

[Working Paper Series: 2019 MDRN Survey 4]

Public Opinion Survey on Water Distribution System of YCDC

Sandhi Governance Institute

Introduction

Yangon, located in the middle of lower Myanmar, has a population of more than 7.3 million people according to the 2014 census. The Yangon City Development Committee (YCDC), which has existed as a municipal committee since colonial times, covers 33 out of the 45 townships of Yangon. As the population density in Yangon increases, so does the demand for water, which means that providing a sufficient water supply is a major challenge for Yangon. Population growth and economic development can also be directly affected by the water demand.

YCDC supplies the city with water from Gyobu, Phyugyi, Hlawga, Ngamoeyeik (First Phase), Ngamoeyeik (Second Phase) reservoirs and operates 442 tube wells. YCDC provides 27 MGD of water from Gyobu, 54 MGD from Phyugyi, 14 MGD from Hlawga, 45 MGD from Ngamoeyeik (First Phase), 45 MGD from Ngamoeyeik (Second Phase) and 20 MGD from the YCDC-owned tube well daily in Yangon¹, but people still lack water. YCDC supplies enough water for just 38% of the households in Yangon². It seems that although YCDC distributes water to cover all 46 townships, most wards do not receive water access from YCDC because of various reasons. This study will give an overview of the current situation of water usage; examine the water supply system of YCDC; provide suggestions to YCDC for the implementation of an improved public water supply system; and help in understanding public opinion and the level of satisfaction that residents have with the YCDC water distribution system in Yangon.

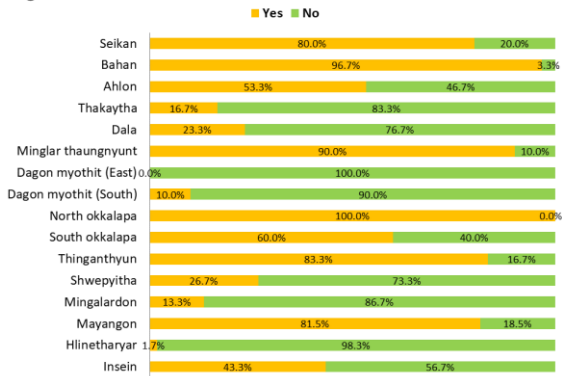
Our survey was divided to cover both households which are using water from YCDC and those which are not using water from YCDC. The survey was conducted on 485 households located in 16 townships among the 46 townships under the YCDC by using the probability proportional to size sampling (PPS) method. Of the households surveyed, 212 receive water from YCDC and 270 households do not. There were three missing values when we analyzed the data. The results were analyzed separately by distinguishing the households which are reached from those which are not reached by the YCDC water supply.

¹ YCDC Website <https://www.ycdc.gov.mm>

² Access to Clean and Safe Water in Yangon by Another Development (August 2018, Research Report)

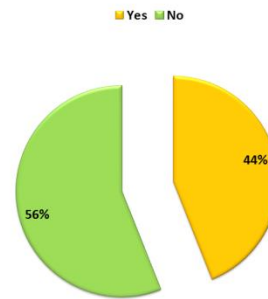
Accessibility and Quality of Water Service

Fig. 1 Water Access from YCDC



Source MDRN Survey Data, 2019

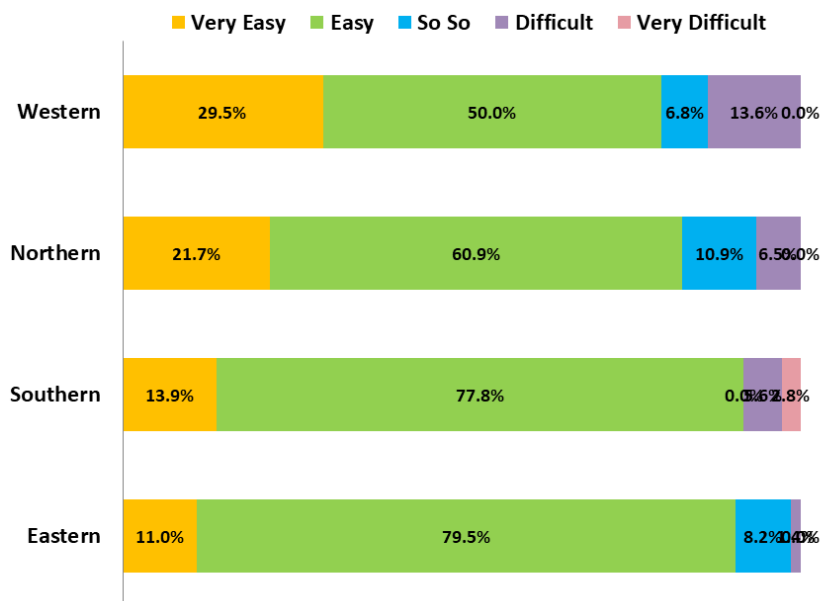
Fig. 2 Water Access from YCDC



Source MDRN Survey Data, 2019

The survey results were based on questions asked with relation to four main categories: accessibility and the quality of water service, cost and payment of services, evaluation of and satisfaction with YCDC services, and policy implications. The respondents were divided into two groups: those who receive water from YCDC and those who do not. The results showed that 56% of respondents are using water from YCDC to meet their daily needs while 44% of respondents obtain water from other sources.

