

RURAL INFRASTRUCTURE AS AN INPUT FOR STRENGTHENING RURAL-URBAN LINKAGES IN ASSAM – AN ANALYSIS

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ABSTRACT

The elimination of poverty and delivery of high quality services are the basic premises upon which the planning of rural development is based and concerted efforts of the successive governments have improved the living standards and set the benchmarks for the quality of rural lives. Therefore the primary objective of the government is to make provision of basic infrastructure facilities and social services in the rural areas which is considered as an important input in ensuring any sustainable poverty alleviation programme that can accentuate GDP growth of the state economy.

As a North-East State, Assam is sheltering 2.6 percent population of the country as per 2011 census out of which 85.92 percent of people is living in rural areas and the remaining 14.08 percent in urban areas. Without providing the basic facilities to these rural people, urban areas cannot properly be developed that weaken the linkages of rural-urban areas. No one can deny the fact of the role of development of rural infrastructure not only in the Assam economy but also the world economy. Therefore, failure to accelerate investments in rural infrastructure will be a stumbling block to achieve the Millennium Development Goal (MDG)s. Lack of proper development of basic infrastructure also severely limits opportunities to benefit from liberalization of trade, international capital markets including other potential benefits offered by globalization. Under such circumstances, it can be stated that the creation of infrastructure in emerging rural-urban clusters remains a major challenge not only for the state economy but also for the economy as a whole. In this paper there is an attempt to study the pattern and composition of rural infrastructure in Assam economy with the help of secondary sources of data.

KEYWORDS: *Postal Services, Public Health, Rural Electrification, Telecommunication Services, Transport System.*

1. INTRODUCTION:

“The best, quickest and most effective way is to build up from the bottom. Every village has to become a self-sufficient republic. This does not require brave resolutions. It requires brave, corporate, intelligent work.”

– Mahatma Gandhi

Rural development simply aims at improving the rural lives with the participation of the rural masses targeting the social, political and economic development of the rural people. It should genuinely be noted that elimination of poverty and delivery of high quality services are the basic premises upon which the planning of rural development is based and concerted efforts of the successive governments have improved the living standards and set the benchmarks for the quality of rural lives. Therefore the primary objective of the government is to make provision of basic infrastructure facilities and social services in the rural areas of Assam. Creation of rural infrastructure is not only a key component of rural development but also an important input in ensuring any sustainable poverty alleviation programme that can accentuate GDP growth of the state economy.

As a North-East State, Assam is sheltering 2.6 percent population of the country as per 2011 census out of which 85.92 percent of people is living in rural areas and the remaining 14.08 percent in urban areas. Without providing the basic facilities to these rural people, urban areas cannot properly be developed that can weaken the linkages of rural-urban areas. In his regard, no one can deny the fact of the role of development of rural infrastructure in the Assam economy. Therefore, failure to accelerate investments in rural infrastructure will be a stumbling block to achieve the Millennium Development Goal (MDG)s. Lack of proper development of basic infrastructure also severely limits opportunities to benefit from liberalization of trade, international capital markets including other potential benefits offered by globalization. Under such circumstances, it can be stated that the creation of infrastructure in emerging rural-urban clusters remains a major challenge not only for the state economy but also for the economy as a whole. All these mainly depend on how the government is provisioning of all-weather road connectivity to rural areas, provision of better electricity facility, improved telecommunication networks etc. that will act as a catalytic intervention for the rural population by ensuring their access to a vast range of economically activities. Importantly, it can also ensure well regulation of fair market, health, education including other social services, availability of warehouses and go downs in rural areas of the state economy which maintains positive correlation with agricultural production and productivity, maintaining the issue of food security, etc. In this way, a concerted effort towards building rural infrastructure can bridge the existing rural-urban gap to a greater extent which has created a green signal to push up the growth of rural economy.

2. OBJECTIVES:

The major objectives of the paper are:

- To study the progress of rural electrification facilities in Assam.
- To study the contribution of transport facilities in state GDP.
- To analyze the provision of transport and communication facilities in the state.
- To study the status of public health and health care facilities in Assam.

3. METHODOLOGY:

The method used in this paper is purely analytical and descriptive in nature. There is an attempt to study the objectives of this paper on the basis of secondary sources of data. Here, the secondary sources of data includes data collected from relevant magazines, books, journals, newspapers, articles of research scholars, etc.

