

INVESTMENT IN HYDROPOWER AND ELECTRICITY TRADE WITH INDIA



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- **Hydropower: Principal source of clean, low emitting and renewable energy in the world.**
- **More than 150 countries around the world generate hydropower.**
- **To day total 2740 TWh hydropower is generated in the world every year.**
- **This is only about 33% of 8000 TWh/year, realistic hydropower potential of the world.**
- **Current Hydro power production of Asia is 800 TWh/year.**

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- **An early estimate of available hydropower potential of Nepal is 83000 MW.**
- **Assuming a plant factor of 45% only, this potential in terms of annual energy turns to be about 325 TWh.**
- **This is about 40% of current level of hydropower generation in Asia.**
- **Although the proclaimed potential of 83000 MW may be debatable, but it signifies the proportion it occupies in the pie of Asian hydropower potential.**

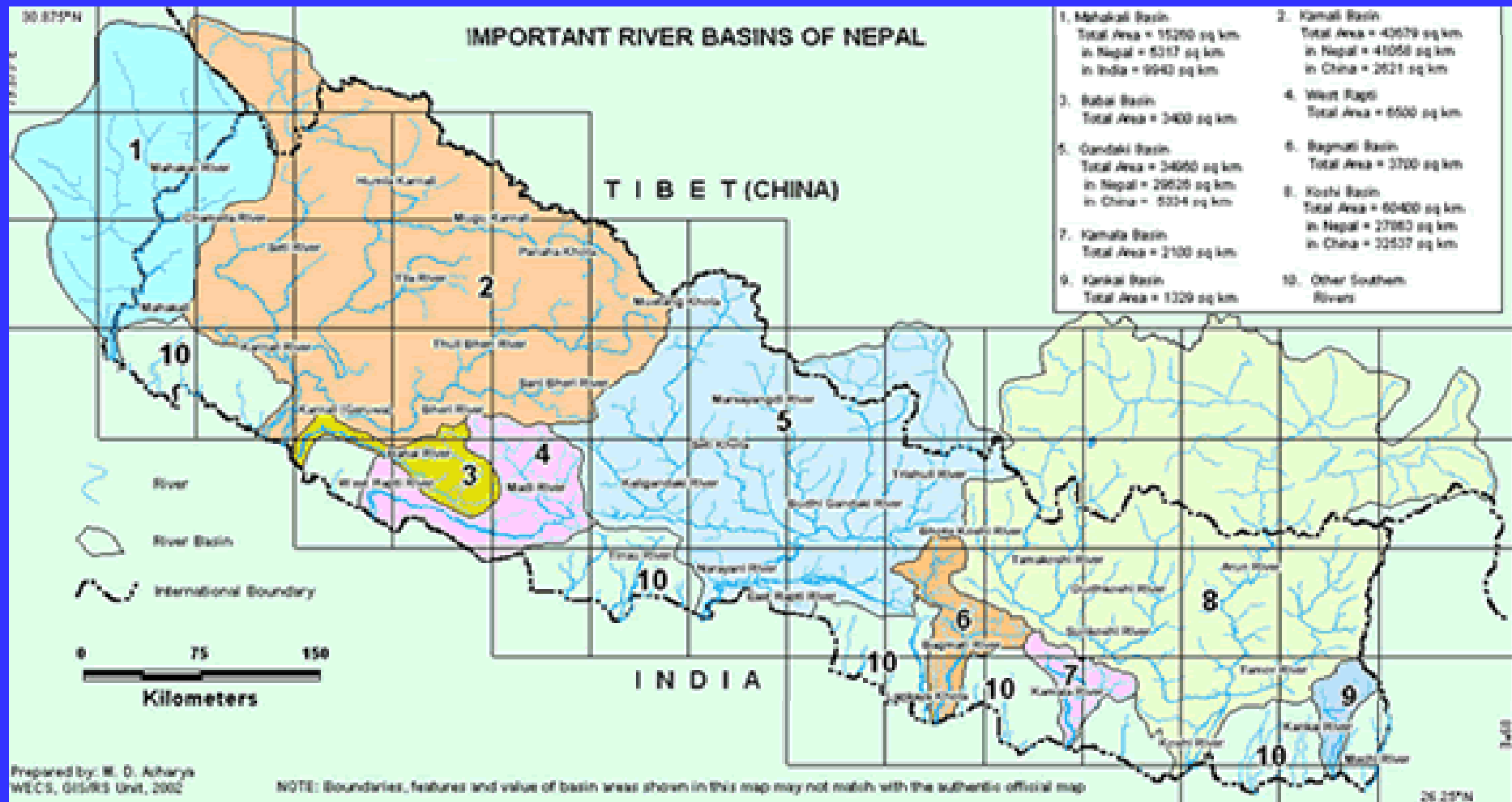
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- **Subsequent studies and analyses have claimed that out of this 83000 MW gross potential, about 43000 MW is economically viable.**
- **We have not been able to harness this natural advantage even up to 1% of its available capacity. Current installed capacity of hydropower plants is only 560 MW.**

