

## **Infrastructure development in Northeast, India with special reference to Arunachal Pradesh**

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### **ABSTRACT**

Infrastructure development is very much necessary for the economic and political development of any state and countries of the world. Without development in infrastructure like good railways, education and health service, irrigation, electricity, roadways, transportation and communication etc. there would not be a good lifestyle and condition of living would be very worse. Lack of adequate infrastructure development is the major problems faced by the northeast state of India. Due to the isolated from the rest part of the India and to the world, the infrastructure development has been very slow in progress. The aim of this paper is the trace the recent infrastructure development in northeast India with special reference to Arunachal Pradesh. Through this paper we will analysis how the present government are taking initiative schemes and programmed for the infrastructure development in Arunachal Pradesh. The study is based on both the secondary and primary data as all the data are collected through interviewers, questionnaire, personal observation, Official records of the Govt, of India as well as Arunachal Pradesh, Government publications, Published and Reference Books, Journals and articles. Thus, this study will bring the relationship between the infrastructure development and economic growth in context of Arunachal Pradesh.

**Key Words :** Northeast India, Infrastructure, Adequate, Arunachal Pradesh, transportation and communication

### **INTRODUCTION**

The term ‘infrastructure’ seems to have originated in 19th century in France, and till the first half of the 20th Century, it referred to primarily - military installation. Since 1927, The term indicates roads, industries, bridges, railways and public works that emphasize the development of industrial and country economy. H.W. Singer first used the term ‘infrastructure.’ He uses to identify it with various kinds of investments that are not directly productive but help in the process of development. Examples are investments in transport, power, and irrigation. <sup>1</sup> The term infrastructure means the foundation. The word itself is a combined of two words “infra” and “structure.” Infrastructure is a combination of structural elements which provide modern day living style. It refers to some permanent installations, which is over a long period. The term has different meanings in a different area. It is

1. Singer. H.W. (1951). “Development Prospects as Part of National Development Programme” In the Formulation and Appraisal of Development Projects.

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most widely denoting the fundamental facilities and systems serving a country, city or area such as schools transport and, water and power lines, hospitals, communication system, etc.

Examples are investments in transport, power, and irrigation. Transport and communication infrastructure have a multi-dimensional role to play, and they affect the economy in more than one way. The extension and improvement of transport facilities result in the reduction of distance travelled by and saves time. Further, a developed transport and communication network improves economic efficiency by increasing the mobility of supply of labour and other factors of production. The role of power in the process of economic development is very crucial. The use of modern technology makes a heavy demand on different sources of energy, especially electricity. Therefore, power is regarded as the core of infrastructure and is a very high priority in the development plans. Economic development of any country depends upon the improvement and increasing facilities of agriculture, transportation, communication and industrial infrastructure. Modern industry requires trained personnel who can handle complicated modern technology. The shortage of skilled workforce serves as a serious impediment to growth. The use of physical capital will be limited if the technical, professional and administrative skill is not available in sufficient number. Different economist and planner have different views and opinion regarding the types of Infrastructure. Most of the development economists have divided infrastructural facilities into two type, Social Infrastructure and Economic infrastructure.

According to Indian economist, professor V.K.R.V. Rao has made a very exhaustive categorization of a factor of production that constitutes infrastructure. He has divided them into following 9 broad categories and has included 42 activities in it. (i) Transport Roads, railways, shipping ports and harbors, airports, transport equipment. (ii) Communication Posts, telegraphs, telephones, radio, cinema. (iii) Energy: Coal, Electricity (hydro, thermal, nuclear), wind power, solar power, oil, gas, biogas. (iv) Intermediate goods output: Minerals, steel, metals other than steel, basic chemicals, fertilizers and pesticides, machinery and machine tools. (v) Increasing Productivity of Natural resources: Reclamation of land, irrigation, drainage, contour bunding, land reshaping, high yielding bovine varieties, afforestation, and development of commercial forests. (vi) Science and Technology: Teaching, basic and applied research, national laboratories, liaison with production. (vii) Information System: Mass media, libraries and museums, fairs and exhibitions, books and journals (viii) Finance and Banking; Saving institutions, credit, and leading institutions, capital market. (ix) Human Resource Development : Health, drinking water, disease eradication, public hygiene, family planning, medical facilities, educational facilities.<sup>2</sup> Modern industry requires trained personnel who can handle complicated modern technology. The shortage of skilled workforce serves as a serious impediment to growth. The use of physical capital will be limited if the technical, professional and administrative skill is not available in sufficient number.

