CHAPTER - II
CONSTRUCTION INDUSTRY – LINKAGES

For a long time, policy makers, economists, as well as social scientists have acknowledged the dominant role of housing and construction industry in providing socio-economic stability to the nation’s economy. It is proved time and again that construction and housing sectors provide the largest backward and forward linkage advantages, rarely seen in any other segment of the industry.

Supporters of unbalanced growth strategy argue that since the underdeveloped countries suffer from scarcity of resources, they cannot launch upon a balanced growth programme. However, the need for big push is pressing due to the under developed and backward state of these economies. Therefore the advice for these countries is obvious: “select certain leading sectors and invest heavily on them”. Therefore, historically speaking, growth does not take place in a balanced way but is unbalanced (Hirschman, 1969)\(^1\).

If unbalanced growth strategy is the right strategy to follow in the context of underdeveloped countries, the question is of discovering those lines of production in which investment is to be done. It is here that Hirschman introduces the concept of “forward linkage” and “backward linkage”. If investment in a particular project encourages investment in subsequent stages of production, we have forward linkage. On the other hand, if investment in a particular project encourages investment in earlier stages of production we have backward linkage. Normally, any
particular investment project will have both forward and backward linkages. Naturally, investment should be made in that particular investment project which has the greatest total linkage. Projects having the greatest linkage will vary from country to country and this knowledge can be obtained only with the help of input-output studies.

The sectoral composition of the Indian economy has undergone a structural shift over the years. From a primarily agro-based economy during the 70’s, the Indian economy has emerged as predominant in the service sector during the 90’s. The shift in the composition is likely to cause substantial shift in the production and demand linkages among various sectors and this, in turn, could have significant ramifications for the growth and development process in the Indian economy (D.V.S Shastry, et al, 2003)²

Experiences of the developed economies in this regard show that growth process, in general, is highly unbalanced among sectors. Therefore, by concentrating investment in appropriate sectors, the process of economic development can be accelerated. The ‘key sectors’ would stimulate greater economic activity in other sectors and thus have a larger multiplier effect on growth and development.

Structural relationships among sectors in an economy are generally examined in three ways - one based on input-output tables, the second is purely statistical and the third is econometric models.

Development depends on investment. Investment policy may have sectoral bias in view of the priority of the economy or generating maximum linkage effect in the system.

An important peculiarity of investment decisions is that they depend on the expected and not the realized returns to the investment in question. This, of course, is not an unmixed blessing. Many factories and machines will be bought which, in the cold light of history, come
nowhere near satisfying the rosy expectations of the original investor (Hague and Stonier, 1955).^3^  

The linkage literature in economics talks about the positive correlation between investment in one sector with large linkages and development. Development is brought about in such a way that the increased investment in a particular sector leads to investments in large number of allied sectors. The construction activity is one of the sectors which has the largest number of linkages. Accordingly, construction is supposed to give a fillip to investments in other sectors giving rise to a general rise in employment and income. The rise in income in money terms is true. But will it lead to further investment in other related sectors?  

**Backward and Forward Linkages**  

In chapter 6 on “Interdependence and Industrialisation” of his book “Strategy of Economic Development”, Hirschman introduces the concept of “forward linkage” and “backward linkage”. Hirschman contends that deliberate unbalancing of the economy according to a pre-designed strategy is the best method of development for underdeveloped countries.  

The path of unbalanced growth is well described by three phrases “Induced Investments, complementarity and external economies”. In a general way, complementarity can be taken to mean a situation where increased production of A will lead to pressure for increasing the supply of B. Because of the complementarities, investment in one industry or sector induces investment in other industries or sectors. New projects often appropriate external economies created by preceding ventures and create external economies that may be utilized by subsequent ones. Hirschman argues that some projects create more external economies than they appropriate and, therefore, their private profitability falls short of their social desirability. The reverse is also possible. Some ventures
can have a larger ‘input’ of external economies and a much smaller ‘output’. On account of this reason, Hirschman defines induced investment by the provision that “the projects that fall into this category must be net beneficiaries of external economies”.

The concept of induced investments makes it akin to the concept of multiplier because each investment is conceived as inducing a series of subsequent investments. There is direct mention about backward and forward, linkages. If investment in a particular sector leads to investment in its earlier stages of production, it is termed as backward linkages. On the other hand, if investment in a particular project induces investment in its subsequent stages of production, it is termed as forward linkages. It can also be noted that backward linkages are more measurable and traceable than forward linkages. Consumption linkages refer to a much more increase in demand for consumption goods especially consumer durables and Fast Moving Consumer Goods (FMCG).

**Permanent and Temporary Linkages**

Yet another classification can be made on the basis of Permanent and Temporary linkages. Permanent linkages refer to linkages that provide a positive impact in the form of increase in investment in several sectors for a pretty long period of time i.e. $\geq 10$ years.

Temporary linkages, on the other hand, persuades investment in other sectors temporarily i.e., less than one year or so.

If local economy, here the state economy, is taken as a unit, how the construction activity undertaken gives to a positive impact on other sectors needs a closer scrutiny. Let us look at the sectoral linkages.

**Linkages with the primary sector**

It is to be noted that there is a negative linkage with this sector with more paddy fields being converted into spaces for construction purposes. This also leads to changing the topography leading to ecological
imbalance. The construction sector also attracts more labourers from the primary sector. The higher wages in construction causes the wage rates in agriculture to rise and thereby makes the latter less cost-effective.

