CHAPTER II

INFRASTRUCTURE AND DEVELOPMENT: 
THE THEORETICAL PERSPECTIVE AND PRACTICAL 
POLICY MAKING IN THE RURAL CONTEXT

II.1 The literature on the different aspects of infrastructure and their inter-relations and implications for economic development is extensive. This chapter incorporates the conceptual issues and theoretical background of infrastructure as explored from survey of existing literature.

This chapter has been organised in six sections. The notion of infrastructure and its impact on various sectors in the economy have been discussed in section two. The need and importance of public and private investments in infrastructure provision have been elaborated in section three. The next section has been devoted to examine the need of infrastructure provision in the rural areas to achieve rural development while a brief history of rural development in India has been documented in section five. The concluding section summarises the broad discussions in this chapter.

II.2 Infrastructure and the Economy

The fact that ‘infrastructure’ covers a wide variety of facilities makes it almost impossible to include all of them in a single definition. Conventionally, to development economists such as Rosenstein-Rodan, Nurkse and Hirchman, infrastructure is an umbrella term for many activities referred to as ‘social overhead capital’ which consist of things such as (a) public utilities like power, telecommunication, piped water supply, sanitation and sewerage, solid waste collection and disposal of piped gas; (b)
public works like roads, major dam and canal works for irrigation and drainage; and (c) other transport sectors such as urban and interurban railways, urban transport, ports and waterways and airports (World Bank, 1994). Oxford Dictionary of Economics also limits infrastructure to the ‘capital equipments used to produce publicly available services including transport and communication, electricity, water supply, etc. which provide an essential background for other economic activities in modern economies’. Apart from the above mentioned facilities, infrastructure also includes some other facilities essential for modern living. Therefore, infrastructure may be defined as the facilities like transport and communication, power supply, water supply and sanitation, educational and commercial institutions like schools and colleges, banks, market places and other institutions like hospitals, hotels and restaurants, parks and playgrounds that provide basic facilities of living and assist economic activities to develop.

Some such facilities have direct impact on commercial activities while others are important for social change and development. Every infrastructure service is different from others in various aspects like administration and operation, ways of regulation, technology used and degree of commercialization. Jetli et al. (2007) defines infrastructure as “the physical framework of facilities through which goods and services are provided to the public”. Jimenez (1995) compares infrastructure with a pitch where the four factors of production interact with each other and produce output. Crandall (1997) views infrastructure as those facilities, provision of which creates economic externalities. According to him, infrastructure may also include ‘natural monopolies’ since some sort of public ownership or social control is necessary for fair
pricing of their services. Common-carrier telephone systems, sewerage, water distribution utilities are examples of this category of infrastructure.

Common sense would suggest that infrastructure positively influence economic activity. While it is obvious that quality infrastructure can facilitate economic activities to flourish, the precise nature of relation between infrastructure and development is a matter of debate. World Bank (1994), however, finds that ‘a 1 percent increase in the stock of infrastructure is associated with a 1 percent increase in gross domestic product (GDP)’ across all countries. This means there is positive correlation between infrastructure and development. The report further highlights that developing countries generally invest $200 billion per annum in new infrastructure which constitutes 4% of their total national output and 1/5th of their total investment. As a result of such investment in new infrastructure, services from transport, power, water, sanitation, telecommunication and irrigation are increasing dramatically in those countries. These improvements are doing a lot in raising productivity and living standards of people there. However capturing the different ways in which infrastructure influence the economy is not a simple task. To explain the impact of infrastructure, Capello (2007) mentions about the growth theories like theories of balanced growth, stages of development, the export base and growth-poles and concludes that infrastructure enhances export, the production system’s competitiveness and an area’s capacity to attract new activities. Jetli et al. (2007) point out that infrastructure development influences economic activities, and hence economic development, in various multiple and complex ways creating lots of spillover effects. They find that better infrastructure services enhance productivity of
factors like labour and capital. The authors further insist that lack of access to reliable infrastructure services causes under-utilization of productive capacity of an economy leading to less short run production efficiency and output growth. Improvement of transport infrastructure makes flow of commodities smooth from production units to the market places. At the same time, it makes people’s access to the market easier. Therefore, Jimenez (1995) is of the view that infrastructure has direct positive influence on consumption.

Although improvement in infrastructure is highly essential because of the positive influence of those services on economic activities, most of the developing countries find it difficult to make provision of these services in sufficient quantity as the cost of investment in infrastructure is very high. Less developed countries, as Eichengreen (1995) concludes, are facing the problem of sustaining such huge investments in infrastructure and due to inadequate amount of such facilities, income generation is hampered in those countries which, again in turn, adversely affects improvements in infrastructure. Thus, these countries are in a low-level equilibrium trap from which they find it difficult to get out. Oxford Dictionary of Economics reiterates that ‘the fact that they (infrastructure facilities) are not available or reliable is characteristics of less developed countries’ and in turn also ‘handicaps their development’.

Another mention worthy thing here is that the composition of infrastructure services helps ascertain the degree of development achieved by an economy. As Jetli et al. (2007) observe, the share of basic infrastructure such as water, education, transport is higher in the initial stages of development. As the economy matures, needs for
these basic services shrink but shares of services, like power and telecommunication, tend to increase.

