Sub-Regional Energy Cooperation
Pivotal Roles of North-Eastern States

1. Introduction

The South Asian countries together possess vast stores of energy mostly in the form of water resources, oil, forest, coal and gas. However, these countries continue to be characterised by poor quality of energy infrastructure, skewed distribution, inaccessible and costly energy availability. They have remained largely energy importers and increasingly faced a serious energy shortfall. This is likely to deepen further because of ongoing economic liberalisation-led activities and rise in income level-led steady switching over of the rural and urban families from bio-fuels to more efficient and convenient modern
fuels. The inability to cater to the increasing industrial and other commercial energy needs have adversely affected their productive activities, social development and investment climate. This is exacerbated by structural, institutional and financial problems.

These countries have introduced massive reforms in the energy sector. This restructuring is aimed at making their utilities more efficient and financially viable. A large number of private sector investors have entered into the energy sector. At the same time, there has been realisation that availability and accessibility to energy can transform the quality of life and work substantially, help raise health and educational standards and retard rural-urban migration by enhancing the level and pace of income and employment generation.

The sub-region in the eastern fringe of South Asia consisting of Bangladesh, Bhutan, India and Nepal (BBIN) also known as South Asia Growth Quadrangle (SAGQ) have several critical and strategic advantages in jointly participating in the development process of the region. These advantages emanate from politico-historical linkages, geographical proximity, socio-cultural cohesiveness, economic complementarities and scope for opening further towards east to the members of the Association of Southeast Asian Nations (ASEAN) and China. This is one of the bio-diversity hotspots. The exchanges and interactions become easier due to common language and culture, resource endowments, geographical advantages and lower transaction costs. The widespread economic and social malaise in this sub-region including poverty, unemployment and market access and even environmental degradation can be tackled effectively by sharing both the development resources and experiences.

The sub-regional cooperation is seen as a practical solution to this sub-region’s socio-economic problems. This is more so as this region is still the major area for primary commodities including tea, jute, large scale forest and bio-diversity based products and the origin of water towers. This sub-regional cooperation also could make a major transformation in the shallow regionalism at the South Asian Association for Regional Cooperation (SAARC) level.
The effective role of private investors, clear cut government policies and legal regimes and visible impact on the local economies are the reasons why the sub-regional cooperation has become relatively successful among JSR Growth Triangle (Johor state of Malaysia, Singapore and Riau islands of Indonesia), South China Growth Triangle (SCGT) consisting of Hong Kong, the Guandong and Fujian provinces of China and Greater Mekong Sub-region (GMS) consisting of Cambodia, Laos, Myanmar, Thailand, Vietnam, Yunnan Province and Guangxi Zhuang Autonomous Region of China.

'New regionalism', increasingly visible in this sub-region, forms part of a global structural transformation in which non-state actors are active and manifest themselves at several levels of the global system. The new regionalism also pre-supposes the growth of a regional civil society, opting for regional solutions to some local, national and global problems. Under such circumstances not only economic but also social and cultural networks are developing more quickly than the formal political cooperation at the regional level.

In other words, there are several drivers or actors from the state, market and civil society which act as the pushing forces in the new regionalism. Unlike the top-down approach adopted by most of the regional groupings based on traditional paradigm, the new regionalism is mainly triggered from below by (i) private market and business oriented forms of regionalisation and (ii) society induced actions.

2. Borders, Sub-region and Power Trading

International borders are key to any cooperation dynamics in this sub-region. Borders have been the central issue in the entire national power and security dynamics in this sub-region. And it is the national security issues that emerge largely from varieties of borders that have stunted the growth of any meaningful cooperation. At the
same time, informally these borders have remained a symbol of vibrant social, economic and cultural exchanges.