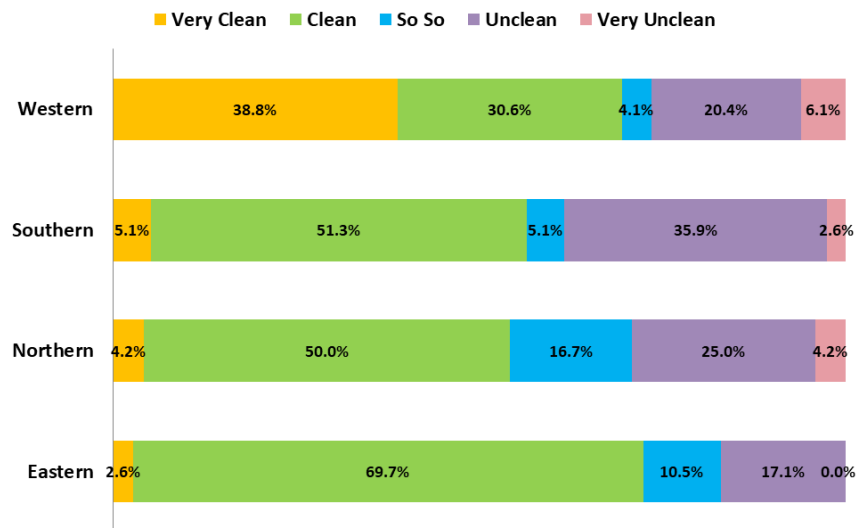
Fig. 3 How easy is it to install the water meter from YCDC?



Source MDRN Survey Data, 2019 (485 respondents in total, 212 respondents in distribution area)

Over 90% of respondents in the eastern, southern and northern districts of Yangon said that the water meters from YCDC are easy or very easy to install. In the western district, there was a lower positive response rate, with 80% of respondents stating that the water meters are easy to install. Around 13% of respondents in the western district said that the water meters from YCDC are not easy to install.

Fig. 4 How clean do you think the water is from YCDC?



Source MDRN Survey Data, 2019 (485 respondents in total, 212 respondents in distribution area)

Almost 70% of all respondents in the four districts of Yangon believed that the water from YCDC is clean. Least satisfied were respondents in the southern district, where 35% of respondents thought that the water from YCDC is not clean.

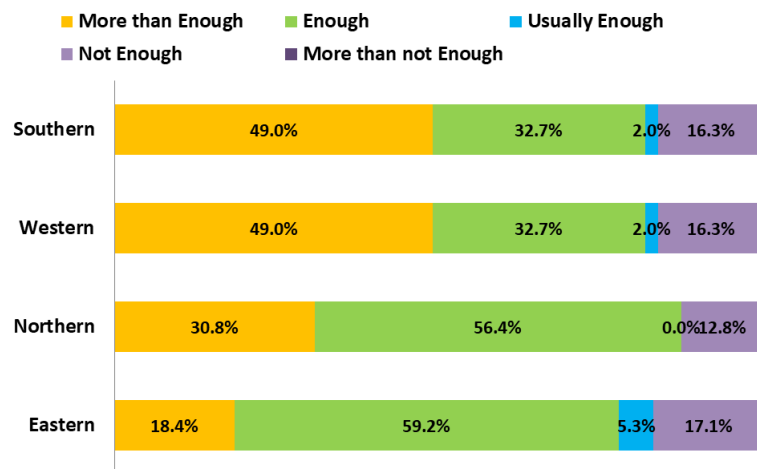
Fig. 5 If there is a water shortage in the supply from YCDC, how do you get water in your home?



Source MDRN Survey Data, 2019 (485 respondents in total, 212 respondents in distribution area)

During water shortages, 39% of respondents in the southern district and 36.4% of respondents in western district said that they purchase water from private businesses. About 32% of respondents in the northern district said that they take water from wells and ponds in their community. In every district, more than 34% of respondents answered that they get water from "other sources." They mentioned that if a water shortage is announced in the media they will store enough water to last them through the shortage.

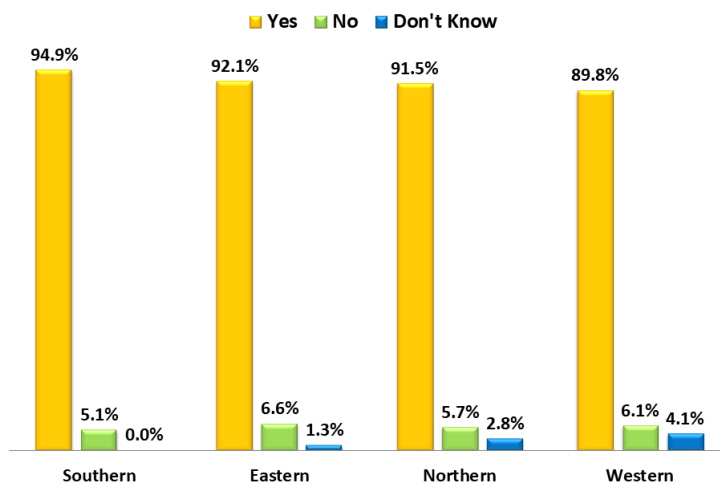
Fig. 6 Is the water from YCDC sufficient to use in your home?



Source MDRN Survey Data, 2019 (485 respondents in total, 212 respondents in distribution area)

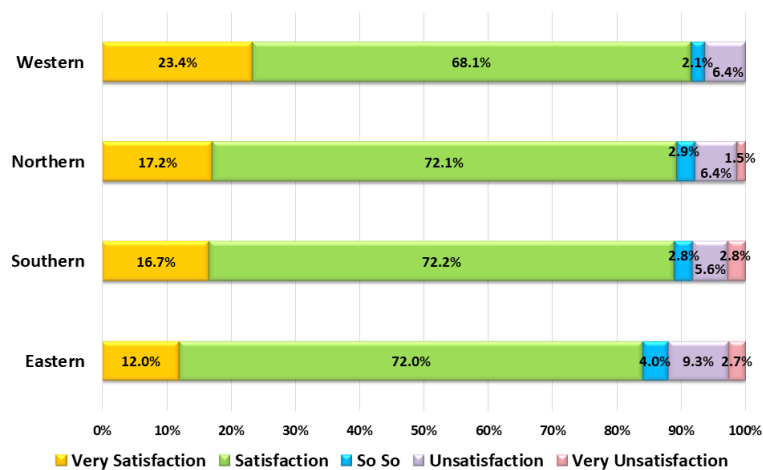
More than 70% of the respondents who used the water from YCDC in the four districts of Yangon reported that the water from YCDC is sufficient for their home use. In every district, between 17% and 13% of respondents said that the amount of water provided was not sufficient for their home use.