Although most theoretical studies stress upon the favourable impact of infrastructure, these services may not always affect the development process positively. Apart from injecting positive externalities, as Jimenez (1995) finds, infrastructure may also create negative externalities like congestion and pollution. Such an externality associated with roads is the damage caused by a user to other users.

Moreover, the positive impact of creation of infrastructure on an economy depends on the capacity of the economy to derive benefits from those services. Creation of infrastructure in a weak economic region without any productive prospect may not be very effective since such an economy lacks the capacity to utilize fully the services of infrastructure. Therefore, as Capello (2007) puts, it is essential to develop the productive areas to some extent before making investments in infrastructure so that it can accelerate the pace of development.

To sum up, infrastructure has positive influences on economic activities. But the relationship between the two is not very simple. Infrastructure, to some extent, helps raising productivity of inputs, improves marketing facilities, makes access to goods and services easy and, thus, enhances standard of living. Deficiency in infrastructure keeps the developing and underdeveloped countries within a low-level equilibrium trap hampering income generation and resulting in inadequate supply of infrastructure in turn. However, derivation of benefits from infrastructure services requires infrastructure development and their utilization to take place concomitantly.
II.3 Provision of Infrastructure: Public versus Private Sectors

Though there are lots of debates regarding the role of infrastructure on development, probably there is no ambiguity that improved infrastructure is a necessary condition for achieving high rates of economic growth. This realization encourages governments across countries to provide such facilities to aid their development processes to flourish. Accordingly, public sector has been predominantly engaging in providing infrastructure services in almost all countries of the world since 20th century. For example, government provides facilities of water supply, irrigation, transport infrastructure, power supply etc. Due to dominance of the public sector in its provision, infrastructure is often referred to as ‘public capital’ or ‘social fixed capital’ (Capello 2007). Jimenez (1995) also supports public provision of infrastructure services. In India too, most projects on infrastructure development have been implemented by the public sector. These projects have been provided and financed by the government mainly through domestic sources like funds from the banks and insurance companies issuing securities to them. In addition, domestic funds have been supplemented by foreign funds in the form of project-specific aids.

The argument that infrastructure is a natural monopoly accentuates government’s role in its provision (Jetli et al. 2007). But only government investment may not be sufficient to deliver infrastructure facilities as per requirement since it needs huge and lumpy investments with long gestation periods. Factors like huge and lumpy investments with high risk and low return, high incremental capital-output ratio, long payback period and superior technology are associated with investments in
infrastructure because of which government efficiency in delivering quality services is highly constrained. Moreover, the issue of quality improvement in publicly provided infrastructure services is not getting enough importance because of absence of competition in their provision (World Bank, 1994). Crihfield et al. (1997) cited the inability of public investments in infrastructure found in a number of empirical researches. According to them, “the ‘sign and significance’ of public sector spending coefficients in regression analyses do not offer the compelling policy direction indicated by alternative criteria”. They also observe that most successful public investments or public-private partnership investments in US economic history were found to give only marginally better rates of return than forgone alternative investments.

Apart from the above mentioned deficiencies, public provision of infrastructure encounters some other problems. One serious problem in the provision of infrastructure in developing countries is that investment in this area is not properly allocated. While heavy investments are made for new infrastructure, maintenance of existing facilities is ignored (World Bank, 1994). Moreover, investments may be channelled towards low-priority areas ignoring the important ones. Due to technical inefficiency and wastage, realization of services from existing infrastructure is not optimum. Again, the infrastructure service providers are not given managerial and financial autonomy which are necessary for proper delivery of services. World Bank (1994) suggests that the service providers, under public provision, must have to abide by the rules and regulations and have to work under the guidance of Government policies.
Due to the bottlenecks associated with public provision of infrastructure, it is necessary for the economies to examine the possibilities of private investments as an alternative to public investment in this area. Jetli et al. (2007) also support that the traditional pattern of government financing has now been witnessing a change as state investments in infrastructure have gradually been supplemented by private and foreign funds. They observe the emergence of a new approach of privatization and deregulation of infrastructure sector in search of alternative sources of finance. However, public investments have not been accorded less priority since those have still been emphasized on basic services especially on health, education, water supply, sanitation and electricity in all the countries in general and in the developing countries in particular.

For provision of infrastructure facilities, private investments would normally not be forthcoming automatically due to public good\(^1\) nature of these services. Due to non-excludable or/and non-rival nature of many of the infrastructure services, market forces cannot ensure their adequate provision. Hence, infrastructure services are generally either provided or regulated by the State. Even if government intervenes to provide such services, divergence of social cost-benefit from private cost-benefit of infrastructure makes it difficult to trace for any signal or information about consumer needs (World Bank, 1994).

\(^1\) Goods or services that are collectively consumed; it is not possible to exclude any individual from deriving benefits from those goods and services and there is no rivalry in their consumption because consumption of those by any one person does not reduce their availability for the others.
Another problem of private delivery of infrastructure is the allocation of risks. In case of public delivery, all risks are shouldered by the government. But in case of privately owned and delivered services, there appears a tendency among the shareholders to shift the risk to the other (Jetli et al. 2007). As such there is need to find out a system through which it is possible to bring a balance in allocation of risks among the public and private sectors. A transparent method of negotiation in construction and maintenance of infrastructure is required to encourage private investments in this area.

