AN STUDY ON INDUSTRIAL , DOMESTIC AND AGRICULTURAL SECTOR'S CONSUMPTION OF ELECTRICITY IN TAMILNADU FROM THE YEAR 1992-93 TO 2012-13.

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Abstract: In Tamilnadu the Consumers for electricity are classified as domestic, agriculture, commercial, industrial , sales , public utility services and miscellaneous. There is major government initiative to provide free supply of electricity to agricultural sectors as well as for SC/ST households. With agriculture emerging as the largest consumer of power in the state ,Tamilnadu holds the distinction of being one of the first state to undertake massive rural electrification programme. In Tamilnadu the domestic and agricultural categories consumes around 50% of the power and they contribute only around 20% of the revenues. The industrial and commercial sectors contributes much more to revenue than they consume. This paper mainly attempts to study the consumption of electricity by industrial , domestic and agricultural sectors in Tamilnadu for 21 years period from the year 1992-93 to 2012-13.

Introduction: Development of Power Sector is the key to the economic development. The power Sector has been receiving adequate priority ever since the process of planned development began in 1950. The Power Sector has been getting 18-20% of the total Public Sector outlay in initial plan periods. Remarkable growth and progress have led to extensive use of electricity in all the sectors of economy in the successive five years plans. Over the years (since 1950) the installed capacity of Power Plants (Utilities) has increased to 89090 MW (31.3.98) from meagre 1713 MW in 1950, registering a 52d fold increase in 48 years. Similarly, the electricity generation increased from about 5.1 billion units to 420 Billion units – 82 fold increase. The per capita consumption of electricity in the country also increased from 15 kWh in 1950 to about 338 kWh in 1997-98, which is about 23 times. In the field of Rural Electrification and pump set energisation, country has made a tremendous progress. About 85% of the villages have been electrified except far-flung areas in North Eastern states, where it is difficult to extend the grid supply.

Objectives

1. To study the agricultural sector's consumption of electricity in Tamilnadu from the year 1992-93 to 2012-2013.
2. To study the domestic sector's consumption of electricity in Tamilnadu from the year 1992-93 2012-2013.
3. To study the industrial sector's consumption of electricity in Tamilnadu from the year 1992-93 to 2012-13.

Methodology: This paper mainly attempts to study the consumption of electricity by agricultural domestic and industrial sectors in Tamilnadu. Statistical tool like average, percentage variation , linear regression etc have been used for analysis and data of the study has been shown in scattered diagrams.

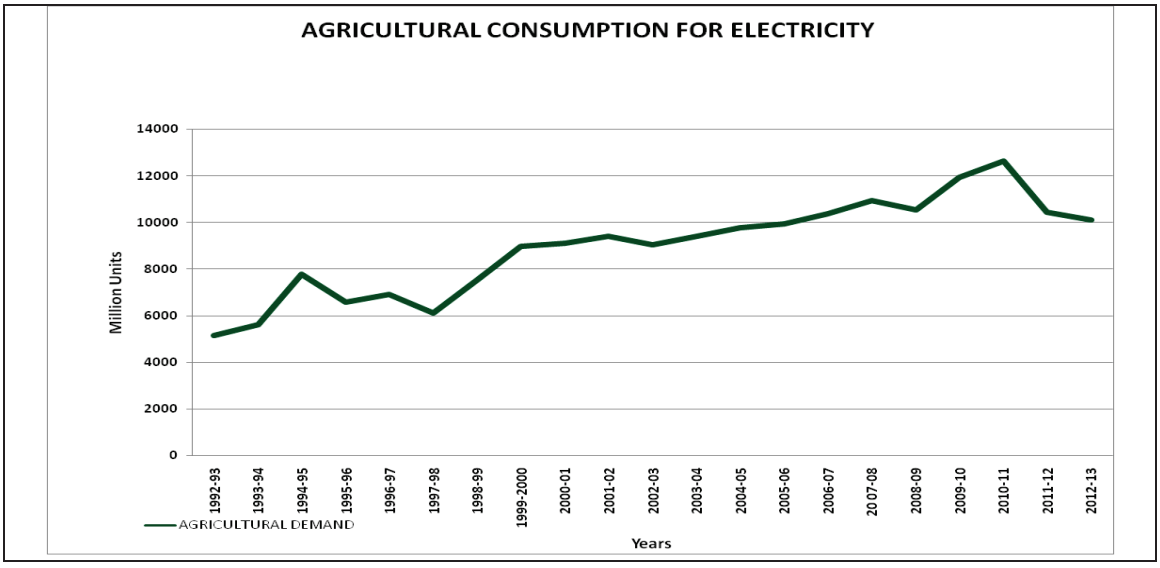
For this, the study mainly depended on secondary data which is collected for 21 years from the year 1992-93 to 2012-13 from the following sources:

1. Tamil Nadu economic appraisal
2. Statistical handbook of Tamil Nadu
3. Directorate of statistics
4. T.N.E.B at a glance

Analysis: The Agricultural sector's consumption of electricity in Tamilnadu have been analysed in table1.