Compared to earlier decades, the annual rate of increase in the proportion of land put to non-agricultural uses has been relatively higher since the beginning of the 1990s. During the period from 1990-91 to 2001-2002, absolute land area used for non-agricultural purposes increased from 297,381 to 392,352 ha, showing an overall increase of 31.94 per cent. With the growing pressure of population and development of the secondary and tertiary sectors, agricultural land throughout the state is being converted for the construction of residential buildings, commercial establishments, roads, health and educational institutions etc. which, in turn, reduces the net area sown in the state (Prakash, 2004)\(^4\).

The worsening situation of agricultural labour shortage can be attributed to many interrelated factors, such as the growing employment opportunities for the rural workforce in other sectors, successful implementation of the various poverty alleviation measures and self employment generating programmes introduced by the Government in rural areas, and the growing aversion of the new generation from agricultural labour families to follow their household occupation. (Prakash, 2004)\(^5\).

**Industry –wise linkages.**

As already stated, construction industry is dependent on as much as many industries. Many of these industrial establishments are located outside the state.

**Service –wise linkages**

Construction is a hybrid of manufacturing and service. Here both forward as well as backward linkages are visible. These include services
of experts and skilled personnel in making the construction project a reality. Immediate forward linkages include marketing, maintenance, insurance, banking, trade, transportation etc.

It has been empirically proved that the strength of an industry in a particular area lies in its command over materials, men, money and methods (which include the machinery and equipments to carry out the activity). It is often mentioned that the sustainability of the industry depends on the availability of the various factors in the area where it is located.

**Centripetal and Centrifugal Linkages**

In the globalised environment, there has been an increased mobility of materials, methods, money and men across continents. This universal phenomenon has its impact on our national economy and our state economy is not an exception.

The sustainability factor assumes a different dimension in the globalised environment. But centripetal linkages i.e., linkages that are likely to have a positive impact on other sectors of the local economy can and do contribute to a much more sustainable development of the core industry in that area. On the other hand, centrifugal linkages-linkages that are not likely to have a positive impact on other sectors of the local economy cannot bring about a steady and orderly growth of the core industry in that area.

The construction industry is an essential contributor to the process of development. Construction works lay the physical foundations on which development efforts and improved living standards are established. Construction products are investments or capital goods, their value is high in relation to the income of the purchaser. For example, the purchase of a house will entail the expenditure of several times of the buyer’s annual income. Consequently, construction products are paid for from
savings. These savings may either belong to the owner or borrowed from elsewhere. Thus construction industry thrives on the savings and investment of the economy and has linkages with the rest of the economy in terms of generation of output and employment.

Fluctuations in construction demand affect the economy in many ways; they affect the demand for labour and materials as well as the lag in time taken to supply the industry’s output. Backward linkages, in particular, can have widespread impact because much of the raw, semi-processed and processed materials can be provided by relatively unsophisticated labour-intensive domestic sources and by basic industries such as cement and steel manufacturing. Forward linkages affect practically all other sectors of the economy. In fact, construction has been ranked among the top four out of the twenty economic sectors in terms of inter sectoral linkages.

In this context, it is to be noted that construction industry is widespread in its reach. According to a study carried out by the Indian Institute of Management, Ahmedabad for the Housing and Urban Development Corporation (HUDCO), it was found that over 256 direct and indirect industries are dependent on this sector. In terms of its ability to create jobs, housing and construction sectors surpass the manufacturing sector. In India alone the construction sector employs over 340 million people. Construction is a service which has greater value addition capacity in changing the land use to maximize its potential has been found to be advantageous in our country when compared to agricultural or even industrial property. The industry is both capital and labour intensive.

The Joint Centre Study of Maryland State cites data compiled by the National Association of Home Builders, which indicates that
production of 1000 new single family homes will generate 2448 jobs (ratio being 1:2.5) in construction and construction related industries.

Cement, steel, insulation, wood, tiles, sanitary ware, faucets and fittings, electrical lighting, and furniture industry along with consumer durables (white goods) desktop computers, security, laundry and gardening services all receive a boost due to the creation of new homes. There is ample empirical evidence that a boost to housing can rejuvenate the economy during times of recession. Housing has maximum propensity to generate income and demand for materials, equipments and services. Funds allocated to housing multiply the income and demand in other sectors (Mona N. Shah, 2007).\(^6\)

Zhu Xiao Di in his paper “The Role of Housing as a component of Housing wealth” describes the importance of housing in the creation and distribution of household wealth. Housing plays multiple roles like ‘equalizer, accumulator, cultivator, and protector’.

The linkages literature launched by John Mellor in the early 70’s dwelt at length about the possibility of a virtuous cycle as a result of multiple linkages that could be brought about by fresh investment initiatives in a particular sector. Investment in housing and construction conforms to the above theory paving the way for the occurrence of three types of linkages viz;

a) Production linkages –Backward via demand for inputs; and Forward via the need for maintaining, decorating and insuring the dwellings;

b) Consumption linkage through increased demand for goods and services especially Fast Moving Consumer Goods (FMCG); and

c) Potential linkages through the supply of labour and capital.
Generally, Social Accounting Matrices (SAM) are extensively relied upon for calculating the growth multipliers from certain structural relationships among agents in the economy.

Construction and housing sector has often been regarded as the engine of economic growth on account of its beneficial forward and backward linkages with the other sectors of the economy.

