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Study on Household Expenditure on Utility Services in Sri Lanka

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Abstract

Sri Lanka's electricity and water suppliers are government-owned corporations. The government subsidizes these services to ensure that electricity and water services remain affordable to customers. Existing electricity and water tariffs are not cost-reflective. A survey was conducted to study household expenditure on utility services reveals that households spend more on telecommunication services (voice and data) compared with electricity and water, which are essential services. Customers receiving a subsidy do not really value the subsidy while government corporations incur large losses. There is a dire need to price electricity and water at cost-reflective levels, to enable the corporations to minimize financial losses and to improve the quality of service provided to consumers.

Introduction

Utility services mean basic amenities such as electricity, water, sewage services, telecommunication, gas, petroleum, and transportation services provided by public or private companies. Reliable utility services are vital for any country. Electricity and water services are considered important as they are basic requirements. In Sri Lanka, the electricity and water services are provided by public corporations. Telecommunication services are provided by companies with both public and private owners, as well as fully privately-owned companies.

Customers must pay for utility services in proportion to their consumption. This study examined the average monthly household expenditure on utility services, to study expenses on utility services. A field survey was conducted in year 2020, covering seven provinces with a total of 1350 responses collected on-line from households. Data collected included monthly electricity, water, and telephone bills (both fixed-line and mobile), and the monthly income levels.

Utility Service Providers

Electricity: Ceylon Electricity Board (CEB) has the statutory obligation to "*develop and maintain an*

efficient, coordinated and economical system of electricity supply for the whole of Sri Lanka." Accordingly, Sri Lanka has achieved near 100% electrification providing access to electricity for every citizen [1]. Lanka Electricity Company (Pvt) Ltd. is a distribution entity.

Water: National Water Supply and Drainage Board (NWSDB) is responsible to provide safe drinking water and sanitation [2]. NWSDB supplies pipe-borne water to 40% of the population across all 9 provinces, mainly in urban areas.

Telecommunication: The telecommunications sector in Sri Lanka has recorded higher growth in the recent past. The total fixed-line and mobile telephone density has increased to 142 per 100 persons, with an upward trend in the use of both voice and data. There are three fixed-line operators, five mobile phone operators, and eleven internet service providers.

Utility Sector Subsidies

Electricity and water supplies are priced below cost, while the telecommunication services are competitively priced. For water and electricity, most households pay for consumption at rates that are less than the cost of generation due to the lack of cost-reflective pricing. Subsidies are typically justified based on the need to ensure that essential services remain affordable to the poorest in society. Many research studies reveal that subsidies on electricity also flow to unintended persons owing to loopholes in defining the eligibility criteria and propose modifications [4].

The electricity tariff is not cost-reflective hence the service provider, CEB is experiencing a huge loss annually and in the year 2020, a net loss of LKR 62.5 billion. The main reason for this loss is the Government's policy of not revising the Tariff for since year 2014. CEB offers electricity tariff at a price lower than the actual cost at the selling point, to

consumers at low consumption level in Domestic category and most of the other categories excluding General Purpose. Hence, the high-end consumers in the Domestic category/ General Purpose category have to bear a part of this cost in excess [1].

Annual Profit/Loss of CEB, NWSDB, and Telecom for the years 2020, 2019, and 2018 are summarized in table 01 below.

Table 1: Annual Profit/Loss status

	Profit/Loss		
Organization	2018	2019	2020
CEB	(LKR 30 Billion)	(LKR 97.4 Billion)	(LKR 62.5 Billion)
NWSDB	(LKR 569 Million)	(1.2 Billion)	LKR 529 Million
Sri Lanka Telecom PLC	LKR 4.9 Billion	LKR 6.3 Billion	LKR 7.8 Billion

Sources: Annual Reports of the respective institutions

Electricity tariff has six categories, namely domestic, religious, general purpose, industrial, hotel, and government. In year 2020, the average cost at the point of sale, according to CEB publications, was Rs. 21.21 per kWh while the average selling price was Rs. 16.72 kWh [5]. Domestic electricity consumers who consume less than 90 units, get electricity for Rs 10.00 per kWh or lower. For religious institutions the maximum electricity price is Rs. 9.40 per kWh. The industrial and government categories too get subsided electricity prices. For the financial year 2020, the loss/deficit of CEB due to the subsidies provided is LKR 79 Billion [1].

