Chapter II: Economic Models of Infrastructure and Rural Development – A Review of Literature

- Economic Development and Rural Development
- Rural Development: Concept, Theories and Models
- Definition of Rural Areas
- Rural Economy
- An Indian Perspective of Rural Development
- Notes and References
- Annexures
The close relationship between infrastructure and rural development needs to be examined in the context of broad-based and balanced regional development as well the specific problems regarding access to infrastructural facilities in many rural areas. In this regard an analysis of models of rural economic development, particularly those which emphasise growth and accessibility of infrastructure is useful. Different economists have propounded various theories of rural development wherein infrastructure is considered either as a complementary factor or as a key factor for economic development in general and rural development in particular. We make an attempt to examine some of these models as found in economic literature. Our purpose here is to first conceptualise ‘development’ – with its indicators, determinants and constraints – then to understand how ‘rural development’ is integrated with ‘economic development’ both as a process and product, and thereafter to locate ‘infrastructure’ in the theory and practice of rural development.

Specifically this chapter is a review of literature. Some of the important existing literature related to theories and empirical studies on the subject is reviewed following a socio-economic approach to research.

**Economic Development and Rural Development**

Economic development has now become the cherished goal in world economies and economies are striving to boost the process of economic development.\(^1\) Development means a process of transition from a primitive to traditional stage to a developed and modern stage.\(^2\) The meaning and context of the word ‘development’ itself has changed in the past decades. According to Sebastian, from being a purely economic phenomenon, today ‘development’ is an all round transformation of a country. It is holistic; it encompasses advancement of output and income, as well as radical transformation of institutional, social and administrative
structures, as well as changes in popular attitudes, customs and beliefs. In short, it is a multidimensional process.³

In economic parlance, the concept of ‘development’ has a wider connotation than ‘growth’. The term growth may be used to refer to increase in national income (measured in money terms) whereas the term development may be used to refer to the upward movement of the social system. In other words, a continuous rise in the real per capita income may be indicative of the ‘growth’ of an economy, but not of its development.⁴ In this context and particularly for the developing countries, the measurement of development must be done using not only income indices such as per capita income, capital formation, but also non-income indices such as quality of life, human development, people’s access to and participation in resource management etc.⁵

Determinants of development include factors that influence development beginning with the individual and going up to the institutional, viz. individual’s urges and personal capacity and motivation (e.g. cognitive and substantive roles); family and caste size and structure; race, religion and ethnic diversities; educational attainment and empowerment; and level of social security in terms of law, order and justice. In this sense development encompasses several facets of individual and institutional capacities (e.g. intellect) endeavours (e.g. functionalism and productivity) as well as distinct values (e.g. cooperation, harmony and equality).⁶ Hence economic development is measured not only in terms of ‘production’ (pattern and volume) but also in terms of ‘efficiency’ ‘stability’ and ‘distributive justice’. While growth can take place without development, opposite is generally not true.⁷

Constraints to economic development constitute significant barriers to change. They have to be not only identified but also removed in order to effect fast and smooth growth and change. Some of these constraints or obstacles are inadequacy of human capacity and ability; socio-cultural
barriers; and compulsions of coalition politics, administrative hurdles, bureaucratic pulls and pressures etc.

Rapid economic development is one of the foremost objectives of economics policy and planning in the developing countries, including India. The term ‘economic development’ has been variously defined. In the words of Schumpeter, “Development is a continuous and spontaneous change in the stationary state which forever alters and displaces the equilibrium state previously existing...” UNO stated that development concerns not only man’s material needs, but also the improvement of social conditions of his life”. In the Everyman’s Dictionary of Economics, economic development has been used to describe the underlying determinants of economic growth, such as changes in techniques of production, social attitudes and institutions which may produce economic growth. In the words of Meir and Baldwin, “Economic development is a process whereby an economy’s real national income increases over a long period of time”.

From the above definitions it is clear that economic development is not mere increase in output but also improvement in the ‘arrangements’ for the production, distribution and consumption of that output. It is a sustained and dynamic process which brings about far-reaching changes in the ‘structure’ of an economy which determines the force and pattern of economic growth and is reflected in higher levels of output and better standard of living. Another thing that these definitions help us to know is that economic growth is not necessarily development although they are sometimes used as synonymous concepts in economic discussion. While the term ‘growth’ implies more output and income available to the people ‘development’ implies both more output and changes in the technical and institutional arrangements by which it is made available. These changes either proceed or accompany the rise in incomes.

Development therefore, is an interactive process, the variables in this process being natural resources, human resources, capital resources
and technological resources, besides the social, political and other forces. From the traditional or classical emphasis on ‘material’ progress and ‘financial growth’ to the modern emphasis on ‘human development and ‘physical growth’, there has been a steady growth in economic discussion about the multifaceted phenomenon of economic development.

Being a multi-dimensional development reflects itself in various indices. These indices are used by economists to measure economic development. Some of the indices are income-indices: national income, per-capita income economic well-being and capital-output ratio. The Development Decade of 1970s that became the spring-board of economic reforms in many of the less developed countries in the 1980s saw the emergence of non-income indices of development such as Physical Quality of Life Index (PQLI) Basic Needs Approaches, Human Development Index, Human Poverty Index, Genuine Progress Index, and Technology Achievement Index followed in 1990s. In all these indices, health, literacy, food, water and other basic needs have been the common components. While this is from the human angle, from the point of the economy as a whole and as a corollary of human development we have re-emerging emphasis on access to transport facilities, irrigation and power, communication etc. Thereby development is being viewed ‘holistically’, bringing together men and material for development, removing disparities and building bridges. The architects of New Economics such as Mahabub-ul-Haq, Amartya Sen, Paul Baran, M.S. Swaminathan, and D.M. Nanjundappa have made the new indices to serve as guide to monitor the pro-poor and eco-friendly policies and programmes of agencies – governmental as well as non-governmental. For instance, Nanjundappa et.al., felt that the benchmark that has to be adopted for measuring relative disparities or backwardness of the districts/taluks in the state is not the level of per capita income but the average level of development of the state as a whole.\textsuperscript{11} This view is also supported by world bodies like the UNO, UNDP, UNESCO etc.
What emerges from this trend is the essentiality of infrastructure or infrastructure-related indice for measuring development or the s(lack) of it. Such a tool can not only estimate poverty and backwardness but also help to understand the issue at its roots. Infrastructural development, therefore, can come either (perhaps more) as a consequence in the context of differential development or a deliberate design of development. Further, in the context of globalisation global indicators of infrastructure need to be devised, which while taking into account the need for international standard of infrastructure, never overlooks the wide difference across the globe. Even though the low economic status of countries such as India cannot be directly attributed to low status of infrastructure development, the very fact that most of these countries are rich in natural resources but remain largely passive pinpoints that one of the causes of the passivity is rigidities imposed by inadequate and/or inefficient infrastructure sector, particularly for rural development. Agriculture, for instance, which is the mainstay of the people, suffers from low productivity due to infrastructural inadequacies such as poor transport and market systems, shortage of power etc.

One of the disturbing outcomes of such deficiencies is geographical dualism within the less developed countries as between rural areas that lack infrastructural facilities and urban areas that have, or pockets of rural region which are progressively developing these facilities vis-à-vis laggard regions. These deficiencies manifest themselves as bottlenecks like factor immobility, price rigidity, shyness of capital, inhibitions in place of inquisitiveness, communication gaps, delays in programmes and waste of resources. In a region even if a particular infrastructural facility say a road serves as a complementary input, if it is inadequate or improper, it will create more aversion to risk by labourers and investors and there will be no significant addition to the real stock of capital in these countries. So that actual production of goods and services will be far within the country’s possible production frontier. It is therefore, possible, even without much
change in the stock of natural resources and population. To increase national income through a more efficient infrastructure; they make resources flexible and productive. What is perhaps more unfortunate and unethical is that in many of the poor countries infrastructural bottlenecks have led to social obstacles such as serf down and untouchability which are powerful in their negative contribution to economic development.

Therefore, whether through private or public or joint entrepreneurship, there is an urgent need to break the dead lock created by infrastructural deficiencies and income circles of poverty. Development thinkers have been discussing about the strategies that can be adopted to achieve rapid economic development. Since the emergence of development theory around the beginning of the post war period, a variety of competing theories have been forward and debated intensively. A careful study of development literature in economics reveals these crucial things:

1. The selection and representation of trends are tricky issues. Development is like a mirror. There are many angles and arguments to look and fit the occasion. Any single methodology to do this will only be near-perfection and not perfection.
2. The long-term trends parallel general shifts in social science and social action.12
3. There is an increasing concern for differentiation and diversity.13 In contrast to the early and modern development thinking which were fundamentally generalizing and homogenizing, the post-impasse trend highlights diversity and differentiation. Works in 1990s by D. Booth (“Rethinking Social Development”, Harlow: Longman, 1994); and F. Schuurman (“Beyond the Impasse: New Directions in Development Theory”, London: Zed, 1993) are noteworthy in this respect.