A house is perhaps the largest investment a man makes in his lifetime. Impact of investment in the housing sector on GDP and employment is great indeed. It has 3rd rank amongst 14 major industries, by way of total linkages effect on the economy. The linkage is more profound with reference to cement and steel. Besides the direct contribution to GDP, it increases social capital which is perceived to be intelligible wealth that comes with hygiene living and quality housing. Through activities like furnishing, decorating repairing, extension etc; housing continues to be an economic catalyst even after the sale is over.

Investment in housing and macroeconomic aggregates of the economy show that every U.S $ 1 million spent on housing will generate 16 jobs in the U.S.A., 200 jobs in South Africa and 3000 jobs in India. Employment elasticity is unity in construction whereas the national average is less than 0.5 (Venkatesh and Pradhan, 2007). Moreover, investments in housing also help in boosting the country’s savings. The multiplier effect on the country’s GDP is another added advantage. Regarding, the rate of inflation, there is no unanimity among economists. Some consider investment in construction as a hedge against inflation where as some others consider it to be fuelling up inflation rate.

Construction, by its very nature, is a blend of both local and global information and technology. The Indian construction industry draws heavily from both traditional and modern technologies. Naturally, the largest area of consumer demand in any economy, shelter, must be
provided locally. Utilities, household improvements and repairs, and home maintenance services must also be provided locally. So, the presence of a strong traditional sector is a sine qua non for the progress of construction industry. The idea that growth of the modern sector alone can improve employment conditions in labour-surplus developing economies has been and remains extremely influential. It is implicit in the argument that rapid economic growth is all that is required to improve employment conditions. It is also implicit in the fact that issues of the growth of modern sector are usually presented as issues of economic growth in general while issues of growth of the traditional sector hardly ever figure in discussions and debates. For employment conditions to improve, growth must occur simultaneously in both modern and traditional sectors. There are important issues of growth strategy for traditional sector waiting to be debated (Ghose, 2006). Linkages with the traditional sector are the most profound in construction industry. The use of mud as well as RMC can be cited as an example.

According to the NSS, the number of workers normally employed in construction has trebled between 1972-73 and 1987-88, the increase being somewhat larger in rural than urban areas. The extraordinary expansion of construction employment, especially since 1977-87 needs closer scrutiny (Uma Kapila, 2000).

The thriving real estate sector in Kerala has promoted numerous allied segments like bathroom accessories, tiles both interior and exterior, steel, wood, cement, furniture paints and electrical gadgets. It has also helped in the emergence of a large number of home finance companies.

The stakeholders in the construction sector, which is officially included in the service sector, demand immediate sanctioning of industry status to it. A waning primary sector can only be compensated by waxing
construction sector which alone can absorb workers thrown out of jobs in the former.

The Assocham studies (2007)\textsuperscript{10} present a rosy picture for construction industry in the coming years. With the demand for dwelling units slated to grow to 80 million for the lower middle class and low income groups, involving an investment of $ 670 billion, the housing sector will see 4 million new jobs by 2015. The housing and the real estate sector would have the potential to grow at 14 per cent per annum to double its contribution to the GDP, from the current level of 1 per cent (Assocham, 2007)\textsuperscript{11}.

The world of construction is changing everyday. A vast range of products that are used to build, decorate and maintain homes and offices is being designed these days. Pavement tiles, wall textures, thermal insulation boards, multi-wall sheets, electric chimneys, modular kitchen, ready-made swimming pools and remote gate system are examples. Moreover, the extensive use of manufactured sand or M-sand has started replacing river sand. Production of manufactured sand requires skilled workers. Environmentalists are of the opinion that there should be enough precautions to prevent any further pollution from the excessive use of M-sand.

Construction is a hybrid of both manufacturing and service functions. The economic role of this sector is twofold. It helps promote new capacity needed to satisfy additional demand. It also helps maintain or improve existing capacity needed to satisfy continuing demand.

There is hardly any sector which does not have a construction component. It varies from 10-20 per cent in scientific research and education respectively, to 40 per cent in transport and communication, 75 per cent in power, 80 per cent in irrigation and flood control and to 100
A significant feature of this industry is its catalyst role—every rupee invested in construction generates incremental revenue to the tune of 79 paise. The corresponding figure for agriculture and manufacturing are only 20 paise and 14 paise respectively.

Today construction has reached a stage where it can stand up to international standards and competition. It is poised for growth, and can make a mark in the world market provided it becomes more competitive domestically by way of improving productivity and effectiveness, by reducing costs, introducing latest technology, and by providing more funds.

For every one million rupee worth of investment in construction industry generates 31800 man days of semi & unskilled, 300000 man days of skilled and 13000 man days of managerial / technical personnel.

It also consumes 50 per cent of the total industry output in the country.

A large number of ancillary units have come up --- building hardware such as building fittings, padlocks, lock points, iron and brass hinges, iron & brass tower bolts, auto door closer, metal door handle and hooks.

The agencies supporting the construction include but are not limited to the following:

a) Construction business promoters like Government bodies and private enterprises for real estate and industrial development. and other similar agencies.

b) Construction management consultant firms.

c) Architect-Engineering associates.

d) Construction man power recruitment and training agencies.
e) Construction materials developing, manufacturing, stocking, transportation and trading firms.
f) Construction plant and machinery manufacturing, distributing and repair and maintenance organizations.
g) Banking and finance institutions.
h) Risk insurance and legal services companies.
i) Construction quality assurance and research and development establishments.
j) Contractors and contracting firms.

