

Rural Electrification for Electricity Access :

Current Situation, Initiatives & Institutional Mechanism



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SDG 7

Three Targets

- ❖ Ensure universal access to affordable, reliable, and modern energy services by 2030
- ❖ Increase substantially the share of renewable energy in the global energy mix by 2030
- ❖ Double the global rate of improvement in energy efficiency by 2030.

Significance of SDG7 to Nepal

❖ Economic Impacts

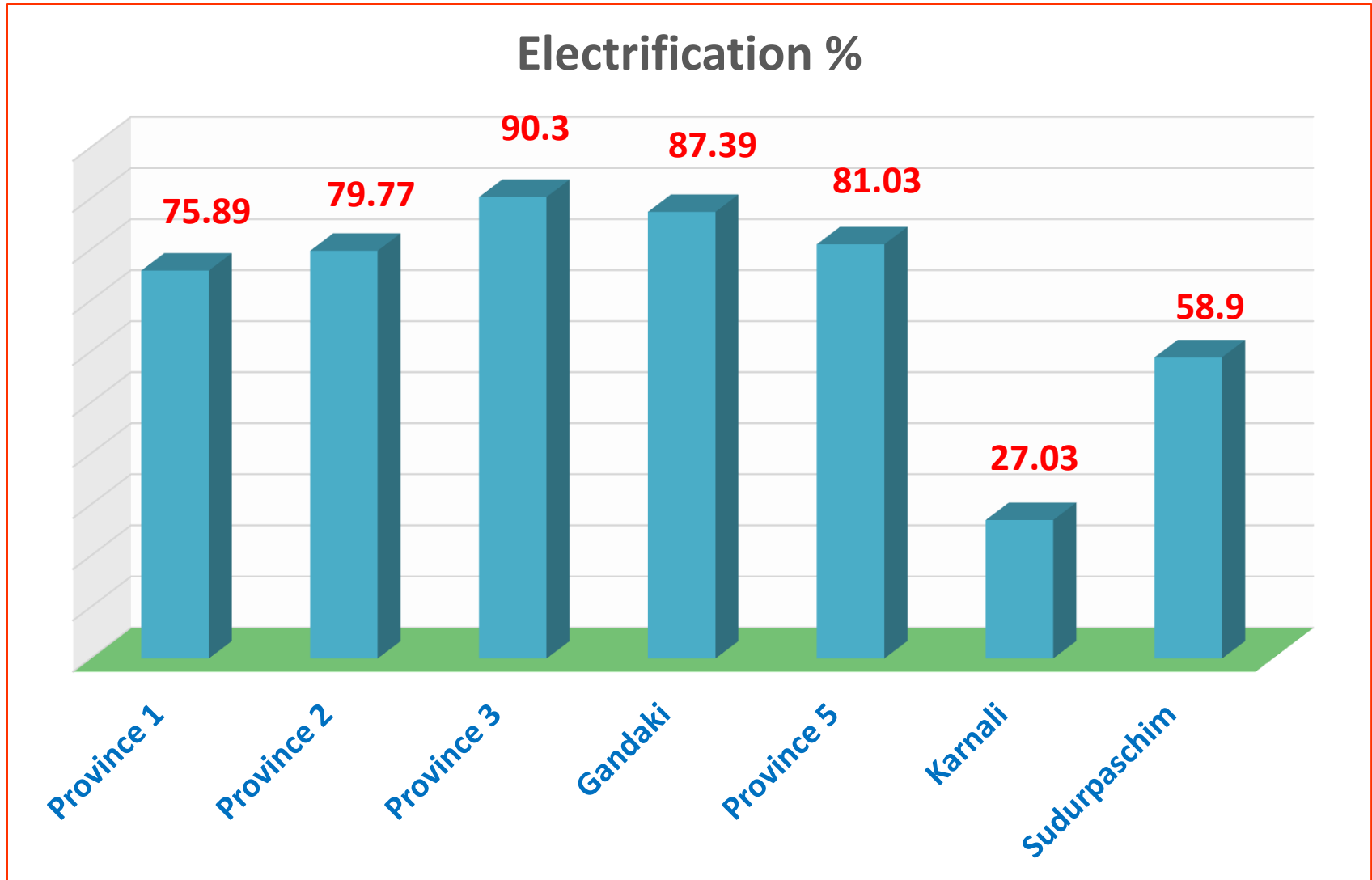
- Yearly import of petroleum product is about 250 Billion; a huge reduction in import is possible with replacement by electricity.
- Vehicle for industrial growth