The most recent trend comes as a movement away from all these grand (bulwark?) theories and big schema policies. Accordingly there are no more general therapies or recipes, no development policies that are
relevant across countries and regions. The singular is making way for the plural. New qualifications proliferate: sustainable development, environment-friendly production, pro-poor growth, inclusive growth etc. Something similar to these was always there in the critical literature but now they are in the mainstream discourse.\textsuperscript{14}

4. There is a methodological change toward interdisciplinarity and multidisciplinarity. Unwittingly, traditionally development studies were goofed by ‘sectoral’ approach marked as they were by a gap between economic development and social and political development. Fragmented development economics now is few and far between. More attention is being given to cross- or transdisciplinary work. Reasons for this change are the emergences of new synthesized themes, need for new combinations of concepts to interpret theories, and combined efforts and multipronged strategies to be designed to handle today’s issues and challenges in development. In short, there is a new awareness that development requires a multidimensional, holistic approach. For example, a study on rural poverty can never be complete or pragmatic without the knowledge of rural sociology and polity, besides its rural economy. In the context of rural development these disciplinary sense and sensibilities become distinctly clear when we study the problem of lack of accessibility to infrastructure in villages. Many sociological (including cultural), political and economic forces converge as causative factors in processes and (public) actions.

**Rural Development: Concept, Theories and Models**

The importance of economics of development is enhanced by the weight of concerns by individuals and institutions for those in the wrong side of the Big Divide. It is for this reason that this field is attracting great minds and research continuously. In many less developed countries the development process is much more difficult in the countryside. In fact, even in the countries which have had a fair amount of success in
modernizing the urban areas, the rural areas lag behind. But at the same time, rural development is seen as equally if not more important than urban development, the main reason being that the problem of underdevelopment is mainly in the rural areas. In the developing countries like India, three-fourths of the poor live in rural areas and more than one-fourth of the national income comes from the agricultural sector.

Probably the most important (functional) part of rural development is improving agriculture which is presently backward both in terms of availability of critical inputs (e.g. irrigation) and in terms of average returns vis-à-vis., the developed countries. Therefore, it is logical that any programme or plan or rural development lay emphasis on agriculture and allied activities of employment in rural areas.15 Not only as a cause of agricultural backwardness but as a symptom of poor growth of the rural economy in general and individuals in particular there are problems of the underprivileged: low per capita income; low educational, health, and financial status; exploitation by monopoly classes; and so on. A country might therefore, invest in improving infrastructure (including education and financial services), which are often lacking in these areas. There can be specific programmes such as land reform programme or general programmes like poverty relief. Research comes in here both as a precursor to infrastructure plans as well as posterior to it.

Rural development as a process is a matter of perennial interest to academicians and policymakers, as a major plank in the attack on poverty. Successful rural development is the outcome of the joint actions of governments – national, provincial, and local governments – NGOs as well the people. As Esman and Uphoff opine, “Rural development is certainly an integrated process with social and political as well as economic and administrative dimensions”.16 Giriappa feels that rural which was once treated as a means is now “treated as a means and an instrument for overcoming persistent poverty, solving the problem of underemployment and yielding social and economic equality”.17 Hence
along with equality, ethics, ecological balance and sustainability also have
to be considered in a holistic approach to rural development. Mosher gives
an elongated definition of rural development as "a trend in technologies,
organisations, activities and values of a society that – (i) increases the
opportunities of all its rural people for vigorous health, broadening mental
horizons, increasing knowledge an skills and expanding opportunities to
participate both constructively and pleasurably in the activities of their
culture; (ii) Progressively provides more effective means for adjusting as
peacefully as possible the conflicts and injustices that invariably arise as
technological and other cultural changes take place;(iii) Maintains or
progressively approaches on optimum balance between each rural
person’s opportunities for freely –chosen self expression and the
corporate needs of the culture in which he lives; and (iv) increasingly
brings all present and potential farm land into its most effective use,
all without irreparable damage to Earth’s ecosystem.\textsuperscript{18}

Acharya says that for a balanced and sustained development of
rural areas, the direct attack on poverty and backwardness needs to be
supported by at least three complementary efforts. These relate to
infrastructural planning at lower levels, monitoring the dynamics of rural
socio-economic systems and devising strategies to meet the emerging
needs of rural areas. By creating infrastructural facilities at selected rural
centres (of all villages) the population in the hinterland develops close
social and economic linkages with these centres, leading to enhancement
in the growth process. When these centre vibrate with economic activities
they will start absorbing the rural population which would otherwise have
migrated to urban centres.\textsuperscript{19}

In simple, rural development does not mean urbanisation of rural
areas, i.e. converting hamlets and villages into towns and cities or
fabrication of new culture to the rural society – but putting them on par
with urban areas by creating all the facilities required for good life and
progress in the villages itself. It is making growth bearable rather than
comparable. In this sense the programme of Providing Urban amenities to Rural Areas (PURA) becomes meaningful in India.

Two other terms, viz. ‘rural reconstruction’ and ‘rural transformation’ also have been used – although sparingly – to refer to rural development. The term ‘rural development’ is much broader and is widely used both as a means to economic development and as an end in itself. In this sense rural development means correcting underdevelopment and erecting the structures for higher development and by giving villagers better access to them.

When the crux of the issue, i.e., rural poverty is so closely linked with factors like education, land ownership pattern, money lending system, food production and distribution, modernization of farming and non-farming activities, integrated approach has to be the only approach to the problem. For instance as Amartya Sen has shown, the cause of famine and a large fraction of other hunger-related deaths as well, is not the total production level but the distribution of food. Sen concludes his “Poverty and Famines with this famous observation: “The law stands between food availability and food entitlement. Starvation deaths can reflect legality with a vengeance.” Even the country-experiences in Asia and Africa reveal the fact that an integrated approach is indeed the sine qua non of any programme of planned economic development of the rural areas. Thus, in India we have the Integrated rural Development Programme (IRDP) from 1976 restructured in 1999 as Swarnjayanti Gram Swarozgar Yojana (SGSY), and in Africa there is the Regional Industrial Development Programme (RIDP), revised in 1991.

Thus, while academic and administrative concerns for rural upliftment is beyond doubt, the test of efficient, speedy and accountable rural development lies in knowing how rural communities can access and use resources and facilities, including government funds and those that can be leveraged by governments funds.
Definition of Rural Areas

Differences between ‘rural’ and ‘urban’ have many implications other than mere administrative. The difference between urban centres and rural areas may seem so obvious that definitions should not be an issue. However, there can be major variations in the ways in which different nations define what an urban centre is. The criteria used include population size and density, and availability of services such as secondary schools, hospitals and banks. Moreover, the combination of criteria applied can vary greatly. According to Danish International Development Assistance (DANIDA), for many African nations it is 5,000 inhabitants, while for most Latin American and European nations it can be as low as 2,000 or 2,500 or even just a few hundreds inhabitants. This wide fluctuation in definitions has three important implications:

- Official classifications should be treated with caution – for example, a large proportion of settlements classed as ‘rural’ in China and India would fall within the ‘urban’ category if they used the criteria and population thresholds adopted by many other countries. Given the size of the population of these two countries, this would significantly increase the overall proportion of urban residents in Asia and in the world.

- International comparisons are difficult, as they may look at settlements which, despite being classed in the same category, may be very different in both population size and infrastructure. In addition, the reliability of data on urbanization trends within one nation can be compromised by changes in the definition of urban centres over time.

