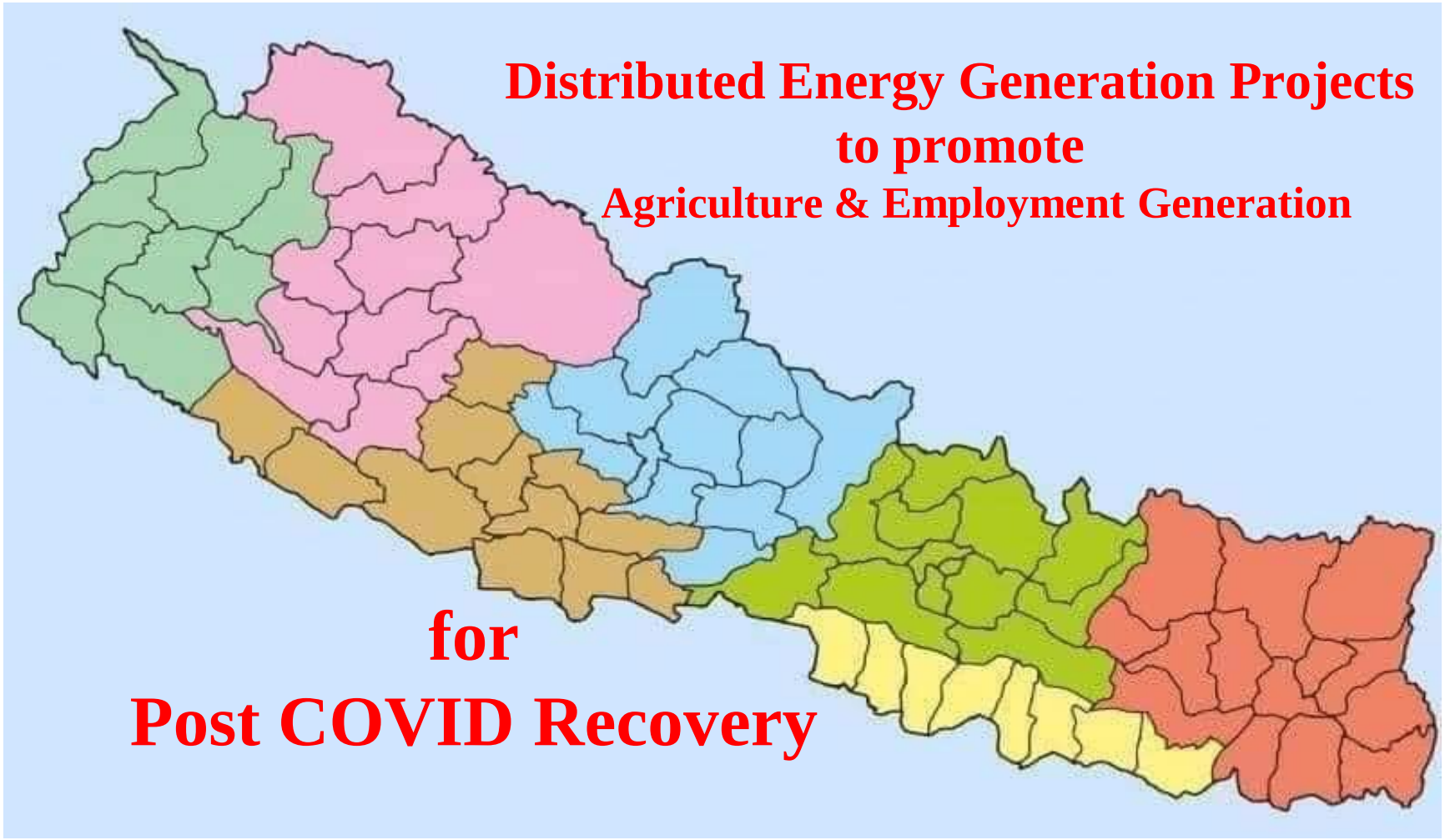
Renewable Energy Confederation of Nepal (RECON)

Wevinar-2020



Krishna Prasad Devkota
NMHDA

Hydro Power Potential

Total Hydropower potential :83000 MW

Possible Bigger Projects,

- Pancheshwar Multipurpose Project-3240 MW
- Saptakoshi High Dam Multipurpose Project- 3000 MW

Some Studied & Understudy Bigger Projects:

- Budhigandaki Hydro Power Project: 1200 MW
- Dudhkoshi Hydro Power Project: 102 MW
- West Seti Hydro Power Project (Storage) : 276 MW
- Karnali Hydro Power Project : 184 MW
- Naumure Hydropower Project: 377 MW
- ……..

