3.1 Introduction

In this chapter, an effort has been made to examine the role of government in the development and governance of rural infrastructure in general. The objective of the chapter is to examine the role of government and other institutions for the development and governance of rural infrastructure in the study region. Against this background, the chapter has reviewed the approaches of the government for the development of rural infrastructure and governance of existing infrastructural facilities. The scenario of these approaches for the development and governance of rural infrastructure has been made utilizing the available secondary data collected from various departments of the district.

Rural infrastructure investment is an important driving force to achieve the rapid and sustained economic growth in the study region. The presence of adequate rural infrastructural facilities is requiring for the modernization and commercialization of agriculture attainment and generation of income surpluses for capital accumulation. It can provide a basis for the expansion of local manufacturing industrial sector, as well as enlarging markets for the outputs of industrial sector. There is a positive relationship between the level of economic development (measured by per capita income and other indicators), and quality of housing and access to basic amenities like electricity, safe drinking water, toilets and other infrastructural facilities (Human Development Report of India 2011). There is a precise link between rural infrastructure and economic development. Therefore, that the only way to build up a regions productive potential and raise per capita income is to expand the capacity for producing goods and services in the region, this need not refer simply to the provision of plant and machinery, but also to roads, railways, power lines, water pipes, schools, hospitals, houses and even “incentive” consumer goods such as consumer durables, all of which can contribute to increased productivity and higher living standards. The expectation is that improved water, better electricity, lower cost transportation, and augmented information infrastructure in rural areas can allow firms to be more productive and to operate at lower costs. The resulting productivity gains are expected to increase overall economic activity of the study region.

Rural infrastructure can be evaluated along with two dimensions. First is in term of the services drawn from the physical facilities and second is in terms of the
physical facilities themselves. Infrastructure often is thought of in terms of the latter because of the close linkage that usually exists between the facilities and the services, such as exists with highway transportation. However, the primary interest of both consumers and businesses is services, not facilities, and a focus on services has advantages. For example, highlighting the services allows policymakers to think more creatively about what specific needs are being met and who the projected consumer is. Service orientation also allows more flexible planning for identifying the best technologies for meeting demands. Thus, unless otherwise noted, the term rural infrastructure is used here with reference to the services drawn from the facilities.

### 3.2 Linkages between Rural Infrastructure and Economic Growth

Rural infrastructure can potentially influence rural economic performance through three avenues: expanding the use of existing resources (labor, capital, etc), attracting additional resources to rural places, and making rural economies more productive. First, existing resources will be used more intensively, both in the short and long term, when derived demand is increased in rural economies. Infrastructure construction, such as laying highways, building electric plants, and installing other capital facilities, offers the potential for short-term economic stimulus if rural firms and workers are hired during the construction process. These benefits can be particularly valuable if they are timed counter cyclically, but regardless of when the construction occurs the benefits are temporary, lasting only as long as the construction. Longer-term benefits for existing resources accrue to the extent that existing firms become more productive and hire additional workers as their capacity is expanded.

Second, rural infrastructure can have an effect by raising the productivity level of businesses operating in rural areas. Though it interacts with the other avenues, this is the primary economic benefit that is expected since existing resources will probably be used more intensively and new resources will be attracted by the potential for more productive business.

Third, rural infrastructure can attract other productive inputs to an area. Rural infrastructure can attract new or start-up firms and the expanded level of economic activity offer employment opportunities and increases regional production of the region. Firms may come to an area because the rural infrastructure is very productive, is less expensive than that available in other places, is relatively unique in its
availability (such as a more advanced telecommunications network than is available in other nearby locations), or is plentiful. Similarly, the improved quality of life associated with infrastructure services may attract or help retain workers who otherwise would leave rural areas.

3.3 Rural Infrastructure Development

The term rural infrastructure development connotes overall development of rural areas with a view to improve the quality of life of rural people. And it is a comprehensive and multidimensional concept and encompasses the development of agriculture and other allied activities in the villages and cottage industries, crafts, socio-economic conditions, community services and other facilities in rural areas. Rural infrastructure development can be conceptualized as a process, a phenomenon, a strategy and a discipline. As a process, it implies the engagement of individuals, communities and nations in pursuit of their cherished goals over time. As a phenomenon, rural infrastructure development is the result of interactions between various physical, technological, economic, socio-cultural and institutional factors. As a strategy, rural infrastructures have designed to improve the economic and social well-being of a specific group of people, who are the rural poor. As a discipline, it is multidisciplinary in nature, representing an interaction of agricultural, social, behavioral, engineering and management sciences.