A large number of public-private partnership methods have been used by different countries to attract private investments in infrastructure. One of such methods may take the form of a ‘service contract’ where provision of specific infrastructure service is contracted out to private entrepreneurs or institutions. Some examples of infrastructure facilities where service contracts are often made are ticketing, cleaning and food catering for rail transport, meter reading, billing and collection for water supply, cleaning and snow removal from public highways, etc. The responsibility of operation and maintenance of the services remains on the public authority after the period of the contract. The commercial risks associated with the contracted service are also taken up by the government. Service contracts are generally completed within a time period of less than five years.

Public-private partnership (PPP) may also take the form of ‘operations and maintenance contract or lease’ where the operation and maintenance of a publicly owned facility are contracted out to a private firm. It is similar to the service contract
except the fact that here the private firm has to shoulder the overall responsibility for operating and maintaining the system and make day-to-day decisions. The facility may be leased to a private firm against the payment of a lease fee. In this case the user charges are collected by the firm.

The responsibility of provision of a specific service may be entrusted to a non-profit, voluntary, ‘cooperative association’. For example, local telephone systems have been successfully expanded by rural cooperatives in countries like the United States, Canada and Finland.

As per the method of ‘lease-build-operate’ (LBO), a private firm develops and operates a publicly owned facility under a long-term lease. The firm pays a rental fee and it recovers its investment along with a reasonable return over the term of the lease. The facility remains publicly owned as its responsibility is handed over to the government after the lease period.

Under ‘build-transfer-operate’ (BTO), a private party builds a facility with its own funds and transfers the legal ownership to the sponsoring government agency on completion. The government agency leases the facility back to the developer for a long term. The developer party operates the facility during the period of the lease and recovers its investment along with reasonable return from the collected user charges and commercial activities.

One of such methods is the ‘build-operate-transfer’ (BOT) arrangement where the private investors build, own and operate first and after a certain period, transfer the
services back to the government. This is sometimes referred to as ‘build-own-operate-transfer’ (BOOT). It is similar to BTO but may encounter legal, regulatory and liability issues that may arise during the private ownership before the transfer. It is the most common form of public-private partnership for creation of new infrastructure.

Another arrangement is the ‘wraparound addition’ under which a private firm builds an addition to an existing public facility. The firm then operates the combined facility either for a fixed period or until it recovers its costs along with reasonable return. In certain cases, the firm may own the addition. Governments facing the problem of fund crunch may adopt this system to expand a facility.

Public-private partnership may also take the form of ‘buy-build-operate’ (BBO) in which an existing public facility is sold to a private partner who develops it and then operates under a franchise.

The ‘build-own-operate’ (BOO) method empowers a private firm to finance, construct, own and operate a facility under a franchise subject to regulatory constraints on pricing and operations. Private parties come to invest because of the long-term property right provided to the developer.

Arrangement of most of these models is highly complicated and time-consuming. Some of these models require the sponsoring government to provide guarantees to the private partners of sufficient returns from their investments. As per the arrangements of most of these contracts (as in LBO, BTO, BOT), the facility is
transferred to the government after the completion of the contract period. However, the maintenance of facilities created by private firms under such contracts may not be accorded priority by the government. Therefore, certain clause may be retained in the contract that binds the private developer to take care of the facility for a few years after it is transferred to the public authority.

PPPs become effective and sustainable only when public perception and confidence on such arrangements improve which is ensured through transparent processes and consultation with stakeholders along with making way for competitive bidding on PPP projects. What is the most essential in making PPPs acceptable is to create an environment where PPPs become successful to put private resources into public projects but not the other way round (Planning Commission 2006).

It is found in this section that infrastructure is mainly provided by the public sector. But public resources to invest in this area are not sufficient on one hand and public investments are inefficient on the other. It accentuates the need for encouraging private investments in this crucial sector. However, importance of public investment remains intact in the provision of basic infrastructure facilities like health, education, water supply, sanitation and electricity. Entry of private investments requires a transparent mechanism for provision of infrastructure and sharing of risks involved with it. Such mechanisms may take the form of numbers of contract or lease arrangements like LBO, BTO, BOT, BOO, etc. For successful implementation of PPP, public perception and confidence on such mechanisms have to be improved.
II.4 Rural Development and Rural Infrastructure

The issue of rural development has achieved special attention in almost all developing countries like India as most of the population of such countries live in the rural areas. Among the surveyed literature on rural development, it is found that different scholars define rural development in different ways.

Bhadouria and Dubey (1989) envisage rural development as general increases in rural labour productivity ensuring rise in income, rural employment opportunities to absorb new addition to rural labour force, education, health and nutrition and consumption of both essential goods and services including entertainment and defense. In another context, they visualize rural development as improvement in the living standards of the low-income masses residing in the rural areas. For ensuring such improvement, redistribution of available resources should take place in such a way that the rural people can get benefit from all welfare and productive facilities.