**Housing and financial market inter linkages.**

Home purchases are capital purchases and therefore must be financed through mortgages. Thus the loan and mortgage financing institutions receive a boost due to home purchases. House buying is very sensitive to interest rate fluctuations. It is a main contributor to the capital market of the economy, thus a leading indicator of the business cycle. In India since the Ninth Five Year Plan, the Government has given the Indian population many housing related advantages for home purchase such as interest payment of up to Rs. 1,50,000 being waived from the personal income of the purchaser apart from the principal amount affordability of loan by keeping interest rates low and advising banks to observe more leniency in the granting of loan advances to increase the gamut of people opting for home investment (Indian Budgets 1999-2009).13

The plan data (Tenth Plan) states that a 10 per cent increase in investments in housing would lead to a 10 per cent increase in employment in the housing sector giving an employment elasticity of unity. For the entire economy the employment elasticity is less than half. The contribution of housing to economic development is generally measured in terms of Gross Fixed Capital Formation (GFCF), its share in
Gross Domestic Product (GDP) and the share of income from housing. The Gross Fixed capital formation at constant prices increased at an annual rate of 3.6 per cent in 1980’s. In the last decade it is over 7 per cent.

The developed countries invest about 5 per cent of Gross Domestic Product in housing compared to a very negligible amount in India. The mortgage to GDP ratio is 56 per cent in the U.S.A, 53 per cent in the U.K, whereas it is only 6 per cent in India. For other Asian countries the figure comes to 12 per cent. Promotion of ownership of houses is an economic and political objective and is backed by the necessary policies to stimulate household savings and investment for housing. In the U.S.A “Housing starts” and “Housing completion” data is closely monitored on a quarterly basis as early indicators to understand the health of the economy.

In the year 2003 in the U.S.A the contribution of the financial services sector (which includes real estate, utilities, solid waste management, rental/leasing/professional services etc) was to the tune of 75 per cent of the growth in the Gross State Product (GSP) of U.S.A.

Housing goes through cyclical stages. Therefore some refer to very strong housing demand as a “housing bubble”. In the wake of the present financial crisis enveloping the world, the statement gets added significance. It calls for more relevant localized information which is crucial for making safe investments. “The recent debacle in the securitized mortgage market, through which banks mortgage market, through which banks and other companies could initiate mortgages and then package them into opaque debt instruments to offload on to remote, uninformed bond buyers, underscores the risk of investing without local knowledge” (Greenwald and Khan, 2008)\textsuperscript{14} However, unlike stock markets, housing markets across the world are not generally
characterized by big drops and rises. This lends reasonable stability to the housing market compared to other sectors.

Moreover, the long-term shifts in the housing market are driven by demographics, which mean the personal/household incomes, educational and occupational profiles and age of buying/selling of housing. This characteristic of the housing market lends more strength and resilience unlike other goods and services.

For long, social scientists have recognized the importance of measuring the amount of family wealth as against family income and social security. In a study conducted by the National Association of Home Builders, USA in 2003 it was found that between homeowners and renters, the homeowner’s median net wealth was 20 times ahead of the renters.

It was found that home ownership has particularly benefited the minorities and housing plays a special role in the growth of wealth of these low-income households. Housing can also play a role as a “cultivator” of household wealth. When people borrow against their home equity to finance investments, business, and education, each of these types of spending may “cultivate” the future growth of household net wealth. A sizeable number of people borrowed additional money to remodel, creating a reinvestment in their homes that adds to their value.

When people borrow on a fixed rate mortgage it becomes the surest protection against increasing housing costs. Home ownership also can therefore play a role as “protector” of household wealth. By fixing housing costs it can allow owners to save and invest more over time.

Social Linkages

The objectives of the National Home Ownership Strategy of the USA state that home ownership helps to commit people to strengthening families and good citizenship, taking greater control of and responsibility
over their living environment, and stabilizing and strengthening
neighbourhood communities. The Gini co-efficient is a measure of
inequality of a distribution. It indicates the share of national wealth
captured by the poorest people. The higher the Gini co-efficient the lower
is the national wealth of the country’s poorest people. For instance, sub-
saharan Africa has the poorest nations in the world unlike Sweden or
Hungary which have lower Gini coefficients which, imply higher national
income and wealth distribution to the poor. The total population of
Sweden is 900,1774 while the houseless are only 8440 (as per 1999 data)
persons. This is equivalent to 0.093 percent of the population. As a result
of excellent housing penetration, one may conclude that there is improved
access to health, education and wealth creation as compared to other
countries with low Human Development Index (HDI) e.g., India, where
slums, pavement squatting and homelessness is commonplace.

Mona N. Shah (2004) in the paper “Upgradation of Housing and
Amenities in Rural Areas” argues that housing is a precursor to economic
and social development of rural areas. By providing housing, other
components of the Human Development Index namely school enrolment,
health leading to higher life expectancy, and female literacy are cared for
as the household enjoys greater stability and reaps the fruits of stable
employment.

In a report brought out by the Institute of Real Estate Management
(IREM) for the Federal Housing Administration in the USA that tested a
hypothesis related to the social impacts of home ownership on the public
especially its impact on self –esteem, perceived control, life satisfaction,
residential satisfaction, health, socially desirable behaviour,
neighborhood stability and participation in voluntary and political
organizations and activities.
The IREM Report strengthens the claim of public policy makers in favour of encouraging home ownership. On almost all counts mentioned above, research pointed to a greater neighbourhood stability and participation in voluntary and political activities. House ownership was found to be strongly correlated to income, education, age, and stage in the family life cycle, marital status, and race, presence of children, employment tenure and security. In the same report a study on individual’s physical and psychological health pointed out to better hygiene and sanitation leading to better physical health. In the U.K a study conducted by Nettleton & Burrows (1998) found that repayment of housing loan instalments on time led to better mental satisfaction to the home owner. This study reinforces the home ownership doctrine as well as the satisfaction levels reached by non defaulting home owners.