It is only in the last decade or so that security has assumed wider connotations going beyond militarised borders. This is more so in this sub-region which is largely connected and facilitated by “chicken neck” situated near the borders of Bhutan-Nepal-Bangladesh and North-East India. Several reasons could be attributed to this. Firstly, it is largely because of the agents and forces of globalisation that interact closely among these countries directly and through other countries indirectly. Secondly, the new generation that is gradually taking over the decision-making process in these countries are willing to widen the scope and nature of interactions and exchanges. Thirdly, there has been a realisation that the stakeholders on both sides of the borders have mostly remained on the negative side which exploit and work for prolonging adverse situations for very limited gains. Fourthly, the nature of global discourse on hardcore military centric border management is gradually transforming into a lively and refreshing debate bringing in factors and issues which are more near and dear to public at large. In other words, the discussion is increasingly focusing on borderlands rather than the borders. And finally, institutions at national (Private apex bodies, cultural agents), regional (SAARC, ASEAN) and global (World Trade Organization (WTO), International Monetary Fund (IMF), World Bank) levels that have come into play in this sub-region are penetrating with liberal thinking and actions into the wherewithal of these systems. This has further eased the situation. Besides, there are abiding domestic compulsions for these countries to make their borders friendly, accessible and commercially useful.

At the same time, the uniformity and single-mindedness that seemingly prevail in the perception and handling of border concerns at the national level are very often diluted and blunted by the very local and micro-understanding of and interactions at border areas. Many a time local conditions and essentialities are so different that national policies and institutions very often are
not able to take into account these micro-nuances. These include cooperation potentials, age old socio-economic exchanges and non-traditional security threats related to natural resources, environmental dislocations, insurgency and terrorism, migration, cross-border crimes and other developmental deprivations. These could be of major significance to the security of the people at the local level, if not at the national one.

There have been several attempts in India to revisit and renegotiate its border management approaches and development strategies from various perspectives. This has been again attributed to a number of factors. Firstly, the issues of non-traditional security threats including terrorism, human-trafficking, smuggling of small arms and drugs, illegal migration, energy and water security and also cross border environmental injuries have increasingly come over ground as major security concerns. This has brought forward not only a fresh thinking process in the entire national security dynamics and related institutions but also injected newer measures of border management. This has highlighted the need for more diverse cross-border interactions and wider cooperation on issues which are essentially non-traditional in nature. And secondly, a trend of re-linking and re-establishing varied kinds of contacts with the people across the borders through various means including trade, tourism, energy trading, sharing of natural resources and physical connectivity have been noticed.

One can see strikingly similar approaches to borders taking place in other countries in the sub-region. A major driving force for China to open its border for more trade and investment intercourse has been the urgent need to bring its own provinces in the periphery, mainly the western region to the national mainstream.¹

¹ China’s 27 provinces are divided into four regions: North-East (3): Liaoning, Jilin and Heilongjiang; Middle (8): Shanxi, Hebei, Henan, Hubei, Hunan, Guangdong, Guangxi and Hainan; Eastern (6): Jiangsu, Zhejiang, Anhui, Fujian, Jiangxi and Shandong; Western (10): Sichuan, Gansu, Guizhou, Ningxia, Qinghai, Shaanxi, Tibet, Xinjiang and Yunnan in addition to Chongqing Municipality.
India has also been consciously promoting its border trade with Bangladesh, Bhutan, Nepal and Myanmar. For instance, the India-Myanmar border trade agreement signed in 1994 clearly mentions that the border trade shall be conducted through Moreh (Manipur) in India and Tamu in Myanmar and Champai (Mizoram) in India and Hri in Myanmar wherein “adequate measures will be made to enable buyers of either country to inspect and take delivery of goods at the customs posts in the country of the seller.” There are very high prospects for creating newer infrastructural and civic amenities including roads, bridges, warehousing, drinking water, electricity, hotels and restaurants, communications and making more effective use of the existing facilities.