- Public investment in services and infrastructure tends to concentrate on centres that are defined as urban. As a consequence, investment can bypass settlements not defined as urban even if these can, and often do, have an important ‘urban’ role in the development of the surrounding rural areas. Within
national and regional urban systems, larger cities also tend to be favoured with public investment over small and intermediate-sized urban centres, including those with important roles in supporting agricultural production, processing and marketing.\textsuperscript{21}

In the geo-economic sphere the areas surrounding urban centres also have an important role say, in providing food for urban consumers, with proximity lowering the costs of transport and storage. However, it is difficult to make generalizations on the nature of such 'peri-urban' areas, which depends on the combination of a number of factors including the economic and infrastructural base of the urban centre, the region and the nation; the historical, social and cultural characteristics of the area, and its ecological and geographical features. Peri-urban areas around one centre are also not necessarily homogenous. The peri-urban interface around larger or more prosperous urban centres is also the location where processes of urbanization are at their most intense and where some of the most obvious environmental impacts of urbanization are located. They are often characterized by changes in land use; changing farming systems and patterns of labour force participation; and changing demands for infrastructure and pressure on natural resource systems.\textsuperscript{22} Variations in the characteristics of peri-urban areas can also be important. For example, in the growing number of extended metropolitan regions in Southeast Asia, agriculture, small-scale industry, industrial estates and suburban residential developments co-exist side by side. Then the availability and affordability of infrastructural facilities like transport and market become crucial for development. Even today one of the problems faced by the rural people in many developing countries is poor access to urban markets due to a lack of physical and financial infrastructures. Thus, despite proximity to urban consumers, small farmers may be easily squeezed out.\textsuperscript{23}
Besides the legal conceptualization, other criteria of definition such as proportion of the population, regional characteristics are amply available. In apartheid South Africa many areas were defined as ‘rural’ that were essentially, ‘urban without services’ as they had concentrations of people living in an area whose economic base was some distant city where many people worked. A rural area may also be defined on the basis of its ecology. Words such as ‘countryside’, ‘hinterland’ are being used to refer to such areas viewed environmentally rather than socially. Freezing the environmental view with the developmental view, we may say that they are the source areas, from which the world’s cities draw their migrants. If such hinterland happens to be too dry or hilly for modern agriculture, those areas, are likely to be abandoned. It is happening in Argentina, South Africa, Egypt, Philippines and India too. It is a story of agricultural land riveting to some variant of natural vegetation or – just possibly – being kept as a heritage landscape, the rural equivalent of programmes to preserve traditional cities. There is also the danger of farmland being converted into fashion land – what with the growth of amusement parks and badminton clubs. Are these changes simply good? or bad? Do they merely re(present) a different rural social structure? These are questions in today’s rural research.

The re(source) areas were also essentially the crowded parts of the rural world, such as the Indus. The once overcrowded rural areas as well as the sparsely populated ones have witnessed migration of population: peasants from Punjab to Lahore, from Trinidad to Port-of-Spain, from Philippines to Gulf States, to eke out life. The people left behind in their potential bread baskets are the local tribes, the cattle people. They would not like to disentangle themselves from their ‘natural’ habitat. The area is remote too, which implies expensive infrastructural development. Even then development would have occurred but for civil wars, ethnic clashes, cultural antagonism etc. Still, we know from Indian history that rural displacement is painful. One looks at Punjab today and sees men walking
behind oxen, but one also sees tractors and even combines. The demand for farm labourers is therefore declining. Even in large families, quilt of fields replaced by tidy cluster board; one son stays to farm; the other leaves. What is the social cost of such progress? Does rural development mean replacement of villages by towns? Why not bring progressive elements of urban life via infrastructure to the rural environment to retain its cultural identity. These questions cannot be side lined, lest misery becomes ecumenical. Its worst occurrence is when debt and death become two faces of the same coin.

Thus, a rural area is denoted as an area, known for its peculiar features, such as closeness to nature, a settlement pattern which is essentially made up of small villages, occupationally predominance of agriculture a well-knit community life etc. In the country, geographically, at one extreme we have small villages or hamlets and on the other, metropolitan cities. In between the two extremes we have market centres, towns and small cities. Therefore, at one point in the transition zone the village (rural) may merge with the town (urban) giving rise to an area what Giriappa calls ‘rurban’. A rural area, thus, is both simple and complex at the same time. A careful study of the geographical and demographic features is, therefore, essential for devising appropriate, policies for rural development.

John McInerney, Professor of Agricultural Economics and Management at the University of Exeter, makes a major contribution to the understanding of rural areas of the 21st century. He says that the physical appearance of the countryside has changed markedly over taunt decades. So have the economic activities that take place, subject to continual adjustment. Since in a spatial sense, at least rural areas means the land base, and since the bulk of the land is held within farm businesses, it seems to follow that it is agriculture and farming activities which determine the characteristics of the rural areas. He says that “Change in agriculture, therefore, will be the main force which alters the nature of the country life
and hence the fabric of facilities and linkages— the rural infrastructure— that support it.\textsuperscript{24} Therefore, it is possible to see three distinct, if not independent, systems of the countryside namely an economy, a society and an environment. These systems have their own distinct processes, and each has its own particular element of what we think of as the rural infrastructure.

**Rural Economy**

Rural economy is identifiable with the economic activity that takes place in rural areas that is managed utilization of resources of produce goods and services of value to the people, to provide them occupations, and to generate incomes. This goes on in the non-rural economy as well, of course, but rural activity has its distinct features such as its land based character or exploitation of biological processes (which is what so distinctive of farming) or the not so busy life that promote recreation or craft industries alongside farming or the wastes of farming as inputs of industry (mixed farming) and so on rural economic activity develops, therefore, either because that is where production can best be located, or because that is where the relevant consumers are. In either case, there is a particular framework of economic infrastructure necessary to support this economic activity be it roads and other communication links, the market network, delivery systems to supply inputs, and supporting services from administration and finance to information one can even add to this list the modern communications infrastructure (such as internet) that would encourage a major growth in the rural-based income generation through the ‘telecasting’ system. The availability and quality of such infrastructure are usually the major determinants of what economic activities can be pursued, and how successfully, in rural areas. This is what justifies the policy-emphasis to infrastructure attached by the Third World countries, to achieve rural development.
The people in rural economy function as labourers or as consumers. They are components of the rural economy. People also constitute a distinct rural social system in themselves. There are diverse social interactions between the individuals and groups who belong to the locality. This is the ‘people-oriented’ part of the rural system. It’s working as also its benefits or disadvantages fundamentally depend on the social infrastructure. This is a complex of We find that rural society is no longer based on the simple dual division into landlords and tenants. Rural society, unlike the urban society is an organic society. In spite of social and economic differences, it has a synthetic culture sustained by bonds of interdependence between people in various walks of life. The relationships are both lateral-between individuals belonging to the same position, and vertical – between individuals belonging to different levels. 25, 26

A rural area is also a functioning environmental system: a matrix of biological resources, landforms and biophysical processes, interactions between organisms and evolutionary patterns of growth and decay, in short, the ‘natural’, countryside environment. Fortunately this environment is increasingly recognized now as a significant element by itself possessing inherent values (with influences on and incentives to humans) that need to be sustained, independent of any use. This ecosystem too, has its infrastructure which conditions and supports its processes through time. This draws our attention towards integrated development and management of there environments – Natural, built-in and Socio-economic to ensure “growth with a future”. 27, 28.

All the three systems are interrelated. They become part of a unified system. Yet they also retrain strong independent or outward linkages. For example, rural economic activity produces goods and services to supply them to the rural population, but mostly for consumption in the rest of the economy. Similarly the generation of employment and income producing opportunities constitute some of the rural social infrastructure. The expansion of physical infrastructure which supports the
development of both social and economic activities (such as better transport links) by the same token also enables rural people to divert their consumption expenditure out of the simply resident measures of rural society while having their work place in the suburbia, while to some other of towns and cities to be 'partners' in rural progress.

Thus, rural infrastructure embraces the social, physical, psychological as well as economic life of the people, although from an evolutionary point of view, it tends to be the economic sector which leads change, which then causes social and environmental adjustments, particularly initiated by agricultural adjustments. Therefore, despite the prominence given to SAP reform and new measures under the recent GATT agreement, it is incorrect to believe that the readjustment in agriculture is being primarily fuelled by political forces.

The new things in the contemporary evolution of rural areas are the indications that the traditional integration between the economic, social and environmental systems is progressively breaking down. The situation now is that the rural economy becoming secondary a set of economic activities that happen to take place in the rural area, but increasingly independent of that overall context, e.g. farming has become insensitive to the environment, new commercial developments are intrusive in the rural scene.

One view is that this is not development but displacement of the rural people. All these forces and changes have had profound impacts on the infrastructure that supports the rural system. For instance, farming is no longer the centre price of rural living, either in the minds or the bank accounts of these people. However, villages have neither lost everything nor gained nothing. New and capital intensive techniques have helped case the drudgery with increasing awareness of non-farm incomes. Many farm households have become outward looking. Perhaps it is the character, not the extent, of village life that is changing. So while the sentimentalists or those who are directly disadvantaged by the changes
condemn the changes, those who benefit from these adjustments welcome them. It is a socio-political judgement as to whose interests are more important. Notwithstanding the truism that man cannot do without food and hence the raw materials required producing it, this is one of the determinants of how rural areas will change over the coming decades. This enlivens our research interest. Food production will remain the nucleus of land use in the rural areas, and the infrastructure to sustain this will retain its centrality, despite any other change. This is so because food security which is a part of human security can be ensured only with proper physical and economic access to nutritious food, the provision of which in turn depends on agri-infrastructure that is technologically sound and institutionally strong.