Fig. 7 Do YCDC collect the water charges regularly?



Source MDRN Survey Data, 2019 (485 respondents in total, 212 respondents in distribution area)

Fig. 8 Are you satisfied with the water access provided by YCDC and the rates charged?

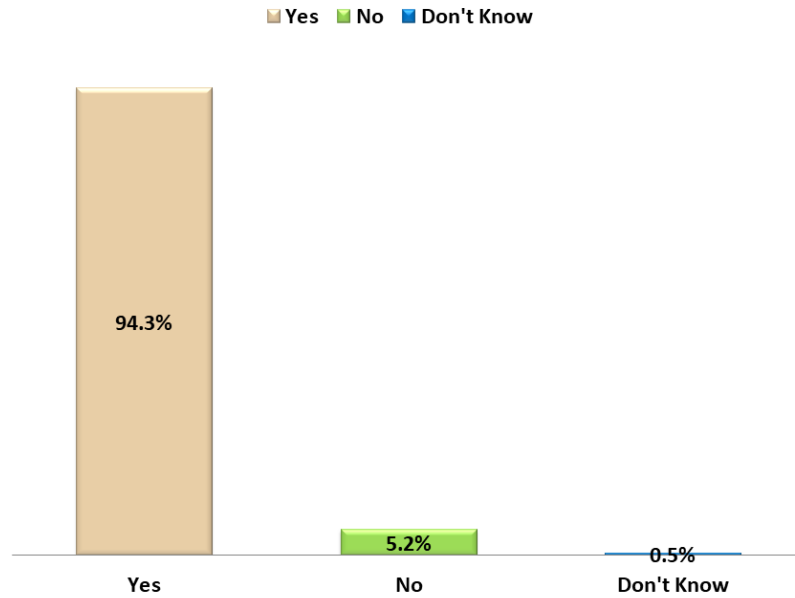


Source MDRN Survey Data, 2019 (485 respondents in total, 212 respondents in distribution area)

When asked about the collection of water charges, almost 90% of respondents said that YCDC collected water charges regularly, and that they were satisfied with the water access provided by YCDC as well as the rates that were charged for the water.

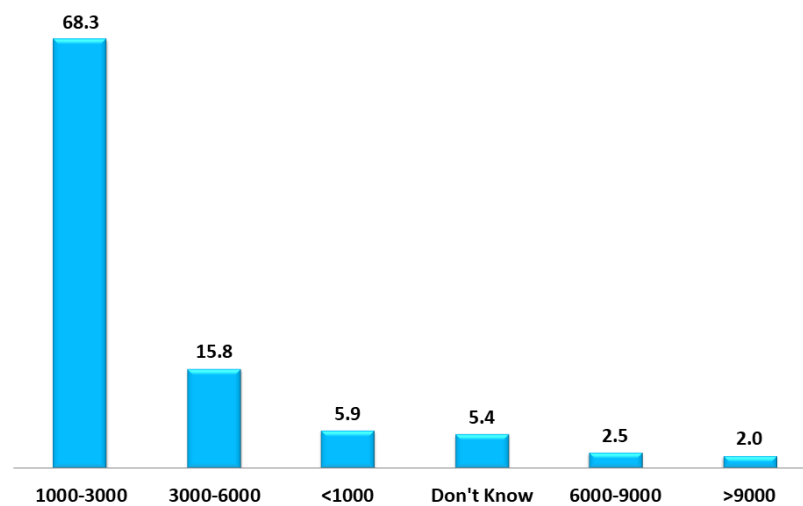
Cost and Payment of service

Fig. 9 Do you pay the water charges to YCDC?



Source MDRN Survey Data, 2019 (485 respondents in total, 212 respondents in distribution area)

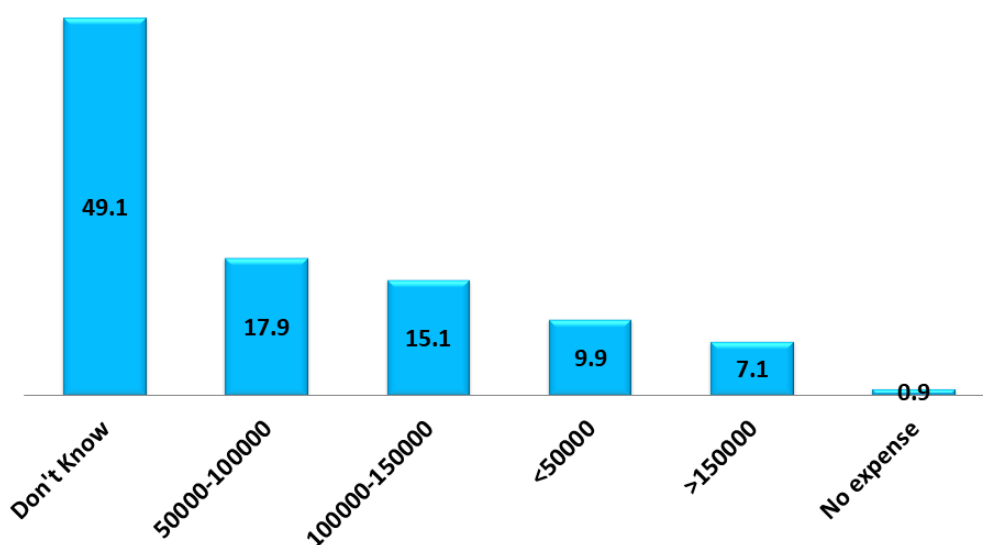
Fig. 10 How much do you pay the water charges in monthly? (Unit: MMK)



Source MDRN Survey Data, 2019 (485 respondents in total, 212 respondents in distribution area)

Almost all respondents paid water charges to the YCDC. Sixty-eight percent of respondents had monthly costs of between 1000 and 3000 kyat. Fifteen percent of respondents paid between 3000 and 6000 kyat. Only a minority of respondents paid more than that: 2.5% respondents paid between 6000 and 9000 kyat for monthly water charges and just 2% paid more than 9000 kyat.