Table 1: India-Bangladesh Border Trade Routes

<table>
<thead>
<tr>
<th>Border Descriptions</th>
<th>Trade Routes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indo-Bangladesh (North-East India and Bangladesh)</td>
<td></td>
</tr>
<tr>
<td>Assam</td>
<td>Fakiragram, Mankachar, Suterkhandi and Karimgunj</td>
</tr>
<tr>
<td>Meghalaya</td>
<td>Baghmara, Lichubari and Dawki</td>
</tr>
<tr>
<td>Mizoram</td>
<td>Tlangbung, Champai</td>
</tr>
<tr>
<td>Tripura</td>
<td>Kailashsahar, Agartala, Sonamora, Bilonia and Sabroom</td>
</tr>
<tr>
<td>Manipur</td>
<td>Moreh</td>
</tr>
<tr>
<td>Indo-Bangladesh (West Bengal - Bangladesh)</td>
<td>Petrapole, Bagdha, Mejidia, Lalgola, Mohidpur, Radhikapur, Kaliaganj and Hilli</td>
</tr>
</tbody>
</table>
3. Cross Border Flow of Energy

Interconnection of power systems of contiguously located countries and their coordinated operation provide immense technical and economic benefits. All these interconnections allow each electrical utility to make savings on power plant investment and operating costs as a result of the improved use of the interconnected system. It also contributes to the quality of electricity supplied to customers as well as reduces environmental damage. Reducing losses in the power system is often more cost effective than constructing more generation capacity.

Several studies\(^2\) have been conducted in the past both at bilateral and regional level in the area of energy exchange. There already exists several examples. The projected revenue generation from the ongoing and the projects in pipeline could transform Bhutan into a middle-income country over the course of next 15 years. The sale of surplus power to highly power deficit areas of West Bengal, Odisha and North-East of India has been the hallmark of this project. The transmission link has also been a great success, which is likely to be upgraded to help evacuation of 4,500MW from three large potential power projects, which are being built in Bhutan.

\(^2\) These are conducted by research organisations like South Asia Network of Economic Research Institutes (SANEI), Coalition for Action on South Asian Cooperation (CASAC), South Asian Centre of Policy Studies (SACEP), Bangladesh Unnayan Parishad (Dhaka), Centre for Policy Dialogue (Dhaka), Institute for Integrated Development Studies (Kathmandu), Centre for Policy Research (New Delhi) and Tata Energy Research Institute (New Delhi) and premier universities like Jawaharlal Nehru University (New Delhi), Bangladesh University of Engineering and Technology (Dhaka), Quaid-i-Azam University (Islamabad), Lahore University of Management Sciences (Pakistan), Tribhuvan University (Kathmandu) and Colombo University (Sri Lanka). Some of these institutes and universities have played very active role in advocating the cooperation issues in both water and energy sectors in the region. The USAID-SARI-E project has also conducted several studies that have been of serious significance on the issue of regional energy trading.
There are very distinct advantages for Bangladesh, India and even Myanmar in importing power from Bhutan and Nepal because of the lower tariff and supply reliability. The most critical geography that emerges in all these permutations and combinations of power exchanges is that of the North-East Region (NER). Its role could be three dimensional viz. as a generator, as an exporter and as a provider of transit facilities.

At the same time, the power generating countries would also like to diversify their markets. For instance, Bhutan is keen to expand the market for its power exports, as at present, India is the only buyer of its power. This is more so because a number of hydro plants are under construction in the North-East region of India, which may to a large extent lead to the diminution in the demand for Bhutanese power. Interestingly, these changing dimensions of power trading is widely matched by the expansion of transmission lines that exist in all the bordering states of India including the North-East, Tamil Nadu, Jammu and Kashmir, Punjab and Gujarat. Therefore, India as a transit corridor for power transfer could give a major boost to both the power trading activities and the process of regional cooperation and integration. India could also ensure full use of the transmission lines and generate substantial revenue as wheeling charges.\(^3\)

However, the key issues to be settled before the cross border flow are concretised as: the cost of transmission line and its sharing mechanism; the determination of power tariff; the payment mechanism including the currency and the channel to be used like Asian Clearing Union and most importantly the power supply sustainability and its geo-political immunisation. It is very crucial to maintain a fair balance in the energy security equation in order to avert the risk of ‘trade and fade’.