Table .1 Agricultural Sector's Consumption Of Electricity	
YEARS	**AGRICULTURAL CONSUMPTION (IN MILLION UNITS)**
1992-93	5160
1993-94	5635
1994-95	7790
1995-96	6602
1996-97	6910
1997-98	6130
1998-99	7556
1999-2000	8983
2000-01	9095
2001-02	9,412
2002-03	9030
2003-04	9391
2004-05	9766
2005-06	9926
2006-07	10,358
20 07-08	10,922
2008-09	10,528
2009-10	11,940
2010-11	12,625
2011-12	10,425
2012-13	10091

Source: Statistical handbook of Tamil Nadu



From above table it is studied that from the 5160 mu the agricultural consumption was increased to 7790 in 1994-95, from 1995-96 to 1998-99 the consumption has decreased, but from 1999-2000 the agricultural sector started consuming more ie. 8983mu and it was continued till the year 2010-11 with slight fluctuations in between years but during 2011-12 and 2012-13 the consumption level has come down and currently the

agricultural sector's consumption is 10091mu in 2012-13 this is less than the year 2010-11 with 12625mu which has been shown with the help of a diagram.

Table 1.1 Percentage Change Of Agricultural Sector's Consumption Of Electricity In Tamilnadu.

YEARS	AGRICULTURAL CONSUMPTION OF ELECTRICIT (IN MILLION UNITS)	% change
1992-93	5160	-
1993-94	5635	9.20
1994-95	7790	38.24
1995-96	6602	-15.25
1996-97	6910	4.66
1997-98	6130	-11.28
1998-99	7556	23.26
1999-2000	8983	18.88
2000-01	9095	1.24
2001-02	9,412	3.48
2002-03	9030	-4.05
2003-04	9391	3.99
2004-05	9766	3.99
2005-06	9926	1.63
2006-07	10,358	4.35
20 07-08	10,922	5.44
2008-09	10,528	-3.60
2009-10	11,940	13.41
2010-11	12,625	5.73
2011-12	10,425	-17.42
2012-13	10091	-3.20 **Average=3.93**

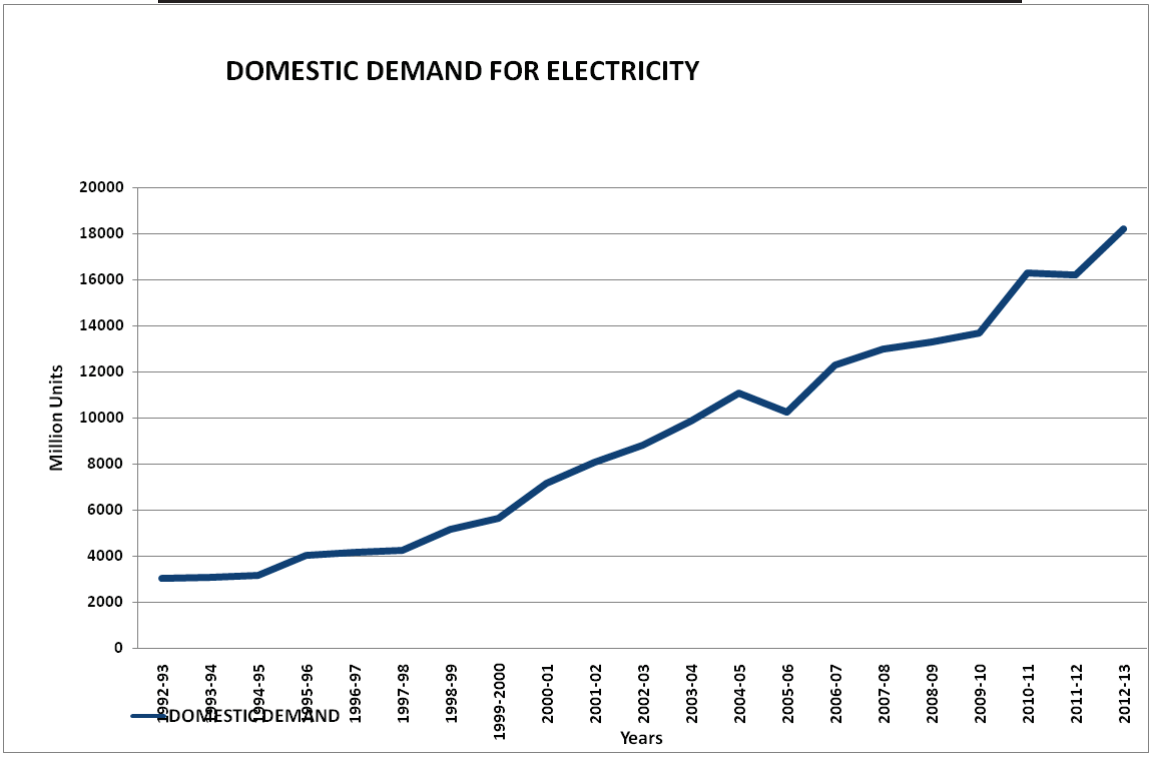
The average of agricultural sector's consumption is 3.93, the highest % change is seen in the year 1994-95 with 38.24 and positive growth are seen maximum in between years, the least % change is noticed in the year 2011-12 with -17.42. in the year 2011-12 the % change is -3.20 which is very less than the year 1994-95 so the agricultural consumption varies widely while comparing the year 1992-93 and 2012-13 because the current year % change is in negative value which shows the wider variation.

