Rajiv Gandhi Grameen Vidyutikaran Yojana

Scheme for Rural Electricity Infrastructure & Household Electrification

April, 2005

MINISTRY OF POWER
Government of India

The National Common Minimum Programme (NCMP) states :

- *Household electrification will be completed in five years.*
- *The UPA will pay special attention to augmenting and modernizing rural infrastructure... electrification...*

Rajiv Gandhi Grameen Vidyutikaran Yojana

In 5 years...

Electrify all villages and habitations

Provide access to electricity to all households

Give electricity connection to
Below Poverty Line (BPL) families free of charge

Through creation of...

Rural Electricity Distribution Backbone (REDB) with at least one 33/11 KV (or 66/11 KV) sub-station in each block.

Village Electrification Infrastructure (VEI) with at least one distribution transformer in each village/habitation.

Decentralised Distributed Generation (DDG) Systems where grid supply is not feasible or cost-effective.

Rajiv Gandhi Grameen Vidyutikaran Yojana

Accelerate rural development, generate employment and eliminate poverty through...

Irrigation

Small Scale Industries
Village & Khadi Industries

Cold chains

Healthcare

Education and IT

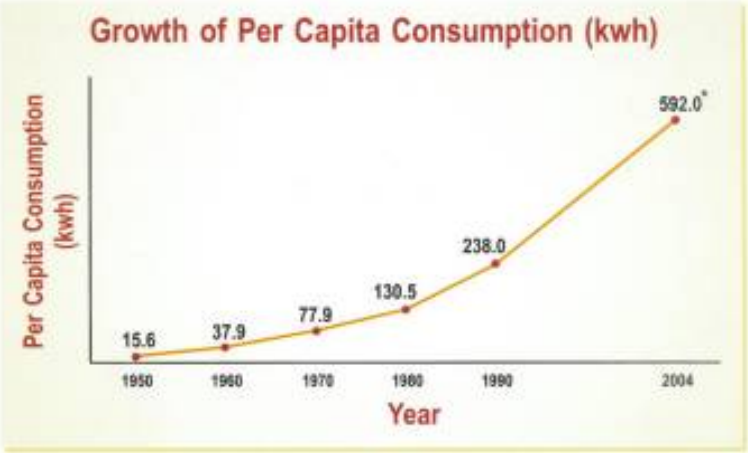
The goal is to :

- **Bridge the urban-rural gap**
- **Provide reliable and quality power supply to rural areas**

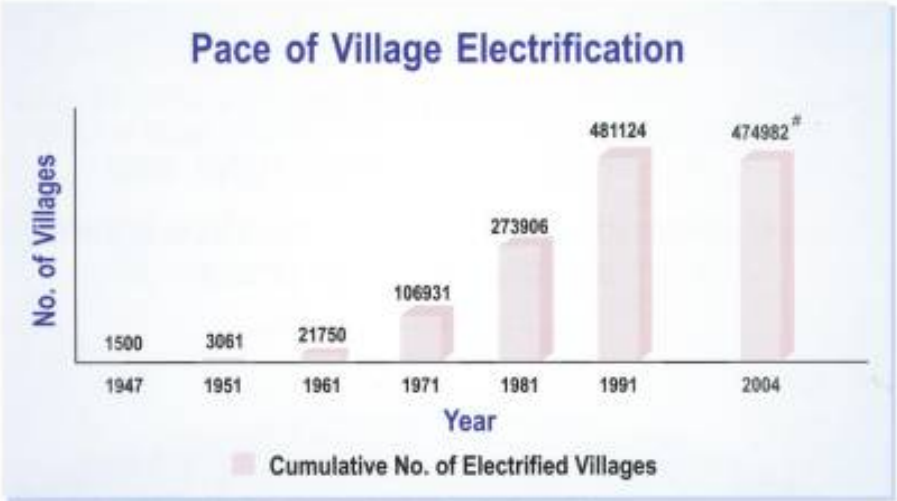
Electricity to Rural areas– taking India towards Economic and Human Development

Rural electrification has been regarded as a vital programme for the development of rural areas.