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- **South Asia is a power hungry region where we have such a large environment friendly resource.**
- **We can contribute to regional energy requirements. All that required is the investment.**

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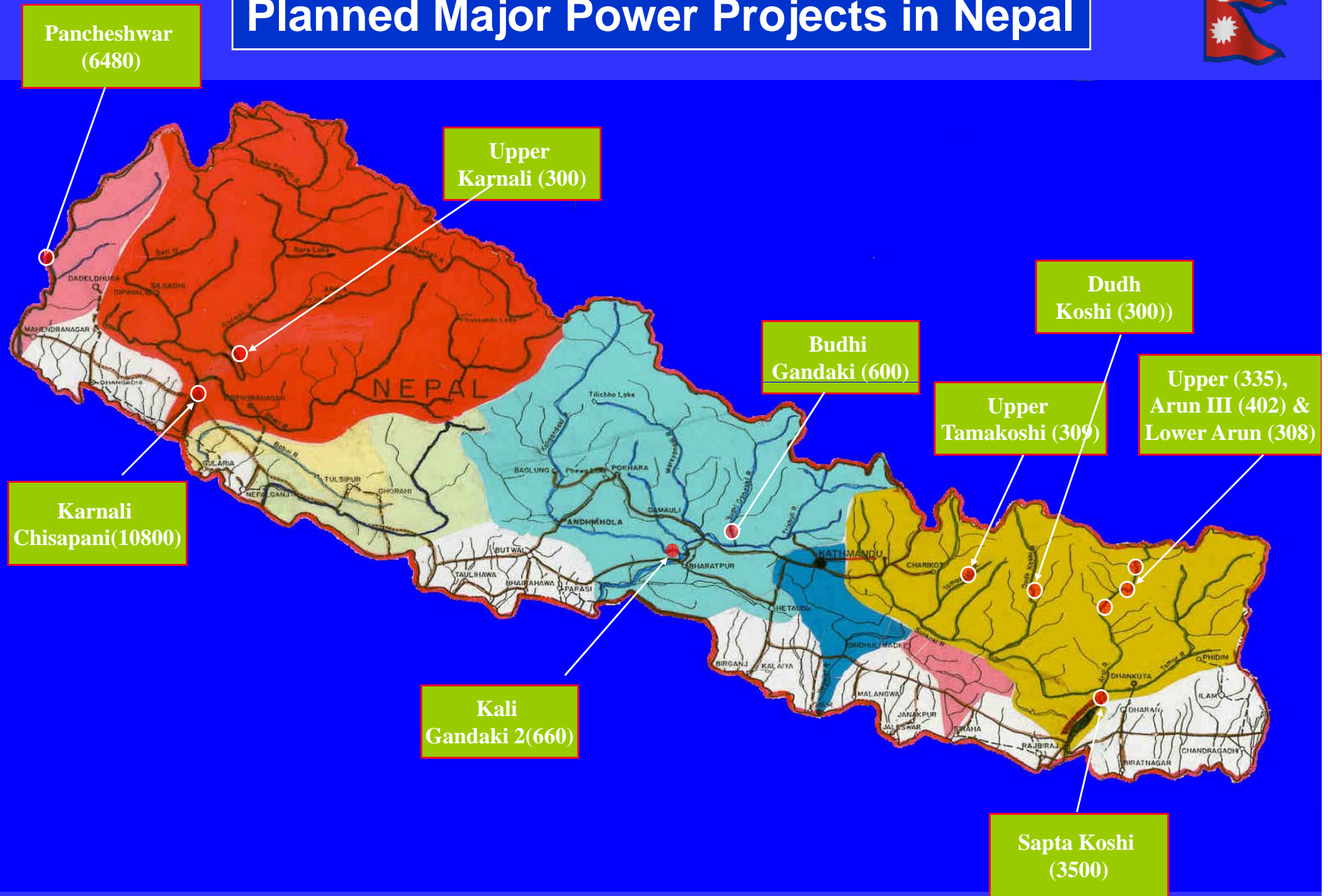


