

Predicaments of electricity duty as a source of revenue for Kerala, India

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Introduction

With highly educated youths migrating out, Kerala needs to generate high skill jobs within the state in order to reap the full multiplier effect of its social spending on health and education and for a sustainable revenue base. It is high time that Kerala needs an adequate fiscal space for capital spending to create infrastructure to attract economic actors that can create such jobs.

However, government finances in states of India, including Kerala, are in precarious condition especially after the pandemic. Due to the subdued economic activity owing to pandemic and related policies, revenue receipts of governments have gone south while revenue or cash expenditures in form of subsidy has gone north. For Kerala, the gap between budgeted and realised amount for states own revenue receipts excluding central transfers was of the order of Rs 22000 crore for the FY 2020-21 - a fall of 33% fall from budgeted amount of Rs 67,420. Compared to actuals of 2019-20 the fall in states own revenue was about 10% while growth in expenditure was around 12% (an increase of around 14,000 Crores). Over all the revenue deficit of was of the order of 24,200 (or 2.9% of GSDP) in 2020-21.

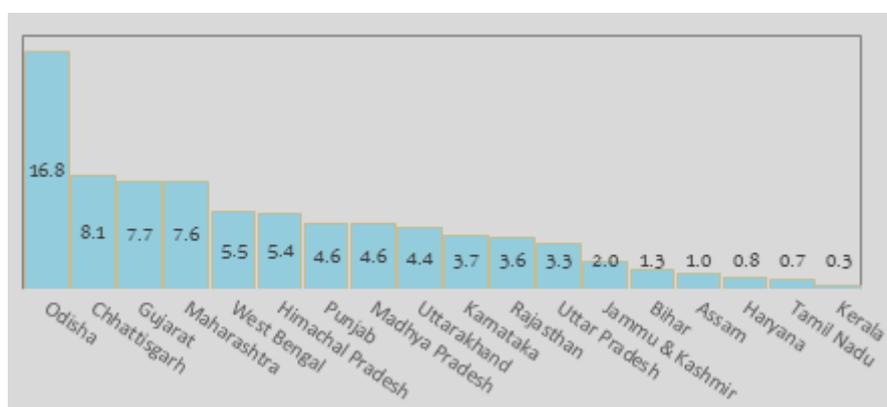
Having achieved good progress in human development indicators, Kerala faces a challenge of sustaining those gains which remains one of the key commitments of the state government in Kerala irrespective of their political colour. Committed expenditure of the state on account of salaries, pensions and interest, thus eat up a large chunk of the revenue receipts of the State (72% of the Revenue Receipts in 2020-21). This is likely to increase in this year owing to pay

revision of government employees. Such a spending pattern leaves little room for capital spending in the state until state diligently works in a mission mode to pick-up every slack to augment its own revenue. Electricity duty may be one such possibility for the state to pick on. In the following discussion we elaborate on revenue potential of electricity duty in the state.

Background

The electricity duty i.e., tax on electricity consumption as a source of revenue remains small but significant for many states. However, performance of Kerala remains poor in this area. For example, Kerala reported electricity duty of Rs. 29 thousand for every million units of electricity sold in 2018-19. This value appears abysmally low compared to Rs 17 lacks (Odisha), 8 lacks (Chhattisgarh, Gujarat and Maharashtra) and Rs 5 lacks (West Bengal, Himachal Pradesh and Punjab) (Figure 1). Given the consumption level and average rate of duty for different categories of consumers, Kerala should have potentially collected at least Rs. 1,825 crores in 2018-19 instead it reported an amount of Rs 62 Crores (CEA 2020, CEA 2019). Even C & AG's report on Kerala's state finances identified an arrear of Rs 1,486.50 crores as of 31st March 2019 (CAG 2021).

Figure 1: Electricity duty per million units of electricity sold (Rs. Lakh)



Source: RBI's data on State Finances 2020 and CEA (2020)

The apparent disappointing performance of Kerala in this area is not because consumers of electricity do not pay their electricity duty but because KSEB which collects electricity duty on behalf of Government of Kerala (GoK) has not been remitting it.

