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POOR AND ELECTRICITY POLICY : AN ASSESSMENT IN ASSAM

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Abstract

This paper assesses the electricity policy provisions of Assam for the benefit of the poorer sections of state. The assessment has been done on the basis of the indicators like pump sets energized for agricultural consumers, rate of electrification among the different categories of consumers, sale of electricity to agricultural consumers, average tariff imposed and collected from the agricultural consumers, connections provided to BPL consumers, number of households and villages electrified in Assam, expenditure incurred by poor due to power cut, electricity subsidy realized by poor. The study finds that though there is declared 100% village electrification in the state,providing better household electrification needs more focus. Similarly the households belonging to Below Poverty Line (BPL) and agricultural farmers have not been much benefited from the reforms which need urgent attention of the policy makers.

Key Words: *electricity, power sector, Reforms, Subsidy, poor, agriculture consumers, tariff, policy*

Introduction:

Assam is a state where majority of population lives in rural areas. Total percentage of urban and rural population of Assam is 14.1 and 85.9 living in 214 towns and 25372 villages respectively (Economic Survey Assam, 2020-21). The geographical area of Assam is 78438 sq km out of which 98.4 percent is rural. As per the answer of Union Rural Development Ministry, the Total number of BPL in Assam was 101.27 lakh comprising 32% of the total population of the state in the year 2017 (Telegraph 11 April, 2017). Per capita income in the state of Assam is Rs. 72289 in case of India it is Rs. 111782. The share of agriculture in State Gross Domestic Product (SGDP) is only 16.21 in the year 2018-19 though Assam is predominantly an agrarian state agriculture being the backbone of state's economy. Agricultural growth rate in the state of Assam is meager 2.35% at constant prices Per capita loan outstanding in the state is Rs 20171 in the year 2020 which is 16.87% growth from previous year. Literacy rate in Assam is 72.19 and annual dropout rate in the state at primary and upper primary level is 4.3% and 3.4% respectively in the year 2019-20 (Economic Survey Assam, 2020-21).

Thus socio-economic status in the state of Assam indicated by the above data is not encouraging. Poverty is an issue in the state of Assam. Poor population depends on many government services for their survival. The Union government and the state governments implement several services/programs including Pradhan Mantri Awas Yojana, Pradhan Mantri Jan Dhan Yojana, Pradhan Mantri Surakshya Bima Yojana, Pradhan Mantri Ujjwala Yojana etc. Similarly Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) is operational to alleviate poverty by providing minimum employment guarantee., In power sector which is vital for development and crucial for industry, agriculture, domestic households including poor government is implementing Rajib Gandhi Gramin Vudyutikarana Yojana (RGGVY), Deen Dayal Upadhyaya Gram Jyoti Yojana (DDUGJY) for village and household electrification and Jeevan Dhara (free electricity to BPL families) benefit poor. There has been a policy change in the form of reforms (Electricity Act,2003) including unbundling, privatization, introduction of independent regulation, user group participation etc in power sector of the country since last two decades including Assam power sector with a view to improve the financial viability of the sector and to provide better services to the consumers. Therefore,

how do these reforms have benefited the poorer sections of the society is an important question for assessment. In this paper an assessment has been done in the context of Assam power sector policy reforms to ascertain the accessibility of electricity service to poor especially agricultural and BPL consumers in the state.

Electricity is an essential requirement for all sections of society. Millions of household are not having access to electricity. According to a World Bank data in the year 2019 there were 759 million people without access to electricity Out of those having no access to electricity, 95% belong to the countries of Asia and Africa and majority of them live in villages. In India around 90 million people do not have access to electricity connection (Business insider India, 23 January, 2020).

Per capita consumption in the country is 800 kwa which is the lowest in the world. In Assam the per capita power consumption is the lowest in the country. Why such a basic service like electricity is not available for the millions of people in the country? What goes wrong in making electricity service available to poor living in rural areas? Jeeban Dhara connections (free connections to BPL families), quality service provided to the rural consumers, the duration and frequency of power cut, voltage status of the electricity supplied in rural areas, grievances redressed by the officials in the area.

