Review of Literature:

The construction industry in India in more complex and subjected to greater risk as compared to any other business and thus, it is important for the selection as well as implementation of effective strategies of risk management in order for the project to be successful and thus forms the core introductory principles of risk management. The completion of construction projects within the projected time span has always been the most challenging task for the construction companies and it is found that many construction projects have been unsuccessful in the delivering the projects at time, cost and quality which the clients and their consultants had perceived before the starting of the project and thus, it is important for the management to efficiently design a plan of action to achieve the goals and requirements.

As per a report published by Economy Watch (2010) – Construction Industry Trends all over the world show a rise in its rate of growth. This industry is composed of many components including construction of heavy and civil engineering (highways, bridges, railway tracks, airports, etc.), real estate (both residential as well as commercial) development, and specialized construction products (such as architectural products, electrical connections, decorative items, etc.). All these segments cannot be expected to show similar trends and in fact are showing differential growth pattern all over the world. India is seeing a boom in the construction sector mainly due to the government initiative in expansion of the developmental facilities. Economic upsurge has also generated enhanced generation of demand in the real estate sector (both residential as well as commercial). Construction Industry in India is rising at a phenomenal rate of 7 to 8% p.a.

As stated by Nargis Namazi (2011) in an article published in Business Review – across the world, the construction industry is witnessing a tremendous boom. And India is no exception! Government polices and expenditure in infrastructure, training and regeneration projects have helped the sector grow at high levels and the same pace is likely to be seen in the coming year too. This industry comprises of
many components including construction of heavy and civil engineering (highways, bridges, railway tracks, airports, etc.), real estate (both residential as well as commercial) development, and specialized construction products (such as architectural products, electrical connections, decorative items, etc.) The construction industry is currently growing at 10 per cent per annum and has a size of 70 billion dollars but with the huge investment in the construction industry, tremendous growth opportunities are expected.

Araghadeep Laskar and CVR Murthy (2011) state that the construction industry is the second largest industry of the country after agriculture. It makes a significant contribution to the national economy and provides employment to large number of people. The use of various new technologies and deployment of project management strategies has made it possible to undertake projects of mega scale. In its path of advancement, the industry has to overcome a number of challenges. However, the industry is still faced with some major challenges, including housing, disaster resistant construction, water management and mass transportation. Recent experiences of several new mega-projects are clear indicators that the industry is poised for a bright future.

As per the market research report published by the Consolidated Construction Consortium Limited (2011), our construction industry suffers from capacity constraints, lack of trained manpower and managerial skills with performance much below international level. The industry is starved of finance. Small and medium contractors do not have the wherewithal to upgrade their capability, both hard and soft, to undertake high value time bound projects. Quality, safety, environment and social aspects are also not being addressed appropriately. The report concluded that in the years ahead, the construction industry in India has to overcome various challenges with respect to housing, environment, transportation, power or natural hazards. Technocrats associated with the Indian construction industry need to employ innovative technologies and skilled project handling strategies to overcome these challenges. The outstanding performance under demanding situations in the
past will stand in good stead and give confidence to the Indian construction industry to bring about an overall development in the infrastructure of the nation. The gains of large investments in the mega-projects eventually will feedback to the construction industry itself in the form of better economy and improved work conditions.

According to Niranjan Hiranandani, Managing Director, Hiranandani Constructions (Project Manager, 2011), “the National Housing and Habitat Policy of the Government of India was passed in October 1998 by Parliament. It talks about issues like liberalisation in the housing sector. What we need to do now is to first scrap the Urban Land Ceiling Act. The Central government has already scrapped the Act, but many states, including Maharashtra, have not followed suit. If this is done, more land will be available for development. The second major thing is stamp duty. Fortunately for us, Maharashtra has reduced the stamp duty on commercial properties from 10 per cent to 5 per cent, and for residential properties from 8 per cent to 5 per cent. The third important factor is the sanction of building plans. But since this process is riddled with corruption, it is difficult to clear plans or procure non-agricultural land. If these steps are taken, some problems faced by the real estate industry will be solved.”