4. India-Bangladesh Power Exchange

During the period 2010-2011, the Prime Ministers of India and Bangladesh, Dr. Manmohan Singh and Sheikh Hasina, met twice and worked together on various crucial areas of energy cooperation. These include:

i. MoU for cooperation in the renewable energy.

ii. Setting up of a High-Level Steering Committee.

iii. Joint Interconnection Study (Ishwardi, Bangladesh-Baharampur, India).

iv. Potential bilateral energy cooperation.

v. Power import of at least 500MW from western interconnection (Bangladesh-West Bengal).

vi. Power import of at least 300-500MW from Eastern Interconnection (Bangladesh-Tripura).

vii. Regional grid construction for power trade.

viii. Human resource development of utility professionals.

ix. Joint venture power generation projects, especially large coal power projects.

Three very far reaching projects between India and Bangladesh are as follows:

i. India started exporting 250MW of power to Bangladesh in October 2013 which currently stands at 500MW.

ii. A grid inter-connection between Bheramara in Bangladesh and Baharampur (West Bengal) in India was completed in mid 2013. Asian Development Bank (ADB) loan has played a critical role in it.

iii. 1320MW coal based unit at Rampal (350 km South-West of Dhaka) under Bangladesh-India Friendship Power Company consisting of Bangladesh Power Development Board (BPDB) and NTPC has been initiated. This project which costs US$1.5 billion is likely to be completed by 2017.
During the visit of Prime Minister Narendra Modi to Bangladesh in June 2015, India and Bangladesh agreed as follows: "Both the Prime Ministers expressed deep satisfaction at the level of cooperation and achievements in the power sector between the two countries and agreed to widen the cooperation further. Prime Minister Modi expressed his appreciation for Prime Minister Hasina's untiring efforts in improving the power situation in Bangladesh and her Government's consistent efforts in implementing the 2021 Goal i.e., to achieve installed capacity of 24,000MW power by the year 2021. He also conveyed that India can be a major partner in achieving this goal and many Indian corporate houses have the capacity to cooperate with Bangladesh in this endeavour. He requested Prime Minister Sheikh Hasina for facilitating the entry of Indian companies in the power generation, transmission and distribution sector of Bangladesh.

The two Prime Ministers expressed satisfaction at the steps being taken to quickly enhance the supply by 30-50MW over the existing transmission line so that the net power supply to Bangladesh increases to 500MW. Both sides further welcomed the steps being taken to augment supply of power through the Bheramara-Baharampur grid inter-connection from 500MW to 1,000MW and to operationalise the supply of 100MW of power from India including Palatana Power Plant to eastern side of Bangladesh and directed the concerned officials to complete the work in a time-bound manner. To enhance power grid connectivity as envisaged in the Framework Agreement, Prime Minister Modi agreed in principle to consider Bangladesh's proposal of importing additional power from India to Bangladesh in phased manner through construction of an additional grid interconnection on western side of Bangladesh.

Both sides welcomed the consensus between Bangladesh and India to evacuate power from the North-eastern region of India (Rangia/Rowta) to Muzaffarnagar of India through Bangladesh constructing a ±800 kV, 7000MW HVDC multi-terminal bi-pole DC grid line with suitable power tapping points at Barapukuria in
Bangladesh. Prime Minister Modi agreed in principle to consider Bangladesh’s request for providing adequate power from this line for Bangladesh keeping in view the grid security of both countries. Both sides expressed satisfaction at the pace of work of the Bangladesh-India Friendship Power Company’s 1320MW coal-fired power plant at Rampal, Bagerhat, Bangladesh, and were optimistic that the plant would be operational by the target date and meet the exacting environmental and energy efficiency standards to become a fine example of Bangladesh-India cooperation.

Noting Bangladesh’s interest in importing power under the Bangladesh, Bhutan, India and Nepal (BBIN) framework, India agreed to favourably consider such import subject to grid security, transmission, interconnection and applicable laws, rules and regulations of the respective countries. The two Prime Ministers agreed to further enhance cooperation in energy sector particularly in renewable energy and nuclear energy. Both Prime Ministers agreed to cooperate in the field of civil nuclear energy, especially training for technical personnel. These are path breaking projects because of the following reasons:

i. It showed a new and more realistic and matured relations between India and Bangladesh and new trend of harmonised and coordinated approach among various ministries within a country. This also in a way indicates a generational shift in the bureaucracy of both countries.

ii. There are strong commercial and professional elements in the exchanges. This paves the way for the related institutions to come together in a much more comprehensive and sustainable manner.