4. RESULTS AND DISCUSSION:

Rural Electrification in Assam:

Modernization of agriculture and rapid industrialization in an economy depends mostly on the availability of cheap and sufficient supply of power because of which power is regarded as the most important component of infrastructure for the economic development of the region. But unfortunately it can be observed that Assam is lagging far behind the national average in the field of power development as it has not been possible to carry out exploitation of power resources of the state to the fullest level. Even Assam is very poor regarding the development of solar energy system that can

play a substitutory role to some extent for filling the huge existing demand supply gap of power.

The status of power generation in the state is extremely unsatisfactory from the point of power requirement of the consumer. However, the Assam State Electricity Board (ASEB) has been trying to meet the power shortage by importing power from foreign sources. As a result of functioning of Hydel Power Project since 2006-07, the scenario in respect of power generation has slightly been improving as power generation has increased to 1498.13 MU in 2007-08 from 867.53 MU in 2006-07. But during 2010-11, the generation of power has nominally fallen by 0.25 percent which has further increased by 3.82 percent in 2011-12. Unfortunately, the installed capacity of generating plants at present in Assam has come down to 376.7 MW which include Coal, Hydel and Gas plants due to de-commissioning of Bongaigaon Thermal Power Station (BTPs) and Mobile Gt sets and de-rating of age-old units of Namrup (NTPS). The installed capacity of various generating plants along with the generation of power in the state during the last few years have been shown in table-1.

Table-1

Year	Installed Capacity of Generating Plant (in M.W.)				Gross Unit Generated (in M.U.)		
	Thermal	Hydel	Gas	Total	Hydel	Gas	Total
2006-07	60.0	102.0	253.5	415.5	15.438	852.10	867.54
2007-08	60.0	102.0	239.5	401.5	509.20	988.94	1498.13
2008-09	60.0	102.0	239.0	401.5	434.40	1248.20	1682.82
2009-10	60.0	102.0	239.0	401.5	401.91	1310.30	1712.21
2010-11	60.0	102.0	239.0	401.5	409.49	1298.27	1707.76
2011-12	60.0	102.0	239.0	401.5	455.00	1318.00	1773.00
2012-13	59.7	100.0	217.0	376.7	344.00	1421.30	1765.30

Source: Economic Survey, Assam 2012-13 & 2013-14.

The noticeable feature of installed generation capacity should be higher growth rates for the inclusion of renewable energy sources in comparison to use fossil fuels. As per the report of Economic Survey, Assam 2018, the installed capacity of generating plants in the state is 379.7 MW which includes coal, hydel and gas plants of the state.

Rural electrification programme is gaining momentum since the last few years which is very essential for the execution of development programmes both in the agricultural and rural sector that can ensure better strengthening the linkages of rural-urban areas. But the progress of rural electrification in Assam is not upto the expectation. During 1995-96, the percentage of villages electrified had worked out at 68 percent indicating an unsatisfactory performance in respect of rural electrification in the state as compared to some other states of the country. But before implementation of Rajiv Gandhi Grameen Vaidutikaran Yojana (RGGVY) on 30/03/2007 has shown that 74 percent villages are electrified in Assam. Thus we can clearly observe that the rate

of growth of rural electrification in Assam is very slow which is retarding to establish better strengthen of rural-urban linkage. The RGGVY has granted a project cost of total Rs.2207.79 crore during 10th and 11th five year plans under Assam State Electricity Board (ASEB) and Power Grid Corporation Ltd. (PGCL). The task of electrification of 2202 nos. of remote villages is being taken up by the Remote Village Electrification Wing of ASEB, Forest Department, Government of Assam and Assam Energy Development Agency through non-conventional method of rural electrification. The status of village electrification in Assam under RGGVY as on 28/02/2013 is given in table-2.

Table-2

Agency	Un-Electrified Villages		Already Electrified Villages		BPL Villages	
	Target	Achievement	Target	Achievement	Target	Achievement
ASEB	6907	6513	9533	8964	980374	717828
PGCL	1499	1485	3548	3251	182373	171349
Total	8406	7998	13081	12215	1162747	889177

Source: Economic Survey, Assam, 2013-14.