A Report by CIDCI (2006-2007) remarked that the 10th Five year plan brought by the Planning Commission, Government of India, which is a policy paper for the economy for the next five years (2002 – 2007) has for the first time incorporated a chapter on Construction. This shows the importance given by the Government of India to the Construction Industry. The plan encourages 8% growth in GDP for which total investment is Rs. 4,081,700 Cr. The public sector investment is 1,121,802 crore and private sector investment is 2,476,100 crore. Based on past experience, construction accounts for 40-50% of the investment which means a figure of 2,000,000 crore in the next five years or about 4,00,000 crore every year.
Singh Vandana (2009) concluded her research paper with the remark that the Real Estate is a very wide concept and it is highly affected by the macro-economic factors like GDP, FDI, per capital income, interest rates and employment in the nation. The most important factor in the case of Real Estate is location which affects the value and returns from the Real Estate. India needs a stronger capital market base for property financing. The debate on the potential introduction of REITs and real estate funds points in the right direction. The introduction of REITs in 2007, will give international investors in particular a familiar investment vehicle. Private investors could also enter into indirect investment in real estate. Although interest in new projects is most likely to come primarily from institutional investors, the rising middle class is likely to seek new instruments aside from direct property investments in the medium term. So, in the end we can say that the investment in Real Estate in India is a very good investment opportunity. But one should be very careful while taking decision in this direction due to rising inflation and interest rates. Legal issues should also be kept in mind while choosing a property.

According to K. K. Kapila, Chairman and Managing Director of ICT Pvt. Ltd (2011), our construction industry suffers from capacity constraints, lack of trained manpower and managerial skills with performance much below international level. Though there are islands of excellence in a sea of mediocrity, our companies must become global players by modernising, intensive training of their manpower, enhancing their turnover and change of mindset. The industry is starved of finance. Small and medium contractors do not have the wherewithal to upgrade their capability, both hard and soft, to undertake high value time bound projects. FIDIC conditions are not being rigorously followed and the contract agreements continue to be heavily loaded in favour of the owner/client. Quality, safety, environment and social aspects are also not being addressed appropriately.

According to Drake MacDonald (2011), like many emerging countries, India has a problem with faulty construction. Sadly, the primary reason there are so many poorly constructed buildings in India is due to greed. However, what makes matters
worse is that greed is not isolated to one particular segment such as builders or workers, but to the construction industry in India as well a whole. Builders looking for cheap and quick ways to build often skimp on materials, while the low wages received by contract workers encourages them to do little as possible and take no pride of their work. Even the government is guilty of greed, as officials often pocket bribes in exchange for awarding contracts or looking the other way. Clearly the problem in India is not that there is a lack of regulation, but merely lack of enforcement for existing regulations.

A study conducted by IHS Global (2009) concludes that the Indian construction industry is highly fragmented. This is partially due to the fact that, for most projects, there are no long-term relationships between the contractors and clients. For example, government agencies such as the National Highway Authority of India (NHAI) do not provide any benefits to the long-term contractors that have worked with them in the past. Because the sector lacks economies of scale, smaller players may have better cost structures due to lower overhead costs.

Iyer K. R. (2011) remarked in his report that India today is facing a unique challenge of dealing with high inflation, while continuing high growth. Boosting of supply in all industries, including incentivizing of infrastructure development, streamlining of regulatory process to reduce time and costs for business and tax incentives for low cost housing are all important areas which will help reduce inflation and also enable growth rates to be maintained. Infrastructure remains a vital sector for India’s growth story, which was reiterated by country’s Finance Minister (FM) Pranab Mukherjee in his Budget 2011-12. Construction projects in various areas like road, low-cost housing, ports and airports, bridges and special economic zones (SEZ) will propel the growth and order book of construction companies.

Heamanta Doloi and et.al (2012) have identified factors that cause delay in construction projects in India. From the factor analysis, most critical factors of
construction delay were identified as (1) lack of commitment; (2) inefficient site management; (3) poor site coordination; (4) improper planning; (5) lack of clarity in project scope; (6) lack of communication; and (7) substandard contract. Regression model indicates slow decision from owner, poor labour productivity, architects' reluctance for change and rework due to mistakes in construction are the reasons that affect the overall delay of the project significantly. These findings are expected to be significant contributions to Indian construction industry in controlling the time overruns in construction contracts.

According to Singh Pradeep (2011), in a giant industry like construction, there are many strains due to peculiarly irrational risk-sharing arrangement coupled with its competitive character. Today there are increasing disputes and differences arising out of contractual relations between contractors and owners whether owners are individual, firms or public. Construction contracts have very sensitive arrangement of weaving many different agencies to perform various obligations to execute the job. Because of complexity of such interwoven responsibilities, superimposed by statutes, monitored by environmentalists, exposed to vagaries of nature and uncertainties of markets, it could be a miracle if any construction project can come out without getting greatly distorted on time-money or concept scale. He has identified the following four categories of factors that lead to dispute and delay in construction projects:

1. Changes include Additions, Alterations, Variations, Deletions.
2. Delays and suspension.
3. Different Site conditions.
4. Unjust enrichment by owners.