There is nothing much to fear about change; change occurs at the ‘margin’ (more so an economic change measured as \(\delta y/\delta x\)), not at the core. Infrastructure can take care of healthy changes. It can ensure that development can se by diversification, not necessarily by displacing. Perhaps there will be some change in concepts, say agri-business, contract farming and in part-time farmers becoming a reality (as is already witnessed in the UK). However, those with disdain call it ‘hobby farming’. If one misinterprets the ‘change’ which actually is a fusion of old and new, (the two energies for rural development) the synergies are lost.

Having mentioned politics, we may also see what the growing feeling among the political commentators is about the contemporary meaning of rural areas. It is one of developing self-help villages or there that still continue outside dependence but not necessarily state-help. The idea of self-help development for rural areas (called rural towns!) in New Zealand is encouraged by local governments too for the sake of economic well-being and social equity. This is a new philosophy, rather a change in philosophy or another returning point. Centuries ago Romans gave the call, “back to Nature”, built a system of Natural Law and said that agriculture is the only honourable industry.\textsuperscript{31, 32} For Indians it is revisiting
Kautilya for whom agriculture was a vital part of ‘Varta’ (economy), or Thiruvallavur for whom “ploughmen are free men”, or Gandhi who said that “India lives in its villages” and developed the concept of ‘Ideal village’ and ‘Village Republic’, meaning self-sufficient villages. The Indian psyche is traditionally oriented towards controlled living, nature conservation and environmental preservation. This rich heritage did receive jolts when alien culture had forced itself on the land. The tradition is very much alive.

The process of economic development in general and rural development in particular, is influenced by development philosophies, problems confronting and plans made to translate the philosophies into action by tackling the problems. Rural development involves raising the socio-economic status of rural population on a sustainable basis through optimum allocating and utilisation of resources both internal and external. The essence lies not in ‘providing’ but in ‘promoting’ the rural sector with the active participation of the rural people in the development process.

Rural development is much more than agricultural development. It establishes complementary links between the resources and the commodities and services produces with them, and thus, it encompasses development of farming and non-farming activities, including socio-economic infrastructure. Rural development requires a vast infrastructure. Provision of this is not an easy task even for the government. Huge investment is called for. The investment planning has to be preceded by adequate regional planning. It is argued that if investment activities are intensified in select areas of a region, they will produce sufficient, ‘spread effect’ leading to all-round development of the region. When once the inter-sectoral linkages are well established, the process of development becomes smooth. Perroux for instance introduced the concept of ‘growth pole’ in 1955, based on one simple truth: human activities must cluster together to generate internal and external economies. This may, however, involve some social costs which can be minimized in the due course through policy interventions. We presently examine some of the theories.
of rural development – location theories for instance – which have bearing on infrastructural development.

Christaller’s Central Place Theory of Spatial Organization (1966) also gives useful insights to the importance of place advantage aspect of infrastructural facilities. His theory seeks to relate central place to the hinterland. He defines a central place as a place whose prime functions is providing wide range of goods and services to the ‘dispersed’ population around it; it could be a village or a hamlet. He assumed a homogenous plain with an even distribution of personal and production techniques, space-utilizing human activities, and varying spatial range of goods and services produces because of change in transport cost, demand functions and economies of scale. He found that in the central places of Southern Germany a hierarchy of settlements emerged. Each settlement had clearly defined relationship between its (say city) class size and the number (say of cities) in each size class. Each settlement in the hierarchy produced and distributed all of the goods and services of settlements belonging to lesser class size’s places. Transport cost may exceed as the market area expands or goes for off- with more competition new market areas may develop. But rational beings seeking to minimize transport cost will choose the nearest market centre. Then circular markets will give rise to hexagonal markets i.e., markets with the concentration of more than one service activity. (We may refer to them as multi-infrastructure locations). Smaller central places may also develop at the points where the hexagonal service areas meet, perhaps providing more ‘low-order’ service activities. The resultant central places will be more numerous than the original centres. Certain original central places may attract more ‘high order’ activities. There will be a ‘nesting’ pattern of lower trade areas within the trade areas of higher order centres.

Activities may vary greatly in scale e.g. postal services may vary from a rural post box to a general post office. In other words, there is a hierarchy of service activities. Those settlements with more resources are
likely to have more services, the size of spatial distribution, depending upon two variables namely threshold population and market range. Christaller identified seven levels of central places: Road side Hamlet, Villages, Sub-towns, Town, Major Town City, Major City and World City. Christaller’s theory has lacunae in that it does not allow specialization among central places and division of labour in any other way. This may curtail long-run growth of infrastructure. August Losch in his ‘The Economics of Location’ (1954) explained that the optimum location is the place of maximum profits where AR> AC; AR> MC. To provide a theoretical formulation to optimization, Losch makes certain premises and attempts to incorporate demand into the theory by considering the optimization of the market. He assumes that there are no spatial variations in the distribution of factor inputs over a homogenous plain; uniform population densities and constant tastes exist; there is no locational interdependence between firms; and the demand function, economies of scale, and transport costs vary from product to product. In the Loschian model there are no hierarchy of central places but rather a moving equilibrium of locations under perfect competition and hence free entry conditions. This moving equilibrium will ultimately distort the ideal of patterns, economic landscape, and structural in hexagonal nets. Mainly because of variations in transport and other facilities few sectors will have more settlement than others. In a rural settlement if the market area is near to the farm there is a certain unit price of the produce which rises higher as the consumption centre is further than the farm due to extra distribution costs which are prohibitive. Losch also considers the size of the hexagonal not only in geographical centre but also and perhaps more importantly in relation to the goods, produced. Thus, a particular centre may have several hexagonal markets for its different markets.

Losch’s theory suffers from certain limitations. Being a model of spatial organization it appears an unnecessary restriction that all goods are produced at the superior centre, and an inconsistency of the
assumption of even distribution of demand throughout a homogenous plain to drive spatial organization exists. However, when the final pattern of centre is derived on the basis of this assumption, the assumption is no longer fulfilled unless very peculiar additional assumptions are made. Moreover the entire centre place thesis has major problems: real works seems to contradict the basic hierarchies/rules – A ‘centre’ may develop not only due to service element, but also due to localization of natural resources, as for example, a tourist centre developing in a good coastal area and a fine climate.

The theories assume an even distribution of population, which is not always likely to occur in practice. The theories are apparently static. An increase in the service activity of one centre may have an impact on the service activity of another competing centre, so the central place is in a constant state of change. Moreover, as Weaver opines the message of these theories dealing with the economics of regionalism seemed to be to promote regional economic growth through induced urban industrialisation. The theories, however, have been tested empirically. Christallar’s study of Southern Germany was by any standard the forerunner of empirical application of the central place models. Another is Losch’s study of IOWA (American Region). The theories can be analytically worked out by rank size rule, the formula of which is as follows.

\[ P_n = P_1 / n^Q \]

where,

\[ P_n \] = Population of the nth settlement
\[ P_1 \] = Population of the largest settlement
\[ n \] = Settlement rank, and
\[ Q \] = An exponent which usually approximates to unity
V.K.R.V. Rao and his associates have developed the ‘Cluster Approach’ moving away from the thinking of ‘self-sufficiency’ of villages to ‘interdependence’ of villages. Villages have interdependence element in the field of purchase, sale lease etc. This move is clearly supported by V.M. Dandekar. He opines that it would be more sensible in rural investigation to take into account us a unit of study, ‘cluster of villages rather than ‘single’ villages. Even small and less-resources’ village can develop depending upon interdependence degree including demographic trends.

Rao and his team of researchers conducted a sample study of 245 villages (a 10 per cent sample of the inhabited villages using data from censuses 1941-1971) in Tumkur, a backward district in Karnataka on the topic, “Integrated Human Resource Development”. By analysis they found that out of 245 villages 16 were located on the Taluk Boards and the clusters around them could not be fully delineated. Rao put two proportions: (1) we had yet to begin to exploit the scope existing in the rural sector to promote inter-village channels of mobility, contacts and communications. The thrust of development efforts so far has been on improving the accessibility of villages with the urban areas. (2) Deducing from the first proposition, if these channels were strengthened they could bring about increased inter-village integration in economic and social activities, and in turn would lead to closely integrated groups with neighbouring villages which could serve as the basic units of reckoning in the micro-level planning. Rao defined such a group very expressively as a ‘unit area of development’ (emphasizing its potential for development and integration).