Harichandran (1983) broadly defines the objectives of rural development as maximization of agricultural production in rural areas, establishment of rural industries based on local resources, maximizing employment opportunities in rural areas, providing basic services like drinking water, communication, health and welfare and education. Precisely, rural development may be considered to take place when rural people enjoys enhanced access to income, resources and basic facilities like education, health, drinking water and communication that improve their living standard.
Improvement in rural infrastructure is crucial for agriculture, agro-based industries and overall economic development of rural areas (Satish 2006). It has also significant impact upon the standard of living and quality of life of rural people. The problem of rural poverty can be well addressed by investing adequate funds for the development of rural infrastructure. Countries like Indonesia and Malaysia have succeeded in alleviating poverty to a great extent by investing in infrastructure in the rural areas (World Bank, 1994).

The growth of farm productivity and non-farm rural employment avenues is highly dependent upon rural infrastructure development. Bhatia (1999) emphasises the role of rural infrastructure by explaining those facilities that strengthen the foundation of agricultural activities. Elaborating the role of infrastructure, Narayanamoorthy and Hanjra (2006) argue that both physical and institutional infrastructures create situations for adoption of modern technologies in agriculture. By physical rural infrastructure, they direct towards the facilities like irrigation, watershed development, rural electrification, roads, etc. that play pivotal role in the determination of agricultural productivity in countries like India. Better irrigation infrastructure popularizes diversified agricultural practices and provides adequate incentives to use high yielding inputs in agriculture thereby raising agricultural output. Rural electrification increases farmers’ access to better irrigation facilities. Rural roads increase farm’s access to markets, better allocation of agricultural resources, reduce transportation costs, help in diffusion of agricultural technology. Again, by institutional infrastructure they mean markets, credit institutions, rural literacy, agricultural research and extensions, etc. on which growth of agricultural sector largely depends. Better
marketing facilities of farm products stimulate farm productivity by enhancing selling options and profitability. Easy access to credit facilities stimulates farmer’s investments in modern farm techniques by reducing the cost of borrowings. Education of rural people has also great impact on rural poverty and productivity growth. Thus, rural infrastructure leads to agricultural expansion by increasing yields, farmer’s access to markets and availability of institutional finance (Satish 2006).

Apart from improving farm and non-farm productivity and reducing rural poverty, rural infrastructure also contributes a lot for the attainment of environmental sustainability. There is a relationship between improvement in agricultural productivity, poverty and attainment of environmental sustainability. This is because, principal occupation of rural people is agriculture. Their economic condition is a function of improvement of agricultural productivity. When farm productivity improves, their quality of life improves reducing excessive poverty. Since poverty is said to be the greatest polluter, improvement in the living conditions of the poor helps in the minimization of environmental degradation. Thus, development of rural infrastructure propels a step towards attainment of sustainable development.

From the discussion in this section, it is found that rural development improves the standard of living of the people residing in the rural areas through ensuring access to basic facilities of life. For rural development to take place, it is necessary to improve both physical and institutional rural infrastructure. Such facilities provide not only an environment conducive to adopt modern techniques of production in both farm and non-farm sectors but also create an institutional set up that makes their development
possible. In addition, rural infrastructure helps eliminating poverty to a large extent and minimizes the problem of environmental degradation.

II.5 Rural Development in India – A Historical Perspective

The issue of rural development deserves special attention especially in the developing countries because of two reasons. First, in a developing country, the majority of the population, 70 – 80 per cent in most states in India, lives in rural areas with relatively higher incidence and intensity of poverty. Secondly, the rural population is often deprived of the basic amenities of life which are usually accessed by the population living in the urban areas. The rural-urban disparity limits the socio-economic development prospects and possibilities in the rural areas as compared to the cities and towns. These two lines of thinking accentuate the need of special efforts for the development of the rural areas that ensures improvement of the living standard of the rural masses providing them the basic facilities of life such as education, health care, communication and transportation, recreational amenities, water and sanitation.

Apart from improving the socio-economic status of rural people, the initiatives for rural development enhance the possibility of higher development of the urban centers as well. The reason behind is that rural development may be helpful in minimizing the migration of rural people to the urban areas creating a less congested urban environment conducive to betterment of their socio-economic position.
II.V.1 Plan Period

In India, rural development did not able to draw much attention in the early planning periods. The Second Five Year Plan (1956 - 1960) adopted the Nehru-Mahalanobis model mostly investing in heavy industries for attainment of rapid economic development. The lumpy investments of the public sector for industrialization with long gestation took out most part of the public resources reducing the state’s ability to undertake developmental activities in the other sectors of the economy. In that situation, the policies for rural development in the early planning period were limited in initiation of land reform measures, establishment of community development blocks and promotion of the co-operatives. All these efforts did not get much success in achieving rural development as the land reform measures were not implemented in most part of the country, community development blocks remained ineffective in securing community participation in the formulation and implementation of development programmes in the respective communities while co-operatives were failed to deliver the goods.

