysis of school enrollment rates presented in this report differs from that produced in most earlier analysis in three ways: (i) we use school age rather than reported age and (ii) we use reported education levels rather than grades, and (iii) we report net total enrollment rather than net enrollment. These shifts in definitions – and the rationale for them – are described in Box 7-2.

Box 7.2: Definitions of school enrollment ratios

Gross primary or secondary school enrollment ratio: The number of children enrolled in a level (primary or secondary), regardless of age, divided by the population of the school age group that officially corresponds to the same level.

Net primary or secondary school enrollment ratio: The number of children enrolled in a level (primary or secondary) who belong to the school age group that officially corresponds to that level of schooling, divided by the total population of the same school age group.

Net total primary or secondary school enrollment ratio: The number of children enrolled in a level (primary or secondary) or higher who belong to the school age group that officially corresponds to that level of schooling, divided by the total population of the same group.

The enrollment definitions differ from those in earlier analysis in three ways:

(i) **School age rather than reported age.** The estimates presented below account for age at the start of the school year. There are 5 years of primary school in Myanmar followed by 4 years of middle school and 2 years of high school. The school year starts in June, and children who are aged 5 or older on June 1st are eligible to enroll in the first grade of primary school. All of the figures in this text use the age of the child calculated at June 1st 2014 as their school age. The 2015 MPLCS also used school age compared to age at the time of survey, and noted an important impact from the switch in definition on primary enrollment rates (MOPF and World Bank, 2017b). We find a similarly large impact in the MLCS.

(ii) **Reported education level enrolled in rather than reported grade.** The MLCS was conducted shortly after Myanmar moved from an 11- to 12-year basic education system. The reform that was implemented made it difficult to enumerate standard education questions. Starting in the 2016-2017 academic calendar, Myanmar's education sector shifted its grading nomenclature by one year. Primary school's grades 1 to 5 were changed to grades Kindergarten (KG) to 4. Middle schools transitioned from grade 6 to 9 to instead going from grade 5 to 8. Similarly high school grades - previously grades 10 and 11 – were now called grades 9 and 10. It should be noted that these changes are in nomenclature only, and not in the grouping of grade levels. That is, the age group for grade 1 in 2015-2016 is the same as the age group for KG in 2016-2017, while children who completed grade 1 in 2015-2016 found themselves being in "grade 1" again in 2016-2017. However, as to be expected during any system change, there was confusion on the part of both parents and schools on how these changes were implemented and this is reflected in their responses to the survey questionnaire. This report takes all possible measures to address the inherent misperceptions, but still some degree of care will have to be taken when interpreting the figures.

To reduce the impact of grade reforms on estimated enrollment rates, parents were asked to report the level – primary, middle or high – that their child was enrolled in. We assume that the average parent is aware of the education level that their child is enrolled in. Parents were still asked to report their children's grades, allowing cross checks to be carried out. The data indicate that indeed there was confusion with the new grade nomenclature. In contrast, past surveys rely solely on reported grades and infer a child's education level from that information.

(iii) **Focus on net total enrollment rather than net enrollment ratios:** Enrollment rates are also sensitive to including those who have surpassed the grade expected of them given their age. Some children in Myanmar, mostly found in urban areas, are passing through school at a rate that is somewhat faster than expected given their age progression. This may be a reflection of having started school at age 4, if deemed sufficiently physically and mentally mature, or a reflection of having high achievement potential. Net primary enrollment rates consider a child of school age 10 in lower-secondary school to not be enrolled, since they are not enrolled at the correct level for their age.

Steady progress has been made in raising enrollments in Myanmar. Net total primary enrollment has increased from 88 percent in 2010 to 94 percent in 2017. Net total middle and high school enrollment see significant increase over time.

Steady progress has been made in raising net total enrollment rates in Myanmar over the last decade. These improvements are predominantly driven by rural areas. Primary net total enrollment in 2017 remains high, with a significant increase compared to the rates found in the 2005 and 2010 IHLCA. Enrollment drops at the middle school level and drops even further as children transition into high school. We do however see marked improvements in middle and high school enrollment rates between 2010 and 2017. At every education level, the main driver of growth in enrollment rates comes from rural areas.

Net total primary school enrollment has risen from an estimated 88 percent in 2010 to a high 94 percent in 2017. The change is much smaller in urban areas, which was to be expected since they started from a higher level. However, growth in primary enrollment was so substantial in rural areas that the urban/rural gap closed by 2017 (Figure 7.6 first panel).

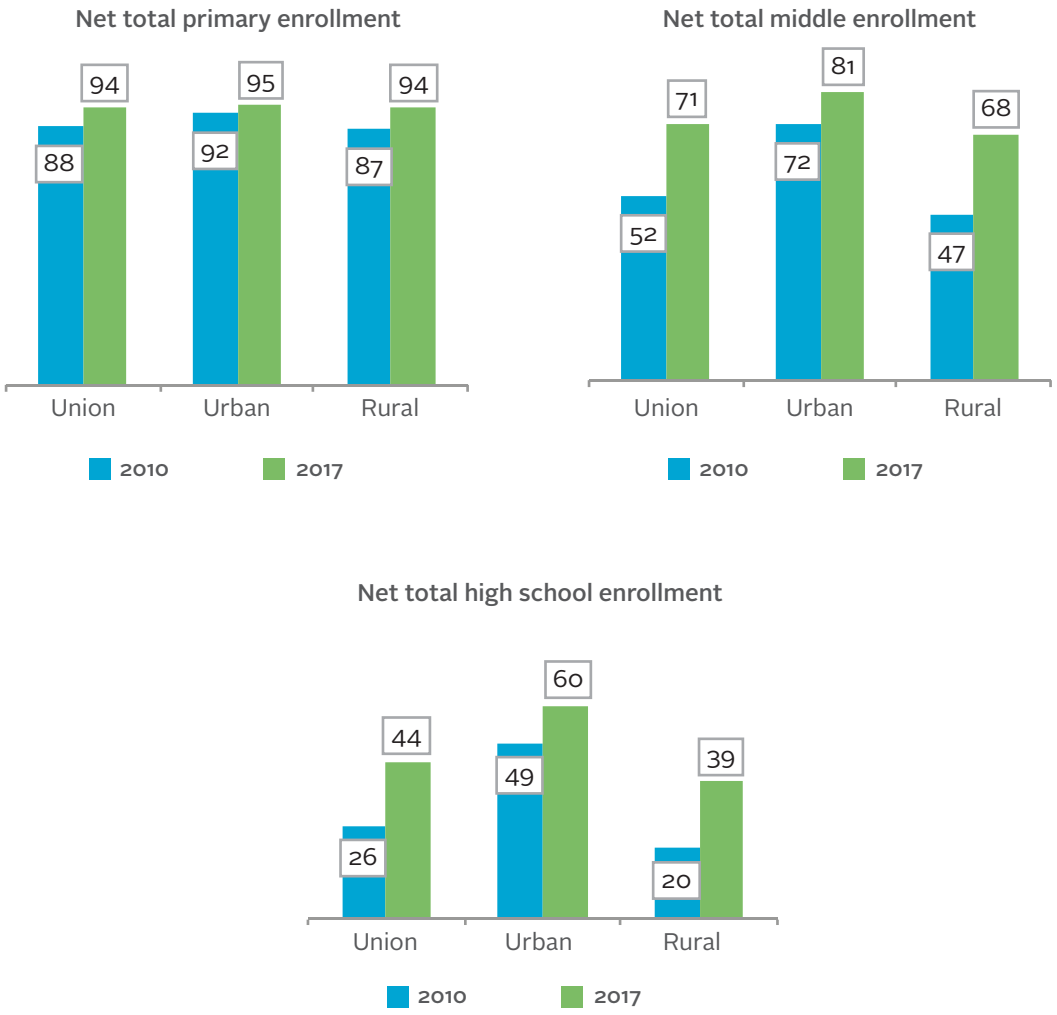
Net total middle school enrollment has changed substantially over time. In 2010, five in ten children of middle school age were in middle school or above (52 percent); they have increased to seven in ten children by 2017 (71 percent).

Net total middle school enrollment has changed substantially over time. In 2010, five in ten children of middle school aged were in middle school or above (52 percent); they have increased to seven in ten children by 2017 (71 percent).

Middle and high school enrollment rates have risen substantially since 2010, although children continue to drop out between primary and middle school. A significant rise in enrollment is seen in urban areas; however, once again, the increase in middle and high school enrollment rates is driven by rural areas (Figure 7.6, second and third panel). Net total middle school enrollment rates in rural areas increased by about 20 percent from 2010 to 2017, while the net total high school enrollment rate nearly doubled over the same period. However, the difference between urban and rural areas in middle and high school enrollment is still substantial.

Figure 7.6

Net total primary, middle and high school enrollment rates in 2010 and 2017



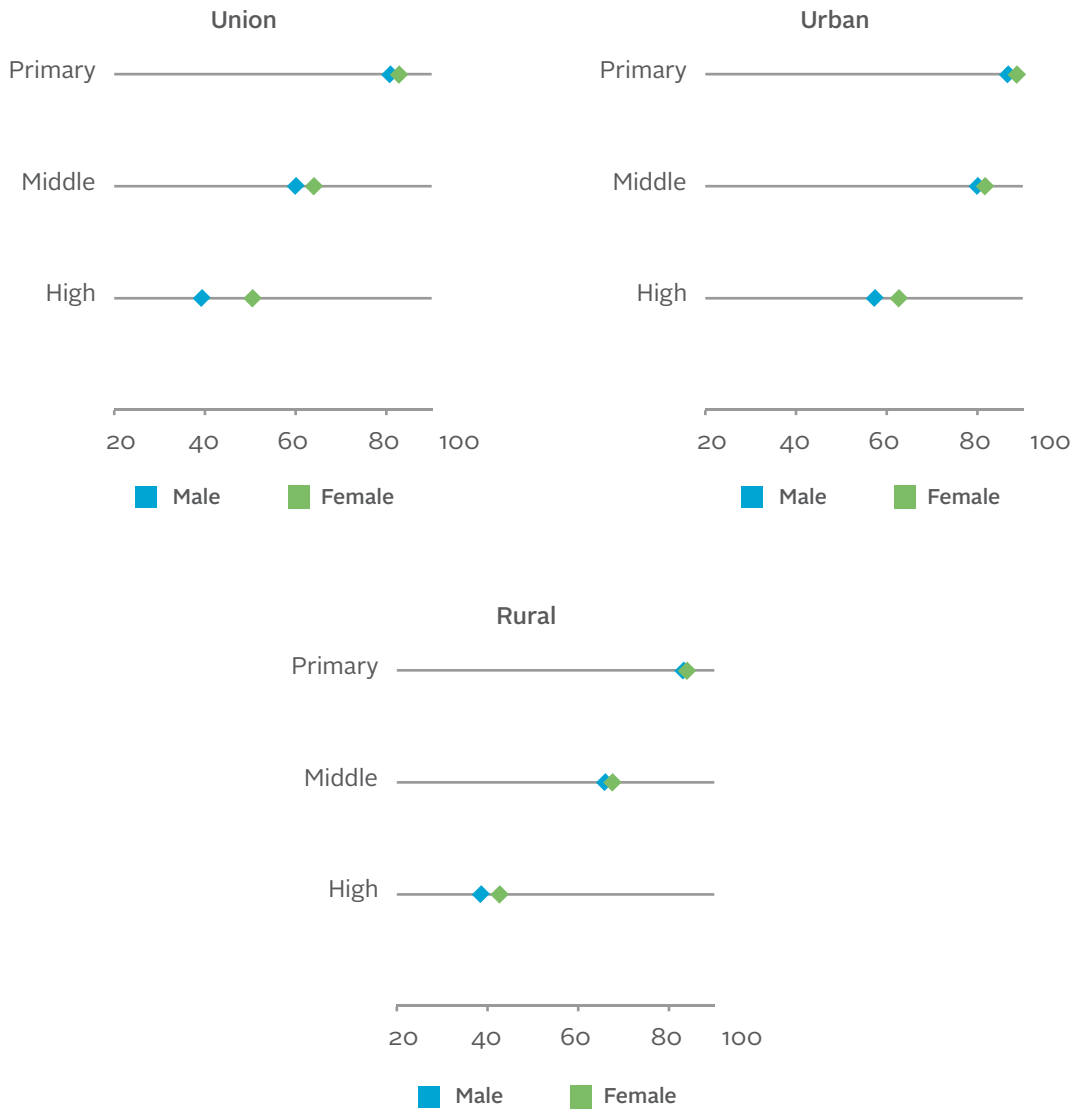
Note: (1) 2010 data are from IHLCA-2010 Round 1. 2017 data are from MLCS-2017. (2) The figures from IHLCA-2010 differ from those found in MNPED et al (2011), which capture net enrollment rather than net total enrollment, and don't divide secondary school into middle and high school levels. (3) We noted that kindergarten – the first grade of primary school – was being treated as a non-primary school grade in some areas. The figure above corrects for this miscoding. If this correction is not made, then net total primary enrollments would be 91 percent using the raw data.

Gender gaps open up as children progress through the education system, with boys dropping out of school at a greater rate than girls in middle and high school.

More boys are dropping out of school than girls at high school. Figure 7.7 shows the gender distribution of net total enrollment rates at the primary, middle, and high school levels. Differences in urban and rural enrollment rates are once again observed. However, the pattern of an increasing gender gap at high school is the same across urban and rural areas.

Figure 7.7

Net total primary, middle and high school enrollment rates by gender and area



Annual data from the Education Management Information System (EMIS) spanning from 2010 to 2017 supports the MLCS's findings. Figure 7.8 shows a stable trend in primary school and a steady increase of middle and high school gross enrollment rates and student population sizes based on EMIS data. By 2017, the enrollment rates as registered on EMIS match closely with those calculated from MLCS, which registers gross enrollment rates of 91.7 percent for primary, 71.1 percent for middle school, and 60.0 percent for high school. This provides confidence in the figures produced by MLCS, both at the union level as well as when disaggregated.

Figure 7.8

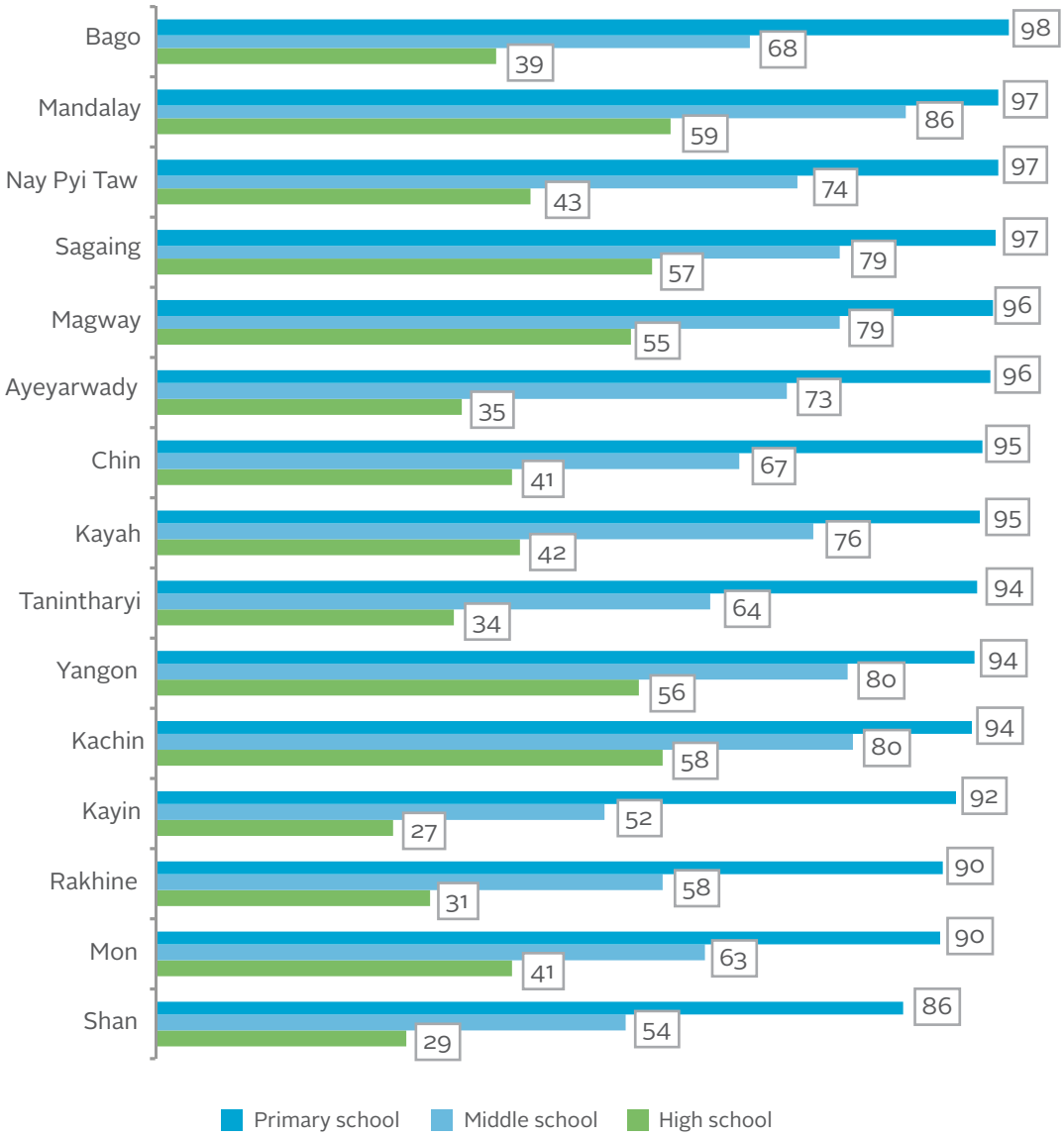
Trends in primary, middle, and high school student population size and gross enrollment rates from 2010 to 2017, all based on EMIS

There's substantial variation in primary school net enrollment across Myanmar. Net total primary enrollment rates are near universal in Bago, Mandalay, Nay Pyi Taw and Sagaing while in Shan, Mon and Rakhine one in ten children of primary school age are not at school.

Variation in enrollment across States and Regions is starker for middle and high school than for primary school. Figure 7.9 ranks the States and Regions based on their net total primary enrollment rate. The figure shows that while there are only slight differences in net total primary enrollment rates, the figures for middle and high school level vary significantly. At the lowest end of the spectrum, Kayin registers 52 percent and 27 percent net total enrollment rates for middle and high school respectively. Meanwhile, Mandalay sees as much as 59 percent of its 15-16 years old population going to high school or above, and 86 percent of its 10-14 years old population going to middle school or above.

Figure 7.9

Net total enrollment rates for primary, middle and high school by State and Region



08.

Labour

This section examines productive activities in Myanmar. We first discuss the data available for tracking labour market participation over time and discuss how concepts of work have been updated. We then examine labour force participation, with a focus on when people join the labour force and look at how this has evolved over time. We then turn to sectoral participation. Since there are substantial differences between men and women in how and when they engage in the labour market, we examine gender differences in some detail.

8.1 Overview of labour indicators

Labour force indicators have evolved since labour force participation and unemployment were first measured in Myanmar. This report uses earlier classifications for over time comparisons but also presents contemporary data using the definitions employed in the 2015 LFS. The LFS definitions are based on the conceptual framework of work, employment and labour underutilization adopted at the 19th International Conference of Labour Force Statisticians (ICLS-19) in October 2013. Box 8-1 discusses changes in indicator definitions and highlights the changes introduced in recent years. The table below summarizes the definitions used in this report.

		Employed		In labour force	
		Earlier definition (1985)	**New definition (2013)**	**Earlier definition (1985)**	**New definition (2013)**
Worked at least one hour in the last seven days	For pay or sales	Yes	Yes	Yes	Yes
	For own consumption only	Yes		Yes	
Did not work but has a job – temporarily absent from the job		Yes	Yes	Yes	Yes
Actively looking for a job and ready to start work (unemployed)				Yes	Yes

Using the earlier and new definitions, we can calculate the following for different age and other groups:

Employment to population ratio Number of people employed divided by total population.

Labour force participation rate Number of people in the labour force divided by total population.

Unemployment rate Number of people who are unemployed divided by number of people in the labour force.

This report documents new analysis on: (i) quarterly labour force participation, unemployment and sectoral composition; (ii) changes in household-level sectoral composition over time.

Quarterly labour force analysis can be used to examine the impact of seasonality on income generating activities at a household and individual level. There have been multiple surveys in Myanmar that have documented labour force participation over the course of the year. The 2005 and 2010 IHLCA had two data collection rounds in a year to pick up variation in indicators over seasons. Round one was conducted in November/ December, a period during which post-rainy season harvesting activities are still being conducted in agriculture. Round two was conducted in May, at the end of the hot and dry season during which agricultural productivity is typically lower. The LFS is designed to capture two quarters, January through March and August through October. The MLCS puts forward quarterly analysis covering the entire year, allowing for a snapshot of changes in labour force indicators as rural areas transition from dry to rainy seasons. Since Myanmar has distinct seasons, the timing of a survey can have important implications for examining trends over time. For this reason, the analysis in this section reports both the month and year that previous surveys were conducted, and also presents quarterly analysis from the MLCS.

The labour analysis is presented from both an individual and a household perspective. Income generation is a household strategy, members work together to support the improvement of living conditions for a household. Analysis of individual labour outcomes support an understanding of how a country's labour force is employed and how this has evolved over time. This is important for manpower monitoring. From a well-being perspective we also need to understand how income is generated by different types of households and how this has changed over time. Household members work as a unit to generate income to meet their needs, and their members may strategically diversify their income sources from different sectors. By examining sectoral composition at both the household and individual level, we are able to examine structural transformation from two angles.

Box 8.1 Definitions of key labour force statistics indicators

Working age population: This includes people aged 15 and above. This measure is used to give an estimate of the total number of potential workers in an economy.

Employment: People who, during the reference week (last seven days), either (i) worked at least one hour in any activity to produce goods or provide services for profit or pay, or (ii) were temporarily absent from their jobs, for example due to ill-health or shift work.

A key difference between the definition used in this report and those used in previous reports is around the concept of work "for profit or pay":

- The definitions used in the earlier IHLCA and MPLCS analyses followed the principles set out in the Labor Statistics Convention, 1985 (no. 160) to define employment (MNPED et al 2007; MNPED et al 2011; MOPF et al 2017b). Notably, those who are employed during the reference week performed some work for wage or salary, or profit or family gain, in cash or in kind or were temporarily absent from their jobs. It is important to note that employment includes activities which are paid or unpaid and activities producing goods and services which are either sold in the market or not.

- The LFS 2015 and 2017 follows the recommendation of the 19th International Conference of Labor Statisticians (ICLS), which states that the definition of employment "excludes production mainly for own final use..." (ILO 2013, page 16, paragraph 64). This definition notes that "[persons] in employment are defined as all those of working age who, during a reference period of seven days, were engaged in any activity to produce goods or provide services *for pay or profit*" (MOLIP 2017a, page 2, emphasis by authors).
- The MLCS analysis included in this chapter uses both definitions. Earlier definitions are included to allow for comparability of key indicators over time, to assess how labour force participation and sectoral composition have changed since 2005. Later definitions are included to support comparisons with the LFS. Individuals who report that they are producing only for family use are therefore excluded when measurement follows ICLS-19.[18]

Unemployment: The unemployed are those who:

(i) were no in employment for profit or pay during the reference period (the last seven days).;

(ii) stated that they were available for work, measured as being available for paid employment or self-employment within two weeks); and

(iii) were seeking work, notably they had taken specific steps in the previous 30 days to seek paid employment or self-employment.