Methodology of the Study

The study is empirical in nature. The study is based on mainly on secondary sources like Reports published by Government of Assam, Planning Commission, Ministry of Power, Government of Assam and Government of India, Assam Electricity Regulatory Commission (AERC), Central Electricity Regulatory Commission (CERC), Central Electricity Authority (CEA) Report submitted to Indian Council of Social Science Research (ICSSR, New Delhi), Assam Power Distribution Company ltd. (APDCL), Assam, Assam Development Reports, Economic Survey Assam, Economic Survey of Assam etc. The data has been taken for up to 2019-20 in most of the cases. Indicators like pump sets energized for agricultural consumers, rate of electrification among the different categories of consumers, sale of electricity to agricultural consumers, average tariff imposed and collected from the agricultural consumers, connections provided to BPL consumers, number of households and villages electrified in Assam have been taken to assess the power policy of Assam to understand how effective have

these policies been to take care of the poor consumers of Assam especially the farmers and BPL households.

Data and Results

Pump-sets of agricultural consumers energized in Assam

Table-1. Year-wise statement of Pump-sets of agricultural consumers Energized in Assam

Year	Calculated Potential of Pump-sets	Pump-sets Energised
1997-98	254000	3637
1998-99	254000	3637
1999-00	254000	3637
2000-01	254000	3637
2001-02	254000	3637
2002-03	254000	3637
2003-04	254000	3637
2004-05	254000	3637
2005-06	254000	3637
2006-07	254000	3637
2007-08	254000	3637
2008-09	254000	3637
2009-10	254000	3637
2010-11	254000	3637
2011-12	254000	3637
2012-13	254000	3637
2013-14	254000	3637
2014-15	254000	3675
2015-16	254000	3675
2016-17	254000	3575
2017-18	254000	3575
2018-19	254000	3575
2019-20	254000	3575

Source : www.indiainfrastat.com

It is surprising that whatever data available on total number of potential pump sets and pump sets energized in Assam, the figure has been same throughout. There has not been any increase since 1997-98 till 2019-20. This indicates that there has not been any addition of potential pump sets and pump sets energized. Even the percentage of the pump sets energized to the total number of the potential pump sets existing i.e. 254000 is quite low which 1.4% is. Thus from the above data given in the table it is clear that there has been neither further addition in the number of potential pump sets of the farmers nor there has been any improvement in the increasing the number of the pump set enrgization of farmers. Though Assam is predominantly an agrarian state needing more and more attention for the improvement of irrigation of agricultural land of the farmers by providing them better facility in the form of pump set enrgization and other such benefits, the existing data gives a gloomy picture. It appears that there has been no attention in this connection. It may be noted the contribution of agricultural product to GSDP is declining as per the data mentioned above needing more focus on this aspect. Apart from this, another unhealthy revelation of the data points out that the farmers are losing huge subsidy as there has not been further addition or increase of agricultural consumers resulting in the loss of subsidy. Generally agricultural consumers are charged less electricity tariff for the electricity units used through cross subsidy to help them being the poorer section of the society. As no addition of pump sets are being done which has remained stagnant since decades there has been loss for the agriculture farmers and agricultural consumers as a whole in the state.

Rate of Electrification across consumer categories in Assam

In this section an effort has been made to see whether the electricity connections provided to different categories of consumers are increasing equally or only a specific category of consumer is getting benefits of better accessibility in the sector.

Connections Given to different Categories of Consumers and the calculation of the growth rate helps in assessing to what extent the sector is taking

care of the interest of economically backward sections consumers in the state. Following table shows the statistics on connections provided and their respective growth rate.

Table No. 2 Year wise growth/decline of electricity connections for **Different Consumer Categories in Assam**

Year	Domestic	Jeeban Dhara	Commercial	Industrial	Agricultural
1999-00	NA	NA	NA	NA	NA
2000-01	29%	0%	9%	25%	-1%
2001-02	5%	0%	5%	6%	5%
2002-03	0%	0%	0%	0%	0%
2003-04	13%	0%	5%	-2%	-14%
2004-05	-1%	0%	-8%	-10%	-4%
2005-06	0%	23%	13%	6%	-37%
2006-07	8%	-66%	0%	1%	-16%
2007-08	27%	1%	13%	25%	70%
2008-09	-5%	257%	4%	9%	36%
2009-10	6%	66%	4%	2%	77%
2010-11	9%	55%	5%	3%	48%
2011-12	6%	10%	4%	4%	38%
2012-13	6%	33%	4%	4%	38%
2013-14	5%	33%	4%	5%	36%
2014-15	14%	33%	4%	5%	38%
2015-16	84%	1.32%	9.7%	11.14%	6,30%
2016-17	6.41	16.65	18%	18.22%	58%
2017-18	5.8%	25.71%	5.2%	.69%	24%
2018-19	29%	0%	7.24%	4.41%	4.7%
2019-20	3.5%	1%	1.74%	3.26%	2.67%