Unlike other states, Arunachal Pradesh is a state which is usually characterized because of its unique cultures, practices, etc. where agriculture characterizes the economy of the state then comes small service sectors, trades, and entrepreneurship. Unemployment which has been a massive problem where most of the educated youths remained jobless, during decades back it has almost reached its mount due to the irrational rush for a government job. However, the status of youths, middle ages, old ages is getting a better sense in present times as compared to the earlier times. When the Government inaugurates a programme to address these problems by launching a scheme

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2. B. M. Joshi - Infrastructure and Economic Development in India, Ashish Publishing House, New Delhi 1990, - P 11.

such as *Deen Dayal Upadhyay Sawalamban Yojana (DDUSY)*, with these development schemes the farmers were given extra financial services and facilities through national bank **NABARD**.<sup>3</sup> One great step towards infrastructure was empowering The *Pradhan Mantri Gram Sadak Yojana (PMGSY)* in all the district in the state. Due to this scheme, many rural areas are connected by a road earlier which doesn't exist. Due to the road connectivity in every district, the transportation or movement of people become easier and faster. The central government is also giving a top priority in developing the infrastructure in the northeast part through *SARDP-NE*, especially Arunachal Pradesh which shares its boundary to rivalry china.<sup>4</sup> Apart from these, there are many schemes and project which are by the state government and central government which will helps in accelerating in the development of the socio-economic and political condition of the state.

Thus, it can be said that the role of infrastructure in promoting economic development by giving support to modern human life facilities. The process of development in infrastructure itself directly contributes to the growth of the economy. The relationship between infrastructure and economic development is now well accepted so much so that it is regarded by most of the development economists as a necessary precondition infrastructure development such as roads, bridges, rail lines, hydroelectric power plant and public works that are necessary for its proper functioning.

#### Literature review:

In this chapter, an attempt is made to review the studies relating to the development of infrastructural facilities. The interrelationship between economic development and the growth of infrastructure mutually supported each other in a chain reaction. While development of infrastructure facilities created conditions for accelerated economic development, on the one hand, the rapid economic development called for and provided stimulus for investment in building up of the needed social and economical overhead capital on the other. In this, we will see a review of the past studies on the development of infrastructure: regional disparities of infrastructural development and the investment of infrastructure facilities are mentioned here.

Joshi, Samir (1997), in his article 'Regional Disparities in Industrial Development in India', Indian Journal of Regional Science, Vol. XXIX. The author argued for the industrial development in the country. According to him, developments in the industry create equal employment opportunity and will gradually increase the purchasing power. He also added that the policies and schemes taken by the central and state government do not meet up the goals of the sustainable development due to the problems of the regional disparity.<sup>5</sup>

S. Prakash (1997), the author mentions about the infrastructure facilities in India, he said that economic prosperity in the state is not only an outcome of the infrastructure like road, industry, and hydroelectricity. To prove the statement, he gave an example that a developed state may be underdeveloped in another area like literacy, workforce, irrigation and per capita income, etc. or

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3. Jai Mishra, (July 5,2017) Arunachal Pradesh DDUSY self-employment scheme. Retrieved from <https://www.mygovernmentschemes.com/tag/details-of-arunachal-pradesh-deen-dayal-upadhyay-sawalamban-yojana-ddusy/>
  4. Arvind Panagariya. "A leader of substance: Along with Narasimha Rao, Atal Bihari Vajpayee laid the foundation of new India". *The Times of India*, (Dec 25, 2012, 12.00AM IST).
  5. Joshi, Samir (1997) 'Regional Disparities in Industrial Development 111 India', Indian Journal of Regional Science, Vol. XXIX

vice-versa. He has emphasized on choosing an appropriate indicator for different regions into developed as well as less-developed category.<sup>6</sup>

