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Free Electricity To Farmers In Srikakulam District

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Abstract

The aim of this paper is to present In India, farmers use electricity mainly for energizing irrigation pump sets to extract groundwater. The number of electric tube wells has increased tremendously over time with the availability of free electricity. In order to understand the distributional aspects of free farm power supply, the electricity subsidy was calculated for the sample farmers by multiplying the unit cost of electricity supply with the amount of electricity consumed.India's peak electricity demand came down with commercial and industrial power demand taking a hit after many factories shut down. However, domestic consumption, which generates comparatively lower tariffs, went up. Of India's total electricity demand load pattern, industrial and agricultural consumption accounts for 41.16% and 17.69%, respectively. Commercial electricity consumption accounts for 8.24% of demand.

INTRODUCTION

In India, farmers use electricity mainly for energizing irrigation pump sets to extract groundwater. The number of electric tube wells has increased tremendously over time with the availability of free electricity. The increase in tube wells required more power connections which increasingly affected the financial condition of the state electricity boards. The proliferation of tube wells has led to competitive extraction of groundwater by farmers with almost zero cost of pumping. The over-extraction of groundwater results in falling water tables and ultimately leads to well failure. Further, the externalities of electricity subsidy are not equally shared by different sections of the farming community and accrue to those who have electricity connections to run the tube wells.

In order to understand the distributional aspects of free farm power supply, the electricity subsidy was calculated for the sample farmers by multiplying the unit cost of electricity supply with the amount of electricity consumed. The amount of total electricity consumption was estimated based on the number of hours of pump set used in a year and its capacity in terms of horse power. Since electricity was supplied free of cost and there was no recovery from the farmers, the entire cost of supply was considered as subsidy. Andhra Pradesh government will supply free power for nine hours to 81 per cent of feeders of the farm sector during the Kharif season and will increase it to 100 per cent for the next Rabi season.

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Review of literature

R.S. Kanimozhi, Miss. V.Kalaivani(2017) An Empirical Study on Awareness and Utilization of Agriculture Subsidies by the Farmers-With Reference To Palladam Area Agriculture sector is undoubtedly most important sector of Indian economy as it provides employment to 60% of people and food security of India revolves around this sector. It employs more than 90 million people and contributes 15.4 percent gross value addition (GVA) to the Indian economy. Its importance can be gauged by the fact that whenever there is fear of deficit monsoon, whole of the population ranging from farmers, workers, businessmen, policy makers and even foreign investors are caught into nervousness. Among the agriculture production incentives subsidies are considered to be the most powerful instruments for accelerating the growth of agricultural production. Subsidy is a policy adopted by government to support and encourage farmers to continue in the culture of agriculture. In India in last few years the rate of subsidy has evenly grown up to 55-60% on an average. Simple random sampling technique has been used to collect the data from 150 respondents. The result revealed that the cultivation of land plays a predominate role in effective utilization of government subsidies for the farmers and the respondents aged above 41 years are highly satisfied with government subsidies. Most of the subsidies provided are designed to compensate the high cost of production and to stimulate the use of modern input.

SunitaSainiRajendrakumarBeniwal, RohitSaini, AkanshaAggarwal (2018) The study focused on Now days, consumers of electricity are demanding for better quality of services and this creates competition in power utility companies to provide better services which are reliable as well as efficient and less costly also to their consumers. Assessment of PQ problem is a tedious task and various aspects of power system and equipment modeling, disturbance mitigation and data analysis are involved in it. The majority of the work force is focused on the distribution system where the sensitive equipment experience interference under different kind of power disturbance from the system and the local network.

Statement of the problem

India's peak electricity demand came down with commercial and industrial power demand taking a hit after many factories shut down. However, domestic consumption, which generates comparatively lower tariffs, went up. Of India's total electricity demand load pattern, industrial and agricultural consumption accounts for 41.16% and 17.69%, respectively. Commercial electricity consumption accounts for 8.24% of demand.