But- When

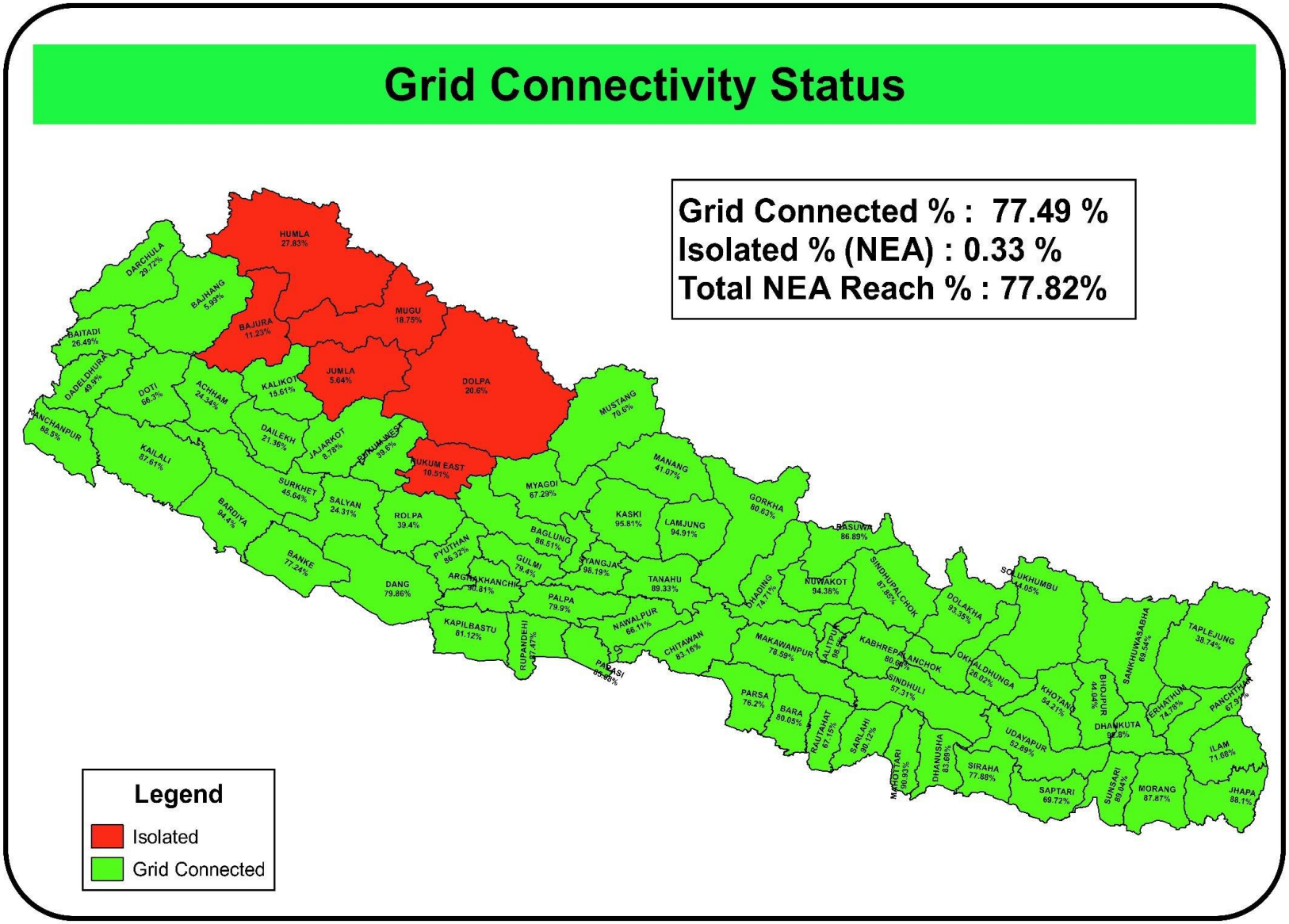
Existing Hydro Power Projects

Type	Number	Capacity (MW)	Remarks
NEA/Grid			
Hydropower			
<1 MW	15	11.24	
>1 MW	84	1115.47	
Thermal	2	53.41	
Solar	2	1.68	
Total	103	**1181.80**	
Off-Grid			
Pico Hydro	1633	3.7	<10 kW
Micro Hydro	1607	35.3	>10 - 100 kW
Mini Hydro	1	0.4	>100-1000 kW
Total	**3241**	**39.4**	

Upper Tamakoshi Hydropower Project (456 MW) is expected to be completed in 2020.