Water tariff structures typically do not discriminate between low-users and high-users. However, low-income Samurdi holders get a special tariff but a majority of low-income or rural households in Sri Lanka do not have pipe-borne water connections.

Although the essential services - electricity and water, are provided at a subsidized price, telecommunication services are provided at competitive prices in Sri Lanka.
This survey was conducted basically to analyze the average household expenditure on utility services, its relationship to the monthly income and to propose improvements to make government subsidies more effective.

Methodology

Data Collection

The data collection for this study was conducted by a group of students from Sri Lanka Technological Campus (SLTC), covering seven Provinces. About 1350 customers participated in the survey, conducted through field surveys and Google forms [6]. Data including monthly household electricity, water, and telephone bills (both fixed-line and mobile), and the monthly household income were recorded. A summary of the data collected is given in Table 2.

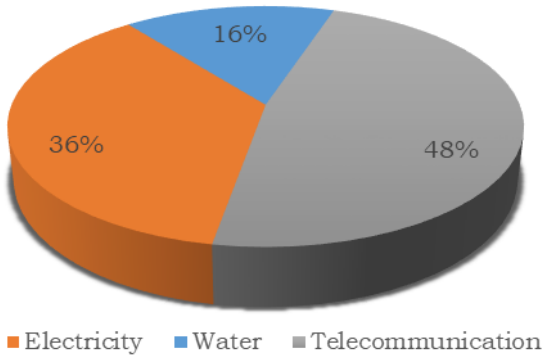
Table 2: Summary of the Survey data

Province	Electricity (LKR/ month)	Water (LKR/ month)	Telecommunication (LKR/month)
North-western	1,693	-	2,955
Sabaragamuwa	917	335	921
North-central	1,492	394	1,827
Southern	2,174	1,542	2,652
Western	1,913	1,054	1,909
Central	669	355	1,325
Uva	1,535	902	1,925
Average	1,485	655	1,931

Data Analysis and Results

The share of average expenditure on water, electricity, and telecommunication services incurred by the households responding to the survey, is given in Figure 1.

Figure 1: Share of Average Expenses on each Utility Service

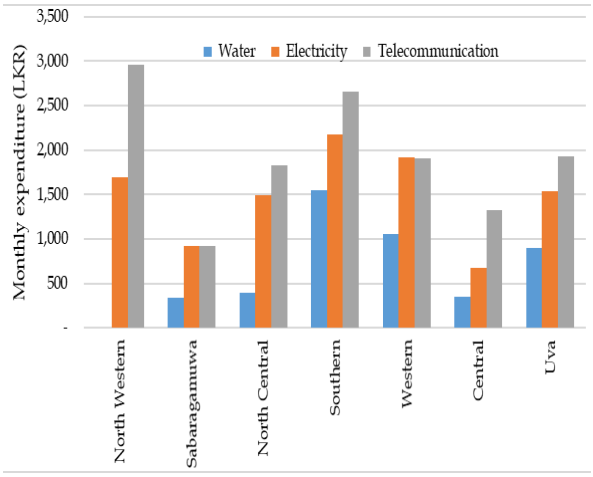


Accordingly, 48% of the household expenditure for utility services is on telecommunication services, whereas 36% is for electricity. Expenditure on water

services stands at about 16% of expenditure on utility services.

Figure 2 shows that all seven provinces show the same pattern of expenditure, with the highest expenditure for telecommunication services.