❖ Environment and Livelihood Impacts

- Conventional cooking based on Firewood : Increase Deforestation
- Health issues related to respiratory System
- Climate Change : Global Warming
- Land Degradation and Desertification
- Biodiversity loss
- Floods and Landslides

Current Status of Electrification in Nepal

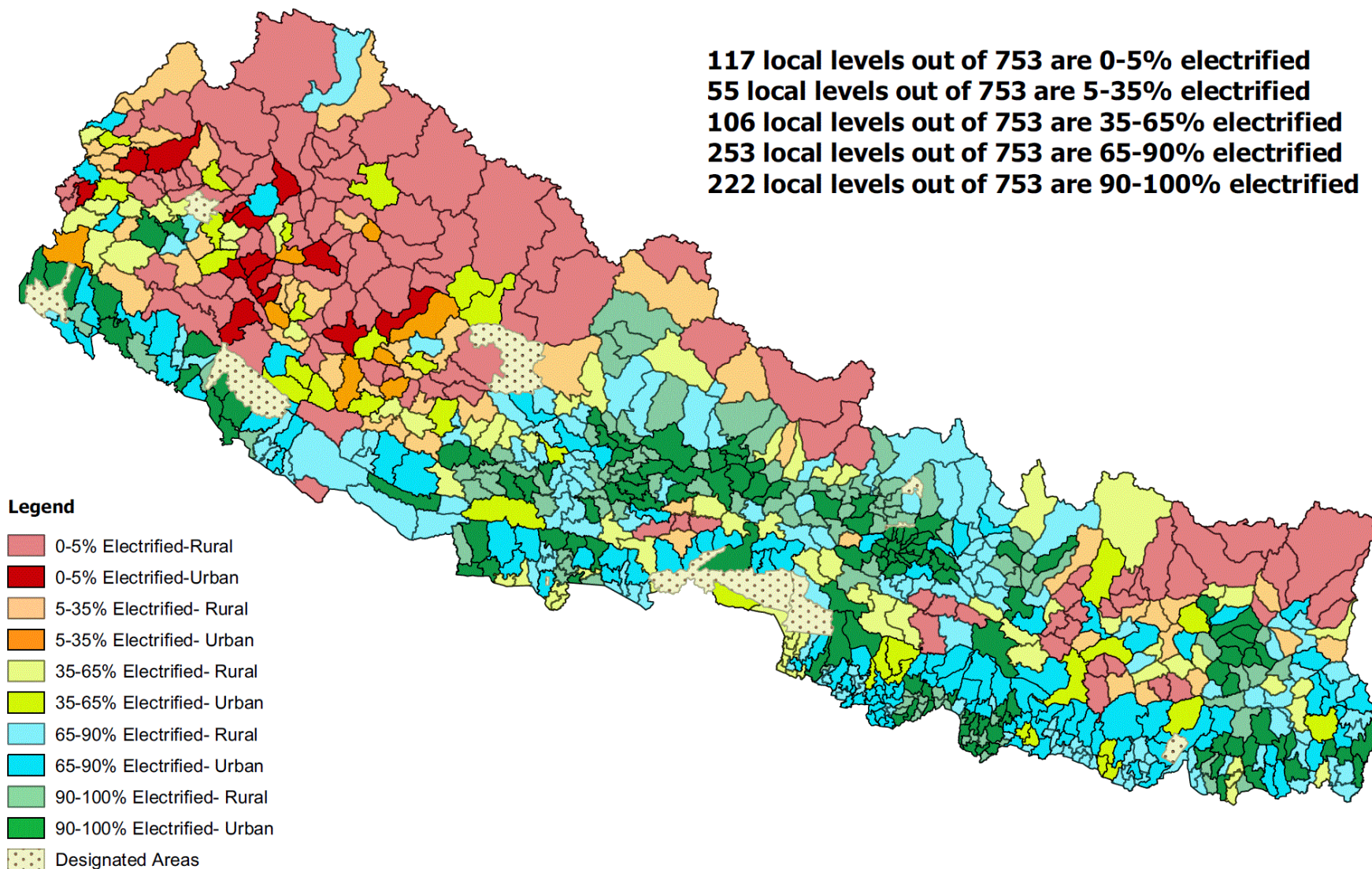
Grid access to Electricity : 77.82 %



Current Status of Electrification in Nepal

LOCAL LEVEL ELECTRIFICATION STATUS (%)

117 local levels out of 753 are 0-5% electrified
55 local levels out of 753 are 5-35% electrified
106 local levels out of 753 are 35-65% electrified
253 local levels out of 753 are 65-90% electrified
222 local levels out of 753 are 90-100% electrified