For instance, as per CAG's 2016 report on Kerala's Revenue Receipts indicated that State's revenue receipts remained understated to the tune of Rs 5,123 crores between April 2002 to October 2013 on account of non-remittance of electricity duty (CAG 2016; Chapter 7). The

fourth report of the IV Kerala Public Expenditure Review Committee described this problem in following words

".... KSEB stopped remitting the payment of electricity duty almost from the middle of nineties. As large amount was due to Government, demands were raised frequently for its remittance. At that time KSEB pointed out that the under recovery of the cost of power was particularly due to non-revision of electricity tariff. Accordingly, electricity duty payable by KSEB should be set off against the notional due payable by Government towards subsidised power. The factual position is that the payment is due from KSEB.

After the setting up of SERC also the remittance of electricity duty was not made by the KSEB and the netting off of dues from both sides was taken up several times. Ultimately after the restructuring of KSEB into KSEB Limited as per Electricity Act the issue was discussed in detail and Government through G.O. (Ms) No.42/2011/PD. dated, 03-11-2011 allowed KSEB Limited to adjust the electricity duty payable to Govt. for the next 10 years towards setting up a corpus of Pension Fund. Since then, amount collected by the company is retained towards the corpus for the creation of pension fund."

The fourth report of the IV Kerala public expenditure review committee

IV Kerala Public Expenditure Review Committee (KPERC) report in 2016 recommended that such a practice should not be continued because it under-reports the revenue as well as expenditure side of the government accounts and inhibits transparency of the government accounts. It also adversely affects the parameters used for assessing performance in Fiscal Responsibility of the state i.e., ratio of Interest Payment (IP) to Revenue Receipt (RR). This view was further reiterated by the Vth KPERC as well. For example, such a practice makes it difficult to assess the performance of Kerala vis-à-vis other states in revenue collection under this head because Kerala simply does not report how much electricity duty was collected because it never enters the Kerala state government accounts. Over and above all these complexities, Kerala State Electricity Regulatory commission (KSERC) has found that KSEB is diverting funds collected as electricity duty in areas other than pension fund as was mandated by the government order.

Having identified the major anomaly in accounting for electricity duty, we move ahead to examine the scope of improving the revenue by looking at Kerala's existing electricity tariff and duty structure and electricity consumption pattern in comparative perspective with other well performing states in India.

Scope for improving revenue

Rationalising Duty rates for different category of consumers:

Table 1 provides rates of electricity duty for different category of consumers by some select list of states. Generally, electricity consumption in India is categorised in six categories based on the purpose of consumption i.e., consumption for 1) households, 2) commercial establishments 3) Industrial units at low voltage(tension) 4) Industrial units at high voltage(tension) 5) Agricultural activities and 6) railway traction which occurs at high voltage. Cost of supply of electricity generally is higher for domestic, agriculture and commercial consumers because low voltage transmission of electricity entails greater technical losses with high possibility of electricity theft in such areas. Further, from revenue side also Domestic and Agriculture consumers pose a challenge. Tariffs for these categories of consumers are usually low due to political considerations. However, when income of population is low, such considerations may be genuinely welfare enhancing. However, Kerala enjoys highest level per capita consumption and human development among Indian states. Domestic consumers of electricity in Kerala can comfortably afford to pay higher prices including the duty vis-à-vis other states.

Duty on consumption of electricity for railway traction: It is surprising that most states do not apply electricity duty on consumption for railway traction including Kerala (Table 1). Among Indian states only Punjab, Karnataka and Andhra Pradesh, Jammu & Kashmir, Himachal Pradesh, Jharkhand and Bihar charge duty consumption of electricity for railway traction. Given that some states do apply duty on electricity consumption for railway, Kerala can also explore the possibility of applying electricity duty on similar grounds.

Raising electricity duty for other consumer categories

Richer states like Punjab, Maharashtra and Gujarat generally have high duty rates than Kerala for non-domestic consumers (Table 1). Further, in case of Gujarat, there is differential electricity duty rates for different consumers categories. Gujarat applies lowest rates for

domestic consumers in rural areas (7.5% as compared to 15% for urban areas). It applies very steep rate of 25% for commercial consumption while for industry consuming at high voltages are charged 15% (Table 1). A slightly lower rate for industrial consumer at low voltage at 10%.