**Role of construction and housing sector during recession**

In a working paper submitted to the Joint Center of Housing Studies, Colton (2002) argues that the recessionary phase faced by the U.S. economy was offset by the healthy offtake of home loans and construction loans (project financing ) that sustained the economy in the recessionary and the Great Depression periods. In the same paper Colton traces the development of a strong mortgage financing system under President Roosevelt who with the National Industrial Recovery Act launched a programme for financing low-cost housing and slum clearance. This was also designed to provide a form of employment to recover from the Depression while providing s stimulant to the depressed construction industry. Owner-occupied properties with a value up to $20,000 were eligible for loans to the tune of 80 per cent of the appraised value. The maximum interest rate was 5 per cent of the outstanding balance of the loans and the loan was to be repaid in monthly instalments for terms up to 15 years (these terms were later increased to 20 years).
The Home Owners Loan Corporation (HOLC) pioneered, on a national basis, a long term mortgage programme with moderate interest rates. It not only played a key role in refinancing homes and slowing down foreclosure, but also set a precedent and a pattern for the remainder of the century. The HOLC received 1.9 million applications for loan assistance from June 1933 to June 1935. It saved the homes of three quarters of a million US families, provided a relief to a range of hard-pressed mortgage lending institutions and a beleaguered mortgage finance market, and helped pave the way for the U.S.A’s current system of housing finance. It established precedents for a long term fixed-rate mortgage, for a national system of mortgage lending and for a federal role on providing support for housing finance.

After the establishment of the Federal National Mortgage Association (Fannie Mae) in 1938 the US housing and construction sector witnessed record growth, a growth witnessed by no other country in the world.

**Role of construction and housing sector during recessionary period --- Indian experience**

India, being a developing economy, with a staggering population of more than 1 billion, provides a ready and continuous market for the construction products.

Over the past five years, the construction sector has grown faster than the overall G.D.P While the GDP growth rate has been in the range of 6 to 8 percent, the construction has been growing at a rate between 10 and 15 percent annually. This growth has been evenly spread across various sectors but transportation, power and urban infrastructure have been key drivers.

The construction sector consumes 40-50 percent of planned outlay. The annual investment is expected to double to nearly Rs. 6000 billion by
the end of the Eleventh Five Year Plan. The transportation sector is likely
to be the major contributor.

Nearly 54 per cent of construction activity is generated in various
infrastructure sectors. This is followed by other industrial activity (36 per
cent) residential activity (5 percent) and commercial activity (5 percent).
Broadly categorized, the industry comprises 250 firms which may be
called the corporate sector. These firms are large by Indian standards, and
include those owned by the Government. Another 1,20,000 firms are
classified as class ‘A’ contractors registered with various Government
construction client bodies. These firms may be from medium to large size
in terms of volume of business turnover. Then there are six hundred
thousand small firms of contractors/ sub-contractors who compete for
small jobs or work as sub-contractors of prime or other contractors.
Whereas there are numerous speciality contractors in this category, most
others work at low-end technology jobs of small value.

Consultants, workers and inputs industries are other participants to
the construction industry. Architectural and engineering consultant firms
play an important role in construction process. Even though there are
thousands of consultants in India, consulting firms as formal
organizations of appreciable size number 2000. Construction material
manufacturers are also 4000 firms in the organized sector. The number of
construction equipment manufactures is 800 (Vaid, 2003)\(^{16}\).

The Indian experience also demonstrates the correlation between
the increased contribution of housing and construction (i.e, infrastructure)
in the boosting of the GDP during times of low growth rates experienced
in other sectors such as agriculture, manufacturing and services.

Indian economy has witnessed a number of challenges by way of :-

1. Oil Pool Crisis -1991,
2. Foreign Exchange crisis -1992,
3. The Recession in the USA - 2001-03,
4. The Drought of 2002,
5. The tsunami – December 2004
6. Oil price rise in the world market.
7. Excessive rains which caused floods and loss to property in the year 2005.

India’s total investment in infrastructure for the period 1990-91, 1995-2005

Table 2.1
India’s GDP Growth Rate and Investment in Infrastructure

<table>
<thead>
<tr>
<th>Year</th>
<th>GDP Growth Rate (Percentage)</th>
<th>Infrastructure expenditure (in million rupees)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1991-92</td>
<td>6</td>
<td>510954</td>
</tr>
<tr>
<td>1995-96</td>
<td>7.5</td>
<td>1073271</td>
</tr>
<tr>
<td>1999-2000</td>
<td>6</td>
<td>1761838</td>
</tr>
<tr>
<td>2000-01</td>
<td>5.9</td>
<td>1902999</td>
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<tr>
<td>2001-02</td>
<td>5.8</td>
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<td>4</td>
<td>2254888</td>
</tr>
<tr>
<td>2003-04</td>
<td>8.5</td>
<td>2519785</td>
</tr>
<tr>
<td>2004-05</td>
<td>6.9</td>
<td>2830465</td>
</tr>
</tbody>
</table>


One finds a definite correlation between the rate of infrastructure investment and the rate of growth of GDP. The correlation co-efficient is found to be as high as 0.46. This means that 46 per cent growth in the GDP of a nation can be attributed to investment in infrastructure.