The labour force: includes those who are either employed and unemployed during the reference period. Those in the population who are neither employed nor unemployed are considered to be outside of the labour force. The labour force captures the supply of labour available for producing goods and services in an economy.

Labour force participation rate: This is the ratio of the labour force to the working age population, expressed as a percentage. Hence, the labour force participation rate is an indicator of the proportion of an economy's working age population that engages actively in the labour market, either by being employed or unemployed.

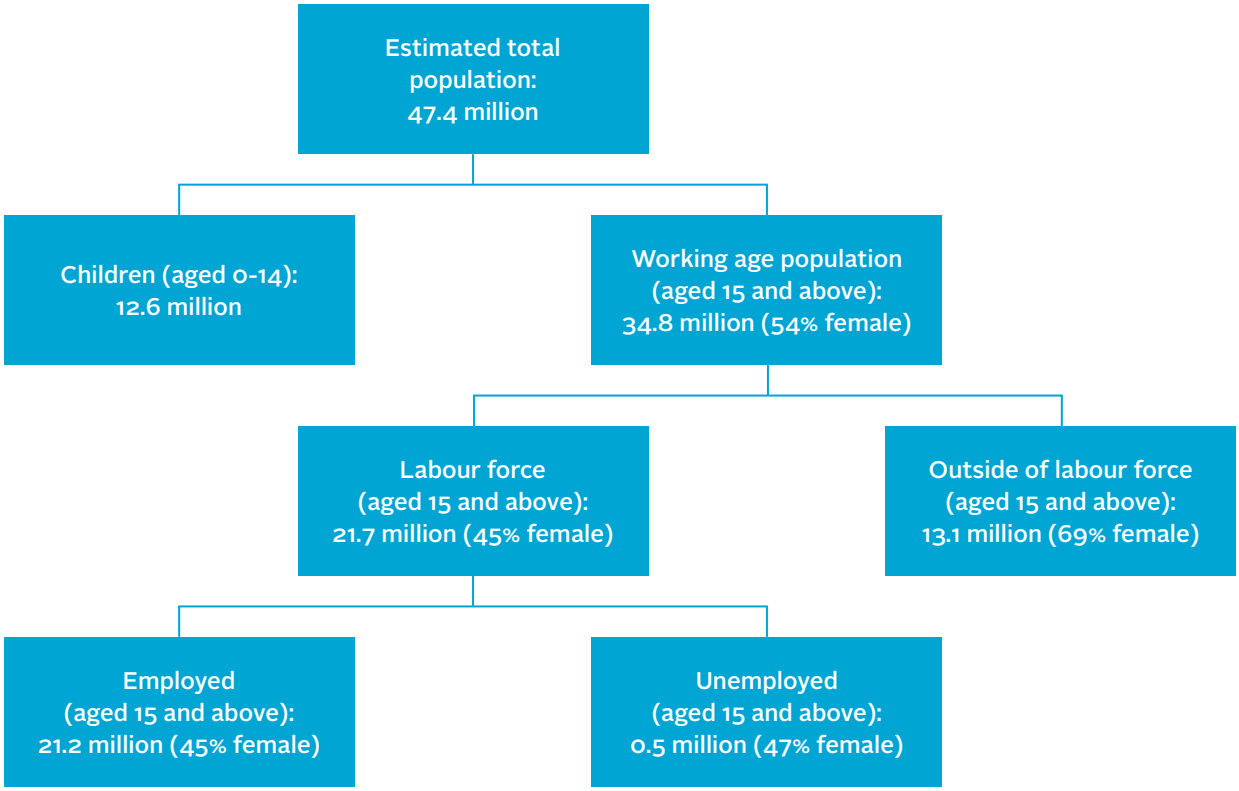
The categories of employment, unemployment and being outside the labour force are mutually exclusive and collectively exhaustive. Classification of the population into the three categories depends on the application of the activity principle—what a person was actually doing during the reference week—and a set of priority rules regarding activity that give precedence to employment over unemployment and to unemployment over being outside of the labour force.

Myanmar has a labour force of nearly 22 million people, of which 9.8 million were women and 11.9 million were men. Figure 8.1 provides a flow chart of how Myanmar's population is categorized based on the 7-day labour force statistics indicators.

18 The MLCS asks individuals the end consumer of their product to those people who reported conducting agricultural, hunting, forestry and fishing activities in the last seven days (Module 7, question 16). Individuals were asked to report whether their products were produced: (i) only for sale or barter; (ii) mostly for sale or barter; (iii) mainly for family use; (iv) only for family use. Individuals are categorized as working for pay or profit if they reported (i), (ii) or (iii) – i.e. if they are not producing goods only for family use.

Figure 8.1

Classification of Myanmar's 2017 conventional household population into labour force categories



Note: The figure reports statistics based on ICLS-19 definitions of labour force participation. Using definitions comparable with the 1985 classification standards, the labour force is estimated at 22.8 million people. Most of these individuals are aged between 15 and 64. Restricting the working age population to those aged between 15 and 64, the figures are as follows: 31.3 million people of working age (of which 53.6 percent female). Of these people, 20.9 million were in the labour force (45.6 percent female) and 10.4 million outside (69.8 percent female). 20.5 million aged 15 to 64 were employed (45.5 percent female), and 0.5 million unemployed (46.9 percent female).

8.2 Labour force participation

The aggregate labour force statistics show an increase in average labour force participation between 2005 and 2017. The increased participation is strongly seen among women and in urban areas. These changes in participation reflect shifts in participation occurring by age group and gender. Table 8.1 provides labour force participation rates and unemployment rates from 2005 to 2017 from different surveys. Note that the table provides MLCS annual and quarterly figures using two different definitions to allow for comparison across the two approaches that have been used to estimate labour force participation historically in Myanmar (see Box 8.1).[19] Under each definition, unemployment rates are more stable across the years. Labour force participation however shows more change: there has been a small rise in labour force participation in both the urban and rural areas. The rural labour force participation rate was 66.1 percent in December 2004 and 69.9 percent in the December 2016 to February 2017 period, using definitions comparable with the earlier measurement approach. The figures for urban areas are 53.1 percent and 62.9 percent in 2005 and 2016/17 respectively.

Labour force participation rates vary substantially between men and women. This does not reflect a lack of activity among women, but reflects a focus on domestic work. Women account for 54 percent of those aged 15 and above, but only for 45 percent of the labour force. This is a gap in labour force participation of approximately 20 percentage points: over the course of 2017, 52 percent of women were in the labour force compared to 74 percent of men. This gap in labour force participation is driven by domestic work rather than by not working. The charts in Figure 8.2 divide the population into five categories: employed, unemployed, in school, doing housework, and inactive (i.e. neither in the labour force nor doing housework).[20] Each chart plots the share of the population in each category by age group, providing an indication of how the population is likely to transition from one category to another as they grow older.[21] The percent of men and women who are neither in the labour force nor doing domestic work is similar in 2017 – 18.4 percent for men aged 15 and above, 18.5 percent for women. The difference in labour force participation is purely driven by domestic work: 23 percent of women aged 15 and above report domestic work as their main activity over the last 7 days, compared to 0.9 percent of men.

19 The reason why the earlier figures are slightly higher than those of the LFS is because IHLCA's definition of employment includes own-consumption agriculture work, following the 1985 Labor Statistics Convention, while the LFS from 2015 and 2017 follows the ICLS-19 definition.

20 Categories are mutually exclusive. The 1.3 percent of those who are employed and also at school are classified as being in school.

21 It is important to note that the charts do not actually show the progression of a single cohort as it ages. Instead, they provide a snapshot of a group of different cohorts at a moment in time. However, each chart still gives indications of how the population is likely to progress as it grows older. Comparing these charts across different time periods can give insights on the shifts in labour patterns over the years.

Table 8.1

Adult (aged 15 and above) labour force participation and unemployment rates 7 day recall

			Labour force participation rate (LFP)		Unemployment rate		
Year	**Date**	**Season**	**LSC 1985**	**ICLS 19**	**LSC 1985**	**ICLS 19**	**Source**
2004	Dec	Cool	62.5		0.7		IHLCA
2005	May	Dry	60.4		1.3		IHLCA
2009	Dec	Cool	63.4		0.6		IHLCA
2010	May	Dry	63.6		1.0		IHLCA
2015	March	Dry		64.7		0.8	LFS
2016/17	Dec - Feb	Cool	66.4	63.4	2.2	2.3	MLCS
2017	Jan - Mar	Cool/Dry		61.5		2.1	LFS
2017	Mar - May	Dry	65.0	62.0	2.6	2.7	MLCS
2017	Jun - Aug	Rainy	64.9	61.6	1.5	1.6	MLCS
2017	Sep - Nov	Rainy	66.1	61.9	2.1	2.2	MLCS
2017	Average	All	65.6	62.2	2.1	2.2	MLCS

			Male LFP		Female LFP		
Year	**Date**	**Season**	**LSC 1985**	**ICLS 19**	**LSC 1985**	**ICLS 19**	**Source**
2004	Dec	Cool	77.5		48.9		IHLCA
2005	May	Dry	75.6		46.8		IHLCA
2009	Dec	Cool	77.8		50.7		IHLCA
2010	May	Dry	78.5		50.4		IHLCA
2015	March	Dry		80.2		51.6	LFS
2016/17	Dec - Feb	Cool	80.3	76.7	54.8	52.2	MLCS
2017	Jan - Mar	Cool/Dry		78		47.7	LFS
2017	Mar - May	Dry	77.8	73.8	54.1	52.0	MLCS
2017	Jun - Aug	Rainy	77.8	73.4	53.8	51.6	MLCS
2017	Sep - Nov	Rainy	78.0	72.8	56.0	52.7	MLCS
2017	Average	All	78.4	74.1	54.7	52.1	MLCS

			Male unemployment rate		Female unemployment rate		
Year	**Date**	**Season**	**LSC 1985**	**ICLS 19**	**LSC 1985**	**ICLS 19**	**Source**
2004	Dec	Cool	0.8		0.6		IHLCA
2005	May	Dry	1.3		1.3		IHLCA
2009	Dec	Cool	0.7		0.6		IHLCA
2010	May	Dry	1.0		1.0		IHLCA
2015	March	Dry		0.7		0.9	LFS
2016/17	Dec - Feb	Cool	2.2	2.3	2.2	2.3	MLCS
2017	Jan - Mar	Cool/Dry		1.5		3.0	LFS
2017	Mar - May	Dry	2.5	2.6	2.7	2.8	MLCS
2017	Jun - Aug	Rainy	1.6	1.7	1.4	1.5	MLCS
2017	Sep - Nov	Rainy	1.8	1.9	2.4	2.5	MLCS
2017	Average	All	2.0	2.1	2.2	2.3	MLCS

More girls and boys are going to school in 2017 compared to 2005, and they are staying in school longer. A noticeable difference between participation patterns in 2005 (upper panel of Figure 8.2) and 2017 (lower panel of Figure 8.2) is that the share of the 10-14 age group in school increases significantly from 58 percent to 91 percent for both boys and girls. The children who are enrolled in school are predominantly shifting from an "inactive" status, signaling that they had not reported working for at least an hour in the 7 days before the survey was conducted. The same occurs – although to a lesser degree – for the 15 to 19 year old cohort whose participation in education increases by 6 percentage points for men and by 13 percentage points for women.

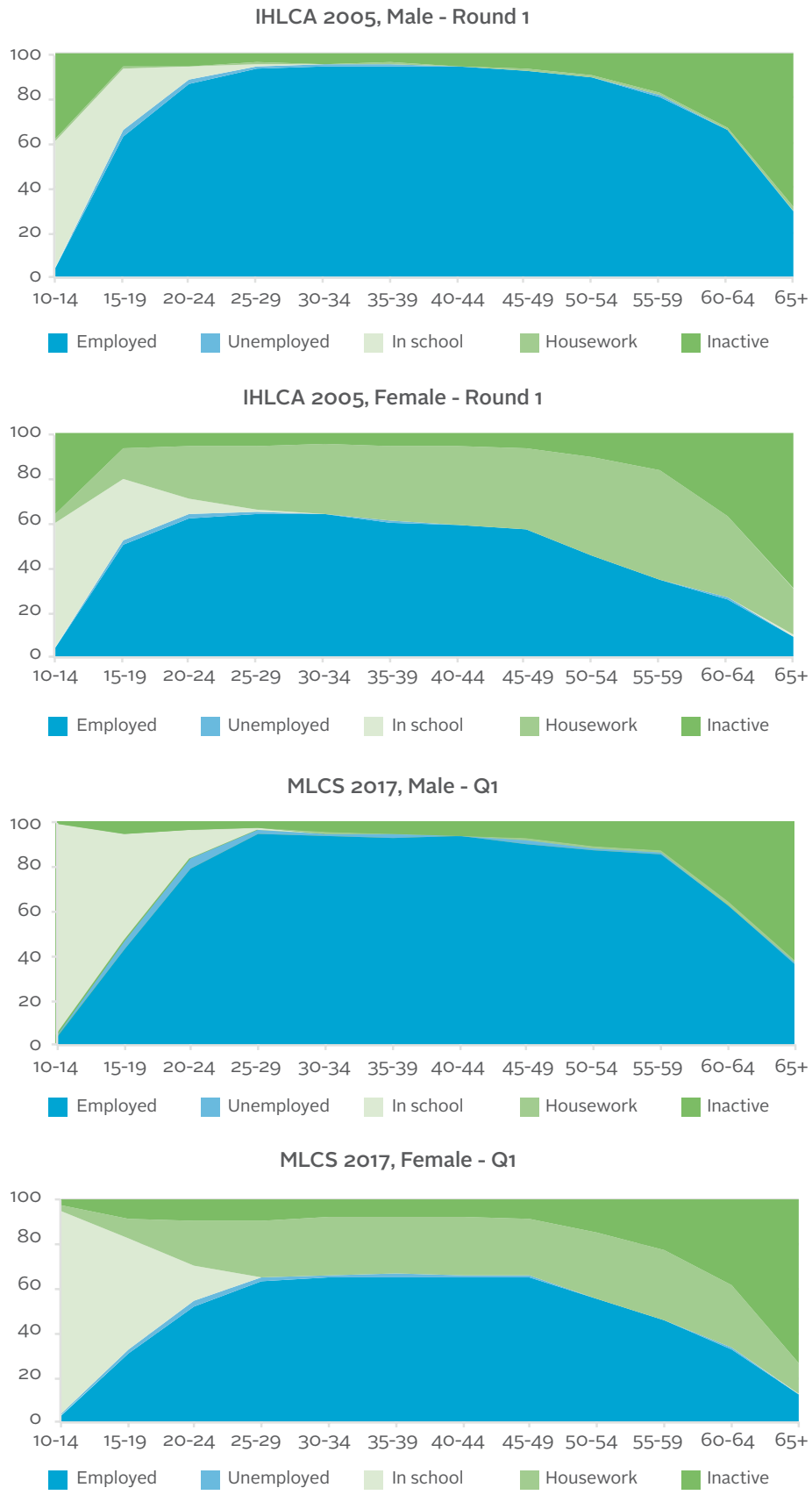
Labour force participation rates have increased for both men and women, with the greatest increase seen for women. When not at school, women are participating more in the labour force and more likely to continue working as they age. There has been a small increase over time in male labour force participation from 77.5 percent in the 2004 cool season (IHLCA 2005, Round 1) to 80.3 percent in the 2017 cool season (MLCS 2017, Q1). Female labour force participation has increased by 6 percentage points over the same time horizon: from 48.9 percent in the 2004 cool season to 54.8 percent in the 2017 cool seasons. While the shares of women who are inactive across age groups remain relatively the same between 2005 and 2017, there is a clear shift in the shares of women who are employed and doing housework only[22] (Figure 8.2, right panels). At its peak—the 25-49 age groups—only about 54 to 60 percent of women were employed in the labour market in December 2005, while one-third were doing housework only. In Q1-2017, 63 to 66 percent of women in the same age groups were employed and the share doing house work dropped to one-quarter. At the higher end of the age continuum, only about 23 percent of women aged 60-64 and 10 percent of women aged 65 and above were still active in the labour force in December 2005. The figures rose to 33 percent and 13 percent respectively in Q1-2017.

In 2017, there were still clear and significant gender variations in how individuals transition from school to the labour force. Figure 8.2 (lower panels) confirms the findings discussed in Chapter 7, with a relatively equal share of boys and girls attending school in the 10-14 age group. However, nearly all school-attending boys transition into the labour force, while a significant share of girls transition into house work only. On the other hand, women continue to work—either being employed or doing housework—for longer than men.

22 Since the categories used in this analysis are mutually exclusive, we are unable to identify the share of women who are both doing housework and active in the labour force at the same time.

Figure 8.2

Main activity status patterns, using a 7-day recall, by gender and over time

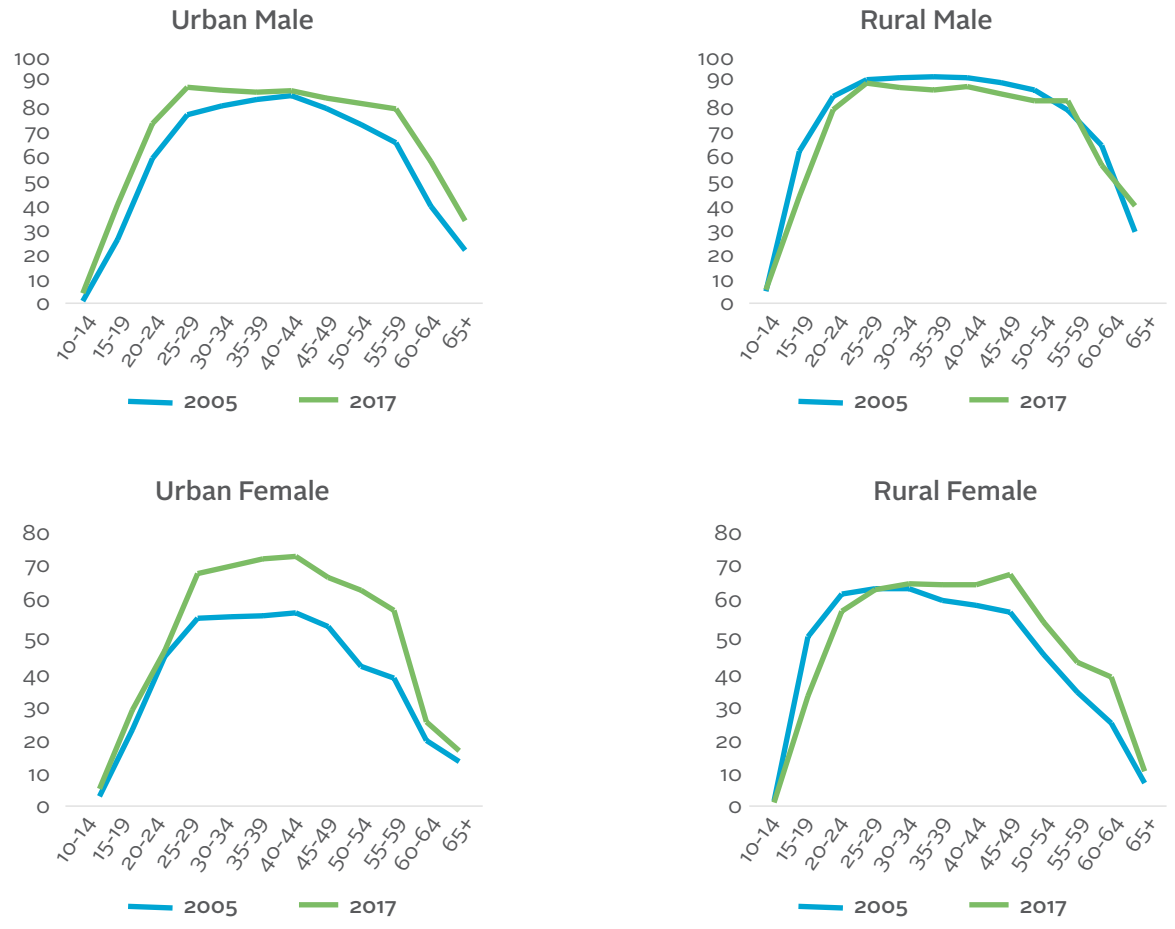


Note: For the purpose of comparability, the figures from 2017 are defined using the 1985 Labour Classification Standard, and include all those who are working regardless of whether they are producing products only for family use rather than for profit or pay.

Rural and urban areas have seen different shifts in employment patterns. In urban areas, participation has gone up for both men and women, and for every age group. In rural areas women wait longer before they start working and are working longer. Figure 8.3 shows how employment patterns have changed over time for rural and urban men and women. In urban areas, there is a higher share of men and women employed in 2017 than in 2005 for every age group, with the greater increases seen for women. At its peak, between the ages of 25 and 44, the share of urban women who are employed went from only about half in 2005 to between 64 and 69 percent in 2017. The shifting pattern of employment for rural women is slightly more complex. The share of working women in rural areas has historically been higher than in urban areas; rural women also typically started working at an earlier age than urban women. This can be attributed to lower levels of welfare—which means that rural women cannot afford not to work—and lower access to education. By 2017 however rural women entered employment at a significantly older age, which is linked to increased enrollment in education, and continued working for much longer. This suggests that Myanmar's economy has more and better educated women in the labour force in 2017 than in 2005.

Figure 8.3

Male and female employment to population rate, by age, in urban and rural areas



Note: For the purpose of comparability, the figures from 2017 are defined using the 1985 Labour Classification Standard, and include all those who are working regardless of whether they are producing products only for family use rather than for profit or pay.

An analysis by quarter for 2017 reveals that there is little quarterly variation in labour force participation at the union level. The four quarters of the MLCS correspond to the cool (quarter 1), dry (quarter 2), and rainy seasons (quarter 3 and 4). Labour force participation hovers between 61.6 and 63.4 percent over the course of the survey at a national level (Figure 8.4). The slight variation across quarters seems to be driven by urban areas, where a dip in labour force participation is visible in the third quarter of 2017. This decline is not due to a decline in the number of those working – the employment to population ratio remains similar over the quarters – but is linked to a small (statistically insignificant) decline in those searching for work (Figure 8.5) and an increase in those who report a temporary absence from their job.