"In June 2020, the all-India energy demand contracted 10.9% yoy for the fourth consecutive month to 105.6 billion units, while energy supply also decreased 10.9% yoy, resulting in the energy deficit remaining at 0.4% (June 2019: 0.5%). The power demand declined for June 2020, amid the COVID-19 led lockdown,

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on account of a decline in commercial and industrial demand from major manufacturing states such as Maharashtra (down 17.1%), Gujarat (down 10.2%) and Tamil Nadu (down 10.3%) Andhra Pradesh (down 10.2%).

Need of the study

Agriculture evolved from a family way of life to a family business for successful farmers and is now in transition toward becoming a corporate business activity. Productivity has always been the measure of a successful farm operation. This report examines current trands in agricultural practice that lead to higher productivity and the implications of those trends for the use of electricity in agriculture. Major current trends are in irrigation (even in naturally watered areas), in the use of pressurized systems for distributing irrigation water, and in no-tillage cropping and its related substitution of agricultural chemicals for machine operation in the field. The forces that led to the increase in the fraction of primary energy provided as electricity in agriculture (to its current level of about 22 percent) seem likely to persist well into the future. Manufacturing sectors peripheral to agriculture - farm machinery, petroleum refining, agricultural chemicals, food processing - also exhibit an increasing use of electric technology, thus signifying a growing importance for electricity in the activities affecting food supply.

Objectives of the study

1. To discuss the free electricity to farmers and their benefits in the study
2. To examine number of hours are sufficient of electricity is sufficient to the farmers.
3. To offer suggestions and recommendations of the study

Methodology of the study

This study is both the quantitative and qualitative mix of the study . The data collected from the primary sources like interviewing the respondents and distributed questionnaire to the respondent and also through the secondary data the researcher collects from the journals reports from the electricity reforms in India. The statistical tools are applied for the study are Cross tabulation and chi-square test are used for the study.

Table: 1 Benefits of free power to farmers Vs. Hours of agriculture power supply they get power for day

			Hours of agriculture power supply they get day		Total
			Yes	No	
Benefits of free power to electricity supply	Yes	Count	87	0	87
		Expected Count	75.7	11.3	87.0
		% within Benefits of free rate of power with the electricity	100.0%	0.0%	100.0%
		% within Hours of agriculture power supply they get day	100.0%	0.0%	87.0%
		% of Total	87.0%	0.0%	87.0%
	No	Count	0	13	13
		Expected Count	11.3	1.7	13.0
		% within Benefits of free rate of power with the electricity	0.0%	100.0%	100.0%
		% within Hours of agriculture power supply they get day	0.0%	100.0%	13.0%
		% of Total	0.0%	13.0%	13.0%
Total		Count	87	13	100
		Expected Count	87.0	13.0	100.0
		% within Benefits of free rate of power with the electricity	87.0%	13.0%	100.0%
		% within Hours of agriculture power supply they get day	100.0%	100.0%	100.0%
		% of Total	87.0%	13.0%	100.0%

Source : Primary Data

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The above table represents the Benefitted with free concession rate of power Vs. Hours of agriculture power supply they get power per day. 87% of the respondents are said that the free electricity is benefited for agro production, 13% of the respondents are dis-satisfied that the free electricity is not benefited for supply they get power per day.

Table: 2Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	100.000[a]	1	.000		
Continuity Correction[b]	91.354	1	.000		
Likelihood Ratio	77.277	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	99.000	1	.000		
N of Valid Cases	100				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 1.69. b. Computed only for a 2x2 table

The above table represents the Benefits of free rate of power with the Hours of agriculture free power supply they get. The pearson Chi-square value 100.00, d.f is (1), the significant value is (0.000) the calculated value is the less than the table value of (0.005) so There is significant association between the Benefitted of free electricity supply with the Hours of agriculture power supply they get per day.