The technology transfer in Indian agriculture in the late nineteen sixties leading to adoption of modern agricultural techniques brought landmark development in the agricultural sector what is popularly known as the ‘Green Revolution’. However, the revolution covered only a limited rural areas and a small portion of the rural farmers as a result of which it could not able to improve the economic status of a large part of the rural population across states. Thus the revolution failed to address the problem of mass poverty in the rural areas of the country and in the late seventies, as per official record, almost half of the rural population lived below the poverty line.
Despite the initiatives for rural development, the existence of rural poverty had not lessened and the overall growth rate remained at the ‘Hindu Rate’ of 3.6 per cent. This accentuated the need of change in strategy for development. At the same time, the policy makers were encouraged by the success of localised programmes like ‘food for work’ and ‘employment guarantee programme’ in Maharasthra to introduce similar schemes within the entire nation. Accordingly, two programmes – Integrated Rural Development Programme (IRDP) and National Rural Employment Programme (NREP) - were introduced during the Sixth Five Year Plan to improve the status of the rural poor. The objective of the IRDP was to help those marginal farmers and village artisans having insufficient resources by providing them income generating assets and access to credit as well as other inputs which they could utilise to enhance their productivity and income. The target of the NREP was to provide gainful wage employment to the rural poor especially the landless agricultural workers who usually remained unemployed in off pick agricultural season and bad agricultural years. Other associated aims of the programme were to assist liberated bonded labour, to secure minimum wages to agricultural workers, to create community assets and to strengthen the status of rural infrastructure.

Although the impact of these programmes in reducing poverty and generating employment opportunities has been found to be varied across different regions of the country, the overall impact has remained discouraging. Although the NREP was successful in generating employment opportunities especially during drought affected bad agricultural years, the IRDP have failed to cover the target group. Even if
the Indian government claims more than 80% of the beneficiaries under IRDP belong to the target group and more than half of those beneficiaries have crossed the poverty line after their inclusion in the programme, the actual implementation of the IRDP was not completely flawless across states. As envisaged by Dreze (1990), the selection of beneficiaries in the programme was largely biased against the poor in most part of the country except some states such as West Bengal.

One of the noteworthy reasons behind the unsatisfactory performance of these policies is their irrelevance in many cases and poor implementation. The irrelevance comes because those policies were generally formulated by bureaucrats not well versed with the diversity of socio-economic and environmental conditions across different regions of the country. In addition the communities at the grassroots were not involved in the formulation of the policies. Likewise those were implemented by the bureaucrats without adequately involving the grassroots level workers as a result of which their implementation too remained unsatisfactory. But during 1980s a realisation had emerged that policies of rural development would become effective as and when the people at the grassroots directly involve in the process of policy formulation and implementation. Instead of the top down approach of formulating programmes and allocating funds from the top to the target groups at the bottom, the necessity of the bottom-up approach involving the people and communities at the grassroots in both formulation and implementation of programmes was recognised. It is also recognised that merely involving grassroots level communities in formulation and implementation of programmes would not be fruitful if not empowered them with political power through political decentralisation. As an attempt for political
empowerment of the communities at the grassroots, the constitution of India was amended for the 73rd time in 1992. The 73rd amendment has made provisions of setting up of panchayati raj institutions as statutory local self-governing bodies at the grassroots. The panchayats have been assigned roles and responsibilities for formulation and implementation of policies for rural development in the country.

**II.V.2 Introduction of Panchayati Raj Institutions**

Fiscal federalism in India has realized a landmark development and got considerable depth to its federalist structure with the creation of the panchayati raj institutions as the third tier of local self-government as per the 73rd/74th amendments of the constitution in 1992. Creation of this third tier of government has accentuated democratic decentralization which has been expected to provide efficient and equitable delivery of public services at the local level with people’s involvement (Oommen 2008). This change has been put in place on the realization that local area development would be faster through empowerment of the local levels of decision making units. Bardhan (2006) argues that in delivering services and developing local businesses, the people with the requisite information and incentives should be given the control rights in the governance as they remain responsible for any consequences of their decisions and actions.

In fact, the panchayati raj system has been introduced with the expectation of fulfilling twin objectives of democratic decentralisation to the grassroots level on one hand and local participation in plan programmes on the other (Hazra 2005).

One another important feature of the panchayati raj is that it assists the
empowerment of the underprivileged group of the society through directly involving them with the decision-making process. Towards this end, provisions have been made for reserving 33% of seats for schedule castes/tribes and 33% for women at all levels of the panchayat hierarchy.

In the three-tier local government system, urban local bodies like municipal corporations, municipal boards and town committees are formed which are responsible for preparation and implementation of plans for the development of the urban areas while various panchayats are established as the rural local bodies that plan and execute development activities in the rural areas. Thus the 73rd amendment of the constitution opens up the scope to reform and reconstruct urban India through municipalities and town committees and rural India through panchayats.

Although the panchayati raj system was introduced with the expectation that these grassroots level institutions would be able to involve people at the grassroots in formulating and implementing policies for their own development, the system has not been successful to achieve the expected objectives across states of the country even after almost two decades of its initiation. Panchayats have been empowered in the true sense in states like Kerala and West Bengal, but importance of these institutions for rural development have not been taken seriously in most of the states. Consequently, the goal of achieving rural development through the panchayats has remained hazy and, therefore, thoughts have been given to introduce alternative policies for accelerating the pace of rural development. The following new initiatives are the result of such re-thinking.
II.V.3 Recent Initiatives for Improving Rural Delivery Mechanism

(a) Introduction of Rights-based Approaches

Boesen et al. (2007) defines a rights-based approach (RBA) to development as a “framework that integrates the norms, principles, standards and goals of the international human rights system into the plans and processes of development. It is characterized by methods and activities that link the human right system and its inherent notion of power and struggle with development”. Right-based approaches recognize poverty as injustice and try to identify the root causes of the problem. The basic aim of these approaches is to empower the rights-holders to claim their rights and enable the duty-bearers to meet their obligations as well.