A study by Word Bank (2008) entitled ‘India - Indian Road Construction Industry: Capacity Issues, Constraints and Recommendations’ made several recommendations to improve the Indian construction industry and eliminate the hassles associated with inter-departmental coordination. Some of these recommendations are:

1. Mainstreaming the pre-construction process and clearances;
(2) Setting up a Road Appellate Tribunal for faster dispute resolution based on the US and Singapore models, rather than the current contract by contract approach;

(3) Initiating a system on rating, grading and registration of construction companies and individuals, as currently followed in US and several European countries, to improve professionalization in the industry and facilitate improved access to finance; and

(4) Framing a construction law to improve the legal and regulatory environment in the country.

According to G. K. Kulkarni (2012) construction workers are exposed to a wide variety of health hazards at work. The exposure differs from job to job. The work-related diseases form 5% to 20% of work force. He identified some common problems of construction workers to be physical injuries, hazards from harmful chemicals, dusts, mists, gases and biological hazards such as malaria, dengue, etc.

The Report of the Second National Commission on Labour (2002), warns that the present trend towards induction of modern technology in construction industry is likely to transform the traditional labour market and indicates that there would be increased mechanization and manual and women workers would, therefore, be increasingly eliminated from large construction projects. When machines come in, the first to lose jobs are women workers as they are considered the least skilled.

Prof. Deelip Kumar M. (2006) has made the following suggestions for improving the conditions of labourers in construction industry:

(1) Investigate the abuse and exploitation of labourers by agents and employers and prosecute such agents and employers.

(2) Create awareness of construction labourer's rights and set up mechanisms of redressal.

(3) Ensuring decent working conditions and proper contract systems and providing basic health care for construction labourer's.
(4) Adequate intervention from the government authorities required ensuring the health, safety and welfare of the construction labourers.

(5) Effective implementation of the labour laws that making provision of better health, safety and welfare of the construction labourers.

(6) NGO's working for child welfare should consider the difficulties of the construction labourers and plan strategies to ensure free education of these children.

(7) NGO's working should extend open education to the labourers and to alleviate atrocities against them.

(8) Organize public medical camps where constructions sites are located

(9) Constant inspection from the government part is required to reduce the plight of the construction labourers.

(10) Constructive support from the trade unions to the construction labourers to be ensured where the government and management couldn't support.

(11) Encourage the construction labourers saving habit by initiating thrift and banking awareness.

(12) Ensure adequate insurance facilities for the construction labourers.

As per an article published in Time of India (2011), supply of sand is the another major constraint in delaying construction projects across Mumbai city. Sand shortage has impacted construction work in a big way. The past two months were particularly bad and building projects slowed down because of the ban on sand mining. Builder Nayan Shah said remarked that sand prices increased five times in the past one year. The quality is sub-standard and most suppliers now indulge in illegal and surreptitious mining. A year ago, a truck of sand cost Rs 9,000. It has since increased to Rs 30,000 to Rs 34,000. Shah said building projects are delayed and have turned expensive. My projects are now making 30% progress compared to six months ago. Builders use more steel because of the poor quality of sand. Construction cost has shot up by 15% and quality of structure has fallen by 40%, said Shah. He also remarked that the government has failed to act. Property prices will shoot up if the issue is not resolved.
Aggarwal S. (2003) concludes that the construction industry of the developing countries will face major challenges in future. Those which are often highlighted and considered relate to the resource shortage and industry itself. Their research paper argues that issues which are not normally considered to be relevant to developing countries are, indeed of significance to them, and some may be critical. It is necessary for more work to be done on the issues of globalization, the environment, and the various aspects of culture as they relate to construction activity, construction enterprises and the construction industry in developing countries. The overarching issue of construction industry development should embrace all these issues. In other words, the developing countries should seek to develop construction industries which are well-poised to benefit from globalization (rather than those which are victims of this inevitable process where construction is concerned), enterprises and practitioners which are aware of, and activity seek to limit, the negative environmental impact of their activities, and which effectively apply the local culture to facilitate their efforts towards achieving success on their projects.