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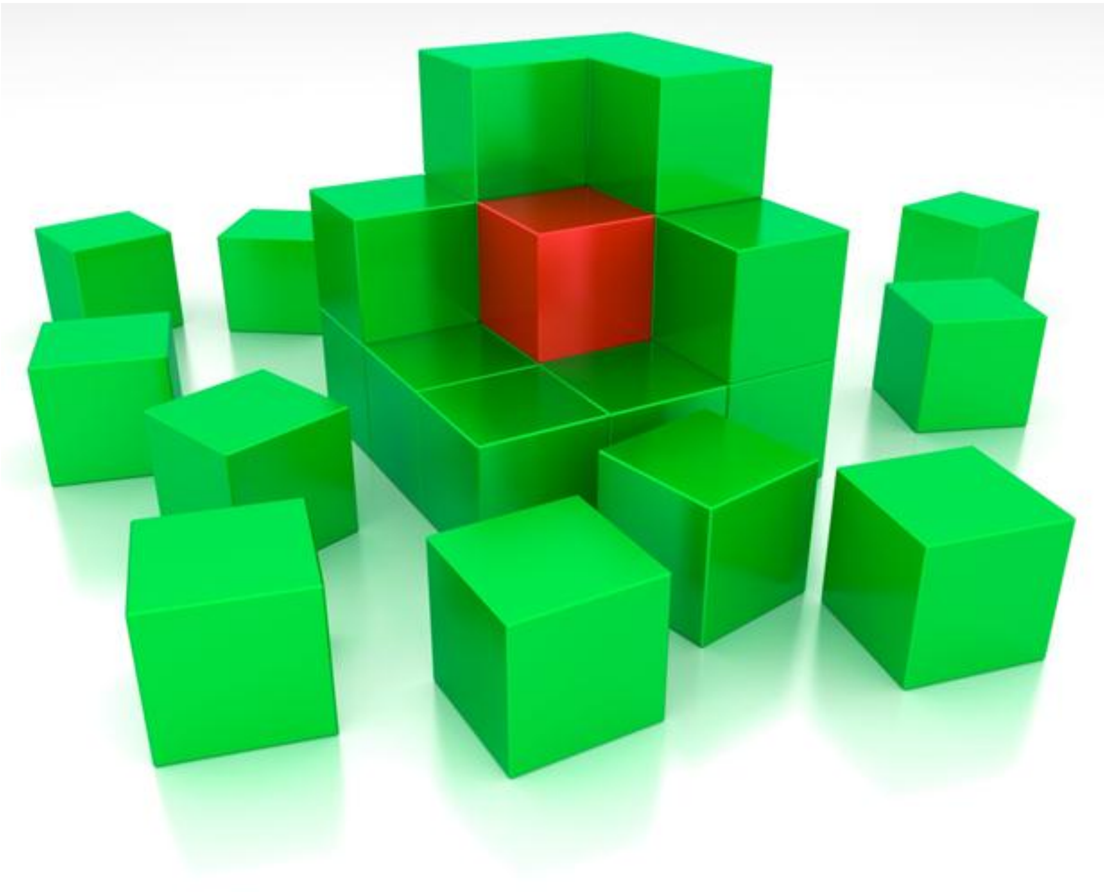
Sector Specific Inventory & Institutional Strengthening for PPP Mainstreaming

Karnataka Public Works Department

Pre-Feasibility Report on Development of Residential & Commercial Units on Land Parcels in Bengaluru on PPP



Submitted By
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July 2012

ACRONYMS

R&D	Research and Development
PPP	Public Private Partnership
IDD	Infrastructure Development Department
TA	Transaction Advisor
TC	Technical Consultant
PWD	Public Works Department
KPWD	Karnataka Public Works Department
DCN	Development Control Norms
GDP	Gross Domestic Product
SEZ	Special Economic Zone
ORR	Outer Ring Road
BBMP	Bruhat Bengaluru Mahanagara Palike
BDA	Bengaluru Development Authority
FAR	Floor Area Ratio
GCR	Ground Coverage Ratio
FDI	Foreign Direct Investment
GoI	Government of India
GoK	Government of Karnataka
IRR	Internal Rate of Return
NPV	Net Present Value
DSCR	Debt Service Coverage Ratio
CAM	Common Area Maintenance
UDD	Urban Development Department
ULB	Urban Local Body
RFQ	Request for Qualification
RFP	Request for Proposal
CDP	City Development Plan

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1 Executive Summary

1.1.1 Karnataka has emerged as a key State with knowledge-based industries such as IT, biotechnology and engineering. It is considered as the science capital of India with more than 100 Research and Development (R&D) centers, and a preferred destination for multinational corporations with more than 650 such companies. Such all-round developments trigger the need for well-developed social, physical and industrial infrastructure, part of which can be built through Public Private Partnership (PPP).

1.1.2 Since PPP concept is relatively new and the implementing officers require necessary insight, orientation and assistance, Infrastructure Development Department (IDD), Government of Karnataka is keen to strengthen the project development process in the Public Works Department for implementing infrastructure projects through PPP. IDD has therefore engaged Deloitte Touche Tohmatsu India Pvt. Ltd. to provide consultancy services in this regard.

1.1.3 Among the wider ambit of services, the engagement intends to arrive at sector-wise inventory, undertake pre-feasibility studies and develop a procurement plan for selection of Transaction Advisor (TA) / Technical Consultant for projects to be taken up for bidding. The information on projects that are generated out of this process shall be initially marketed through workshops before they are bid-out with the assistance of respective Transaction Advisors.

Project Background

1.1.4 In Karnataka there is an inherent demand-supply gap in housing for Government employees. To bridge this gap, KPWD has identified certain land parcels in Bengaluru for development of residential quarters for its staff. On the identified land parcels, some existing structures / quarters are present which are not optimum for current use due to age, physical condition etc. Moreover, there is potential to more optimally utilize these land parcels as per prevailing development control norms. .

1.1.5 Owing to the prime locations of the sites, there is potential for development of residential & commercial units on PPP where the residential units can be offered as housing / quarters for Government employees. The development of such residential quarters can be subsidized through development of commercial units / office space by the selected developer and leasing out of the same on long-term basis.

1.1.6 In consultation with key stakeholders, 4 land parcels at 3 locations in Bengaluru have been selected for pre-feasibility studies for development on PPP mode. It is understood that the existing structures / quarters that are present on these land parcels would be demolished and new facilities would be considered for development. The details of these four land parcels combined into three projects are as under:

Wilson Garden Site & Project Details

1.1.7 The site is located in Wilson Garden, a prime location in Bengaluru. Wilson Garden is surrounded by Shanthinagar, Lakkasandra, Langford Town, Lalbagh Road and Mission Road. The project site is walking distance from the Shanthinagar Satellite Bus Station which is also an interstate bus stand and some important hospitals like NIMHANS, Kidwai and Jayadeva are located close by. Certain leading software companies such as Accenture & Satyam and famous commercial areas are also near this site. In view of the above, it is felt that the project site is an appropriate location for development of residential as well as retail and office spaces.

1.1.8 The project is proposed to be developed on 3,26,700 sq ft of land area of which 50% of total land area would be proposed for residential purpose and remaining 50% for commercial purpose. The residential units would be developed comprising of G+4 apartments, in which the ground floor would be proposed for parking and the remaining floors for flats. Total 408 flats (102 flats on each floor) have been proposed with an assumption that each flat would cover an area of 900 sq ft. The commercial units would also be developed on G+4 floors of which the ground floor would be earmarked for parking. On the remaining four floors, it is proposed that the first & second floors would comprise of retail shops and third & fourth floors of offices.

Jeevanbheemanagara Site & Project Details

1.1.9 There are two sites in Jeevanbheemanagara which are proposed for development on PPP basis. Both sites are located close to each other and are near HAL Airport and Leela Palace Hotel, approximately 3 km away from Byappanahalli Metro Railway Station, 3.5 km from NH-4 (Old Madras Road) and 12 km away from Kempegowda Railway & Bus Stations.

1.1.10 The first site is spread over 59,895 sq ft area and based on discussion with key stakeholders & analysis, a commercial mall with G+3 has been proposed for development. The parking facility would be available in the basement of the mall.

1.1.11 The second site covers 46,489 sq ft of land area on which it is proposed to develop residential units with a composition of G+3 apartments. Total 90 flats (30 flats on each floor) have been proposed with an assumption that each flat would cover an area of 900 sq ft. Parking for the residential apartment users is proposed in the basement of the apartment.

Rajaji Nagar Site & Project Details

1.1.12 The site is located in Rajaji Nagar, one of the prominent locations of Bengaluru. Over the years, Rajaji Nagar has become a major hub owing to considerable development in real estate such as construction of residential and commercial complexes. The project site is located opposite to Orion Mall and surrounded by Brigade Gateway Township, Metro Market Commercial Building & Iskon temple. It is approximately 1 km from the Metro Railway station & Indian Railway station Yeshvanthpura and 4.5 km from Interstate Bus station.

1.1.13 Based on discussion with key stakeholders and analysis, it is felt that this site is suitable for commercial as well residential purposes. The front area of the site is proposed for development of a mall which would cover 30% of the total built-up area (BUA). It is proposed to develop residential facilities covering 40% of the total BUA. 122 flats would be built with an assumption that each flat would cover an area of 1200 sq ft. The remaining 30% of BUA is proposed for offices of which 50% is proposed for KPWD offices & 50% for lease rent. All development which includes mall, offices and residential apartments would have G+4 floors. Basement parking would be made for the mall and offices and ground level parking would be made available for the residential apartments.

Financial Indicators

1.1.14 Financial feasibility analysis for all three projects has been carried out based on certain assumptions. The summary of the assumptions and financial analysis is provided in **Annexure – A**. The results of the financial analysis in the base case scenario are summarized in the following table.

Financial Indicators

Parameters	Results		
	Wilson Garden	**Jeevanbheemanagara**	**Rajaji Nagar**
Project IRR	17.01%	23.26%	17.75%
Equity IRR	18.52%	27.03%	19.32%
NPV (@ 12%) (Rs. lakhs)	5876.55	5392.80	3537.58
DSCR (Average)	1.50	2.21	1.56
DSCR (Minimum)	1.13	1.42	1.08

2 Introduction

2.1 Project Idea

2.1.1 In Karnataka there is an inherent demand-supply gap in housing for Government employees. To bridge this gap, KPWD has identified certain land parcels in Bengaluru for development of residential quarters for its staff. On the identified land parcels, some existing structures / quarters are present which are not optimum for current use due to age, physical condition etc. Moreover, there is potential to more optimally utilize these land parcels as per prevailing development control norms.

