Regional Cooperation for Energy Security in South Asia

Regional consultation on

"Deepening Regional Cooperation in South Asia"

Expectations from the 18th SAARC Summit

Udai S Mehta
Director, CUTS
usm@cuts.org

OUTLINE

- Background
- Need and Importance of Regional Cooperation
- Challenges faced by the Region
- Successful models of Regional Energy Cooperation
- Way Forward

SETTING THE STAGE..

- **Energy**: Key ingredient for socio-economic development of any region

- **South Asia**: fastest growing region and also one of the poorest

  - Large population has limited access to energy and are dependent on traditional sources
  - Increase oil import dependency and huge investment needs pose as further challenges

Region has good resource potential and tremendous scope for cooperation: addressing energy security and sustainable development

REGIONAL COOPERATION

Need and Importance

Account of Relationship between India with Nepal, Bangladesh, Bhutan and Pakistan

Need and Importance

- SA Countries are well endowed with natural resources and tremendous scope for cooperation
- Geographical proximity including vast pool of institutional and expertise available within the region
- Win-Win situation for all countries to co-operate

India and Nepal

- India assisted Nepal in development of hydropower potential
- 04 hydroelectric schemes (Pokhra, Trisuli, Western Gandhak and Devighat): aggregate capacity of 50 MW, have been implemented
- Four mutual interest project Pancheshwar (5600 MW), Sapta Kosi (3300 MW), Karnali (10800 MW) and Naumure (225 MW) are under discussions
- Given India's increasing power demand and Nepal's tremendous hydro potential: extend transmission lines at three border points to enhance the level to around 150 MW

India and Bhutan

- Long association in providing technical and financial assistance and also largest trading partner
- Bhutan's potential for hydro-electric power is around 30,000 MW out of which approximately 16000 MW is technically feasible
- Exports to India: 1416 MW (Chukha 336 MW, Kurichu 60 MW & Tala 1020 MW projects)
- Three hydropower projects namely Punatsangchu I (1200 MW) and II (990 MW) and Mangdechu (720 MW) are already under construction. If work progresses as per schedule, Punatsangchu I is expected to be completed in 2016, and Punatsangchu II and Mangdechu in 2017

India and Pakistan

- Pakistan had a total generation capacity of 23,641 MW by the end of 2012, whereas India's existing power capacity by mid 2013 was 227,347 MW
- Countries are will endowed with coal and hydro resources
- Idea of developing cross-border interconnection to import 500 MW to Pakistan has been on table for quite some time