Rural infrastructure development is a strategy to enable a specific group of people, poor rural women and men, to gain for themselves and their children more of what they want and need. It involves helping the poorest among those who seek a livelihood in the rural areas to demand and control more of the benefits of rural infrastructure development. The group includes small-scale farmers, tenants and the landless. Thus, the term rural infrastructure development may be used to imply any one of the above-mentioned connotations as process leading to sustainable improvement in the quality of life of rural people, especially the poor.

3.3.1 Basic Elements of Rural Infrastructure Development

Whatever be the geographic location, culture and historical stage of development of a society, there are at least three basic elements, which are considered to constitute the true meaning of rural infrastructure development. They are as follows,
a) Basic Necessities of Life: People have certain basic needs, without which it would be impossible for them to survive. The basic necessities include food, clothes, shelter, basic literacy, primary health care and security of life and property. When any one or all of them are absent or in critically short supply we may state that a condition of absolute underdevelopment exists. Provision of basic necessities of life to everybody is the primary responsibility of all economies, whether they are capitalist, socialist or mixed. In this sense, they may claim that economic growth is a necessary condition for improvement in the quality of life of rural people, through rural infrastructure development.

b) Self-respect: Every person and every nation seeks some sort of self-respect, dignity or honour. Absence or denial of self-respect indicates lack of infrastructural development.

c) Freedom: Freedom refers to political or ideological freedom, economic freedom and freedom from social servitude. As long as a society is bound by servitude of men to nature, ignorance, other men, institutions and dogmatic beliefs, it cannot claim to have achieved the goal of development.

While rural infrastructure facilities and economic growth is an essential component in the process of development of the any region. However, it is not only purely economic phenomenon. In the ultimate sense, it must encompass more than the material and financial aspects of people’s lives. Therefore, it perceived as a multidimensional process, involving the reorganization and reorientation of both economic and social systems. In addition to improvements in the level and distribution of incomes and output, it also involves radical changes in institutional, social and administrative structures, and values and ethos of individuals and communities.

3.4 Organizational and Institutional Framework

Rural infrastructure development is influenced by a multitude of factors, such as natural resources, human resources (labour), capital, technology and institutions and organizations. The term organization and institutions are often used interchangeably. Organizations are considered as a subset of the broader set of institutional structures or arrangements. An organization connotes coordinated acts or endeavors of two or more individuals. It is created to give effect to a certain institutional arrangement. The main function of an economic organization is to
provide signals that will guide the self-interested economic agents to act in the interest of the larger community. The main task of any state is to create institutional arrangements that provide the needed signals to individual economic entities. Markets provide such signals efficiently, so long as they operate with low transaction costs. Non-market mechanisms, such as government agencies and non-governmental organizations, including co-operatives, can also provide such signals.

Institutions and organizations are important aids to development. They may influence agricultural and allied activities and rural infrastructure development in many different ways, including the provision of production inputs and services, reduction of transaction costs, enhancement of the bargaining power of rural producers those whom they sell their produce and from whom they buy production inputs and services.

3.4.1 Institutions for Rural Infrastructure Development

Natural resources of land, water, forests, and minerals play a very important role in the process of rural infrastructure development. Nature provides the natural resources free of cost and performs two important functions in the process of economic growth, namely providing inputs to production processes and assimilating the wastes generated in the process of production. Similarly basic infrastructure such as roads, schools, health care centres, markets, electricity, water supply structures, and means of transport and communication play a critical role in the process of development through rapid spread of technologies and increased access of rural people to markets and institutional credit.

An improved rural infrastructure facility helps reduce the incidence of poverty. The rural areas of the region are at a great disadvantage with the urban areas in terms of provision of basic rural infrastructural facilities. Provision of adequate, dependable and good quality infrastructure in rural areas is dispensable. Therefore, both the Government of India (GoI) and Karnataka seem to have recognized the need for provision of basic infrastructure in the rural areas of the country and have launched from time to time several programmes for the purpose.

3.5 Rural Infrastructure Development Programmes

A brief description of major programmes in this category is as follows.
3.5.1. Minimum Needs Programme (MNP)

The availability of certain public services, facilities and amenities represents real income and constitutes part of the standard of living. It is particularly with respect to the community facilities and civic amenities that rural people are at a great disadvantage vis-à-vis their urban counterparts. Duly recognizing the need for the provision of such facilities and services in rural area, the GOI developed and launched a scheme called the MNP in the Fifth Five Year Plan. The MNP initially included 12 components. They are as follows

1. Elementary Education
2. Adult Education
3. Rural Health
4. Rural water supply
5. Rural roads
6. Rural Housing
7. Rural Electrification
8. Environmental improvement of urban slums
9. Nutrition
10. Rural domestic cooking energy
11. Rural sanitation
12. Public Distribution system (PDS)