Figure 8.4

Quarterly labour force participation at a union, urban and rural level

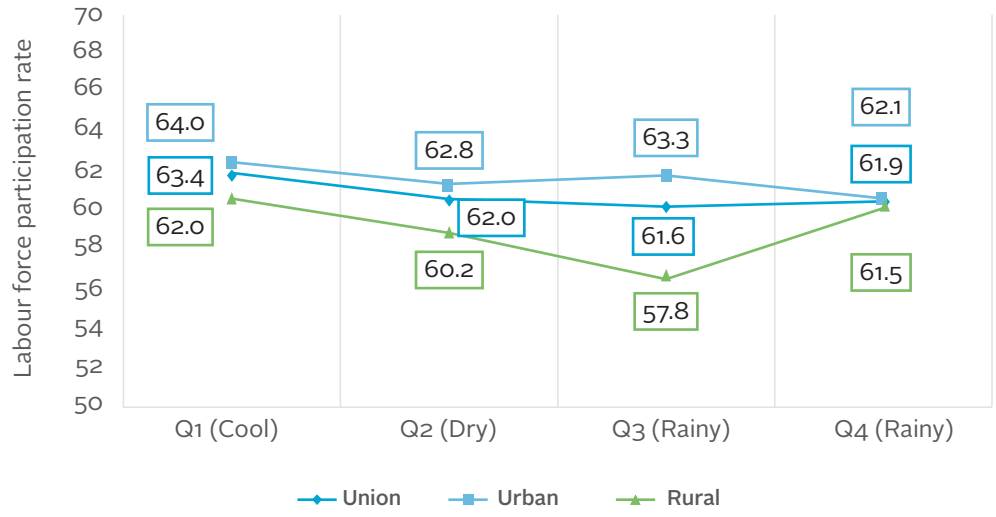
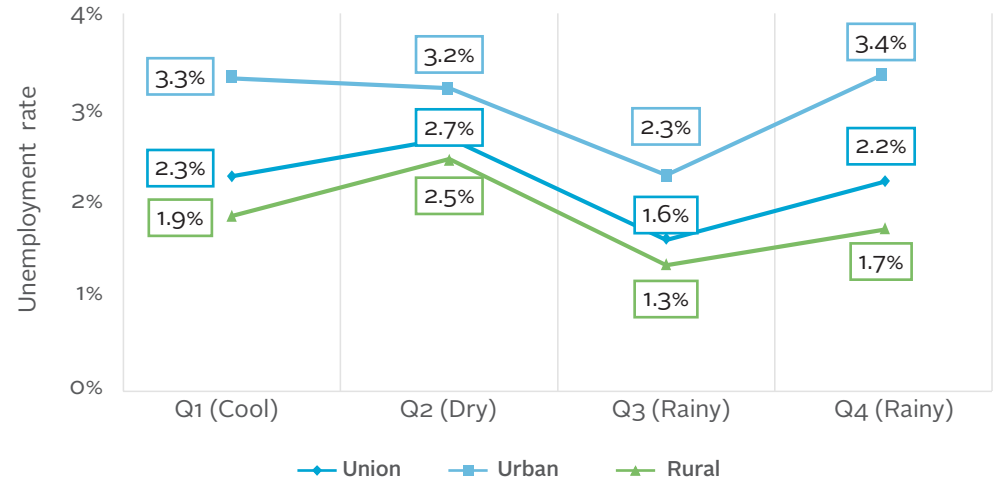


Figure 8.5

Quarterly unemployment rate at a union, urban and rural level



Note: Both figures use ICLS-19 definitions of employment, notably excluding those individuals who are working but are not working for pay or profit.

8.3 Sectoral participation

Even though labour force participation is fairly stable across quarters, there is substantial variation across seasons in what work people do. The rural population shows high mobility across sectors, depending on whether work in agriculture is available. Figure 8.6 (right panel) shows that employment in agriculture in rural areas drops significantly in the second quarter, which coincides with the lean months in Myanmar. However, this drop in agriculture is compensated by a rise in both services and industry, indicating that workers move into other sectors where jobs are available during the lean months.

Figure 8.6

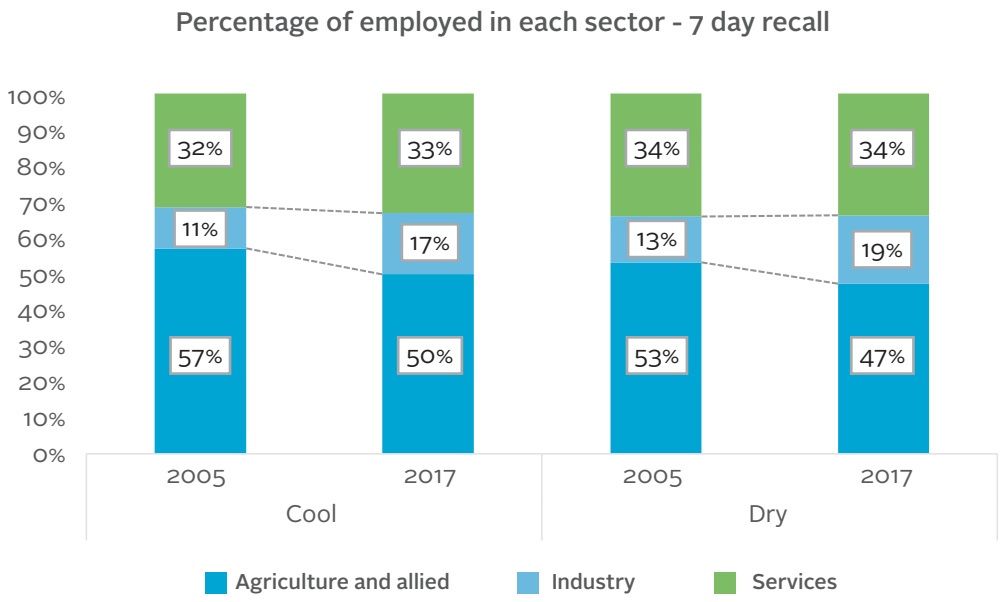
Sectoral participation among those aged 15 and above and employed

Note: This figure uses ICLS-19 definitions of employment, notably excluding those individuals who are working but are not working for pay or profit.

Farming, fishing, livestock rearing and forestry are the most commonly reported labour activity. There has been a decline over time in the share of the labour force working in these sectors, and an increase in the share working in manufacturing and construction. Comparing the sectoral participation of the labour force aged 15 and above over time, it becomes clear that a gradual structural transformation has been occurring. These structural trends in the sectoral composition of the labour force have not been clearly visible in earlier temporal analysis of household surveys, since it has not been previously possible to compare between the same season over time. In the dry season, we see that the share of the labour force participating in agriculture has declined from 57 percent to 50 percent between 2005 and 2017. Similarly in the cool season, it has declined from 53 to 47 percent over the same time horizon. The share of the labour force in services has remained unchanged: 33 percent at both points in time in dry season.

Figure 8.7

Sectoral participation in 2005 and 2017, 7 day recall



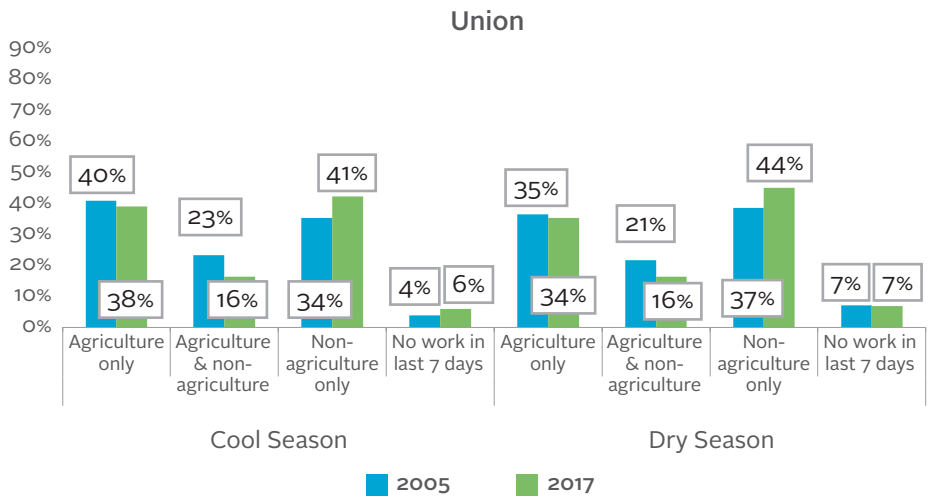
Note: 2005 cool season uses data from round 1 of the IHLCA, enumerated during December 2004. 2005 dry season uses data from round 2 of the IHLCA, enumerated during May 2005. 2017 cool season uses data from the first quarter of the MLCS, enumerated between December 2016 and February 2017. 2017 dry season uses data from the second quarter of the MLCS, enumerated between March and May 2017. Agriculture and allied activities includes farming, fisheries, livestock and forestry. Industry includes manufacturing, constructing, mining and utilities. Services includes all other activities. For the purpose of comparability, the figures from 2017 are defined using the 1985 Labour Classification Standard, and include all those who are working regardless of whether they are working for self-gain rather than profit or pay.

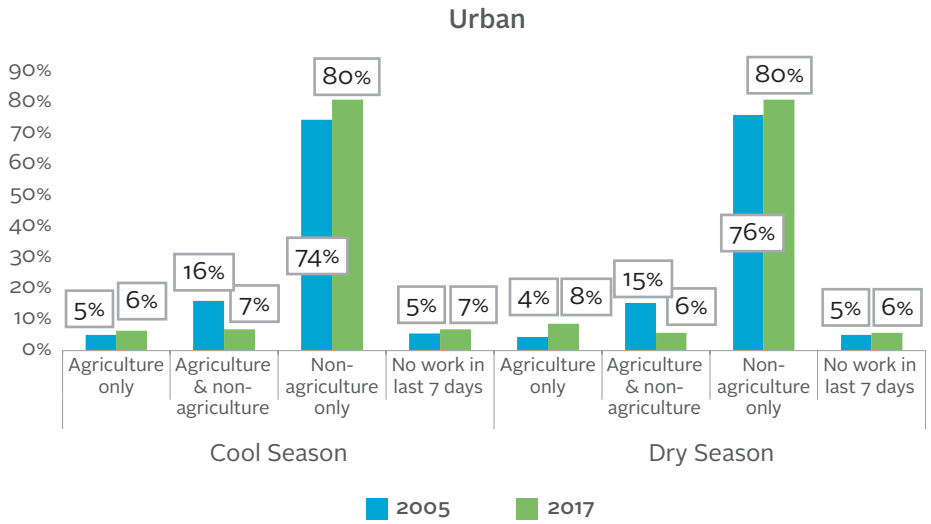
Over half of households (54 percent) are still conducting some work in agriculture, but the share of households working in agriculture is declining and the share of households relying entirely on non-agricultural income is increasing in both urban and rural areas.[23] Alongside examining sectoral participation of the workforce, we examine the fraction of households with at least one member working in agriculture and in non-agriculture. We divide households into those who only have workers in agriculture, those only in non-agriculture and those with members working in both. Household level labour analysis supports an understanding of how well-being and diversification changes over time, since income flows into household-level wellbeing. The decline in households working in agriculture is aligned with the structural shift in employment across sectors seen in the workforce. Urban households have always been less reliant on agriculture for income than rural households, yet still the share of households reporting at least one member working in agriculture decreased from 21 percent to 13 percent in the cool season and from 19 percent to 14 percent in the dry season between 2005 and 2017. At the same time, a higher share of urban households is depending exclusively on non-agricultural income in 2017 than in 2005. A similar trend is also happening in the rural areas, where a combination of a decrease in the share of agriculture-dependent household and a rise in the share of households that depend exclusively on non-agriculture income can be seen in the same time period.

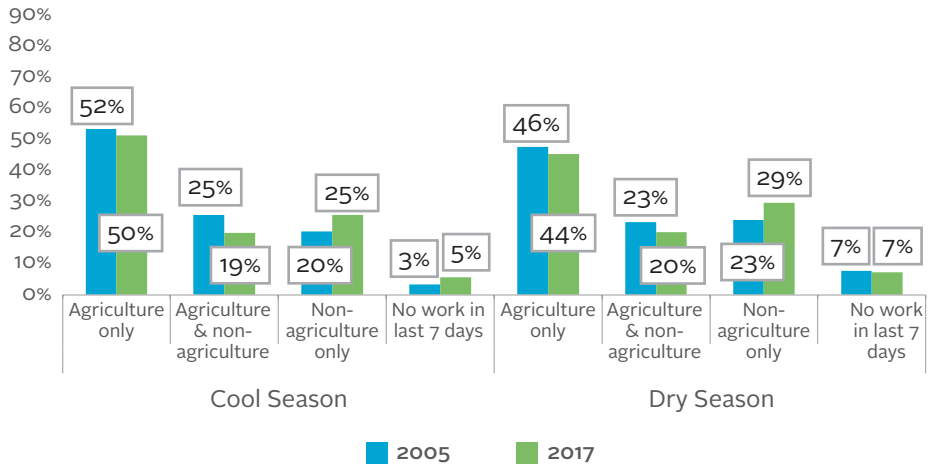
23 Households whose entire working members work in one specific sector (either agriculture or non-agriculture) are considered to be exclusively dependent on the respective sector for income. Households whose working members work in both sectors are considered to be dependent on both.

Figure 8.8

Percentage of households with members working in agriculture only, agriculture and non-agriculture, non-agriculture only or not working (7 day recall)





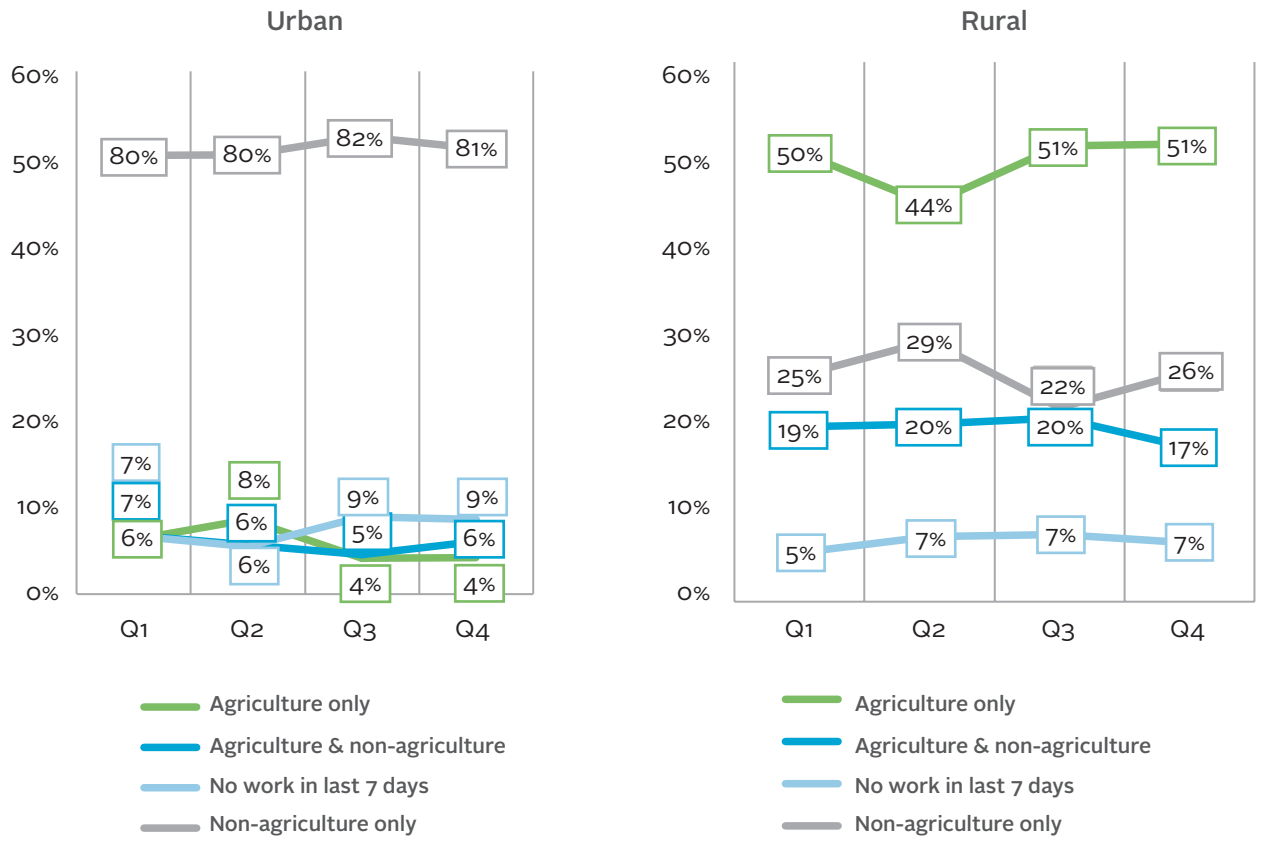


The change in the share of households engaged in agriculture has been greater in percentage point terms than the individual level decline. The greatest declines are among those households conducting both agriculture and non-agricultural activities while there has been very little change in those engaged only in agriculture. This requires more detailed analysis, but suggests that rather than seeing an increase in diversification outside of agriculture for those households engaged only in agriculture, the economy has seen a movement away from agriculture among those who already have their feet outside of the agricultural sector. In urban areas, there has been a small increase in those engaged only in agriculture which could be linked to migration and an expansion in peri-urban areas.

Rural households vary their income sources throughout the year, while households in urban areas show a more stable pattern from one quarter to the next. The pattern shown by rural households follows the planting and harvesting season, with a significant dip in the share of households that only rely on agriculture income during the lean season. There are indications that effectively all households that can no longer rely entirely on agriculture for income during the second quarter shift their labour to non-agriculture sectors. Rural households whose members work in a mix of agriculture and non-agriculture sectors display a more stable pattern of income sources throughout the year. Meanwhile, the overwhelming majority of urban households are able to rely on non-agriculture income.

Figure 8.9

Household sectoral activity by quarter (7-day recall)

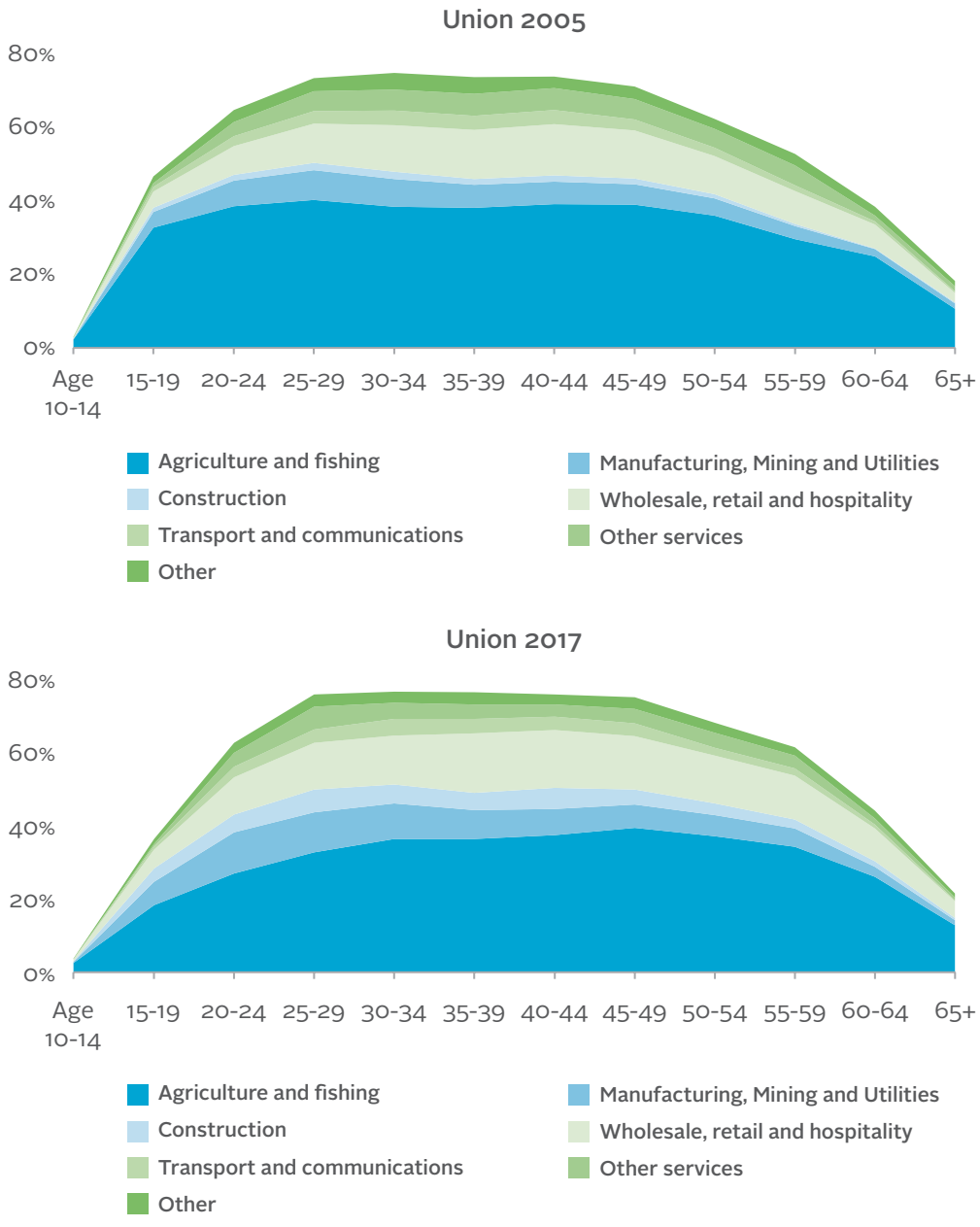


Note: The figure for urban areas (left panel) are displayed with a secondary y-axis with the same scale as the primary y-axis in order to give a better visual of changes in household income patterns. Without the secondary axis, the "non-agriculture only" line would be positioned much higher up.

The change in sectoral participation is happening most clearly for younger workers, who are more likely to be driving the move into non-agricultural activities. Figure 8.10 shows the employment to population ratio, splitting those employed by their sectoral composition. Two points can be clearly seen. First, the share of those employed in agriculture has decreased most for those aged between 15 to 39. The most pronounced changes can be seen for those aged 15 to 19. The employment to population ratio for this age group has declined, linked to the rise in education enrollment documented earlier. Once they enter the workforce, this group are also less likely to be engaged in agriculture in relative terms. Second, younger groups are more likely to be in manufacturing and construction, and have seen the greater increase in these sectors over time, while older groups are more likely to be involved in wholesale, retail and hospitality.

Figure 8.10

Sectoral participation for those in employment by age group



References

Central Statistical Organization (2017), Consumer Price Index

Central Statistical Organization (2017), 2017 Myanmar Statistical Yearbook

Ministry of Health and Sports (MOHS) and ICF International. 2016. Myanmar Demographic and Health Survey 2015-16: Key Indicators Report. Nay Pyi Taw, Myanmar, and Rockville, Maryland, USA: Ministry of Health and Sports and ICF International. Ministry of Immigration and Population. 2014. 2014 Myanmar Housing and Population Census. Department of Population. The Republic of the Union of Myanmar: Nay Pyi Taw.

Ministry of Immigration and Population and Central Statistical Organization, in collaboration with the International Labour Organization (2015) Myanmar labour force, child labour and school to work transition survey, Executive Summary, The Republic of the Union of Myanmar: Nay Pyi Taw.

Ministry of Immigration and Population. 2015. 2014 Myanmar Housing and Population Census: The Union Report. Census Report Volume 2. Department of Population, The Republic of the Union of Myanmar: Nay Pyi Taw.

Ministry of Labour, Immigration and Population (2016a), Thematic Report on Fertility and Nuptiality, Census Report Volume 4-A, Department of Population, The Republic of the Union of Myanmar: Nay Pyi Taw.

Ministry of Labour, Immigration and Population (2016b), Thematic Report on Mortality, Census Report Volume 4-B, Department of Population, The Republic of the Union of Myanmar: Nay Pyi Taw.

Ministry of Labour, Immigration and Population (2017a), Annual Labour Force Survey 2017, Quarterly Report 1st Quarter, January to March 2017, The Republic of the Union of Myanmar: Nay Pyi Taw.