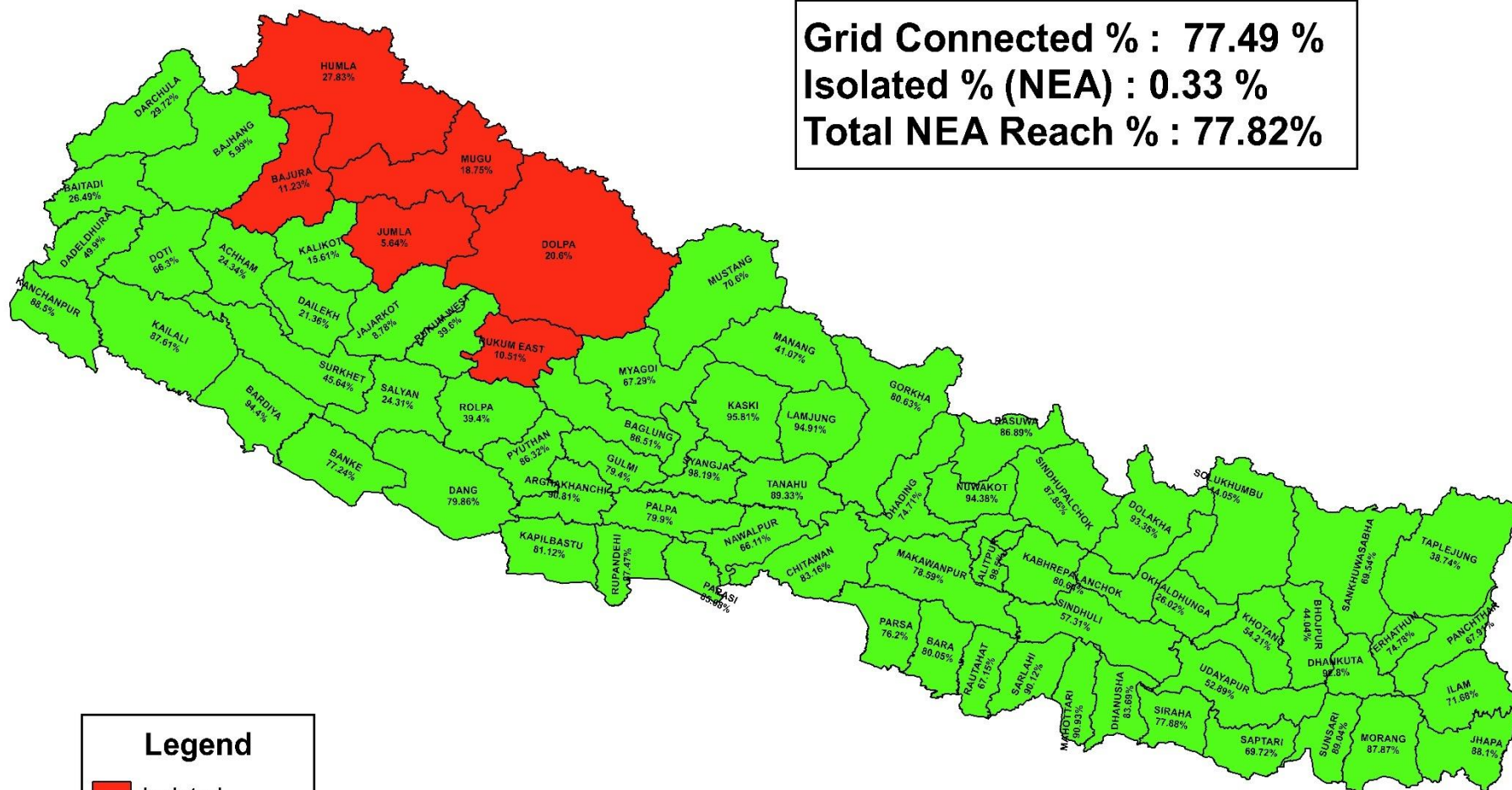
Province-Wise Local Level Electrification Status

Province	Fully Electrified Municipalities		Partially Electrified Municipalities		Non-Electrified Municipalities	
	Rural	Urban	Rural	Urban	Rural	Urban
One	10	24	55	25	23	0
Two	17	20	42	57	0	0
Three	26	33	42	12	6	0
Gandaki	24	20	28	7	6	0
Five	18	18	48	18	7	0
Karnali	0	0	17	19	37	6
Sudurpaschim	2	10	28	16	24	8
TOTAL	97	125	260	154	103	14
Percentage	30 %		55%		15%	