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4 "Joint Declaration of Bangladesh and India during visit of Prime Minister of India to Bangladesh", Notun Projonmo – Nayi Disha, 07 June 2015.

iii. Issues of orthodox variety of national security are for the first time overwhelmed by more serious concerns about non-traditional security threats such as energy insecurity and human insecurity. Both the leaders have discarded their traditional positions and showed unprecedented "political will."

iv. Borders are used as opportunities rather than sources of threats.

v. Though these are essentially bilateral projects, there are strong contents of sub-regionalism based on physical contiguity and socio-cultural exchanges. This could lead to much wanted sub-regionalism based growth triangles and quadrangles in South Asia.

vi. The projects also recognise the role of international agencies like ADB, World Bank, United Nations Development Programme (UNDP), United States Agency for International Development (USAID) and other private conglomerates.

These projects very aptly benefit from and acknowledge the critical roles played and substantive contributions made by civil society institutions, universities, think tanks, academics, media and private sector in taking forward the cause of regional cooperation in this region. In a way this is a prime example of Track II transforming into a Track I diplomacy in a full-fledged manner.

These projects are going to be landmark starting points as they for the first time break a long journey between potential negotiations and implementations and protracted and disconnect between peoples’ aspirations and feeble political will. These projects could lead to several such exchanges among South Asian countries including between India and Pakistan and could have unprecedented positive impact on all sectors of cooperation at both bilateral and SAARC levels.
It should be acknowledged that a large number of points exist along India-Bangladesh border where distance of interconnections between the two sides may be well within 20 kms to 60 kms. For instance, there are 21 grid substations combining both sides at 230/132 kV levels where distance from the border is less than 20 kms. Some of these substations are so close that they could be interconnected at a very nominal cost and within a very brief time span to facilitate power exchange/trading. A large number of points exist along India-Bangladesh border where distance of interconnections between the two sides may be well within 20 to 60 kms. The cities and towns, such as Agartala, Rokhia and Farakka on the Indian side of the border are located on the border itself or extremely close to it. These existing substations supplying power in their own territory could serve the neighbouring towns in Bangladesh as well. Grid interconnections on two sides would permit larger power flows and would integrate the two Grid systems to bring them to same frequencies.

5. North-East Region’s Pivotal Roles

The Pasighat Declaration stated that the total power potential in the NER is about 50,000MW. As per the projection of North Eastern Electric Power Corporation Limited (NEEPCO), the hydel power potential of the NER is roughly 58900MW which is estimated to be 40 per cent of the national potential. However, so far hardly 1242MW (2.1 per cent of total potential) has been harnessed and about 2810MW of hydro power is under development (Table 2). According to NEC Vision 2020, “the estimated hydropower potential of Arunachal is around 50,000MW. The state is expected to generate an additional 22,584MW hydel power by 2020 in 166 hydel projects, of which

6 It is also estimated that the NER has natural gas reserves of 151.68 billion cft could generate 7500 MW for 10 years and coal reserves of 864.78 million tons can generate 240 MW/day for a period of 100 years.
only 88MW is to be created under state projects, the rest will be under central and private projects. Under the Twelfth Plan alone, 15,251MW of additional power is to be generated. Finally, about 42 per cent of the additional power is to be generated by private hydel projects.