Ministry of Labour, Immigration and Population (2018), Policy Brief on Disability, Department of Population, The Republic of the Union of Myanmar: Nay Pyi Taw.

Ministry of National Planning and Economic Development, IDEA, UNDP and UNOPS. 2007. Integrated Household Living Conditions Survey in Myanmar: Poverty Profile. June 2007

Ministry of National Planning and Economic Development, UNDP and IDEA. 2011. Integrated Household Living Conditions Assessment Survey 2009 – 2010 Technical Report.

Ministry of National Planning and Economic Development, SIDA, UNDP and UNICEF. 2011. Integrated Household Living Conditions Survey in Myanmar (2009- 2010): Poverty Profile. June 2011

Ministry of Planning and Finance and World Bank. 2017a. An Analysis of Poverty in Myanmar, Part Two: Poverty Profile.

Ministry of Planning and Finance and World Bank. 2017b. Myanmar Poverty and Living Conditions Survey: Technical Poverty Estimate Report.

Annex Methodology

This section summarizes the methodology of developing and conducting the Myanmar Living Conditions Survey. Greater depth on the various stages of implementation can be found in the accompanying Survey Quality report.

A1. Instrument development

The **Myanmar Living Conditions Survey** is built on the foundations of previous surveys, specifically:

- Integrated Household Living Condition Assessment (2009/10)
- Household Income and Expenditure Survey (2012)
- Myanmar Poverty and Living Conditions Survey (2015)

Throughout the development of the questionnaire, there was a balance between maintaining comparability with past measurement approaches, to enable trend indicators to be created, and altering/improving questions to take account of the changing circumstances in Myanmar. To get advice on this important task, wide ranging discussions were held with representatives from many Government Ministries, Development Partners, NGOs and academics working in Myanmar.

In the **Data User Group meetings**, the large group of participants was broken down into smaller working groups to discuss the following sections of the questionnaire.

- Household composition and demographics
- Education, literacy and training
- Health Status and Disability
- Housing
- Household Consumption Expenditure
- Household Durables
- Labour and Employment
- Agricultural activities
- Non-farm businesses
- Finance
- Shocks and Coping Strategies
- Migration & Remittances
- Income
- Community Questionnaire

The MLCS utilized the **National Committee for Data Accuracy and Quality of Statistics** as a Steering Committee for the survey, and the **national statistical cluster on survey coordination** acted as the **Technical Committee** for the MLCS. Selected Development Partners were additionally invited to some of the cluster meetings, depending on the topics under discussion.

Questionnaire development and sample design work began in May 2016. At the end of June 2016, a small pre-test of six households was undertaken in a village near Nay Pyi Taw. In July 2016, a two-week training session and pilot was held in Mandalay. This training focussed on training supervisors and involved completing 200 interviews in the area around Mandalay. In September, a second two-week pilot took place, in Taunggyi with supervisors. Around this time programming for the CSPro data entry program began. At the end of October the training for the listers, who update the Census 2014 data in preparation for interviews, took place. November was dedicated to training the interviewers, supervisors and in field data entry operators. Fieldwork began on 12th December 2016. In January 2017 the training of the data entry operators based at CSO took place. All training involved a practical work in the field and selection of staff was based on the results of written tests.

A2. Sampling and representation

In order to determine the final design of the sample the MPLCS data was tabulated to examine the sampling errors, confidence intervals and design effects for key estimates from that data. Table A.1 shows the final allocation of enumeration areas (EAs) and households by strata.

Table A.1

MLCS 2017 Final Sample Design by State and Region, urban and rural stratum

State and Region	Total		Urban		Rural	
	Sample clusters	Sample households	Sample clusters	Sample households	Sample clusters	Sample households
Kachin	72	864	36	432	36	432
Kayah	72	864	28	336	44	528
Kayin	72	864	24	288	48	576
Chin	72	864	24	288	48	576
Sagaing	72	864	20	240	52	624
Tanintharyi	72	864	28	336	44	528
Bago	72	864	24	288	48	576
Magway	72	864	20	240	52	624
Mandalay	72	864	36	432	36	432
Mon	72	864	32	384	40	480
Rakhine	72	864	16	192	56	672
Yangon	96	1,152	64	768	32	384
Shan	96	1,152	36	432	60	720
Ayeyarwady	96	1,152	24	288	72	864
Nay Pyi Taw Council	72	864	32	384	40	480
Total	1,152	13,824	444	5,328	708	8,496

The sample for MLCS 2017 has as a nationally representative subsample of EAs in each quarter.

When the sample for MLCS 2017 was selected no parts of Myanmar were excluded. Therefore a number of sample clusters, which were known to be difficult to access due to security concerns, were included in the original sample. To be as inclusive as possible, considerable efforts were made to ensure that the General Administration Department (GAD), MLCS supervisors and CSO Survey Department staff were in constant communication to monitor the situation on the ground. This ensured that the interviewing teams remained informed about risks in the field and adjusted their schedules to visit sample clusters once GAD had given assurances that the situation was secure. In addition, a team of three external advisors was hired to monitor and provide information on the situation on the ground.

By the end fieldwork, EAs were replaced in:

- Kachin (2 EAs)
- Kayah (2 EAs)
- Kayin (1 EAs)
- Tanintharyi (1 EA)
- Bago (2 EA)
- Rakhine (3 EA)
- Shan (4 EAs)
- Nay Pyi Taw (2 EA)

All were rural EAs and they were all replaced with other rural EAs in the same township.

EAs in two townships in the northern part of Rakhine State – Maungdaw and Buthidaung– were also included in the sample. Several discussions were held between the CSO, UNDP and WB leadership team to discuss how to appropriately survey in these two townships. Advice was sought from several knowledgeable people and organizations, including those had previously conducted surveys in this area. The leadership team agreed to investigate options for interviewing in these townships after the rainy season had been completed.

After August 25th 2017, it became impossible to collect data in these areas. CSO understood that as much of the country as possible should be included in the sample so that the results reflect the entire population. Unfortunately, this was not possible, despite considerable efforts, and there is therefore (non-measurable) bias in the data. More detail on the issue of non-coverage of the country can be found in the accompanying Survey Content and Quality Report.

Households surveys in Myanmar have evolved over time due to updates to the sampling frame and to questionnaire design. As such, there are comparability issues that need to be kept in mind when making overtime comparisons of key indicators. The table below summarizes the sample frame and level of representation of the household surveys drawn upon in this report.

Survey	Timing	Level of Representation	Basis of Sampling
Integrated Household Living Conditions Assessment	Repeat visits in November/December 2004 Repeat visits in December 2009 and May 2010	National Urban/Rural State/Region	Since a recent census was not available in Myanmar at the time that the IHLCA-I had been conducted, the IHLCA-I, drew upon the most reliable population estimates available at that time. The IHLCA-II uses a modified sample design from the IHLCA-I. Notably, it retains a panel of 50 percent of households from the IHLCA-I.
Myanmar Poverty and Living Conditions Survey	Conducted in single visit between January and April 2015.	National Urban/Rural Agro-Zone	Master sample frame of the Myanmar Population and Housing Census, 2014
DHS	Single visit December 2015 to July 2016	National Urban/Rural State/Region	Master sample frame of the Myanmar Population and Housing Census, 2014
LFS	Single visit March 2015 Single visit January to March 2017	National Urban/Rural State/Region	Master sample frame of the Myanmar Population and Housing Census, 2014
MLCS	Single visit between December 2016 to December 2017	National Urban/Rural State/Region	Master sample frame of the Myanmar Population and Housing Census, 2014

A3. Survey implementation

Twenty interviewing teams were created to collect the data. Each State and Region had one traveling team (one supervisor, three interviewers and one in-field data entry operator). There were five exceptions which had two teams in each State and Region - Ayeyarwady, Chin, Rakhine, Sagaing and Shan. The reason to have two teams in some States and Regions was a mixture of:

- Analysis on MPLCS revealing large Design Effects showing high clustering of poverty in some State and Regions.

- Difficult transport links between EAs requiring more time to travel within a State and Region.

Therefore this resulted in a team of 153 people who were hired and trained to collect and process the MLCS data. The final Response Rate for the survey was 94 percent

A4. Key indicator tables

Table A2

Average household size and share of dependents, children and elderly

	House-hold size	s.e.	Share of depend-ents	s.e.	Share of children	s.e.	Share of elderly	s.e.	Share of total popula-tion
Union	4.3	0.0	33.9	0.3	26.5	0.3	7.4	0.2	100.0
Urban	4.2	0.0	30.8	0.4	22.6	0.5	8.2	0.3	28.5
Rural	4.3	0.0	35.2	0.3	28.1	0.3	7.1	0.2	71.5
State and Region									
Kachin State	4.8	0.1	36.7	1.1	31.9	1.1	4.8	0.4	3.3
Kayah State	4.7	0.1	37.2	1.1	33.2	1.1	4.0	0.4	0.6
Kayin State	4.8	0.1	42.0	0.8	35.4	0.9	6.7	0.6	2.8
Chin State	5.0	0.1	44.5	0.8	39.0	0.8	5.5	0.5	1.0
Sagaing Region	4.6	0.1	32.9	0.9	25.0	1.0	7.9	0.5	10.3
Tanintharyi Region	4.9	0.1	39.1	0.8	32.9	0.9	6.2	0.5	2.8
Bago Region	4.1	0.1	34.1	0.9	27.1	1.1	7.0	0.6	10.1
Magway Region	4.0	0.1	33.3	0.8	24.5	1.0	8.8	0.6	7.5
Mandalay Region	4.3	0.1	31.7	0.9	22.2	0.9	9.5	0.8	11.8
Mon State	4.3	0.1	39.0	0.8	29.3	0.8	9.6	0.6	3.6
Rakhine State	4.5	0.1	37.2	1.0	29.7	1.2	7.5	0.6	5.7
Yangon Region	4.1	0.1	29.7	0.7	22.1	0.8	7.6	0.5	15.0
Shan State	4.4	0.1	34.9	0.8	29.1	0.8	5.8	0.5	11.1
Ayeyarwady Region	4.0	0.1	33.5	0.7	27.0	0.8	6.5	0.5	12.2
Nay Pyi Taw Council	4.0	0.1	34.0	1.1	28.2	1.1	5.8	0.5	2.2
Sex of Head of Household									
Female	3.6	0.1	33.5	0.6	22.0	0.6	11.5	0.4	17.8
Male	4.4	0.0	34.0	0.3	27.5	0.3	6.5	0.2	82.2
Education of Head of Household									
Never attended school	4.4	0.1	39.5	0.8	29.9	0.8	9.7	0.5	10.7
Monastic school	4.5	0.1	35.3	0.7	22.2	0.8	13.1	0.6	13.8
Primary school	4.31	0.03	33.8	0.3	28.2	0.3	5.6	0.2	57.2
Middle school	4.13	0.06	29.8	0.7	23.8	0.7	6.0	0.4	11.1
High school or higher	3.72	0.06	29.8	0.7	20.3	0.7	9.5	0.6	7.2

Table A3

Source of electricity for lighting: percentage of households with various sources

	Public grid	Border grid	Community grid	Kerosene	Candle	Battery	Generator	Solar lantern	Solar system	Other	Total
Union	41.7	1.3	5.8	1.4	5.7	12.8	1.8	5.1	21.9	2.5	100.0
Urban	84.9	1.4	1.9	0.1	1.9	3.1	1.8	0.8	2.7	1.5	100.0
Rural	24.2	1.2	7.3	2.0	7.3	16.8	1.8	6.8	29.7	2.9	100.0
State and Region											
Kachin State	43.6	1.2	4.6	0.0	5.8	4.7	4.0	3.2	32.2	0.6	100.0
Kayah State	73.9	0.0	0.2	0.4	5.3	1.2	0.8	8.8	9.1	0.5	100.0
Kayin State	22.2	10.4	7.0	3.6	16.2	2.4	2.7	13.9	21.3	0.3	100.0
Chin State	16.4	0.7	19.0	0.1	4.9	6.8	0.0	9.0	41.6	1.5	100.0
Sagaing Region	33.3	0.7	8.0	0.0	1.5	7.4	0.7	4.8	38.8	4.9	100.0
Tanintharyi Region	0.0	0.0	40.5	5.7	13.2	0.4	25.9	2.3	9.3	2.6	100.0
Bago Region	35.7	0.0	1.7	1.0	9.0	18.1	0.8	0.6	29.6	3.5	100.0
Magway Region	36.7	0.0	4.1	0.0	4.3	39.5	0.9	1.6	12.5	0.3	100.0
Mandalay Region	62.4	0.0	2.3	0.0	2.4	6.1	1.5	6.5	17.2	1.6	100.0
Mon State	53.7	0.0	16.4	0.9	9.5	3.3	3.2	7.9	5.2	0.0	100.0
Rakhine State	13.6	0.0	15.4	2.1	14.5	4.2	0.3	10.1	37.5	2.3	100.0
Yangon Region	78.7	0.0	0.8	0.2	1.7	5.5	0.9	0.6	7.4	4.0	100.0
Shan State	37.0	8.5	5.8	0.5	4.0	0.7	0.4	12.2	27.1	3.9	100.0
Ayeyarwady Region	14.3	0.0	4.3	6.7	8.0	35.2	1.5	5.8	23.1	1.1	100.0
Nay Pyi Taw Council	53.9	0.0	0.9	0.0	7.5	7.2	1.5	1.9	26.3	0.8	100.0
Sex of Head of Household											
Female	46.3	1.0	6.2	1.8	7.0	11.5	1.4	4.0	18.4	2.4	100.0
Male	40.5	1.4	5.6	1.3	5.4	13.2	1.9	5.4	22.8	2.5	100.0
Education of Head of Household											
Never attended school	23.5	4.1	6.1	3.0	9.7	10.6	0.9	11.5	25.5	5.0	100.0
Monastic school	28.0	0.4	7.0	1.0	5.8	16.2	1.6	6.1	31.9	2.1	100.0
Primary school	36.7	1.0	6.1	1.7	6.5	15.1	2.0	4.8	23.5	2.6	100.0
Middle school	67.7	1.2	4.9	0.4	2.2	7.1	1.8	2.5	10.7	1.4	100.0
High school or higher	85.1	1.0	2.0	0.1	0.7	2.7	1.2	0.8	5.9	0.6	100.0

Note: This table links to Figures 3.1 and 3.2 in the text.

Table A4

Source of electricity for lighting: percentage of population with various sources

	Public grid	Border grid	Community grid	Kerosene	Candle	Battery	Generator	Solar lantern	Solar system	Other	Total
Union	41.2	1.5	6.3	1.3	5.1	12.1	1.9	5.4	22.8	2.4	100.0
Urban	84.4	1.6	2.2	0.1	1.6	3.1	1.9	0.8	3.0	1.4	100.0
Rural	24.0	1.5	8.0	1.8	6.5	15.6	1.9	7.3	30.8	2.7	100.0
State and Region											
Kachin State	44.3	2.0	3.7	0.0	5.2	5.2	3.9	3.4	31.6	0.7	100.0
Kayah State	73.8	0.0	0.4	0.6	5.3	1.0	0.6	9.0	8.9	0.4	100.0
Kayin State	20.9	9.8	8.0	3.5	15.4	2.4	2.6	15.9	21.2	0.3	100.0
Chin State	15.5	0.5	20.5	0.1	4.0	6.5	0.0	8.4	43.2	1.2	100.0
Sagaing Region	33.5	0.7	8.7	0.0	0.9	6.4	0.6	5.0	39.4	4.6	100.0
Tanintharyi Region	0.0	0.0	42.4	5.3	12.3	0.4	24.9	2.0	9.7	3.0	100.0
Bago Region	35.6	0.0	1.9	1.0	7.4	16.8	1.5	0.4	32.1	3.2	100.0
Magway Region	36.1	0.0	3.4	0.0	3.3	40.0	1.0	1.5	14.5	0.3	100.0
Mandalay Region	63.0	0.0	2.5	0.0	2.3	6.0	1.7	6.7	16.9	0.9	100.0
Mon State	52.7	0.0	17.2	0.7	8.7	2.9	2.9	9.0	5.9	0.0	100.0
Rakhine State	13.3	0.0	16.2	2.0	13.3	3.7	0.3	11.0	38.2	2.0	100.0
Yangon Region	78.8	0.0	1.0	0.2	1.7	5.6	0.7	0.7	7.3	4.0	100.0
Shan State	36.8	9.9	5.6	0.4	3.1	0.6	0.4	12.2	26.8	4.2	100.0
Ayeyarwady Region	13.7	0.0	4.9	6.2	7.1	35.2	1.4	6.2	24.4	0.9	100.0
Nay Pyi Taw Council	51.6	0.0	1.1	0.0	7.5	6.8	1.8	1.8	28.6	0.9	100.0
Sex of Head of Household											
Female	48.0	1.3	6.7	1.4	5.5	10.4	1.6	4.0	19.0	2.0	100.0
Male	39.7	1.6	6.2	1.3	5.0	12.4	1.9	5.7	23.6	2.4	100.0
Education of Head of Household											
Never attended school	24.1	5.3	6.1	2.8	7.8	10.0	0.9	10.9	26.6	5.5	100.0
Monastic school	27.9	0.4	7.4	0.6	5.5	14.2	1.6	6.5	33.8	1.9	100.0
Primary school	37.0	1.2	6.8	1.5	5.6	14.1	2.2	5.1	24.1	2.3	100.0
Middle school	67.0	1.2	5.5	0.6	1.9	7.1	1.8	3.1	10.5	1.3	100.0
High school or higher	86.1	0.9	1.6	0.1	0.7	2.5	1.4	1.0	5.2	0.4	100.0

Table A5

Percentage of households with access to grid electricity

	Public grid	s.e.	Community grid	s.e.	Public or community grid	s.e.
Union	42.2	1.2	7.9	0.6	49.3	1.2
Urban	85.4	1.2	5.2	0.5	89.1	1.1
Rural	24.7	1.5	9.0	0.8	33.2	1.6
State and Region						
Kachin State	47.5	4.3	8.2	2.6	55.1	3.8
Kayah State	74.8	3.6	0.3	0.2	75.0	3.5
Kayin State	23.2	4.3	10.5	2.7	32.4	4.9
Chin State	16.8	1.9	21.2	4.1	37.5	4.5
Sagaing Region	33.9	4.4	9.1	2.4	42.1	4.6
Tanintharyi Region	0.0	0.0	66.0	3.8	66.0	3.8
Bago Region	35.8	4.0	3.5	1.0	38.3	4.0
Magway Region	36.7	4.6	5.7	2.3	41.9	4.7
Mandalay Region	62.7	4.7	4.1	1.7	65.9	4.4
Mon State	55.0	4.4	19.8	3.8	73.3	3.5
Rakhine State	13.7	1.9	17.5	3.7	29.9	4.0
Yangon Region	79.1	2.5	2.5	0.7	80.9	2.5
Shan State	37.5	4.1	6.5	2.3	43.3	4.3
Ayeyarwady Region	14.8	1.9	5.1	1.5	19.6	2.2
Nay Pyi Taw Council	54.5	4.4	1.2	0.7	55.1	4.4
Sex of Head of Household						
Female	46.7	1.7	8.2	0.8	54.2	1.7
Male	41.0	1.2	7.9	0.6	48.0	1.2
Education of Head of Household						
Never attended school	23.8	2.0	7.0	1.3	30.3	2.2
Monastic school	28.6	2.2	9.3	1.2	36.7	2.3
Primary school	37.1	1.3	8.5	0.7	44.9	1.3
Middle school	68.3	1.7	7.0	0.9	74.7	1.6
High school or higher	85.4	1.2	4.0	0.7	88.4	1.1

Note: Only five states register households that have access to grid electricity from bordering countries, defined as using border grid electricity as their main source for lighting. Approximately 10 percent of households in Kayin, 8 percent of households in Shan, and 1 percent of households in Kachin, Chin, and Sagaing have access to border grid electricity. This table links to Figure 3.4.

Table A6

Percentage of population with access to grid electricity

	Public grid	s.e.	Community grid	s.e.	Public or community grid	s.e.
Union	41.7	1.2	8.6	0.6	49.5	1.2
Urban	85.0	1.2	5.5	0.5	89.0	1.2
Rural	24.4	1.6	9.8	0.9	33.8	1.6
State and Region						
Kachin State	48.6	4.3	6.6	2.1	54.7	4.0
Kayah State	74.8	3.7	0.5	0.4	75.2	3.6
Kayin State	21.9	4.0	11.8	3.0	32.4	4.9
Chin State	16.2	2.0	22.9	4.5	38.2	4.7
Sagaing Region	34.1	4.7	9.7	2.8	43.1	4.8
Tanintharyi Region	0.0	0.0	67.2	4.1	67.2	4.1
Bago Region	35.7	4.2	3.9	1.3	38.6	4.3
Magway Region	36.1	4.6	5.2	2.1	40.7	4.7
Mandalay Region	63.2	4.9	4.4	1.8	66.7	4.5
Mon State	53.6	4.5	20.4	3.9	72.6	3.8
Rakhine State	13.6	2.0	18.6	3.9	30.6	4.2
Yangon Region	79.2	2.5	2.4	0.7	81.0	2.5
Shan State	37.5	4.2	6.3	2.2	42.9	4.4
Ayeyarwady Region	14.2	1.8	5.9	1.9	19.5	2.3
Nay Pyi Taw Council	52.3	4.8	1.3	0.8	53.1	4.7
Sex of Head of Household						
Female	48.4	1.8	9.0	1.0	56.6	1.7
Male	40.3	1.2	8.5	0.6	48.0	1.3
Education of Head of Household						
Never attended school	24.4	2.1	7.0	1.1	30.9	2.3
Monastic school	28.5	2.3	9.9	1.4	37.4	2.5
Primary school	37.5	1.3	9.4	0.7	46.1	1.4
Middle school	68.0	1.9	7.5	1.0	74.7	1.8
High school or higher	86.5	1.2	3.6	0.6	89.3	1.1

Note: Only five states register households that have access to grid electricity from bordering countries, defined as using border grid electricity as their main source for lighting. Approximately 10 percent of households in Kayin, 8 percent of households in Shan, and 1 percent of households in Kachin, Chin, and Sagaing have access to border grid electricity.