3.5.2. Twenty Point Programme (TPP)

The TPP was announced in 1975. It was first restructured in 1982. Subsequently, second restructuring was done in 1986. The basic objective of this programme is to improve the quality of life of the poor and the underprivileged population of the country. The following are the twenty components of the TPP

1. Attack on rural poverty
2. Strategy for rain-fed agriculture
3. Better use of irrigation water
4. Bigger harvest
5. Enforcement of land reforms
6. Special programmes for rural labour
7. Clean drinking water
8. Health for all
9. Two child norm
10. Expansion of education
11. Justice to SCs and STs
12. Equality for women
13. New opportunities for youth
14. Housing for the people
15. Improvement of slums
16. New strategy for forestry
17. Protection of the environment
18. Concern for the consumer
19. Energy for the villages
20. A respective administration

There is three tier monitoring mechanism for the implementing of TPP. At the
district level, the programme is monitored by District Planning Board (DPB),
Panchayath Raj Institutions (PRIs) and other agencies. At the state level, the
programme is monitored by different line departments and also by the state level
monitoring committee. At the central level the programme is monitored by the central
administrative ministries of department’s concerned with their respective schemes.
The Ministry of Statistics and programme implementation monitors the programme in
its entirely.

3.5.3. Rural Infrastructure Development Fund (RIDF)

The setting up of the RIDF by the GoI in 1995-96, under the agency of
NABARD was a landmark in the government’s effort to improve the basic
infrastructure in rural areas through increased availability of funds for the purpose.
The RIDF was set up with an initial corpus of Rs 2000 crores primarily to provide
financial assistance to state governments for speedy completion of infrastructure
projects such as major, medium and minor irrigation projects, rural roads, bridges,
market yards, drainage structures, primary health centres, primary schools and rural
drinking water supply projects, which could not be completed due to the paucity of
funds. With the initial corpus of Rs 2000 crores under RIDF-I in 1995-96, the
cumulative accretion to the Fund had reached the level of Rs 1, 34,000 crores under
RIDF XVII in 2011-12. The Funds lends to the state governments every year in
tranches at an interest rate, which is 6.50 percent higher than the prevailing bank rate.
Rural roads and irrigation projects have claimed the highest share in the Fund, accounting for about 40 percent and 39 percent of the corpus respectively.

### 3.5.4. National Common Minimum Programme (NCMP)

In May 2004, the United Progressive Alliance (UPA) formed the government in New Delhi. The UPA adopted the NCMP to implement its promise to the people. Some of the major components of the NCMP relevant to the rural sector are as follows.

### 3.5.5. Bharath Nirman

Bharath Nirman is a four year programme (2005-09) for achieving identified goals in six selected areas of rural infrastructure. They are irrigation, drinking water, housing, roads, telephony and electrification. In four of these areas, the aim is to have universal coverage, where every village will have telephony and electricity, and every habitation will have access to safe drinking water and for a population of at least 500 to 1000 in hilly tribal areas access to all weather roads.

### 3.5.6. Drinking Water Supply in Rural Areas

The supply of safe drinking water in rural area is recognizing as one of the priority. The GoI has been providing assistance to state governments in this regard. The government had set the goal to provide safe drinking water in all the rural habitations by 2004. To achieve this objective many programmes like Accelerated Rural Water Supply Programme (ARWSP) and Prime Minister’s Gramodaya Yojana Rural Drinking Water (PMGY-RDW) had been implemented. These programmes were intended to help resolve drinking water crisis in rural areas. These programme also emphasized the need for rainwater harvesting, sustainability of resources and community participation.

As regards the implementation of the ARWSP, the state governments decide the implementing agencies for the programme. The agencies may be the Public Health and Engineering Department or the Panchayath Raj Department. While providing drinking water under the programme the following points are taken into consideration,

1. 40 litre per capita per day (LPCD) for drinking water for human beings.
2. One hand pump or stand post for every 250 persons
3.5.7. Rural Housing

Rural housing is a basic need of a citizen which is critical for determining the quality of human life. A roof over the head endows a shelterless person, with an essential asset and improves his physical and mental well being. Hence, fulfilling the need for rural housing and tackling housing shortage, particularly for the poorest, is an important task to be undertaken as part of the poverty alleviation efforts of the government. The Indira Awaas Yojana (IAY) is a flagship scheme of the Ministry of Rural Development to provide houses to the below the poverty line (BPL) families in the rural areas. It has been in operation since 1985-86. In addition to this State Government, as also introduce various schemes from time to time.