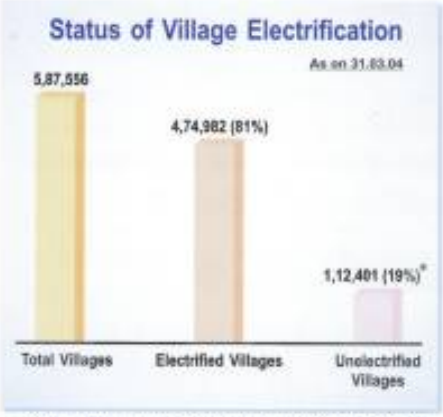
In 1947, only 1,500 villages were electrified in India. The per capita consumption was 14 Units.



* *Change in definition as per IEA; based on generation of electricity*



\# *Due to de-electrification of electrified villages in certain states, the number has come down*



* Estimated to be around 1,25,000 as per new definition (2004-05)

The initial focus was on 'electrification for irrigation' – by maximising the energisation of pumpsets. Irrigation, in turn, led to higher agricultural production, increase in rural incomes and the gradual creation of food security for India.

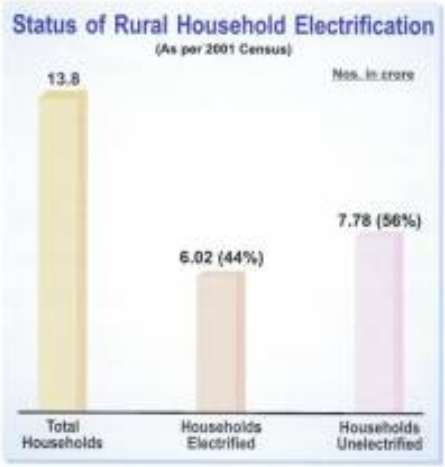
Increase in net irrigated area with the increase in pumpset population

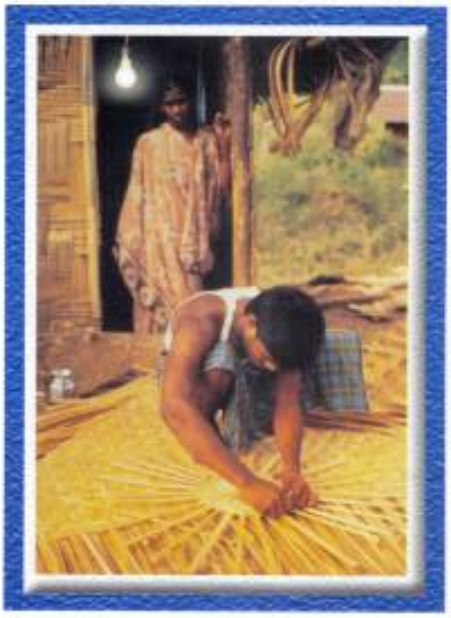
Year Ending	Net Irrigated Area in Million Hectares (by Tubewells)	No. of Pumpsets Energised
Mar-81	17.7	43,23,940
Mar-91	24.7	89,01,537
Mar-99	33.1	1,22,16,650
Mar-00	33.6	1,25,14,244

A total of 1.2 lakh villages were electrified during the 6th plan (1980-1985) and another 1 lakh (approx.) during the 7th plan (1985-1990).

However, the total number of villages electrified during the 8th plan dropped to about 18,500 and in the 9th plan it further dropped to around 11,000.

As per 2001 Census, out of about **13.8 crore rural households,** only about **6.02 crore households** use electricity as a source of lighting.





The emphasis on 'electrification for irrigation' to enhance agricultural produce was reflected in the definition of village electrification accepted till 1997 – that 'a village was deemed to be electrified' if :

Prior to October 1997

"A village should be classified as electrified if electricity is being used within its revenue area for any purpose whatsoever."

In 1997, the definition of village electrification was modified to provide for the use of electricity in village habitations. Accordingly, the new definition said:

After October 1997

"A village will be deemed to be electrified if the electricity is used in the inhabited locality, within the revenue boundary of the village, for any purpose whatsoever."

