



Dissemination Workshop on
The Study for Development of Potential
Regional Hydropower Plant in South Asia
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Presentation Coverage



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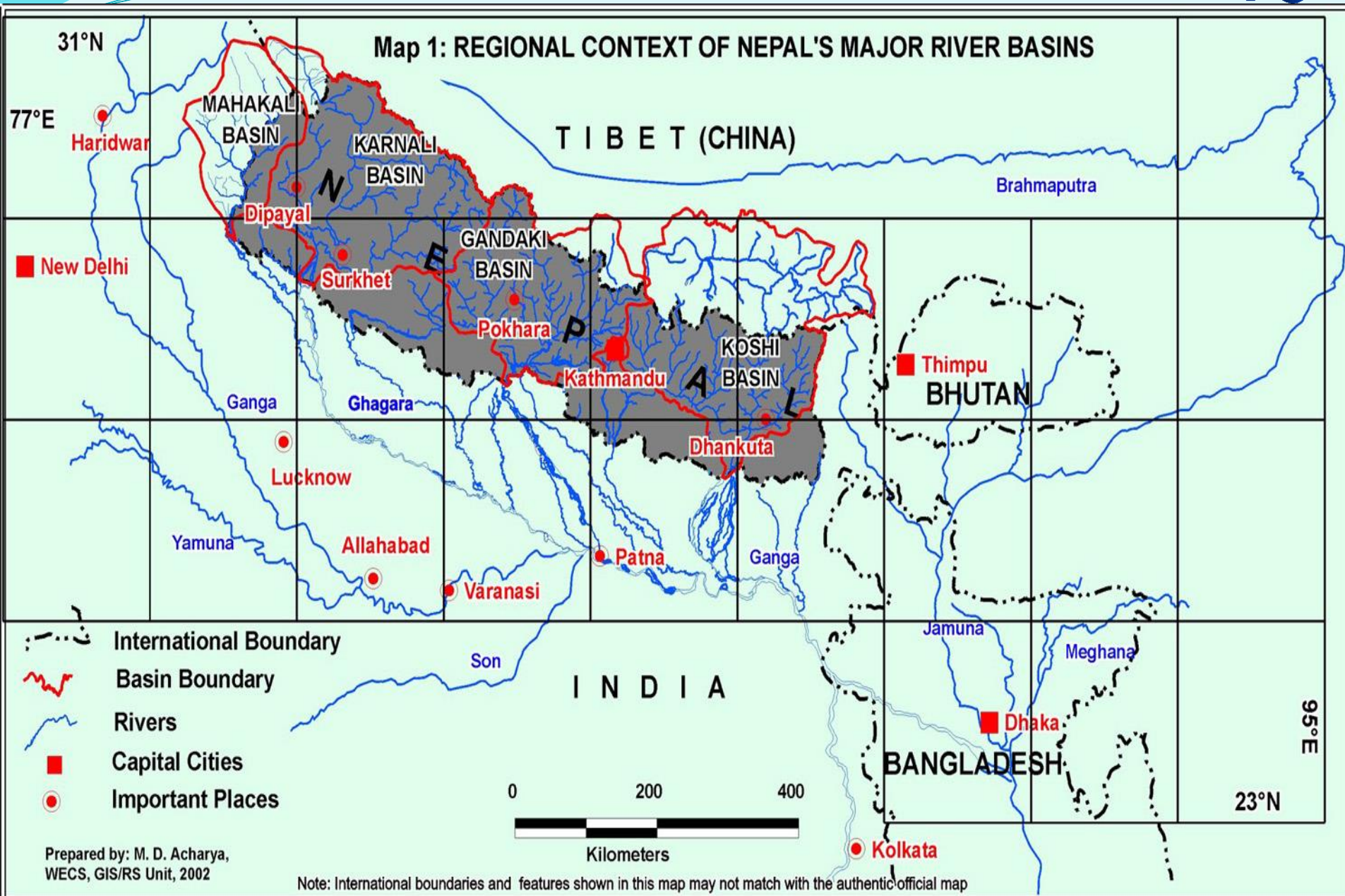
Location of Nepal