**Table 2: Status of Hydro Electric Potential Development**

<table>
<thead>
<tr>
<th>Region/State</th>
<th>Identified Capacity (MW)</th>
<th>Capacity under Operation (Above 25 MW) (MW)</th>
<th>Capacity under Construction (MW)</th>
<th>Capacity under Operation and Construction (MW)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meghalaya</td>
<td>2394</td>
<td>2298</td>
<td>282</td>
<td>40</td>
<td>1.74</td>
</tr>
<tr>
<td>Assam</td>
<td>680</td>
<td>650</td>
<td>375</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Nagaland</td>
<td>1574</td>
<td>1452</td>
<td>75</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Arunachal</td>
<td>50328</td>
<td>50064</td>
<td>405</td>
<td>2710</td>
<td>5.41</td>
</tr>
<tr>
<td>Mizoram</td>
<td>2196</td>
<td>2131</td>
<td>0</td>
<td>60</td>
<td>2.82</td>
</tr>
<tr>
<td>Sikkim</td>
<td>4286</td>
<td>4248</td>
<td>669</td>
<td>2622</td>
<td>61.72</td>
</tr>
<tr>
<td>Manipur</td>
<td>1784</td>
<td>1761</td>
<td>105</td>
<td>0</td>
<td>0.00</td>
</tr>
<tr>
<td>Tripura</td>
<td>150</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sub-Total (NER)</td>
<td>63392</td>
<td>62604</td>
<td>1911</td>
<td>5432</td>
<td>8.67</td>
</tr>
<tr>
<td>All INDIA</td>
<td>148701</td>
<td>145320</td>
<td>35944.5</td>
<td>13131.3</td>
<td>9.04</td>
</tr>
</tbody>
</table>

The ambitious power generation plan will take care of the requirements of the NER states, as they are entitled to get 12 per cent of power free of cost, generated from central project. However, from the long-run point of view, four problems need to be addressed. First, the large number of hydel projects envisaged for Arunachal is likely to come up against the compensatory afforestation requirement of the National Working Plan Code under the Forest Conservation Act, 1980. Given the large forest cover of the state, this afforestation will have to be done elsewhere, an issue that needs to be addressed now and not

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7 The lower Subansiri dam has already encountered some objections from the wildlife authorities.
at the project stage. Second, while the state prefers ‘run-of-the-river’ projects, Assam has been asking for dams which also mitigate its flood problems. Third, hydel power (particularly in the hills of the NER) is crucially dependent on rainfall, which has been erratic in recent years. Finally, the low population density of hill states and their far-flung villages mean high transmission losses particularly in large hydel projects. Yet, barring Nagaland none of the states has seriously investigated the use of relatively low-cost micro-hydel power for upto 5 kW for domestic users.”

Despite the highest hydropower potentials and huge deposits of crude oil and gas, the entire NER continues to remain power deficit. The question of energy security has always been of prime importance to the NER. In the absence of proper planning on energy development and use, there has been tremendous pressure on forest resources.

At present the states are not in a position to generate enough power even for their own requirements, even though power generation has increased substantially in every state after 1996-97. For the future, ambitious plans have been drawn up for making the NER not only self-sufficient in power but also the ‘power house’ for the rest of the country.

At the same time, all these clearly show that unlike in the past, the urge for linking the domestic infrastructure to spread and strengthen cross-border connectivity and willingness to harness the high potentials of cross border cooperation is remarkably high among the political leaderships of the North-Eastern states. This also means that given the proper institutional and governance framework, it is only a question of time that the North-Eastern region will have connectivity related infrastructure that could

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8 Decommissioning of the Gumti hydel dam in Tripura.
9 See World Bank (2006).
realise at least some of the primary goals of sub-regional cooperation. This is well summed up by the then Finance Minister of India, Mr. P. Chidambaram as follows:

“Finally what I would like to say is if you look at the list of projects that are being implemented, clearly what strikes is the lack of capacity to implement the projects in time and the cost. Unless governance structures improve, unless you have good implementing agencies or persons placed in these agencies who have the drive and commitment to implement these projects on time. I am afraid, it will be more of the same in the years to come. There is money, there is good will, there is good response from World Bank and Asian Development Bank. We can bring in more projects but it ultimately lies in your hands to fund the agencies that it will implement it in time or fund the men who will head the existing agencies to implement it in time. All the States have revenue surplus in the North-East.”