Source: doed.gov.np/license/54 & RET Baseline 2012 & AEPC

Grid Connectivity Status



Source: https://www.unescap.org/sites/default/files/Rural%20Electrification%20for%20Electricity%20Access%20Current%20situation%2C%20Initiatives%20%26%20institutional%20mechanism%20by%20Mr.%20Hara%20Raj%20Neupane%2C%20DMD%2C.pdf

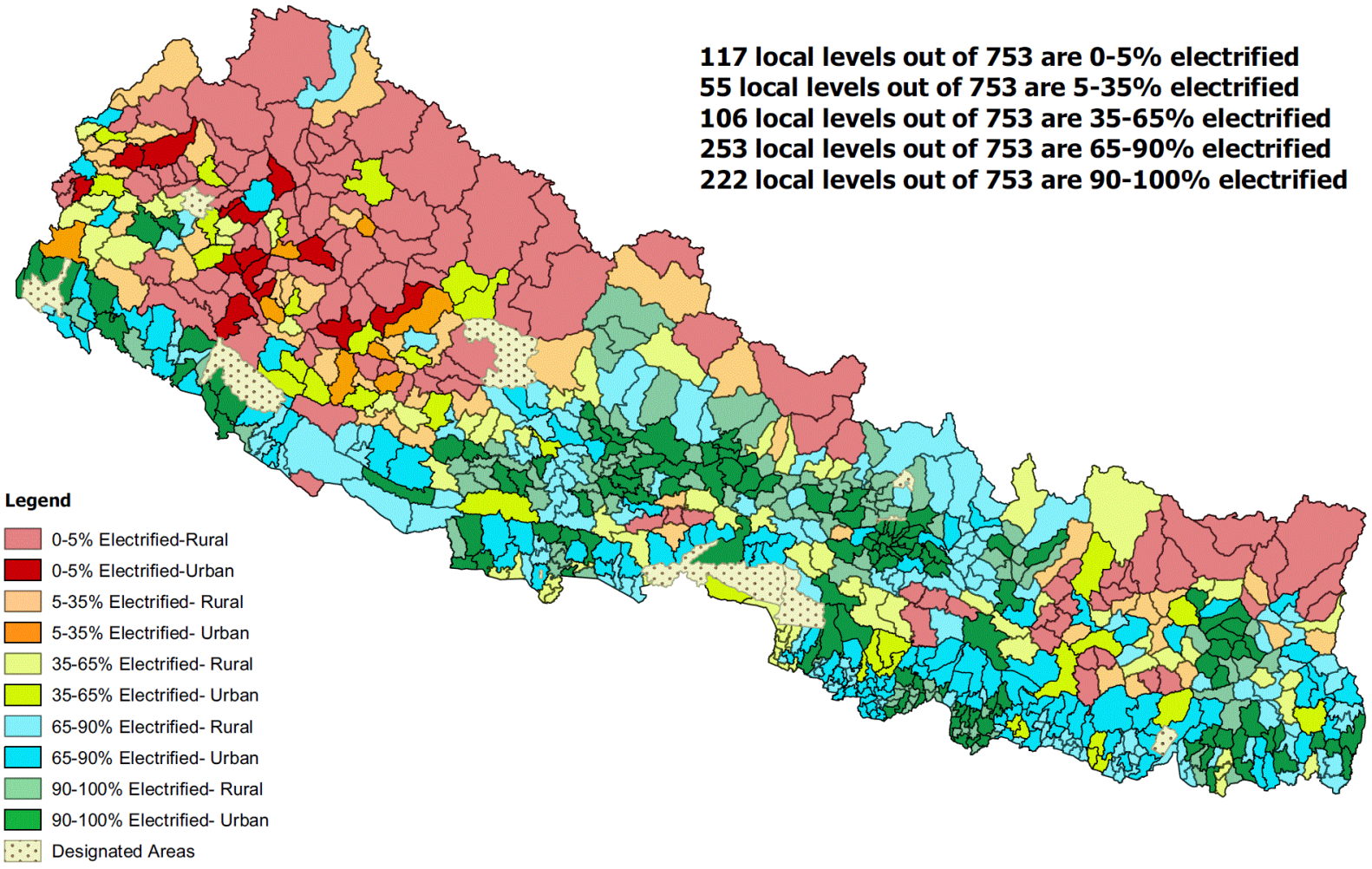
Province-wise Local Level Electrification Status (Grid Extension)