3.5.8. Rural Communication

Rural communication helps in poverty reduction in three ways (i) escalating the effectiveness of the human being and thereby, of the complete economy, (ii) ensuring better delivery of public services, such as health and education, and (iii) creating new sources of employment, income, and training particularly for the poor population. Business innovations such as pre-paced options have reduced the entry price at the lower end of the market and enabled easy access for multiple services in areas where fixed telephone infrastructure is poor. Rural India will ultimately define the core strength of the industry, since the sheer volume of potential connections is immense. Inclusion of rural users in the customer base will strengthen the network and enable it to deliver multiple services in communication-starved rural areas.

3.5.9. Rural Electrification

Several villages do not have electricity in India; to remedy this situation the Government had initiated Rajiv Gandhi Grameen Vidyutikaran Yojana (RGGVY) in April 2005. The total resources outlay for the first two years of Bharath Nirman for this was Rs 5000 crores. Bharath Nirman will not only reach electricity to the villages, but will also offer electricity connections to the households. Further, at least 33/11 KV substation will be set up in each block and at least one distribution transformer in each habitation. All these programmes complement and supplement the existing programmes through increased allocation of funds and time bound implementation.

3.5.10. Rural Roads

Rural road connectivity is a key component of rural infrastructure development by promoting access to economic and social services, and thereby
generating increased agricultural incomes and productive employment opportunities in the region. It is also a key ingredient in ensuring sustainable poverty reduction. With a view of redressing the situation, the government had launched the Pradhan Mantri Gram Sadak Yojana (PMGSY) on 25th December 2000 to provide all weather access to connected habitations. The PMGSY is a 100 percent centrally sponsored scheme. PMGSY covers only the rural roads these roads were formerly classified as Other District Roads and Village Roads Urban roads are excluded from the purview of this programme.

3.6 Rural Infrastructure Planning

Planning of rural infrastructure is a blueprint for action of development of any region. It points out a precise way to reach predetermined goals under the prevailing circumstances. Development of rural infrastructure planning is a process that involves the application of a rational system of choices among feasible courses of investment and other possibilities based on a consideration of economic and social costs and benefits. However, it implies an organized, conscious and continued effort to achieve specific goals in the future.

Problems in planning can be identified and consequently planning can be carried out at the national and state levels (macro level), at the level of the individual unit of production (micro level) and at the intermediate level (meso level). The planning function at the national level and state level consists mainly of defining the goals of development efforts, projecting population growth, and demand and supply of important goods and services, estimating and mobilizing the necessary domestic and foreign resources of money and skills, and allocating them to those specific uses among different sectors of the economy which seem likely to make the greatest contribution to achieving the national goals.

Micro level planning refers to planning at the level of the basic unit of production, which may be a farm, a factory, a household enterprise, or any other units. Micro planning is concerned with the what, how much, how, when and where questions relating to production, consumption, credit and marketing. Micro level planning is concerned with the allocation of the resources. The development of planning has been predominantly macro oriented emphasizing national goals and priorities. It is very necessary that macro and micro plans are harmonized at some intermediate regional level to make development planning is effective. Usually an
economically backward and ecologically fragile area, within broad framework set by the national development is identified for micro planning. In essence, planning at the decentralized approach to the overall development of an economy is very essential in developing countries.

3.7 Decentralized Planning as the Strategy for Infrastructure Development

The objectives of accelerating rural development and reaching benefits of development equitably call for the evolution of an appropriate rural infrastructure development. Planning is a strategy that strengthens the various indicators of rural infrastructure development as also brings a qualitative change in their reach to all sections of the society. In order to achieve this objective, the Government of India opted for a strategy of decentralized planning and entrusted the responsibility of planning and implementing rural development programs to the decentralized government bodies like PRIs in rural areas and urban local bodies in urban areas. With the passing of the 73rd Constitutional (Amendment) Act, 1992 the PRIs have acquired a statutory status, become integral part of our polity and, more importantly, they have been recognized as 'institutions of self-governance'. They have been given the important responsibilities of plan preparation and plan implementation in order to ensure economic development in rural areas and to ensure social justice in the distribution of benefits of such development process (Article 243G). Consequently, decentralized governance and planning have emerged as strategies for initiating socio-economic transformation in rural areas with the prime objective of developing rural infrastructure and improving the living conditions of the rural people, especially the weaker sections.

3.8 Rural Governance in Karnataka State

Karnataka has been a pioneer State in decentralized governance, more specifically in nurturing Panchayath Raj Institutions (PRIs). The 73rd and 74th Amendments to the Constitution, a watershed in Indian Democratic Republic saw the dawn of powerful local governments all over the country. Karnataka was the first state in the country to enact the Panchayath Raj Act, during 1993 incorporating the features of the 73rd Amendment. Elections are being successively held to the three-tiers of PRIs. Politically, there is a broad consensus and sincere commitment in favour of decentralisation infrastructure that finds a place in the ideologies of all political
parties in the State. The Panchayath Raj System in the state has been stabilized with the conduct of five elections.