Thus it can be concluded that for all sectors to perform well, investment in infrastructure serves as a facilitator, and during recessionary periods it serves as a catalyst to induce the recovery in other
sectors. This is possible due to the strong incumbent multiplier effects of infrastructure investment.

In contrast to the rate of infrastructure investment by India, a study of China’s GDP reflects the near economic superpower’ status achieved by China in the last decade due to the creation of world-class infrastructure. China has maintained a consistent growth rate of over 7-10 percent since 1993 to 2005. According to a report by the Engineering News Record (ENR 2003), the Chinese construction industry was the third largest in the world in the year 2002 with a total value of US $404 billion.

Investment in infrastructure in China is as high as 20 per cent of its GDP (almost US $ 260 billion)

Compared to China, India’s investment in infrastructure is less than 6 per cent of its GDP (i.e. around US $30 billion). This could be the reason for a lower rate of growth for India as compared to China.
Figure 2.1
Construction Participants
Figure 2.2
Factors Affecting Real Estate Industry

- Real estate industry
  - Residential
    - Trade spaces
    - Special purpose
      - reserved land
      - Religious institution
      - Government
  - Non-Residential
    - Commercial offices
    - Agricultural land, plots
      - Farm houses

- National level factors
  - State level factors
  - Regional level factors
    - Local level factors
  - Individual level factors
Figure 2.3
Flow chart depicting the interlinkages between housing real estate and total national economy in periods of boom and recession

The importance of state action in engineering and assisting the process of take-off in developing economies has been stressed by Jagdish Bhagavathi (1987)18. Thus national policies set the tone for the healthy development of housing and real estate markets. When the Central Government takes up infrastructure as a policy objective it provides a conducive environment to the development of real estate. It is a well known fact that when road, rail, bridges and dams are constructed, and power stations built, the value of real estate in that area goes up. Land owners also receive a direct benefit of this value appreciation. Along with the development of infrastructure establishment of industrial and commercial centres, in turn, boost the demand for housing as more and more people begin to move into this area in search of employment. This leads to more infrastructure being created at enhanced rates, better income, better standards of living, setting off a positive spiral. Thus a cycle of development is initiated.

In case of enhanced housing opportunities, it is the role played by the national and state level policies that lead to the development of healthy land markets. In the paper “Effect of Land, Population and Financial Policies on Real Estate Development”, Mona N. Shah (2005) contends that highly developed countries have highly developed cadastres (a public register showing the details of ownership and value of land) made for the purpose of taxation. This leads to secure tenures and titles for the owners and eases real estate transactions. Thus the value of real estate improves. In the same paper it was observed that sound financial policies help boost housing and real estate markets. As real estate is a capital purchase for both the individual as well as the corporation, the
need for accurate information i.e. quality of legal title, and an expectation of appreciation of the asset in the future, is very crucial. Unlike other asset types, real estate markets are more stable and less sensitive to market volatility. Also, they are slower to procure as well as dispose. The key drivers of developing strong, transparent and viable financial markets lie in the delicate exchanges of law, a variety of financial instruments, peoples’ sentiments, highly developed risk management mechanisms, and the nature of entrepreneurs and regulators. It also means creating highly developed secondary markets by way of intermediaries. In advanced nations, financial market development underscores economic development.

Some more characteristics of healthy financial markets are developing robust asset securitization methods, multi-channel real estate financing, multi-tiered financial institution frameworks, institutions to access equity finance, establishment of real property funds, development of secondary markets, setting up financial intermediaries, improvement of legal and regulatory systems and risk and asset management policies.

When strong land, legal and financial markets are operational, the development of real estate market is ensured. When more and more people opt for owning homes, strong economic multipliers occur. Strong stable communities also develop and overall community development takes place.

The policies followed by the governments determine the level of progress that will be made in the development of real estate markets. Proactive policies on the part of the Government are necessary to boost the progressive cycle. It also improves the governments ability to earn revenue through property tax, stamp and registration, development charges, and is then better able to divert this revenue into development projects of other areas.
On the other hand, lack of Government interventions adversely affect the progress of this sector, as is evident in India through the four decades since 1950s-1980s. The current housing shortage in the country is to the tune of 42 million dwelling units and it will grow if not urgently addressed.

Thus the macro role of construction sector in an economy’s development along with its ability to tide over cyclical fluctuations get added significance as has been proved by several national and international cases.

**Construction sector linkage – Kerala Experience**

In Kerala, the process of development is characterized by the widespread construction activity across the length and breadth of the state. The present phase began some two decades ago but it got momentum in the last 10 years. The process is likely to get intensified in future with more economic development and the consequent increase in demand for the construction products.

In Kerala, land has always held more promise than investment in the primary market. Shares and mutual funds have never enthused the investors here as much as land has. The goldmine here has always been property. The property developers here are on a rush to make the most of the conditions which were conducive to growth. The demand for land and housing is increasing but the fact remains that it is not going to be fully met. The real estate dealers indicate that since major land developers from Mumbai, Delhi and Bangalore have acquired many areas of land and a few more are in the process of firmly establishing their presence in the state of Kerala.