Source: Calculated by the author from the secondary data taken from Economic Survey, Assam (various years) and AERC Tariff orders

From the table given above it can be seen the rate of growth of different categories of consumers in Assam. In the year 2000-01, the growth rate of domestic category consumer was 29% which was quite impressive. However in the next

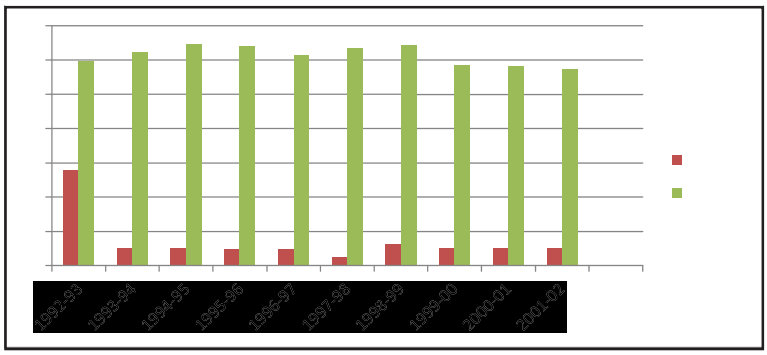
year it fall down to 5% and further reduced to 0% as the data shows the same number as it was in previous year. Further it increased to 13%. In the next year, the figure was in minus 1%. In the year 2007-08, the figure was 27%. Again it declined to minus 5%. From the year 2009-10, the rate of growth was steadily increasing and in the year it was 14%. The rate of growth for this category was not having much difference as compared between pre and post reform period.

In case of Jeeban Dhara consumers, it can be seen that during pre reform period, there was no Jeeban Dhara consumers. However, during the post reform period, the growth rate of this category was very impressive. In other words, the APDCL took efforts to provide connections to BPL consumers in a better way than the public sector run ASEB.

The commercial consumers grew steadily after reform programme. In case of industrial consumers, the rate of growth was similar with commercial except negative growth for certain years before pre reform period.

The most impressive rate of growth can be seen in case of agricultural consumers though its percentage declined from the year 2017-18 to 2019-20. In the same years, Jeevandhara consumers' addition was not impressive.

Figure 1: Share of Agriculture to total sale of power in Assam during pre reform period (in %)

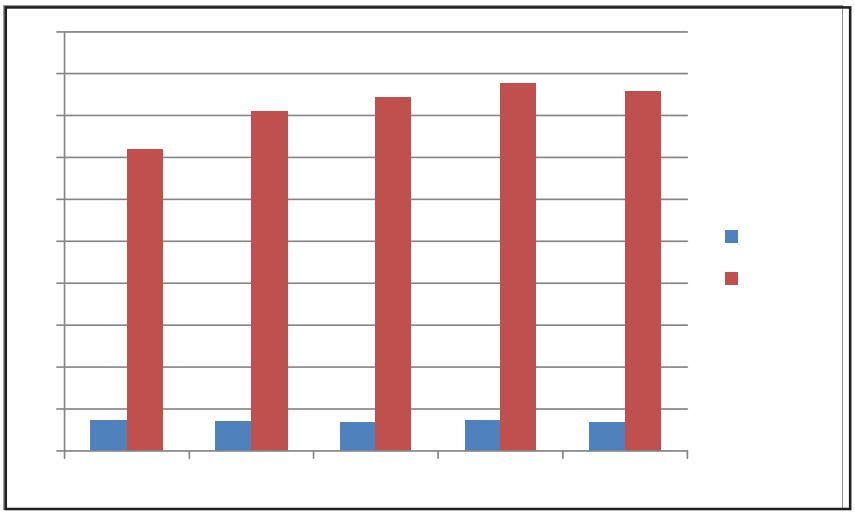


Source: Annual Report (2001-02), Working on State Electricity Boards and Electricity Departments, Planning Commission, Power and Energy Division, Government of India, May 2002. (Data for year 2000-01 and year 2001-02 was provisional)

The above figure shows that the share of agriculture to total sale of power during the pre reform period. In the initial phase, i.e. 1992-93 the sale of power was at peak, i.e. 14 % in case of Assam. However, a constant decline has been observed; it reaching an all time low of 1.35 % in 1997-98 finally halting at 2.56 % in 2001-02. If compared to the quantity of sale of electricity to agricultural consumer in Assam with that of the all India level, the percentage of all India has always remained at a very higher level which refers to the fact that agriculture sector has been neglected by the government in terms of sale of electricity the agriculture consumers. Assam being predominantly an agrarian state requires special care by government in general and Power Ministry of the state in particular.