An outstanding feature of the Panchayath Raj System in Karnataka is the determined effort to empower the voiceless sections of society by providing for specific reservation not only in its membership but also to the post of Chairpersons of the Institutions. It is a matter of great pride that women have been provided with 50 per cent reservation both in membership and in authority positions. More significantly, in order to promote participatory governance the Karnataka Panchayath Raj Act, 1993 has been further amended for enhancing the quality of people’s participation through greater empowerment of Gram Sabhas and Ward Sabhas thereby bringing in transparency and accountability in the functioning of Panchayath raj institutions (PRIs).

3.9 Decentralized Planning Process – Allocation of Funds to District Sector

The decentralized planning process as described in the plan documents begins with the determination of annual plan size at the state level, and allocation of funds to the district sector. Then district sector allocation for various programmes is done in consultation with the Chief Executive Officer of each Zilla Panchayath, District level Sectoral officers and State level Department officers. After this, the data are supplied to Finance Department to integrate the district sector data with the State and also to print budget link documents. The Budget Link Documents are placed before the Legislature as a part of State Budget. Once the budget is passed, the link documents are made available to the Zilla Panchayath for the preparation of Action Plans at ZP, TP and GP level. These PRIs prepare the action plans as per the allocations, discuss them in the various Standing Committees, place them in the general body meetings, and seek approval from the District Planning Committees after which the implementing officers start executing the plans or programmes. In the preparation of plans, the ward Sabhas and Grama Sabhas play a crucial role and their recommendations and suggestions do figure in such action plans emphasizing the fact that the plans so prepared are the byproduct of people’s wishes and demands. Thus, the entire planning process can be termed as participatory planning processes. Below table provides information on allocations to the different sectors in the annual plans of 2009-10 to 2013-14 in Karnataka state.
Table 3.1: Sector Wise Allocation by State to District Sector Plan (Rs in lakhs)

<table>
<thead>
<tr>
<th>Sectors</th>
<th>2009-10</th>
<th>2010-11</th>
<th>2011-12</th>
<th>2012-13</th>
<th>2013-14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>87120</td>
<td>86720</td>
<td>100037</td>
<td>175653</td>
<td>234354</td>
</tr>
<tr>
<td>Medical &amp; public health</td>
<td>10393</td>
<td>10423</td>
<td>12543</td>
<td>14254</td>
<td>17700</td>
</tr>
<tr>
<td>Rural water supply</td>
<td>11272</td>
<td>5809</td>
<td>12925</td>
<td>22939</td>
<td>22983</td>
</tr>
<tr>
<td>Rural Housing</td>
<td>36426</td>
<td>36340</td>
<td>36408</td>
<td>53668</td>
<td>28225</td>
</tr>
<tr>
<td>Agriculture</td>
<td>6506</td>
<td>6574</td>
<td>6970</td>
<td>4090</td>
<td>4192</td>
</tr>
<tr>
<td>Forest</td>
<td>2291</td>
<td>2212</td>
<td>2301</td>
<td>2288</td>
<td>2469</td>
</tr>
<tr>
<td>Agriculture Marketing</td>
<td>77</td>
<td>96</td>
<td>102</td>
<td>155</td>
<td>205</td>
</tr>
<tr>
<td>Rural Energy</td>
<td>1141</td>
<td>1463</td>
<td>1933</td>
<td>1925</td>
<td>1896</td>
</tr>
<tr>
<td>Grants to PRI including ZP office building</td>
<td>40992</td>
<td>40790</td>
<td>81643</td>
<td>90292</td>
<td>91459</td>
</tr>
<tr>
<td>Minor Irrigation</td>
<td>88</td>
<td>85</td>
<td>76</td>
<td>74</td>
<td>76</td>
</tr>
<tr>
<td>Village &amp; small industries</td>
<td>441</td>
<td>460</td>
<td>501</td>
<td>316</td>
<td>567</td>
</tr>
<tr>
<td>Roads &amp; Bridges</td>
<td>15313</td>
<td>15324</td>
<td>15341</td>
<td>15516</td>
<td>15517</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>212060</strong></td>
<td><strong>206296</strong></td>
<td><strong>270780</strong></td>
<td><strong>381170</strong></td>
<td><strong>419643</strong></td>
</tr>
</tbody>
</table>

Source: Department of Planning Programme Monitoring and Statistics 2013-14

From the above table 3.1 the following observations can be made.

