



Infrastructure DEVELOPMENT in the North Eastern Region

INTRODUCTION

India's North Eastern Region (NER) represents **9% of India's geographical area** and contributes **3% to the country's gross domestic product (GDP)**. Given its rich natural resource base and strategic location, the NER has the potential to become a "powerhouse" in terms of trade and investment. The NER is unique in terms of the economic opportunities it offers. About 98 per cent of the region's borders form India's international boundaries with China, Bangladesh, Bhutan and Myanmar. Given its strategic location, the NER serves as a geographical base for India's growing economic linkages not only with the Association of Southeast Asian Nations (ASEAN) but also with neighboring countries in South Asia, namely, Bangladesh, Bhutan, and Nepal.

However, it is argued that inadequate infrastructure and poor connectivity are major constraints to development in the region. But why is infrastructural development so important, especially for the NER? What is the

current status of infrastructural development in the region? What are the reasons behind prevalence of gaps in the region's infrastructure? What are the steps taken by the Government to close these gaps? And what can be done to further accelerate infrastructural development in the region? In this edition, we will try to answer these questions.

Why is infrastructural development important, especially for the NER?

Development of infrastructure is a key element for overall economic development of any region. Infrastructure such as roads, railways, power systems, communication etc. serve as a framework for all major economic & social activities from increasing export to poverty elimination. For example, poor Agri-marketing infrastructure is one of the main reasons for India's stagnated agricultural growth. Infrastructural development assumes even higher importance for the NER due to following reasons-



➤ **Bridging the socio-economic and cultural gap between the region and other parts of the country:**

Lower per capita income, poor human development indices and limited industrial activity among others call for increasing the focus towards infrastructural development in NER.

- **Potential Employment Generation:** Infrastructure development is a labour intensive activity. As a result, it not only generates indirect employment through industrial development in the long term but also generates direct employment in the construction sector in the immediate term.
 - **Cultural integration of the region:** There is very limited interaction between people of different areas within NER (especially in tribal areas), and also with the rest of the country. This at times, leads to apprehensions, insecurity and fear of 'the other' among people. Improved infrastructure and increased connectivity will improve people to people interaction, thus encouraging organic integration of the region from within and also with other parts of the country.
- **Addressing the security concerns of the region:** The NER has been a disturbed region in the past, along with having a 5,000 km long international border. In this context, infrastructural development becomes essential for-

- **Checking insurgency:** Improved infrastructure in the far flung areas of the region will make it difficult for insurgents to create and maintain hide-outs. Also, simultaneous economic development of the region may discourage insurgency among youth in the long-term.
 - **Better management of international borders:** Improvement in border infrastructure would help improve surveillance vis-à-vis issues like trafficking, smuggling etc., while simultaneously strengthening India's defence preparedness. For instance, considering the history of confrontations with China, improved border infrastructure would be essential to **move personnel and equipment to the frontier areas.**
 - **Ensuring food and energy security:** The NER is dependent on other parts of the country for its food and energy needs. This is fulfilled through a narrow 22 km wide Siliguri corridor. Potential disruption of this narrow pathway can threaten the region's security. To ameliorate this, alternative infrastructure pathways for the region could be built.
- **Acting as a gateway to South Asian and Southeast Asian countries:** Stronger infrastructure linkages across Northeast India will build a stronger network of cross-border production chains, particularly with Southeast Asia and Bangladesh. For example, new value chain opportunities may emerge with multi-lateral agreements like India-Bangladesh Comprehensive Economic Partnership Agreement (IBCEPA).

- In this context, India's foreign policy in 2003, provided a new dimension to the **Look East Policy (LEP)** in the form of development of NER. This facet of the policy has been further encouraged in the **Act East Policy (2014)**.

➤ **Tapping the economic potential of the region:** The NER by virtue of its climatic and vegetational diversity, topography and geographical position provides several opportunities if effectively complemented with infrastructural development.