2.1.2 Owing to the prime locations of the sites, there is potential for development of residential & commercial units on PPP where the residential units can be offered as housing / quarters for Government employees. The development of such residential quarters can be subsidized through development of commercial units / office space by the selected developer and leasing out of the same on long-term basis.

2.1.3 In consultation with key stakeholders, 4 land parcels at 3 locations in Bengaluru have been selected for pre-feasibility studies for development on PPP mode. It is understood that the existing structures / quarters that are present on these land parcels would be demolished and new facilities would be considered for development.

2.2 Approach & Methodology, studies, surveys including Data collection, analysis

During the course of this pre-feasibility analysis, the following tasks have been undertaken:

S No.	Steps By Step Approach	Broad Methodology
1	**Project Inception**	Meetings with key officials KPWD and other stakeholders
2	**Macro overview of City:** Insights on spatial growth/expansion of the town, zoning, demographic profile, tourism, connectivity & linkages, upcoming & planned developments Understanding of the local industry and commercial activities	Secondary Research, review of Master Plan/City Development Plan, Development Control Norms (DCN)
3	**Project Site Analysis:** Location and its zonal configuration, land use characteristics, site dimensions & boundaries, connectivity, accessibility, frontage roads, upcoming & planned developments in the vicinity, circle rates of land, commercial/ residential space	Site Visits, Press/Document Review, stakeholder interactions and secondary research
4	**Market Assessment** a) Understanding Real Estate Market- Residential development, Retail market in Bengaluru, office	Secondary research and interactions with real estate developers, owners of malls,

S No.	Steps By Step Approach	Broad Methodology
	requirement assessment b) Commercial/residential Units- Demand, Trends, Construction Cost, Market rates, Lease types escalations, assessment of facility requirements etc. c) Exploring feasible project development framework/models	shops
5	**Facility Planning and the Base Project Cost Estimation for project scenarios**	Based on the market data, broad technical specifications and stakeholder inputs
6	**Development of Base Financial Model** : Base project cost, options for revenue generation, assumptions on financial structuring	Discussion with the Stakeholders and market insights
7	**Preliminary assessment of PPP options and Recommendation on Project Structuring**	Based on financial analysis, sectorial PPP best practices and market insights

2.3 Study of earlier reports in this sector in the relevant area

No studies related to development of residential and commercial units on land parcels in Bengaluru on PPP were available in the public domain. However, international & national case studies and information provided by KPWD were analysed while preparing this report.

3 Sector Profile

3.1 Industry Overview

3.1.1 The Indian economy has witnessed robust growth in the last few years and is expected to be one of the fastest growing economies in the coming years. Demand for commercial property is being driven by India's economic growth. As per India Brand Equity Foundation research, Real estate in India contributed about 5 per cent to India's gross domestic product (GDP) in 2010-11.

3.1.2 Urbanization and growing household income are some of the major factors that influence demand for residential real estate and growth in the retail sector. As per Dr. Ahluwalia Committee Report 2011 on Urban Infrastructure, India's urban population is expected to reach a figure close to 600 million by 2031. As per Urban Development Policy of Karnataka, urban population of Karnataka will reach 42% by 2025.

3.1.3 Karnataka is making significant investments in real estate and industrial infrastructure developments, such as setting up IT parks, industrial clusters and Special Economic Zones (SEZs) through Public Private Partnership (PPPs) projects to provide an impetus to further industrial development. As per the Draft Urban Development Policy of Karnataka 2009, the land requirement for urban use in Karnataka is estimated to be 5, 67,285 hectares by the year 2025. According to this estimate, about 1, 40,262 hectares of additional land would be required. While meeting land requirements for the purpose of housing, industry and infrastructure, it is thus important to ensure optimum utilization of land available with the state government.

3.2 Organized Retail & Mall Development in India

3.2.1 Considering that one of the potential development considerations on the available land parcel can be an "Organized Retail" in form of mall, a small treatise on the mall development in India is presented in this section.

3.2.2 India has witnessed a high pace of retail development over the last decade years. Spencer Plaza is Chennai and Crossroads in Mumbai are considered to have pioneered the shopping mall and shopping entertainment revolution in India. From three malls in the year 2000, to almost 300 malls by the year 2010, the pace of developments has been rapid. It is estimated that mall development would spread across 60 cities in the country by the end of the decade. While local shopping centers have always existed in India a number of factors such as income growth, tastes, changing demographic profile and socio-economic environment have driven this have driven this transformation of retail in India. The Global Retail Development Index developed by AT Kearney has ranked India first, among the top 30 emerging markets in the world. The transformation from commercial shopping centers to malls has been particularly the way the mall management takes care of the issues like

- Zoning (tenant mix and placement within mall)
- Positioning
- Promotions and marketing
- Facility management (infrastructure, footfalls, ambience)
- Finance management

3.2.3 The generic business models are adopted by retailers/ developers

Business Model	Key aspects	Benefits for Mall Developer	Benefits for Mall Management
Contract Model	Fixed fee	Fixed cash outflows. Higher inflows if mall is a success	Risk minimization
Revenue sharing model	Percentage of Lease Rent	Risk minimization	Share of revenues if mall is a success which leads to higher income
Partial revenue sharing model	Fixed fee + percentage of Lease Rent	Risk minimization (fixed fee less than that in the case of contract)	Minimum payment guaranteed and also portion of revenues in case of success

3.2.4 Of the above models, till recently contract model was the norm in India. But the revenue sharing model is increasingly becoming popular with retailers in India due to the present economic situation. However, considering the current market practice in the city like Bengaluru, contract model would seem to be more appropriate and feasible.

3.3 Regional Profile

3.3.1 According to 2011 census, Karnataka is the ninth most populous and the eighth-largest State in area in the country. Bengaluru, the state capital is the third largest city in India with its population of over 8 million and is known as 'the garden city' for its serene green spaces and 'the silicon valley of India' for its thriving globally acclaimed Information Technology industry.

3.3.2 Bengaluru is India's third most populous city and fifth-most populous urban agglomeration. Bengaluru, a well-known as a hub for India's IT sector and is known as the Silicon Valley of India globally because of its position as the nation's leading IT exporter. Bengaluru is home to many well-recognized colleges and research institutions in India such as Indian Institute of Science (IIS), Indian Institute of Technology, Indian Institute of Management and National Institute of Fashion Technology.

3.3.3 There are also numerous public sector heavy industries, software companies, aerospace, telecommunications, and defense organizations located in the city. Bengaluru is also known as garden city because of its beautiful gardens. A demographically diverse city, Bengaluru is a major economic and cultural hub and the second fastest growing major metropolis in India.

3.3.4 Bengaluru is one of the pioneers in concept of industrial clusters with established industrial clusters like Whitefield, Electronic City, and Peenya etc. It is fourth largest fast moving consumer good (FMCG) market in India.

3.4 Key Issues

3.4.1 Some key issues related to real estate industry in India are as follows:

- Real estate is a highly fragmented market with only a few large developers and many other small players who take the majority share of the market. The big tickets project are involve high capital investment and generally taken up by well-established big developers. While majority of the projects are small in size with a large number of small net worth players involved.
- In the real estate industry there is lack of regulations in terms of rate, quality etc.
- The value of real estate is less dependent on quality of the construction and more on the other factors such as location, connectivity, etc.

- The real estate industry is more dependent on the external factors including local, regional and global economy.
- Real estate is an investor driven in and thus, it is primarily driven by the availability of the investor's capital instead of demand from the end users. In results of the same there is always a demand and supply gap. Owing to the slow growth rate of economy the flow of investment in this sector has shown a substantial decrease in the last year. The above factors as discussed would drive the real estate growth in the future.
- Availability of land in heart of the city is a critical concern and limits the scope for real estate development without suitable relaxation height restrictions norms imposed by local planning/ development authority. However, many cities have relaxed these norms which have enabled them to grow vertically.

4 Market Assessment

4.1 Commercial Real Estate Market in Bengaluru

Office Overview

4.1.1 Bengaluru is the Hi tech hub of the country and known for the presence of leading software, aerospace and defense organizations of the country. MG Road and surrounding areas such as Residency Road, Richmond Road set up the CBD of Bengaluru and majority of the supply in the region consists of stand-alone and corporate office complexes. Due to saturation in the CBD, there was a huge commercial growth towards Electronic City and Whitefield. There were major infrastructure initiatives in mid-2000s which led to the development of the Outer Ring Road (ORR) and improved connectivity of North (Banaswadi) and South-East region (Sarjapur ORR).

4.1.2 During the year 2008, the slowdown had a huge impact on the office market in the city since Bengaluru is the hub of a large number of IT firms and the sector captures the 60-70% of office space demand. However, now the segment has recovered and in future accelerated growth is expected.

4.1.3 Almost 9 million sq ft was developed for office space during the year 2010 which was almost 40% y-o-y increase. The major absorptions of these spaces were seen across the ORR which covered almost 2.2 million sq. ft of SEZ and STPI space. The Whitefield market also witnessed the absorption of almost 2 million sq. ft. because of the non-availability of ready space along the ORR and attractive lease rental. However, in the North Bangalore market major leasing activity was not seen and the reason was limited availability of ready to move office spaces.

4.1.4 Currently, there is more than 80 million sq ft of existing office space in Bengaluru which includes IT, non-IT and SEZ supply. The new developments are largely concentrated along the Whitefield, Electronic City and ORR which are major micro-markets.

Retail Overview

4.1.5 One of the after effects of the economic downturn was a slowdown in the retail sector in Bengaluru around 2009. However, in the past few years there has been a sound growth in the entry of international brands in the city which includes food, beverages and apparel segments. Also, the established retailers have started exhibiting interest in newly developed areas such as the New Airport Road and locations close to Metro Stations due to better footfalls.