- There is an overall increasing trend in the state allocation except rural housing, agriculture and minor irrigation.
- For education sector, the state government had allocated Rs 84120 in 2009-10. The same increased to Rs 2,34,354 lakhs by 2013-14.
- For medical and public health sector, the state government had allocated Rs 10,393 in 2009-10. The same increased to Rs 17,700 lakhs by 2013-14.
- For rural water supply, the state government had allocated Rs 11,272 lakhs in 2009-10. The same increased to Rs 22,983 lakhs by 2013-14.
- For rural housing through the various programmes, the state government had allocated Rs 36,426 lakhs in 2009-10. The same is decreased to Rs 28,225 lakhs by 2013-14.
- For the agriculture development, the state government had allocated Rs 6,506 lakhs in 2009-10. The same is decreased to Rs 4,192 lakhs by 2013-14.
- For the development of forest, the state government had allocated Rs 2291 lakhs in 2009-10. The same is increased to Rs 2469 lakhs by 2013-14.
- For the agricultural marketing sector, the state government had allocated Rs 77 lakhs in 2009-10. The same is increased to Rs 205 lakhs by 2013-14.
For rural energy sector, the state government had allocated Rs 1141 lakhs in 2009-10. The same is increased to Rs 1896 lakhs by 2013-14.

For the grants to PRI including ZP office building, the state government had allocated Rs 40,992 lakhs in 2009-10. The same is increased to Rs 91,459 lakhs by 2013-14.

For minor irrigation sector also, the state government had allocated Rs 88 lakhs in 2009-10. The same is decreased to Rs 76 lakhs by 2013-14.

For village and small industries also, the state government had allocated Rs 441 lakhs in 2009-10. The same is increased to Rs 567 lakhs by 2013-14.

For the construction of rural roads and bridges, the state government had allocated Rs 15,313 lakhs in 2009-10. The same is increased to Rs 15,517 lakhs by 2013-14.

The total of all sectors allocations had increased to Rs 2,12,060 lakhs in 2009-10. The same is increased to Rs 4,19,643 lakhs by 2013-14.

3.10 Rural Infrastructure Financing from Government Sources in the Study Region

Around 82 percent of the population of Chamarajanagar district lives in rural areas, and therefore, planning for rural area has a history of intervening in and focusing on the problems of the rural sector. The infrastructure investments in rural areas are mired in hidden and explicit subsidies and heavy losses. The approach to investment in rural infrastructure was traditionally that of complete state support as such investment was viewed as economically unattractive and also too complicated for the private sector to consider.

While on the one hand, public investment was the only source of finance for rural infrastructure on the other even these have been declining as a proportion of both total government expenditures and as a proportion of GDP. The below table explains the total allocations of funds to various sectors in the Chamarajanagar district.
Table 3.2: Sector-Wise Allocation of Funds in Chamarajanagar District during 1998-99 to 2012-13 (Rs. In lakhs)

<table>
<thead>
<tr>
<th>Year</th>
<th>Education</th>
<th>Medical</th>
<th>Rural water</th>
<th>Family Welfare</th>
<th>Agriculture</th>
<th>Social Welfare</th>
<th>Minor Irrigation</th>
<th>Village Industries</th>
<th>Roads &amp; Bridges</th>
<th>Rural Development</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998-99</td>
<td>206.54</td>
<td>36.38</td>
<td>322.81</td>
<td>108.79</td>
<td>42.51</td>
<td>185.54</td>
<td>5.2</td>
<td>5.4</td>
<td>38.88</td>
<td>1237.88</td>
<td>2189.93</td>
</tr>
<tr>
<td>1999-2000</td>
<td>412.76</td>
<td>54.32</td>
<td>459.39</td>
<td>156.54</td>
<td>43.67</td>
<td>203.26</td>
<td>5.26</td>
<td>16.65</td>
<td>43.62</td>
<td>827.06</td>
<td>2222.53</td>
</tr>
<tr>
<td>2000-01</td>
<td>564.68</td>
<td>66.19</td>
<td>436.22</td>
<td>148.55</td>
<td>35.69</td>
<td>230.63</td>
<td>17.08</td>
<td>8.3</td>
<td>36.5</td>
<td>85.73</td>
<td>1629.57</td>
</tr>
<tr>
<td>2001-02</td>
<td>602.71</td>
<td>64.96</td>
<td>393.09</td>
<td>159.44</td>
<td>23.64</td>
<td>246.49</td>
<td>3.17</td>
<td>7.39</td>
<td>26.44</td>
<td>1077.98</td>
<td>2605.31</td>
</tr>
<tr>
<td>2002-03</td>
<td>52.64</td>
<td>28.93</td>
<td>426.28</td>
<td>153.92</td>
<td>44.06</td>
<td>160.04</td>
<td>5.74</td>
<td>2.35</td>
<td>22.58</td>
<td>1199.18</td>
<td>2095.72</td>
</tr>
<tr>
<td>2003-04</td>
<td>50.15</td>
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<td>181.79</td>
<td>41.37</td>
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<td>2.14</td>
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<td>626.09</td>
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<td>201.48</td>
<td>413.77</td>
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<td>1910.14</td>
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<td>176.15</td>
<td>320</td>
<td>406.12</td>
<td>257.29</td>
<td>461.64</td>
<td>2.5</td>
<td>6.9</td>
<td>225</td>
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<td>74.02</td>
<td>411.68</td>
<td>209.8</td>
<td>76.59</td>
<td>224.06</td>
<td>6.09</td>
<td>6.43</td>
<td>65.54</td>
<td>1158.79</td>
<td>2712.28</td>
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<tr>
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<td>104.05</td>
<td>572.62</td>
<td>237.15</td>
<td>591.08</td>
<td>1.15</td>
<td>12.02</td>
<td>100.99</td>
<td>1424.93</td>
<td>5263.64</td>
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<td>75</td>
<td>615.07</td>
<td>204.33</td>
<td>955.92</td>
<td>2</td>
<td>14.02</td>
<td>267.61</td>
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<td>2011-12</td>
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<td>309.82</td>
<td>103</td>
<td>681.55</td>
<td>194.37</td>
<td>818.99</td>
<td>5</td>
<td>14</td>
<td>329.52</td>
<td>1317.19</td>
<td>6102.63</td>
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<tr>
<td>2012-13</td>
<td>2861.5</td>
<td>261.35</td>
<td>463</td>
<td>889.23</td>
<td>152.48</td>
<td>954.9</td>
<td>5</td>
<td>14</td>
<td>191.57</td>
<td>1649.83</td>
<td>7442.86</td>
</tr>
</tbody>
</table>