Note :- 0-5 % Electrified are considered as Non Electrified & 90-100% Electrified are considered as Fully Electrified Local Levels

Grid Connectivity Status

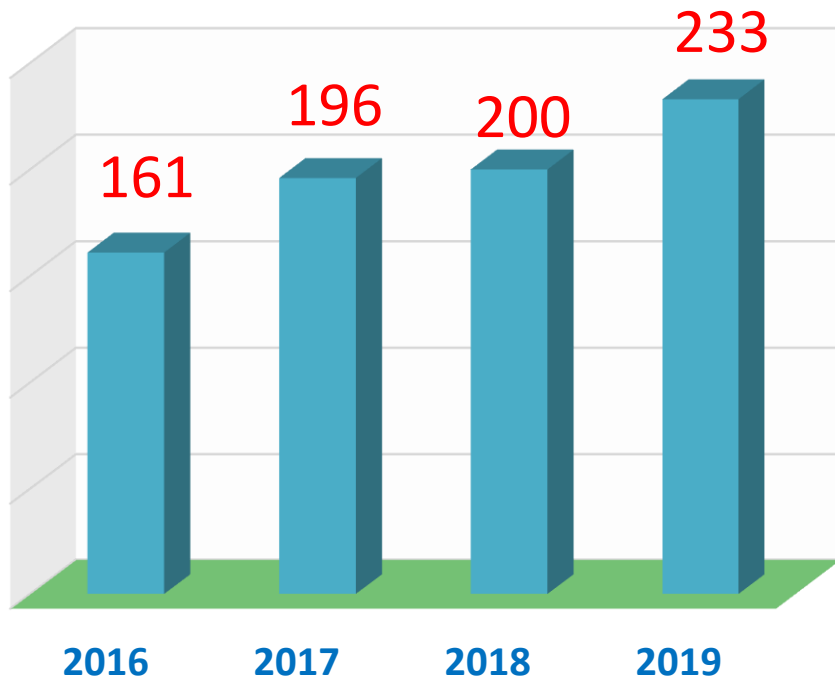
Grid Connected % : 77.49 %
Isolated % (NEA) : 0.33 %
Total NEA Reach % : 77.82%



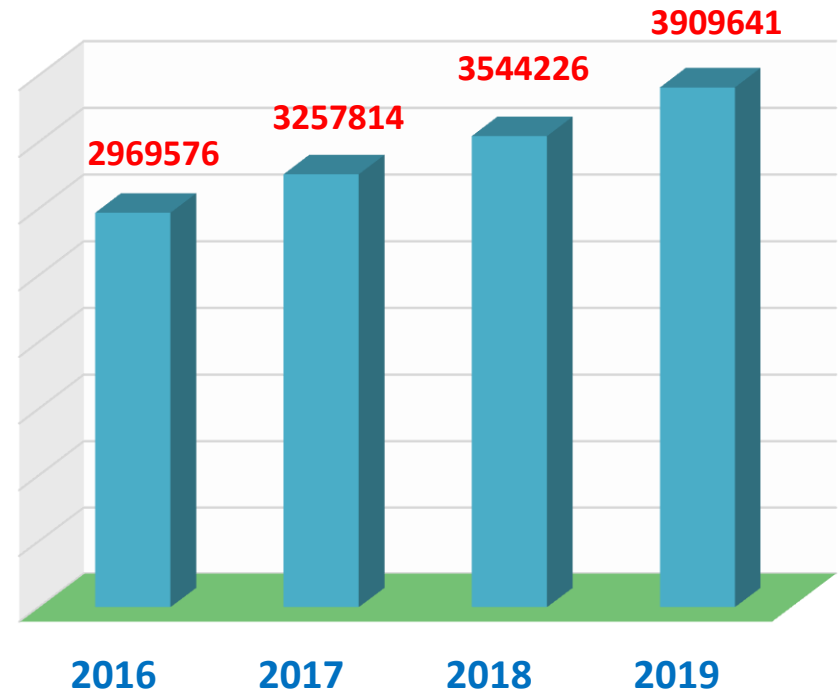
Current Status of Electrification in Nepal

- ❖ Per Capita Consumption : 233 kWh
- ❖ Total Number of Consumer : 4,497,067 (including Community and BPC)
- ❖ Distribution Capacity : 2629 MVA
- ❖ Peak Demand of F/Y 2018/19 : 1320 MW
- ❖ Energy Sales of F/y 2018/19 : 6.33 TWh
- ❖ Overall System Loss : 15.32%

Per Capita Consumption kWh



Growth of Consumers NEA



Initiatives

Policy Guidelines

- ❖ **“Electricity for All”** by the year 2023; preferably by next 3 Years
- ❖ **“Per Capita Consumption”** by the year 2023 : 700 units
- ❖ **“Total MW Consumption”** by the year 2023 : 5000 MW



Leads To

1. **Rural Electrification work** to meet the requirements of “Electricity for All”.
2. **Distribution System Reinforcement** work to meet the requirements for per capita consumption of 700 units and internal consumption of 5000 MW.