Table A7

Percentage of households owning at least one functioning asset

	Smart phone	s.e	Key-pad phone	s.e	TV	s.e	Air condi-tioner	s.e	Elec-tric fan	s.e	Gas stove	s.e
Union	72.2	0.6	20.3	0.5	54.5	0.8	4.2	0.4	29.0	0.8	5.3	0.3
Urban	87.3	0.6	19.0	0.8	79.4	1.1	13.1	1.2	63.2	1.2	13.6	1.1
Rural	66.1	0.8	20.9	0.6	44.4	1.0	0.6	0.1	15.1	0.9	1.9	0.2
State and Region												
Kachin State	78.3	1.9	22.5	1.6	56.6	2.7	3.1	0.9	27.7	3.0	3.7	1.0
Kayah State	83.4	2.3	2.4	0.6	61.2	3.2	0.5	0.2	18.2	2.2	1.2	0.3
Kayin State	76.2	2.1	16.0	1.7	61.8	2.8	2.9	0.7	34.9	3.7	10.2	1.3
Chin State	47.6	3.3	12.2	1.6	34.1	2.4	0.1	0.1	0.8	0.3	2.8	0.6
Sagaing Region	73.5	2.3	23.3	2.1	46.4	3.1	1.4	0.5	21.7	2.5	1.1	0.5
Tanintharyi Region	77.2	2.4	10.6	1.5	58.0	2.4	1.1	0.3	32.8	2.5	13.5	1.7
Bago Region	68.1	1.9	22.6	1.8	48.5	2.4	1.3	0.4	22.5	2.2	1.8	0.5
Magway Region	70.3	2.1	22.4	1.7	46.0	3.3	1.3	0.4	20.1	2.4	0.7	0.3
Mandalay Region	81.1	1.6	15.3	1.5	61.9	2.6	6.3	0.9	37.2	3.5	3.5	0.7
Mon State	73.2	2.0	19.6	1.5	69.4	2.2	2.4	0.5	50.4	3.5	13.9	1.7
Rakhine State	50.4	2.8	37.8	2.1	33.9	2.8	0.4	0.2	8.5	1.2	0.3	0.2
Yangon Region	91.2	1.0	11.4	1.3	74.6	1.9	16.2	2.2	68.2	2.3	17.3	2.0
Shan State	68.5	3.0	10.9	1.3	55.0	3.1	0.3	0.2	8.3	1.2	3.6	0.8
Ayeyarwady Region	57.7	1.9	31.8	1.7	42.5	1.8	0.6	0.3	10.3	1.1	1.3	0.4
Nay Pyi Taw Council	56.5	1.6	35.0	1.7	52.2	2.4	5.4	1.0	32.7	3.1	0.7	0.3
Sex of Head of Household												
Female	69.1	1.1	17.5	1.0	51.4	1.4	4.3	0.6	29.8	1.3	5.6	0.6
Male	73.0	0.7	21.1	0.6	55.3	0.8	4.1	0.4	28.8	0.8	5.2	0.3
Education of Head of Household												
Never attended school	52.1	2.3	14.3	1.2	39.4	2.2	0.9	0.3	11.2	1.1	2.5	0.5
Monastic school	66.4	1.6	18.1	1.2	46.5	1.8	1.1	0.3	17.7	1.2	1.5	0.3
Primary school	71.3	0.7	21.8	0.7	51.0	0.9	1.4	0.2	24.7	0.9	3.0	0.3
Middle school	85.9	1.1	21.0	1.3	74.4	1.5	9.6	1.2	52.9	1.8	10.6	1.0
High school or higher	94.0	0.6	20.7	1.5	82.4	1.5	24.8	2.4	65.2	1.7	22.7	1.9

Note: this table links to Figures 4.1 and 4.2 and Table 4.1.

Table A8

Percentage of population living in households that own at least one functioning asset

	Smart phone	s.e	Key-pad phone	s.e	TV	s.e	Air condi-tioner	s.e	Elec-tric fan	s.e	Gas stove	s.e
Union	75.6	0.6	21.2	0.6	57.6	0.9	4.3	0.4	29.7	0.8	5.5	0.4
Urban	89.6	0.7	19.2	0.9	83.0	1.0	13.5	1.2	64.7	1.3	14.6	1.1
Rural	70.0	0.8	22.0	0.7	47.5	1.1	0.7	0.2	15.7	1.0	1.9	0.2
State and Region												
Kachin State	80.4	1.8	24.5	1.8	59.5	2.9	3.3	1.0	28.7	3.1	3.6	1.0
Kayah State	85.0	2.5	2.2	0.5	61.7	3.5	0.3	0.2	16.8	2.1	0.9	0.3
Kayin State	79.0	2.2	16.8	2.0	61.6	3.1	3.4	0.8	33.9	3.6	10.5	1.5
Chin State	50.3	3.6	14.0	1.9	35.7	2.6	0.1	0.1	0.7	0.3	2.5	0.6
Sagaing Region	77.0	2.5	24.6	2.6	49.5	3.5	1.4	0.5	22.3	2.7	1.1	0.5
Tanintharyi Region	80.1	2.8	11.1	1.8	61.1	2.7	1.1	0.4	34.5	2.8	12.8	1.7
Bago Region	70.4	1.9	24.1	2.1	51.3	2.6	1.2	0.5	23.8	2.5	1.7	0.5
Magway Region	74.7	2.2	23.2	2.1	48.9	3.5	1.5	0.5	20.3	2.5	0.7	0.3
Mandalay Region	86.2	1.4	16.8	1.7	66.0	2.7	7.1	1.1	39.6	3.7	3.6	0.7
Mon State	77.0	2.2	19.8	1.7	72.3	2.2	2.7	0.6	51.3	3.7	13.6	1.6
Rakhine State	54.5	2.9	40.4	2.3	35.5	3.2	0.3	0.2	8.3	1.2	0.4	0.2
Yangon Region	92.9	1.1	11.3	1.3	78.6	2.0	16.9	2.2	69.9	2.5	19.0	2.1
Shan State	72.9	2.8	10.7	1.3	59.2	3.2	0.4	0.2	8.8	1.3	3.7	0.8
Ayeyarwady Region	61.2	2.0	33.5	1.8	45.4	2.1	0.7	0.3	10.7	1.2	1.3	0.4
Nay Pyi Taw Council	58.2	1.8	36.4	2.0	55.8	2.6	4.5	0.8	33.7	3.5	0.5	0.2
Sex of Head of Household												
Female	76.7	1.1	18.5	1.1	58.8	1.5	4.4	0.6	33.6	1.5	6.2	0.7
Male	75.4	0.7	21.8	0.6	57.4	0.9	4.3	0.4	28.9	0.9	5.4	0.4
Education of Head of Household												
Never attended school	58.2	2.5	16.0	1.5	43.8	2.3	1.1	0.4	12.4	1.4	3.0	0.6
Monastic school	73.4	1.6	18.6	1.3	51.5	2.1	1.3	0.4	19.2	1.5	1.9	0.5
Primary school	74.7	0.7	22.9	0.7	54.1	1.0	1.5	0.2	25.8	0.9	3.2	0.3
Middle school	87.3	1.1	21.4	1.4	77.6	1.5	11.4	1.4	54.9	1.9	11.2	1.1
High school or higher	94.9	0.6	20.9	1.6	87.2	1.3	26.8	2.5	67.9	1.8	25.6	2.1

Table A9

Percentage of households that own at least one functioning asset

	Refri-gera-tor	s.e	Char-coal stove	s.e	Rice cooker	s.e	Bicycle	s.e	Motor-cycle/ Moped	s.e	Car	s.e
Union	17.9	0.7	25.4	0.7	37.6	1.0	32.6	0.8	52.3	0.7	5.3	0.3
Urban	43.7	1.7	47.6	1.2	76.9	1.3	38.6	1.4	51.2	1.1	11.4	0.9
Rural	7.4	0.6	16.4	0.9	21.7	1.3	30.2	0.9	52.7	0.8	2.8	0.2
State and Region												
Kachin State	14.8	2.3	37.0	3.9	35.2	3.6	25.6	2.6	82.3	1.7	6.8	1.1
Kayah State	16.0	1.8	14.8	1.8	61.5	3.9	19.2	2.2	76.0	2.5	7.4	1.1
Kayin State	17.6	2.4	46.6	3.1	31.5	3.8	31.6	2.6	60.3	2.4	13.8	1.3
Chin State	1.9	0.5	14.8	1.6	13.5	2.2	1.4	0.4	45.2	3.3	1.3	0.4
Sagaing Region	12.5	1.8	13.0	1.6	27.2	3.5	33.2	2.6	75.4	2.0	2.5	0.5
Tanintharyi Region	7.9	1.2	60.9	3.2	27.8	2.5	18.5	1.7	58.0	3.2	3.6	0.7
Bago Region	12.7	1.8	19.3	2.1	29.6	3.5	46.2	2.7	53.9	2.0	1.8	0.5
Magway Region	11.5	1.5	17.4	1.8	27.4	3.7	27.2	2.5	56.9	2.4	2.9	0.6
Mandalay Region	23.2	2.2	34.5	3.3	52.9	4.2	30.6	2.2	71.7	2.1	6.9	1.0
Mon State	30.5	2.7	12.0	1.6	54.9	3.9	39.2	2.7	54.9	2.0	6.6	1.0
Rakhine State	3.4	0.7	11.2	1.4	10.1	1.4	19.0	1.7	23.4	2.7	1.7	0.5
Yangon Region	42.7	3.1	41.7	2.0	73.1	2.5	43.3	2.5	24.4	2.0	9.9	1.5
Shan State	12.0	1.6	30.0	3.0	37.2	3.9	11.9	1.8	72.7	2.3	8.4	1.2
Ayeyarwady Region	6.8	0.8	10.5	1.3	11.0	1.4	42.2	2.5	30.9	1.9	1.8	0.4
Nay Pyi Taw Council	17.9	1.9	22.9	2.5	48.3	4.0	28.8	2.1	53.8	2.6	3.6	0.6
Sex of Head of Household												
Female	18.4	1.2	26.6	1.2	40.8	1.5	25.2	1.1	40.7	1.1	4.0	0.5
Male	17.8	0.6	25.1	0.8	36.7	1.0	34.6	0.9	55.3	0.8	5.6	0.3
Education of Head of Household												
Never attended school	7.8	1.0	16.3	1.4	19.4	1.7	16.8	1.3	49.1	2.0	3.2	0.5
Monastic school	7.3	0.9	16.7	1.3	23.6	1.8	26.9	1.5	51.3	1.7	2.6	0.5
Primary school	12.5	0.6	24.3	0.9	32.6	1.2	34.7	0.9	51.6	0.9	3.4	0.3
Middle school	36.5	1.8	40.2	1.6	64.2	1.7	42.4	1.8	56.9	1.6	9.0	1.0
High school or higher	58.6	2.0	37.8	1.9	80.5	1.4	34.0	2.0	55.9	2.3	20.1	1.7

Note: This table links to Figures 4.1 and 4.2 and Table 4.1.

Table A10

Percentage of population living in households that own at least one functioning asset

	Refri-gera-tor	s.e	Char-coal stove	s.e	Rice cooker	s.e	Bicycle	s.e	Motor-cycle/ Moped	s.e	Car	s.e
Union	18.9	0.7	26.2	0.8	37.7	1.1	35.8	0.8	57.1	0.7	6.0	0.4
Urban	46.3	1.7	50.6	1.2	77.2	1.4	42.9	1.5	55.6	1.2	12.7	1.0
Rural	8.0	0.7	16.4	1.0	21.9	1.4	33.0	1.0	57.7	0.9	3.4	0.3
State and Region												
Kachin State	15.1	2.6	34.8	3.8	34.7	3.7	28.8	2.9	85.4	1.7	7.7	1.5
Kayah State	14.7	1.9	13.8	1.8	59.8	4.1	22.0	2.6	79.3	2.5	7.3	1.1
Kayin State	18.6	2.6	44.4	3.1	30.7	3.8	33.9	2.9	64.3	2.5	15.5	1.6
Chin State	2.0	0.5	13.9	1.5	12.7	2.1	1.7	0.6	51.7	3.7	1.5	0.5
Sagaing Region	13.5	1.9	13.5	1.8	27.6	3.7	36.9	2.9	80.3	2.1	2.7	0.6
Tanintharyi Region	8.2	1.2	62.6	3.2	27.9	2.8	20.2	2.0	60.1	3.9	3.6	0.9
Bago Region	13.5	1.9	19.0	2.2	29.8	3.7	50.5	2.8	58.9	2.1	2.2	0.6
Magway Region	11.6	1.7	17.1	1.9	27.1	3.8	29.6	2.6	63.2	2.6	3.7	0.9
Mandalay Region	26.1	2.5	36.3	3.7	54.6	4.3	35.0	2.6	77.5	2.2	8.1	1.2
Mon State	31.9	3.0	11.8	1.6	54.2	4.1	43.0	3.1	60.0	2.3	7.4	1.1
Rakhine State	3.7	0.8	11.2	1.5	9.9	1.5	21.0	1.9	25.2	2.8	1.6	0.5
Yangon Region	45.8	3.0	44.8	2.1	73.3	2.6	48.4	2.7	26.7	2.2	10.8	1.6
Shan State	13.0	1.8	30.5	3.2	38.2	4.0	13.4	2.0	78.8	2.1	10.3	1.3
Ayeyarwady Region	6.6	0.9	10.4	1.3	10.4	1.3	47.1	2.6	33.2	2.1	2.0	0.5
Nay Pyi Taw Council	17.0	1.8	23.0	2.4	47.2	4.3	33.8	2.5	57.4	3.0	3.5	0.6
Sex of Head of Household												
Female	21.4	1.3	29.5	1.4	43.7	1.7	31.0	1.4	51.0	1.4	5.8	0.7
Male	18.4	0.7	25.5	0.8	36.4	1.1	36.9	0.9	58.4	0.8	6.1	0.4
Education of Head of Household												
Never attended school	9.0	1.3	17.6	1.8	21.5	1.9	19.5	1.6	55.4	2.2	4.7	0.8
Monastic school	9.0	1.2	17.2	1.4	24.6	2.0	30.0	1.7	58.8	1.8	3.4	0.6
Primary school	13.5	0.7	25.2	0.9	33.3	1.2	37.7	1.0	56.1	0.9	4.0	0.3
Middle school	39.9	1.9	40.6	1.7	64.1	1.9	46.8	1.9	60.2	1.8	10.5	1.2
High school or higher	63.2	2.1	41.9	2.2	81.5	1.5	39.5	2.3	59.2	2.4	22.9	2.0

Table A11

Percentage of households with a quality wall, floor and roof

	Quality wall	s.e	Quality Floor	s.e	Quality Roof	s.e	All three	s.e
Union	44.9	0.8	75.2	0.8	81.5	0.7	40.5	0.8
Urban	65.6	1.4	88.7	0.8	94.7	0.5	62.6	1.4
Rural	36.5	0.9	69.7	1.0	76.1	0.9	31.6	0.9
State and Region								
Kachin State	43.7	2.7	74.8	2.5	86.6	2.1	40.3	2.5
Kayah State	74.8	3.1	86.7	2.9	93.4	1.5	71.7	3.3
Kayin State	78.3	2.7	91.1	1.7	80.2	2.7	69.5	2.9
Chin State	72.1	4.2	84.0	3.3	88.5	2.0	70.5	4.1
Sagaing Region	34.6	2.8	64.4	3.9	82.4	2.4	29.7	2.6
Tanintharyi Region	66.8	2.7	91.8	1.2	41.3	3.3	36.1	3.1
Bago Region	33.7	2.2	77.3	2.0	82.7	1.9	31.9	2.1
Magway Region	28.9	2.6	48.8	3.1	84.5	2.2	25.2	2.5
Mandalay Region	32.1	2.1	67.8	2.8	91.4	1.4	30.2	2.1
Mon State	76.3	2.2	92.7	1.3	78.2	2.4	70.1	2.5
Rakhine State	38.8	3.5	75.5	3.2	57.4	3.4	26.4	2.4
Yangon Region	65.6	2.3	90.5	1.1	92.5	1.3	62.6	2.3
Shan State	59.6	3.1	66.9	3.0	92.7	1.6	56.2	3.1
Ayeyarwady Region	28.5	1.8	80.8	1.6	61.9	2.9	25.8	1.7
Nay Pyi Taw Council	35.9	3.0	75.2	2.3	88.0	2.4	34.3	3.0
Sex of Head of Household								
Female	47.9	1.2	75.6	1.2	84.5	0.9	43.2	1.2
Male	44.1	0.8	75.1	0.8	80.7	0.7	39.8	0.8
Education of Head of Household								
Never attended school	42.6	2.1	63.5	2.5	76.8	1.8	38.1	2.1
Monastic school	38.1	1.7	67.7	1.9	80.0	1.4	32.3	1.7
Primary school	39.6	0.9	74.1	0.9	78.8	0.8	35.1	0.8
Middle school	56.7	1.7	87.0	1.2	91.1	0.9	54.1	1.8
High school or higher	78.6	1.7	92.6	1.0	94.9	0.8	74.6	1.8

Note: This table links to Figure 4.3 and Table 4.2.

Table A12

Percentage of population living in households a quality roof, wall and floor

	Quality wall	s.e	Quality Floor	s.e	Quality Roof	s.e	All three	s.e
Union	46.4	0.8	76.4	0.8	81.6	0.7	41.8	0.8
Urban	66.1	1.5	89.0	0.8	94.3	0.6	63.1	1.5
Rural	38.5	1.0	71.4	1.1	76.5	0.9	33.3	0.9
State and Region								
Kachin State	45.1	3.0	75.1	2.5	87.3	2.2	41.7	2.7
Kayah State	75.3	3.2	86.3	3.1	93.8	1.5	72.2	3.5
Kayin State	77.7	2.9	90.5	1.7	77.9	3.1	67.6	3.3
Chin State	74.6	4.1	85.9	3.2	90.9	1.8	73.5	4.1
Sagaing Region	37.6	2.9	66.5	4.0	82.4	2.8	32.3	2.8
Tanintharyi Region	65.0	3.0	91.4	1.4	40.1	3.5	35.2	3.3
Bago Region	35.1	2.7	78.8	2.1	82.5	2.3	33.6	2.5
Magway Region	29.5	2.8	50.7	3.3	84.9	2.4	25.7	2.6
Mandalay Region	33.8	2.2	70.1	2.7	92.2	1.4	31.8	2.2
Mon State	76.2	2.2	92.8	1.4	78.9	2.5	70.4	2.5
Rakhine State	38.8	3.5	76.8	3.2	59.3	3.7	27.1	2.6
Yangon Region	67.2	2.3	91.0	1.1	92.4	1.3	64.0	2.4
Shan State	61.5	3.3	68.9	3.3	93.0	1.7	58.1	3.3
Ayeyarwady Region	28.5	1.9	81.5	1.7	61.6	3.0	25.9	1.8
Nay Pyi Taw Council	32.9	2.9	75.8	2.3	87.6	2.5	31.4	2.9
Sex of Head of Household								
Female	50.5	1.4	77.7	1.3	85.6	1.0	45.7	1.4
Male	45.5	0.9	76.2	0.8	80.7	0.8	41.0	0.9
Education of Head of Household								
Never attended school	44.4	2.4	65.7	2.6	77.9	2.1	39.5	2.4
Monastic school	40.1	2.0	68.6	2.2	80.7	1.4	34.0	1.9
Primary school	41.8	0.9	76.0	0.9	78.9	0.9	37.2	0.9
Middle school	58.4	1.8	87.7	1.2	91.3	1.0	55.7	1.9
High school or higher	79.6	1.8	93.2	0.9	95.4	0.8	76.1	1.9

Table A13

Percentage of households with different types of walls for their dwellings

	Dhani/ theke /in leaf	Bamboo	Earth	Wood	Tile/brick/ concrete	Corru-gated sheet	Other	Total
Union	8.7	42.8	0.4	19.2	24.1	1.6	3.1	100
Urban	2.2	28.8	0.4	17.0	45.3	3.3	3.1	100
Rural	11.4	48.5	0.5	20.1	15.5	0.9	3.1	100
State and Region								
Kachin State	0.4	55.2	0.6	20.2	21.2	2.2	0.2	100
Kayah State	6.1	17.8	0.4	43.2	30.8	0.8	0.9	100
Kayin State	5.6	15.2	0.4	59.7	18.4	0.3	0.4	100
Chin State	3.3	23.5	0.4	58.1	4.8	9.2	0.7	100
Sagaing Region	0.6	63.6	0.6	18.2	16.4	0.1	0.5	100
Tanintharyi Region	5.0	26.2	0.1	36.2	30.0	0.6	2.0	100
Bago Region	3.7	46.6	0.1	17.4	15.8	0.4	15.9	100
Magway Region	5.8	65.2	0.0	8.9	19.9	0.1	0.1	100
Mandalay Region	2.1	65.1	0.3	3.5	28.2	0.5	0.3	100
Mon State	10.6	12.8	0.2	45.7	30.2	0.4	0.1	100
Rakhine State	9.9	49.9	0.3	30.9	5.7	2.2	1.2	100
Yangon Region	6.4	21.6	0.4	16.6	43.6	5.4	6.0	100
Shan State	0.1	38.9	1.5	17.8	40.5	1.3	0.0	100
Ayeyarwady Region	40.3	28.7	0.3	20.3	6.6	1.6	2.2	100
Nay Pyi Taw Council	1.0	62.9	0.2	13.8	22.0	0.1	0.0	100
Sex of Head of Household								
Female	6.2	42.7	0.4	21.7	24.9	1.3	2.7	100
Male	9.4	42.8	0.4	18.5	23.9	1.7	3.2	100
Education of Head of Household								
Never attended school	6.8	48.1	1.3	24.1	17.8	0.6	1.4	100
Monastic school	10.3	48.6	0.4	19.6	17.4	1.1	2.6	100
Primary school	10.5	45.8	0.3	18.8	19.1	1.8	3.8	100
Middle school	4.8	34.4	0.7	18.4	36.2	2.1	3.4	100
High school or higher	2.2	17.5	0.2	16.1	60.6	1.9	1.5	100

Note: This table links to Table 4.3.

Table A14

Percentage of households with different types of floors for their dwellings

	Bamboo	Earth	Wood	Tile/brick/ concrete/ parquet	Other	Total
Union	16.7	7.4	50.9	24.3	0.7	100
Urban	5.6	4.7	42.6	46.1	1.1	100
Rural	21.2	8.6	54.3	15.4	0.5	100
State and Region						
Kachin State	17.7	7.1	42.9	32.0	0.3	100
Kayah State	11.2	1.4	59.1	27.6	0.8	100
Kayin State	8.3	0.1	76.0	15.1	0.5	100
Chin State	15.1	0.9	81.3	2.7	0.0	100
Sagaing Region	4.2	30.6	47.0	17.4	0.7	100
Tanintharyi Region	5.1	2.5	64.6	27.2	0.6	100
Bago Region	19.3	3.2	67.4	9.9	0.2	100
Magway Region	40.9	10.1	29.6	19.2	0.3	100
Mandalay Region	17.5	14.2	32.5	35.3	0.6	100
Mon State	7.2	0.0	72.0	20.6	0.2	100
Rakhine State	22.1	1.9	70.4	5.1	0.5	100
Yangon Region	7.1	0.7	47.8	42.7	1.7	100
Shan State	24.7	7.7	24.9	42.1	0.6	100
Ayeyarwady Region	16.9	1.9	73.8	7.0	0.5	100
Nay Pyi Taw Council	19.9	4.5	49.7	25.4	0.4	100
Sex of Head of Household						
Female	16.1	7.6	50.5	25.2	0.6	100
Male	16.9	7.4	51.0	24.0	0.7	100
Education of Head of Household						
Never attended school	26.9	8.8	44.2	19.3	0.8	100
Monastic school	19.5	12.4	51.6	16.1	0.3	100
Primary school	17.9	7.4	55.0	19.2	0.6	100
Middle school	8.4	3.7	50.2	36.8	0.9	100
High school or higher	2.8	3.7	31.4	61.2	0.9	100

Table A15

Percentage of households with different types of roof for their dwellings

	Dhani/ theke /in leaf	Bamboo	Earth	Wood	Corru-gated sheet	Tile/ brick/ concrete	Other	Total
Union	17.7	0.4	0.0	0.9	78.8	1.8	0.4	100
Urban	4.4	0.3	0.1	0.7	88.8	5.2	0.5	100
Rural	23.1	0.4	0.0	0.9	74.7	0.4	0.3	100
State and Region								
Kachin State	12.6	0.6	0.0	0.4	85.2	0.9	0.2	100
Kayah State	5.6	0.0	0.0	0.6	92.4	0.5	1.0	100
Kayin State	19.8	0.0	0.0	1.5	77.8	0.9	0.1	100
Chin State	9.8	1.1	0.0	1.9	86.5	0.2	0.6	100
Sagaing Region	16.6	1.0	0.0	0.6	81.2	0.5	0.0	100
Tanintharyi Region	58.1	0.1	0.1	0.8	37.7	2.7	0.4	100
Bago Region	15.5	0.4	0.0	1.1	81.2	0.4	1.4	100
Magway Region	14.5	0.5	0.2	0.6	83.5	0.3	0.3	100
Mandalay Region	7.4	1.0	0.0	0.2	90.8	0.4	0.2	100
Mon State	21.2	0.2	0.2	0.8	76.6	0.8	0.2	100
Rakhine State	42.2	0.3	0.1	1.1	56.1	0.2	0.0	100
Yangon Region	6.5	0.1	0.1	0.8	83.7	8.0	0.8	100
Shan State	7.2	0.1	0.0	0.8	90.9	1.0	0.0	100
Ayeyarwady Region	37.8	0.1	0.0	1.5	59.9	0.5	0.2	100
Nay Pyi Taw Council	11.7	0.1	0.1	1.3	84.6	2.1	0.0	100
Sex of Head of Household								
Female	14.7	0.5	0.0	0.9	81.4	2.1	0.3	100
Male	18.5	0.3	0.0	0.9	78.1	1.7	0.4	100
Education of Head of Household								
Never attended school	22.0	0.7	0.0	0.8	75.2	0.8	0.5	100
Monastic school	19.5	0.4	0.0	1.2	78.4	0.5	0.1	100
Primary school	20.5	0.4	0.0	0.8	77.1	0.8	0.3	100
Middle school	8.4	0.1	0.1	0.7	87.0	3.4	0.3	100
High school or higher	3.7	0.1	0.2	0.9	84.4	9.6	1.1	100

Note: This table links to Table 4.4.