Sectors with high economic potential in the NER which are dependent on Infrastructural development

➤ **Tourism:** The Ministry of Tourism has identified several segments like Eco-Tourism, Rural Tourism, Medical Tourism, Wellness Tourism etc. in the region. But tourism development is directly dependent on the level of connectivity. For instance, air service between Imphal and Mandalay would be needed to encourage the growing health and wellness tourism in NER.

➤ **Agri- Export:** The region has huge potential especially in areas like **bamboo development industry**. Also, there are vast opportunities in trade with live-stock, horticulture, fishery and agro-processing sectors. But this potential is subject to development of agricultural infrastructure like irrigation systems, cold storages and intra and inter regional connectivity. Among agro-industries, special emphasis must be given to-

- **Tea industry:** Tea leaves of NER especially of Assam region are domestically famous for their quality and distinct flavour. But despite this high quality, majority of the supply is limited to the Indian sub-continent. To expand the reach of this industry, infrastructural efforts in the form of agricultural haats can be developed as export marketing channels.

- **Silk Industry:** NER is one of the few areas in the world which can potentially produce large quantities of high quality Muga silk. But this potential is remains unexploited due to absence of silkworm rearing infrastructure.

➤ **Natural resources:** The NER is endowed with abundant natural resources in the form of availability of mineral resources like petroleum, coal, limestone, chromite among others. Development of key infrastructure like road connectivity, mining and technological infrastructure etc. is essential for their effective utilization.

- For instance, the NER has large **reserves of tertiary coal** especially in the Assam region.

➤ **Hydropower:** The NER the region has the **potential for developing more than 62,000MW of electricity from hydel sources**, which can not only be used to fulfill domestic demand, but can generate revenue through enhanced power trade with neighbouring nations. With continual improvement of infrastructure like dams, transmission and distribution networks etc., the region stands a chance to become the Powerhouse of India.

➤ **Trade and logistics hub:** The geopolitical position of the region makes it a natural trade and logistics hub connecting Southeast Asia and East Asia. But poor connectivity of the region and absence of trade infrastructure has kept this potential dormant.

What is the current status of infrastructure development in the region?

➤ **Transportation:** Road transport is the **dominant mode of transportation** in the NER with limited penetration of railways. But in the recent times, air connectivity and waterways are emerging as the fastest and most economical way to drive connectivity in the region.



- **Roadways:** It is estimated that for **every 100 sq. km area**, the region has the road length of **around 65 km**, as against the national average of **around 75 km**. Also, the quality of road is not up to the mark with only **27% of the total road length being surfaced**, in contrast to **50%** at the all India level.

- **Railways:** The eight north-eastern states together have about 2,700 km of railway which is only more than that in Odisha with about 2,600 kms. Almost all the northeast's railways are in Assam, a large section of which is still under **Metre Gauge** hindering connectivity with the rest of the country.

- **Airlines:** Between the seven sister states, currently, **only 11 airports are served via six airlines**.

- **Waterways:** Connectivity through waterways has witnessed some major changes in recent years. For example, cargo transportation through National Waterway (NW) 2 has been rising and export to Bangladesh using **Indo-Bangladesh Protocol on Inland Water Transit & Trade** has also gone up. But in the absolute sense, the inland water connectivity in the region is not substantial yet.

➤ **Communication:** The communication infrastructure in the region, **primarily telecommunication is marred with issues like low tele density and poor quality of service**. Also, the nature of topography of the region makes it very difficult for digital communication channels like optical fibre to reach the hinterland areas.

➤ **Power:** NER presently gets power from hydel and thermal power generating stations located within and outside the region. There is no nuclear power plant in the region and power generated from the **renewable energy sources like solar, wind and biomass, etc. is negligible**.

➤ **Agricultural infrastructure:**

- **Limited irrigation:** The NER lies in one of the highest rainfall zones in the world with an average annual rainfall of 2000 mm. However, the total gross irrigated area in the NER is mere **10-15 percent of the total gross cropped area**.