Initiatives...

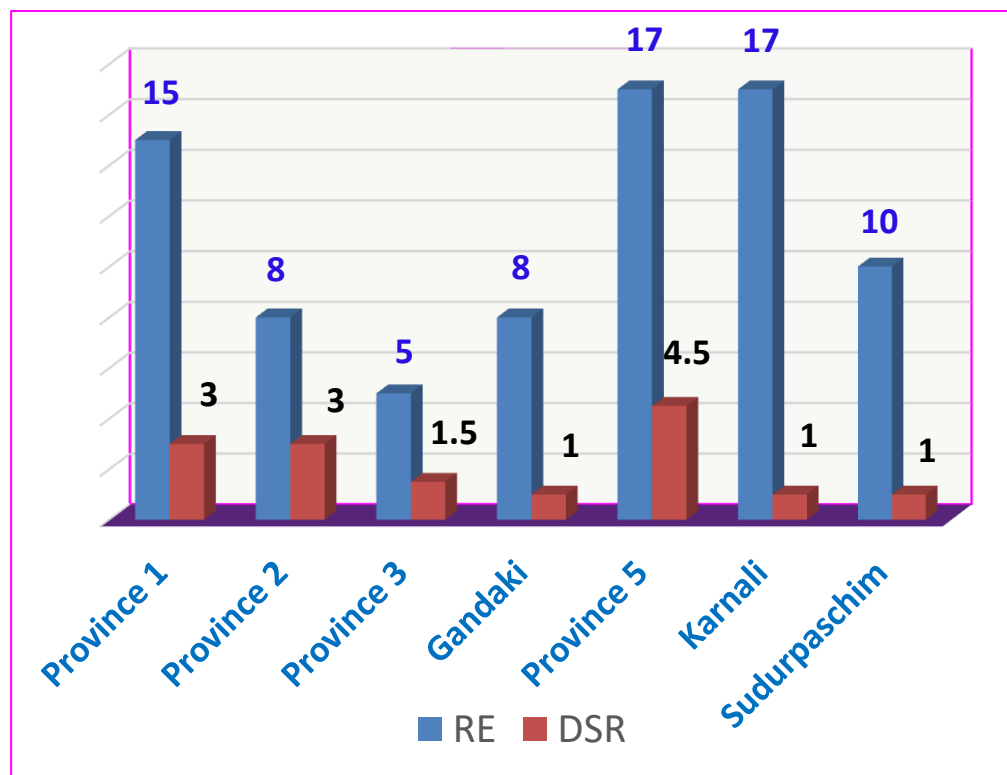
1. Extensive technical and financial planning for RE and DSR works
 - ❖ Preparation of Distribution and Loss Reduction Master Plan
 - ❖ Full Electrification of 40 districts in fiscal year 2019/20.
2. Segregation of on grid and off grid electricity expansion areas.
3. Coordination with other stakeholders, e.g. Alternative Energy Promotion Center (AEPC) and Local Governments

Rural Electrification (RE) and Distribution System Reinforcement (DSR)

Province	33/11 kV S/S		33 kV Line Ckt Length Km.	11/0.4 kV Line Ckt. Length Km.	Transformer
	Nos.	Capacity (MVA)			Number
					Nos.
1	22	203	481	12891	2308
2	14	256	215	5872	1338
3	2	32	40	4722	1523
Gandaki	12	107	306	5617	1276
5	28	290	494	14981	2178
Karnali	19	102	559	15795	1183
Sudur- paschim	19	114	387	8026	1123
Total	116	1104	2482	67904	10929

Additional RE work

Total Cost for RE : Rs. 80 billion
Total Cost for DSR work : Rs. 15 billion



Implementing Institutions

- ❖ NEA is mainly engaged for on grid and AEPC for off grid electrification
 - A Dedicated distribution and consumer services business group within NEA to deal with rural electrification issues
 - Provincial offices has been setup in each province under distribution and consumer services business group of NEA
- ❖ Dedicated project team to execute various RE and DSR projects mainly financed by funding agencies
- ❖ A separate community rural electrification department to execute the community projects

THANK YOU !!!