Table A16

Percentage of households with access to water during the dry season

	Improved and safely managed (inside the dwelling or compound)	Improved basic (within 30 minutes round trip collecting)	Improved limited (more than 30 minutes round trip collecting)	Unimproved	Surface water	Total
Union	56.9	21.9	0.6	4.6	16.0	100
Urban	84.0	9.7	0.0	0.8	5.5	100
Rural	45.9	26.8	0.9	6.2	20.2	100
State/Region						
Kachin State	81.4	14.6	0.0	0.8	3.2	100
Kayah State	67.3	18.7	0.4	6.0	7.6	100
Kayin State	59.2	14.5	0.0	22.5	3.8	100
Chin State	55.7	20.1	0.7	0.4	23.1	100
Sagaing Region	61.2	28.8	0.6	1.6	7.9	100
Tanintharyi Region	54.6	24.0	0.7	16.8	3.9	100
Bago Region	48.5	27.1	0.5	10.5	13.5	100
Magway Region	47.9	33.6	1.1	7.9	9.5	100
Mandalay Region	61.8	27.6	2.1	0.5	8.0	100
Mon State	79.2	13.3	0.1	4.6	2.7	100
Rakhine State	17.2	24.3	0.9	6.5	51.2	100
Yangon Region	79.0	6.5	0.2	0.1	14.2	100
Shan State	60.9	24.6	0.4	6.3	7.7	100
Ayeyarwady Region	34.7	19.2	0.3	3.3	42.4	100
Nay Pyi Taw Council	65.5	29.7	0.0	0.6	4.3	100
Sex of Head of Household						
Female	59.7	21.3	0.7	4.3	13.9	100
Male	56.1	22.0	0.6	4.7	16.5	100
Education of Head of Household						
Never attended school	43.3	32.4	0.8	8.6	14.9	100
Monastic school	46.1	26.6	1.1	5.8	20.3	100
Primary school	53.5	22.9	0.7	4.8	18.2	100
Middle school	76.5	12.9	0.0	2.2	8.4	100
High school or higher	87.3	6.6	0.3	0.6	5.2	100

Table A17

Percentage of population living in households with access to water during the dry season

	Improved and safely managed (inside the dwelling or compound)	Improved basic (within 30 minutes round trip collecting)	Improved limited (more than 30 minutes round trip collecting)	Unimproved	Surface water	Total
Union	57.3	21.4	0.7	4.7	15.9	100
Urban	83.7	9.7	0.0	0.9	5.7	100
Rural	46.8	26.1	0.9	6.2	19.9	100
State/Region						
Kachin State	81.2	14.2	0.0	0.8	3.9	100
Kayah State	66.7	19.8	0.5	5.3	7.7	100
Kayin State	58.4	14.0	0.0	22.8	4.8	100
Chin State	57.9	19.2	0.6	0.2	22.1	100
Sagaing Region	62.3	27.8	0.5	1.6	7.7	100
Tanintharyi Region	55.3	23.6	0.7	16.0	4.4	100
Bago Region	50.3	25.8	0.3	9.9	13.6	100
Magway Region	47.0	33.6	1.4	8.7	9.3	100
Mandalay Region	63.0	26.5	2.2	0.5	7.7	100
Mon State	77.7	13.9	0.1	5.0	3.3	100
Rakhine State	17.6	23.6	0.9	6.8	51.1	100
Yangon Region	78.6	6.9	0.2	0.2	14.2	100
Shan State	61.2	23.8	0.3	6.5	8.1	100
Ayeyarwady Region	34.3	18.7	0.4	3.0	43.6	100
Nay Pyi Taw Council	64.0	31.2	0.0	0.6	4.2	100
Sex of Head of Household						
Female	62.0	20.3	0.7	4.4	12.5	100
Male	56.3	21.7	0.6	4.8	16.6	100
Education of Head of Household						
Never attended school	46.3	30.6	0.6	8.5	14.0	100
Monastic school	46.8	25.9	1.4	5.9	20.0	100
Primary school	54.3	22.3	0.7	4.7	18.0	100
Middle school	76.5	12.6	0.0	2.1	8.8	100
High school or higher	88.0	6.0	0.2	0.7	5.1	100

Note: This table links to Table 5.1 and Figure 5.8.

Table A18

Percentage of households with access to water during the rainy season

	Improved and safely managed (inside the dwelling or compound)	Improved basic (within 30 minutes round trip collecting)	Improved limited (more than 30 minutes round trip collecting)	Unimproved	Surface water	Total
Union	66.9	20.2	0.3	4.0	8.6	100
Urban	86.8	8.8	0.0	0.8	3.6	100
Rural	58.8	24.9	0.4	5.3	10.6	100
State/Region						
Kachin State	81.9	14.1	0.0	0.8	3.2	100
Kayah State	78.7	13.1	0.3	4.6	3.3	100
Kayin State	63.5	11.6	0.0	22.6	2.2	100
Chin State	61.3	21.9	0.1	0.2	16.5	100
Sagaing Region	63.2	28.1	0.6	1.3	6.9	100
Tanintharyi Region	56.0	23.3	0.4	16.9	3.4	100
Bago Region	66.4	22.9	0.1	6.1	4.4	100
Magway Region	52.9	31.4	0.4	7.9	7.3	100
Mandalay Region	66.2	25.3	0.9	1.3	6.3	100
Mon State	82.4	12.3	0.0	4.4	0.9	100
Rakhine State	20.3	24.6	0.5	5.3	49.4	100
Yangon Region	90.7	5.1	0.1	0.2	3.9	100
Shan State	64.1	23.1	0.1	6.2	6.5	100
Ayeyarwady Region	67.1	18.1	0.1	2.2	12.5	100
Nay Pyi Taw Council	66.3	29.4	0.0	0.5	3.8	100
Sex of Head of Household						
Female	67.7	20.3	0.3	4.0	7.7	100
Male	66.7	20.2	0.3	4.0	8.8	100
Education of Head of Household						
Never attended school	50.5	31.1	0.1	8.7	9.5	100
Monastic school	57.8	24.7	0.6	5.4	11.5	100
Primary school	65.6	20.9	0.3	3.8	9.5	100
Middle school	81.8	11.9	0.0	2.0	4.3	100
High school or higher	89.8	6.8	0.3	0.5	2.5	100

Table A19

Percentage of population living in households with access to water during the rainy season

	Improved and safely managed (inside the dwelling or compound)	Improved basic (within 30 minutes round trip collecting)	Improved limited (more than 30 minutes round trip collecting)	Unimproved	Surface water	Total
Union	66.9	19.6	0.3	4.3	8.9	100
Urban	86.6	8.7	0.0	0.8	3.8	100
Rural	59.1	23.9	0.5	5.6	10.9	100
State/Region						
Kachin State	81.4	13.9	0.0	0.8	3.9	100
Kayah State	78.0	13.6	0.4	4.1	3.9	100
Kayin State	63.0	11.3	0.0	22.8	2.9	100
Chin State	63.5	20.4	0.1	0.0	16.0	100
Sagaing Region	63.9	27.2	0.5	1.3	7.0	100
Tanintharyi Region	56.5	23.1	0.4	16.2	3.8	100
Bago Region	67.9	21.0	0.2	6.5	4.5	100
Magway Region	52.4	31.1	0.8	8.8	6.9	100
Mandalay Region	67.7	23.7	0.9	1.6	6.1	100
Mon State	81.8	12.2	0.0	4.8	1.3	100
Rakhine State	21.1	23.3	0.5	5.5	49.6	100
Yangon Region	89.8	5.5	0.1	0.2	4.4	100
Shan State	64.2	22.4	0.1	6.3	7.0	100
Ayeyarwady Region	67.7	17.1	0.2	2.0	13.1	100
Nay Pyi Taw Council	65.0	30.6	0.0	0.5	3.8	100
Sex of Head of Household						
Female	69.1	19.1	0.3	4.4	7.1	100
Male	66.5	19.7	0.3	4.2	9.2	100
Education of Head of Household						
Never attended school	52.7	29.4	0.2	8.6	9.1	100
Monastic school	57.8	24.1	0.7	5.6	11.8	100
Primary school	66.0	19.9	0.3	4.0	9.7	100
Middle school	81.7	11.5	0.0	2.1	4.7	100
High school or higher	90.0	6.3	0.2	0.6	2.8	100

Note: This table links to Table 5.1.

Table A20

Percentage of households with access to improved and safely managed drinking water

	Dry season	s.e.	Rainy season	s.e.	Both dry and rainy season	s.e.	At least one season	s.e.
Union	56.9	1.1	66.9	0.9	56.7	1.1	67.1	0.9
Urban	84.0	1.2	86.8	1.1	83.8	1.2	87.0	1.1
Rural	45.9	1.5	58.8	1.2	45.7	1.5	59.0	1.2
State/Region								
Kachin State	81.4	2.2	81.9	2.2	81.2	2.2	82.1	2.2
Kayah State	67.3	3.7	78.7	3.3	66.9	3.7	79.1	3.3
Kayin State	59.2	2.3	63.5	2.1	59.0	2.3	63.7	2.1
Chin State	55.7	4.5	61.3	4.3	55.4	4.5	61.6	4.3
Sagaing Region	61.2	4.0	63.2	3.8	61.0	4.0	63.3	3.8
Tanintharyi Region	54.6	3.6	56.0	3.5	54.4	3.6	56.2	3.5
Bago Region	48.5	3.6	66.4	2.8	48.4	3.6	66.5	2.8
Magway Region	47.9	4.4	52.9	4.1	47.7	4.5	53.1	4.1
Mandalay Region	61.8	3.8	66.2	3.2	61.2	3.9	66.8	3.1
Mon State	79.2	2.6	82.4	2.2	78.7	2.6	82.9	2.2
Rakhine State	17.2	2.8	20.3	2.9	17.1	2.8	20.4	2.9
Yangon Region	79.0	2.5	90.7	1.6	78.9	2.5	90.9	1.6
Shan State	60.9	4.1	64.1	3.9	60.9	4.1	64.1	3.9
Ayeyarwady Region	34.7	3.1	67.1	2.5	34.4	3.1	67.3	2.5
Nay Pyi Taw Council	65.5	3.1	66.3	2.9	65.3	3.1	66.5	2.9
Sex of Head of Household								
Female	59.7	1.5	67.7	1.4	59.7	1.5	67.8	1.4
Male	56.1	1.2	66.7	1.0	55.9	1.2	66.9	1.0
Education of Head of Household								
Never Attended	43.3	2.4	50.5	2.4	42.9	2.4	50.9	2.4
Monastic	46.1	2.0	57.8	2.0	45.9	2.1	58.1	2.0
Primary	53.5	1.3	65.6	1.1	53.3	1.3	65.8	1.1
Middle	76.5	1.4	81.8	1.2	76.3	1.4	82.1	1.2
High and above	87.3	1.3	89.8	1.2	87.1	1.3	90.1	1.1

Table A21

Percentage of the population living in households with access to improved and safely managed drinking water

	Dry season	s.e.	Rainy season	s.e.	Both dry and rainy season	s.e.	At least one season	s.e.
Union	57.3	1.1	66.9	1.0	57.1	1.1	67.1	1.0
Urban	83.7	1.3	86.6	1.1	83.5	1.3	86.8	1.1
Rural	46.8	1.5	59.1	1.3	46.6	1.5	59.3	1.3
State/Region								
Kachin State	81.2	2.5	81.4	2.4	81.0	2.5	81.6	2.5
Kayah State	66.7	3.9	78.0	3.5	66.2	3.9	78.5	3.5
Kayin State	58.4	2.7	63.0	2.5	58.3	2.8	63.2	2.5
Chin State	57.9	4.7	63.5	4.5	57.4	4.8	64.0	4.5
Sagaing Region	62.3	4.2	63.9	4.1	62.2	4.2	64.0	4.1
Tanintharyi Region	55.3	3.9	56.5	3.7	54.9	3.9	56.9	3.8
Bago Region	50.3	4.0	67.9	3.0	50.3	4.0	67.9	3.0
Magway Region	47.0	4.4	52.4	4.1	47.0	4.5	52.5	4.1
Mandalay Region	63.0	4.0	67.7	3.4	62.5	4.0	68.2	3.4
Mon State	77.7	3.0	81.8	2.4	77.3	2.9	82.2	2.4
Rakhine State	17.6	3.3	21.1	3.3	17.6	3.3	21.1	3.4
Yangon Region	78.6	2.6	89.8	1.8	78.4	2.6	90.0	1.8
Shan State	61.2	4.2	64.2	4.0	61.2	4.2	64.2	4.0
Ayeyarwady Region	34.3	3.3	67.7	2.5	34.1	3.3	67.9	2.5
Nay Pyi Taw Council	64.0	3.4	65.0	3.2	63.9	3.4	65.1	3.2
Sex of Head of Household								
Female	62.0	1.7	69.1	1.5	61.9	1.7	69.2	1.5
Male	56.3	1.2	66.5	1.1	56.1	1.2	66.7	1.1
Education of Head of Household								
Never Attended	46.3	2.5	52.7	2.5	46.0	2.6	53.1	2.5
Monastic	46.8	2.3	57.8	2.3	46.7	2.3	57.9	2.3
Primary	54.3	1.3	66.0	1.1	54.2	1.3	66.2	1.1
Middle	76.5	1.5	81.7	1.3	76.3	1.5	81.9	1.3
High and above	88.0	1.3	90.0	1.2	87.7	1.4	90.3	1.2

Table A22

Percentage of the population living in households with access to various drinking water sources in the dry season

	Water pipe into dwelling	Water pipe inside compound	Water pipe outside compound	Tube well	Protected well/ spring	Unprotected well/ spring	Pool	River	Rain	Bottle	Truck	Other	Total
Union	2.3	5.6	2.3	34.0	14.0	4.7	10.8	4.4	1.8	18.0	1.3	0.7	100
Urban	3.7	5.5	1.2	23.2	7.2	0.9	3.2	1.0	1.1	48.9	2.6	1.5	100
Rural	1.8	5.7	2.8	38.3	16.8	6.2	13.9	5.7	2.0	5.7	0.8	0.4	100
State/Region													
Kachin State	3.5	5.7	2.8	39.8	30.6	0.8	0.9	2.8	0.1	12.3	0.5	0.2	100
Kayah State	7.8	13.9	1.3	8.3	36.1	5.3	3.8	3.1	3.2	14.8	1.6	0.8	100
Kayin State	3.7	5.9	1.5	3.0	39.6	22.8	0.7	4.0	1.4	16.4	0.9	0.0	100
Chin State	21.9	20.4	26.8	1.3	4.3	0.2	5.9	16.2	0.2	0.6	2.3	0.0	100
Sagaing Region	0.6	9.9	1.2	58.0	11.8	1.6	5.3	2.2	0.9	7.6	0.5	0.3	100
Tanintharyi Region	9.5	10.0	1.6	6.3	35.1	16.0	0.7	3.3	0.0	16.1	0.9	0.4	100
Bago Region	0.4	0.1	0.0	59.1	7.2	9.9	9.9	2.1	1.1	8.0	0.5	1.5	100
Magway Region	4.3	5.7	0.8	54.8	8.7	8.7	5.7	3.6	1.3	5.6	0.7	0.0	100
Mandalay Region	2.5	3.7	0.2	48.0	11.2	0.5	4.1	3.5	2.1	23.7	0.5	0.1	100
Mon State	4.1	5.3	0.9	2.7	61.6	5.0	3.3	0.0	0.2	15.9	1.0	0.0	100
Rakhine State	0.7	2.3	1.3	10.9	22.0	6.8	50.1	0.8	0.0	4.7	0.1	0.2	100
Yangon Region	3.4	4.6	0.5	19.2	1.9	0.2	10.8	0.6	2.3	49.7	4.2	2.8	100
Shan State	1.4	15.8	13.4	8.8	21.6	6.5	3.1	4.8	4.0	20.4	0.0	0.3	100
Ayeyarwady Region	0.0	0.0	0.0	39.3	3.8	3.0	27.1	16.4	2.7	5.3	2.3	0.1	100
Nay Pyi Taw Council	0.9	1.3	0.2	59.9	5.1	0.6	0.3	3.9	0.3	27.1	0.4	0.0	100
Sex of Head of Household													
Female	2.7	6.2	1.5	33.2	15.3	4.4	9.6	2.3	1.6	21.2	1.4	0.7	100
Male	2.3	5.5	2.5	34.2	13.8	4.8	11.1	4.8	1.8	17.3	1.3	0.7	100
Education of Head of Household													
Never attended school	3.0	9.5	8.4	24.9	21.0	8.5	8.5	5.2	2.3	8.0	0.4	0.3	100
Monastic school	1.6	7.6	1.6	33.0	17.7	5.9	13.4	6.2	3.8	7.7	1.2	0.4	100
Primary school	1.9	4.9	1.9	38.1	14.1	4.7	12.8	4.4	1.3	13.6	1.4	0.7	100
Middle school	2.6	4.7	0.8	31.3	8.2	2.1	4.5	3.4	1.0	39.1	1.6	0.9	100
High school or higher	5.6	2.9	0.6	21.2	4.8	0.7	3.1	0.8	1.7	55.9	1.5	1.2	100

Note: This table links to Table 5.2.

Table A23

Percentage of the population living in households with access to various drinking water sources in the rainy season

	Water pipe into dwelling	Water pipe inside compound	Water pipe outside compound	Tube well	Protected well/ spring	Unprotected well/ spring	Pool	River	Rain	Bottle	Truck	Other	Total
Union	2.3	5.5	2.4	32.0	13.2	4.3	5.2	3.2	13.6	17.1	0.7	0.5	100
Urban	3.7	5.4	1.2	21.5	6.9	0.8	1.7	0.9	8.2	46.9	1.6	1.2	100
Rural	1.8	5.6	2.9	36.2	15.7	5.6	6.6	4.1	15.8	5.2	0.3	0.2	100
State/Region													
Kachin State	3.5	5.3	2.8	39.8	30.7	0.8	0.9	2.8	0.6	12.2	0.5	0.2	100
Kayah State	7.3	14.0	1.5	5.9	36.7	4.1	0.9	2.8	12.7	13.3	0.7	0.1	100
Kayin State	3.7	5.3	1.4	3.0	40.1	22.8	0.1	2.8	4.2	16.1	0.5	0.0	100
Chin State	22.8	21.0	29.3	1.4	2.9	0.0	4.8	11.2	4.6	0.4	1.5	0.0	100
Sagaing Region	0.6	10.0	1.2	56.7	11.9	1.3	4.9	1.9	3.1	7.6	0.5	0.2	100
Tanintharyi Region	9.5	10.6	1.7	6.3	35.1	16.2	0.7	3.0	0.8	15.6	0.3	0.1	100
Bago Region	0.4	0.1	0.0	52.9	6.6	6.5	2.3	1.5	21.8	7.3	0.1	0.7	100
Magway Region	4.5	6.1	1.0	52.1	7.5	8.8	2.9	4.0	7.7	5.3	0.2	0.0	100
Mandalay Region	2.5	3.7	0.2	46.1	8.3	1.6	2.8	3.2	8.0	23.4	0.1	0.1	100
Mon State	4.2	4.8	0.8	2.4	60.6	4.8	1.3	0.0	6.6	14.2	0.4	0.0	100
Rakhine State	0.7	2.7	1.6	10.4	21.7	5.5	48.5	1.0	3.2	4.6	0.1	0.1	100
Yangon Region	3.1	3.6	0.5	17.3	1.1	0.2	1.7	0.4	20.8	45.7	3.3	2.3	100
Shan State	1.4	16.0	13.3	8.3	20.9	6.3	2.2	4.5	6.4	20.4	0.0	0.3	100
Ayeyarwady Region	0.0	0.0	0.0	36.0	3.1	2.0	4.3	8.7	41.1	4.5	0.2	0.1	100
Nay Pyi Taw Council	0.9	1.2	0.1	59.4	4.5	0.5	0.3	3.6	2.1	27.2	0.3	0.0	100
Sex of Head of Household													
Female	2.7	6.3	1.6	30.9	14.3	4.4	5.0	1.5	12.1	20.0	0.7	0.5	100
Male	2.2	5.4	2.5	32.3	13.0	4.2	5.2	3.5	14.0	16.5	0.7	0.5	100
Education of Head of Household													
Never attended school	2.8	9.5	8.5	23.5	20.5	8.6	4.5	4.4	9.9	7.6	0.1	0.3	100
Monastic school	1.5	7.4	1.5	31.2	16.5	5.6	7.2	4.3	16.7	7.0	0.6	0.4	100
Primary school	2.0	4.8	1.9	35.8	13.2	4.0	6.0	3.2	15.1	12.6	0.8	0.5	100
Middle school	2.6	4.5	0.9	29.9	7.3	2.1	2.1	2.0	9.3	37.7	1.0	0.6	100
High school or higher	5.4	2.9	0.7	19.5	5.0	0.6	1.2	0.6	8.0	54.7	0.3	1.0	100

Note: This table links to Table 5.3.