4.1.6 In the city the mall concept started much later than other metro cities such as Delhi or Mumbai. However, there has been notable growth over the years. The Collection at UB City, which became operational in 2009, was the first mall in the city. MG Road, Brigade Road, Vittal Mallya Road have also been pre-emptive in increasing their brand mix. Retailers have taken up large space across hyper markets such as Hyper City, D-Mart, Total and More Megastore.

4.1.7 Leading retailers are quite interested in under construction mall properties. The major high street destinations such as Commercial Street, Brigade Road, MG Road, 80 Feet Road, 100 Feet Road, Koramangala, Jayanagar 4th Block and Indiranagar continue to be preferred locations for existing retailers and new entrants.

4.2 Residential Real Estate Market in Bengaluru

4.2.1 During the slowdown, the demand for residential apartments reduced. However, housing demand has been increasing over the years. Demand from IT/ITES employees, high rents leading to preferences for buying, purchases from an investment point of view etc. are some of the factors contributing to the growth of the residential real estate market in Bengaluru.

4.2.2 In terms of population Bengaluru is the fifth largest city in the country and it is growing at a rapid pace. The key factor in population's growth is the boom in IT sector which has resulted in a great increase in migrant population from other places. The residential market can be divided into five major markets namely North, South, East, West and Central Bengaluru. North Bengaluru is home to eminent people such as sportspersons, politicians etc. HIG & MIG segment people live in South Bengaluru. Since IT/ITES activity is concentrated in East & South East Bengaluru, most of the residential development is concentrated in these areas. Since there is a limited availability of land in Central Bengaluru, most of the small scale apartments/complexes are being converted to high rise buildings.

4.2.3 Due to metro construction work and congestion, Central Bengaluru properties have seen downfall in the demand. The rental & capital value seems stagnant in selected micro markets such as ORR and Whitefield because of excess supply. However, in certain pockets such as Artillery Road and Brunton Road the demand for mid-income houses is expected to strengthen in the short to medium term.

4.2.4 KPWD has identified 9 land parcels in Bengaluru that could be developed on PPP mode. In consultation with key stakeholders, the following 4 land parcels at 3 locations in Bengaluru have been selected for pre-feasibility studies for development on PPP mode.

i. Wilson Garden
ii. Jeevanbheemanagara Residential
iii. Jeevanbheemanagara Commercial
iv. Rajaji Nagar

The details of the above sites are provided in the subsequent chapters of this report.

5 Wilson Garden

5.1 Description of the Project

5.1.1 At present, there are 402 Government quarters at Wilson Garden. These quarters were constructed in 1968 in 326700 square feet (7 Acres 20 Guntas). This site is now being considered by KPWD for new construction on PPP basis because of the following reasons:

- Quarters are aged more than 40 years.
- As per BBMP bye-laws, the FAR has not been fully utilized
- The maintenance cost of old buildings would be reduced
- As the site is situated in a prime location of the city, there is potential for development of residential & commercial units on PPP.

5.1.2 In view of the above, it is understood that the existing structures / quarters that are present on the site would be demolished and new facilities would be considered for development. The project is proposed to be developed as a mix of Residential & Commercial units in 326700 square feet on PPP basis. The important parameters of the project are given in the table below:

Particulars	Value
Land Area	326700 sq ft.
Considered FAR	2.25
Total Allowable FAR area of Project	735075 sq ft.
Ground Coverage Ratio	65%
Floor Configuration	4 (G+4)
Total Allowable Ground Coverage Area	212355 sq ft.
Total considered Ground Coverage Area	183769 sq ft.
% of area considered for Residential development	50%
Total area considered for Residential Development	91884 sq ft.
% of area considered for Commercial development	50%
Total area considered for Commercial Development	91884 sq ft.
No of Flats	408
Total Built-up Area covered by each flat	900 sq ft.

5.1.3 As mentioned above, 50% of total land area would be proposed for residential purpose and remaining 50% for commercial purpose. The residential units would be developed comprising of G+4 apartments, in which the ground floor would be proposed for parking and the remaining floors for flats. Total 408 flats (102 flats on each floor) have been proposed with an assumption that each flat would cover an area of 900 sq ft. The commercial units would also be developed on G+4 floors of which the ground floor would be earmarked for parking. On the remaining four floors, it is proposed that the first & second floors would comprise of retail shops and third & fourth floors of offices.

5.1.4 Based on discussions with key stakeholders, it is understood that basement development is not possible in this site as the site is situated adjacent to a storm water drain and in the rainy season, the water level goes up and creates a flooding problem on the project site.

5.2 Description of the Project Site

5.2.1 The site is located in Wilson Garden, a prime location in Bengaluru. Wilson Garden is surrounded by Shanthinagar, Lakkasandra, Langford Town, Lalbagh Road and Mission Road. The project site is walking distance from the Shanthinagar Satellite Bus Station which is also an interstate bus stand and some important hospitals like NIMHANS, Kidwai and Jayadeva are located close by. Certain leading software companies such as Accenture & Satyam and famous commercial areas are also near the project site. In view of the above, it is felt that the project site is an appropriate location for development of residential as well as retail and office spaces.

5.2.2 The proposed site is free hold land and the owner of the property is KPWD. The site is almost rectangular in shape with 525m length across the 15 m wide road. At the starting point, the width of the plot is 58.40m and at the end it is 50.55m. The actual site photographs for presenting a better perspective of the project site is provided in **Annexure B.** The site layout is presented in **Annexure C.**.

5.3 Interaction with Key Stakeholders & Findings

5.3.1 Interactions with the stakeholders formed a critical component of the site visits. The interactions with these stakeholders were aimed at understanding the city spatial characteristics, broad-level market assessment of real estate, development control norms, facility planning, realistic cost & revenue assumptions and inputs on project structuring. The important findings from these interactions included:

- The residential quarters are more than 40 years old.
- The FAR has not been fully utilized.
- The site is situated adjacent to a 20-30 m storm water drain which causes flooding in the rainy season since the end point of the drain is very narrow.
- Basement development is not feasible since in the rainy season the water level goes up to 3-4 feet from ground level.
- Due to the flooding problem at the site, the ground floor can be earmarked for parking.
- The site is located in a prime location of the city and the proposed site is appropriate for mixed land use.
- Site location is suitable for commercial development such as office complex and retail shops.
- Monthly lease rental for offices is around Rs. 50/sq ft. and for retail shops around Rs. 55/sq ft.

5.4 Best Case Studies for similar projects in world/ India

5.4.1 Some best case studies along with various policy recommendations and institutional set-up for organized land development is presented in **Annexure – D**.

6 Project Financials Wilson Garden

6.1.1 The financial analysis has been carried out on the premise that the existing PWD quarters at Wilson Garden would be demolished and new residential & commercial development would be done on PPP mode. The analysis considers the projected incomes and expenditures to the developer. Demolition cost of existing quarters has not been considered as a part of civil construction cost.

6.2 Civil Construction Cost Estimation

6.2.1 The details of the civil construction cost as estimated for the financial analysis is as under:

S. No.	Particulars	Unit (sq ft.)	Per unit Cost (INR)	Cost (INR Lakhs)
1	Residential unit Construction Cost	367537.5	1,300	4777.99
2	Office unit Construction Cost	183768.75	1,500	2756.53
3	Retail Unit Construction Cost	183768.75	1,600	2940.30
4	Land development Cost	142931	150	214.40
5	Parking Development Cost	183769	800	1470.15
	Total Civil Construction Cost			**12159.37**

6.3 Total Project Cost & Means of Finance

6.3.1 The details of the assumptions considered for the calculation of Total Project Cost (TPC) are as under:

TPC calculation Assumptions

Particulars	Assumptions
Debt Equity Ratio	50:50
Contingency	2%
Escalation	5%
Financing Cost	1.5%
Interest During Construction	13%
Insurance	0.15%

6.3.2 Based on the above assumptions Total Project Cost is calculated. Breakup of the same is given in table below:

Total Project Cost (TPC)

Particulars	Value (INR Lakhs)	% of TPC
Civil Construction Cost	12,159	86.59
Contingency	243	1.73

Particulars	Value (INR Lakhs)	% of TPC
Escalation	691	4.92
Insurance	21	0.15
Financing Cost	105	0.75
Interest During Construction	821	5.85
Total Project Cost	**14,042**	**100**

6.3.3 The proposed funding pattern for the project is as under:

Means of Finance

Particulars	Value (INR Lakhs)	% of TPC
Debt	7,020.91	50
Equity	7,020.91	50
Grant	-	-
Total	**14,041.82**	**100**

6.4 Revenue Stream

6.4.1 Based on the discussion with stakeholders and current market scenario in Bengaluru, the following assumptions have been taken for revenue estimation:

Revenue Assumptions

Particulars	Assumptions	
	Offices	**Retails Shops**
Lease Rental	INR 50 per Sq. Ft.	INR 75 per Sq. Ft.
Advertisement	Nil	Nil
Revision in Lease Rental	15% for every three years	
Occupancy for offices	1st year 50% and 2nd year onwards 100%	1st year 30%, 2nd year 80% and 3rd year onwards 100%
Common Area Maintenance (CAM)	INR 10 per Sq. Ft.	INR 5 per Sq. Ft.