- **Absence of Marketing infrastructure:** The NER produces huge marketable surplus in a number of perishable commodities, such as banana, pineapple, orange and tomato. But due to lack of infrastructure for long-term storage, **barely one per cent of the regions' agri-output is exported**.

➤ **Digital Infrastructure:** Several facets of digital infrastructure in the region have been activated through initiatives like Common Service Centres (CSCs), National Knowledge Network (NKN), Software Technology Parks in India Scheme among others. But these facets have had limited success due to-

- **Poor functionality:** Majority of the initiatives have low percentage of functional units. For instance, more than 50% of CSCs in Assam are not functional.

- **Low penetration of the schemes:** The digital literacy schemes like Pradhan Mantri Grameen Digital Saksharta Abhiyan (PMGDSA) have not reached the audience at desired level. For example, in Meghalaya, against the 38,000 targeted candidates in the PMGDSA, only 499 have been trained.

➤ **Social Infrastructure:**

- **Education:** In spite of having good literacy rate in the northeastern states, students aspiring to take higher education are very low in comparison with the rest of India due to factors like inadequate physical infrastructure, lack of quality institutes, poverty and lack of adequate number of committed teachers and professors.

- **Healthcare:** There is a shortfall of basic healthcare facilities in most of the states in the region along with shortage of skilled manpower including superiors, doctors, specialists, female health workers etc.

What are the reasons behind prevalence of gaps in the region's infrastructure?



at the state and local level, increasing the dependence of States on the central funding.

➤ **Limited Financial Space:** The capital availability for infrastructural development of the region is limited in nature with **insufficient budgetary allocation**. For instance, during the 12th Five Year Plan, the final allocation was only 61% of the approved outlay for the region.

● The problem is further compounded with **poor revenue generation capacity** of administrative **bodies**

● Also, **private sector investment in the region is negligible** due to various factors including long-gestation periods of infrastructural projects. For eg.

Airline industry faces issues such as cyclical demand, irrational cost structure and low passenger volumes.

➤ **Difficult terrain:** Due to difficult and inaccessible terrain, completion of infrastructural projects requires additional financial as well as human resources. Also, infrastructural development in certain sectors is curtailed by technological constraints.

● For instance, difficult terrain and hilly topography is a major reason for **development of narrow gauge railway lines** in these regions.

➤ **Ecological and geological fragility:** The NER of India is **part of the Indo-Burma biodiversity hotspot and is a tectonically active and geologically unstable part of the Himalayas**. As a result, several mega government projects especially in the hydro power sector have faced implementation issues in the region.

● For example, the Lower Subansiri Hydro Electric Project (LSHEP) at Gerukamukh (on the Assam-Arunachal border) has faced opposition from public citing potential threats of earthquake and landslides.

➤ **Insurgency and law and order issues in the region:** Various North eastern states, especially Nagaland have had significant presence of insurgency thus affecting the development of infrastructure in the region. Also, apprehensions that increasing connectivity may lead to spike in trafficking of drugs and arms has further slowed down the process.

● For example, the issues generated because of Myanmar based insurgent group Arakan Army has delayed linking of Kolkata and Mizoram via Sittwe port (under Kaladan Multi Modal Project).

➤ **Apprehension of outsiders:** Due to the sensitive demography of the region, several local organizations oppose connectivity projects citing potential influx of outsiders in the region.

● Also, **lack of awareness with regard to benefits of infrastructure development** strengthens the perspective of looking at development in negative light.

➤ **Disparity within the region:** Majority of the infrastructural projects are centred around Assam leading to limited investment and growth in other parts of the region.

● Assam accounts for **about 30% of the national highways within the eight states and as much as 42% of surfaced state** highways are in Assam.