Following table shows the share of agriculture consumers to the total sale in the state.

Figure-2. Percentage of share of sale of electricity to Agriculture Consumers to total Sale in Assam in post reform period



Annual Report (2001-02), Working on State Electricity Boards and Electricity Departments, Planning Commission, Power and Energy Division, Government of India, May 2002 and www.indiainfrastat.com

The figure 2 shows the share of agriculture in the total sale of power in Assam during the post reform period. The numbers are consistently low after the reform. Thus, in the recent years the share of sale of electricity to the total sale has also remained very less

Even after the reforms the share of sale of electricity to agriculture consumers has not increased which is visible in the above figure. It has remained below even 1% throughout whereas the figure is around 8% at all India level.

Tariff Structure for Agricultural Consumers in Assam

In the following table comparative data on tariff for agricultural consumers of Assam and all India level has been given.

Table 3 Average Tariff for Agricultural Consumers in Assam and India (Paise/Kwh)

Year	Assam	All India
1994-95	88.00	19.40
1995-96	158.90	19.00
1996-95	181.44	21.20
1997-98	476.70	20.22
1998-99	191.55	21.01
1999-00	227.62	22.61
2000-01	272.41	35.38
2001-02	287.15	41.54

Annual Report (2001-02), Working on State Electricity Boards and Electricity Departments, Planning Commission, Power and Energy Division, Government of India, May 2002

The table above shows the average tariff for agriculture. The table shows that the average tariff for agriculture in Assam is quite high in comparison to all India. Moreover, over the years an increasing trend has been observed. As the figures suggest, the average tariff in 1994-95 was 88 which increased to 287.15 by 2001-02.

Thus the interest of agricultural consumers is grossly compromised in Assam which is the indicative of the defective policy pursued by the government of Assam. Majority of farmers who do not get subsidy because of lack of electrification are the losers and secondly those who are connected to the grid pay bills of electricity at a very higher rate compared to their counterpart at all India level which has serious implications for the policy making in the state.

Table-4. Average Tariff on Agriculture Consumer in Assam and India after reform

Year	Assam	India
2002-03	88.00	19.40
2003-04	158.90	19.00
2004-05	181.44	21.20
2005-06	476.70	20.22
2006-07	191.55	21.01
2007-08	227.62	22.61
2008-09	272.41	35.38
2009-10	287.15	41.54
2010-11	88.00	19.40
2011-12	158.90	19.00
2012-13	181.44	21.20
2013-14	476.70	20.22
2014-15	191.55	21.01
2015-16	227.62	22.61
2016-17	272.41	35.38
2017-18	287.15	41.54
2018-19	272.41	35.38
2019-20	287.15	41.54

Source: Compiled from the tariff orders of AERC and ASEB and APDCL documents

The above table indicates the high tariff imposed from agricultural consumers compared to their all India counterpart. Higher tariff means higher cost involved in the production and supply of electricity units in the state. This is indicative of the negligence of the interest of the agricultural consumers.

Village Electrification

As per the government's 2006 rural electrification policy, a village is deemed 'electrified' if basic infrastructure such as distribution transformer and distribution lines has been set up in the inhabited locality, including a 'Dalit basti'. Moreover, at least 10 per cent of the households of such a village should have access to electricity through the basic infrastructure established. Nowhere does the definition talks about actual electricity connection or its supply to the household.

Consequently, as per the data provided to the Centre by the states, out of total 17.19 crore rural households living in 29 states of the country, 35.73 per cent (6.14 crore) are without any access to electricity. The country's villages are 'electrified'; their 6.14 crore households are yet to get access to electricity.

In the year 1947, only 1500 villages were electrified in India. In year 1991, 48112 villages were electrified. In 2004 the number came down to 47498 due to de-electrification. In Assam, there are 25372 inhibited villages as per the Census 2011. The progress of electrification can be seen from the table below.