Table A24

Percentage of the population living in households using various sources of water for cooking

	Water pipe into dwelling	Water pipe inside compound	Water pipe outside compound	Tube well	Protected well/ spring	Unprotected well/ spring	Pool	River	Rain	Bottle	Truck	Other	Total
Union	4.6	8.7	2.7	42.7	14.3	4.8	9.4	6.6	1.9	2.5	1.2	0.7	100
Urban	10.3	12.3	1.7	45.8	10.2	1.1	3.7	1.8	0.8	7.5	3.0	1.7	100
Rural	2.3	7.3	3.0	41.4	15.9	6.3	11.7	8.5	2.3	0.5	0.5	0.4	100
State/Region													
Kachin State	5.2	8.1	3.1	45.5	32.3	1.1	0.3	3.0	0.1	0.5	0.6	0.2	100
Kayah State	9.6	18.3	1.8	7.7	43.5	4.4	2.6	3.5	7.2	0.4	0.6	0.5	100
Kayin State	5.0	8.1	1.3	6.9	42.8	22.8	0.6	5.2	2.1	3.3	1.6	0.2	100
Chin State	23.0	20.5	27.6	1.4	3.4	0.3	5.5	15.0	0.9	0.2	2.2	0.0	100
Sagaing Region	1.2	12.9	1.4	62.8	11.5	1.4	3.7	1.6	0.8	1.6	0.7	0.3	100
Tanintharyi Region	16.1	15.1	2.4	8.2	35.2	16.7	0.4	3.7	0.0	0.4	1.6	0.1	100
Bago Region	0.5	0.1	0.1	65.9	7.7	9.5	8.9	2.9	2.6	0.2	0.3	1.3	100
Magway Region	6.0	8.0	0.6	55.4	5.9	7.9	7.3	5.8	2.1	0.2	0.9	0.0	100
Mandalay Region	5.0	7.0	0.3	59.2	7.8	1.5	6.2	4.3	2.2	6.3	0.2	0.1	100
Mon State	6.8	8.5	0.9	4.1	67.8	5.3	4.3	0.7	0.0	0.2	1.3	0.0	100
Rakhine State	1.5	5.6	1.7	13.0	21.3	5.5	48.5	2.2	0.3	0.1	0.1	0.2	100
Yangon Region	11.0	10.9	0.6	46.8	2.2	0.3	10.8	2.0	0.8	7.4	4.0	3.4	100
Shan State	1.8	21.1	15.2	14.2	26.7	6.9	2.6	5.6	3.8	0.8	0.9	0.3	100
Ayeyarwady Region	0.0	0.1	0.2	43.9	2.7	3.2	16.0	28.8	3.8	0.6	0.8	0.0	100
Nay Pyi Taw Council	5.0	3.8	0.4	71.8	6.0	0.3	0.1	5.0	0.0	6.9	0.7	0.0	100
Sex of Head of Household													
Female	4.9	9.1	2.0	43.2	15.4	4.4	8.0	4.8	1.8	4.6	1.2	0.7	100
Male	4.5	8.6	2.8	42.5	14.1	4.9	9.7	7.0	1.9	2.1	1.2	0.8	100
Education of Head of Household													
Never attended school	3.6	11.7	9.0	27.8	20.8	9.0	7.4	6.7	2.5	0.8	0.4	0.3	100
Monastic school	2.9	9.1	1.8	39.0	15.4	5.7	12.2	8.3	3.1	0.8	0.9	0.7	100
Primary school	3.3	7.4	2.1	44.9	14.5	4.7	10.7	7.3	1.7	1.5	1.2	0.7	100
Middle school	6.6	11.6	1.7	48.6	9.5	2.7	5.4	4.5	1.5	5.1	2.0	0.9	100
High school or higher	15.7	9.6	1.1	44.4	8.0	0.9	2.9	1.2	0.9	12.2	1.7	1.3	100

Table A25

Percentage of households with access to improved toilets, non-shared toilets, handwashing facilities, and basic sanitation

	Improved toilet	s.e	Toilet not shared	s.e	Hand-washing	s.e	Basic San-itation	s.e
Union	89.3	0.6	77.2	0.7	83.2	0.6	61.3	0.8
Urban	96.5	0.6	75.6	1.6	93.4	0.5	70.4	1.6
Rural	86.3	0.8	77.9	0.7	79.0	0.8	57.5	1.0
State/Region								
Kachin State	97.2	0.7	88.1	1.3	97.4	0.8	83.7	1.5
Kayah State	97.6	0.8	90.8	1.1	67.2	2.1	59.6	2.1
Kayin State	76.0	2.4	89.2	1.3	59.2	2.9	50.5	2.7
Chin State	84.9	3.2	91.6	1.6	62.7	4.5	57.5	4.4
Sagaing Region	92.5	1.8	83.7	1.5	94.0	1.0	76.1	2.2
Tanintharyi Region	73.5	3.8	82.5	1.9	70.8	2.6	52.1	3.3
Bago Region	94.0	1.3	70.2	2.1	84.6	1.9	59.9	2.3
Magway Region	91.8	2.3	76.7	2.3	94.5	1.1	66.4	2.8
Mandalay Region	93.2	1.8	72.0	2.4	85.8	2.0	62.8	2.6
Mon State	88.7	1.6	89.2	1.3	94.1	1.0	76.6	2.0
Rakhine State	51.1	3.4	83.7	1.7	76.2	2.6	39.0	2.8
Yangon Region	95.3	1.3	68.1	2.9	93.6	0.9	63.3	2.9
Shan State	89.8	2.5	88.8	1.5	72.2	3.1	62.9	3.0
Ayeyarwady Region	88.3	1.6	72.8	1.6	62.9	2.3	45.7	2.0
Nay Pyi Taw Council	97.3	0.9	69.4	2.3	98.1	0.7	67.0	2.3
Sex of Head of Household								
Female	90.4	0.9	76.1	1.3	85.4	0.9	61.9	1.4
Male	89.0	0.6	77.5	0.7	82.6	0.7	61.1	0.9
Season								
Cool	87.4	1.3	77.0	1.3	84.8	1.1	61.7	1.6
Dry	88.5	1.1	76.2	1.4	82.6	1.2	59.6	1.5
Rainy	91.2	0.7	78.0	1.1	82.3	0.8	62.0	1.2

Note: The data on hand washing link to Figure 5.11.

Table A26

Percentage of population living in households with access to improved toilets, non-shared toilets, hand washing facilities, and basic sanitation

	Improved toilet	s.e	Toilet not shared	s.e	Hand-washing	s.e	Basic San-itation	s.e
Union	89.0	0.6	80.7	0.6	83.3	0.6	64.2	0.8
Urban	96.4	0.6	79.2	1.4	93.5	0.6	73.6	1.4
Rural	86.1	0.8	81.2	0.7	79.1	0.8	60.4	1.0
State/Region								
Kachin State	97.4	0.7	89.7	1.2	97.2	0.9	85.3	1.4
Kayah State	98.0	0.7	92.2	1.1	66.5	2.4	60.2	2.5
Kayin State	74.6	2.6	91.0	1.1	58.2	3.3	50.1	3.0
Chin State	85.4	3.3	93.2	1.5	65.7	4.5	61.5	4.5
Sagaing Region	92.6	2.2	86.1	1.5	94.6	0.9	78.9	2.5
Tanintharyi Region	71.1	4.3	84.9	2.1	70.3	2.9	51.9	3.8
Bago Region	93.9	1.3	73.9	2.2	84.1	2.3	63.1	2.6
Magway Region	91.7	2.4	79.3	2.1	94.9	1.1	69.2	2.8
Mandalay Region	94.0	1.5	76.6	2.2	86.7	1.9	66.8	2.5
Mon State	87.9	2.0	91.1	1.3	94.0	1.2	78.3	2.2
Rakhine State	52.4	3.8	84.0	1.7	75.3	2.6	40.8	3.1
Yangon Region	95.2	1.3	72.8	2.5	93.3	1.1	67.5	2.6
Shan State	90.1	2.6	91.3	1.3	72.8	3.1	65.2	3.0
Ayeyarwady Region	87.9	1.6	75.9	1.5	62.9	2.3	47.5	2.1
Nay Pyi Taw Council	97.0	1.0	71.9	2.1	98.4	0.6	69.4	2.1
Sex of Head of Household								
Female	90.5	0.9	80.4	1.2	86.5	0.9	66.1	1.4
Male	88.7	0.7	80.7	0.7	82.6	0.7	63.8	0.9
Season								
Cool	87.3	1.3	80.6	1.1	84.7	1.1	64.6	1.6
Dry	87.9	1.2	80.1	1.2	82.2	1.3	62.4	1.5
Rainy	91.1	0.7	81.0	1.0	82.8	0.9	65.0	1.2

Note: The data on basic sanitation links to Figure 5.11, and the union level data link to Figure 5.10.

Table A27

Percentage of the population living in households using different types of toilets

	Improved toilets							Unimproved toilets						Total
	Flush, to pipe sewer system	Flush, to septic tank	Flush, to pit latrine	Ventilated pit latrine	Pit latrine with slab	Composting toilet	Total (improved toilets)	Flush, to elsewhere	Open pit latrine	Hanging toilet	No toilet	Others	Total (unimproved toilets)	
Union	0.8	20.5	53.9	0.9	12.8	0.0	89.0	1.3	1.8	1.0	6.3	0.5	11.0	100
Urban	1.0	46.3	42.4	0.7	6.0	0.1	96.4	1.5	0.8	0.5	0.5	0.4	3.6	100
Rural	0.7	10.2	58.5	1.1	15.5	0.0	86.1	1.2	2.3	1.2	8.7	0.5	13.9	100
State/Region														
Kachin State	0.3	15.4	54.1	1.2	26.4	0.0	97.4	1.5	0.5	0.0	0.6	0.0	2.6	100
Kayah State	1.1	6.5	89.0	0.5	1.0	0.0	98.0	0.8	0.3	0.0	0.7	0.2	2.0	100
Kayin State	2.5	39.2	31.5	0.3	1.1	0.0	74.6	11.9	0.3	0.0	12.9	0.3	25.4	100
Chin State	1.8	1.1	80.2	0.8	1.6	0.0	85.4	2.0	3.7	0.0	8.8	0.0	14.6	100
Sagaing Region	1.6	13.3	77.6	0.0	0.0	0.1	92.6	0.5	1.1	0.0	5.7	0.1	7.4	100
Tanintharyi Region	0.5	0.2	59.1	0.3	11.1	0.0	71.1	1.2	7.6	12.4	7.3	0.5	28.9	100
Bago Region	0.2	19.3	72.8	0.7	0.9	0.0	93.9	0.4	0.6	1.3	1.9	1.8	6.1	100
Magway Region	0.4	1.2	21.0	0.0	69.0	0.0	91.7	0.1	0.8	0.0	7.5	0.0	8.3	100
Mandalay Region	0.8	30.9	45.3	0.0	16.9	0.1	94.0	1.2	0.2	0.1	4.5	0.0	6.0	100
Mon State	0.7	1.0	61.5	0.2	24.4	0.0	87.9	2.7	2.9	0.8	5.7	0.0	12.1	100
Rakhine State	0.5	3.4	45.5	1.3	1.7	0.0	52.4	0.3	1.4	0.7	44.7	0.4	47.6	100
Yangon Region	1.2	62.6	31.2	0.0	0.1	0.0	95.2	2.1	0.2	0.9	0.2	1.5	4.8	100
Shan State	0.7	10.4	63.8	2.6	12.5	0.1	90.1	0.5	5.3	0.0	4.0	0.0	9.9	100
Ayeyarwady Region	0.2	6.2	63.7	3.6	14.2	0.0	87.9	0.8	4.1	2.6	4.5	0.1	12.1	100
Nay Pyi Taw Council	1.4	11.3	75.9	0.2	8.3	0.0	97.0	1.3	0.4	0.0	1.2	0.0	3.0	100
Sex of Head of Household														
Female	1.0	24.1	51.2	0.8	13.5	0.0	90.5	1.4	1.3	0.6	5.9	0.4	9.5	100
Male	0.8	19.7	54.5	1.0	12.7	0.0	88.7	1.3	2.0	1.1	6.4	0.5	11.3	100
Season														
Cold season	0.8	20.7	52.0	0.9	12.9	0.0	87.3	1.5	1.8	1.1	7.4	0.8	12.7	100
Dry season	0.7	20.3	53.4	0.7	12.8	0.0	87.9	1.0	2.5	0.9	7.5	0.3	12.1	100
Rainy season	0.9	20.5	55.8	1.2	12.7	0.0	91.1	1.3	1.4	1.0	4.8	0.3	8.9	100

Table A28

Percentage of the population living in households with hand washing facilities

	Near kitchen	Near Latrine	Other locations	No hand washing facility	Total
Union	7.9	26.7	48.7	16.7	100
Urban	9.5	32.9	51.2	6.5	100
Rural	7.2	24.3	47.6	20.9	100
State/Region					
Kachin State	2.2	11.6	83.3	2.8	100
Kayah State	3.1	11.8	51.6	33.5	100
Kayin State	2.6	8.3	47.3	41.8	100
Chin State	16.7	21.3	27.7	34.3	100
Sagaing Region	2.4	22.8	69.4	5.4	100
Tanintharyi Region	33.1	28.7	8.5	29.7	100
Bago Region	1.6	37.9	44.7	15.9	100
Magway Region	0.8	19.3	74.8	5.1	100
Mandalay Region	7.3	20.2	59.2	13.3	100
Mon State	20.9	48.7	24.4	6.0	100
Rakhine State	17.4	22.3	35.7	24.7	100
Yangon Region	11.7	35.4	46.2	6.7	100
Shan State	0.7	17.4	54.7	27.2	100
Ayeyarwady Region	9.9	27.5	25.5	37.1	100
Nay Pyi Taw Council	22.1	56.6	19.7	1.6	100
Sex of Head of Household					
Female	8.6	26.3	51.6	13.5	100
Male	7.7	26.8	48.0	17.4	100
Season					
Cold season	9.8	27.3	47.6	15.3	100
Dry season	8.5	27.1	46.7	17.8	100
Rainy season	5.9	26.0	50.8	17.2	100

Table A29

Percentage of individuals aged 15 and above using a phone in the last 7 days

	Total	s.e.	Male	s.e.	Female	s.e.
Union	62.3	0.5	68.0	0.6	57.4	0.6
Urban	77.4	0.6	82.3	0.7	73.4	0.8
Rural	55.8	0.7	62.0	0.8	50.5	0.7
State and Region						
Kachin State	61.3	1.9	65.4	2.3	57.4	2.0
Kayah State	61.6	2.1	69.0	2.1	54.4	2.5
Kayin State	60.1	1.9	64.6	2.3	56.3	1.9
Chin State	33.7	2.3	39.7	2.6	28.8	2.3
Sagaing Region	56.3	1.8	63.6	2.3	50.0	1.9
Tanintharyi Region	57.7	1.9	59.7	2.1	55.9	2.0
Bago Region	61.3	1.8	68.5	2.0	55.2	2.0
Magway Region	58.7	1.7	64.8	2.0	54.1	1.8
Mandalay Region	66.0	1.5	74.1	1.6	59.4	1.6
Mon State	58.5	1.6	62.3	2.1	55.7	1.7
Rakhine State	54.9	2.4	59.6	2.4	50.9	2.5
Yangon Region	77.4	1.2	82.9	1.2	72.8	1.3
Shan State	51.4	2.5	57.5	2.9	45.7	2.5
Ayeyarwady Region	64.4	1.3	67.4	1.6	61.7	1.4
Nay Pyi Taw Council	63.7	1.6	72.2	1.8	56.5	1.8
Age group						
15-20	57.6	0.9	60.6	1.3	54.6	1.2
21-30	76.2	0.9	79.7	1.1	73.0	1.0
31-40	72.0	0.8	75.4	1.0	69.0	1.0
41-50	65.5	0.9	72.4	1.1	59.9	1.1
50+	45.8	0.8	54.6	1.0	39.1	0.8
Education level						
Never attended school	21.8	1.3	27.3	0.0	19.6	1.1
Below primary school	47.8	0.8	52.7	1.1	43.8	0.9
Primary school	67.6	0.7	72.4	0.8	63.1	0.8
Middle school	73.2	0.7	76.8	0.9	69.4	1.1
High school	90.8	0.7	93.0	0.9	88.6	1.1
Tertiary education	95.9	0.5	96.9	0.6	95.4	0.6

Note: This links to Figure 6.4, 6.5 and 6.9, and to Table 6.1.

Table A30

Percentage of individuals aged 15 and above that used the internet in the last 7 days

	Total	s.e.	Male	s.e.	Female	s.e.
Union	23.6	0.5	28.6	0.6	19.4	0.5
Urban	41.2	1.0	47.9	1.1	35.6	1.0
Rural	16.1	0.5	20.5	0.7	12.3	0.5
State and Region						
Kachin State	20.5	1.5	21.5	1.7	19.6	1.6
Kayah State	28.8	1.9	33.2	2.2	24.5	2.0
Kayin State	24.6	1.5	27.2	1.8	22.3	1.5
Chin State	15.1	1.4	16.1	1.5	14.3	1.5
Sagaing Region	19.2	1.3	24.7	1.7	14.4	1.2
Tanintharyi Region	23.1	1.4	27.2	1.7	19.2	1.5
Bago Region	21.3	1.4	26.9	1.7	16.6	1.3
Magway Region	17.2	1.1	23.1	1.5	12.9	1.1
Mandalay Region	25.6	1.5	34.0	2.0	18.7	1.5
Mon State	23.8	1.5	25.6	1.8	22.3	1.6
Rakhine State	15.7	1.2	20.0	1.6	12.1	1.1
Yangon Region	42.0	1.7	48.1	1.9	36.9	1.8
Shan State	19.9	1.7	22.5	2.0	17.4	1.5
Ayeyarwady Region	14.8	0.8	18.8	1.1	11.2	0.9
Nay Pyi Taw Council	26.0	1.7	32.2	1.8	20.8	1.8
Age group						
15-20	32.7	0.9	37.3	1.2	28.1	1.1
21-30	41.2	1.0	46.3	1.2	36.7	1.1
31-40	28.2	0.8	32.5	1.0	24.3	0.9
41-50	16.7	0.7	22.2	1.0	12.3	0.8
50+	7.1	0.4	10.3	0.6	4.7	0.4
Education level						
Never attended school	1.3	0.2	1.6	0.0	1.2	0.3
Below primary school	6.7	0.3	9.4	0.6	4.5	0.3
Primary school	18.8	0.5	24.5	0.7	13.4	0.6
Middle school	36.7	0.8	42.7	1.1	30.2	1.1
High school	66.9	1.2	71.6	1.6	62.2	1.7
Tertiary education	74.6	1.1	77.3	1.5	72.9	1.3

Note: This links to Figures 6.7 and 6.9, and to Table 6.1.

Table A31

Percentage of individuals aged 15 and above that used a computer in the last 7 days

	Total	s.e.	Male	s.e.	Female	s.e.
Union	2.2	0.1	2.4	0.2	2.0	0.1
Urban	5.9	0.4	6.4	0.5	5.5	0.4
Rural	0.6	0.1	0.7	0.1	0.5	0.1
State and Region						
Kachin State	1.1	0.3	1.1	0.3	1.1	0.3
Kayah State	2.2	0.3	2.7	0.5	1.8	0.3
Kayin State	1.4	0.3	1.8	0.4	1.1	0.3
Chin State	1.6	0.3	2.2	0.5	1.1	0.3
Sagaing Region	0.9	0.2	1.0	0.3	0.8	0.2
Tanintharyi Region	1.1	0.2	1.4	0.4	0.8	0.2
Bago Region	1.1	0.2	1.4	0.3	0.9	0.2
Magway Region	1.3	0.3	1.3	0.4	1.2	0.3
Mandalay Region	2.4	0.4	2.6	0.5	2.2	0.4
Mon State	1.3	0.3	1.7	0.4	1.0	0.3
Rakhine State	1.3	0.3	1.9	0.4	0.8	0.2
Yangon Region	6.7	0.8	6.8	0.9	6.7	0.8
Shan State	1.1	0.2	1.5	0.3	0.9	0.2
Ayeyarwady Region	0.7	0.2	1.0	0.2	0.5	0.2
Nay Pyi Taw Council	4.2	0.6	3.8	0.7	4.5	0.8
Age group						
15-20	2.8	0.3	3.0	0.4	2.6	0.4
21-30	4.1	0.3	3.9	0.4	4.2	0.4
31-40	2.9	0.3	3.0	0.4	2.8	0.4
41-50	1.2	0.2	1.5	0.2	1.0	0.2
50+	0.7	0.1	1.0	0.2	0.5	0.1
Education level						
Never attended school	0.0	0.0	0.0	0.0	0.0	0.0
Below primary school	0.2	0.1	0.2	0.1	0.1	0.1
Primary school	0.2	0.1	0.2	0.1	0.2	0.1
Middle school	1.5	0.2	2.1	0.3	0.9	0.2
High school	9.9	1.0	11.1	1.3	8.6	1.1
Tertiary education	18.3	1.0	20.5	1.5	17.0	1.1

Note: This links to Figure 6.9.

Table A32

Percentage of those aged 15 and above who report being literate

	Total	s.e.	Male	s.e.	Female	s.e.
Union	88.9	0.4	92.8	0.5	85.6	0.5
Urban	94.5	0.4	97.0	0.3	92.5	0.5
Rural	86.5	0.6	91.0	0.6	82.6	0.6
State and Region						
Kachin State	90.0	1.5	92.5	1.3	87.6	1.7
Kayah State	81.0	1.9	86.1	1.9	76.1	2.3
Kayin State	75.1	2.1	80.4	2.3	70.6	2.2
Chin State	80.8	1.4	90.1	1.1	73.1	1.9
Sagaing Region	92.5	1.6	95.8	2.2	89.7	1.4
Tanintharyi Region	93.8	0.9	95.8	1.1	92.0	1.0
Bago Region	91.1	1.0	95.7	0.6	87.1	1.5
Magway Region	92.1	0.8	97.3	0.6	88.4	1.1
Mandalay Region	94.1	0.6	97.4	0.6	91.5	0.8
Mon State	79.3	1.8	83.1	1.9	76.4	2.0
Rakhine State	86.8	1.4	93.9	1.4	80.8	1.9
Yangon Region	96.5	0.4	98.1	0.3	95.2	0.5
Shan State	65.2	2.8	73.4	3.0	57.4	3.0
Ayeyarwady Region	92.9	0.7	95.6	0.6	90.5	0.9
Nay Pyi Taw Council	93.2	0.9	97.8	0.5	89.3	1.4
Education level						
Never attended school	13.0	0.9	18.8	0.0	10.6	0.8
Monastic school	90.0	0.8	91.8	0.9	87.0	1.4
Primary school	95.6	0.2	96.9	0.3	94.5	0.3
Middle school	99.8	0.1	99.9	0.1	99.8	0.1
High school or higher	99.8	0.1	99.8	0.1	99.8	0.1

Note: This links to Figure 7.2, Figure 7.5 and Table 7.1.