In Feb. 2004, the definition was made even more encompassing as also target specific.

New Definition (2004-05)

"A village would be declared as electrified if :

(i) Basic infrastructure such as distribution transformer and distribution lines are provided in the inhabited locality as well as the dalit basti/hamlet where it exists. (For electrification through Non-Conventional Energy Sources a distribution transformer may not be necessary).

(ii) Electricity is provided to public places like schools, panchayat offices, health centres, dispensaries, community centres etc. and

(iii) The number of households electrified should be at least 10% of the total number of households in the village."

The above definition has come into effect from the year 2004-05.

Rural Electrification – a new perspective

It is now accepted that electricity has become one of the basic human needs and every household must have access to electricity. A positive co-relation exists between use of electricity and improvement in human development parameters of health and education.

In rural India, 24-hour supply of electricity is necessary for broad based economic and human development – going beyond increasing agricultural production through irrigation. It is an essential pre-requisite for:

- **The second green revolution through establishment of cold chains.**
- **The dispersal of industrial activity to rural areas through small scale and village industries.**
- **Provision of modern healthcare facilities.**
- **Use of IT in education and other productive activities.**

Rural Electrification – the challenge

With only 44% (6.02 crore) of the rural households having access to electricity, the objective is to now cover the remaining 56% (7.78 crore) in the next five years.

Uninterrupted supply to rural areas is another major challenge. Even today, rural areas in most states get restricted power supply, which is considerably less than the hours of supply in urban areas. **The National Electricity Policy envisages supply of quality power to rural areas for 24 hours.**

Revenue Sustainability

In order to maintain the infrastructure being created and provide uninterrupted quality power, the issue of revenue sustainability is crucial. **Electricity supplied must be paid for.**

Provision of targeted subsidies by State Governments (which they can sustain), is a crucial aspect of the programme. The willingness and ability to pay for quality power supply is generally underestimated. The Chief Ministers'/Power Ministers' Conference in March, 2000 noted that 'the consumer including the farmer has a legitimate claim for uninterrupted good quality power supply. His willingness to pay reasonable costs is underestimated.'

Village Electrification – the State/UT-wise status*

Ten States & Seven UTs have achieved 100% Village Electrification !

- Andhra Pradesh
- Goa
- Haryana
- Kerala
- Sikkim (Prov.)
- Punjab
- Tamil Nadu
- Maharashtra
- Gujarat
- Nagaland
- Delhi
- Pondicherry
- Chandigarh
- Daman & Diu
- Lakshadweep
- Andaman & Nicobar Islands
- Dadra & Nagar Haveli

Seven States have achieved more than 95% Village Electrification

- Mizoram
- Karnataka
- Himachal Pradesh
- Jammu & Kashmir
- Tripura
- Rajasthan
- Madhya Pradesh

Five States have to do a lot...

- Uttar Pradesh
- Bihar
- Jharkhand
- Arunachal Pradesh
- Meghalaya

Six States have achieved more than 75% but less than 95% Village Electrification

- Chhattisgarh
- Uttaranchal
- West Bengal
- Assam
- Orissa
- Manipur

*As per the old definition

Household Electrification – the State/UT-wise status

Thirteen States & Three UTs have achieved more than 50% but less than 85% Household Electrification

- Andhra Pradesh
- Karnataka
- Madhya Pradesh
- Nagaland
- Gujarat
- Jammu & Kashmir
- Tamil Nadu
- Kerala
- Manipur
- Uttaranchal
- Haryana
- Sikkim
- Maharashtra
- Andaman & Nicobar Islands
- Dadra & Nagar Haveli
- Pondicherry

Three States & Four UTs have achieved more than 85% Household Electrification

- Himachal Pradesh
- Punjab
- Goa
- Lakshadweep
- Daman & Diu
- Chandigarh
- Delhi

Five States have less than 20% Household Electrification

- Assam
- Jharkhand
- Uttar Pradesh
- Bihar
- Orissa

Seven States have achieved more than 20% but less than 50% Household Electrification

- Arunachal Pradesh
- Chhattisgarh
- Mizoram
- Tripura
- Rajasthan
- Meghalaya
- West Bengal

India has the largest number of households without access to electricity. A massive task lies ahead.