The research team found broad differences in various aspects (e.g. literacy), within the same district. Despite favourable land base (in terms of extent of irrigation and land available for further cultivation) the villages revealed a picture of stagnation. Influential in-migration attributed to higher male/female ratio. One of the conclusions of the study was the human
aggregate consisting of communities in close proximity with each other could come up to the threshold level requirements of the planning for integrated development. Instead of being overwhelmed by rural urban areas in development process we must look into rural-rural relationships like persons, villages have a common feature of life cycle change. Changes in the clusters are life cycle changes or adjustments or villages move through the development process. But unlike the case of persons, in villages there is no such thing, as a unified force (e.g. family bond) among villagers due to the dominance of caste and community. Therefore, policy-makers and researchers try to get information from only the dominant caste or community and not the others. Inferiority complex plays an important (psycho-social) role here. People of minority groups have got less benefits of development due to less acquaintance with officials. This is a sad state of affairs or a tragedy for that matter. There are several such cases of non-economic obstacles to development across and within regions. And the outcome: poverty, inequality or disparity – person to person both intra and inter regional.

We also have a Gandhian theory, rather a ‘model’ of rural development that is worth analyzing particular in a study of infrastructure. The emphasis was on village-centred development rather ‘movement’ based on principle of voluntarism. For Gandhi development like freedom had to begin from the bottom. The chief features of the Gandhian philosophy were: the ideal village or self sufficient unit, decentralized rural administration, role of small and cottage industries trusteeship in resource management and the development of Khadi are symbol of simplicity and indigenous production. Although there is a clear emphasis on the ‘small’ – machines, scale of production – to meet few and simple needs of the villagers, we also see that Gandhi stressed upon the progress and good management of rural infrastructure, whether sources of drinking water or health and sanitation. Gandhi did not visualize static conditions in the village. He was aware that the wheel of development
must move forward but the process of development must not create imbalances. His conception of village was anchored on the post modern perspective of ‘quality of life’. However, several people including Jawahar Lal Nehru expressed doubts over this model. Nehru wrote, “The whole question is how to achieve this society and what its content should be”.

Another grassroots model of rural development is the Gadgil Model developed by D.R. Gadgil of Pune’s Institute of Political Science and Economics. It advocated a specific planned action for rural development. Gadgil was of the view that a plan which attempts a coordinated development of all sectors must attain a high degree of specificity. This would not only help avoid wastage of resources but also ensure planned development of specific resources in sector properly dovetailed with use or consumption in the development plans of each sector. There is thus the need for a large degree of correspondence between targets and achievements in both production resources plans and area plans for smooth progress. It was for planning locally rather than through a breakdown of programmes and estimates framed at the national level. This is ‘planning from below’ case or the ‘bottom up approach’ as against the ‘top-down approach’ or ‘centre down approach’ or the ‘trickle down paradigm’. The general thrust of the top down theory is that a relatively few, large investments can be made in specific sectors of the economy or geographical areas and the benefits will spread and help, other areas. Decisions are made by the government without consultation with local people e.g. projects related to petroleum forestry, infrastructure etc.

In a sense, the traditional ‘centre down’ theories of the classical era state that if something is constructed or invested in, benefits will come. A significant problem with this style of rural development is the risk of backwash effect, a result that is unintentional. Some writers are of the opinion that the bottom up approach leaves things to chance which is politically risky. An alternative approach therefore, is one which is self-
directed which makes way for self-reliance through self-generated development that includes region specific infrastructural facilities.

Then we have the Lenin model of development based on Russian experience. It was one based on social democracy. It is more of an attack on rich classes (of landlords). Lenin said that rural workers and peasants have to unite with the urban workers. He supported collective farming. Initially he was interested in the removal of poverty. He wanted a voluntary union of the poor class. The village commune that exists however, is not a voluntary union, it is enforced by the state. It is a resound of the Marxian call of “workers of the world unite…” It is a call for struggle for the emancipation of the poor.

In the literature on development economics there is also Michael Lipton’s model provoked by urban bias. He explains with reasons ‘why poor remain poor’. In the urban areas there is always modernization and organized production while the rural areas suffer from low wages, low income, inequalities etc. Metaphorical uses of bias are often obscure. Two central features of any best policy therefore, are efficiency and equity in resource allocation. The urban bias hypothesis is that most resources in poor countries are systematically allocated well to that developing policies are so structured as to provide rural people with inefficiently, and unfairly few resources. And there is enough empirical evidence for the town-country struggle. This is clear from the expressions of the international development agencies, chief of which is the World Bank. The “World Development Reports”, 1982, 1986, and 1998 voiced a great deal of concern about the agricultural price policies of the developing countries. Agricultural prices in the third world, the Bank argues, are highly distorted, partly because of the urban-dominated politics or the powerlessness of the peasantry in these countries including India.

From the review of the several theories and models of rural development we understand that there are manifold and often interlinked causes of poverty in rural areas that exists even in times of post modern
growth. More significantly they point out how these areas still suffer from a deep-rooted bias vis-à-vis urban areas as reflected chiefly in inadequate accessibility to infrastructure that facilitates growth. We may say that besides impulses and incentives it is infrastructure that creates and promotes development in the rural areas. The different theories provide insights to develop appropriate approaches for systematic rural development. India does not seem to have adopted any one single approach at one time. It has swayed towards the Gandhian Philosophy (particular in the initial years of planned development) then towards the western approaches. Sometimes we observe combination of Gandhian and western principles – specifically in the agricultural and rural development sphere. Gandhian tradition had its impact before it was encroached by western approach. Even initial infrastructural and social services spheres have been influenced by the western models.

A fact that stands above the rest is the great expansion in infrastructure that serves the rural people in myriad ways\(^45\) – from the supply of clean drinking water to the people as well as water for the thirsty lands, \(^46\), \(^47\) to the provision of roads and communication facilities, and to markets, schools, houses, industrial estates, cattle breeding centre, veterinary clinics and hospitals.\(^48\) The combined effect of social infrastructure and economic infrastructure is to be viewed in terms of enhanced rural labour productivity directly and indirectly such as through better awareness and exercise of human rights.\(^49\) Enhancement of professional and human resources for empowerment of rural people is achievable through socio-economic development in the rural areas. Rural development and empowerment of rural people are inseparable. The key to both is accessibility.

Theoretically and practically, accessibility is a decisive factor in infrastructure for economic development, both for the urban areas and rural areas. In fact the demand for raising the existing level of accessibility in the rural areas is to remove the present urban bias and not to convert it
to a rural bias, (even if it is a remote possibility). Understanding (and not under estimating) the rural-urban differences as well as linkages is what balanced regional development requires. In this sense there is need for an understanding of development that

- Encompasses both rural and urban populations and the inter-connections between them;
- Acknowledges that where people live and work and other aspects of their local context influences the scale and nature of deprivation (whether they live or work in rural or urban areas); and
- Recognizes that there are typical ‘urban’ and ‘rural’ characteristics that cause or influence people’s livelihoods, although care is needed in making generalizations because of great diversity between different urban locations (and rural locations).50

   Essentially this makes us look at not only rural areas and urban areas but also beyond the rural-urban boundary. The continuum (as shown in Annexure 2.1) becomes important, particularly in creating and governing infrastructure. We emphasize some of the most ‘rural’ characteristics of people’s livelihoods in the column on the left and some of the most ‘urban’ characteristics in the column on the right. These should be regarded as two ends of a continuum with most urban and rural areas falling somewhere between these extremes. We know the importance of non-farm income sources for many rural households (including remittances from family members working in urban areas) and the importance of agriculture and/or of rural links for many urban households (including urban centres with many residents who work seasonally in rural areas).