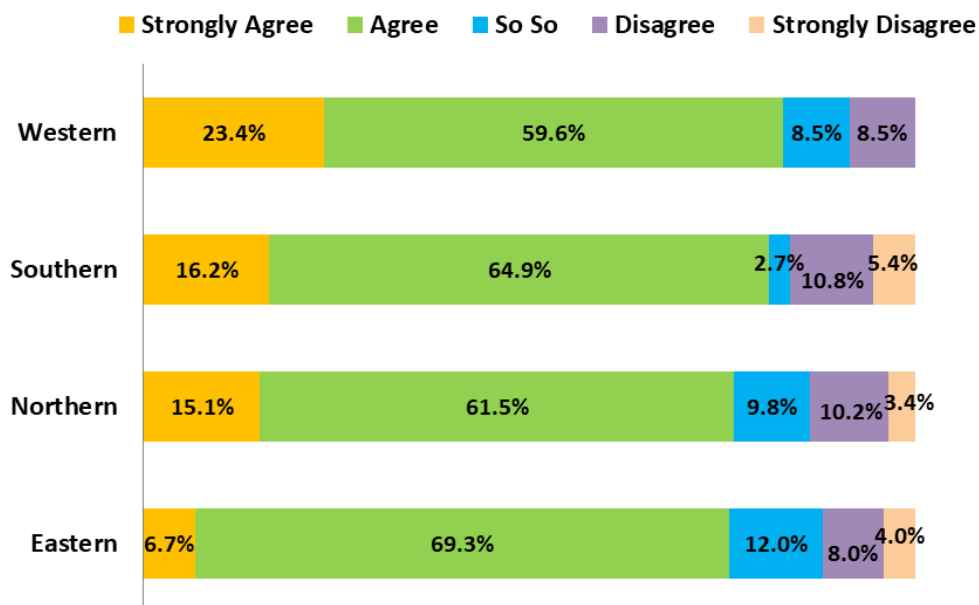
Fig. 11 How much does it cost the water meter installation fees from YCDC? (Unit: MMK)



Source MDRN Survey Data, 2019 (485 respondents in total, 212 respondents in distribution area)

When asked about the cost of water meter installation, half of respondents stated that they didn't know how much it costs to have a YCDC water meter installed. Of those that did know, 18% of respondents said that they had to pay between 50,000 and 100,000 kyat for water meter installation. Fifteen percent of respondents answered that they paid between 100,000 kyat and 150,000 kyat, while 7% of respondents paid more than 150,000 kyat for water meter installation fees to YCDC.

Fig. 12 Are you willing to pay more for water if YCDC can guarantee provision of a sufficient amount of clean water?

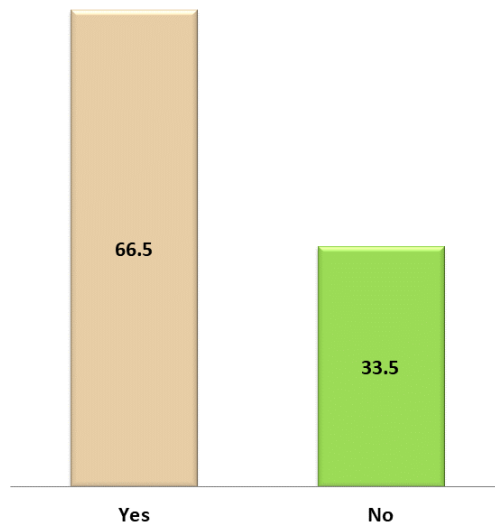


Source MDRN Survey Data, 2019 (485 respondents in total, 212 respondents in distribution area)

Generally, respondents were receptive to the idea of paying more in water charges if YCDC would distribute a sufficient amount of clean water. Almost 80% of respondents who used the water from YCDC in the western and southern districts agreed that they would be willing to pay more for water if YCDC would distribute clean and sufficient water in their townships or wards, while 70% in the northern and eastern districts said that they would be willing to do so.

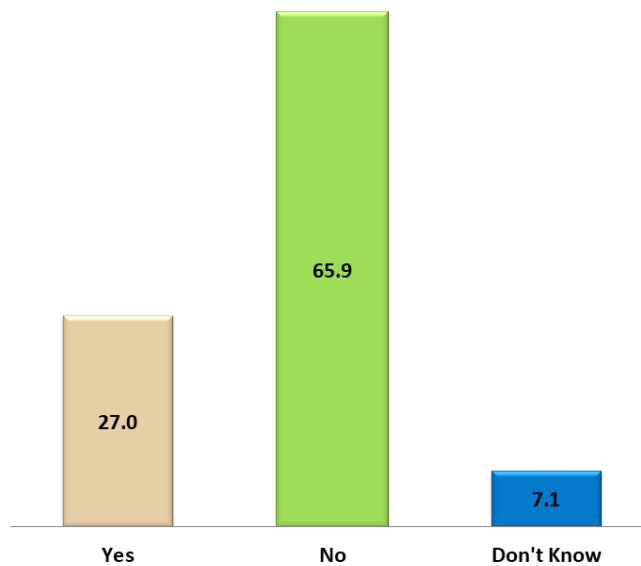
Evaluation of and Satisfaction with YCDC services

Fig. 13 Does YCDC repair ruined water pipelines if people inform them of a problem?