Need for Programme – New Strategy

Extension of electricity to rural areas has been undertaken by State Governments through their limited planned resources. State Electricity Boards (SEBs) have tried to extend the network through internal resources and loans from the Rural Electrification Corporation (REC). The debt burden was serviced through revenues from a regime of cross subsidies. With the best efforts, only 44% households have access to electricity after five decades of planned development.

In the new globalised environment, it is necessary to reduce the burden of cross subsidy to enable industries to become globally competitive to generate faster economic growth and greater employment opportunities.

The extension of electricity to rural areas was slowing down as a result of the financial difficulties of the SEBs.

The international experience has been that extension of electricity to rural areas requires Government support. The Central Government has therefore decided that in order to fulfil the National Common Minimum Programme (NCMP) objective of providing electricity to all households and improving rural electricity infrastructure it would provide 90% capital subsidy for the creation of necessary infrastructure as in the absence of such support it would not have been feasible to achieve the NCMP objective of completing household electrification in five years.

This programme would transform the quality of life in rural India and make possible the attainment of 8% economic growth and bridging the urban-rural gap in terms of quality of life, productivity and possibilities of globally competitive economic activity. The programme would also address the issue of regional disparities. By providing electricity connection free of charge to BPL households and aiming at 24 hours quality power supply to rural areas, it would unleash the full economic growth potential of rural India.

It is only with dispersal of industrial and modern economic activity to rural areas that the challenge of employment generation and poverty alleviation can be met.

Rajiv Gandhi Grameen Vidyutikaran Yojana

Highlights

This new scheme is being launched to **provide access to electricity to all rural households in five years** for the attainment of the goals of the National Common Minimum Programme (NCMP).

- Ninety percent capital subsidy would be provided by the Central Government for overall cost of the project.
- The scheme would create the necessary infrastructure through:
  - REDB (Rural Electricity Distribution Backbone). Provision of at least one 33/11KV (or 66/11 KV) sub-station of adequate capacity in each block.
  - VEI (Village Electrification Infrastructure). Electrification of every village with a distribution transformer in each habitation.
  - DDG (Decentralized Distributed Generation & Supply) System in villages where grid connectivity is not feasible or cost effective.
- Below Poverty Line (BPL) households to get electricity connection free of charge.
- Revenue sustainability of electricity supply to be ensured through franchisees, who could be NGOs, users associations, co-operatives or individual entrepreneurs with association of panchayati raj institutions.
- No discrimination in hours of supply between rural and urban households.
- Services of Central Public Sector Undertakings (CPSUs) made available to states willing to utilize their services for implementation of the programme.

Role of Rural Electrification Corporation Limited (REC)

- REC has been designated as the nodal agency for implementation of the programme. All funds for the programme would be channelised through REC, which apart from the capital subsidy being provided by the Government, would give the remaining funds, as loan assistance, on soft terms.

- Besides financing of the project, REC shall establish the framework for implementation involving formulation of technical specifications, procurement and bidding conditions, guidelines for project formulation, field appraisal & concurrent monitoring and evaluation to ensure quality and timely implementation. REC would be responsible for complete oversight on the programme from concept to completion.

Role of Central Public Sector Undertakings (CPSUs)

With a view to augmenting implementation capacities for the programme, REC has already concluded Memoranda of Understanding (MOUs) with NTPC, POWERGRID, NHPC and DVC to make available the project management expertise and capabilities of these organizations to states wishing to use their services. States may choose from amongst the options mentioned below :–

a) Project formulation, development and implementation involving system planning, design, engineering and procurement of goods and services and construct/implement/ commission the projects covered under the programme.

OR

b) Formulation and preparation of reports, project approvals, advisory support for procurement and project monitoring and supervision of quality of work.

OR

c) Project monitoring and supervision of quality of work during construction.