6.5 Operation & Maintenance Expenses

6.5.1 Based on the discussion with stakeholders and current market scenario in Bengaluru, the following assumptions have been taken for operation & maintenance cost estimation:

Operation & Maintenance Assumptions

Particulars	Assumptions		
	Residential	**Offices**	**Retails Shops**
Regular Maintenance (per Sq. Ft.)	INR 1.25 /month	Nil	Nil
Major Maintenance (per Sq. Ft.)	INR 150 every five years	Nil	Nil
Operating Maintenance	5% of Total Revenue		
Office Maintenance	2% of Total Revenue		
Insurance Regulatory & Other Charges	0.15% of net assets		
Parking Maintenance (per Sq. Ft.)	INR 12 per annum		
Escalation in Expenses	5% per annum		

6.6 Other Important Parameters

6.6.1 Based on the discussion with stakeholders, assessment of real estate industry and other regulatory sections of Income Tax & Companies Act the following parameters have been considered for the analysis:

Financial Analysis Parameters

Particulars	Assumptions
Concession Period	30 Years
Construction Period	2 Years
Debt tenure	9 years including moratorium period
Rate of Interest	13%
Moratorium period	3 Years including 2 years of construction period
Repayment	In 6 equal yearly installments
Corporate Tax	32.45% as per Income Tax act
MAT	20.01% as per Income Tax act
Depreciation (WDV)	10% as per Income Tax act
Depreciation (SLM)	Equally divided in Operation Period as per Companies act

6.7 Viability Assessment

6.7.1 Based on the above mentioned assumptions financial analysis has been undertaken. The key financial indicators of the analysis are summarized in table below:

Summary of Results

Parameters	Results
Project IRR	17.01%
Equity IRR	18.52%
NPV of Free Cash Flow to Project (@ 12%)	INR 5876.55 Lakhs
DSCR (Average)	1.50
DSCR (Minimum)	1.13

6.7.2 A Concession Period of 30 years has been assumed for analyzing the financial feasibility of this project. Based on the civil construction cost and other assumptions mentioned in the earlier part of this report and the analysis carried out thereafter, it is observed that the Equity IRR of the Project stands at 18.52% without any financial support from the Government and Revenue Sharing or Premium to GoK. Moreover, 50% of the development would be residential development for KPWD employees for which the developer would not receive any revenue. Since, the Equity IRR seems on higher side the project can be bid out on revenue share / premium basis to achieve 15% Equity IRR. The summary of financial analysis is provided in **Annexure - A**

6.7.3 It may be noted that in case of any changes in the assumptions / project parameters used for developing the financial analysis, the projected financial parameters are likely to undergo a change which in turn would impact the potential (adversely / favorably) of developing the Project on PPP basis.

6.8 Sensitivity Analysis

6.8.1 Considering that the key project viability variables are percentage of residential portion in total development, project cost and revenue envisaged, sensitivity analysis has been conducted with respect to these three variables. Results for the same are presented below:

Residential Portion

6.8.2 Under this section the various financial indicators are provided vis-à-vis varying % of residential development in total development:

Parameters	Percentage of Residential portion in total development				
	40%	45%	50%	55%	60%
Project IRR	19.40%	18.24%	17.01%	15.71%	14.33%
Equity IRR	21.73%	20.15%	18.52%	16.82%	15.01%
NPV of Free Cash Flow to Project (@ 12%) in INR Lakhs	9,219.03	7,547.79	5,876.55	4,205.31	2,534.08
DSCR (Average)	1.75	1.62	1.50	1.37	1.23

Construction Cost

6.8.3 Under this section the various financial indicators are provided vis-à-vis varying civil construction costs:

Parameters	Percentage Change in Cost				
	-10%	-5%	0%	5%	10%
Project IRR	18.34%	17.65%	17.01%	16.43%	15.88%
Equity IRR	20.29%	19.36%	18.52%	17.74%	17.03%
NPV of Free Cash Flow to Project (@ 12%) in INR Lakhs	6,857.04	6,366.80	5,876.55	5,386.31	4,896.06
DSCR (Average)	1.63	1.56	1.50	1.44	1.38

Total Revenue

6.8.4 Under this section the various financial indicators are provided vis-à-vis varying total revenue:

Parameters	Percentage Change in Total Revenue				
	-10%	-5%	0%	5%	10%
Project IRR	15.70%	16.36%	17.01%	17.65%	18.27%
Equity IRR	16.79%	17.66%	18.52%	19.36%	20.20%
NPV of Free Cash Flow to Project (@ 12%) in INR Lakhs	4,218.11	5,047.33	5,876.55	6,705.77	7,534.99
DSCR (Average)	1.37	1.43	1.50	1.56	1.63

6.8.5 It can be observed that the project returns are highly sensitive to the percentage of residential portion in total development.

7 Jeevanbheemanagara

7.1 Description of the Project

7.1.1 There are two sites in Jeevanbheemanagara which are proposed for development on PPP basis. Both sites are located close to each other and it is proposed to combine these two sites under a single project.

<u>Commercial</u>

7.1.2 It is understood that 59895 square feet land is owned by KPWD; alongside the LIC apartments and BMTC bus stand which is around 2.7 km from Byappanahalli Metro station. This plot is free hold land and categorized for commercial use. In 1976 total sixteen commercial shops were constructed on this site covering 8568 square feet of plinth area. Presently, these shops are rented and PWD is collecting the rent revenue. The site location and existing shops at the location is presented alongside. This site is now being considered for commercial development on PPP basis because of the following reasons:

- Shops are aged more than 35 years.
- As per BBMP bye-laws, the FAR has not been fully utilized
- The maintenance cost of old buildings would be reduced
- As the site is situated in a prime location of the city, it can be utilized for development of commercial units such as retail shops and offices.

7.1.3 In view of the above, it is understood that the existing shops that are present on the site would be demolished and new facilities would be considered for development. The project is proposed to be developed for commercial purpose on 59895 square feet on PPP basis. The important parameters of the project are given in the table below:

Particulars	Value
Land Area	59895 sq ft.
Considered FAR	2.5
Total Allowable FAR area of Project	149737 sq ft.
Ground Coverage Ratio	75%
Floor Configuration	4 (G+3)
Total Allowable Ground Coverage Area	44921 sq ft.
Total Considered Ground Coverage Area	37434 sq ft.

7.1.4 Based on discussions with key stakeholders and analysis, a commercial mall with G+3 has been proposed for development on PPP basis. The parking facility would be available in the basement of the mall.

Residential

7.1.5 The KPWD quarters at Jeevanbheemanagara have been constructed on 46489.11 square feet area which is alongside the Jeevanbheemanagara slum area. The construction is more than 35 years (constructed in 1976) old with an existing plinth area of 30915.2 square feet consisting of houses on the ground and first floors. The site is a free hold property owned by KPWD. There are a total of 58 quarters of which 34 quarters are occupied by KPWD employees and 24 quarters are empty. 20 of the empty quarters are slum facing. A photograph of existing quarters at the site is presented alongside. This site is now being considered by KPWD for residential development on PPP basis because of the following reasons:

- Quarters are aged more than 35 years.
- As per BBMP bye-laws, the FAR has not been fully utilized
- The maintenance cost of old buildings would be reduced
- The new quarters can be constructed to ensure that they are not slum facing

7.1.6 In view of the above, it is understood that the existing quarters that are present on the site would be demolished and new facilities would be considered for development. The project is proposed to be developed as residential apartments on 46489 square feet on PPP basis. The important parameters of the project are given in the table below:

Particulars	Value
Land Area	46489 sq ft.
Considered FAR	1.75
Total Allowable FAR area of Project	81356 sq ft.
Ground Coverage Ratio	75%
Floor Configuration	3 (G+2)
Total Allowable Ground Coverage Area	34867 sq ft.
Total Considered Ground Coverage Area	27119 sq ft.
No of Flats	90
Total Built-up Area covered by each flat	900 sq ft.

7.1.7 On this site only residential units have been proposed which would comprise of G+3 apartments. Total 90 flats (30 flats on each floor) have been proposed with an assumption that each flat would cover an area of 900 sq ft. It is also proposed that all quarters would be constructed in such a way so as to ensure that they are not slum facing. Parking for the residential apartment users is proposed in the basement of the apartment.

7.2 Description of the Project Site

7.2.1 Both the sites are located at prime locations of the city and are close to each other. The sites are located near HAL Airport and Leela Palace Hotel, approximately 3 km away from

Byappanahalli Metro Railway Station, 3.5 km from NH-4 (Old Madras Road) and 12 km away from Kempegowda Railway & Bus Stations.

7.2.2 The commercial site is situated across an 18 meter wide road and the site also touches the boundary wall of the LIC apartment which is situated on 10th Main Road.

7.2.3 The residential site is rectangular in shape with 110.5 meter length across the 8 meter wide road facing ISRO quarters and 39.1 meter width across the 12 meter wide road facing Jeevanbheemanagara Bus Stop. The actual site photographs for presenting a better perspective of the project site is provided in **Annexure B.** The site layout is provided in **Annexure – C.**

7.3 Interaction with Key Stakeholders & Findings

7.3.1 Interactions with the stakeholders formed a critical component of the site visits. The interactions with these stakeholders were aimed at understanding the city spatial characteristics, broad-level market assessment of real estate sector, development control norms, facility planning, realistic cost & revenue assumptions and inputs on project structuring. The important findings from these interactions included:

- Quarters & shops are aged more than 35 years.
- The FAR has not been fully utilized.
- The existing residential quarters are adjacent to a slum area. Out of the 24 empty quarters, 20 quarters are slum facing. Hence, it has been suggested that the entry of the new residential complex should be next to the ISRO quarters and not be slum facing.
- Since the existing residential quarters are located on an 8 meter wide road, only residential development would be feasible on this site.
- The proposed commercial site is located at a prominent location and development of commercial mall would be feasible.
- Monthly lease rental for commercial retail shops would be around Rs. 50/sq ft.

8 Project Financials Jeevanbheemanagara

8.1.1 The financial analysis has been carried out on the premise that the existing PWD quarters and retail shops at Jeevanbheemanagara would be demolished and new residential & commercial development would be done on PPP mode. The analysis considers the projected incomes and expenditures to the developer. Demolition cost of existing quarters & retail shops have not been considered as a part of civil construction cost.

8.2 Civil Construction Cost Estimation

8.2.1 The details of the civil construction cost as estimated for the financial analysis is as under:

S. No.	Particulars	Unit (sq ft.)	Per unit Cost (INR)	Cost (INR Lakhs)
1	Residential unit Construction Cost	81356	1,300	1057.62
2	Mall Construction Cost	149738	1,800	2695.28
3	Land development Cost	41831	150	62.75
4	Parking Development Cost	64553	800	516.42
	Total Civil Construction Cost			**4332.07**

8.3 Total Project Cost & Means of Finance

8.3.1 The details of the assumptions considered for the Total Project Cost (TPC) calculation are as under:

TPC calculation Assumptions

Particulars	Assumptions
Debt Equity Ratio	50:30
Contingency	2%
Escalation	5%
Financing Cost	1.5%
Interest During Construction	13%
Insurance	0.15%

8.3.2 Based on the above assumptions, Total Project Cost is calculated. Breakup of the same is given in table below:

Total Project Cost (TPC)

Particulars	Value (INR Lakhs)	% of TPC
Civil Construction Cost	4,332.07	86.59
Contingency	86.64	1.73
Escalation	246.34	4.92

Particulars	Value (INR Lakhs)	% of TPC
Insurance	7.50	0.15
Financing Cost	37.52	0.75
Interest During Construction	292.66	5.85
Total Project Cost	**5,002.74**	**100**

8.3.3 The proposed funding pattern for the project is as under:

Means of Finance

Particulars	Value (INR Lakhs)	% of TPC
Debt	2,501.37	50
Equity	2,501.37	30
Grant	-	-
Total	**5,002.74**	**100**

8.4 Revenue Stream

8.4.1 Based on the discussion with stakeholders and current market scenario in Bengaluru, the following assumptions have been taken for revenue estimation:

Revenue Assumptions

Particulars	Assumptions	
	Offices	**Commercial Mall**
Lease Rental (per Sq. Ft.)	Nil	INR 80/
Advertisement	Nil	1% of Revenue
Revision in Lease Rental	15% for every three years	
Occupancy for offices	NA	1st year 30%, 2nd year 80% and 3rd year onwards 100%
Common Area Maintenance (CAM)	NA	INR 15 per Sq. Ft.