Source MDRN Survey Data, 2019 (485 respondents in total, 212 respondents in distribution area)

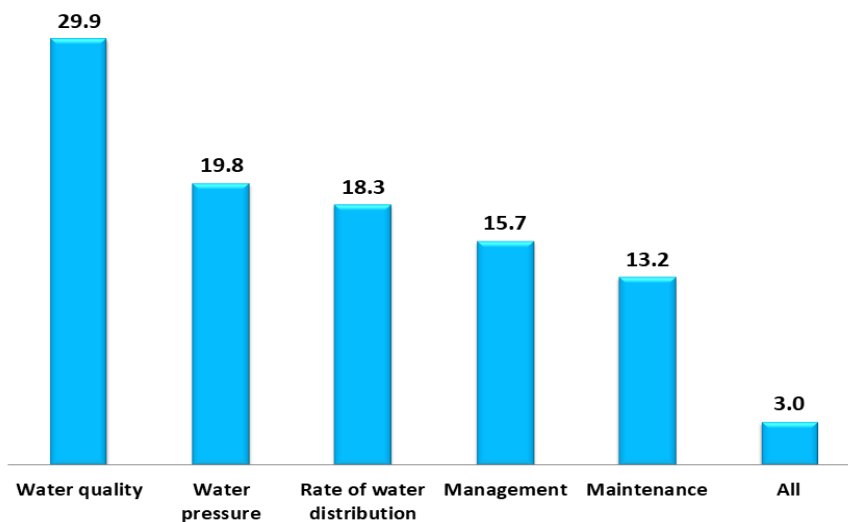
Fig. 14 Do you think YCDC performs regular water pipeline maintenance?”



Source MDRN Survey Data, 2019 (485 respondents in total, 212 respondents in distribution area)

The survey results showed that although 66% of respondents said that YCDC repaired broken pipelines if people informed them of damage, 65% of respondents said that they did not perform any regular water pipeline maintenance.

Fig. 15 What areas does YCDC need to improve in terms of water distribution?

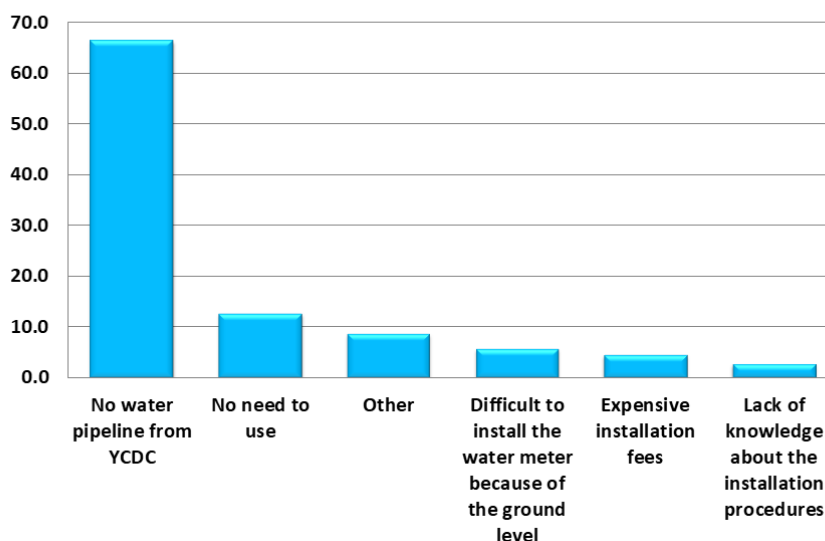


Source MDRN Survey Data, 2019 (485 respondents in total, 212 respondents in distribution area)

When asked how YCDC’s water distribution could be improved, nearly 30% of respondents said that the water quality from YCDC should be improved. Nearly 20% of respondents said that YCDC should improve water pressure and the rate of water distribution. Over 15% of respondents wanted YCDC to improve overall management, while 13% of respondents wanted YCDC to improve in terms of maintenance. A few respondents (3%) said that YCDC should improve their services in all aspects.

We also analyzed the data given by the 273 households which do not use the water provided by YCDC.

Fig. 16 If you have not used the water from YCDC, Why?



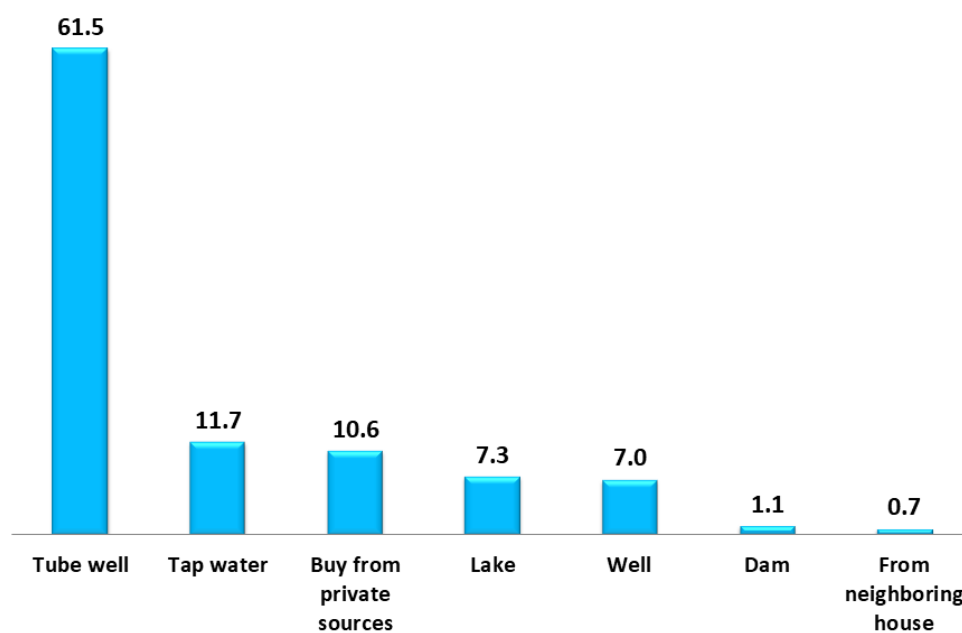
Source MDRN Survey Data, 2019 (485 respondents in total, 273 respondents in non-distribution area)

No water pipeline from YCDC	66.3
No need to use	12.6
Other	8.5
Difficult to install the water meter because of the ground level	5.6
Expensive installation fees	4.4
Lack of knowledge about the installation procedures	2.6

Table 1: Reasons why respondents do not use water provided by YCDC

Among the respondents who did not use water from YCDC, 60% said that they did not do so because there was no water pipeline from YCDC in their ward. Thirteen percent of respondents stated that they do not need to use the water from YCDC because they use the water from their own tube well; 5% of respondents stated that it is difficult to install the water meter because of the ground level, and 4% responded that the installation fees are too expensive. Two percent did not know what the installation procedures were to get water from YCDC.