Ghosh and De (1998), in their study, both the author talk about the unequal distribution of infrastructural facilities in different parts of the region. Referring to the views of Myrdal, they opine that poor infrastructure will lead to backward of the region whereas strong infrastructure will lead to development of region. According to them, physical infrastructure was the reason responsible of the disparity in India.<sup>7</sup>

Elhance and Lakshmanan (1988), also considered both physical and social infrastructure in the Indian context and showed that infrastructure investments to a great extent influence productivity and cost efficiency in the manufacturing sector.<sup>8</sup> Rao Hemlata (1985) has studied the relationship between infrastructure and economic development. The study has used principal component analysis to measure inter-state disparities in development in India. The study establishes that the various components of infrastructure such as banking, power, transport, education are closely correlated with each other on the one hand and with agricultural and industrial development on the other hand. The study observed that the values of sufficient of correlation are higher in the case of economic infrastructures like power, transport, and banking as compared to social infrastructures like health and education. The study also found that the states which have a more developed infrastructure have also experienced a faster rate of economic growth.<sup>9</sup>

### **Infrastructure development in Arunachal Pradesh:**

India got Independence on 15th August 1947. The British ruled India nearly three centuries. But never the less, the British left not only the resource of the Indian, but they also left many developments in the field of infrastructure. Before the invasion of British, the condition of roadways and railway were very worse in condition. The condition of infrastructure development at present era is far much better than before, as India is also moving towards globalization; there have been many recent developments in the field of infrastructure in many regions of India, so some of the recent developments have been taken in concerning with the northeastern state.

The northeast region of India has been isolated from the remaining world and India for many years. As there are 29 states and seven union territories in India but still the fact and figure of the northeast region are known by very few of Indian. Many of the Indian don't know about the cultural and traditional practice of northeast which is very beautiful and diverse. The region comprises of eight states which are Arunachal Pradesh, Nagaland, Meghalaya, Assam, Manipur, Tripura, Mizoram and Sikkim. It is known as the seven sisters with one brother. Northeast region shares its boundaries with international countries like China, Bangladesh, Bhutan, Myanmar. The eight states

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6. "Prakash, S. (1977). 'Regional inequalities and Economic Development with special reference to Infrastructural Facilities in India'; Indian Journal of Regional Science, Vol. 9, No.2, pp 172195."
  7. Ghosh, B. and P De (1998). Linkage between infrastructure and come among Indian states A tale of rising disparity since independence. seminar paper presented at centre for studies in social science, Calcutta, Dec"
  8. Elhance, A P and T R. Lakshmanan (1988). 'Infrastructure- Production System Dynamics in National and Regional Systems: An Economic Study of the Indian Economy,' Regional Science and Urban Economics, Vol.18. North- Holland."
  9. Rao Hemlata, Inter-State Disparities in Development India, in Regional Structure Development and Growth in India, Vol. I, Ashish Publishing House, New Delhi, 1985"

of Northeast is officially recognized under the North Eastern Council (NEC)<sup>10</sup>. It was constituted in the year 1971 as the acting agency for the development of the eight states. On 9th August 1995, the North-Eastern Development Finance Corporation Ltd. (NEDFi) was established. Finally, in September 2001 the Ministry of Development of North Eastern Region (DoNER) was set up.<sup>11</sup>