Table 1: Electricity duty as applied in different states for different consumer categories in 2018-19

Name of state/UTs	Domestic	Commercial	Agricultural	LT-Industry	HT-Industry	Railway Traction
Gujrat	Rural areas - 7.5% Urban areas - 15%	25%	0	10%	15%	
Punjab	13%	13%	13%	13%	13%	13%
Odisha	4%	4%	2%	5%	8%	0%
Maharashtra	16%	21% additional tax - 9.04 P/KWh	0	9.3% additional tax - 9.04 P/KWh	9.3% addl. tax - 9.04 P/KWh	0
Karnataka	6%	6%	0	6%	6%	6%
Tamil Nadu	0%	5%	0	5%	5%	0%
Haryana	10 P/KWh	10 P/KWh	0	10 P/KWh	10 P/KWh	0%
Andhra Pradesh	6 P/KWh	6 P/KWh	0	6 P/KWh	6 P/KWh	6 P/KWh
Telangana	6 P/KWh	6 P/KWh	0	6 P/KWh	6 P/KWh	0%
Kerala	10%	10%	10%	10%	10 P/KWh	0%

Source: Electricity Tariff and Duty Average Rates Electricity Supply in India, March 2018, Central Electricity Authority, Government of India

While Punjab applies uniform rate of 13% respectively to all category of consumers including agriculture (Table 1). Kerala applies 10% duty on all categories of consumers except for traction (zero duty), agriculture (zero duty), and High-tension industrial consumers (specific rate of 10 paise per unit i.e., quantity-based taxation). Thus, the duty for high-tension industrial (HT-Industry) consumption turns out to be very low in effective terms. For comparison purposes CAG (2016; Chapter 7) pointed out that the fixed rate duty at 10 paise per unit caused effective rate of electricity duty to drop from 29% in 1988 to 2% in 2015 owing to tariff rate rising from 35 paise to 520 paise during the same period. As a result, duty rate for HT-industry never increased concomitantly with rise in its tariff rates while for other consumer categories duty rates kept rising in proportion to rise in tariff. Therefore, collection of duty remained very low from HT-industry sector. Andhra Pradesh and Telangana also suffer significant revenue shortfalls due to electricity duty being quoted in per unit or quantity

terms i.e., 6 paise per unit (Table 1). In 2018-19, electricity duty collection per million units of electricity sold was mere Rs 2,000 and Rs 2,700.

It is imperative that duty rate of high-tension industrial consumers is also quoted in ad-valorem (value-based taxation) form rather than specific form which may require amendment in Kerala Electricity Surcharge (Levy and Collection) Act, 1989. It is worth mentioning that these duty structures for electricity consumption at low tension was decided as per Kerala Electricity Duty (Amendment) Act 1969 which has not changed since then. There was special Act for imposing duty on high tension electricity consumers namely Kerala Electricity Surcharge (Levy and Collection) Act, 1989 which mandated unit-based rate rather than value-based rate. Thus, there may be a need to introduce amendments to these acts for rationalisation of duty rates.

Given the inconsistencies in levying electricity within the state and a lower rate of electricity duty in comparison to other states, there is a scope for rationalising electricity duty in the state of Kerala. Given that Kerala is the state with highest per capita consumption expenditure, Kerala can afford to raise the electricity duty rates to at least match what Punjab is charging (13%). Secondly, non-domestic consumers such as industrial and commercial should afford higher electricity duty compared to domestic consumers.

Limits on scope of improving revenue under electricity duty

Kerala's ability to generate revenue through electricity duty in comparison to states like Maharashtra and Gujarat may be limited due to its consumption structure but nevertheless there is significant scope for improving it. Kerala's electricity consumption is heavily tilted towards domestic consumption. Domestic consumers consume about 51% in 2018-19 of the total electricity consumption in the state. Table 2 shows the consumption shares of commercial, Industrial and railway traction in 2018-19 where higher rates of electricity duty is generally seen as politically feasible. Aggregate share of these categories of consumers in total consumption is one of the lowest for Kerala at 34% compared to 64% in Gujarat one of the best performers in revenue from electricity duty. Other better performing states such as Odisha, Punjab and Maharashtra however do not have such high levels of consumption share. For example, Odisha accounts about 54% of total consumption from these categories, while for Punjab and Maharashtra, these categories account for 41.6% and 46% respectively. Thus, there definitely is scope for improving revenue through electricity duty.