Table A33

Percentage of youth aged 15 to 24 who report being literate

	Total	s.e.	Male	s.e.	Female	s.e.
Union	95.7	0.4	95.7	0.6	95.7	0.4
Urban	98.1	0.3	98.1	0.5	98.1	0.3
Rural	94.6	0.6	94.7	0.8	94.6	0.6
State and Region						
Kachin State	97.7	1.1	97.9	1.0	97.4	1.4
Kayah State	96.3	1.3	96.4	1.2	96.2	1.9
Kayin State	89.9	1.9	92.1	2.4	88.0	2.1
Chin State	94.9	1.1	94.9	1.4	94.9	1.5
Sagaing Region	97.4	1.6	96.6	2.7	98.2	0.9
Tanintharyi Region	98.8	0.5	98.2	0.8	99.3	0.4
Bago Region	95.8	1.0	96.7	1.3	95.1	1.5
Magway Region	98.7	0.7	97.8	1.2	99.3	0.4
Mandalay Region	98.9	0.5	98.2	0.8	99.5	0.3
Mon State	91.2	1.6	91.7	2.0	90.8	2.0
Rakhine State	92.9	2.3	95.1	2.3	90.8	2.6
Yangon Region	98.7	0.5	98.4	0.7	99.0	0.5
Shan State	86.2	2.6	85.7	3.2	86.8	2.7
Ayeyarwady Region	96.1	0.9	97.1	0.9	95.1	1.1
Nay Pyi Taw Council	98.0	1.0	98.7	0.8	97.4	1.3
Education level						
Never attended school	11.8	0.0	11.3	0.0	12.2	0.0
Monastic school	81.9	0.0	77.9	0.0	94.7	0.0
Primary school	96.6	0.4	96.5	0.7	96.8	0.4
Middle school	99.9	0.1	99.9	0.0	99.8	0.1
High school or higher	100.0	0.0	100.0	0.0	99.9	0.1

Note: This links to Figure 7.5.

Table A34

Percentage of those aged 15 and above who report being numerate

	Total	s.e.	Male	s.e.	Female	s.e.
Union	91.2	0.4	94.1	0.4	88.7	0.4
Urban	95.8	0.3	97.7	0.2	94.2	0.4
Rural	89.2	0.5	92.5	0.5	86.4	0.6
State and Region						
Kachin State	94.3	0.9	96.3	0.8	92.4	1.2
Kayah State	89.3	1.5	91.8	1.3	86.8	1.8
Kayin State	91.1	0.9	93.2	1.1	89.3	1.1
Chin State	80.4	1.4	89.6	1.1	72.8	2.0
Sagaing Region	93.5	1.0	96.1	1.2	91.3	1.0
Tanintharyi Region	96.7	0.6	97.1	0.7	96.3	0.7
Bago Region	90.5	0.9	94.4	0.7	87.2	1.4
Magway Region	92.5	0.8	96.9	0.6	89.3	1.1
Mandalay Region	97.2	0.4	97.9	0.4	96.7	0.5
Mon State	80.2	1.5	80.9	1.7	79.6	1.5
Rakhine State	88.3	1.2	95.1	1.1	82.6	1.7
Yangon Region	97.2	0.3	98.2	0.3	96.3	0.5
Shan State	73.9	2.5	80.4	2.4	67.7	2.9
Ayeyarwady Region	93.2	0.6	95.6	0.6	91.0	0.8
Nay Pyi Taw Council	92.9	0.8	97.4	0.6	89.1	1.3
Education level						
Never attended school	40.5	1.9	47.7	0.0	37.6	1.8
Monastic school	89.0	0.9	90.0	1.1	87.4	1.3
Primary school	95.4	0.2	96.5	0.3	94.4	0.3
Middle school	99.6	0.1	99.6	0.1	99.6	0.1
High school or higher	99.8	0.1	99.8	0.1	99.8	0.1

Note: This links to Figure 7.2, Figure 7.5 and Table 7.1.

Table A35

Percentage of youth aged 15 to 24 who report being numerate

	Total	s.e.	Male	s.e.	Female	s.e.
Union	96.3	0.4	96.5	0.4	96.0	0.4
Urban	98.1	0.3	98.4	0.3	97.8	0.4
Rural	95.5	0.5	95.8	0.6	95.2	0.6
State and Region						
Kachin State	98.3	0.7	98.4	0.9	98.1	0.8
Kayah State	97.4	1.0	97.0	1.1	98.0	1.2
Kayin State	96.6	1.0	97.0	1.4	96.3	1.3
Chin State	93.9	1.2	93.9	1.5	93.8	1.7
Sagaing Region	97.5	0.8	97.3	1.0	97.7	1.0
Tanintharyi Region	99.5	0.2	99.4	0.4	99.5	0.3
Bago Region	96.5	0.9	97.2	1.0	95.8	1.4
Magway Region	98.4	0.7	97.8	1.2	99.0	0.6
Mandalay Region	98.9	0.4	98.8	0.6	99.1	0.5
Mon State	88.8	2.3	88.6	2.7	89.0	2.6
Rakhine State	93.1	2.0	94.6	2.3	91.8	2.2
Yangon Region	98.7	0.4	99.1	0.4	98.4	0.7
Shan State	88.7	2.3	89.4	2.5	87.8	2.7
Ayeyarwady Region	97.0	0.8	97.5	1.0	96.5	1.0
Nay Pyi Taw Council	97.6	1.1	98.7	0.8	96.6	1.6
Education level						
Never attended school	36.1	0.0	41.2	0.0	32.4	0.0
Monastic school	86.0	0.0	83.3	0.0	94.8	0.0
Primary school	96.6	0.4	96.7	0.5	96.4	0.5
Middle school	99.5	0.1	99.7	0.1	99.4	0.2
High school or higher	100.0	0.0	100.0	0.0	99.9	0.1

Note: This links to Figure 7.5.

Table A36

Primary school gross enrollment rates

	Total	s.e.	Male	s.e.	Female	s.e.
Union	91.7	0.5	91.4	0.8	92.0	0.6
Urban	90.6	1.1	90.5	1.6	90.8	1.3
Rural	92.0	0.6	91.7	0.9	92.3	0.7
State and Region						
Kachin State	92.6	1.9	91.6	2.2	93.7	2.0
Kayah State	94.5	1.1	93.7	2.0	95.3	1.2
Kayin State	91.6	1.4	89.8	1.6	93.2	1.8
Chin State	94.0	0.9	94.9	1.3	93.2	1.3
Sagaing Region	92.7	1.7	93.4	2.5	92.1	1.9
Tanintharyi Region	93.5	1.0	94.9	1.2	91.9	1.6
Bago Region	94.8	1.4	94.5	1.8	95.2	1.5
Magway Region	93.0	1.6	91.6	2.6	94.6	1.7
Mandalay Region	93.1	1.6	89.7	2.6	96.6	1.6
Mon State	90.2	1.7	93.8	1.7	86.1	2.8
Rakhine State	89.2	2.0	91.6	2.6	86.5	2.6
Yangon Region	89.1	1.7	90.2	2.9	88.0	2.2
Shan State	87.2	2.6	84.4	3.3	89.9	2.7
Ayeyarwady Region	93.4	1.1	93.0	1.7	93.7	1.4
Nay Pyi Taw Council	94.8	1.5	96.8	1.4	92.6	2.7
Sex of Head of Household						
Female	92.8	1.1	91.3	1.8	94.3	1.0
Male	91.5	0.6	91.4	0.8	91.6	0.7
Education of Head of Household						
Never attended school	86.2	0.0	85.4	2.9	87.2	0.0
Monastic school	91.6	0.0	90.5	0.0	92.7	0.0
Primary school	93.2	0.5	93.1	0.8	93.3	0.6
Middle school	89.6	1.5	90.2	2.2	88.9	0.0
High school or higher	92.2	0.0	91.9	0.0	92.7	0.0

Table A37

Primary school net total enrollment rates

	Total	s.e.	Male	s.e.	Female	s.e.
Union	94.1	0.6	93.4	0.8	94.8	0.6
Urban	94.7	1.2	93.3	1.8	96.3	0.9
Rural	93.9	0.7	93.4	0.9	94.3	0.8
State and Region						
Kachin State	93.9	2.0	92.2	2.8	95.7	1.7
Kayah State	94.9	1.3	93.5	2.4	96.2	1.3
Kayin State	91.9	1.8	90.1	2.1	93.6	2.1
Chin State	95.1	1.0	95.0	1.4	95.2	1.4
Sagaing Region	96.7	1.7	96.1	2.7	97.4	1.3
Tanintharyi Region	94.4	1.3	95.4	1.4	93.4	1.8
Bago Region	98.1	1.0	97.9	1.2	98.3	1.0
Magway Region	96.2	1.3	95.4	1.9	97.1	1.5
Mandalay Region	97.1	1.1	96.6	1.7	97.5	1.3
Mon State	90.4	1.7	93.8	2.2	86.9	2.7
Rakhine State	90.5	3.0	91.4	3.9	89.5	2.9
Yangon Region	94.1	1.9	92.0	3.2	96.4	1.4
Shan State	86.0	3.4	83.9	4.0	88.2	3.4
Ayeyarwady Region	95.9	0.9	95.3	1.5	96.5	1.2
Nay Pyi Taw Council	96.9	1.0	96.7	1.6	97.1	1.3
Sex of Head of Household						
Female	94.9	1.0	93.8	1.7	96.1	1.0
Male	93.9	0.7	93.3	0.9	94.5	0.7
Education of Head of Household						
Never attended school	83.8	0.0	81.4	0.0	86.3	0.0
Monastic school	93.7	0.0	92.4	0.0	95.1	0.0
Primary school	95.4	0.5	95.1	0.7	95.8	0.6
Middle school	97.6	0.6	97.9	0.7	97.3	0.0
High school or higher	97.2	1.0	97.0	0.0	97.5	0.0

Table A38

Middle school gross enrollment rates

	Total	s.e.	Male	s.e.	Female	s.e.
Union	71.1	1.0	70.9	1.2	71.4	1.3
Urban	77.5	1.4	76.4	1.8	78.5	1.9
Rural	69.1	1.2	69.1	1.4	69.1	1.6
State and Region						
Kachin State	78.6	2.3	74.3	3.1	83.1	2.8
Kayah State	78.2	3.2	73.3	4.4	83.5	3.1
Kayin State	56.4	3.1	53.8	3.7	58.9	3.9
Chin State	71.1	2.6	70.5	3.6	71.8	2.8
Sagaing Region	76.7	3.5	77.3	4.7	76.1	3.9
Tanintharyi Region	65.8	3.2	63.7	3.5	68.0	4.0
Bago Region	70.0	2.9	65.0	3.8	75.1	3.9
Magway Region	75.1	4.3	80.0	4.6	70.6	5.6
Mandalay Region	81.6	2.2	82.9	2.7	80.1	3.9
Mon State	62.7	2.9	54.8	4.3	71.0	3.6
Rakhine State	60.6	4.5	61.3	5.3	59.9	5.5
Yangon Region	78.2	2.8	76.0	3.1	80.7	3.6
Shan State	57.2	3.8	59.6	4.1	55.4	5.7
Ayeyarwady Region	73.3	2.2	75.7	3.6	71.3	3.0
Nay Pyi Taw Council	73.9	2.5	70.6	4.4	76.8	3.6
Sex of Head of Household						
Female	69.3	1.9	69.5	2.5	69.1	3.0
Male	71.5	1.1	71.2	1.3	71.8	1.5
Education of Head of Household						
Never attended school	49.4	0.0	46.8	0.0	51.8	0.0
Monastic school	69.5	0.0	71.4	0.0	67.9	0.0
Primary school	72.1	1.1	71.7	1.4	72.6	1.5
Middle school	86.4	1.8	86.6	2.4	86.3	2.3
High school or higher	84.3	0.0	81.4	0.0	87.9	0.0

Table A39

Middle school net total enrollment rates

	Total	s.e.	Male	s.e.	Female	s.e.
Union	71.4	1.1	69.8	1.3	72.9	1.4
Urban	80.9	1.5	79.3	1.9	82.6	1.8
Rural	68.3	1.3	66.6	1.6	69.9	1.7
State and Region						
Kachin State	80.1	2.6	75.7	3.0	84.6	3.1
Kayah State	75.5	3.8	67.8	5.3	83.1	3.5
Kayin State	51.6	4.1	47.3	4.6	55.6	4.9
Chin State	67.2	3.1	65.3	4.3	69.1	3.1
Sagaing Region	78.6	3.6	78.1	4.9	79.2	4.0
Tanintharyi Region	63.9	3.7	61.5	3.8	66.5	4.5
Bago Region	68.3	3.6	61.6	4.3	75.0	4.2
Magway Region	78.8	4.6	82.1	5.0	76.1	6.0
Mandalay Region	86.3	2.7	84.7	3.2	88.0	3.4
Mon State	63.4	3.2	53.5	4.2	73.7	4.1
Rakhine State	58.3	5.5	57.7	6.1	58.9	7.0
Yangon Region	79.7	3.0	77.8	3.5	81.9	3.8
Shan State	54.2	4.1	53.3	4.6	54.8	5.7
Ayeyarwady Region	72.7	2.5	74.0	4.2	71.7	3.2
Nay Pyi Taw Council	73.9	2.7	71.7	4.8	75.9	3.2
Sex of Head of Household						
Female	71.1	2.1	69.1	2.9	73.1	3.1
Male	71.4	1.2	70.0	1.4	72.9	1.6
Education of Head of Household						
Never attended school	45.3	0.0	40.4	0.0	49.7	0.0
Monastic school	68.7	0.0	68.6	0.0	68.7	0.0
Primary school	72.3	1.2	70.3	1.6	74.2	1.5
Middle school	91.6	1.8	91.0	2.2	92.2	2.2
High school or higher	90.1	0.0	88.1	0.0	92.8	0.0

Note: This links to Figures 7.6, 7.7 and 7.9.

Table A40

High school gross enrollment rates

	Total	s.e.	Male	s.e.	Female	s.e.
Union	60.0	1.3	55.4	1.7	64.5	1.7
Urban	71.3	2.1	68.6	2.6	73.9	2.5
Rural	55.5	1.6	50.4	2.2	60.7	2.1
State and Region						
Kachin State	72.4	3.1	71.5	4.3	73.0	4.1
Kayah State	60.4	3.9	50.8	4.7	71.3	6.0
Kayin State	48.9	4.3	48.3	5.7	49.4	5.1
Chin State	61.1	3.6	52.2	5.0	69.1	5.3
Sagaing Region	70.3	4.7	60.4	6.5	82.3	4.7
Tanintharyi Region	52.0	3.8	41.3	5.0	61.5	4.8
Bago Region	56.9	4.2	52.7	5.9	61.2	5.6
Magway Region	68.4	4.8	66.3	5.6	70.1	7.4
Mandalay Region	70.0	4.1	66.0	5.6	73.6	4.6
Mon State	53.0	4.9	41.2	6.8	63.4	5.7
Rakhine State	49.6	3.9	50.2	4.8	49.0	5.5
Yangon Region	66.5	4.0	62.2	5.4	70.6	4.5
Shan State	47.2	4.6	40.9	5.0	54.2	6.3
Ayeyarwady Region	53.4	3.5	51.5	5.3	55.1	4.8
Nay Pyi Taw Council	62.0	4.3	65.1	5.8	59.6	5.8
Sex of Head of Household						
Female	60.8	2.8	55.5	3.8	65.9	0.0
Male	59.8	1.4	55.3	1.9	64.2	1.8
Education of Head of Household						
Never attended school	41.9	0.0	34.4	0.0	49.6	0.0
Monastic school	52.0	0.0	45.9	0.0	57.0	0.0
Primary school	59.4	1.6	55.1	2.1	63.7	2.1
Middle school	79.0	2.6	74.3	0.0	83.5	0.0
High school or higher	86.1	0.0	87.7	0.0	84.6	0.0

Table A41

High school net total enrollment rates

	Total	s.e.	Male	s.e.	Female	s.e.
Union	44.4	1.5	39.9	1.9	49.0	2.1
Urban	60.1	2.8	55.8	3.6	64.0	3.4
Rural	38.6	1.8	34.6	2.2	43.0	2.5
State and Region						
Kachin State	58.3	4.3	54.3	6.1	61.0	5.6
Kayah State	42.0	4.8	32.2	5.1	54.9	8.0
Kayin State	27.3	5.0	26.4	6.5	28.0	6.1
Chin State	41.0	4.5	34.0	5.7	48.4	7.3
Sagaing Region	57.0	6.4	50.1	7.9	68.6	7.9
Tanintharyi Region	34.4	4.2	25.2	4.9	43.6	6.3
Bago Region	39.2	4.7	30.6	6.3	47.1	6.4
Magway Region	54.5	6.2	48.7	7.5	59.1	9.1
Mandalay Region	59.1	4.2	59.0	6.1	59.3	6.2
Mon State	41.0	5.3	29.3	6.7	52.2	7.1
Rakhine State	31.5	3.8	30.8	5.6	32.2	5.0
Yangon Region	55.6	5.1	48.1	6.4	62.5	5.9
Shan State	28.9	4.5	24.5	4.4	34.6	6.9
Ayeyarwady Region	35.3	4.0	35.5	5.7	35.1	5.6
Nay Pyi Taw Council	43.2	5.1	48.9	6.4	38.5	6.9
Sex of Head of Household						
Female	43.0	3.3	34.7	0.0	50.8	0.0
Male	44.7	1.6	40.9	2.1	48.7	2.2
Education of Head of Household						
Never attended school	22.2	0.0	15.4	0.0	29.7	0.0
Monastic school	35.5	0.0	31.6	0.0	39.2	0.0
Primary school	42.7	1.8	38.7	2.3	46.9	2.6
Middle school	72.1	0.0	67.3	0.0	77.0	0.0
High school or higher	83.2	0.0	85.6	0.0	81.4	0.0

Note: This links to Figures 7.6, 7.7 and 7.9.

Table A42

Labour force participation rates (of those aged 15 and above)

	Total	s.e.	Male	s.e.	Female	s.e.
Union	62.2	0.4	74.1	0.5	52.1	0.5
Urban	60.3	0.6	72.6	0.8	50.2	0.8
Rural	63.1	0.5	74.8	0.6	53.0	0.7
State and Region						
Kachin State	51.6	1.8	64.5	2.5	39.4	1.7
Kayah State	68.6	1.2	79.5	1.4	58.0	1.9
Kayin State	49.2	1.5	61.4	1.9	38.8	1.7
Chin State	57.3	2.3	65.9	2.5	50.1	2.5
Sagaing Region	68.4	1.2	76.5	1.5	61.5	1.6
Tanintharyi Region	58.1	1.3	68.8	1.7	48.2	1.6
Bago Region	59.5	1.8	71.7	2.3	49.1	2.0
Magway Region	62.9	1.4	71.9	1.7	56.3	1.6
Mandalay Region	67.5	1.2	78.8	1.3	58.2	1.6
Mon State	52.2	1.2	68.7	1.6	39.7	1.7
Rakhine State	57.5	1.7	73.5	1.6	44.1	2.3
Yangon Region	61.0	1.1	75.0	1.3	49.5	1.3
Shan State	71.5	1.3	80.3	1.5	63.1	1.8
Ayeyarwady Region	57.2	1.5	71.0	1.6	45.0	1.9
Nay Pyi Taw Council	66.6	0.9	81.3	1.1	54.3	1.4
Education level						
Never attended school	49.2	1.4	64.9	0.0	42.7	1.5
Monastic school	52.6	1.5	63.2	1.8	35.1	1.9
Primary school	67.0	0.5	80.5	0.6	55.7	0.7
Middle school	57.3	0.8	68.1	1.0	45.6	1.1
High school or higher	63.9	0.9	68.8	1.3	60.2	1.1

Note: The definition of labour statistics follows the recommendation of the 19th International Conference of Labour Statisticians (ICLS), which states that the definition of employment "excludes production mainly for own use..." (ILO 2013, page 16, paragraph 64).

Note: This links to Table 8.1.

Table A43

Unemployment rates as share of labour force (of those aged 15 and above)

	Total	s.e.	Male	s.e.	Female	s.e.
Union	2.2	0.1	2.1	0.2	2.3	0.2
Urban	3.1	0.3	3.2	0.3	2.9	0.5
Rural	1.9	0.2	1.7	0.2	2.0	0.2
State and Region						
Kachin State	7.3	1.1	6.0	1.2	9.2	1.5
Kayah State	4.3	0.8	4.3	0.8	4.4	1.1
Kayin State	4.1	0.7	4.9	1.0	2.9	0.8
Chin State	2.4	0.6	2.1	0.6	2.7	0.8
Sagaing Region	0.2	0.1	0.3	0.2	0.2	0.1
Tanintharyi Region	1.7	0.3	1.9	0.4	1.6	0.5
Bago Region	3.1	0.6	2.4	0.5	4.0	0.9
Magway Region	0.7	0.2	0.8	0.3	0.5	0.2
Mandalay Region	1.2	0.4	1.4	0.5	1.0	0.4
Mon State	1.8	0.4	1.5	0.5	2.0	0.6
Rakhine State	3.4	0.7	3.1	0.9	3.7	0.9
Yangon Region	4.3	0.6	3.9	0.6	4.8	0.9
Shan State	0.9	0.2	1.1	0.4	0.6	0.3
Ayeyarwady Region	2.4	0.5	2.1	0.5	2.7	0.9
Nay Pyi Taw Council	2.3	0.4	2.0	0.5	2.7	0.6
Education level						
Never attended school	1.9	0.4	1.6	0.0	2.0	0.5
Monastic school	1.2	0.0	1.2	0.0	1.5	0.0
Primary school	1.7	0.2	1.6	0.2	1.9	0.2
Middle school	3.3	0.4	3.3	0.4	3.3	0.6
High school or higher	3.6	0.5	3.8	0.7	3.4	0.6

Note: This links to Table 8.1.

Table A44

Employment rates as share of population (of those aged 15 and above)

	Total	s.e.	Male	s.e.	Female	s.e.
Union	60.9	0.4	72.6	0.5	50.9	0.5
Urban	58.5	0.7	70.3	0.8	48.7	0.8
Rural	61.9	0.6	73.5	0.7	51.9	0.7
State and Region						
Kachin State	47.9	1.9	60.7	2.6	35.7	1.6
Kayah State	65.6	1.5	76.1	1.7	55.5	2.1
Kayin State	47.2	1.4	58.4	1.8	37.7	1.6
Chin State	55.9	2.3	64.5	2.5	48.7	2.5
Sagaing Region	68.2	1.1	76.3	1.5	61.4	1.6
Tanintharyi Region	57.1	1.3	67.6	1.8	47.5	1.7
Bago Region	57.7	1.9	70.0	2.3	47.2	2.1
Magway Region	62.5	1.4	71.3	1.7	56.0	1.6
Mandalay Region	66.7	1.2	77.7	1.4	57.6	1.7
Mon State	51.3	1.2	67.7	1.6	38.8	1.7
Rakhine State	55.6	1.9	71.2	1.9	42.4	2.3
Yangon Region	58.4	1.1	72.1	1.3	47.1	1.4
Shan State	70.8	1.3	79.4	1.6	62.7	1.8
Ayeyarwady Region	55.8	1.5	69.5	1.6	43.8	1.9
Nay Pyi Taw Council	65.1	1.0	79.7	1.2	52.9	1.4
Education level						
Never attended school	48.3	1.5	63.9	0.0	41.9	1.5
Monastic school	51.9	1.5	62.5	1.7	34.5	1.9
Primary school	65.8	0.6	79.2	0.6	54.6	0.7
Middle school	55.4	0.8	65.8	1.0	44.1	1.1
High school or higher	61.7	1.0	66.2	1.3	58.2	1.2

INQUIRIES

For further information about this publication and related statistics, contact the:

Central Statistical Organization
Ministry of Planning and Finance
Office No. 32
Nay Pyi Taw
http://www.csostat.gov.mm;
www.mmsis.gov.mm

Households in the MLCS 2017
sample containing centenarians - Congratulations!