Table-5. Year wise village electrification in Assam

Year	Number	Percentage
2003-04	19139	76%
2004-05	19306	76.84%
2005-06	18168	72.31%
2006-07	14516	57.77%
2007-08	14516	57.77%
2008-09	15066	59.96%
2009-10	15747	62.67%
2010-11	19729	78.52%
2011-12	22294	84.46%
2012-13	22520	85.31%
2013-14	22586	85.57%
2014-15	23503	89.04%
2015-16	23987	94%
2016-17	24412	96%
2017-18	24721	97%
2018-19	25299	99%
2019-20	25372	100%

Source: different Statistical Handbook of Assam, www.indiastat.com retrieved on 10.11.2021 and data collected from APDCL office, Guwahati

Rest can be filled from https://www.downtoearth.org.in/blog/energy/access-to-electricity- improves-across-states-urban-rural-divide-remains-nfhs-5-74890

The table above shows the year wise village electrification in Assam. The table shows that the number of electrifications done in villages of Assam has

increased over the years. Initially, in 2003-04 the number was 19139 (76%) which declined to 14516 57.77% in 2006-07 and 2007-08.

Since then an increasing trend has been observed. As the figures suggest, by 2014-15 it has increased to 23503 (89.04%). Absolute coverage has been accomplished by the 2019-20. However, the claim of 100% coverage does not refer that all the households are connected to power grid. By installing a pole in a village without supply of electricity does not make a village electrified. A study[1] finds dismal household electrification in a village declared electrified in the selected villages of the study area in Assam (Dash 2016).

Challenges of Electrification in Assam

Connections provided to Jeeban Dhara Category Consumers

Table 6 BPL Connection Target vs. Achievement of RGGVY

Year	Target	Achievement
2011-12	660312	368959
2012-13	513996	232060
2013-14	343307	101260
2014-15	334521	116542
2015-16	356798	239871
2016-17	321456	214567
2017-18	402341	213456
2018-19	423321	209871
2019-20	435353	243210

www.indiastat.com for the year 2011-12 to 2013-14 and for the remaining years the data has been collected from the APDCL office, Bijlee Bhwan, Guwahati.

[1]A Report titled 'Governance of Power Sector : A Study on Policy and Performance of Assam Power Sector Submitted to ICSSR, New Delhi by Dr. Bikash Chandra Dash, Dept. of Political Sceince, Assam University Diphu Campus.

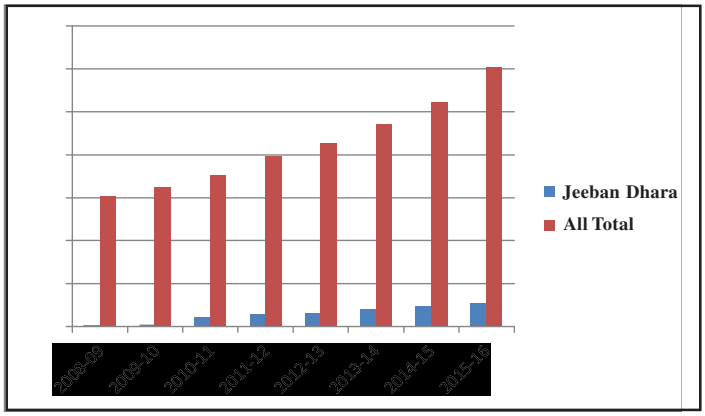
The table above shows the BPL Connection Target vs. Achievement of Rajiv Gandhi Gramin Vidyutikaran Yojana. As of year 2011-12 the total connection target was 660312 however, only about half of the targeted number could be achieved, i.e. 368959. The trend continues in the next period of 2012-13 where the target was 513996 and the achievement was only 232060. The performance is the worst in 2013-14 where the target was less in number in comparison to earlier periods, i.e. 343307, however the achievement was only 101260. The data on target and achievement indicates a wide gap of BPL connections in the state.

Household Electrification and connections for BPL population

In the year 2001, seventeen percent households were electrified in Assam. In the year 2011, 28% households were electrified in the state of Assam. As on 30.04.2016, total number of rural households in Assam was 53.74 lakhs out of which the total number of electrified villages is 18.39 lakhs and number of un-electrified village is 35.35 lakhs. Similarly, out of total 19, 33,959 BPL households, connections were given to 12, 10,198 households which is 63% achieved under DDUGJY.