Table 2: Share of industrial, commercial and railway traction total electricity consumption, 2018-19

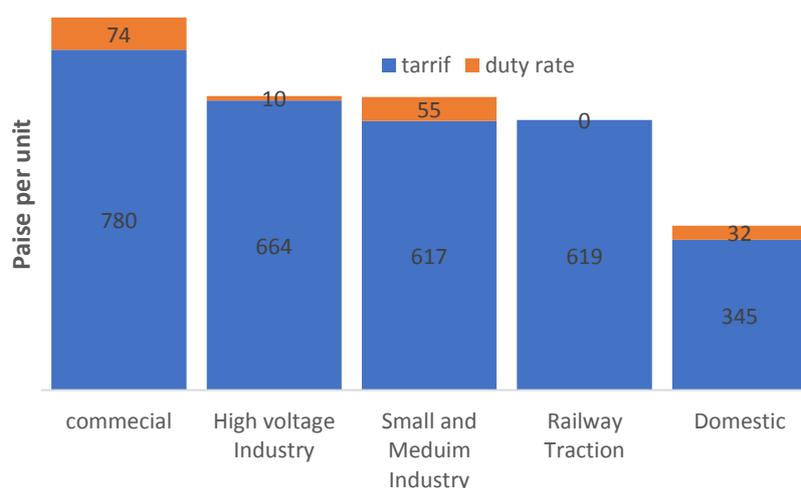
State	Industrial	Commercial	Railway traction	Total
Punjab	33.89	7.33	0.46	41.68
Gujarat	59.35	4.33	0.77	64.45
Maharashtra	32.24	11.52	2.32	46.07
Odisha	38.09	9.46	6.21	53.76
Kerala	21.12	11.47	1.50	34.09
Andhra Pradesh	33.38	8.53	2.77	44.68
Telangana	23.76	9.85	1.24	34.85
Karnataka	22.78	10.50	0.16	33.44
Tamil Nadu	38.28	11.20	0.98	50.46
Total (All India)	33.42	9.47	1.82	44.70

Source: All India Electricity Statistics: General Review 2020, Central Electricity Authority

Political feasibility for altering electricity duty for different sections of the consumer

Unit price of electricity (tariff duty) in Kerala for consumers under different categories is comparatively lower than other states (Table 3) and seems to be progressive in nature. However, average price of electricity for small and medium industry is slightly higher than that of railway traction mainly because there is no duty on railway traction.

Figure 2: Average price electricity (tariff +duty) for lowest band of electricity for consumers in Kerala



Source: All India Electricity Statistics: General Review 2020, Central Electricity Authority

Table 3: Average Electricity tariff and duty for different categories for lowest band of consumers

	State	Punjab	Gujarat	Maha-rashtra	Odisha	Kerala	Andhra Pradesh	Telan-gana	Karna-taka	Tamil Nadu
Small and Medium	Tariff	618	527	653	570	617	721	720	590	455
	Duty rate	80	53	70	29	55	6	6	35	23
	Total	698	580	723	599	672	727	726	625	478
large HT (industry)	Tariff	728	457	858	644	664	838	843	756	768
	Duty rate	95	6	89	52	10	6	6	44	38
	Total	823	463	947	696	674	844	849	800	806
Commercial	Tariff	730	468	953	613	780	897	905	848	801
	Duty rate	95	117	209	25	74	6	6	51	40
	Total	825	585	1162	638	854	903	911	899	841
Domestic	Tariff	516	303	510	360	345	203	85	463	233
	Duty rate	67	23	82	14	32	6	0	28	6
	Total	583	326	592	374	377	209	85	491	239
Traction	Tariff	871	600	894	666	619	532	632	737	802
	Duty rate	113	0	0	0	0	0	0	44	0
	Total	984	600	894	666	619	532	632	781	802

Kerala has a scope to introduce duty on railway traction because the average tariff for railway traction is Rs 6.19 per unit much lower than Rs 9.84 per unit charged in Punjab (inclusive of Rs 1.13 per unit as duty).