➤ **Other issues:**

● **Land acquisition problems** primarily due to absence of land records. ● **Limitations in engagement with tribal authorities** vis-à-vis their involvement in infrastructural development. ● The lack of proper **cross-border transit points and integrated transport networks** has posed challenges especially for development of export centric infrastructure.

What are the steps taken by the Government to close these gaps?



➤ Dedicated initiatives for the region:

- **North Eastern Council (NEC):** NEC was created to address the various infrastructural and socio-economic challenges that are being faced in the Region.
 - For example, the Council has identified a transport plan for the development of the region which has become the basis for the **Special Accelerated Road Development Program for North East (SARDP-NE)**.
- **North East Special Infrastructure Development Scheme (NESIDS):** It aims to ensure focused development of NER by providing financial assistance for projects of (a) **physical infrastructure** relating to water supply, power, connectivity to enhance tourism and (b) **social sector** for creation of infrastructure in the areas of primary and secondary sectors of education and health.
- **NER Vision 2020 Document:** The Vision aims to develop the region to a stature of National Economic importance.
 - For example, as per the document, the government has undertaken a major exercise to connect all state capitals of North East by 2020 except Sikkim with **broad gauge railway connectivity**. Out of eight, the **capital cities of Assam, Arunachal Pradesh and Tripura have been connected** with IR network and work is in progress on the remaining five states.
- **North East Road Sector Development Scheme (NERSDS):** Under NERSDS, four inter-state neglected road projects have been taken up by the Ministry of DoNER for upgradation through National Highway & Infrastructure Development Corporation Limited (NHIDCL).
- **North Eastern Region Power System Improvement Project (NERPSIP):** It aims towards economic development of North Eastern Region through strengthening of Intra - State Transmission and Distribution infrastructure.
 - The scheme is being funded with the **assistance of World Bank** and by the Government of India through the Budget support of Ministry of Power on 50:50 basis.
- **Digital North East 2022:** The mission aims to transform the digital ecosystem of the NER by further strengthening the current digital framework developed through BharatNet scheme, Aadhaar framework among others.
 - The mission focusses on eight thrust areas including digital infrastructure, digital services, digital empowerment, Business Process Outsourcing (BPO) among others. Also, an independent scheme for BPO promotion in the region has also been launched namely **Northeast BPO Promotion Scheme (NEBPS)**.

➤ Initiatives as part of the National Projects:

- **Non-lapsable Central Pool of Resources (NLCPR):** The fund was created to allocate funds for the development of the region. Under its mechanism, at least 10% of the budgets of the central ministries are earmarked for the development of NER and unspent balances would accrue to the NLCPR for future spending on NER.
- **Inter-Ministerial Committee (IMC) mechanisms:** Govt. of India has constituted IMCs for key sectors like Roads, Science and Technology (Science and Technology interventions in the North East Region, (STINER)), Medicinal and Aromatic Plants among others to create synergy in various programmes of Govt. of India.
- **Bharatmala Pariyojana:** Under Bharatmala Pariyojana, about 5300 km long road would be developed for border road and international corridors. By 2023, almost 80 to 90 per cent of the road connectivity in the NER under Bharatmala Pariyojana would be completed.

- **Regional Connectivity Scheme (RCS- UDAN):** Currently, under UDAN-4, special boost is being given to connectivity in North East and **six airports from the North East are listed as priority** areas.
- **Telecom infrastructure projects:** The Digital Communication Commission has approved various telecom infrastructure projects, including roll out of more than 3,500 mobile towers for 4G services in NER.

➤ **Initiatives as part of multilateral projects:**

- **Kaladan Multimodal Transit Project:** It envisages to link **Indian ports and the Sittwe port in Myanmar** with riverine transport and subsequent road connectivity to Mizoram.
- **India Myanmar Thailand (IMT) Trilateral Highway Project:** The project will connect Moreh in Manipur to Mae Sot in Thailand via Myanmar through roadways. The project will boost trade and commerce in the ASEAN-India Free Trade Area, as well as with the rest of Southeast Asia.
- **Bangladesh Bhutan India Nepal (BBIN) Motor Vehicles Agreement:** The project aims for **seamless passenger, personal and cargo movements within the region.**
- Foundation stone for **Agartala-Akhaura Rail-Link** between India and Bangladesh was laid to establish cross-border rail linkage with the neighboring state.