Arunachal Pradesh, the place where the first ray of the sun touches the Indian soil, is also situated here and is known as the Land of Dawnlit Mountain. The state is rich in cultural diversity with demographics of 1.4 million as per 2011 census. There are 26 major tribe and more than 100 sub tribes residing. It is rich in flora and fauna in great diversity. The government of Arunachal Pradesh also practice the same pattern of governance as another state in India. It follows a unicameral system of government which means it has only one house and legislative assembly consist of 60 members. The capital of the state is Itanagar. Infrastructure development in the state is one of the top priorities of the state government, and a lot of emphases is being given to developing road network in the region. Some road projects are currently underway in Arunachal Pradesh, which once completed will solve connectivity problem to a large extent. Being located in the easternmost part of Northeast.<sup>12</sup> Abundant with diverse topography and climatic condition, the state is having a different weather and season changes in a year. The Central government and state government, are facing a lot of challenges in developing the infrastructure.

On 26th may 2017, the prime minister of India along with Nitin Gadkari (minister of road transport and highway), inaugurated India's longest bridge known as Bhupen Hazarika bridge. The project is being implemented under Arunachal Package of Special Accelerated Road Development Programme for the North-eastern region (SARDPNE).<sup>13</sup> The bridge is located 540 km away from capital city of Assam, i.e., Dispur and 300 km away from Itanagar, the capital of Arunachal Pradesh. The bridge is going to change the scenario of the Sadiya region. Tezu Airport will be the first Airport in Arunachal Pradesh which will push forward the socio-economic, politically and infrastructure of the state. The government of India approved the construction of the airport during the year 2009-10 with the estimated cost of this project was Rs.790 million.

**Lower Subansiri Hydroelectric Power Project (LSHEP)**, Situated on the river of **Subansiri**, between the two northeastern most part of India, between Arunachal Pradesh and Assam. In the year 2007, the project was started, and the whole construction is being carried out by the National Hydro Corporation (NHPC). As per the report, 50% of the work has been completed in the early 2013 and is still under construction gravity dam. The hydropower plant will produce 2000 MW of power when completed. **Kameng** hydropower project is located in **West Kameng** district of Arunachal Pradesh. **Tenga** and **Bichom** are the main sources of the river which flows from the Himalayas. It is constructing on a river Kameng. It will produce 600 MW and is expected to end by

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10. B. Pakem, Introduction, in B. Palcem (ed.). Regionalism in India: With Special Reference to North-East India. New Delhi: Har-Anand Publications, 1985, p. 9
  11. Alexander Mackenzie. North East Frontier of India. New Delhi: Mittal Publications, 2001. First published in 1884 as History of the Government with the Hill Tribes of the North-East Frontier of Bengal.
  12. Choudhury, Anwaruddin (2006) *A pocket guide to the birds of Arunachal Pradesh*. Gibbon Books & Rhino Foundation (supported by OBC, UK), Guwahati, India
  13. Lekshmi Priya S ,10 Facts About India's Longest Bridge Bringing Assam & Arunachal Closer, Newly Inaugurated by the PM(may 26,2017,3.46pm). retrieved from <https://www.thebetterindia.com/102409/facts-indias-longest-bridge-assam-arunachal-inauguration-pm-modi/>

2017, and the construction work is fully carried out by the *North Eastern Electric Power Corporation Limited (NEEPCO)*.<sup>14</sup>

Railways also play a vital role in many countries, state, and region. It helps the state to mobilize people, good and services from one sector to another region at a cheap cost. Due to the hilly areas and backward area Arunachal Pradesh, couldn't get benefits from this mode of transport after the independence of India in the year 1947. On 7th April 2014, the Naharlagun railways were opened and inaugurated; the *Naharlagun* railway is situated at *Yupia, Naharlagun Papumpare* district of Arunachal Pradesh .it is 15 km away from the capital city of *Itanagar*. If we trace back to the history, the survey was conducted in the year 1997 from *Harmuti to Naharlagun*. The budget was received by the state government although it was sanctioned in the year 1997 onwards. The work was started in the year in the year 2010. The following three trains run from this station.<sup>15</sup>