   Despite the contrasts between ‘rural’ and ‘urban’ there are many exceptions. It is also useful to see in the middle of the continuum between ‘rural’ characteristics and ‘urban’ characteristics a ‘rural-urban’ interface in which there are complex mixes of ‘rural’ and ‘urban’ characteristics. For
instance, many of the areas around prosperous cities or on corridors linking cities have a multiplicity of non-farm enterprises and a considerable proportion of the economically active population that commute daily to the city or find work seasonally or temporarily in urban areas. Many rural areas also have tourist centres/industries that have fundamentally changed employment structures and environmental pressures. Therefore, if well managed, the interactions between towns and countryside are the basis for a balanced regional development which is economically, socially and environmentally sustainable. Local development is increasingly associated with decentralization processes, on the assumption that local government is ‘closer’ to citizens – meaning that it is both more accountable to them and that it has a better understanding of local needs and priorities. With regard to rural-urban linkages, local body (e.g. Panchayat) can play an important role in facilitating positive interactions and limiting negative exchanges:

- It is best placed for decision-making on physical transport and communication infrastructure; however, expenditure for infrastructure can be significant and well beyond the means of local government. Wider alliances, which increase access to financial resources, are therefore necessary.
- The management of natural resources and wastes is an important area of local government intervention. However, it often includes much wider areas than those administered by local authorities, and requires alliances with other local, regional, national and sometimes cross-border governments.
- National level policies also have an important role, for example, with respect to access to land and land ownership and titling in both rural and urban areas. Clearly, this is not the responsibility of local authorities but is nevertheless crucial for local development planning and practice.
In short, understanding rural-urban linkages matters because it provides the basis for measures that can improve both urban and rural livelihoods and environments. Ignoring them means that important opportunities will be lost, and in many cases it will also contribute to poor and marginal people's hardship. There are urban initiatives that can reduce ecological damage to rural areas, and help support regional development. However, with a narrow urban-centric approach, such initiatives are unlikely to be given the priority they deserve.\textsuperscript{52}

Broadly speaking every rural development model and strategy points towards either the 'area development approach' or the 'beneficiary oriented approach' (i.e. 'people development approach'). The beauty of 'accessibility' parameter is that it integrates both. Our analysis of rural development schemes implemented in India so far gives ample support to this fact.

Some writers like Atanu Dey express reservations about area development programmes, saying that their benefits get highly diffused and hardly affect people's livelihood directly and hence make little impact on poverty eradication in the countryside. So they prefer people development to area development. An extreme version of this argument is that for the development of rural people to occur, the focus has to shift from development of rural areas to the development of urban areas. The solution to the development of rural people then is not developed rural areas, but rather developed urban areas. Their argument is that the development of rural people can be broadly considered as urbanizing them. Since migration of 600 million people into the present set of cities and towns is unfeasible, new aggregations have to be 'seeded'. This is the primary role of the government because the seeding implies coordinating the building of infrastructure which will support the rural people. The problem of rural under-development is then formulated as one which involves the development of urban areas. In other words, although it sounds paradoxical, the alternative of developing 600,000 villages is
impossibility, as evidenced by the fact that despite enormous resources, rural areas continue to be under-developed. Urban development is a well-understood process and is less costly to the public purse than the alternative of rural development.\textsuperscript{53}

We argue that both area development and people development are urgent rural issues that have a lot in common, but are often treated separately. Balanced regional and economic development has to ensure optimum utilisation of all resources. Rural poverty is a vicious circle with market imperfections too. To break the circle rural development must have a multi-pronged strategy. Since infrastructural facilities have both forward and backward linkages, areas will develop and people will be better off than before. In short there will be growth and welfare. India has a three pronged strategy for poverty eradication: economic growth and overall development; human development with emphasis on health, education and minimum needs, including protection of human rights and raising the social status of the weak and the poor; and directly targeted programmes for poverty alleviation through employment generation, training, and building up the poor's asset endowment. This must continue, with accentuation of efforts in terms of capacity-building, awareness-creating and accessibility-improving.

\textbf{An Indian Perspective of Rural Development}

In India now there is an increasing awareness that rural development should not be seen as package of specific needs but as a transformation of rural life and conditions. Attempts, therefore, are being made not only to change the attitude of rural people towards development and transformation of the village community but also for improving infrastructural facilities in villages.\textsuperscript{54} Thus, while the First Five Year Plan (1951-56) was based on the idea of ‘all-round balanced development’, the Second Plan (1956-61) was on the ‘Socialist Pattern of Society’, the Third Plan (1961-66) on ‘improving the conditions of the rural masses’, the
Fourth Plan (1969-74) on ‘growth with stability’, the Fifth Plan (1974-79) on ‘removal of poverty’, the Sixth Plan (1980-85), on ‘higher growth through rural development’ the Seventh Plan (1985-90) on ‘higher productivity and social development’, the Eighth Plan (1992-97) on ‘strengthening physical infrastructure’, the Ninth Plan (1997-2002), on ‘public-private responsibilities’, and the Tenth Five Year Plan (2002-07) was based on the principles of ‘equity and social justice’ so as to ensure significant progress towards improvement in the quality of life of all people.55 To top it all, the Eleventh Five Year Plan (2007-2012) has the objective of ‘faster and more inclusive growth’.56, 57

How far have these ideas and interests been translated into initiatives of investment – particularly infrastructure – and were helpful in emulating the lot of the rural poor is always a subject of research and debate. But the established fact is that these efforts have helped in creating awareness in the rural communities about the potential and means of development which made quicker adoption of major technological advances in the field of agriculture community services and creation of basic infrastructure. This fact is very essential for rural development in the coming years.

Pre-Independence India’s rural development strategy was chiefly based on Gandhian Philosophy with the ‘rural reconstruction’ approach. However, there is a history of pre-launching projects of two periods: (1) 1921-30, and (2) 1945-52. S.N. Mishra calls these periods as period of early pioneering efforts and period of probationary trials, respectively. In these periods, a number of official and non-official attempts were made on a pilot-scale to deal with the problem of rural construction. Mention may be made of the Rural Reconstruction and Sriniketan Institute of Rabindranath Tagore (1921), the Martandum Rural Reconstruction Experiment of Young Men’s Christian Institute (1921), the Gurgaon Project by F.L. Brayne (1927), the Baroda Project by Raja Sir T. Madhavarao, V.T. Khrisnamachari and Dr. Spencer Hatch (1930s), and Sevagram Project at
Wardha by Gandhi (1936). The ‘Firka’ Development Scheme (firkin means a group of villages ranging usually between 5 and 20) was stated in Madras Province in 1943. Its major achievement was the building of infrastructure facilities and the elicitation of people’s participation. In the same year the Niokherei Project was also stated. The Etawah Project (Uttar Pradesh) was launched in 1948. Most of these schemes were based on the principle of self help and the initiation of mobilizing and utilising local resources for village development.

Gandhi’s work and ideas on rural development were carried forward by his followers. Acharya Vinoba Bhave started the ‘Bhoodan’ (gift of land) Movement (1951) and the ‘Gramdan’ (gift of village) Movement (1952). The rural development strategies (as summarized in Annexure 2.2) pinpoint two foci of attention:

1. Economic development with a close interaction between different sections and sectors, and
2. Economic growth specifically directed to the rural poor.

The various packages and programmes involved confirm that no single package or formula is sufficient for effective rural development. A plus-point of all these strategies, however, is the identification of local forces of development. But every programme had its own limitations both in terms of coverage and tangible performances. The major weaknesses of all these approaches are following:

1. Too much emphasis on agriculture and on individual cultivator.
2. Restructuring local administrative apparatus to suit the bureaucracy.
3. Poor identification of the rural poor.
5. Very little local participation and percolation.
Neither did these approaches cover all the components of rural development nor did they accomplish the goals of rural development. What is worse, they tried to put an end to the tendency of disaggregation of the state plan in the name of decentralization and make an attempt to replace it by micro-level planning based on bottom-up approach, but failed. Even today, the disaggregating tendency continues. So we have perennial problems confronting the rural people. Low wages, low withholding capacity, indebtedness, infrastructural bottlenecks and the like. Many regions still suffer from paucity and/or inaccessibility of infrastructural facilities even when funds have been devolved to them. Even while the nation as a whole has moved forward in the areas of food security, industrial infrastructure and science and technology, the rural areas are still confronted with serious problems related to poverty, unemployment, malnutrition social and economic disparities and regional imbalances. The bitter truth is that while several villages very close to metropolitan centres are fast progressing some nearby and some remote villages are denied the scope for progress. For instance, the population of rural India rose from 43.4 crore in 1970-71 to 65.5 crore in 1993-94 and per capita income from Rs.429 to Rs.5876 whereas urban population rose from 10.7 crore to 23.6 crore and per capita income from Rs.1,294 to Rs.8,037.