Salient features of Quadripartite Agreement amongst REC, State Governments, State Power Utilities and CPSUs

The agreement defines :

- The role and responsibility of the parties concerned.
- The environment for effective implementation of projects.
- The creation of a suitable interface for activities.
- The recipient of capital subsidy and loan assistance i.e. State Governments.
- Commitment of the State Government and State Utility to introduction of a revenue sustainable franchisee arrangement prior to project completion and provision of targeted and upfront subsidies, as required.
- The mechanism for release of funds by REC directly to the implementing agency.

No. 44/19/2004-D(RE)
Government of India
Ministry of Power

Shram Shakti Bhawan, Rafi Marg,
New Delhi - 110001
Dated 18th March, 2005

OFFICE MEMORANDUM

Subject : Rajiv Gandhi Grameen Vidyutikaran Yojana - Scheme of Rural Electricity Infrastructure and Household Electrification.

Approval of the President is conveyed for the **"Rajiv Gandhi Grameen Vidyutikaran Yojana - Scheme of Rural Electricity Infrastructure and Household Electrification"** for the attainment of the National Common Minimum Programme (NCMP) goal of providing access to electricity to all households in five years.

2. The scheme would be implemented through the Rural Electrification Corporation (REC).

3. Ninety per cent capital subsidy would be provided for overall cost of the projects under the scheme.

4. The present approval is for implementation of Phase I of the scheme for capital subsidy of Rs. 5000 crores during the 10th Plan period.

5. States must make adequate arrangements for supply of electricity and there should be no discrimination in the hours of supply between rural and urban households.

6. For projects to be eligible for capital subsidy under the scheme, prior commitment of the States would also be obtained before sanction of projects under the scheme for:

   (i) deployment of franchisees for the management of rural distribution in projects financed under the scheme, and

   (ii) the provision of requisite revenue subsidies to the State Utilities as required under the Electricity Act, 2003.

7. **SCOPE OF THE SCHEME**

Under the scheme, projects could be financed with capital subsidy for provision of-

7.1 **Rural Electricity Distribution Backbone (REDB)**

- Provision of 33/11 KV (or 66/11 KV) sub-stations of adequate capacity and lines in blocks where these do not exist.

7.2 **Creation of Village Electrification Infrastructure (VEI)**

- Electrification of un-electrified villages.
- Electrification of un-electrified habitations
- Provision of distributior transformers of appropriate capacity in electrified villages, habitation(s).

7.3 **Decentralised Distributed Generation (DDG) and Supply**

- Decentralised generation cum-distribution from conventional sources for villages where grid connectivity is either not feasible or not cost effective provided it is not covered under the programme of

Ministry of Non-conventional Energy Sources for providing electricity from non-conventional energy sources under their remote village electrification programme of 25000 villages.

7.4 **REDB, VEI and DDG would also cater to the requirement of agriculture and other activities including**

- irrigation pumpsets
- small and medium industries
- khadi and village industries
- cold chains
- healthcare
- education and IT.

This would facilitate overall rural development, employment generation and poverty alleviation.

7.5. **Rural Household Electrification of Below Poverty Line Households:**

Electrification of un-electrified Below Poverty Line (BPL) households would be financed with 100% capital subsidy as per norms of Kutir Jyoti Programme in all rural habitations. Households above poverty line would be paying for their connections at prescribed connection charges and no subsidy would be available for this purpose.

The overall subsidy of components from paras 7.1, 7.2, 7.3, 7.5 taken together should be kept within 90% of the overall project cost. The overall cost estimate of different components for all villages and households are at Annexure-I.

7.6 The project covers the entire country. The details of the unelectrified villages and households having access to electricity as per census 2001 is in Annexure-II and Annexure-III.

8. **Franchisees:**

In the management of rural distribution through franchisees who could be Non-Governmental Organisations (NGOs), Users Association, Cooperatives or individual entrepreneurs, the Panchayat institutions would be associated. The franchisees arrangement could be for system beyond and including feeders from substation or from and including Distribution Transformer(s).