What can be done to further accelerate infrastructural development in the region?

- **Strengthening the NEC:** The Department-Related Parliamentary Standing Committee on NER has recommended that instead of creating new windows for development in the NER, NEC's capacity should be **strengthened both financially and institutionally** to take up new projects.
 - The 2nd Administrative Reform Commission has also recommended that **NEC should implement development projects under NLCPR.**
- **Encouraging Private Sector Participation:** To accelerate infrastructural development, private players in the form of contractors, independent developers, project partner or entrepreneurs should be encouraged. For instance, the recently constructed **Bogibeel bridge over Brahmaputra** river serves a bright example of private sector participation.
- **Aligning India's Act East Policy for infrastructure development in NER:** This could help channelize foreign policy resources in the NER to invest in building physical and institutional infrastructure and would create a **win-win for both foreign policy objective and infrastructural development.** Consequently, it will help foster innovation and enhance the economic linkages with the neighboring countries.
- **Encouraging Start-up Culture:** Start-ups in the region are not able to move ahead due to restrictive rules and regulations. To ameliorate this, certain start-ups could be identified in the region along with hand holding arrangements to assist the youth working as entrepreneurs.
- **Creating demand for infrastructure:** Policy reforms at the national level and bringing synergy in the cross-border trade procedures will encourage both government and private players to participate in the sector. This will indirectly create demand for infrastructure and thus, pave the way for cheaper credit and increased viability of the projects.

- For instance, bringing synergy in trade procedures with Bangladesh and Myanmar such as paperless trade or interoperability of single window clearance will encourage development of express corridors between them for transportation of goods.
- **Prioritizing border infrastructure:** Border infrastructure serves the dual role of strengthening National Security and facilitating cross-border engagement. Efforts could be made to **strengthen organizations like Border Road Organization (BRO)** and creating institutional mechanisms for dedicated development in border infrastructure in geographically difficult areas.
- **Diversifying funding sources:** The NEC can consider setting up a Northeast Trade Portal for tapping all possible sources of funding. For example, greater involvement of development banks (eg. Asian Development Bank) and high-income countries (eg. Japan) will certainly pave the way for development of connectivity in Northeast India.
- **Sectoral Efforts:** Measures that can be taken in this direction include-
 - Adopting **mission-based approach in agricultural sector** like setting up of cold storage chain, value addition in agricultural products among others.
 - Developing industrial infrastructure for **encouraging MSME enterprises** especially in areas critical to the region such as bamboo development, medicinal plants, waste management etc.
 - **Bio-resource development Centers** could be set up for encouraging development of medicinal plants and as a result, Health and Wellness tourism in the region.
 - **Developing Sports infrastructure in the region** as a developmental initiative and also as a deterrence strategy against insurgency in the region.

CONCLUSION

The geographical and geopolitical position of the NER provides it with several opportunities including high export potential, high tourism potential and a potential foreign policy enabling hotspot. However, the issue of security and inadequate development accompanied with ecological vulnerability and limited fiscal space has created an infrastructural scenario with poor connectivity and communication and limited power availability. To ameliorate this, several efforts have been made by the government ranging from institutional measures to multilateral initiatives. Despite these efforts, the status of infrastructure highlights weaknesses in present strategy and thus demands an approach which is more holistic in nature.

For the vision of 'Asht Lakshmi' (as envisioned by the PM) to materialize and also to fulfill the targets under SDG 9, effort will have to be made to strengthen the infrastructural linkages at all levels, complementing them with development of human resources and ensuring sustainable and inclusive economic development in the region.