The central government is giving priorities top the north-eastern state especially to Arunachal Pradesh in road connectivity. It shares an international border along with Bhutan in the west, in the east, Myanmar and with China which is dived by Durand line, there has been a dispute between India and China regarding Arunachal Pradesh, which leads to the war of 1962, and the dispute is still prevailing at this point of the era also. The two-lane highway scheme in the state will be between Tawang and Kanubari, which will cover a distance of 1500 kilometers. Once the construction is completely done, the highway is going to interlink 11 of the present district headquarters of the state which is located in most strategic location. Funds are allocated and implementation of work has been carried out by the Government of India under SADPNE ("Special Accelerated Road Development Programme in North East), by early 2018, the construction work is expected to complete which will cost 10,000 crores approximately. About 1,000 kilometers are in progress at various stage of the district Out of 1,556 kilometers, and the remaining 600 kilometers will start very shortly. Once the Arunachal highway, is completed which is under progress, it will be exceptionally beneficial and helpful for an upcoming generation. The road will be passing through Changlang, Tawang, East Kameng, , Hawai and Vijayanagar in the bordering location of Arunachal Pradesh. Once it is complete, it will help the state to upgrade its infrastructure, financial issue and will create a better employment opportunity for the local citizen which will ultimately increase the GDP of the nation.

#### **Government schemes and Programme:**

The government of Arunachal Pradesh has also taken up many scheme and programme for the development of the state by giving more importance to infrastructures schemes and programme. *Deen Dayal Upadhyay Sawalamban Yojana (DDUSY)*, is an ambitious scheme launch by the State Government of Arunachal Pradesh. The scheme is being launched by the present chief minister, Pema Khandu for the welfare of the state and it will create self-employment job in the state. Under this scheme, the government will provide or avail loan ranging from 10 lakhs to 1 crore depending upon the applicant. The loan will be avail from the bank through NABARD National

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14. L. P. Hazarika, S. Borah, B. Bakalial and S. P. Biswas, Biodiversity, Ecology and conservation of Rivers and streams of Northeast India. Akansha Publication, New Delhi. 2011, 151-168.
  15. Bikesh singh, ET Burea(Apr 12, 2014, 10.36 AM IST) Arunachal Pradesh now on railway map, train reaches Naharlagun, a town near capital Itanagar, retrieved from://economictimes.indiatimes.com/articleshow/33631990.cms?utm\_source=contentofinterest&utm\_medium=text&utm\_campaign=cppt

Bank for Agriculture and Rural Development).<sup>16</sup>

**Pradhan Mantri Ujjwala Yojana (PMUY)**, a scheme started by the central government under the present P.M. of India, Shri Narendra Modi whose aims to solve the problems of more than 24 crore household. Out of which ten crores are still are facing the issues of LPG, which rely on dung, firewood, coal, – cakes, etc. as the primary source of cooking. Pema Khandu, the chief minister of the state under the presence Kiren Rijiju, Union Minister of State for Home Affairs, launched **Pradhan Mantri Ujjwala Yojana (PMUY)** in the state. Under this scheme, the state will provide clean fuel for cooking instead of firewood, coal, dung – cakes, etc. for BPL families. It will cover the all the district of the state. The state will provide 3.04 lakh households with LPG within this year which will be the benefits and continues to target the fully five lakhs household of the state by 2019. **Pradhan Mantri Gram Sadak Yojana (PMGSY)**: an startup implemented by the central government under the name of the prime minister of the country, is a nation worldwide programme to provide better road connectivity to all the isolated villages of the state of India. It was introduced by then the prime minister, Atal Behari Vajpayee in the year 2000. The state has a road network connection of 19,000.00 km including dirt roads and tracks that yield a road density of 22 km per 100 km<sup>2</sup>. About 36 percent of the roads are connected throughout the State. Under the Rural Roads Development Program, a road length of 11,480 km was identified to connect 2,454 dwellings that were not connected to the network according to the core network. The Rural Works Department is building rural roads, an important rural infrastructure, to provide connectivity and linkages with the rural population.<sup>17</sup>