The economic history of Kerala from the late 50’s to the early 80’s reveals a near total stagnation in almost all sectors. There was too much of bad politics and too little of good economics in our perspectives. The
stagnation in agriculture with negative growth rates, the slow pace of modern manufacturing industry and the sorry state of traditional industries created a vacuum in our economic dispensation. It was the service sector that was destined to fill the vacuum. The contribution of the service sectors to the State Domestic Product increased considerably. Many skilled people left the state in search of jobs and other opportunities elsewhere. Enterprising Malayalees started ventures in foreign countries with the enhanced income they got. There was a large scale migration of the labour force to the main cities of India, to the gulf countries, Europe and America. The Kerala diaspora never ignored their home land. The migrants’ remittances constitute the single most important revenue to our state. Owning a piece of land and a decent dwelling became the first priority of the migrants. Naturally, this intensified the pressure on the land. Over the last 5 years there has been a shift in the investment habits of the people with a definite preference for land. Thus construction became a very important activity of the people of the state. Thousands and crores of rupees are being invested in brick and mortar.

With a booming construction industry littering every available urban and rural space with building of all sizes and shapes Kerala is fast becoming the most sought after destination for real estate developers.

Land value has risen considerably over the past few years. There has been an appreciation of 200 to 300 per cent in value in certain places. While big player’s eye large tracts of land, the smaller investor is benefited too by holding small pieces of land.

Through world class technology classic amenities and innovative concepts, large builders here are delivering their best and are bringing a kind of authentic brand visibility in the market.
Even local builders in Kerala are doing business worth Rs. 600 to Rs. 1000 crores every year. They provide direct employment to about 20,000 people, that too, in and around Kochi.

With a booming construction industry littering every available urban and rural space, with buildings of all size and shape, Kerala is fast becoming a concrete maze. Across Kerala, commercial and residential complexes are gobbling up prime locations. Frenetic activity in the construction sector is normally taken to be an indicator of economic growth. Non-resident Indians and wealthy businessmen are the potential buyers in the market.

Since the past few years, the construction sector in the state has been witnessing an amazing growth. The thriving real estate sector has also promoted numerous other allied segments. Tiles both interior and exterior, wood, land, bricks, and sand all are being extensively used for construction purpose. Steel, cement, paints, bathroom accessories electrical gadgets and numerous other construction materials find their way into the state from different parts of the country.

Besides being a regular source of direct and indirect employment to around 20 per cent of the state’s workforce, construction sector in Kerala is also attracting skilled and semi-skilled workers from states like Bihar, Orissa, West Bengal, Maharashtra and U.P. Migrant workers are employed in tile and brick manufacturing units. They are generally brought by labour contractors. There are migrant labour settlements in almost all districts of Kerala. In cities like Trivandrum, Kochi and Kozhikode, their presence is most noticeable in the construction sector.

The construction sector in Kerala has also seen supporting many other varied activities such as 1) fabrication 2) furniture making 3) electrical fittings 4) plumbing ;5) interior decoration 6) Paints 7) handles, and 8) readymade doors and windows.
Real estate development is a booming business in the cities of Kerala, especially Kochi. Kochi would need at least 30,000 additional dwelling units every year. Many private sector IT companies like Leela Info park, L&T Info park, Wipro and many others are going to create an explosion of employment potential in the city. Vallarpadam container Terminal and LNG Terminal are the major projects in the pipeline. There has been a perceptible rise in the housing loans sanctioned by the banks and other financial institutions.

The stakeholders in the construction industry - the construction companies, engineers, trade unions and others have demanded that the Government recognize the fast growing construction sector as an industry for its overall growth and development. It is estimated that the industry is already employing a large number of workers. It should be noted that when the primary sector was undergoing a crisis, it was the construction sector that absorbed the workers thrown out of jobs.

As the Government has already allowed 100 per cent foreign investment in the construction and other infrastructure development sector in the country, liberal financial (institutional) assistance should be immediately implemented. Packages to the construction sector suggested are similar to the ones given earlier to the agricultural sector.

The skyrocketing prices of land, cement and steel are causing concerns. The hike in taxes is yet another factor that has put the sector in a disadvantaged position.

The urgency in declaring construction as an industry is due to its supporting role to many other varied activities such as fabrication, furniture, electrical equipments, plumbing, interior decoration, paints, handless, readymade doors and windows.

Housing is the biggest challenge every city faces. Kerala is not an exception to this universal phenomenon. While flats and villas are
mushrooming in every city, there is a large section of people whose basic housing problem remains unsolved. It is the duty of the Government to take up the issue of housing for the economically weaker sections and low income groups through mass housing, row housing (with common walls) etc. But finding the necessary finance is always a problem. A part of the revenue earned through construction tax, yearly tax etc. can be set apart for housing for the poor.

It is estimated that there are about 2 lakh landless families in the state as on 31\textsuperscript{st} March, 2008 (Kerala Calling July, 2009). EMS Total housing scheme has been introduced by the Government to provide houses to all houseless and landless (BPL category).

With a booming construction industry littering every available urban and rural space, with buildings of all size and shape, Kerala is fast becoming a concrete maze—often in violation of laws, leaving little space for healthy life for our population. Unless the state begins to plan its towns and cities, it will end up with nightmarish urban experience in a none-too-distant future.

In Kerala unauthorised construction in posing a threat to the planned development of cities and towns.

Across Kerala, commercial and residential complexes are gobbling up prime locations, at times in violation of the provisions of the Kerala Building Rules and Zoning regulations norms. Besides causing a real estate boom, the construction patterns have also left scientific space management and infrastructure development a major casualty of the so called development. It has led to rampant reclamation of paddy fields and wet lands leading to ecological problems.