The RBA, as Kapur et al. (2006) find, possesses numbers of general features. First, RBA to development is framed on the basis of various rights and obligations. It establishes the relationship between individuals and groups with valid claims (rights-holders) and state and non-state entities with corresponding obligations (duty-bearers). Secondly, RBA generally covers large numbers of civil, cultural, economic, political and social rights that are indivisible, interdependent and interrelated. Such an approach ensures giving rights like those related to health, education, housing, justice, personal security and political participation which are internationally accepted to be the basic requirement of every human being. Thirdly, RBA tries to maintain accountability and transparency in the process of development by determining the rights-holders with their claims and the duty-bearers with their obligations. Fourthly, RBA ensures active, free and meaningful participation of the
partners in and beneficiaries of the development process in the development mechanism. Finally, RBA works for improving the status of the vulnerable groups in the society. It also aims at eliminating discrimination and ensuring equality and equity.

The Supreme Court of India, by its order in November 28, 2001, has given legal status to a few RBAs making it obligatory for the state governments and governments in the Union Territories to implement eight existing programmes to ensure full coverage of the intended beneficiaries. The order, as Guha-Khasnobis et al. (2006) observe, also empowers the eligible beneficiaries to demand their benefits and approach the court in case they are intentionally deprived of their entitlements. The eight programmes include Annapurna, Antyodaya Anna Yojana, Integrated Child Development Scheme, Midday Meal Scheme, National Family Benefit Scheme, National Maternity Benefit Scheme, National Old Age Pension Scheme and Targeted Public Distribution System. The *Annapurna* is a scheme that aims at helping the aged destitute without getting a pension by providing 10 kg of free grain. Antyodaya Anna Yojana assists the poorest of the poor by providing highly subsidized grain. The Integrated Child Development Scheme is introduced to provide prescribed minimum norms of food to children, adolescent girls, pregnant and lactating women on daily basis. Under this scheme, an *anganwadi* (a childcare centre) is to be set up in each settlement to look after health, nutrition and education of children of age under six. The Midday Meal Scheme provides fresh cooked meals to all children in all government and government aided primary schools on all working days and for at least 200 days in a year. While National Family Benefit Scheme gives compensation
of Rs. 10,000/- to a family in the event of death of its primary income earner, the National Maternity Benefit Scheme provides all BPL women Rs. 500/- by their 12th week of pregnancy up to their first two live births. Social security pensions are provided to the aged destitute on monthly basis under the National Old Age Pension Scheme while Targeted Public Distribution System distributes grains to poor people at moderately subsidized prices. The Supreme Court’s move in November 28, 2001 has compelled all the governments to implement these schemes and thus it is recognized as a landmark development for ensuring right to food and right to health to every citizen of the country.

The same order also ensures right to information through directing all the state government to display the names of the beneficiaries in prominent areas of the village so that transparency in the selection of beneficiaries can be maintained. It again directs the administration to hand over necessary information to the gram sabha empowering them to conduct social audits.

As a drive to implement another RBA with the objective of ensuring right to food and right to work to the poor, Government of India has introduced the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS) under the National Rural Employment Guarantee Act, 2005. It guarantees to provide a minimum of 100 days wage employment in every financial year to each rural household whose adult members volunteer to do unskilled manual work. As per the provisions of the Act, every person has to be paid daily wages on weekly basis or in any case not later than a fortnight after the date on which the work was done.
The responsibility of planning and implementation of various schemes under the Act has been entrusted to the panchayats at district, intermediate and village levels. The District Programme Coordinator at the district level panchayats, the Programme Officer at the intermediate level panchayats and the Gram Panchayats are responsible for identification of works and beneficiaries and implementation of the schemes within his/its jurisdiction. They are also held responsible for preparing an annual report relating to the facts, figures and achievements of implementation of various schemes and providing copy of such reports to the public on demand on payment of a specified fee.

A study by the Government of India (2011) has found that nearly 22.6 million households were benefited under the scheme at an average of 37.2 days per household. Only 3.5% household could avail 100 days work during 2008-09 indicating partial implementation of the scheme. Although it has increased the bargaining power of the agricultural labourers leading to increment in agricultural wages, the scheme like most of the social delivery programmes has been plagued with problems of improper planning, inadequate labour budgeting, faulty works identification, misuse of funds, absence of social audit and supervision and delays in wage disbursements.

The other two landmark developments of introduction of RBAs in India are the enactment of the Right to Information (RTI) Act, 2005 and the Right of Children to Free and Compulsory Education Act, 2008. The RTI Act has been introduced to provide a practical regime of right to information for citizens to secure access to
information in order to ensure transparency and accountability in governance. It is perceived to be the most effective instrument to wipe out corruption and empower the citizens. The Act directs every authority to maintain all their records and provide access to these records to the public on demand. It also directs the authorities to appoint Central Public Information Officers and State Public Information Officers in all administrative units or offices who are made responsible for providing information to persons requesting information under the Act. However, due to weak infrastructure and ignorance of the Public Information Officers in most cases about their exact roles, the implementation of the Act has not been found much effective.