1. Introduction

Country Location	Between China and India
Latitude	26° 22' N - 30° 27' N
Longitude	80° 04' E - 88° 12' E
Area	147,181 km²
Population	28.8 millions
Access to Electricity	67%
Per capita Energy Consumption	14 GJ
Per capita Elec. Consumption	132 kWh
Annual Runoff	225 Billion Cubic Meter
Hydropower Potential	83,290 MW (Theoretical) 42,130 MW (Practical)





2. Energy Consumption: Sector Wise

Traditional (Firewood, Agricultural Residues and Animal Waste)	: 87.1%
Petroleum Products	: 8.3%
Hydropower	: 2.0%
Coal	: 1.9%
Renewal (Micro Hydro, Solar, Wind and Biogas):	0.7%



Present Status of Power

Installed Capacity in Nepal

Hydro	:	776 MW
Thermal	:	53 MW
Total	:	829 MW

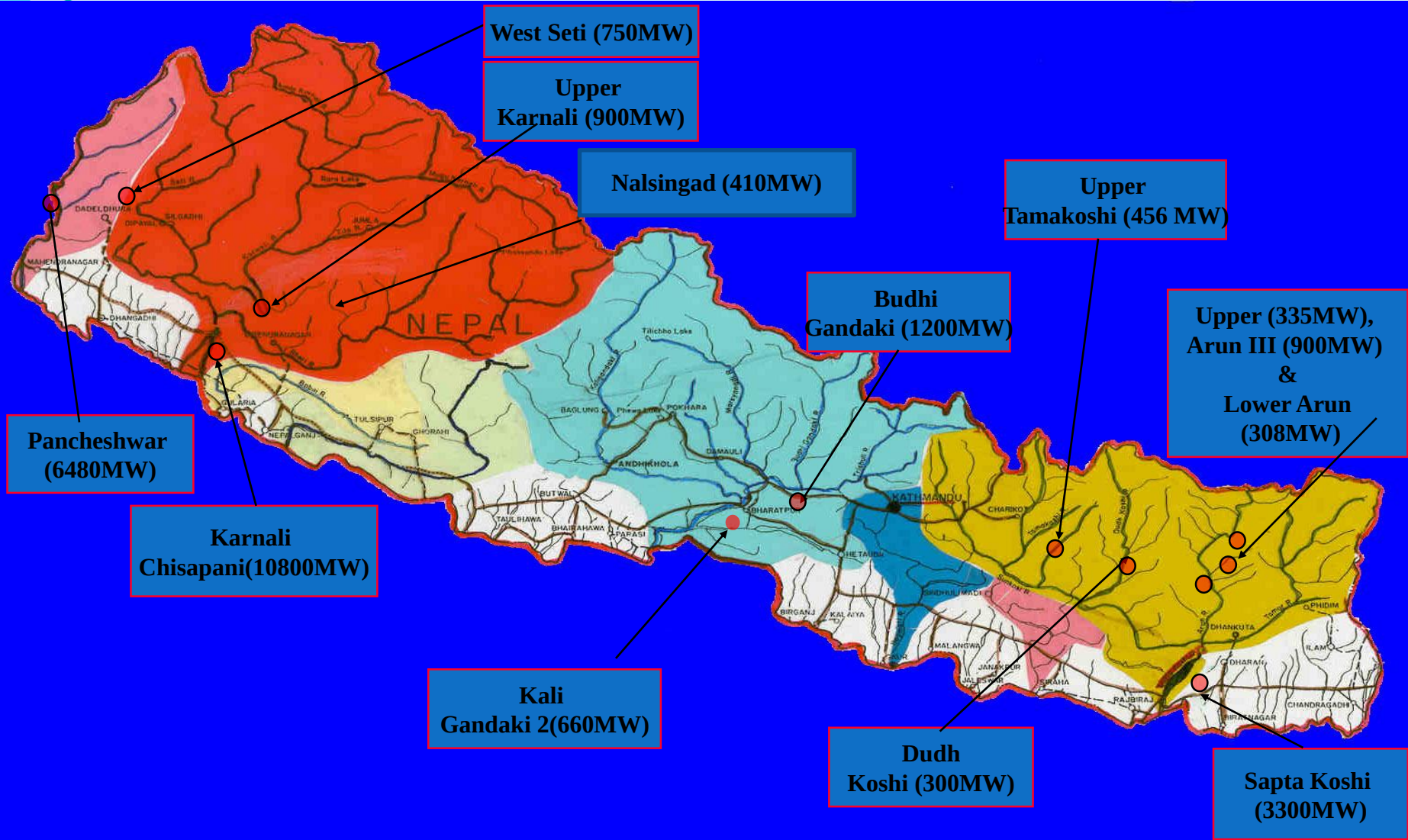
Dry Season Production	:	350 MW
Imported from India (max.)	:	315 MW
Power Available in Dry Season	:	665 MW