Province	Municipalities					
	Fully Electrified		Partially Electrified		Non- Electrified	
	Rural	Urban	Rural	Urban	Rural	Urban
One	10	24	55	25	23	0
Two	17	20	42	57	0	0
Bagmati	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

Source: https://www.unescap.org/sites/default/files/Rural%20Electrification%20for%20Electricity%20Access%20Current%20situation%2C%20Initiatives%20%26%20institutional%20mechanism%20by%20Mr.%20Hara%20Raj%20Neupane%2C%20DMD%2C.pdf

LOCAL LEVEL ELECTRIFICATION STATUS (%)



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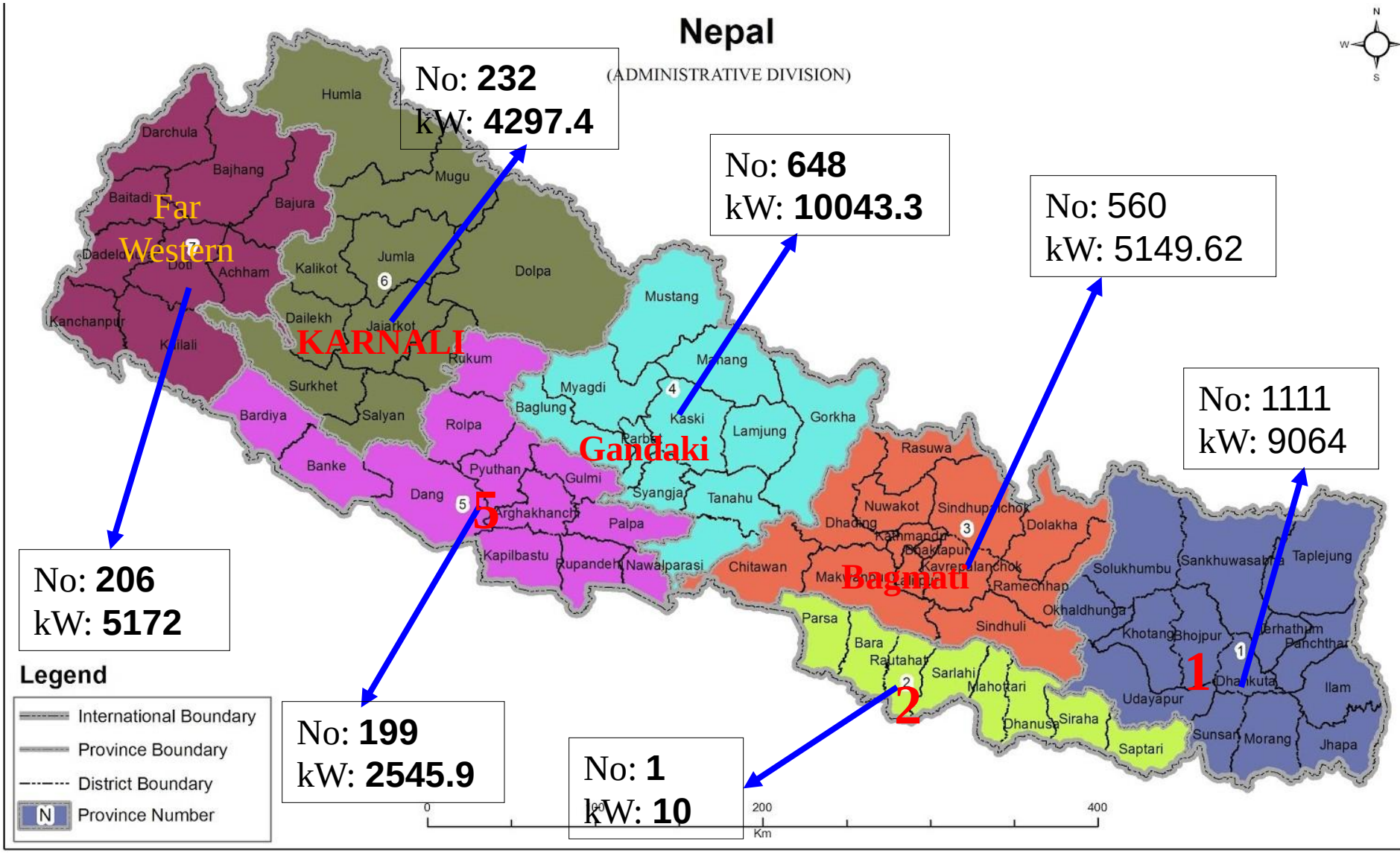
Province wise Pico/Micro Hydro Installation