Table .2 analyses the domestic sector's consumption of electricity in Tamilnadu.

Table.2 Domestic Sector's Consumption of Electricity

YEARS	DOMESTIC CONSUMPTION (IN MILLION UNITS)
1992-93	3047
1993-94	3093
1994-95	3160
1995-96	4065

1996-97	4181
1997-98	4270
1998-99	5183
1999-2000	5678
2000-01	7176
2001-02	8,113
2002-03	8837
2003-04	9895
2004-05	11083
2005-06	10257
2006-07	12,307
2007-08	12,997
2008-09	13,294
2009-10	13,709
2010-11	16,312
2011-12	16,249
2012-13	18231



From the above table it is noticed that from 1992-93 the domestic sector consumption was increasing continuously till the year 2004-05, only in the year 2005-06 the consumption was low ie. With 10257mu but again from 2006-07 the domestic sector consumption has started raising till the current study period with 18231mu in the year 2012-13. Changes in the climatic conditions is one of the main causes for the increase in the domestic consumption ,especially in summer seasons the domestic sector consumes more unit of power and in winter seasons the consumption of power will be less.

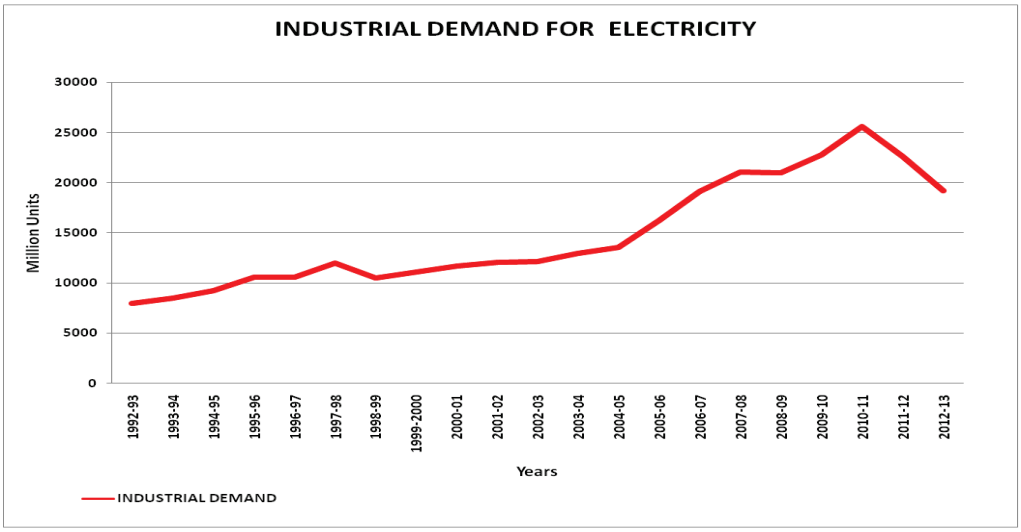
Table 2.1 Percentage Change Of Domestic Sector's Consumption Of Electricity In Tamilnadu.		
YEARS	DOMESTIC CONSUMPTION (IN MILLION UNITS)	% change
1992-93	3047	-
1993-94	3093	1.50
1994-95	3160	2.60
1995-96	4065	28.63
1996-97	4181	2.85
1997-98	4270	2.12
1998-99	5183	21.38
1999-2000	5678	9.55
2000-01	7176	26.38
2001-02	8,113	13.05
2002-03	8837	8.92
2003-04	9895	11.97
2004-05	11083	12.00
2005-06	10257	-7.45
2006-07	12,307	19.98
2007-08	12,997	5.60
2008-09	13,294	2.28
2009-10	13,709	3.12
2010-11	16,312	18.98
2011-12	16,249	-0.38
2012-13	18231	12.19 **Average= 9.29**

The average of % change of domestic sector's consumption is 9.29. throughout the study period positive growth is seen in the table this shows that the domestic sector's consumption variation between the years is less , only in the year 2005-06 and 2011-12 negative growth is seen, recently in the year 2012-13 the % change is 12.19 which is higher than its previous years.