India and Bangladesh

- **Bheramara-Bahrampur interconnector for 500 MW electricity trading**

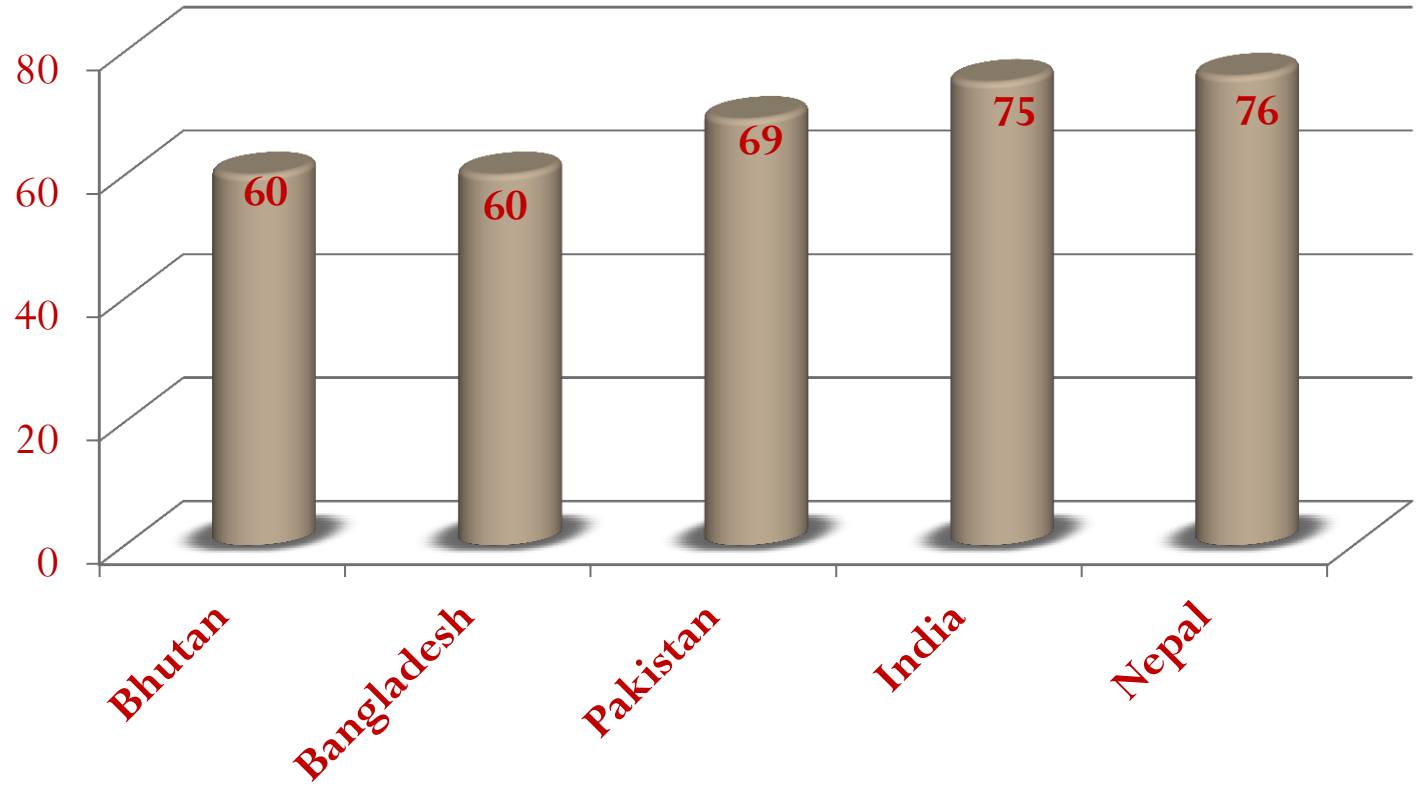
- **Discovery of world class gas fields at Bibiyana, Moulvibazar, Jalabad and Sangu fields**
  - Petrobangla were considering gas export pipeline alongwith Indian Government
  - Plans were stalled due to concerns from Bangladesh side regarding size of the find and demand for the gas

- **India was keen to import hydrocarbons resources from Myanmar**
  - Setting up of a pipeline to link Tripura before crossing Bangladesh
  - Bangladesh would have gained around $350 million in investment and $100 million in annual transmission fees
  - In exchange, Bangladesh wanted India to reduce huge bilateral trade deficit; allow transit to Nepal/Bhutan & sale of electricity from these countries to Bangladesh through Indian territory
  - Earlier, India was not willing to give these concessions but now both the countries has given their approval for potential Myanmar-Bangladesh-India pipeline but the project is yet to see the light of the day

CHALLENGES FACED BY THE REGION – NEED FOR REGIONAL ENERGY COOPERATION

Energy Poverty

Population with ACCESS to Electricity (%)



Source: IEA, World Energy Outlook 2013 (2011 Data)