Peak Demand	:	1340 MW
Power Shortage (Load Shedding)	:	675 MW (About 50%)



Nepal's Largest Hydroelectric Project: Kali Gandaki-A (144 MW)





Major Power Projects in Nepal

3. Organizations for Energy Policy and Development in Nepal



1. Nepal Investment Board (>500 MW)
2. Ministry of Energy
 - Department of Electricity Development (DoED)
 - Nepal Electricity Authority (NEA)
 - Water and Energy Commission's Secretariat (WECS)
 - Hydropower Investment and Development Company
 - Budhigandaki Hydropower Project Development Committee
 - Nalsingad Hydropower Project Development Committee
3. Ministry of Population and Environment (<1MW)
 - Alternative Energy Promotional Center (AEPC)



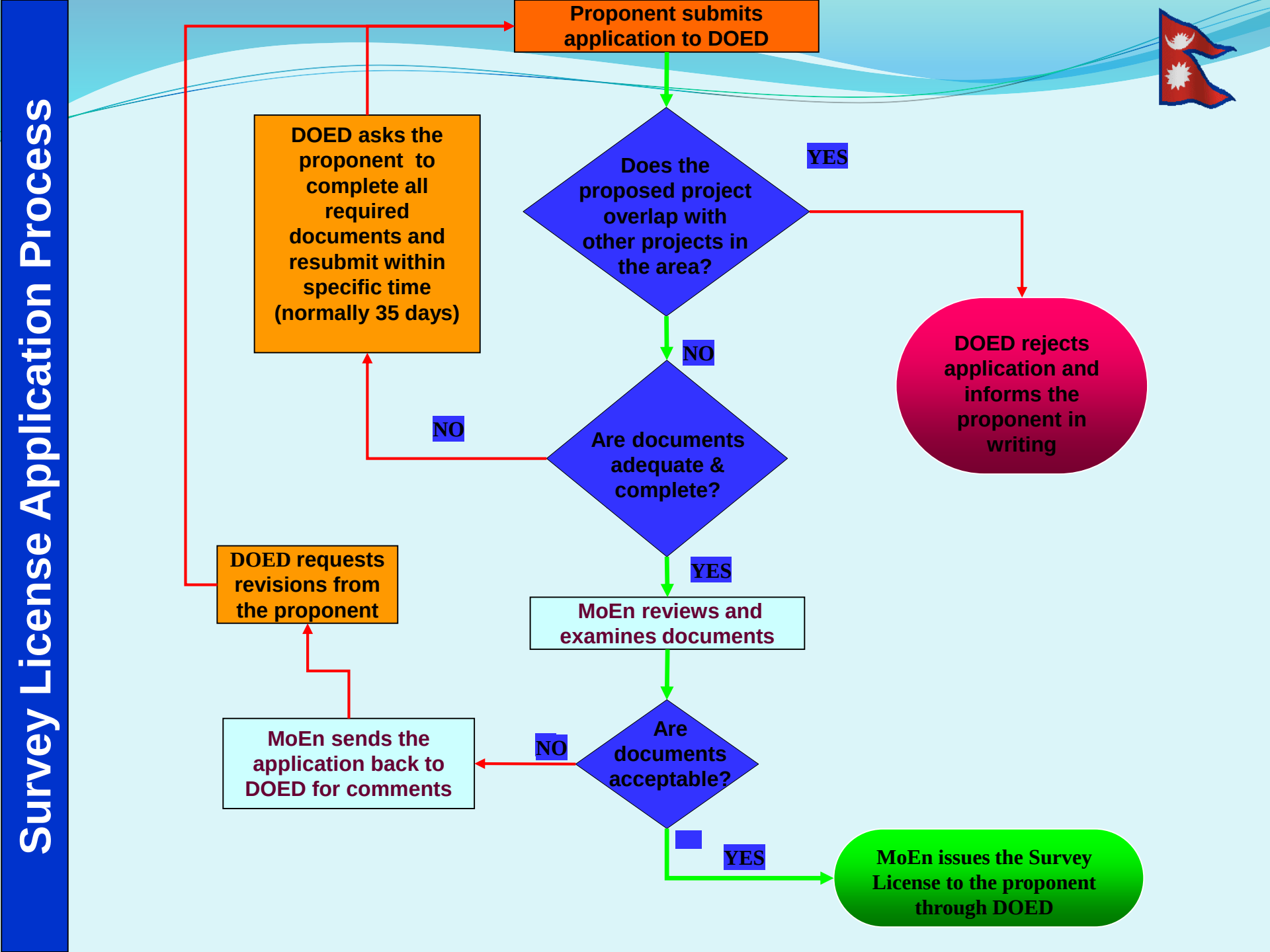
4. Policy, Acts and Regulations

- ❑ **Hydropower Development Policy - 1992,**
- ❑ **New Hydropower Development Policy- 2001**
- ❑ **Electricity Act - 1992 (Regulations - 1993)**
- ❑ Industrial Policy – 1992
- ❑ Foreign Investment & One-Window Policy-1992
- ❑ Industrial Enterprises Act – 1992
- ❑ Foreign Investment and Technology Transfer Act – 1992
- ❑ Environment Protection Act - 1996 (Regulation-1997)