Table .3 Industrial Consumption For Electricity In Tamilnadu	
YEARS	INDUSTRIAL CONSUMPTION (IN MILLION UNITS)
1992-93	8000
1993-94	8500
1994-95	9287
1995-96	10632
1996-97	10614
1997-98	12008
1998-99	10498
1999-2000	11152
2000-01	11751
2001-02	12,085
2002-03	12162

2003-04	13000
2004-05	13570
2005-06	16253
2006-07	19,185
2007-08	21,100
2008-09	21,029
2009-10	22,790
2010-11	25,622
2011-12	22,663
2012-13	19238

Source: Statistical handbook of Tamil Nadu



During 1992-93 the industrial consumption was 8000mu from 1993-94 the industrial sector started consuming more till the year 1997-98 with 12008mu but during 1998-99 the industrial consumption slightly declined to 10498 mu and again from 1999-2000 the consumption was increased from 11152 mu to 25622 mu in the year 2010-11 but during 2011-12 and 2012 -13 the consumption was less than the year 2010-11.

Table 3.1 Percentage Change Of Industrial Sector Consumption Of Electricity In Tamilnadu

YEARS	INDUSTRIAL SECTOR'S CONSUMPTION (MU)	% change
1992-93	8000	-
1993-94	8500	6.25
1994-95	9287	9.25
1995-96	10632	14.25
1996-97	10614	-0.16
1997-98	12008	13.13
1998-99	10498	-12.57
1999-2000	11152	6.22
2000-01	11751	5.37
2001-02	12,085	2.84

2002-03	12162	0.63
2003-04	13000	6.89
2004-05	13570	4.38
2005-06	16253	19.77
2006-07	19,185	18.03
2007-08	21,100	9.98
2008-09	21,029	-0.33
2009-10	22,790	8.38
2010-11	25,622	12.42
2011-12	22,663	-11.54
2012-13	19238	-15.11 Average = **4.67**

Source: Statistical handbook of Tamil Nadu from the year 1992-93 to 2012-13

From the above table it is noticed that the average of industrial sector's consumption is 4.67. From 1993-94 to 1995-96 the % change has started increasing positively and there was fluctuation in % change throughout the study period, the highest % change is seen during 2005-06 with 19.47 and least % change is seen during 2012-13 which is less than the year 1992-93. Recently in 2012-13 the consumption of electricity by industrial sector's consumption has decreased so this shows the negative growth of industrial sector's consumption. The variation between the years 1992-93 and 2012-13 s wider.

Analysis And Interpretation: Linear model has been used in this analysis from which the result have been shown below.

Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics
					Sig. F Change
INDUSTRIAL SECTOR	.924	.853	.846	2117.66156	.000
AGRECULTURIAL	.910	.828	.819	864.67262	.000
DOMESTIC SECTOR	.987	.973	.972	812.01350	.000

It is inferred from the various analytical tables the various R square values indicates the variations in the power consumption sectors. It is found that the industrial power consumption sector explains almost 85.3% about the various years which influences the total power consumption sectors. Agricultural power consumption sector influences around 82.8%. From the study it is found that domestic sector explains about 97.3% The significant value illustrated that industrial, agricultural, domestic, differs from each other and it shows that these sectors consumption changes based on its Years.

Findings: Among all the sectors industrial consumption is more but during 2012-13 it saw a drastic reduction with 19238 MU while domestic sector has increased its consumption from 3047 MU to 18231 MU because of low pricing of electricity consumption for domestic categories. The agricultural sector's consumption has also increased but this sector doesn't show continuous increase like domestic sector. Among these three sectors domestic sectors consumption is growing than the other sectors.

Conclusion: From the above analysis it is studied that the consumption of electricity by industrial sector is high among the various sectors in Tamilnadu .Establishment of new industries and also migration of work force from other places into Tamilnadu has increased the consumption of electricity over the years and low pricing of electricity consumption for agricultural and domestic categories has led to increase in the consumption of

electricity by agricultural and domestic sectors in Tamilnadu.

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