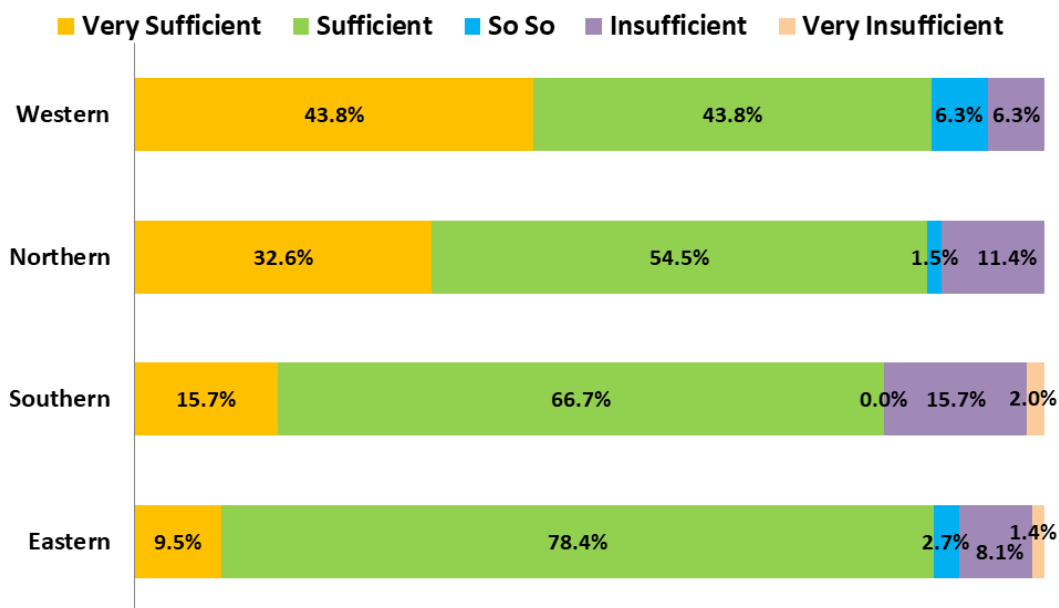
Fig. 17 If you have not used the water from YCDC, you get it from...



Source MDRN Survey Data, 2019 (485 respondents in total, 273 respondents in non-distribution area)

Among the respondents who did not use water from YCDC, more than 61% of respondents explained that they used the water from tube wells. Almost 10% of respondents said that they use tap water and another 10% of respondents said that they buy from private water distributors. Fourteen percent of respondents said that they got their water from either lakes or wells, while 1% of respondents collected their water from dams.

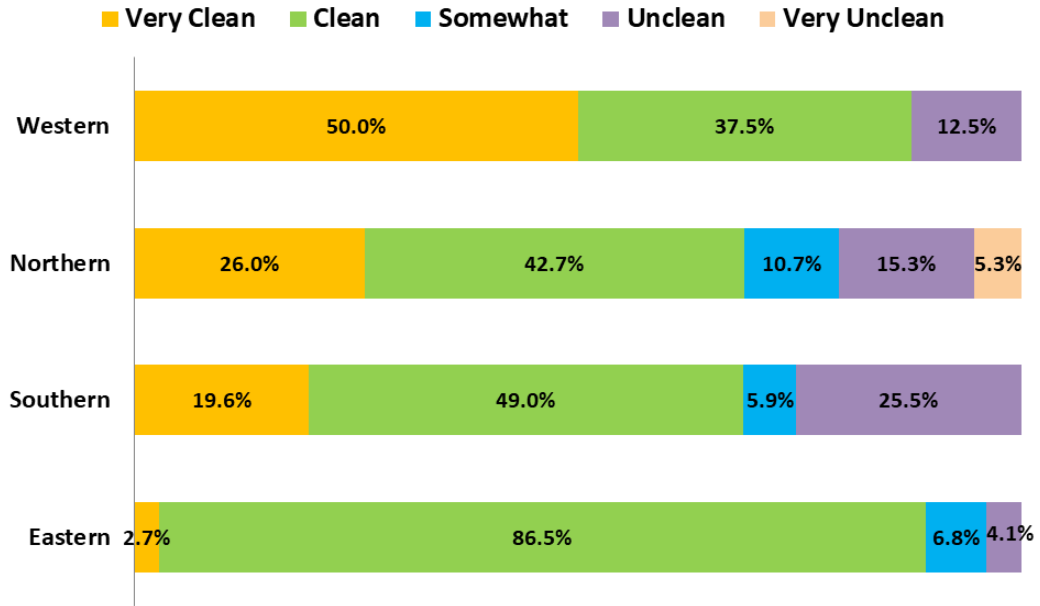
Fig. 18 If you have not used the water from YCDC, is the water you use in current sufficient?



Source MDRN Survey Data, 2019 (485 respondents in total, 273 respondents in non-distribution area)

More than 80% of the respondents that did not use water from YCDC stated that the water they are currently using is sufficient or more than sufficient. In the northern and southern districts, more than 10% of respondents said that the water they were currently using is insufficient for their daily needs.

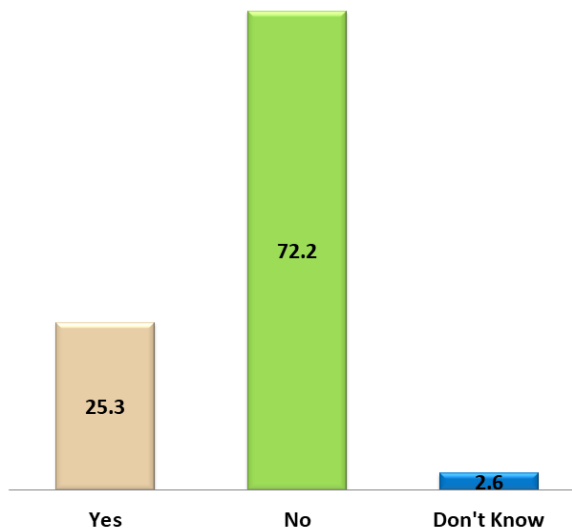
Fig. 19 If you haven't used the water provided by YCDC, do you think that your current water supply is clean?"