8.5 Operation & Maintenance Expenses

8.5.1 Based on the discussion with stakeholders and current market scenario in Bengaluru following assumptions have been taken for operation & maintenance cost estimation:

Operation & Maintenance Assumptions

Particulars	Assumptions		
	Residential	**Offices**	**Commercial Mall**
Regular Maintenance (per Sq. Ft.)	INR 1.25 /month	Nil	Nil
Major Maintenance (per Sq. Ft.)	INR 150 every five years	Nil	Nil
Operating Maintenance	5% of Total Revenue		
Office Maintenance	2% of Total Revenue		
Insurance Regulatory & Other Charges	0.15% of net assets		
Parking Maintenance (per Sq. Ft.)	INR 12 per annum		
Escalation in Expenses	5% per annum		

8.6 Other Important Parameters

8.6.1 Based on the discussion with stakeholders, assessment of real estate industry and other regulatory sections of Income Tax & Companies Act, the following parameters have been considered for the analysis:

Financial Analysis Parameters

Particulars	Assumptions
Concession Period	30 Years
Construction Period	2 Years
Debt tenure	9 years including moratorium period
Rate of Interest	13%
Moratorium period	3 Years including 2 years of construction period
Repayment	In 6 equal yearly installments
Corporate Tax	32.45% as per Income Tax act
MAT	20.01% as per Income Tax act
Depreciation (WDV)	10% as per Income Tax act
Depreciation (SLM)	Equally divided in Operation Period as per Companies act

8.7 Viability Assessment

8.7.1 Based on the above mentioned assumptions financial analysis has been undertaken. The key financial indicators of the analysis are summarized in the table below:

Summary of Results

Parameters	Results
Project IRR	23.26%
Equity IRR	27.03%
NPV of Free Cash Flow to Project (@ 12%)	INR 5392.80 Lakhs
DSCR (Average)	2.21
DSCR (Minimum)	1.42

8.7.2 A Concession Period of 30 years has been assumed for analyzing the financial feasibility of this project. Based on the civil construction cost and other assumptions mentioned in the earlier part of this report and the analysis carried out thereafter, it is observed that the Equity IRR of the Project stands at 27.03% without any financial support from the Government and revenue sharing or premium to GoK. Moreover, to maintain a target Equity IRR of approximately 15%, the project can be bid out on revenue share basis. The summary of financial analysis is provided in **Annexure – A**.

8.7.3 It may be noted that in case of any changes in the assumptions / project parameters used for developing the financial analysis, the projected financial parameters are likely to undergo a change which would in turn impact the potential (adversely / favorably) of developing the project on PPP basis.

8.8 Sensitivity Analysis

8.8.1 Considering that the key project viability variables are project cost and revenue envisaged, sensitivity analysis has been conducted with respect to these two variables. Results for the same are presented below:

Construction Cost

8.8.2 Under this section the various financial indicators are provided vis-à-vis varying civil construction cost:

Parameters	Percentage Change in Cost				
	-10%	-5%	0%	5%	10%
Project IRR	24.97%	24.09%	23.26%	22.50%	21.80%
Equity IRR	29.51%	28.21%	27.03%	25.95%	24.97%
NPV of Free Cash Flow to Project (@ 12%) in INR Lakhs	5,739.51	5,567.46	5,392.80	5,218.13	5,043.47
DSCR (Average)	2.42	2.31	2.21	2.11	2.03

Total Revenue

8.8.3 Under this section the various financial indicators are provided vis-à-vis varying total revenue:

Parameters	Percentage Change in Total Revenue				
	-10%	-5%	0%	5%	10%
Project IRR	21.62%	22.45%	23.26%	24.06%	24.84%
Equity IRR	24.71%	25.88%	27.03%	28.17%	29.31%
NPV of Free Cash Flow to Project (@ 12%) in INR Lakhs	4,483.76	4,938.28	5,392.80	5,847.31	6,299.85
DSCR (Average)	2.01	2.11	2.21	2.30	2.40

8.8.4 It can be observed that the project returns are highly sensitive to construction cost.

9 Rajaji Nagar

9.1 Description of the Project

9.1.1 It is understood that KPWD owns a 13615.525 square meter land parcel at Rajaji Nagar. Some portion of this site is already developed and the breakup of the developed portion is as follows:

S. No.	Particulars	Area (in sq m.)
1.	Total Area	13615.525
2.	Offices of AEE, CMO & workshop	2775.50
3.	PWD Quarters	3283.00
4.	PWD Godowns	1029.00

9.1.2 This site is now being considered by KPWD for development of new residential & commercial facilities on PPP basis because of following reasons.

- The existing structures are old.
- As per BBMP bye-laws, the FAR has not been fully utilized
- The maintenance cost of old buildings would be reduced
- As the site is situated in a prime location of the city, there is potential for development of residential & commercial units on PPP.

9.1.3 In view of the above, it is understood that the existing structures / quarters that are present on the site would be demolished and new facilities would be considered for development. The project is proposed to be developed as a mix of residential & commercial units on 147557 square feet on PPP basis. A photograph of existing quarters at the site is presented alongside. The important parameters of the project are given in the table below:

Particulars	Value
Land Area	147557 sq ft.
Considered FAR	2.5
Total Allowable FAR area of Project	366394 sq ft.
Ground Coverage Ratio	60%
Floor Configuration	5 (G+4)

Particulars	Value
Total Allowable Ground Coverage Area	87935 sq ft.
Total considered Ground Coverage Area	73279 sq ft.
% of area considered for Residential development	40%
Total area considered for Residential Development	29312 sq ft.
% of area considered for Development of Mall	30%
Total area considered for Development of Mall	21984 sq ft.
% of area considered for Development of offices	30%
Total area considered for Development of offices	21984 sq ft.
No of Flats	122
Total Built-up Area covered by each flat	1200 sq ft.

9.1.4 Based on discussion with key stakeholders and analysis, it is felt that this site is suitable for commercial as well residential purposes. The front area of the site is proposed for development of a mall which would cover 30% of the total built-up area (BUA). It is proposed to develop residential facilities covering 40% of the total BUA. 122 flats would be built with an assumption that each flat would cover an area of 1200 sq ft. The remaining 30% of BUA is proposed for offices of which 50% is proposed for KPWD offices & 50% for lease rent. All development which includes mall, offices and residential apartments would have G+4 floors. Basement parking would be made for the mall and offices and ground level parking would be made available for the residential apartments.

9.2 Description of the Project Site

9.2.1 The site is located in Rajaji Nagar, one of the prominent locations of Bengaluru. Over the years, Rajaji Nagar has become a major hub owing to considerable development in real estate such as construction of residential and commercial complexes. The project site is located opposite to Orion Mall and surrounded by Brigade Gateway Township, Metro Market Commercial Building & Iskon temple. It is approximately 1 km from the Metro Railway station & Indian Railway station Yeshvanthpura and 4.5 km from Interstate Bus station. A photograph of Orion Mall, which is opposite the project site, is presented alongside.

9.2.2 The proposed site is free hold land which is owned by KPWD and categorized for mixed used development. The actual site photographs for presenting a better perspective of the project site is provided in **Annexure B.** The site layout is provided in **Annexure C.**

9.3 Interaction with Key Stakeholders & Findings

9.3.1 Interactions with the stakeholders formed a critical component of the site visits. The interactions with these stakeholders were aimed at understanding the city spatial characteristics, broad-level market assessment of real estate sector, development control norms, facility planning, realistic cost & revenue assumptions and inputs on project structuring. The important findings from these interactions included:

- Existing structures on the site are old.
- The FAR has not been fully utilized.
- The site is located in one of the most prime localities of Bengaluru.
- Recently this locality has developed as a commercial hub. Thus, construction of commercial mall & offices would be feasible.
- Monthly lease rental for commercial retail shops would be around Rs. 60/ sq ft. and for offices around Rs. 45/ sq ft.

10 Project Financials Rajaji Nagar

10.1.1 The financial analysis has been carried out on the premise that the existing structures at Rajaji Nagar would be demolished and new residential & commercial development would be done on PPP mode. The analysis considers the projected incomes and expenditures to the developer. Demolition cost of existing structures has not been considered as a part of civil construction cost.