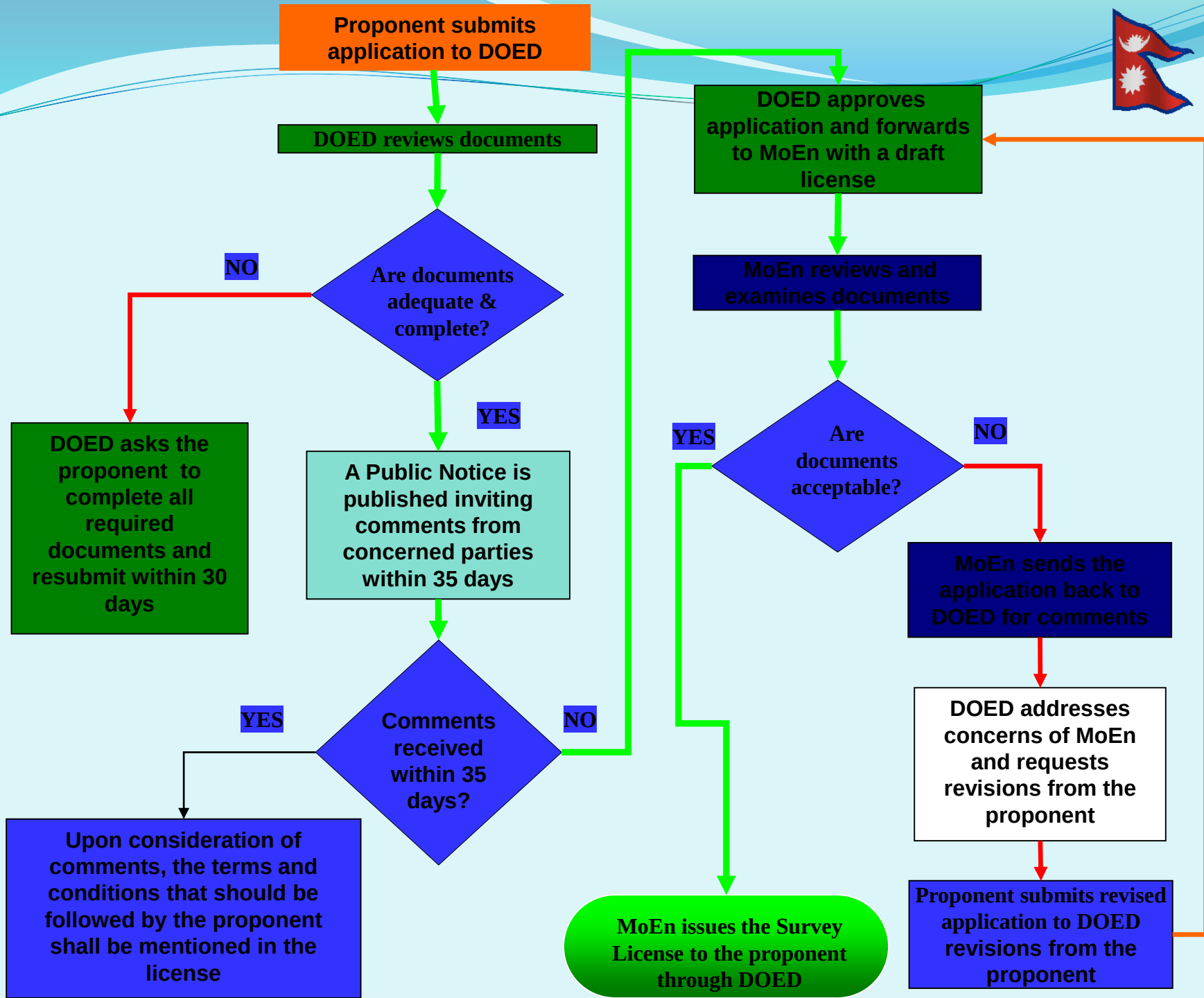


Licensing of Power Projects in Nepal

- License is required for Survey, Generation, Transmission and Distribution for projects larger than 1 MW.
- License is granted by the Ministry of Energy (MoEn).
- DOED facilitates license procedure by receiving the application, processing application for compliance, issuing public notice and recommending to MoEn.



Generation License Application Process



Status of License and PPA of Hydropower Projects



S. No.	Type	Amount (No.)	Installed Capacity (MW)
1	Hydro Projects under Operation	48	776
2	Projects under Construction after getting Generation License	99	2382
3	Projects having Survey License	79	5128
4	Projects with PPA Concluded	174	2568
5	Projects with Grid Impact Study under Take and Pay Condition	53	1100



5. Energy Market

1. Domestic Use

- ☀ Nepal Electricity Authority : 100% government owned company which is responsible for electricity generation, transmission and distribution. NEA buys the electricity from IPPs and sells to the market (households and industries).
- ☀ Butwal Power Company Limited: Less than 10% government shared private company which is also generating, transmitting and distributing the electricity for the domestic use .

2. Export to India: India is the nearest market for the export of electricity. Not fully developed the export market. The cross-boarder transmission line is the bottleneck for exporting and importing the electricity.

6. Study and Development Models



1911 to 1984 Time Period