Coming to the specific demographic issues, such as average size of family etc., we observe several disparities and some signs of improvement. For example, in 1991 the number of children born per women was 4.4 in the rural areas but 3.9 in urban. Likewise the infant mortality rate (IMR) in urban areas fell from 82 per 1000 in 1971 to 44 in 2000 but in rural areas it fell from 138 to 74 during the period. This is not an optimistic situation, as far as rural development is concerned. High level of human poverty due to poor infrastructural facilities in the rural areas is still a bane in improving the quality of life for the masses. The National Human Development Report 2001 brought out by the Planning
Commission gives many such details. For example, the Human Development Index (HDI) for rural areas improved from 0.263 in 1981 to 0.340 in 1991 while for the urban areas it improved from 0.442 to 0.511. The urban-rural ration of HDI was 1.68 in 1981. After ten years the ratio was 1.50. This decline, though not sharp, indicates what better health infrastructure can do to economic development in general and human development in particular. Similarly the HDI disparities between States/Union Territories indicate how the uneven progress in infrastructure – across regions – cause sharp variations in human development. The states with low rural-urban disparity in HDI ratio (less than 1.25) are Kerala, Goa, Pondicherry, Delhi, Andaman & Nicobar Islands, Manipur and Lakshadweep. The states with medium disparity (1.25 to 1.50) are Mizoram, Nagaland, Punjab, Tamil Nadu, Maharashtra, Haryana, Gujarat, Karnataka, West Bengal, Andhra Pradesh and Orissa. High rural-urban HDI disparity (above 1.50) is found in Himachal Pradesh, Sikkim, Jammu & Kashmir, Tripura, Meghalaya, Assam, Rajasthan, Arunachal Pradesh, Madhya Pradesh, Uttar Pradesh and Bihar.59, 60

Moving on to overall impact of planning for rural development many impact studies have revealed clear evidence of ‘development distances’, which very often are also ‘infrastructural disparities’ in a developing country. While incentives and initiatives for infrastructure investments have moved forward, commensurate impact has not been found.61 Taking the example of one big (erstwhile) programme namely IRDP, reports by the Planning Commission and by the Ministry of Rural Development for 1990-92 to 1996 show that in about 22 per cent of cases, no incremental income was generated. Adequate infrastructure facilities were not available to the beneficiaries. Input facilities were available to barely 40 percent cases. At present only 4 per cent of the budgetary allocation is used for infrastructure development.62 This, the experts opine should be raised to at least 20 per cent in order to give a boost to rural development.
Studies regarding the impact of external assistance on rural development also have startling facts and figures. Even assistance taken from world bodies like the IMF and IBRD seem to have failed to deliver the goods in developing countries. There is also a view that they do harm: hurt the environment, often damage or disregard better development initiatives that were started locally, and increase poverty and perpetuate the debt crisis. One severe criticism is that instead of helping the developing countries the IMF and IBRD, have ended in helping the developed countries, specifically through the major multinational aspirations, in them.63 64 Today’s researchers and organisations interested in rural economics of developing countries, therefore, are seriously engaged not only in explaining and evaluating the past or present rural development theories, strategies and schemes but also in evolving and suggesting possible alternatives. They strongly feel that time has come to look for alternatives in rural development. Even if rural development has failed in some cases, rural development must succeed everywhere. They call for replacing programmes that have tinkering effect with those that make frontal attack on the problems. The ILO for instance, has also stressed on new attributes for rural development which includes the provision of both physical and social infrastructure. Instead of reproducing the same result which of meagre use, it is time that we prescribe some action programmes, even if it is old programme but geared towards the exact goals of rural development made with more systematic efforts. For this we need research to understand what is going on and where we should try to reach.65

From the study of various theories, models and approaches to rural development made with an Indian perspective we have come to know the following.

1. There is an understandable emphasis on Rural Development in economic planning.
2. The stress on rural development is due to many constraints (obstacles) and conflicts (struggles).

3. Inadequacy infrastructural facilities and technological advances in the rural areas stand out as major obstacles to development.

4. Inadequate infrastructure has not only prevented major shifts in occupational pattern in the rural areas, but also resulted in rural exodus and capital diversion to towns and cities.

5. The disturbing trend towards urban diversion has kept the problem of rural poverty alive, leading to rural-urban divide and rural population’s dependency syndrome.

6. Even the traditional outlook towards development is changing slowly and often there are jolts from mishaps of globalization.

Thus, of the varied causes of the problem of underdevelopment the chief one is neglect of infrastructure development. If we fail to do what we ought to do how can we expect the result to be better than one's effort? This is the question to be raised and answered in the context of infrastructure for rural development in India.
Notes and References


8. That a non-economic factor like ‘politics’ can have a tremendous (seesaw?) influence on developmental policies and projects can be seen today even in India in terms of opposition to mega projects and the like. Latin American critic of structuralism, Robert Campos rightly pointed out that infrastructural bottlenecks, and the slow growth of food supply, savings, and input capacity, were all exacerbated by misguided policies and inflation gave only a partial inducement to such policies.


12. In our times we have in Amartya Sen’s “Social Choice Theory” (*Econometrica*, 1976; and in Arrow and Intiligator, editors, *Handbook of Mathematical Economics*, Vol. III – intro. 1986), “Poverty and Famines” (Clarendon Press, Oxford, 1981) some examples for the shift in theory or more particularly the shift from nineteenth century to late-twentieth century epistemologies. With respect to shift in action we see the shift from structuralist perspectives that emphasize the role of macro-structures towards more agency-oriented views and programmes. This is how we see the emergence of NGOs, MFIs, SHGs etc., in the development arena as major players, particularly in the developing countries.

One of the consequences of the emphasis on agency is that development thinking becomes more spatialized and more local and regional. Hence the interest in studies and research regarding regional and local development (see for instance, Jan Nederveen Pieterse, *Development Theory*, Sage Publications, London 2001, p. 11). This interest never seems to wane even in the trend of globalisation. Rather there are hybrid terms that have emerged such as ‘glocalization’, meaning a unified process of globalization and localization.

13. The concern with diversity and agency introduces a new kind of tension too. It is with regard to the relationship between the rural and the urban, between the local and the global, between the internal and the external, the endogenous and exogenous, between micro-and macro-policies and so on. This then is the flow towards democratization of development politics with its tributaries like ‘management’ and ‘governance’.

14. Now we cannot treat development as a mere ideology or interest articulation. It involves meticulous attention to development ‘texts’ and ‘utterances’, even as epistemology. From the invaluable rhetoric of Adam Smith (and his “inquiry”) to the post modern medley of motifs using many a rich vocabulary, development discourse is having a ‘linguistic turn’. In itself it may not be remarkable, but it has interestingly fused ‘inquiry’ with ‘critique’ to enrich the sociology of knowledge. This is a gain to all social sciences including economics. After all sociology is the mother of all sciences.


19. Ib. at 56-57.


22. Ib.

23. Ib.


25. Ib.


29. McInerney, op. cit.

31. Lewis H. Haney, *History of Economic Thought*, Surjeet Publications, Delhi, pp. 74-79. The stoics’ nature philosophy was similar: nature follows laws; wise man follows nature.

32. Karkal, however, has qualms about the usage of this slogan. He writes, “back to village’ is a slogan coined by vested interests of urban elite to hide the poverty. Rural migration cannot be prevented as long as social and economic inequalities, i.e., inequality in access to income generating assets, between rural and urban areas remain in a society. … Nearly 70 per cent of benefits of development has gone to elite group. In the light of these results, to talk of increasing public outlay for removal of poverty without solving the basic issues of socio-economic inequalities would appear to be deceiving the poor in the name of planning! (G.L. Karkal, “Rural Development: Problems and Perspectives”, *Prajnan*, Vol. XXIII, NO.1, January-March, 1984, p. 9.


35. Many of us agree that M.K. Gandhi was not an economist in the strict sense of the term. But none of us would deny that his ideas regarding rural upliftment had strong economic basis and overtones for policy-making.


38. We have the example of Italy of 1960s in which the central government committed huge financial resources to a regional policy of creating growth centres in line with the prevailing ‘top down’ theories of the time. But such a strategy did not lead to decreased disparities in the level of living; they have rather increased both between areas and people. Therefore, as an alternative the centre down approach, was
advocated by Stohn and others. This approach, also promoted by Illevis holds, that decisions and power should as close to the bottom as possible with coming from a region rather than being imposed from outside. It leads not to self-centred development but self-directed and self-generated development. In such an approach to development the infrastructural composition of each region plays an important role.

39. One of the ways to answer this criticism is by saying that there may be a role for both tow down and bottom up approach. Another way is to undertake research in order to discover why a region is succeeding or failing and then decide what intervention is needed, where, and when.

   Intervention may be financial or physical, even by a method or mechanism like the intervention of government machinery or implementation of planning or introduction of some scheme. It could even be a private initiative to induce investments for infrastructural projects or a private-public partnership (PPP) programme for building and operating such projects.

40. The urban bias thesis is associated with the names of Michael Lipton, Theodore Schultz and Robert Bates. Essentially the thesis shows a form of 'class struggle' between rural classes and urban classes in low-income countries. The conflict arises due to the fact that the rural sector contains most of the poverty and most of the potential advance; but the urban sector contains most of the articulateness, organization and power. Moreover, even though the rural population is much larger, the political market strongly favours the urban population at the direct expense of rural people. Resource allocations reflect urban priorities rather than equity and efficiency. The towns succeed in transferring bulk of the costs of the process to the rural poor (Ashutosh Varshney, *Democracy, Development and the Countryside: Urban-Rural Strategies in India*, Cambridge University Press, New Delhi, 1995, p.23.)