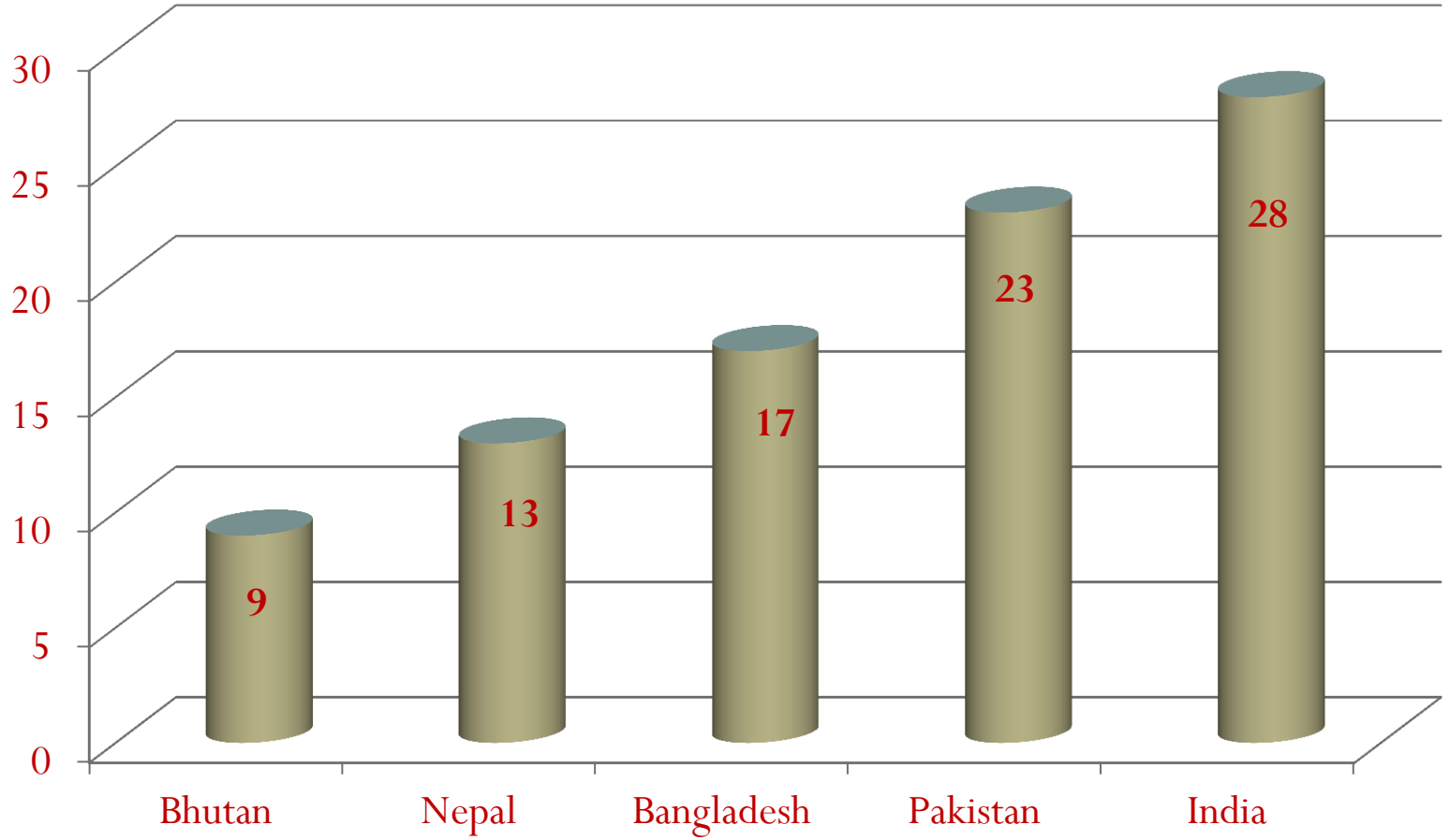
Poor State of Power Supply

- Availability of power has been falling short of demand: roadblock to overall growth of the region
- Investment climate in Bangladesh (World Bank Study, 2004): erratic and poor quality of electricity supply key constraint in business development/growth
- Nepal too is plagued by power shortages

Investments

- Investment requirements:
  - Bangladesh ($6-8 billion over next ten years)
  - Bhutan ($3.36 billion over 2003-2022)
  - India ($680 billion over 2013–2030)
  - Nepal ($1.22 billion over next ten years)
  - Pakistan ($38.2 billion by 2025)
- Resource mobilisation for investments remains a major challenge
- Need for stable regulatory and policy environment to attract investments

Increasing Oil Import Dependency (%)



Source: The World Bank (2011)

Models of Regional Energy Trade

Successful Models of Regional Energy Trade

Power Trade in Nordic region

- Denmark, Norway, Sweden & Finland
- Most harmonised cross-border electricity market in the world

Greater Mekong Sub region

- Cambodia, The People's Republic of China (Yunnan Province and Guangxi Zhuang Autonomous Region), Lao People's Democratic Republic, Myanmar, Thailand, and Vietnam