The Right of Children to Free and Compulsory Education Act has declared that each child in the age group 6 – 14 has to be provided with 8 years of free and compulsory elementary education in an age appropriate classroom in a neighbourhood school. The Act points out that it is the state responsibility to ensure 8 years of schooling to every child. The cost of providing education under the Act to those children who are not getting primary education will be borne by the state. The state and the local governments have to ensure that the children belonging to weaker sections and disadvantaged groups are not discriminated against and prevented from pursuing and completing elementary education. The private schools, as per the guidelines of the Act, have to enroll children from the weaker and disadvantaged groups to the extent of 25% of their enrollment.
(b) Use of Information Technology in Rural Delivery System

A serious drawback of the policies for rural development in India lies in the ground that such policies are often found incapable of covering the target beneficiaries. The reasons of underperformance of development schemes are varied among which the important ones are - first, the poor and under-privileged people sometimes do not have information about the schemes introduced for their uplift. Secondly, the poor and the marginalized section of the society usually lack access to nationally accepted, verifiable and ubiquitous identity documents. But the service providers under different schemes very often demand identity proof before providing benefits. Again, different agencies repeatedly demand different identity proofs at different points of times. As a result, a significant proportion of the poor population in India who cannot manage to collect required identity documents and find it difficult to afford the cost of multiple identity verification processes, remain outside the coverage of the development schemes. Such information and identity problems may be well addressed through the use and expansion of information technology (IT) to the remotest area thereby making the rural delivery mechanism more inclusive and cost-effective.

With the objective of creating a universally acceptable identity instrument and to make the development schemes capable of covering the intended beneficiaries through the use of IT, the Unique Identification Authority of India (UIDAI) has been set up by the Planning Commission in January 28, 2009. The UIDAI will issue a biometric-based Unique Identity Number (UID) to each resident of the country and thus will create a network of authentication infrastructure in the whole country. The
UID, popularly known as *Aadhaar* by its brand name, will authenticate the intended beneficiaries under various social delivery schemes through an IT network where the biometric information such as photographs, fingerprints and iris scans of every resident will be stored before providing the UID to the residents. Selection of beneficiaries by the *aadhaar* number will help avoiding duplicate and fraud identities since only one unique number will be given to each resident making it difficult for individuals to represent differently to different agencies (Khound 2012). Hence, the use of UID and IT may be expected to transform the social delivery mechanism more inclusive and efficient by rightly giving the residents a nationally valid identity on one hand and creating an infrastructure to authenticate the intended beneficiaries on the other.

Apart from using *aadhaar* number, the use of other IT services and mobile tele-technology may be fruitful in transforming the rural service delivery mechanisms to more effective, accountable and transparent. Because it is now a reality that not only mobile technology has penetrated into the remotest areas at low usage costs but both computer and mobile-based internet have also been spread to each nook and corner of the country. We have instances of successful adoption of information and communication technology (ICT) for improving service delivery and transparency in a livelihood programme in Andhra Pradesh namely the Indira Kranthi Patham and in MGNREGS in some states (GOI 2011).

**(c) Initiation of the National Rural Livelihoods Mission (NRLM)**

As a new strategy of poverty alleviation, the Government of India has restructured the
Swarnajayanti Gram Swarozgar Yojana (SGSY) and set up the National Rural Livelihoods Mission (NRLM) in June 2010. The Mission would collaborate with the MGNREGS and primarily aim at reducing poverty through promotion of diversified and gainful self-employment and wage employment opportunities for the rural poor. It would provide financial and technical assistance to each state to enable them to mobilize all rural poor to enter into Self Help Groups (SHGs) and their federations in order to enhance access of the rural poor to credit and other financial, technical and marketing services, to build their capacities and skills for gainful and sustainable livelihoods and to improve the delivery of social and economic support services to them (GOI 2011).

In fact, the NRLM wants to bring about a process of reforms in the support structures and institutions at the central, state, district and sub-district levels. As part of the reform process, it would create special institutional support structures through SHGs and their federations handled by professionals and special service providers. The poor people would be mobilized to such institutions to form groups. Fund and capital subsidy would be provided directly to such groups instead of giving the poor individually. The SHGs and the federations would provide the poor a platform that would offer them a variety of livelihood services such as financial and capital services, production and productivity enhancement services and market linkages. These platforms also offer scope of partnerships with various stakeholders thereby creating an environment for the poor to access their rights and entitlements, public services and innovations. The formation of group of the poor people and their collective working through institutions would strengthen their bargaining power,
enhance skill, make their livelihood viable and assist them to come out of poverty.

In Addition, the Mission would replace the allocation-based strategy that most of the erstwhile service delivery mechanisms follow to a demand-driven strategy and enable the states to formulate their own action plans for poverty reduction.

The Government of India has found it difficult to implement NRLM simultaneously in all the 28 states and 5 union territories in the country unless the states give their consent to transit from SGSY to the implementation of the Mission. It also necessitates to improving the institutional capacities of the centre and the states to create an environment conducive to implement the policies under the Mission. Keeping this requirement in view, provision has been made to design National Rural Livelihood Project (NRLP) within the Mission. The project would invest in creating partnerships with private sectors, civil society and other development institutions and would work to develop new ideas, innovations, services and delivery mechanisms.