Table:3 Benefits of free power Vs. Number of hours of free electricity is sufficient for agriculture purpose

			Number of hours of free electricity is sufficient for agriculture purpose		Total
			Yes	No	
Benefits of free power to agriculture	Yes	Count	72	15	87
		Expected Count	62.6	24.4	87.0
		% within **Benefits of free power to agriculture**	82.8%	17.2%	100.0%
		% within **Number of hours of free electricity is sufficient for agriculture purpose**	100.0%	53.6%	87.0%
		% of Total	72.0%	15.0%	87.0%
	No	Count	0	13	13
		Expected Count	9.4	3.6	13.0
		% within **Benefits of free power to agriculture**	0.0%	100.0%	100.0%
		% within **Number of hours of free electricity is sufficient for agriculture purpose**	0.0%	46.4%	13.0%
		% of Total	0.0%	13.0%	13.0%
Total		Count	72	28	100
		Expected Count	72.0	28.0	100.0
		% within **Benefits of free power to agriculture**	72.0%	28.0%	100.0%
		% within **Number of hours of free electricity is sufficient for agriculture purpose**	100.0%	100.0%	100.0%
		% of Total	72.0%	28.0%	100.0%

The above table represents the Benefits of free power to agriculture Vs. Number of hours of free electricity is sufficient for agriculture purpose, 72% of the respondents are satisfied with benefits of free power to agriculture with Number of hours of free electricity is sufficient for agriculture purpose, 28% of the respondents are not satisfied with benefits of free power to agriculture with Number of hours of free electricity is sufficient for agriculture purpose.

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Table: 4.Chi-Square Tests Benefits of free power Vs. Number of hours of free electricity is sufficient for agriculture purpose

	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	38.424[a]	1	.000		
Continuity Correction[b]	34.428	1	.000		
Likelihood Ratio	38.604	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	38.039	1	.000		
N of Valid Cases	100				

a. 1 cells (25.0%) have expected count less than 5. The minimum expected count is 3.64. b. Computed only for a 2x2 table.

The above table represents the Benefits of free rate of power with the Number of hours of agriculture power supply they get per day. The pearson Chi-square value 38.424, d.f is (1), the significant value is (0.000) the calculated value is the less than the table value of (0.005) so There is significant association between the Benefited of free electricity supply with the the Number of hours of agriculture power supply they get per day.

Findings of the study

1.It is found that 32% of the respondents are available the free electricity for agriculture supply come according to the schedule, 53% of the respondents are available generally the free electricity for agriculture supply come according to the schedule, 15% of the respondents are available the free electricity rarely for agriculture supply come according to the schedule.

2. It is found that 35% of the respondents said that they get hours of supply for agriculture for 5-8 hours, 45% of the respondents said that they get hours of supply for agriculture for 9-10 hours, 8% of the respondents said that they get hours of supply for agriculture for 11-12 hours, 5% of the respondents said that they get hours of supply for agriculture for More than 15 hours.

3.It is found that 68% of the respondents have supplied power in the uniform timings.

Suggestions of the study

1. Some the farmers have paid the amount for arrangement of transformers and=electricity connections. But there was too much delay in the arrangement of transformers and connections. As a result, the farmers are trying to take illegal connections to their motors directly.
2. In summer season, the prescribed 7 hours of uninterrupted power should be supplied to agriculture.
3. Government has to encourage the people to convert from nonconventional resources to the conventional resources i.e. especially using solar source by providing subsidies. It has to encourage the private sector to establish thermal power plants by giving land and dealing with the villagers to meet the tremendous future demands of power.

Conclusion

The changes in the electricity production, transmission and distribution process have opened the power generation sectorto private players and has driven the sector on a high growth trajectory. However, the fault lines in the sector lies elsewhere i.e. in the distribution sector. Thus, in the last decade and a half, it was a case of misplaced priorities as the government

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focused more on capacity addition rather than improving the distribution segment or improving the last mile connectivity when it comes to electrification. The government realises that the key to removing all the inefficiencies in the sector is by improving the distribution aspect.

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