The principles that housing should be associated with the delivery of other essential services, congestion free transport system, drinking water supply, drainage systems, sewage net works, solid waste disposal
and treatment, air and water pollution control, parking spaces and above all a healthy environment seem to have got little attention in the state.

Zoning regulations and other norms for development in structure plans do not bother builders much. When civic authorities turn a blind eye to such blatant violations by major builders, the latter escape punitive actions. Fake orders and special orders have become the order of the day. It can be noted that the patently lackadaisical approach of the local self Government institutions and an unholy builder-politician-bureaucrat nexus has provided the culprits with a safe way out. Alteration to existing structures are done during nights as well as on holidays. There are several loopholes in the rules. Of late, the state Government has come out with certain specific guidelines to the local bodies. The prices of land go beyond the wild imagination of a property dealer. The unabated flow of funds into the sector has not been seen as an unmixed blessing given the unhealthy trends that it brings. Currency in containers carrying iron scrap was found last year to the utter dismay of genuine participants in the sector. It is not the real estate sector alone that will be affected by the flow of fake currency; it will affect the entire economic structure of the state.

Generally, the cost of house construction is higher in Kerala when compared to other states. This is due to the fact that all construction materials are brought here from other parts of the country. In other words, the consumers of the state are paying more than their counterparts in other states. The proposed ban on river sand mining and a very high wage rate are causing concerns.

The Kerala builders Forum came into existence in 1994 as an apex body of the builders in Kerala. Its main objective is to bring together all the genuine builders in the state under one roof. It also endeavours to
streamline ethical approach and professionalization in the fast expanding construction industry.

The KBF is affiliated to the Confederation of Real Estate Developers Association of India (CREDAI), the apex body of the developers and builders in the country.

The KBF comprises of builders with a proven track record of excellence in the state-of-the-art architecture and construction with an impressive presence across the state. The Forum ensures a corporate approach to meet the ever-growing demands of home buyers in Kerala. The KBF is well represented throughout Kerala.

Through world class technology, latest infrastructure, classic amenities and innovative concepts, the KBF members are delivering their best in Kerala and are bringing a kind of authentic brand visibility in the market.

Kerala Property Expo-organized by the KBF has turned out to be a premier event concerning the real estate sector in Kerala.

The process of development in our state is characterized by the ubiquitous construction activity across the length and breadth of the state. The present bout of construction activity began some two decades ago, but it got momentum in the last 10 years. The process is likely to get more intensified with more economic development and the consequent increase in the demand for construction products. Over the last couple of years, the investment habits of the people show a definite preference for land. The slow growth (or near absence) of manufacturing industries, the stagnation in agriculture and the increased remittances from abroad have greatly contributed in bringing about a boom in the construction sector.

Till 70’s agriculture was the main activity of the people. There was insistence on food crops despite the visible success of plantation crops. Even then sporadic famines interrupted the healthy co-existence among
the people and communities in our state. There was near self sufficiency in food grains production with no surplus left for the market outside the state. The measurements of productivity in and returns from agriculture were not done scientifically because it was more a part of culture than of commerce. The situation in the other parts of the country was not different till the advent of the Green Revolution in the mid 60’s. When several parts of the country were preparing to transform itself from subsistence to commercial farming, the state of Kerala was forced to adopt a shift from subsistence farming to no farming. Land reforms and the breakdown of the joint family system could be responsible for accentuating our downfall in agriculture. Although the people of Kerala held a radical perspective in their social life, farming continued to be tradition-bound. Mechanisation of agriculture was resisted on the ground that it would lead to massive unemployment. Demands for socialism were, in fact, demands for maintaining the status quo. The Kerala farmer also miserably failed in developing an alternative method in agriculture best suited to our conditions. Besides, the increased pressure on land for building residential complexes and other facilities leading to massive filling of paddy fields also led to the eventual decline of agriculture.

Kerala has been an industrially backward state. The erstwhile Malabar and Kochi states did not have a comprehensive industrial policy of their own. The erstwhile Travancore state did make some successful forays into the industrial sector. The contribution of the missionary activists in inaugurating our industrialization process, though on a limited scale, is no less significant (Mani, 1991)²⁰. In the later periods political and social climate prevailing the state did create an antagonism towards private ownership and entrepreneurial ventures.

Although the state was reeling under industrial backwardness, there was presence of traditional industries, albeit localized. It provided
employment opportunities, though on a limited scale, and contributed to the state exchequer. The traditional industries could sustain healthy linkages with the local markets. Old social orders were responsible for this. The industries utilized local resources and local manpower for its production process and found outlets to their products in the local markets. The sectoral linkages of these industries were an end in itself. As happened elsewhere in India, the technological superiority of the western countries which was to dominate the world after industrial revolution did give a deathblow to our traditional industries. Most of these industries lacked the much needed strategy to survive. The state policy of protecting traditional industries remained in words.

The stagnation in agriculture with negative growth rates, the slow pace of modern manufacturing industry and the sorry state of traditional industries created a void in our economic dispensation. Naturally, more and more people began to get engaged in trade, commerce, transport, storage, communication and construction. The contribution of the service sector to the State Domestic Product increased considerably. There was large scale migration of the labour force to the main cities of India and to the Gulf countries, Europe and America. The migrants’ remittances constitute the single most important revenue to our state. Owning a piece of land and a decent dwelling became the first priority of the migrants. Naturally this intensified the pressure on the land. Construction became a very important activity of the people of the state. Thousands and crores of rupees were invested in brick and mortar.
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11 Ibid.
19 Kerala Calling July, 2009 “Landless families and housing shortage in Kerala”.