Source: Chamarajanagar District at a Glance 1998-99 to 2012-13
From the above table 3.2 the following observations can be made.

- There is an overall increasing trend in the district allocation of Funds to the various sectors in study region, except minor irrigation.
- For education sector, the district had allocated Rs 206.54 in 1998-99. The same increased to Rs 2861.5 lakhs by 2012-13.
- For medical and public health, the district had allocated Rs 36.38 in 1998-99. The same increased to Rs 261.35 lakhs by 2012-13.
- For rural water supply, the district had allocated Rs 322.81 lakhs in 1998-99. The same is increased to Rs 463 lakhs by 2012-13.
- For the family welfare, the district had allocated Rs 108.79 lakhs in 1998-99. The same is increased to Rs 889.23 lakhs by 2012-13.
- For the development of agriculture sector, the district had allocated Rs 42.51 lakhs in 1998-99. The same is increased to Rs 152.48 lakhs by 2012-13.
- For the social welfare of the rural peoples, the district had allocated Rs 185.54 lakhs in 1998-99. The same is increased to Rs 954.9 lakhs by 2012-13.
- For the agricultural marketing, the state government had allocated Rs 77 lakhs in 2009-10. The same is increased to Rs 205 lakhs by 2013-14.
- For minor irrigation, the district had allocated Rs 5.2 lakhs in 1998-99. The same is decreased to Rs 5 lakhs by 2012-13.
- For the development of village and small industries, the district had allocated Rs 5.4 lakhs in 1998-99. The same is increased to Rs 14 lakhs by 2012-13.
- For the construction of rural road and bridges, the district had allocated Rs 38.88 lakhs in 1998-99. The same is increased to Rs 191.57 lakhs by 2012-13.
- For the development of rural areas through various programmes, the district had allocated Rs 1237.88 lakhs in 1998-99. The same is increased to Rs 1649.83 lakhs by 2012-13.
- The total of all sectors allocations had increased to Rs 2,189 lakhs in 1998-99. The same is increased to Rs 7,442 012-13. lakhs by 2

### 3.11 The Relationship between Regional Economic Development and Expenditure on Infrastructural Development

This section deals with the relationship between infrastructure and economic development. In order to test the influence of the public expenditure on
infrastructural facilities on regional economic development, the present study has employed a simple regression model for the period of 2001-02 to 2012-13 (Vide table 3.3). Here, the per capita income is used as proxy for regional development which is considered as dependent variable in the model, and the independent variable are taken as the total of all expenditures which are made by the Zilla Panchayath (education sector, medical, rural water supply, family welfare, agriculture sector, forest, social welfare, minor irrigation, village industries, roads and bridges, and for rural development) of the Chamarajanagar district. The results are highlighted in table 3.3:a.