Percentage of rural BPL population to rural population is 39.9%

Figure. 3 Sale of Electricity to Jeeban Dhara and All other Consumers in Assam (in MU)



Above figure shows that in recent years there is meager increase of sale of electricity to the Jeevan dhara consumers though their number has increased over the years.

Table 7 Subsidy for Agriculture Consumers (Rs. crore)

Year	Assam	All India
1992-93	6	7335
1993-94	9	8966
1994-95	11	10941
1995-96	9	13606
1996-97	7	15586
1997-98	0	19021
1998-99	14	22473
1999-00	10	24650
2000-01	14	26950
2001-02	1	30462

Source : Annual Report (2001-02), Working on State Electricity Boards and Electricity Departments, Planning Commission, Power and Energy Division, Government of India, May 2002.

The table above shows the subsidy for the consumers of the agriculture sector, received from the state government. The period 1998-99 and 2000-01 is the highest in terms of the subsidy, i.e. Rs. 14 crores. However, the table reveals that during the period of 1997-98 no such subsidy was being by the Assam state government.

Table No. 8 Income Category and Subsidy Realization

Table 6.24: Subsidy Distribution across the Income category2

Income Group (in Rs/Month)	Number of households	Total Units of Electricity Consumption	Average unit consumption
< 1500	312	12792	39.85
1501-3000	585	25155	43
3001-5000	320	15040	47
5001-7000	206	14008	68
7001-10000	159	17013	107
10001>	94	13818	147
Total	**1676**	**97826**	**58.37**

The average tariff in the state was Rs. 5.78 in 2014-15. Against this the cost of supply was Rs. 8.09 per unit during 2014-15. The difference between cost of supply & average tariff was about Rs. 2.27 per unit. Thus those consumers who consumed more units of electricity received more amount of subsidy. The total units of electricity consumed by 1676 households are 97824. The average units consumed by the 1676 households are for 58.37. However, if individual averages are taken into consideration, it can be seen that the households with more income are consuming more units of electricity on an average. This means the households with more income are recipients of more subsidies from the government which is reflected in the average tariff. Though there is a slab system in calculating tariff, on an average the figures are indicative of the poor targeting of subsidy.

Findings of the Chapter:

- From the year 2000-01 till 2014-15 the growth rate of domestic category consumer was 29% which was quite impressive. Similarly the rate of

[2]A Report titled 'Governance of Power Sector: A Study on Policy and Performance of Assam Power Sector submitted to ICSSR, New Delhi by Dr. Bikash Candra Dash, Dept of Political Science, Assam University Diphu Campus

growth of other category has been impressive especially the rate of connections given to the agricultural consumers is better than the other categories. However, the share of sale of electricity to agricultural consumers has been very less compared to the percentage of sale to the agricultural consumers at the all India level.

- The average tariff for agricultural consumers in Assam is quite high in comparison to all India.
- Village electrification has been increasing at a faster rate in Assam. However household electrification needs focus for including the majority population
- Electricity Connection to BPL family has been dismal because the target and achievement has wide gap
- There is a poor targeting of subsidy in the state as the more subsidy is going to the comparatively richer sections of households in Assam
- Starting from the pre reform period to the post reform till the 2019-20 there is no progress of energization of pump-sets indicating huge subsidy loss for the agricultural consumers.

Conclusion

Rural electrification being one of the big challenges for the third world countries like India with a poor economic system and infrastructure requires thorough analysis of its problems in order to formulate effective policies in this regard. This study has dealt with the issue of equity and accessibility of electricity service to people by assessing the electrification coverage and its benefits to the farmers and consumers with low socio-economic status in the state. It has also taken the rate of electrification among the various consumer categories, subsidization of tariff rates for the farmers, the free electricity connections given to BPL families as per Jeeban Dhara scheme, The study reveals that a majority of

the consumers belong to Village/Rural areas and an absolute coverage in terms of village electrification in Assam is yet to be achieved. After reforms in the power sector in the recent years the share of sale of electricity to the total sale has also remained very less and the average tariff for agriculture in Assam is quite high in comparison to all India. Moreover, the subsidy received from the state government in general is quite low. The policies introduced by reforms in the form of unbundling, privatization etc have brought better results for the state in the distribution of electricity to the consumers. However, the more focus should be paid on poor consumers especially farmers and BPL households by enerziging adequate pump sets.