10.2 Civil Construction Cost Estimation

10.2.1 The details of the civil construction cost as estimated for the financial analysis is as under:

S. No.	Particulars	Unit (sq ft.)	Per unit Cost (INR)	Cost (INR Lakhs)
1	Residential unit Construction Cost	147557	1,300	1918.24
2	Office unit Construction Cost	110668	1,500	1660.02
3	Mall Construction Cost	110668	1,800	1992.02
4	Land development Cost	73779	150	110.67
5	Parking Development Cost	73779	800	590.23
	Total Civil Construction Cost			**6271.17**

10.3 Total Project Cost & Means of Finance

10.3.1 The details of the assumptions considered for the Total Project Cost (TPC) calculation are as under:

TPC calculation Assumptions

Particulars	Assumptions
Debt Equity Ratio	50:30
Contingency	2%
Escalation	5%
Financing Cost	1.5%
Interest During Construction	13%
Insurance	0.15%

10.3.2 Based on the above assumptions Total Project Cost is calculated. Breakup of the same is given in table below:

Total Project Cost (TPC)

Particulars	Value (INR Lakhs)	% of TPC
Civil Construction Cost	6,271.17	86.59
Contingency	125.42	1.73

Particulars	Value (INR Lakhs)	% of TPC
Escalation	356.61	4.92
Insurance	10.86	0.15
Financing Cost	54.32	0.75
Interest During Construction	423.66	5.85
Total Project Cost	**7,242.04**	**100**

10.3.3 The proposed funding pattern for the project is as under:

Means of Finance

Particulars	Value (INR Lakhs)	% of TPC
Debt	3,621.02	50
Equity	3,621.02	50
Grant	-	-
Total	**7,242.04**	**100**

10.4 Revenue Stream

10.4.1 Based on the discussion with stakeholders and current market scenario in Bengaluru, the following assumptions have been taken for revenue estimation:

Revenue Assumptions

Particulars	Assumptions	
	Offices	**Commercial Mall**
Lease Rental (per Sq. Ft.)	INR 40/	INR 80/
Advertisement	Nil	1% of Revenue
Revision in Lease Rental	15% for every three years	
Occupancy for offices	1st year 50% and 2nd year onwards 100%	1st year 30%, 2nd year 80% and 3rd year onwards 100%
Common Area Maintenance (CAM)	INR 10 per Sq. Ft.	INR 15 per Sq. Ft.

10.5 Operation & Maintenance Expenses

10.5.1 Based on the discussion with stakeholders and current market scenario in Bengaluru following assumptions have been taken for operation & maintenance cost estimation:

Operation & Maintenance Assumptions

Particulars	Assumptions		
	Residential	**Offices**	**Commercial Mall**
Regular Maintenance (per Sq. Ft.)	INR 1.25 /month	Nil	Nil
Major Maintenance (per Sq. Ft.)	INR 150 every five years	Nil	Nil
Operating Maintenance	5% of Total Revenue		
Office Maintenance	2% of Total Revenue		
Insurance Regulatory & Other Charges	0.15% of net assets		
Parking Maintenance (per Sq. Ft.)	INR 12 per annum		
Escalation in Expenses	5% per annum		

10.6 Other Important Parameters

10.6.1 Based on the discussion with stakeholders, assessment of real estate industry and other regulatory sections of Income Tax & Companies Act, the following parameters have been considered for the analysis:

Financial Analysis Parameters

Particulars	Assumptions
Concession Period	30 Years
Construction Period	2 Years
Debt tenure	9 years including moratorium period
Rate of Interest	13%
Moratorium period	3 Years including 2 years of construction period
Repayment	In 6 equal yearly installments
Corporate Tax	32.45% as per Income Tax act
MAT	20.01% as per Income Tax act
Depreciation (WDV)	10% as per Income Tax act
Depreciation (SLM)	Equally divided in Operation Period as per Companies act

10.7 Viability Assessment

10.7.1 Based on the above mentioned assumptions financial analysis has been undertaken. The key financial indicators of the analysis are summarized in the table below:

Summary of Results

Parameters	Results
Project IRR	17.75%
Equity IRR	19.32%
NPV of Free Cash Flow to Project (@ 12%)	INR 3537.58 Lakhs
DSCR (Average)	1.56
DSCR (Minimum)	1.08

10.7.2 A Concession Period of 30 years has been assumed for analyzing the financial feasibility of this project. Based on the civil construction cost and other assumptions mentioned in the earlier part of this report and the analysis carried out thereafter, it is observed that the Equity IRR of the project stands at 19.32% without any financial support from the Government and revenue sharing or premium to GoK. Moreover, 40% of the total development would be residential development for KPWD employees for which the developer would not receive any revenue. Also, 30% of the total development would be considered for offices purpose of which 50% would be available for KPWD offices for which the developer would again not receive any revenue. Since, the Equity IRR seems on higher side the project can be bid out on revenue share / premium basis to achieve 15% Equity IRR. The summary of financial analysis is provided in **Annexure – A**.

10.7.3 It may be noted that in case of any changes in the assumptions / project parameters used for developing the financial analysis, the projected financial parameters are likely to undergo a change which in turn would impact the potential (adversely / favorably) of developing the project on PPP basis.

10.8 Sensitivity Analysis

10.8.1 Considering that the key project viability variables are percentage of residential portion in total development, project cost and revenue envisaged, sensitivity analysis has been conducted with respect to these three variables. Results for the same are presented below:

Residential Portion

10.8.2 Under this section the various financial indicators are provided vis-à-vis varying % of residential development in total development:

Parameters	Percentage of Residential portion in total development				
	30%	35%	40%	45%	50%
Project IRR	19.63%	18.71%	17.75%	16.72%	15.64%
Equity IRR	21.91%	20.64%	19.32%	17.95%	16.51%
NPV of Free Cash Flow to Project (@ 12%) in INR Lakhs	4,986.59	4,262.08	3,537.58	2,813.08	2,088.58
DSCR (Average)	1.77	1.67	1.56	1.45	1.34

Construction Cost

10.8.3 Under this section the various financial indicators are provided vis-à-vis varying civil construction cost:

Parameters	Percentage Change in Cost				
	-10%	-5%	0%	5%	10%
Project IRR	19.08%	18.38%	17.75%	17.16%	16.61%
Equity IRR	21.14%	20.19%	19.32%	18.53%	17.80%
NPV of Free Cash Flow to Project (@ 12%) in INR Lakhs	4,026.30	3,781.94	3,537.58	3,293.22	3,048.86
DSCR (Average)	1.70	1.63	1.56	1.50	1.44

Total Revenue

10.8.4 Under this section the various financial indicators are provided vis-à-vis varying total revenue:

Parameters	Percentage Change in Total Revenue				
	-10%	-5%	0%	5%	10%
Project IRR	16.45%	17.10%	17.75%	18.38%	18.99%
Equity IRR	17.58%	18.45%	19.32%	20.18%	21.03%
NPV of Free Cash Flow to Project (@ 12%) in INR Lakhs	2,659.37	3,098.47	3,537.58	3,976.69	4,415.80
DSCR (Average)	1.42	1.49	1.56	1.63	1.70

10.8.5 It can be observed that the project returns are highly sensitive to the percentage of residential portion in total development.

11Statutory & Legal Framework

11.1 Applicable laws

11.1.1 The Karnataka Municipal Corporation Act, 1976

The Act provides for creation of Municipal Authority in the state of Karnataka. It confers certain powers on Mayor and the deputy Mayor. It specifies the obligatory and specific functions of the corporations. It also provides for strengthening the administrative machinery of the corporations.

The Authority can acquire, any land designated in a Master Plan for specified purpose or for any public purpose either by agreement with the land owners or under the provisions of the Land Acquisition Act, 1894.

11.1.2 Karnataka Urban Development Authorities Act, 1981

Objective of this Act is to establish the Urban Development Authorities in the state of Karnataka for the purpose of providing planned development of major and important urban areas in the State.

Power of Authorities to take Developmental Works

Under this Section, the Authority has the power to undertake works and incur expenditure for development and in execution of that power; the Authority has the power to draw up detailed Schemes for the development of the urban area and also for the framing and execution of development schemes. The Authority may also take up any new or additional development schemes.

Authority to have power to acquire land by agreement

This Section empowers the Authority to enter into agreement with owner of any land or any interest therein, situated within the urban area for the purchase of such land. Further land may also be acquired under the provision of the Land Acquisition Act, 1894.

Power of the Authority to levy of betterment tax

Where, as a consequence of execution of any development scheme, the market value of any land in the area comprised in the scheme which is not required for the execution thereof has, in the opinion of the Authority, increased or will increase, the Authority shall be entitled to levy on the owner of the land or any person having an interest therein a betterment tax in respect of the increase in value of the land resulting from the execution of such scheme.

Karnataka Town and Country Planning Act, 1961

The objective of this Act is to regulate planned growth of land use and development by preventing unequal and chaotic growth of towns and cities in Karnataka. The Act gives power to the state government to declare any area to be a local planning Area through notification and may constitute a planning authority for such area. The Planning Authority so notified shall be responsible for the implementations of Act within such declared local planning areas. Such Authority shall initially be responsible for providing the Master Plan outlining the development and improvement plan for the entire local planning area. The Planning Authority may formulate one or more town planning scheme in order to implement such Master Plan. The Act confers sufficient power in the hands of Town Planning Authority for the purpose execution of Master Plan. Master Plan shall consist of maps and documents indicating the manner in which the development and improvement of planning area to be carried out and regulated. Section 66 of the Act empowers the Planning Authority to enter an agreement with any person in respect of any matter relating to implementation of town planning scheme. This Section thus, provides scope for seeking private sector participation in implementation of the town planning scheme by making suitable agreement in this regard.

11.2 Legal & Regulatory framework

11.2.1 Bangalore Development Authority issued a revised Master Plan 2015 for Bengaluru in 2007. This Master Plan covers the Zoning of Land use and Regulations which is approved by the Government vide G.O. No. UDD 540 BEM AA SE 2004 dated 22nd June, 2007. The key objectives of the Zoning regulations are:

- To safeguard Public Interest
- To be Realistic and Anticipatory
- To be Flexible and Responsive

11.2.2 The revised Master Plan 2015 covers the following aspects:

- Spatial Extent of Land Use Zoning Regulations
- Categorization of Land Use Zone
- Classification of Land Use Zone
- Zonal Boundaries and Interpretation
- Permissible land uses in different categories
- Space standards for various buildings/uses
- Floor Area Ratio (FAR) based on Road width & Localities
- Ground Coverage Ratio (GCR) based on Road width & Localities

11.2.3 The Bangalore Development Authority is designated as the Planning Authority under the Karnataka Town and Country Planning Act, 1961.