Figure 2: Average Household Expenditure on Utility Service by Province



Respondents to the survey were requested to state the range of their monthly income, as an index 1 to 4, defined as follows:

Index	Monthly income
1	<LKR 30,000
2	LKR 30,000 to LKR 60,000
3	LKR 60,000.00 to LKR 90,000
4	> LKR 90,000

Expenditure on utility services across different income levels was studied and the summary is given in Figure 3 below. The share of expenditure on electricity, water and telecommunication services depending on the income levels is given in Figure 4.

Figure 3: Average Expenditure on Utilities by Monthly Income

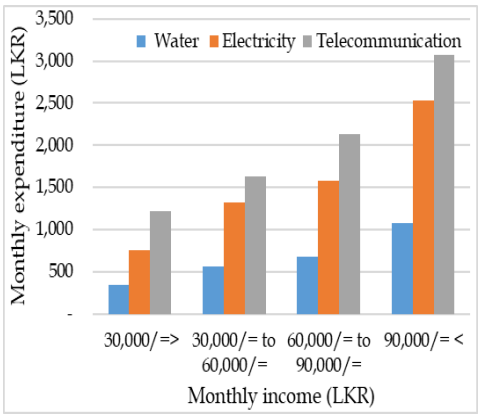
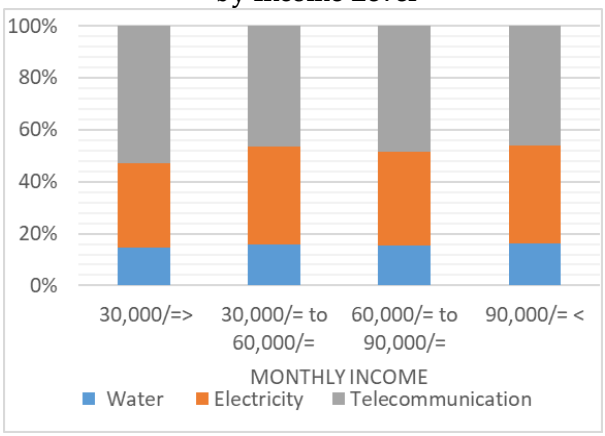
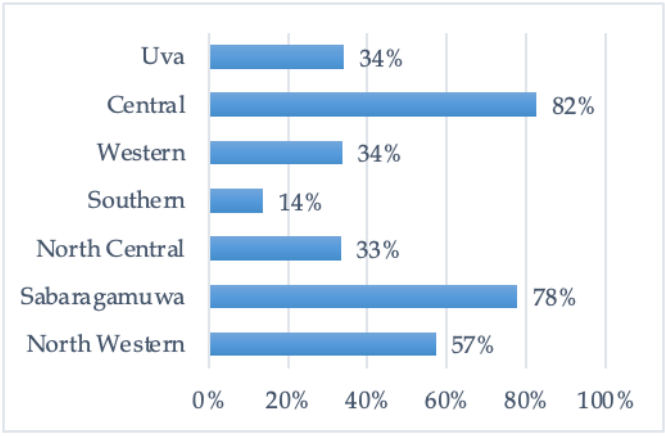


Figure 4: Share of Expenditure on Utility Service by Income Level



The pricing structure implies that there is an electricity subsidy for households if the usage <=90 kWh within a 30-day period, regardless of their income. The survey data were analyzed to find the number of households receiving electricity subsidy for each province. Depending on the survey data, 30% of households in six provinces out of seven are receiving an electricity subsidy.

Figure 5: Share of Household Customers receiving a Subsidy for Electricity



Conclusion

This survey reveals that customers pay more on telecommunication services than for electricity and water, which are essential services. A cost-reflective tariff should be implemented to communicate to customers, the true costs of these services.

Future Work

For future studies, a detailed comprehensive study should be carried out covering all districts with more respondents to make the sample statistically significant. Further, the effectiveness of government subsidies in reaching low-income households should be studied in detail.

Acknowledgement

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