Source: RET Baseline 2012 & AEPC

Existing Scenario

- More than 90% population of Nepal have access to electricity through
  - NEA Grid
  - Isolated micro/mini hydro &
  - Solar PV
- However, the electrification mostly focused on lighting
- Not yet focused on;
  - Cooking
  - Agriculture (Irrigation, cold store, Mechanization)
  - Fishery
  - Transportation
  - Water Supply
  - Health and Education
  - Industry

Challenge of COVID-19

- Many people may return from Foreign employment
- Many people within the country will loose employment
- Difficult to get foreign investment for bigger hydro projects in near future
- Need short term employment Generation Activities
- Shortage of electricity for modern and mechanized agriculture development

Turning Challenge into Opportunity

- Upgrade the Existing micro hydro projects
- Connection of micro hydro project into grid with easy grid-connection modality
- Develop at least one micro/mini/small hydro (up to 3 MW) or solar mini grid in PPP model in each Municipality with
  - 90% subsidy at the off grid area
  - Soft loan (3-5% interest) for on-grid PPP model electricity Projects
- Integration of energy Project with Agriculture and other development

Available Projects

- License Getting Projects (up to 3 MW) from DOED

Licence Type	Number	Capacity (MW)	Remarks
License Issued			
Survey	38	67.9	
Generation	47	76.5	
Apply for License			
Survey	2	2.7	
Generation	1	0.5	
Total	**88**	**147.5**	

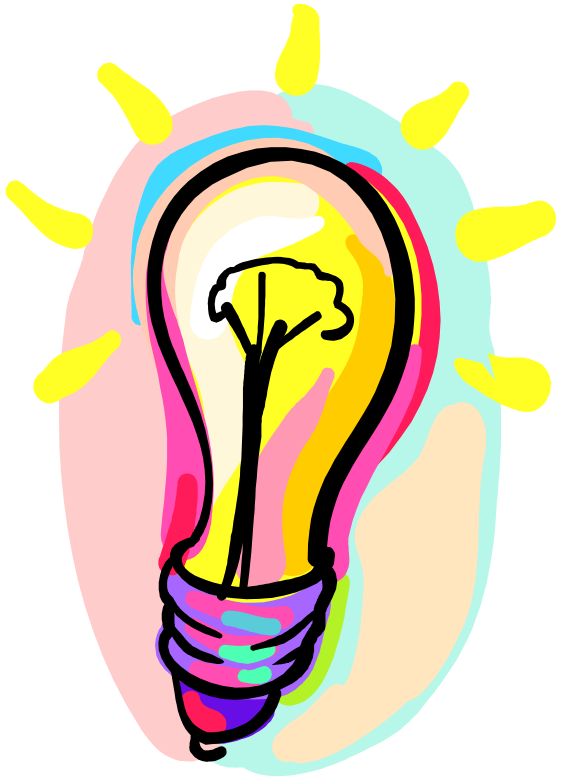
Source: https://www.doed.gov.np/license/41

- NEA Consulting has identified more than 500 mini-hydro projects ranging 500-1000 kW
- AEPC has also surveyed micro/mini hydro projects & Solar mini-grid projects

Conclusion

As a result of developing one energy project in each municipality,

- The energy entrepreneur/engineers will disperse into the municipalities for project development
- Search and plan other opportunities in the locality like agriculture and tourism business
- Increase manufacturing and trading activities
- Capacity enhancement activities
- Ultimately, increase the employment generation and economic activities in several municipalities at once
- The distributed generation will also be helpful to decrease the transmission losses
- Regular income source for the municipalities



Thanks !