In the very short run, for the North-East region to appear in the power map of India as a potentially significant power hub, at least five levels of activities need to be conducted:

i. Sensitise and build capacity among the main development actors including the political leadership, bureaucracy and technocrats.

ii. Organise several workshops of the stakeholders including civil society members, media and academics. Build capacities and generate stakeholders in various educational and research institutions including Universities with cross-border linkages.

iii. Central and state agencies in the power sector together into common forum and train them on cross-border power exchanges. For this, the most effective forum would be the

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11 Speech by the Finance Minister of India, in the meeting on “Look East Policy” organised by the Ministry of External Affairs, October 2007.
North-Eastern Council and Ministry of North-East Development Region (MDoNER).

iv. Make extensive surveys of the energy market in the neighbouring countries and explore the possibilities of extending power trading deals as very recently initiated with Bangladesh.

v. Explore the investment possibilities in harnessing these resources from multiple stakeholders including the private investors and international development agencies and financial institutions.

However, from the long-run point of view, the following issues need to be addressed:

- The Department of Power, NEEPCO, Power Grid Corporation and Power Trading Corporation along with the state governments should examine the possibility of power trade with the neighbouring countries. This is particularly important as industries in China, Myanmar and Bangladesh are willing to pay remarkably higher tariff for purchase of power from India. This will also engage these neighbouring countries in a more positive way and strengthen the spirit of inter-dependence. This is important in the context of Bhutan and Nepal emerging as major power traders in the region.

- System efficiency must be improved by urgent steps to reduce Transmission and Distribution (T&D) losses and improve Plant Load factor. The Central Electricity Authority or Power Grid Corporation should undertake a quick study of critical gaps and linkages.

- The Power Tariff Regulatory Authority should be brought into being as early as possible as a prelude to reorganisation of the electricity boards. Consumers would prefer reliable supplies and service to notional subsidies that do not really benefit them.
Consideration should be given to corporatising all electricity departments in the North-East so that they are insulated from political pressure and patronage in pricing, staffing and forward planning. A new culture should be created if the huge power potential of the region is to be realised.

- State Electricity Boards (SEBs) should be allowed to borrow for expansion purposes and the centre should guarantee these borrowings on suitable terms and conditions.
- Initial planning should be taken in hand to tie the North-Eastern and Eastern electricity grids.

6. Conclusion

There are clear options emerging. The North-East is one very potential region which can both generate power and trade within and outside the country. The cross border power trading is one of them with Bhutanese success story spreading to Nepal, Bangladesh and even Pakistan and also the noticeable seasonality factor in both generation and demand. Negotiations are going on between India and the neighbouring countries on the possibility of power trading and bringing power from Central Asia and also on gas pipeline from Iran and other Central Asian countries passing through Pakistan. Given the demand and supply situations in the sub-continent, it is rational to believe that the trade in power and gas will be mutually beneficial in terms of both economic and political gains.

Economic gains based on regional cooperation in the energy sector have become a firmly established practice across the regional groupings. Against the backdrop of vast energy related potentials including hydel power in the North-East region of India could go a long way in both bringing new vistas of development opportunities in the region and also in unfurling newer policy designs for cross border cooperation. Besides, by
effectively participating in both energy production and trading within the country, the North-East region could also act as a major transit region for energy trading to the neighbouring countries including Bangladesh, Bhutan, China, Myanmar, Nepal and other Southeast Asian countries. This is definitely going to supplement the “Act East Policy” initiative as initiated by Prime Minister Narendra Modi.

Therefore, the primary idea should be to promote a quadrangular perspective. This will involve promoting and building linkage and integration including through energy exchanges, (i) within a state, (ii) among the North-East states, (iii) with the rest of India and, (iv) for cross border interactions. This will bring openness, reoriented thinking and varied opportunities for the people of the north-east region. In such a situation, the very participation of a variety of development actors will bring fresh skills, newer capabilities, modern technologies, efficient management and governance practices. This will also inject a strong sense of human security that would ultimately ensure national security. This is what the people have incessantly wanted to happen in this region and this is what India as a nation-state actually desires for.