Initially the project completion period of 11th five year plan projects was 18 months but it has been extended by Government of India to 24 months from the date of award of contract as the implementing agencies have been suffering a number of constraints. In Assam, the overall picture of power generation and supply requirement of power is clear from table-3.

Table-3

Items	2001-02	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13
Energy Requirement (Million Unit)	3415	4621	5039	5049	5967	6081	6392
Availability (Million Unit)	3302	4018	4270	4590	5028	5670	5895
Shortage(Million Unit)	113	603	769	459	939	411	497
Shortage (in percent)	3.33	15	13	9.1	15.68	6.75	7.78
Peak Demand (MW)	553	891	972	974	1066	1135	1286
Peak Demand Met (MW)	519	775	824	885	828	1024	1068
Shortage (in percent)	6.15	13.04	15.25	9.13	22.32	9.78	16.95

Source: Economic Survey, Assam 2013-14

Regarding the status of power generation in the state is not at all satisfactory from the point of view of power requirements in general and also in terms of consumer demand. There has been always excess demand of power in the state due to generation of less amount of power in comparison to its growing demand. However, the ASEB has

been trying to meet the power shortage by importing power from the Central government and private foreign sources. It is observed that gross power generation in Assam during the year 2014-15 was 1895 MU which has sharply decreased to 1851 MU in 2015-16 and then further decreased to 1650 MU during the year 2016-17.

From the view point of energy requirements in the state has been worked out at 8240 MU during the year 2016-17 as against 7857 MU during the year 2015-16 and as such 7233 MU in 2014-15. But unfortunately, the availability of energy during the periods was 7948 MU, 7571 MU and 6955 MU respectively. However, the power generation was 1650 MU in 2016-17 which was 1851 MU in 2015-16 and 1895 MU in the year 2014-15. The peak demand of electricity in Assam has increased from 1424 MW in 2014-15 to 1496 MW in 2015-16 and then further increased to 1679 MW in 2016-17 though the shortage of power has come down from 212 MW in 2014-15 to 157 MW in 2015-16 and to 45 MW in 2016-17.

TRANSPORT SYSTEM IN ASSAM:

A well developed transport system is highly essential in a state like Assam specially in rural areas as most of the essential products are imported from rural areas to urban areas. Due to lack of superior transport system heavy transport costs have to be incurred because of which size of the market is influenced. Even the state is importing practically machineries, equipments, raw materials for the agro-based and other industries and at the same time a huge amount of produced goods in the rural areas of Assam like tea, jute, timber, bamboo and bamboo products are exported. In spite of huge demand for developed transport system, Assam is still continuing to suffer from inadequate transport facilities which still continue to act as an impediment to the economic development of the state. In view of the vital importance of such a sector, Assam government with the support of central government so far made considerable efforts through successive five year plans to make up the leeway but much more still remains to be done.

The Assam Public Works Department (PWD) is primarily responsible for improvement of road communication through construction and maintenance of roads, bridges and culverts for speedy development of the state. In Assam, AS PER THE RECOD 2017-18, the road network comprises of total 58202 KM of roads consisting of 3900.44 KM National Highways, 2530 KM State Highways, 4379 KM major district roads, 1615 KM urban roads, 37030 KM rural roads and the rest are Panchayat and other Non PWD roads approximately 6000 KM and Municipal roads are 1087 KM. The surfaced road kilometer excluding National Highway constitutes almost 57 percent of the total road length in the state as on March 2017. This indicates that compared to total road length availability of about 58.08 KM per 100 square KM and about 146 KM per lakh of population as per 2011 census as on March 2017.

The presence of large number of submersible stretches and existence of large number of semi-permanent timber bridges have hampered all weather roads communication in the state. Therefore a considerable portion of the maintenance fund has to be spent on maintenance of such bridges and roads that hinder the interest of speedy development of the state. The effort of the state PWD helps to bring down the number of semi-permanent timber bridges from 5450 in 2001 to 1433 as on March 2017. In addition to that the construction of the number of RCC bridges has been increased from 309 in 2001 to 4563 in 2016. Presently more than 923 number of RCC

bridges are at different stage of construction. The altogether road network in Assam since 2011-12 is shown in table-4.