9. **Revenue Sustainability**

Based on the consumer mix and the prevailing consumer tariff and likely load, the Bulk Supply Tariff (BST) for the franchisee would be determined after ensuring commercial viability of the franchisee. Wherever feasible, bidding may be attempted for determining the BST. This Bulk Supply Tariff would be fully factored into the submissions of the State Utilities to the State Electricity Regulatory Commissions (SERCs) for their revenue requirements and tariff determination. The State Government under the Electricity Act is required to provide the requisite revenue subsidies to the State Utilities if it would like tariff for any category of consumers to be lower than the tariff determined by the SERC. While administering the scheme, prior commitments may be taken from the State Government regarding -

a) Determination of bulk supply tariff for franchisees in a manner that ensures their commercial viability.

b) Provision of requisite revenue subsidy by the State Government to the State Utilities as required under the Electricity Act.

10. The capital subsidy for eligible projects under the scheme would be given through REC. These eligible projects shall be implemented fulfilling the conditionalities indicated above. In the event the projects are not implemented satisfactorily in accordance with the conditionalities indicated above, the capital subsidy could be converted into interest bearing loans.

11. The services of Central Public Sector Undertakings (CPSUs) have been offered to the states for assisting them in the execution of Rural Electrification Projects as per their willingness and requirement. With a view to augment the implementation capacities for the programme, REC has entered into Memorandum of Understanding (MOUs) with NTPC, POWERGRID, NHPC and DVC to make available CPSUs' project management expertise and capabilities to states wishing to use their services. This is being operationalised through a suitable Tripartite Agreement.

12. Upto 1 per cent of the total subsidy under the scheme would be used for associated works/efforts of the programme linked to research, technology development, capacity building, information system development, awareness and other administrative and associated expenses and undertaking of pilot studies and projects complimentary to this rural electrification scheme.

13. This scheme merges the existing "Accelerated Electrification of One lakh villages and one crore households" and the Minimum Needs Programme for rural electrification.

14. The scheme will be subject to evaluation and a view on modification required for implementation during 11th Plan will be taken after a comprehensive review towards the end of 10th Plan.

15. The expenditure involved on above scheme would be debitable to the following Head under Grant No. 73 - Ministry of Power for the year 2004-05 and corresponding head of account for the subsequent years.

2801	Power (Major Head)
06.796	Rural Electrification -
3-.	Rural Electrification
03.00.33 -	Subsidies

16. This issues with the concurrence of Finance Wing vide their diary No. 3766/2005-JS&FA dated the 18th March, 2005.

Sd/-
(Ajay Shankar)
Additional Secretary to the Government of India
Tel : 23715378

To
1. The Chief Secretaries of all States,
2. The Secretary, Power/Energy of all States
3. Chairman of all States (Utilities)
4. Chairman & Managing Director, REC, SCOPE Complex, New Delhi.

Annexure–I

SCHEME ON RURAL ELECTRICITY INFRASTRUCTURE AND VILLAGE ELECTRIFICATION

COST ESTIMATES OF THE SCHEME

		Rs. in crore
1.	Electrification of 125,000 un-electrified villages which includes interalia development of backbone network comprising Rural Electricity Distribution Backbone (REDB) and Village Electrification Infrastructure (VEI) and last mile service connectivity to 10% Households in the village @ Rs. 6.50 lakh/village	8,125
2.	Rural Households Electrification (RHE) of population under BPL i.e. 30% of 7.8 cr. Un-electrified Households /i.e 2.34 crore households @ Rs. 1500/H/H as per Kutir Jyoti dispensation	3,510
3.	Augmentation of backbone network in already electrified villages having un-electrified inhabitations @ Rs.1 lakh/village for 4.62 lakh villages	4,620
	Total (1+2+3)	16,255
	Outlay for the scheme	16,000
	Subsidy component @ 90% for items 1& 3 and 100% for item 2	14,750
	Component of subsidy to be set aside for enabling activities including technology development @ 1% of outlay	160