The Mission would make the Ministry of Rural Development (MORD) of Government of India responsible for providing quality technical assistance to the states to help in programme designing, human resource development and establishing community institutions. The MORD will have to ensure provision of financial help to the rural poor through commercial banks for their capacity and skill development. It will also have to accomplish the task of monitoring the implementation of the policies and evaluate the impact of such policies in achieving the targeted objectives.

Thus in the recent initiatives for rural development, importance has been given to
implement RBAs in order to ensure deserving rights to the poor and marginalized section of the society so that they would be able to live with dignity enjoying at least the minimum facilities. For identification and selection of beneficiaries under various delivery schemes, use of ICT has been prioritized. More recently, efforts have been devoted through the initiation of the NRLM to organize the poor into groups, provide them financial and technical assistance to enhance their capacity and skills, open up opportunities to engage in various gainful activities and give them a way to overcome poverty.

II.6 Conclusion
Relative to the context of my study, infrastructure has been defined in this chapter as the facilities like transport and communication, power supply, water supply and sanitation, educational and commercial institutions like schools and colleges, banks, market places and other institutions like hospitals, hotels and restaurants, parks and playgrounds that provide basic facilities of living and assist economic activities to develop. The impact of such infrastructure has been found positive in a number of studies in raising productivity of factors of production, agricultural production and consumption. Importance of infrastructure may be well understood from the fact that economic activities in the less developed countries are constrained by the inadequate availability of infrastructure. However, it is not true to say that infrastructure always influences economic activities positively. In many cases, negative externalities like congestion and pollution may also be created by such facilities. Again, an economy without the capacity to utilise the newly created infrastructure in productive activities may not able to derive benefit from infrastructure services. Therefore, before making
investments in these facilities, the economy’s capacity to absorb the service of infrastructure has to be improved.

Despite the controversies regarding the impact of infrastructure on development, it is generally accepted that improvement of infrastructure is vital for the attainment of high rates of economic growth. It is because of this realisation, public sector has been undertaking the major responsibility of providing basic infrastructure facilities across countries. However, the need of huge investments with long gestation period for infrastructure creation makes public funds insufficient especially in the developing and less developed countries. Again, the efficiency of public investment in creation and maintenance of these facilities is often questioned. Due to these reasons, economies feel the need to explore the possibility of private investments in infrastructure so that it may fill the lacunae created by insufficient public investment. But investment in such facilities is highly risky and it takes long time to generate return. Besides, the public good nature of infrastructure limits the capability of the market forces to throw light on their consumer demand. As a result, private parties do not come forward to invest their funds unless they are given necessary incentives in the form of guarantee of reasonable return on their investment. As such, numbers of public-private partnership arrangements are made and implemented by different nations to attract private firms for infrastructure investment.

Improvement of infrastructure in the rural areas is also a necessary condition for rural development. Rural development may be defined as the improvement in the access of rural people to income, resources and basic facilities like education, health,
drinking water and communication that improve their standard of living. Rural infrastructure development sets a basis for adoption of modern technologies in agriculture and stimulates the process of industrialization in the rural places. It enlarges employment opportunities in the rural areas and enhances income of the rural people thereby addressing the problem of poverty to a great extent. All these improvements along with increased access to basic amenities of living raise the quality of rural life.

During the early planning periods, initiatives for rural development in India mostly confined in introduction of land reform measures, organization of community development blocks and co-operatives. Such measures did not result in much success and found to remain limited within some specific areas of the country. The technology transfer in Indian agriculture in the late sixties brought significant positive changes in the agricultural sector but it also failed to cover the entire farming community across the country. The IRDP and NREP introduced during the sixth plan created employment opportunities for the rural poor and helped enhancing their income thereby reducing rural poverty to some extent. However, the overall impact of these two policies was also not found much encouraging.

Experiences from the policies implemented in the planning period compelled the Indian policy makers to come to a consensus that policies for rural development would be effective only when the people at the grass-roots could be involved in policy formulation and implementation. In a drive to design a system for involving grass-roots people in policy making and implementation, the 73rd amendment of the
Constitution of India have made provisions of introduction of the *panchayati raj* institutions as self-governing bodies at the local level. However, the system of *panchayati raj*, apart from some states, have remained ineffective in bringing exemplary changes in the living status of the rural poor as a result of which policy makers have to devote special attention in designing alternative means for rural development. In recent times, a few right based approaches have been implemented such as right to work and food, right to education and right to information through which the minimum facilities of living can be ensured to the poor and assist them to live a life with dignity. In order to make development schemes more effective and transparent, attention has been given to use ICT in identification of intended beneficiaries and policy implementation. More recently, NRLM has been initiated in 2010 with the objectives of reducing poverty and achieving rural development providing opportunities of gainful self-employment and wage employment for the rural poor across all states of the country. We have to wait to see whether the recent initiatives would be able to bring spectacular changes in the status of rural development thereby accelerating the overall development of the entire country. It is however not difficult to see that strength of the grassroots institutions will always remain critical while implementing any development initiative which aims at engaging those sections of population that have lagged behind in securing the benefits of economic progress of the country.

Having discussed here the theoretical aspects of infrastructure development and its impact on the economy, the status of infrastructure and development across rural areas of Assam have been discussed in the next chapter.