Table-4

(in KM)

Item	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Surfaced Road (excluding National Highways)	21200	22700	23747	23948	25546	27003
Un-surfaced Road	24300	22800	21753	20914	19316	18551
National Highway	2848	3069.22	3069	3835	3863	3900
State Highway	3134	3134	3134	2530	2530	2530
Major District Road	4413	4413	4413	4379	4379	4379
Rural Road	36544	36544	36544	36544	36544	37030
Urban Road	1409	1409	1409	1409	1409	1615

Source: Office of the Chief Engineer PWD (Roads), Assam

In Assam, the PWD has been implementing various roads, bridges not only with its own state's resources but also government of India, IBRD, NABARD and NEC has funded. Under Pradhan Mantri Gram Sadak Yojana launched in 2000-01 which has given priority to development of rural roads of the core network has funded Rs.8801.81 crore with the objective of providing connectivity to the unconnected habitations. In addition, under the RCIP Trench-I to be funded by the Asian Development Bank an amount of Rs.310.48 crore has been cleared by MoRD, Government of India for the construction of almost 427 KM for connecting 239 habitations of 500+ population. The achievements of implementation under the PMGSY so far are shown as follows.

Upto date Road length sanction upto 2008-09:	15909 KM
Road length complete	: 13151 KM
Amount sanctioned	: Rs.8801.81 Cr.
Amount released by GOI	: Rs.7434.71 Cr.
Habitation sanctioned (1000+)	: 6102 Nos.
Habitation already connected	: 5146 Nos.
Balance length in progress	: 2758 Km
Balance habitation (1000+) to be connected	: 956 Nos.

In Assam, apart from it under the government of Assam Mukhya Mantrir Paki Dalang Nirman Achoni has been launched which aims at replacing existing wooden bridges of remote rural areas by constructing RCC bridges for better connectivity with urban areas. Under this scheme, 199 RCC bridges have been sanctioned with total projected cost amount of Rs.119.93 Cr. out of which almost 90 Nos. of bridges are completed with utilization of almost Rs.80 Cr. fund. As against it, under Assam Vikash

Yojana, 115 Km Road work and 13 Nos. of bridges have sanctioned at the cost of Rs.187.55 Cr. where already 102 KM and 5 Nos. of bridges have completed by incurring an amount of Rs.161.23 Cr. Even the government of India has received a credit from IDA on behalf of the state of Assam for the Assam Agricultural Competitive Project (AACP) that includes rural road component along with agricultural and its allied farm sector. Apart from all these, NEC, RIDF (loan assistance from NABARD), Central Road Fund are granting huge amount of funds to develop the infrastructure sector in rural areas of Assam so as to enhance the rural-urban linkages. But in Assam due to some existence of difficulties during implementation of road development projects like less working period-hardly six months fair weather for roads and bridges construction, local socio-economic problems regarding certain area law and order, hesitation of contractor community to transform the construction industry from manual to mechanization etc.

POSTAL AND TELECOMMUNICATION SERVICES:

One of the important determinant of identifying rural-urban linkages in Assam is the postal and telecommunication services. In respect of both these two services in Assam, the state has been recording a steady growth. The Assam Postal Circle has a network of 4013 post offices out of which 92.84 percent post offices are located in rural areas as on March 2013. It is found that each post office serves a population of 7776 persons covering 19.58 square km areas. There are three night post offices functioning in the state which are located at Guwahati, Dibrugarh and Silchar for convenience of the people. Apart from it, there are 625 modernised post offices and 629 computerised post offices in the state. Even there are four National Speed Post Centre and 16 Speed Post Centre in the state and Postal Mail Conveyance covers 4428 railway kilo metre. The Department of Posts has introduced a facility for opening of 'O' balance Savings Accounts for the MNREGA beneficiaries. In spite of some improvement registered in the postal services in Assam, the position of the state in this regard is not found much satisfactory in comparison with the position of the country as a whole. Even Assam is among the six states across India where initiative has taken to start Core Banking Solution (CBS) in 12 selected post offices under pilot project to bring the postal customers under postal banking coverage which help the customers to access their saving bank accounts from any of these post offices.