Source MDRN Survey Data, 2019 (485 respondents in total, 273 respondents in non-distribution area)

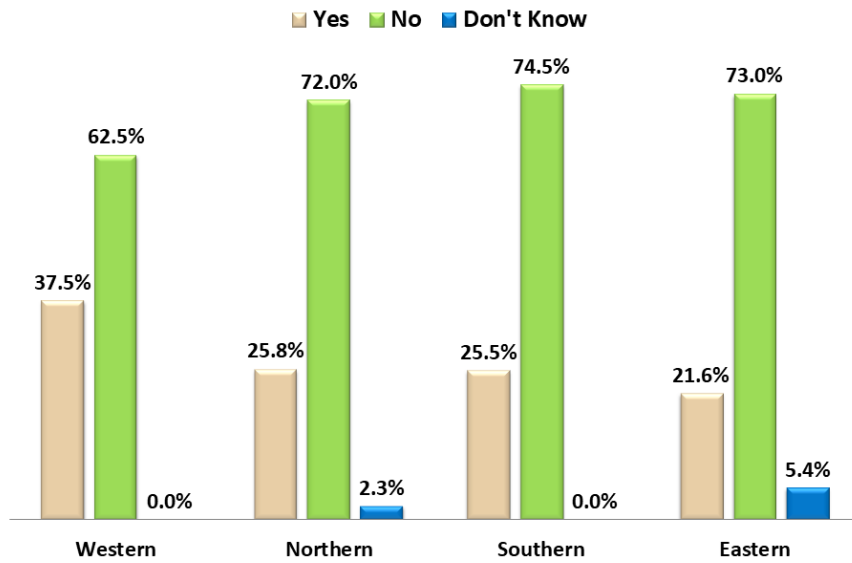
More than 80% of respondents in the eastern and western districts and more than 60% of respondents in the northern and southern districts thought that the water they currently use is clean. However, more than 20% of respondents in the northern and southern districts believed that their water supply was unclean.

Fig. 20 Does YCDC supply water to your township or ward?



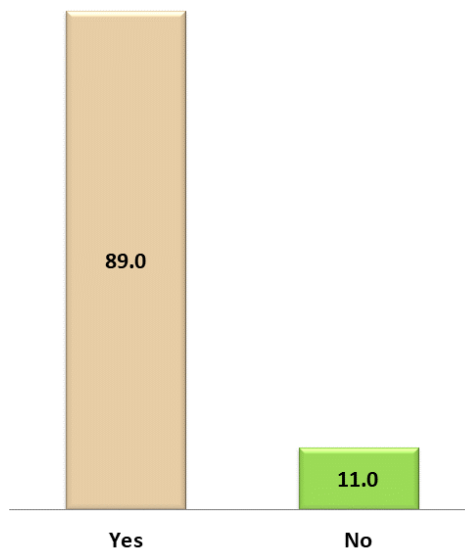
Source MDRN Survey Data, 2019 (485 respondents in total, 273 respondents in non-distribution area)

Fig. 21 Does YCDC supply water to your township or ward?"



Source MDRN Survey Data, 2019 (485 respondents in total, 273 respondents in non-distribution area)

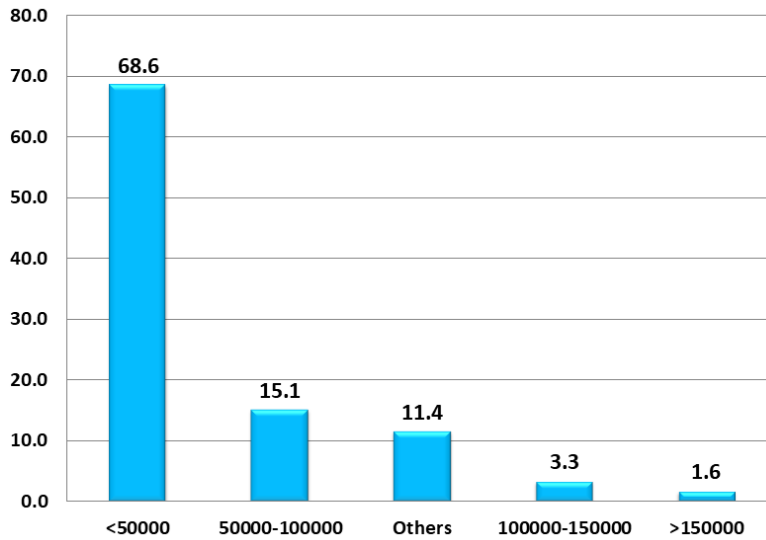
Fig. 22 Do you think it would be better if YCDC supplied water to your township or ward?



Source MDRN Survey Data, 2019 (485 respondents in total, 273 respondents in non-distribution area)

When asked if YCDC supplied water to their township or ward, more than 72% of respondents answered that YCDC did not supply any water to their wards. Only 25% of respondents indicated that YCDC supplied water to their wards. An overwhelming majority (90%) of respondents believed that if YCDC were to supply water to their townships or wards, it would better meet their daily water needs.