**Table 3.3: Sector wise total Expenditures on Infrastructural Facilities in Chamarajanagar District during 2001-02 to 2012-13**

<table>
<thead>
<tr>
<th>Year</th>
<th>Expenditure on Infrastructural Facilities</th>
<th>PCI</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001-02</td>
<td>2605.31</td>
<td>9699</td>
</tr>
<tr>
<td>2002-03</td>
<td>2095.72</td>
<td>11728</td>
</tr>
<tr>
<td>2003-04</td>
<td>1791.77</td>
<td>10182</td>
</tr>
<tr>
<td>2004-05</td>
<td>2183.08</td>
<td>8381</td>
</tr>
<tr>
<td>2005-06</td>
<td>2102.52</td>
<td>8381</td>
</tr>
<tr>
<td>2006-07</td>
<td>5608.07</td>
<td>13726</td>
</tr>
<tr>
<td>2007-08</td>
<td>4694.10</td>
<td>13726</td>
</tr>
<tr>
<td>2008-09</td>
<td>2712.28</td>
<td>15117</td>
</tr>
<tr>
<td>2009-10</td>
<td>5263.64</td>
<td>15117</td>
</tr>
<tr>
<td>2010-11</td>
<td>5863.22</td>
<td>24032</td>
</tr>
<tr>
<td>2011-12</td>
<td>6102.63</td>
<td>23563</td>
</tr>
<tr>
<td>2012-13</td>
<td>7442.86</td>
<td>24043</td>
</tr>
</tbody>
</table>

Source: Chamarajanagar District at a Glance 2001-02 to 2012-13

It is observed that Chamarajanagar district has achieved fair progress in both economic and social infrastructural facilities in terms of literacy and extension of health and family welfare services. The growth rate of literacy indicates a progressive social transformation. Along with an increase in the social and economic infrastructural development, the intra district variations have come down during the study period. However, still the variation is continuing in the provision of funds to various sectors. Under decentralized planning process, the Zilla Panchayath is implementing various programmes in different sectors and allocating funds to these sectors. Therefore, it is presumed that there is a positive association between rural
infrastructural development and per capita income of the region and the same is tested in this chapter.

3.12 Hypothesis Testing 1

$H_0$: The distributional impact of infrastructure development does not depend on the volume of public expenditure in the same

$H_1$: The distributional impact of infrastructure development depend on the volume of public expenditure in the same

Table 3.3: a: Results of Regression on the Impact of Infrastructural Expenditure on PCI

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient Value</th>
<th>Standard Error</th>
<th>‘t’ Value</th>
<th>Probability Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>4.295976</td>
<td>1.009306</td>
<td>4.26</td>
<td>0.002***</td>
</tr>
<tr>
<td>Expenditure of Infrastructural Facilities</td>
<td>.6398142</td>
<td>.1230962</td>
<td>5.20</td>
<td>0.000***</td>
</tr>
</tbody>
</table>

$R^2 = 0.7298$

Note: ***, ** and * represents significance at 1%, 5% and 10% respectively

The above regression result shows that there is positive association between PCI (Per Capita Income) and total public investment in the district. The regression coefficient of volume of expenditure is statistically significant at 1% level. The value of $R^2$ is 0.72, which shows that 72% of variation in PCI is explained by public expenditure. Hence, the null hypothesis is rejected and alternative hypothesis is accepted.

3.13 Conclusion

There is a basic conformity on the fact that public resources are scarce, and also they have not been used with a high degree of effectiveness till now. On the other hand, both due to the semi-public good nature of infrastructure and also due to the lack of priority by private sector financing, it is unlikely that private funds will flow to rural infrastructure financing considerably. Private capital has scarcely started flowing to urban infrastructure sector in a country like India, and it will take a long time before it finds its way to rural infrastructure. Establishing and enforcing such norms should be the focus of institutional reforms. This is happening, although slowly, with many ups and downs. These will slowly diffuse to rural projects as well, though we should not underestimate the more difficult political economy of rural India.
The complexity of demand and supply gap, people’s willingness to pay, and ability to pay for infrastructure services, blending different sources of funds, such as government capital subsidy, community contribution, and private equity are some of the challenges. Greater provision of rural infrastructure will require a paradigm shift towards recognizing the value of the PRIs or local governments. It will be necessary to define their roles and responsibilities and bring them proactively on board for creation and maintenance of rural infrastructure.

The government needs to create the space for financial mechanism to build and enable development of a mutual framework to build and operate infrastructure in rural areas. Given the relative strengths and weaknesses of each set of institutions in delivering finance for rural infrastructure, it is imperative that we have to look for solutions in the middle ground. Even conceptually, the State and the Panchayats are two extreme modes of functioning, and either of these, by themselves, cannot ensure development with equity. This kind of evolution of institutional and financing arrangements requires several years of practice before it can be mastered and thus the initial projects need to be structured to offer a soft lending to the institutions, which agree to pioneer this. Once a number of project are successfully implemented, the lessons can be built into a supportive regulatory policy, and institutional strategic framework. Several examples abound right here in the study region of the district and the task is to build on their successes.