In Assam, regarding the availability of telecommunication facilities is concerned a slow and gradual increasing trend has been noticed during recent years. Assam Telecom Circle of Bharat Sanchar Nigam Limited (BSNL) is the largest telecom operator in the state which was constituted in 1987. It should be noted that BSNL, Assam circle is the only service provider which is making focused efforts and planned initiative to bridge the rural-urban Digital Divider ICT sector. In Assam, BSNL is operating with 585 telephone exchanges where 46.50 percent is the overall tele-density of the state against the national average of 73.34 percent at the beginning of 2013. In a state like Assam, it is observed that the urban tele-density is 136.38 percent in 2013 as against the rural tele-density is only 30.18 percent. The subscriber base basic services provided by the BSNL in the state were 1667606 as on March 2016 which shows a growth of 10.9 percent over the previous year. The total number of telephone connections as on March 2016 was 19.5 percent more than that of 2015. It should be noted that private operators are also providing 1980 wire-line phones to its subscribers till March 2016 in Assam. In respect of wireless phone connections, there were 2.05

crore mobile connections in Assam as on March 2016. BSNL alone provides around 8.6 percent of the total mobile connections in the state during that time period. The private mobile service operators have also providing about 1.90 crore mobile connections as on March 2016. Thus the share of mobile connections provided by the private operators has increased from 91.7 percent as on March 2015 to 92.8 percent in 2016. But still there have been uneven telecom facilities across the urban and rural segments of the state. The present status of telecom facilities in Assam provided by the operators is shown in table-5.

Table-5

Item		2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Direct Exchange Lines		1492608	14422194	1463773	1427318	1503449	1667066
Rural Telephone connections		491881	445399	459014	449347	482397	547081
Village Public Telephones		24415	24688	24692	24692	24663	5297
Total Telephones		14437929	14533025	15462192	16611629	17318325	20694170
Tele density (in percent)	T	46.61	46.50	48.74	51.9	53.95	63.25
	U	148.54	136.38	126.27	129.05	132.26	148.86
	R	28.35	30.18	34.36	37.41	39.18	46.63

T = Total, U= Urban and R = Rural

Source: Annual Reports, Department of Telecommunication, (GOI).

PUBLIC HEALTH INFRASTRUCTURE IN ASSAM:

Health care is the foundation of rural health care system which is an integral part of the national health care system. In the rural areas of Assam, services are provided through a network integrated health and family welfare system and health care programmes have been restructured and reoriented from time to time to meet the objectives of the National Health Policy. While public health facilities are reasonably well developed in urban areas but there is inadequate development of health infrastructure in rural areas of the state. It puts a lot of pressure on the urban areas and thus can weaken the rural-urban linkage. In this regard, investing to health is important because of which in each five year plan total expenditure on health increases which has achieved at Rs.78000 lakh in 12th five year plan as against Rs.69793.45 lakh in the previous plan period. Consequently, the infant mortality rate in rural areas of Assam has been observed to decline gradually.

Health care performance in Assam exhibits sustained improvements over the years. These improvements are the outcomes of centred and continued efforts of the government towards establishing an efficient system of health care and family welfare through effective planning, financing, human resource management and infrastructure and supply chain management. The state government has taken initiatives to reduce regional disparities and gaps in the access to safe drinking water, sanitation facilities, public and private health care infrastructure. The status of health infrastructure in the

state is improving over the years. At present there are 25 civil hospital, 14 sub-divisional civil hospital, 1014 PHCs, 62 FRUs, 162 CHCs and 4621 sub centres with 18886 numbers of total beds in the state at the end of the year 2016. Even there are 5004 number of medical and paramedical staff in the state including Ayurvedic and Homeopathic doctors as reported at the end of 2016.

CONCLUSION:

From the ongoing analysis we can say that for strengthening the linkages between rural and urban areas of the state, infrastructural facilities should be created in such a way that it minimizes the wastages of resources in the state economy. Various programmes should also be generated by keeping view of grass root level development that can open up the pace of GDP growth. It is better for the government to play independent role by the financial institutions. Without playing a leading role by the financial institutions, market size may not be expanded which will remain untouch the linkages between the sectors. Thus infrastructure provides the basic framework for economic and social upliftment not only for the state economy but also for the economy as a whole and hence it can rightly be regarded as an very important input for development of rural sector specially and improves the linkages of rural and urban areas of the state which can further ensure equal distribution of income and wealth of the society.

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