STATUS OF VILLAGE ELECTRIFICATION AS ON 31.3.2004

S. No.	State	No. of Inhabited Villages as per 1991 Census	Total No. of Villages Electrified	Balance Unelectrified Villages	%age of Electrified Villages
1	Andhra Pradesh	26586	26565	$	100
2.	Arunachal Pradesh	3649	2335	1314	64
3.	Assam	24685	19081	5604	77.30
4.	Bihar	38475	19251	19224	50
5.	Jharkhand	29336	7641	21695	26
6.	Goa	360	360	-	100
7.	Gujarat	18028	17940	$	100
8.	Haryana	6759	6759	-	100
9.	Himachal Pradesh	16997	16891	106	99.38
10	J&K	6477	6301	176	97.28
11.	Karnataka	27066	26771	295	98.91
12.	Kerala	1384	1384	-	100
13.	Madhya Pradesh	51806	50474	1332	97.43
14.	Chhattisgarh	19720	18532	1188	94
15.	Maharashtra	40412	40351	-	100
16.	Manipur	2182	2043	139	93.63
17.	Meghalaya	5484	3016	2468	55
18.	Mizoram	698	691	7	99
19.	Nagaland	1216	1216	-	100
20.	Orissa	46989	37663	9326	80.15
21.	Punjab	12428	12428	-	100
22.	Rajasthan	37889	37276	613	98.38
23.	Sikkim	447	405	42	90.60
24.	Tamil Nadu	15822	15822	-	100
25.	Tripura	855	818	37	95.67
26.	Uttar Pradesh	97122	57042	40080	58.73
27.	Uttaranchal	15681	13131	2550	83.73
28.	West Bengal	37910	31705	6205	83.63
	Total (States)	586463	473892	112401	80.80
	Total UTs	1093	1090	$	100%
	All India	587556	474982	112401*	80.80%

$ Balance villages are not feasible for electrification.

* As per the new definition of village electrification (effective from 2004-05) total number of unelectrified villages is estimated to be around 1,25,000.

Annexure–III

RURAL HOUSEHOLD ELECTRIFICATION - 2001 CENSUS

S. No.	State	Total No. of Rural Households	Households having Electricity	% Electrified Households
	ALL INDIA	138,271,559	60,180,685	43.52
1	Andhra Pradesh	12,676,218	7,561,733	59.65
2	Arunachal Pradesh	164,501	73,250	44.53
3	Assam	4,220,173	697,842	16.54
4	Bihar	12,660,007	649,503	5.13
5	Jharkhand	3,802,412	379,987	9.99
6	Goa	140,755	130,105	92.43
7	Gujarat	5,885,961	4,244,758	72.12
8	Haryana	2,454,463	1,926,814	78.50
9	Himachal Pradesh	1,097,520	1,036,969	94.48
10	Jammu & Kashmir	1,161,357	868,341	74.77
11	Karnataka	6,675,173	4,816,913	72.16
12	Kerala	4,942,550	3,238,899	65.53
13	Madhya Pradesh	8,124,795	5,063,424	62.32
14	Chhattisgarh	3,359,078	1,548,926	46.11
15	Maharashtra	10,993,623	7,164,057	65.17
16	Manipur	296,354	155,679	52.53
17	Meghalaya	329,678	99,762	30.26
18	Mizoram	79,362	35,028	44.14
19	Nagaland	265,334	150,929	56.88
20	Orissa	6,782,879	1,312,744	19.35
21	Punjab	2,775,462	2,482,925	89.46
22	Rajasthan	7,156,703	3,150,556	44.02
23	Sikkim	91,723	68,808	75.02
24	Tamil Nadu	8,274,790	5,890,371	71.18
25	Tripura	539,680	171,357	31.75
26	Uttar Pradesh	20,590,074	4,084,288	19.84
27	Uttaranchal	1,196,157	602,255	50.35
28	West Bengal	11,161,870	2,262,517	20.27
29	A. & Nicobar Islands	49,653	33,807	68.09
30	Chandigarh	21,302	20,750	97.41
31	D. & Nagar Haveli	32,783	27,088	82.63
32	Delhi	169,528	144,948	85.50
33	Daman & Diu	22,091	21,529	97.46
34	Lakshadweep	5,351	5,337	99.74
35	Pondicherry	72,199	58,486	81.01

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