41. Ib. at 25.

42. Varshney says that the theme of powerlessness of the peasantry has surfaced elsewhere too. For instance, James Scott, in an influential work (*Weapons of the Weak: Everyday Forms of Peasant Resistance*, Yale University Press, New Haven CT, 1985) has moved from Mao to Brecht when he wrote: “[T]he emphasis on peasant rebellion was misplaced. Instead, it seemed far more important to understand what we might call everyday forms of resistance – the prosaic but constant struggle between the peasantry and those who seek to extract labour, food taxes, rents, and interest from them. Most of the forms this struggle takes stop well short of collective outright defiance. Here I have in mind the ordinary weapons of relatively powerless groups: foot
dragging dissimulation, false compliance, pilfering, feigned ignorance, slander, arson, sabotage, and so forth”.

43. Varshney in the same book (Chapter 1 ‘Town-country struggles in development: A brief overview of existing theories’) also gives the Indian case particularly for the period of first two decades of (Nehruvian) planning, i.e., 1951-1961.

44. In India too in the initial years of post independence there was some urban bias such as in the case of banks concentrating in towns and cities to the neglect of villages. It is too difficult to deny the dominance and power play of vested interests.

Among the Indian scholars who have contributed much to the literature on peasant movements in Karnataka and their ramifications, mention may be made of Muzaffar Assadi of Dakshina Kannada District of the state, now at the Department of Studies in Political Science, University of Mysore, Karnataka.

45. Agarwal and Lal, op. cit., p. 4.

46. The year 2007 has been declared as the International Year of Water by the UNO.

47. Almost six decades ago Charles Trevelyan had remarked that “Water is everything in India. Water is even more valuable than land”. Water a free good has become a relatively scarce commodity today. Rain water harvesting is what Indians today are discussing to address the problem of ‘big thirst’. Water management itself can be an important infrastructural activity for the rural people in these days.


50. DANIDA, op. cit.

51. Ibid.

52. Ibid.


56. lb. at 981.

57. The Eleventh Five Year Plan Approach Paper among other things states: (i) central focus of attention on doubling the rate of growth of agriculture to make a major impact on income and employment in rural areas; and (ii) enhanced facilities for rural activities. Rightly, therefore it has outlined strategies for improving socio-economic life of the masses such as the National Rural Employment Guarantee Act and improving rural infrastructure. There is also a special emphasis on sustaining ‘Bharat Nirman’ to enable rural areas to have basic infrastructure comparable to urban areas (from the text of the Prime Minister, Dr. Manmohan Singh’s speech at the meeting of Planning Commission in New Delhi on October 18, 2006).


59. Interestingly even after fifty plus years of economic planning the ‘BIMARU’ states (Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh) are still the ‘sick’ states particularly in terms of human poverty and development indices.

60. For instance, the Approach (document) to the Eleventh Five Year Plan formulated by the Planning Commission in January 2006 accepts and lauds the rate of economic growth of 7 per cent; and it also expresses concern about the slow decline in the proportion of people below the poverty line which largely is attributable to lack of access to basic services like health, education, clean drinking water etc., without which people cannot be empowered to claim their benefits of growth (*An Approach to the 11th Five Year Plan*, 2006, p.1). Rightly, therefore, we have the ongoing Common Minimum Programme (2004) which is based on ‘governance’ and the New Twenty Point Programme (2006) which tries to build a bridge between economic reforms and the agenda of the Common Minimum Programme. These efforts are clear attacks on the problems of growing ‘rich-poor divide’ and ‘rural-urban divide’.

expenditure as a percentage of GDP has declined from 2.77 percent in 1990-91 to 1.52 percent in 2000-01, rural employment has hardly been hiked from Rs.4,235 crore to Rs.4596 crore. The per capita availability of food grains a day has declined from 510.1 gms in 1991 to 417 gms in 200. Increased income would be reflected in increased food grains consumption since in rural India the lowest 70 percent consume less food grains per capita than the top 30 percent. Ominously the budget 2002-03 is silent on what to do with Rs.60,000 crore and worth of food grains stocks. There are contrasting and sometimes contradicting date on poverty even if poverty has not disapproved the credibility of poverty data is rapidly vanishing. When agricultural employment consumption etc., are either falling or are negative, is it conceivable that poverty is falling rapidly? Interestingly The Economic Survey claims that poverty fell from 36 percent in 1993-94 to 26 percent in 1999-2000.

62. Think Quest, “50 years is Enough! – Arguments against the IMF and World Bank”, http://library.thinkquest.org/co110231

63. A study showed that Uganda spends $ 17 per capita on debt compared to $3 per capita on health. $ 2 billion was transferred from the developing countries to the US alone.

Annexure 2.1
Livelihoods and the Rural-Urban Continuum

<table>
<thead>
<tr>
<th>Rural &gt;&gt;</th>
<th>Urban &lt;&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Livelihoods drawn from crop cultivation, livestock, forestry or fishing (i.e. key for livelihood is access to natural capital)</td>
<td>Livelihoods drawn from labour markets within non-agricultural production or making/selling goods or services</td>
</tr>
<tr>
<td>Access to natural capital as the key asset and basis for livelihood</td>
<td>Greater reliance on house as an economic resource (space for production, access to income-earning opportunities; asset and income-earner for owners – including de facto owners)</td>
</tr>
<tr>
<td>Access to land for housing and building materials not generally a problem</td>
<td>Access to land for housing very difficult; housing and land markets highly commercialized</td>
</tr>
<tr>
<td>More distant from government as regulator and provider of services</td>
<td>More vulnerable to ‘bad’ governance</td>
</tr>
<tr>
<td>Access to infrastructure and services limited (largely because of distance, low density and limited capacity to pay?)</td>
<td>Access to infrastructure and services difficult for low-income groups because of high prices, illegal nature of their homes (for many) and poor governance</td>
</tr>
<tr>
<td>Fewer opportunities for earning cash; more for self-provisioning. Greater reliance on favourable weather conditions.</td>
<td>Greater reliance on cash for access to food, water, sanitation, employment, garbage disposal...</td>
</tr>
<tr>
<td>Urban characteristics in rural locations (e.g. prosperous tourist areas, mining areas, areas with high value crops and many local</td>
<td>Rural-urban interface</td>
</tr>
<tr>
<td>multiplier links, rural areas with diverse non-agricultural production and strong links to cities.</td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------------------------------------------------------------</td>
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<tr>
<td>❖ Rural characteristics in urban location (urban agriculture, ‘village’ enclaves, access to land for housing through non-monetary traditional forms........)</td>
<td></td>
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</tbody>
</table>

### Annexure 2.2

India’s Rural Development Strategies – Evolution and Classification

<table>
<thead>
<tr>
<th>Approach</th>
<th>Emphasis</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Multi purpose</td>
<td>Developing material and human resources of the rural area to the fullest extent through cooperative efforts of the people and active help of the state</td>
<td>Community Development Programme (CDP) 1952 and National Extension Service (NES) 1953</td>
</tr>
<tr>
<td>2. Minimum Package</td>
<td>Attaining higher agricultural production and marketable surplus</td>
<td>Intensive Agricultural District Programme (IADP) 1960-61 and Intensive Agricultural Area Programme (ISSP) 1964</td>
</tr>
<tr>
<td>3. Target Group</td>
<td>Producing a clientele oriented design</td>
<td>Small Farmers’ Development Agency (SFDA) and Marginal Farmers’ and Agricultural Labourers Agencies (MFALA) 1969-70; and Antyodaya</td>
</tr>
<tr>
<td>4. Area Development</td>
<td>Developing under developed regions for even geographical spread effects</td>
<td>Drought Prone Area Programme (DPAP) 1970, Tribal Area Development Programme (TADP) 1972, Command Area Development Programme (CADP), Hill Area Development, etc.</td>
</tr>
<tr>
<td>5. Spatial Planning</td>
<td>Locating all special Programmes in the Respective fields</td>
<td>Block Plans</td>
</tr>
<tr>
<td>6. Integral and Intensive Rural Development</td>
<td>Unifying the fields of activities, spatially and</td>
<td>Integrated Rural</td>
</tr>
</tbody>
</table>


**Note:** The IRDP subsequently engulfed other programmes such as MFALA, DPAP, CADP etc. On April 1, 1999 it was restructured as the ‘Swarnajayanti Gram Swarozgar Yojana (SGSY).