TOPIC AT A GLANCE

Bridges the socio-economic and cultural gap between the region and other parts of the country by increasing employment generation and enabling people to people contact.

Helps in addressing the security concerns of the region by checking insurgency, ensuring food and energy security and better management of international borders.

Acts as a gateway to South Asian and Southeast Asian countries through infrastructure linkages via policies like Act East Policy.

Makes it possible to **tap the economic potential of the region** with sectors like **Tourism, Agri-export, natural resources, hydropower and trade and logistics** among others.

Importance of Infrastructure for the NER

INFRASTRUCTURE DEVELOPMENT IN THE NORTH EASTERN REGION

Current status of infrastructure development in the region

- **Transportation:** Road is the major mode of transport, but its penetration is still limited. Other modes of transport include Railways, Airways and Waterways with **2,700 km network, 11 airports served by 6 airlines and solo functional NW 2 respectively.**
- **Communication:** The communication in the region is marred with issues like **low tele density and poor quality of service.**
- **Power:** There is **no major source of thermal or nuclear power** in the region and power generated from the **renewable energy sources like solar, wind and biomass, etc. is extremely negligible.**
- **Agricultural Infrastructure:** Agricultural potential of the region does not materialize due to **limited irrigation capacity and absence of marketing infrastructure.**
- **Digital Infrastructure** is emerging through various initiatives but suffers from issues like poor functionality and low penetration of schemes.
- **Social Infrastructure:** The region has limited physical infrastructure with regard to Healthcare facilities as well as educational institutions.

Reasons behind infrastructural gaps

- **Limited financial space** due to insufficient budgetary allocation, poor revenue generation capacity at state and local level and negligible private sector investment.
- **Difficult terrain** increases requirement of financial, human and technological resources.
- **Ecological and geological fragility** increases vulnerability to natural disasters due to development of infrastructural projects.
- **Insurgency and law and order issues** increase project risks and decrease the pace of infrastructural development.
- **Apprehension of outsiders:** Due to the sensitive demography of the region, several local organizations oppose connectivity projects citing potential influx of outsiders in the region.
- **Disparity within the region:** Majority of the infrastructural projects are centred around Assam, leading to limited investment & growth in other parts of the region.
- **Other issues** include **land acquisition problems, limitations in engagement with tribal authorities** etc.

Steps taken by the Government to improve infrastructure in the region

- **Dedicated initiatives for the region:** Major initiatives include **North Eastern Council, North East Special Infrastructure Development Scheme, NER Vision 2020 Document, North East Road Sector Development Scheme, North Eastern Region Power System Improvement Project and Digital North East 2022.**
- **Initiatives as part of the National Projects** include **creation of Non-lapsable Central Pool of Resources, Inter-Ministerial Committee (IMC) mechanisms, Bharatmala Pariyojana, UDAN Scheme** and various **telecom infrastructure projects** among others.
- **Initiatives as part of the Multilateral Projects** include **Kaladan Multimodal Transit Project, India Myanmar Thailand (IMT) Trilateral Highway Project, Bangladesh Bhutan India Nepal (BBIN) Motor Vehicles Agreement** among others.

Way forward to further accelerate infrastructure development in the region

- **Strengthening the NEC** both financially and institutionally by increasing financial allotments from the Center and channeling all major infrastructural projects through NEC.
- **Encouraging private sector participation** by engaging with contractors, independent developers or creating frameworks for public private partnerships.
- **Encouraging start-up culture** by identifying start-ups with high potential and providing them handholding.
- **Aligning India's Act East Policy for infrastructure development in NER** for fulfilling both foreign policy objectives and infrastructural needs of the region.
- **Creating demand for infrastructure** by enacting policy reforms which trigger development of infrastructure.
- **Prioritizing border infrastructure** by further strengthening organizations like Border Roads Organization.
- **Diversifying funding sources** by engaging with development banks like ADB and high income countries like Japan.