Trading Arrangements

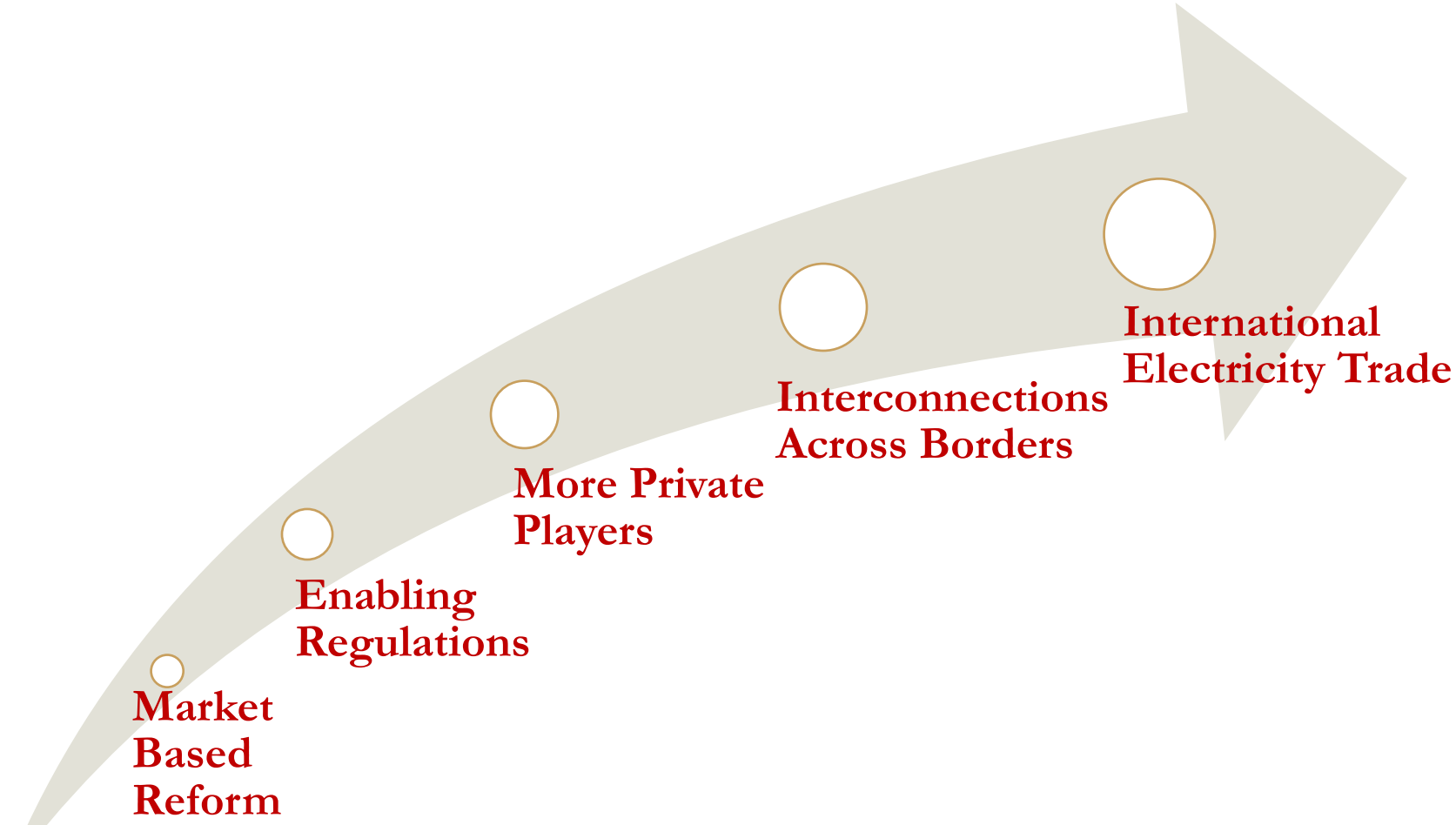
- Bilateral Trade between Neighbouring Countries
- Bilateral Trade involving Third Transit Country
- Trade among Synchronised National Power System
- Multilateral Trade within a Regional Pool Mechanism

Key Messages

International experience suggests that:

- Build from smaller scale and more bilateral cooperation to broader regional approaches
- Regional approaches can deliver significantly but need effective institutions for large scale border trade
- Achieve long term regional cooperation, significant market oriented reforms of domestic power systems are required
  - Security of contracts, least cost procurement, stable regulatory environment, Independent regulators, etc.

Way forward


Market Based Reform
Enabling Regulations
More Private Players
Interconnections Across Borders
International Electricity Trade

References

- Dr. Singh, A. (2013), 'Prospects for Regional Cooperation on Cross-Border Electricity Trade in South Asia', IRADe
- Leena, S, et al (2007), 'Promoting Regional Energy Cooperation in South Asia, Energy Policy', Vol 35 (2007), PP. 3360-3368
- SAARC Regional Energy Trade Study, SAARC Secretariat, Kathmandu, Nepal (2010)
- Energy Cooperation in South Asia-Prospects and Challenges, Discussion Paper, SWATEE (2010)