11.2.4 The planning functions of BDA in brief involve the following:

- Preparation of development plan for Bengaluru city
- Preparation of Scheme Plans.
- Approval of Development Plans for Group Housing and Layouts.
- Approval of building plans.
- Other statutory functions under KTCP Act, 1961

12Indicative Environmental & Social Impacts

12.1 Environmental Impacts & Mitigation

12.1.1 The following presents the general impact during construction and operation phases of the residential & commercial development and suggested mitigation measures:

	Impacts Areas	Mitigating Measures
Ambient Impacts	Air Quality	•Frequent watering of construction sites to supress dust emissions •Transport of earth in covered vehicles
	Noise pollution	•Use of less noise generating equipment •Avoid activities during night.
Waste & Residue Impacts	Soil contamination	•No spillage of oil/ diesel from the construction equipments
	Water Contamination	•Any construction activity to prevent contamination of water bodies
	Disposal of Residue	•Transportation of the excess earth to a designated place •Use the same for filling and covers
Other disturbances	Essential Service	•Any shifting of cable / utility lines to be attended with minimum period of disturbance
	Safety	•Provision of temporary crossings/bridges to be made wherever necessary to facilitate normal movement
	Natural Drainage	•Any Construction activity to restore the natural course of drainage

12.1.2 Other potential impacts on environment during the construction stage and mitigation measures for the same are as follows:

- Dust generation due to vehicle movement: Movement of vehicles, placement of construction material, bulldozing, etc. are the major dust generation activities at the site. The impacts would be significant only during the construction phase.

  Mitigative Measures: The impacts could be minimised by using covered vehicles and watering the construction site regularly. Construction of pucca (meta / BT) roads, providing vegetative cover around the site, providing protective gear to the workers and ensuring that the site surroundings are isolated from any major developments is a major mitigative move.
- **Impact due to Vehicle Exhaust Emissions:** A number of vehicles would ply every day to the site emitting exhaust fumes in large amounts which can be poisonous and harmful to human health.

  Mitigative Measures: Construction of pucca (meta / BT) roads or providing vegetative cover around the site, etc. will reduce the SPM levels and further help in decrease of exhaust emissions.

  Impact due to Noise: A significant impact of the noise pollution would be felt during the construction phase. During this phase noise levels are expected to be high due to operation of heavy equipment and machinery like trucks, bulldozers, tracked dozers, generators, etc.

Mitigative Measures: To mitigate the noise impacts on labour and employees working in site earplugs can be provided. Vegetative cover around site will reduce the noise levels during operation phase.

12.2 Social Impacts & Mitigation

12.2.1 Since the existing sites have residential facilities which are currently occupied by government officials, the concessoning Authority needs to suitably take this account before handing over the sites to the project developer. Thus, it is to be ensured that before the projects are awarded the affected parties are taken into confidence through suitable and mutually agreed rehabilitation / relocations solutions. It is essential for the success of the projects that the land parcels are made encumbrance free even before the bid process is started. There can be various options for undertaking such relocations, such as, offering alternate residences to government officials, in compliance with the prevailing Government policies.

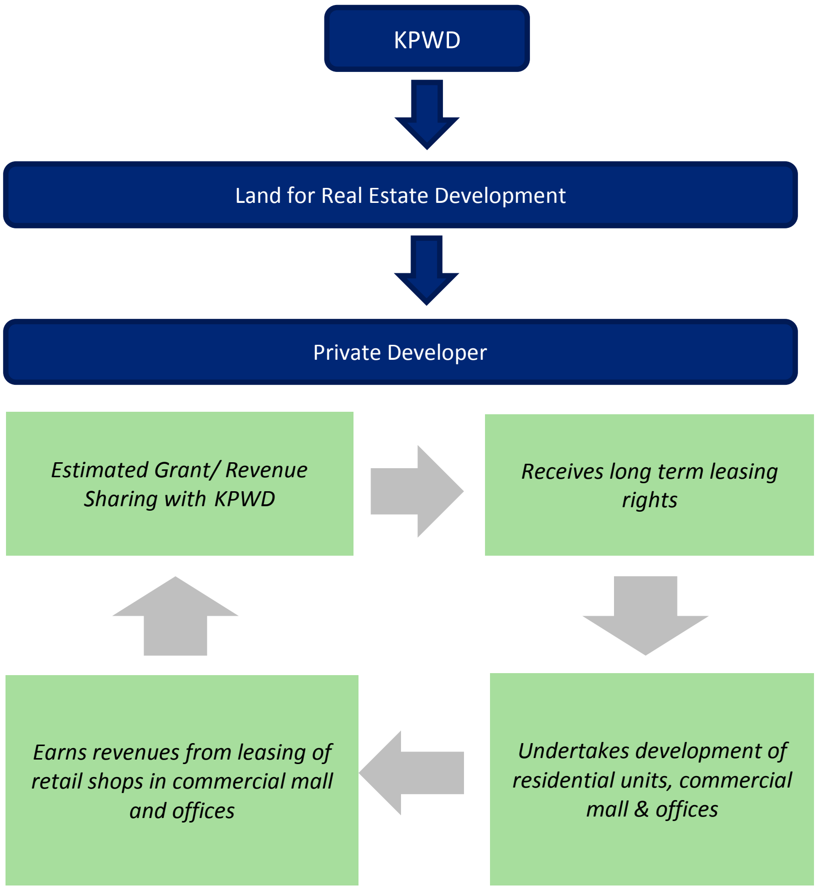
13Operating Framework

13.1Background

13.1.1 Project structuring and packaging involves distribution of risks and returns efficiently and reduces the total cost of financing. The art of effective project structuring requires balancing the interests of the diverse stakeholders, and optimal capital structuring. This is then converted into contracts that clearly define the roles, responsibilities, and risks allocated to each partner.

13.2 Indicative Project Structure

13.2.1 Based on the above premise, the indicative project structure for development of residential & commercial units on land parcels is indicated in the figure below.



13.2.2 KPWD to hand over the site to the Concessionaire on Build, Operate and Transfer (BOT) basis for a 30 years concession period through a transparent two stage bidding process

Wilson Garden

- The Concessionaire will develop the entire residential & commercial complexes within the estimated completion period not greater than two years

- The Concessionaire will maintain the entire facility during the concession period.
- The Concessionaire will receive the lease rental for commercial offices & retail shops during the concession period.
- The Concessionaire will hand back the project facility to the Authority after the end of agreement period on an as- is- where- is basis

Jeevanbheemanagara

- The Concessionaire will develop the entire residential & commercial complexes within the estimated completion period not greater than two years
- The Concessionaire will maintain the entire facility during the concession period.
- The Concessionaire will receive the lease rental for commercial mall during the concession period.
- The Concessionaire will hand back the project facility to the Authority after the end of agreement period on an as- is- where- is basis.

Rajaji Nagar

- The Concessionaire will develop the entire residential & commercial complexes within the estimated completion period not greater than two years
- The Concessionaire will maintain the entire facility during the concession period.
- The Concessionaire will receive the lease rental for commercial mall & 50% portion of offices which would be allowed for lease rental during the concession period.
- The Concessionaire will hand back the project facility to the Authority after the end of agreement period on an as- is- where- is basis.

13.3 Risks & Mitigation

13.3.1 The project specific risks, degree of impact, indicative mitigates for the project are presented in the Table below:

Risks	Impact	Risk Mitigates	Risk Bearer
1. Pre-completion Risk			
Engineering	Low	Detailed Technical Engineering	Concessionaire
Timing or Delay	Low	Fixed Cost contracts with EPC contractors with Performance Guarantee	Concessionaire
Cost Over-run	Medium		Concessionaire
Regulatory risk (Land availability, Govt. Approvals)	Low	Concession Agreement	KPWD
2. Operating Risk – Post Completion Risk			
Revenue	Medium	Proper Market Study and Demand forecasting	Concessionaire
O&M	Low	O&M Contracts with Performance Guarantee	O&M Contractor
Fire, Theft	Low	Insurance Cover	Private Insurance Company
3. Sponsor Risks			
• Credit history	Low to	Defining suitable Bid Strategy &	KPWD

Risks	Impact	Risk Mitigates	Risk Bearer
• Proposed stake, ability to fund own equity • Ability to – arrange third party equity – implement an subsequently operate projects – provide limited recourse	Medium	Concession Agreement • Suitable qualification criteria • Track record • Credit references, market feedback • Minimum level of equity stake • Bank guarantees / undertaking for equity contribution • Balance sheet analysis	
4. Political & Legal Risks			
• Granting of approvals • Change in law • HR issues, past history	Low	• Political Risk Insurance • Provisions in Concession Agreement	Private – Insurance Company KPWD and Concessionaire (Risk Sharing)
5. Financial Risk	Low to Medium	Loan Syndication/Sub-Debts	Concessionaire , Financial Institutions
6. Force Majeure			
• Non-political events • Acts of God • Strikes or boycotts affecting supplies and services • Indirect Political events • Strikes: Industry wide, state/country wide public agitation	Low	• Contractual provisions • Termination payments • Insurance cover	Private – Insurance Company KPWD and Concessionaire (Risk Sharing)

14 Way Ahead

14.1.1 The project as analyzed above prima facie seems to be viable to be implemented on PPP basis. Based on basic PPP aspects, each site has been analysed and appear to be financially viable on PPP mode. As per the financial results presented in the earlier sections of this report, the projects may have the potential to be structured in a manner that can offer premium or revenue sharing with KPWD.

14.1.2 All the project sites are located in prominent localities of the city and hence, healthy competition should be expected at the time of bidding. KPWD should finalise the project design in terms of components, facilities, its PPP structure etc.

14.1.3 A detailed market assessment and feasibility study undertaken by a technical consultant would enable unlocking the full potential of the project and also facilitate the bidders in putting across a competitive bid.

14.1.4 Since the existing sites have residential facilities which are currently occupied by government officials, the concessoning Authority needs to suitably take this account before handing over the sites to the project developer.

14.1.5 Also, a qualified transaction advisor should be engaged to further develop and market the project and select a suitable concessionaire.

14.1.6 An indicative Terms of Reference for selection of the Technical Consultant and Transaction Advisor is provided in **Annexure E** for reference.