Hydropower Potential of Nepal



Name of basin	Theoretical Potential (MW)	Technically Feasible (MW)
Sapta Koshi	22,350	10,860
Sapta Gandaki	20,650	5,270
Karnali-Mahakali	36,180	25,100
Southern Rivers	4,110	880
Total	83,290	42,130

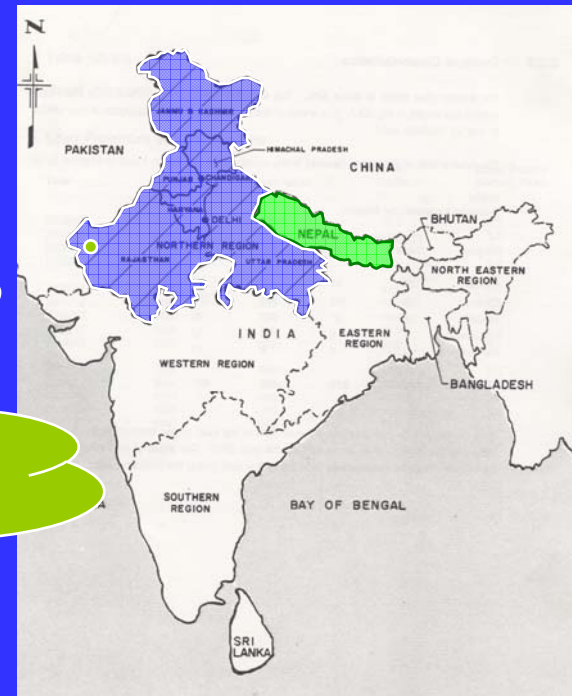
Planned Major Power Projects in Nepal



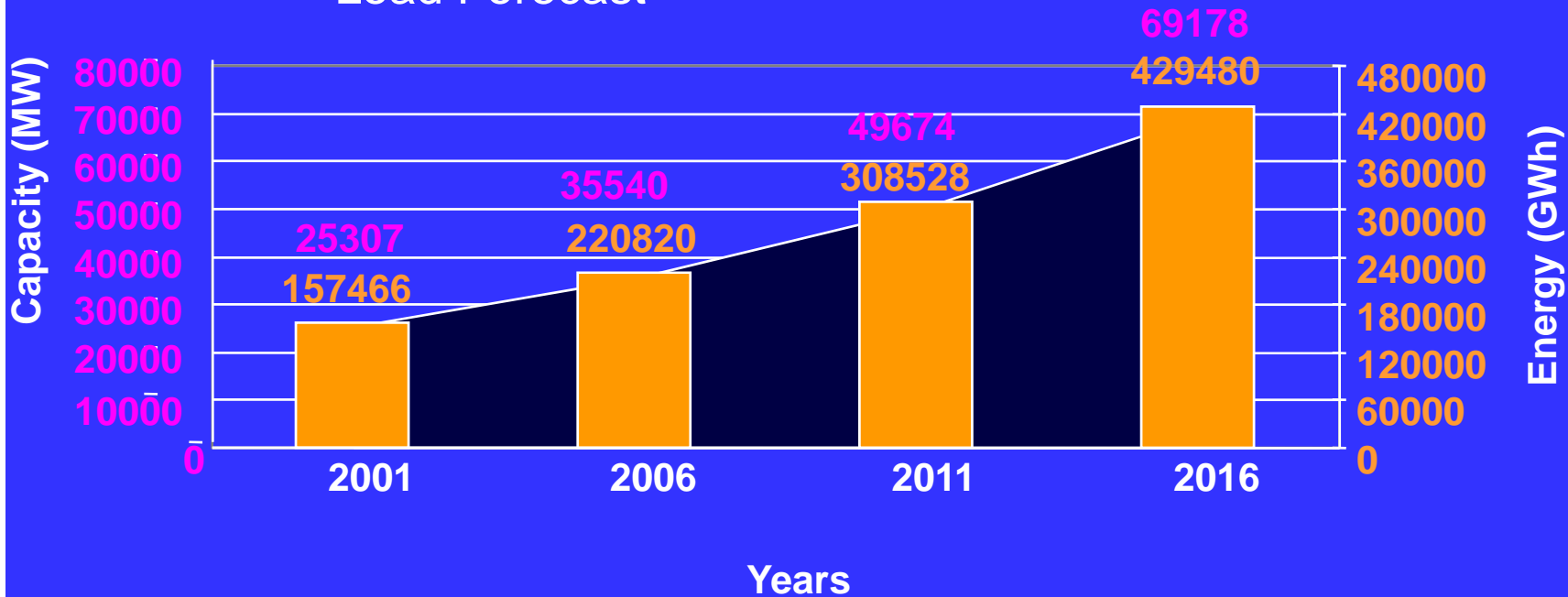
Electricity Market (Export)

- Export Market
 - Northern Indian Power Region

There is a huge market in India,



Load Forecast



Policy & Legal Framework



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

Legal Framework



- **Survey license issued within 30 days**
- **Period of survey license up to 5 years**
- **Generation license within 120 days**
- **Public hearing before issuance of generation license**
- **Exclusive water rights**
- **BOOT principle**
- **No Nationalization of Project**
- **Repatriation Guarantee of Investment**

Licenses issued June 2006



✓	Survey License	230
✓	Transmission Survey	57
✓	Distribution Survey	12
✓	Generation	19
✓	Transmission	19
✓	Distribution	1
✓	Generation, Transmission & Distribution (including NEA Old Plants)	18

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- **We are serious to find a workable mechanism and make the investment in hydropower as first choice.**
- **To address the issue of market accessibility and market risk of concerned parties, we wish to enter the Indian market and then into regional market.**
- **For that establishing better infrastructure for cross border transaction with India is given priority.**

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- **Private sector has shown encouraging interest in investing in hydro power in Nepal, targeting the Indian Market.**
- **Government has already issued four licenses of total capacity about 1400 MW to private hydropower developers.**
- **Independent power producers are allowed to develop power plants that have dedicated transmission links with Indian System.**

INVESTMENT IN HYDROPOWER AND ELECTRICITY TRADING WITH INDIA

**In brief we are ready for continual
improvement in Policy and Acts to
encourage the development of
hydropower and make it investment
friendly sector.**

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Thus to attract the investment in hydropower and take it to nearest Indian market, we have started actions in three directions.

- a. Amendments in Acts, regulations etc. so that the legal framework becomes more investment friendly.**
- b. Construction of new cross border transmission links with India to facilitate power exchange.**
- c. Prepare and implement synchronization of Nepalese and Indian power systems to facilitate long term, seasonal, short term or real time trading**

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- **This will provide Access to fixed and flexible contracts, seasonal or time of the day markets, real time markets, firm power and non firm power contracts etc.**
- **Alleviated power trade between the countries will increase trade and cooperation in other sectors too.**

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CURRENT STATUS

- **Draft of new Electricity Act is forwarded to cabinet for presentation in the parliament.**
- **Special purpose companies are being registered on both side of the border for additional links at 220/400 k V.**
- **Study on synchronization of two systems has been initiated.**
- **Internal strengthening and capacity building to operate in new market conditions is initiated.**

Thank You



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