Similarly, in case of high-tension industrial consumers in Maharashtra tariff inclusive of duty is Rs 9.45 per unit while for Kerala it is only Rs 6.74 per unit (Table 3). So, there is a scope for increasing electricity duty for High Tension Industrial consumers. However, revenue buoyancy of raising the duty in this case is limited because share of high-tension industrial consumers in case of Kerala is only 15% compared to 28.09%, 42.44% and 24.78% for Punjab, Gujarat, Maharashtra respectively.

For commercial consumers also there is a scope for increasing the duty as Maharashtra's average price of electricity for commercial consumers is Rs 11.62 per unit which higher than Kerala's Rs 8.54 (Table 3). It is also noteworthy that share of commercial consumption total of electricity consumption of Kerala is at 11% which is generally higher than other states. Given that Kerala has highest per capita consumption expenditure in India it would not be such a difficult task.

Raising electricity for domestic consumers is seen as most unfeasible politically. However, given that Kerala's Average price for electricity for lowest band of domestic consumers is Rs 3.77 per unit which is lower than that of Maharashtra (Rs 5.92/unit), Punjab (Rs 5.83/unit) and Karnataka (Rs 4.91/unit). Furthermore, marginal increment in electricity duty for

domestic consumer in case Kerala is going to contribute much larger additional revenue because share of domestic consumption in total consumption of electricity in Kerala is very high (51%) compared to others states - e.g., Punjab (28.26%), Gujarat (16%), Maharashtra (21.6%), Tamil Nadu (29.41%), Karnataka (20.76%) and Andhra Pradesh (25.63%).

Developing estimates for additional revenue generation

Table 3 develops two scenarios for possibility of additional revenue that KSEB or GoK could have generated in 2018-19 provided that Kerala's duty and average tariff rates together were at par with tariff levels of two states which are one of the best performing states in terms of electricity duty. These additional revenue estimates are on top of our estimate the Rs 1,825 crores in 2018-19 based on existing consumption patten and duty structure that may have been collected by KSEB.

The hypothetical estimate of additional revenue generation that may be shared between GoK and KSEB depending on proportion of total increment distributed between additional average tariff and additional duty. However, we have avoided doing this because our purpose is to just indicate how much additional revenue may have been generated if Kerala's tariff were at par with benchmark states. Distribution of this revenue between GoK and KSEB is matter of mutual agreement between the two parties.

The estimate of additional revenue generation in first scenario is developed using best performing states as the benchmark. First scenario provides an estimate of maximum possible additional revenue that state of Kerala would have earned (either as tariff or electricity duty) when sum of increment in tariff and duty together brings Kerala at par with best performing state. The second scenario is developed using the benchmark state whose average tariff inclusive of duty is just above Kerala's. Thus, scenario 2 provides an estimate of minimal increment in additional revenue that could have been generated in 2018-19. While developing scenarios we consider 2018-19 consumption levels of different categories as it is. The analysis reveals that Kerala could have raised additional revenue ranging between Rs 1,464 to 4,199 Crores in 2018-19 (Table 4).

Consumer category wise estimate of additional revenue

More than half of Kerala's electricity consumption (51%) comes from domestic consumers. Thus, even small increment in duty rates for this consumers category brings large revenue benefits as is indicated by analysis in Table 3. The domestic consumers would have contributed additional revenue in 2018-19 somewhere between Rs 2,349 to 1,246 Crores provided that Kerala's tariff and duty rates were between rates of two benchmark rates.

Another major consumption category in Kerala is Commercial sector. The scope for additional revenue in 2018-19 for this segment lies between Rs 756 to 111 crores. Industries consuming electricity at low tensions (LT) have minimal potential for additional revenue i.e., Rs 65 to 30 crores.

Potential for additional revenue from High Tension (HT) Industrial consumers lies between Rs 910 to 73 crores. The duty rate applied HT-industry consumers of electricity significantly lower than other consumer categories. The duty rate for HT consumption of electricity is mere 10 paise per unit reason which has already been discussed.