### Conclusion and suggestion:

Thus, we can conclude that Infrastructure is the basic elements that is essential for the country 's development. The country can be highly productive if the infrastructure is highly developed such as, there is good condition of roadways, railway, communication and industries etc. the basic nature of good infrastructure facilities is that it directly contributes in the promoting of nations economic activities. The extension and improvement of transport facilities result in the reduction of per unit transport cost. Further, a developed transport and communication network improves economic efficiency by increasing the mobility of supply of labor and other means of production. The power of infrastructure development is very much in the process of economic development is very crucial. The use of modern technology makes a heavy demand on different sources of energy, especially electricity. Therefore, power is regarded as the core of infrastructure and is justly given very high priority in the development plans.

In Arunachal Pradesh, the infrastructure plays an important role in the state's economy system. Due to this it has given priority to infrastructure in various five years plans. Special caring and attention has been given to roads, transport, communication and power etc. It expands the network of road in the state and moves towards the modernization. The development cannot be taken in a small area and allocation of resources is very necessary. Due to its big sized, there is need of greater investment economic power. The topography and location of the state are the greatest

16. Jai Mishra, (July 5,2017) Arunachal Pradesh DDUSY self-employment scheme. Retrieved from <https://www.mygovernmentschemes.com/tag/details-of-arunachal-pradesh-deen-dayal-upadhyay-sawalamban-yojana-ddusy/>

17. Arvind Panagariya. "A leader of substance: Along with Narasimha Rao, Atal Bihari Vajpayee laid the foundation of new India". *The Times of India*, (Dec 25, 2012, 12.00AM IST).

challenges of poor infrastructure. But the government of state is giving so much priority in the infrastructural development. Increase in the Development of infrastructure will lead in the development of state Gross Domestic Product (GDP). In Arunachal Pradesh, the quality and the quantity of the infrastructure services is literally very bad and there is gap between its deep and supply. The government changes from time to time due to this there is a slow progress in the state infrastructure and each government has their own policy and strategy working. The rural area people to suffer a lot, due to bad condition and lack of network of road connectivity in the area. The people use to walk and carry their foods and basic essential items to reach their native places such as *Damin* in *kurungkumey* district and *Nacho* in upper *subansiri* district etc. Although, the central government has given top priority in northeast region especially in Arunachal Pradesh. The war of Indo-China war 1962, has great impact in the recent development in the state. The central government use to provide so many funds and schemes in the area, but due to the corrupted bureaucratic and politician the development progress is very slow. The present government has taken many initiatives such as development in the roads, transport, railway and removing of poverty etc. in the state. In spite of so much backward, there has been massive development has been taken places in the recent time. Still, there is need of faster infrastructure development in the state. The Government has to take the initiative to improve the health facilities in the state by improving the medical, hospital and pharmacy (both private and government) infrastructure and avail its facilities in every district of the state. Transport and communication system should be improved and extended so that all the district of the state should be interconnected. So that transportation of goods and services can reach to the market as well as to different places. This responsibility is to be undertaken by Transport and Communication Department. Adequate parking facilities for vehicles are to be arranged in the market area to avoid traffic problems. This responsibility may undertake by the market committee.

The government of Arunachal Pradesh should maintain rule and policies for every infrastructure development in the state and every contractor, tender owner and department should aware of the rule and policies. So, in this process, the development rate would be faster. The government of India and Arunachal Government should build public carrier airport in the state for faster means of transport and the tourist. In doing so, it will cut the distance traveled by and time. Thus, it can be concluded that development in infrastructure will automatically lead to the development of the state. So, it is the duty of every state government, governing body, public leader, etc. to give it as a priority. Development of infrastructure will lead to better social, political and economic condition.

To sum up the discussions so far, the study has emphasized the role of infrastructure in promoting economic development by creating a base on which a higher level of economic activity can be carried out. The process of development of infrastructure itself directly contributes to the growth of the economy. The relationship between infrastructure and economic development is now well accepted so much so that it is regarded by most of the development economists as a necessary precondition.

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