- ☀ **Government of Nepal** (GoN) was only responsible using National , Bilateral and Multilaterals Grants and Loans for Mega Projects

1984-1992 Time Period

- ☀ **Nepal Electricity Authority** (NEA) was responsible for the study and development of hydropower projects

1992 to till date

- ☀ Highly dependent to **Independent Power Producers** (IPPs) in the beginning
- ☀ In parallel way,
 - ☐ GoN and undertaking companies/committees
 - ☐ NEA and subsidiary companies
 - ☐ Jointly study (Nepal-India Government) for Pancheshwor and Saptakoshi High Dam Projects
- ☀ Concepts are being developed as:
 - ☐ Co-operatives
 - ☐ Nepal Army
 - ☐ Remit Hydro
 - ☐ Janatako Vidyut Janata kai Lagani (Projects development in the leadership of GoN also using Peoples' Fund)



7. Action Plan for Energy Crisis Alleviation and Electricity Development Decade , 2016

Development of 10,000 MW within 10 years applying following measures:

- ✿ Intra and Inter Institutional Co-ordinations
- ✿ Policy Reforms
- ✿ Improvement on Legal hurdles
- ✿ Administrative Reforms
- ✿ Institutional Reforms
- ✿ Simplicity in the Approval of Environmental Study
- ✿ Fast Tracks on the Transmission Line Construction



8. Major Issues to be Focused

- ☀ Focus on Storage Projects to Minimize the Load -shedding
- ☀ Development of Multipurpose Projects
- ☀ Cross Border Transmission Line
- ☀ SAARC Grid
- ☀ Synergize the Resources of SAARC Member States with
Establishing Various Interconnections
- ☀ Environment for Foreign Investments

Thank You



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