Another important sector of electricity consumption is railway traction which remains untaxed. Our analysis shows that Kerala would have earned an additional revenue between Rs 117 to 4 crores if it had imposed electricity duty on railway traction to bring its tariff rate (inclusive of duty rate) at par with benchmark states. Such low yields in revenue are mainly because share of railway traction total electricity consumption is very low.

Lapses in revenue collection of KSEB

According to the latest reported numbers reported by KSEB, about Rs 1,442 crores remained as arrear at the end of December 2020 i.e., KSEB has failed in collecting Rs 1442 crores. Out this total arrear only a marginal amount Rs 140 Crores is under litigation. Surprisingly out of this total arrear amount Rs 546 Crore (nearly 40% of the total arrear amount) is from by Kerala Water Authority (KWA) alone. The under collection of revenue of its billed amount directly corresponds to under collection of electricity duty as well. Exploring the possibilities in resolving the issue of billing and collection of KSEB is a serious concern for overall fiscal health of the state as well.

Conclusion

The analysis of revenue under the head of electricity duty clearly reveals that Kerala has been performing dismally in comparison to many states. Major reason for this is obviously outstanding arrears of KSEB. To some extent level and structure of electricity duty rates is also an additive factor to this predicament. Kerala's flat rate of electricity duty of 10% operating since 1970¹ for most consumer category is one of the lowest among richer states. Additionally, rate for high tension industrial consumers was decided as specific rate of 10 Paise per unit (i.e., quantity-based taxation) which turn out to be lower than the ad-valorem (value-based taxation) rate of 10% for other categories because tariffs have increased over time.

Since share of domestic of consumers in total electricity consumption of Kerala is much higher (51%) than other states a minor increment in the duty rate of domestic consumers can yield significant increase in revenue under the head of electricity duty. More importantly tariff for domestic consumer is still at lower level compared to other rich states like Punjab, Karnataka, and Gujarat. It should not be politically very challenging given that Kerala enjoys highest level of human development and per capita consumption among Indian states. To a lesser extent, similar is the case for improving duty rate for commercial consumption.

Finally, electricity duty on consumption for railway traction should be introduced as is done by some other states as well.

Thus, the current predicament of low revenue collection under the head of electricity duty demands that

1. The issue of KSEB arrears is resolved as soon as possible
2. Kerala should move away from uniform rate of electricity duty as envisaged in Kerala Electricity Duty Act (amendment) 1969, and
3. A differential rate for electricity duty is adopted based on principles of progressivity to augment the revenue of the state.

¹ Electricity duty rates were established using guiding principles laid out in Kerala Electricity Duty Act 1963. The Act was last amended in 1969, after which rates have remained at the same level

Table 4: Scenarios for additional revenue under electricity duty provided that duty rates were high enough to match the tariff (inclusive of duty) level of Benchmark states in 2018-19

Consumer category	Consumption Level in 2018-19 (Million Units)	Existing Average Tariff (Paise/unit)	Existing Duty Rate (Paise/unit)	Scenarios for possibility of Additional Revenue in 2018-19									
				Maximum Scenario					Minimum Scenario				
				Benchmark state	Average Tariff (paise/unit)	Duty (Paise/unit)	space for increment in Duty or tariff (in Paise/unit)*	Projected Additional revenue in 2018-19 (Rs Crore)	Benchmark state	Average Tariff (paise/unit)	Duty (Paise/unit)	space for increment in Duty or tariff (Paise/unit)	Projected Additional revenue in 2018-19 (Rs Crore)
Domestic	10927.01	345	32	Maharashtra	510	82	215	2349.31	Karnataka	463	28	114	1245.68
Commercial	2455.89	780	74	Maharashtra	953	209	308	756.41	Karnataka	848	51	45	110.52
LT Industry	1186.05	617	55	Andhra Pradesh	721	6	53	65.23	Punjab	618	80	24	30.84
HT Industry	3336.89	664	10	Maharashtra	858	89	275	910.97	Odisha	644	52	24	73.41
Railway Traction	321.07	619	0	Punjab	871	113	365	117.19	Telangana	632	0	13	4.17
Total								4199.12					1464.62

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