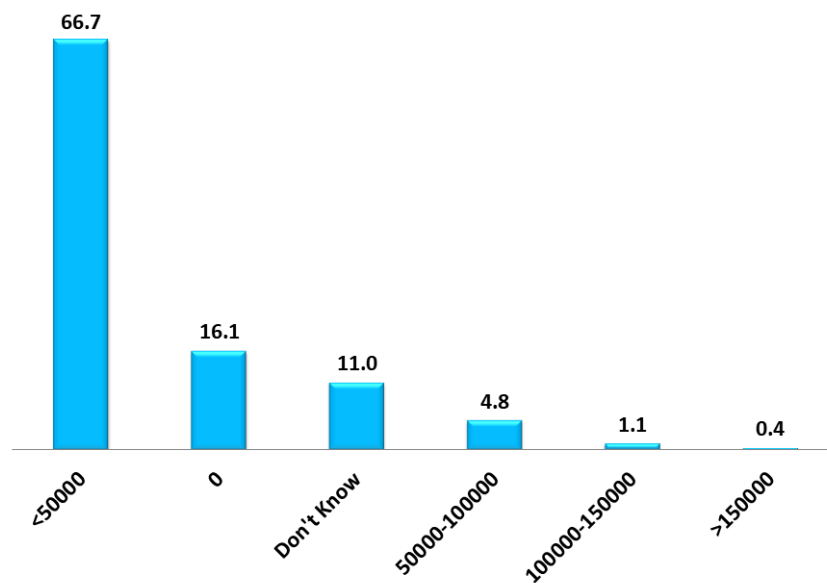
Fig. 23 If YCDC were to supply water to your township or ward, how much could you afford to pay to install a water meter? (Unit: MMK)



Source MDRN Survey Data, 2019 (485 respondents in total, 273 respondents in non-distribution area)

When respondents were asked how much they could afford to pay for YCDC water meter installation, almost 70% of respondents said that they would be able to pay less than 50,000 kyat for water meter installation. Only 15% of respondents said that they could afford to pay between kyat 50,000 kyat and 100,000 kyat for water meter installation. Few respondents could afford to pay more to install a water meter.

Fig. 24 If you do not receive water from YCDC, how much do you pay for your water supply? (Unit: MMK)



Source MDRN Survey Data, 2019 (485 respondents in total, 273 respondents in non-distribution area)

When respondents who did not receive water from YCDC were asked how much they paid for their water, more than 66.7% said that they spent more than 5,000 kyat on water per month. Sixteen percent of respondents said they did not pay any fees, and 11% of respondents answered that they don't know how much they pay for water. Just 5% of respondents spent between 50,000 and 100,000 kyat per month.

Conclusions and Policy Implications

Water distribution is essential for the people who live in Yangon. Currently, more than half of the respondents of our survey do not use the water services provided by YCDC, but there are variations among districts. The respondents who use the water from YCDC said that it is easy to install a water meter, but most respondents who do not use water from YCDC said that there were no water pipelines from YCDC in their wards, and indicated that they could afford the water meter installation fees.

Although water installation was not perceived as difficult by the respondents who do use the water from YCDC, many did not know how much they paid in water meter installation fees. They said that they were willing to pay more for water if they could get a clean and sufficient supply from YCDC.

Moreover, although YCDC performs repairs of water pipelines if they are notified of a problem, most respondents thought that YCDC did not perform regular maintenance on its water pipelines. Most respondents thought that water quality should be improved.

To be more effective and to improve access to its water distribution services, YCDC should develop better strategies and planning for public services. Therefore, based on the findings of this survey, the strategies that should be implemented are:

- Extension of water pipelines to the outskirts of city areas
- Provision of clean water at a fair price
- Full collection of water charges
- Improve maintenance of the water distribution system infrastructure
- Improve the management of the water distribution system

Moreover, YCDC should develop strategies that can enable it to meet the public service needs of residents, and should prioritize the needs of the public. ■

Appendix

Overview of Methodologies	
Sampling	four-step probability sampling
Sample size	485 adults, aged 18 years and old in Yangon
Method	Face-to-Face
Survey period	2019.4~
Margin of error	±4.45 percent at the 95% confidence level
Survey organization	Myanmar Democracy Research Network
Advisor for methodologies	Hankook Research Company, South Korea

Layers	Method
Township (16 townships were selected among 46 townships)	Probability Proportional to Size Sampling (PPS)
Ward (83 wards were selected among 733)	Probability Proportional to Size Sampling (PPS)
House (about 6 houses per ward)	Systematic Random Sampling (Interval 10 houses)
Respondents	Kish Grid

Abbreviations

YCDC	Yangon City Development Committee
MGD	Million Gallons/Day
MDRN	Myanmar Democracy Research Network
PPS	Probability Proportional to Size Sampling

■ **Sandhi Governance Institute** was founded by two master in public policy graduates in 2008 with the purpose of nurturing capable leadership in political parties and civil society organizations. Sandhi's vision is to create a society where social justice and democratic governance prevails. Until now, Sandhi's vision and mission are not much different from its past ones. It holds the vision of creating just, democratic and open society and its mission is promoting democratic governance in Myanmar. In relation to its vision and mission, Sandhi's main objectives focus on enhancing capacity of main political parties, increasing transparency and accountability in public sector and strengthening participation of all key stakeholders in public affairs and major investments. Sandhi's main programs include training, public-private partnership (PPP) and research program. Under training program, Sandhi is implementing 2-week (4 times) political leadership training for political parties and advocacy CSOs and short-term governance, public policy and leadership trainings. PPP program will provide trainings to relevant parliamentary committees, civil servants from implementing ministries and private sector for responsible investments, facilitating public-private dialogue for transparency and monitoring new PPP projects particularly BRI related ones. Under research program, Sandhi implemented public procurement research in 1 state and 2 regions (6 townships) in cooperation with The Asia Foundation from 2018 Dec to 2019 February. Sandhi has also published social research reports and data for those reports were collected by Sandhi's political leadership training participants.

This series of reports was compiled as a part of the "Strengthening Civil Society Organizations in Myanmar Year Three" program. The research for these reports was conducted entirely by EAI's partner think tanks in Myanmar, including Sandhi Governance Institute, Open Myanmar Initiative, Yangon School of Political Science, Yone Kyi Yar Knowledge Propagation Society, Salween Institute for Public Policy, Another Development, and Naushawng Development Institute.

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