Annexure A: Project Financial Evaluation Sheets

Assumptions & TPC Calculation for Wilson Garden

Site Assumption		
Total Land Area	326700	Sq. ft
FAR	2.25	
Total FAR Area	735075	Sq. ft
No. of Floor	4	G+4
Ground Coverage Area as per FAR	183769	Sq. ft
Ground Coverage Ratio (GCR)	65%	
Total Ground Coverage Area as per GCR	212355	Sq. ft
Considered Ground Coverage	183769	Sq. ft

Construction Details	Residential	Commercial (offices)	Commercial (Retail)
Considered development	Yes	Yes	Yes
% Break up of Area	50%	25.00%	25.00%
Total Plinth Area considered under each mode	91884	45942	45942
Total Floor Area	367537.5	183768.75	183768.75
Area Covered by a Flat	900		
Total No. of Flats	408		
Parking Facility (Floor)	1	1	1
Total Parking Area	91884	45942	45942

General Assumption		
Concession Period	30.00	Years
Construction Period	2.00	Years
Project Start Date	1-Apr-13	
Project Completion Date	31-Mar-15	
End of Concession Period	31-Mar-43	
Total Civil Construction Cost	12,159.4	INR Lakhs

Cost Assumption	Residential	Commercial (offices)	Commercial (Retail)
Civil Construction Cost (per sq. ft.)	1,300	1,500	1,600
Other Cost for Land development (Per sq. ft.)	150		
Parking Development Cost (per Sq. ft.)	800		
Contingency	2.0%		
Escalation	5.0%		
Financing Cost	1.5%		
Interest During Construction (IDC)	13%		
Insurance	0.15%		

Financial Assumptions		
Grant	0%	
Equity	50%	
Debt	50%	
upfront Equity	25%	
Rate of Interest	13%	
Debt Tenure	9	
Moratorium Period	3	
Loan Repayment Year	6	8
Depreciation Rate (WDV)	10%	
Depreciation Rate (SLM)	4%	
Corporate Tax	32.45%	
MAT	20.01%	

Revenue Assumption	Residential	Commercial (offices)	Commercial (Retail)
Lease Rental per Sq. ft.	-	50	75
Advertisement			2
Escalation in Lease Rental		15%	
Common Area Maintenance (CAM)		10	5
Expense Assumption			
Regular Maintenance (per Sq ft)	1.25		
Major Maintenance (per Sq ft)	150		
Operating & Maintenance		5% of Total Revenue	
Administrative Expenses		2% of Total Revenue	
Insurance Regulatory & Other Charges (per Sq ft)			
Parking Maintenance (per Sq ft)	12	12	12
Escalation in Expenses	5%		
Insurance		0.15%	
Taxes & Other Regulatory Charges (per Sq ft)			

TPC Calculation	
Civil Construction Cost	12,159
Contingency	243.19
Escalation	691
Insurance	21.06
Financing Cost	105.31
Interest During Construction	821.45
Total Project Cost	**14,042**

IDC Calculation			
Year	**First Year**	**Second Year**	**Total**
Progress Expected	40%	60%	100%
Opening Balance of Loan	0.00	2808.36	2,808.36
Amount of Debt Drawn	2,808.36	4,212.55	7,020.91
Closing Balance of Loan	2,808.36	7,020.91	9,829.27
Interest for the year	**182.54**	**638.90**	**821.45**

Summary of Results	
Project IRR	17.01%
Equity IRR	18.52%
NPV (@ 12%)	5,876.55
DSCR (Average)	1.50
DSCR (Minimum)	1.13

Means of Finance			
Year	First Year	Second Year	Total
Debt	2,808.36	4,212.55	7,020.91
Equity	2808.36	4212.55	7,020.91
Grant	-	-	-
Total	**5,616.73**	**8,425.09**	**14,041.82**

Sensitivity Analysis	
Residential Portion	50%
Cost	100%
Revenue	100%

Residential Portion Sensitivity		40%	45%	50%	55%	60%
Project IRR	17.01%	19.40%	18.24%	17.01%	15.71%	14.33%
Equity IRR	18.52%	21.73%	20.15%	18.52%	16.82%	15.01%
NPV (@ 12%)	5,876.55	9,219.03	7,547.79	5,876.55	4,205.31	2,534.08
DSCR (Average)	1.50	1.75	1.62	1.50	1.37	1.23

Cost Sensitivity		90%	95%	100%	105%	110%
Project IRR	17.01%	18.34%	17.65%	17.01%	16.43%	15.88%
Equity IRR	18.52%	20.29%	19.36%	18.52%	17.74%	17.03%
NPV (@ 12%)	5,876.55	6,857.04	6,366.80	5,876.55	5,386.31	4,896.06
DSCR (Average)	1.50	1.63	1.56	1.50	1.44	1.38

Revenue Sensitivity		90%	95%	100%	105%	110%
Project IRR	17.01%	15.70%	16.36%	17.01%	17.65%	18.27%
Equity IRR	18.52%	16.79%	17.66%	18.52%	19.36%	20.20%
NPV (@ 12%)	5,876.55	4,218.11	5,047.33	5,876.55	6,705.77	7,534.99
DSCR (Average)	1.50	1.37	1.43	1.50	1.56	1.63

Financial Year	31-Mar-16	31-Mar-17	31-Mar-18	31-Mar-19	31-Mar-20	31-Mar-21	31-Mar-22	31-Mar-23	31-Mar-24	31-Mar-25	31-Mar-26	31-Mar-27	31-Mar-28	31-Mar-29
Revenue Estimation														
Revision in Lease Rental	1	1	1	1.15	1.15	1.15	1.32	1.32	1.32	1.52	1.52	1.52	1.75	1.75
Year wise Occupancy of Offices	50%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Lease Rental from Offices	551.31	1102.61	1102.61	1268.00	1268.00	1268.00	1458.21	1458.21	1458.21	1676.94	1676.94	1676.94	1928.48	1928.48
Year wise Occupancy of Retail Shops	30%	80%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Lease Rental from Retail Shops	496.18	1323.14	1653.92	1902.01	1902.01	1902.01	2187.31	2187.31	2187.31	2515.40	2515.40	2515.40	2892.71	2892.71
Revenue from Advertisement	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Common Area Maintenance (CAM)	143.34	308.73	330.78	380.40	380.40	380.40	437.46	437.46	437.46	503.08	503.08	503.08	578.54	578.54
Total Revenue	1190.82	2734.48	3087.32	3550.41	3550.41	3550.41	4082.97	4082.97	4082.97	4695.42	4695.42	4695.42	5399.73	5399.73
Expenses														
Total Operating Cost	1	1.05	1.10	1.16	1.22	1.28	1.34	1.41	1.48	1.55	1.63	1.71	1.80	1.89
Regular Maintenance	55.13	57.89	60.78	63.82	67.01		73.88	77.57	81.45	85.53		94.29	99.01	103.96
Major Maintenance						703.62					898.02			
Operating Maintenance	59.54	136.72	154.37	177.52	177.52	177.52	204.15	204.15	204.15	234.77	234.77	234.77	269.99	269.99
Administrative Expenses	23.82	54.69	61.75	71.01	71.01	71.01	81.66	81.66	81.66	93.91	93.91	93.91	107.99	107.99
Parking Maintenance					25.36			29.16			33.54			38.57
Insurance	20.31	19.56	18.81	18.05	17.30	16.55	15.80	15.04	14.29	13.54	12.79	12.04	11.28	10.53
Total Expenses	158.80	268.86	295.70	330.40	358.20	968.70	375.49	407.59	381.55	427.75	1273.03	435.01	488.27	531.04
Non-Operating Expenses														
Interest	912.72	836.66	684.54	532.42	380.30	228.18	76.06	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Depreciation	501.49	501.49	501.49	501.49	501.49	501.49	501.49	501.49	501.49	501.49	501.49	501.49	501.49	501.49
Profit Before Tax (PBT)	(382.19)	1,127.47	1,605.58	2,186.10	2,310.42	1,852.04	3,129.94	3,173.89	3,199.93	3,766.18	2,920.90	3,758.92	4,409.97	4,367.20
TAX	0.00	118.51	314.66	539.95	613.51	494.66	936.24	974.72	1004.97	1208.33	951.69	1239.51	1465.08	1464.07
Profit After Tax (PAT)	(382.19)	1,008.96	1,290.92	1,646.15	1,696.91	1,357.38	2,193.69	2,199.17	2,194.96	2,557.85	1,969.21	2,519.41	2,944.89	2,903.13

Financial Year	31-Mar-30	31-Mar-31	31-Mar-32	31-Mar-33	31-Mar-34	31-Mar-35	31-Mar-36	31-Mar-37	31-Mar-38	31-Mar-39	31-Mar-40	31-Mar-41	31-Mar-42	31-Mar-43
Revenue Estimation														
Revision in Lease Rental	1.75	2.01	2.01	2.01	2.31	2.31	2.31	2.66	2.66	2.66	3.06	3.06	3.06	3.52
Year wise Occupancy of Offices	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Lease Rental from Offices	1928.48	2217.75	2217.75	2217.75	2550.41	2550.41	2550.41	2932.97	2932.97	2932.97	3372.92	3372.92	3372.92	3878.85
Year wise Occupancy of Retail Shops	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Lease Rental from Retail Shops	2892.71	3326.62	3326.62	3326.62	3825.61	3825.61	3825.61	4399.46	4399.46	4399.46	5059.38	5059.38	5059.38	5818.28
Revenue from Advertisement	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Common Area Maintenance (CAM)	578.54	665.32	665.32	665.32	765.12	765.12	765.12	879.89	879.89	879.89	1011.88	1011.88	1011.88	1163.66
Total Revenue	5399.73	6209.69	6209.69	6209.69	7141.15	7141.15	7141.15	8212.32	8212.32	8212.32	9444.17	9444.17	9444.17	10860.79
Expenses														
Total Operating Cost	1.98	2.08	2.18	2.29	2.41	2.53	2.65	2.79	2.93	3.07	3.23	3.39	3.56	3.73
Regular Maintenance	109.15		120.34	126.36	132.68	139.31		153.59	161.27	169.34	177.80		196.03	205.83
Major Maintenance		1,146.13					1,462.78					1,866.92		
Operating Maintenance	269.99	310.48	310.48	310.48	357.06	357.06	357.06	410.62	410.62	410.62	472.21	472.21	472.21	543.04
Administrative Expenses	107.99	124.19	124.19	124.19	142.82	142.82	142.82	164.25	164.25	164.25	188.88	188.88	188.88	217.22
Parking Maintenance			44.35			51.01			58.66			67.46		
Insurance	9.78	9.03	8.27	7.52	6.77	6.02	5.27	4.51	3.76	3.01	2.26	1.50	0.75	-
Total Expenses	496.92	1589.83	607.65	568.56	639.33	696.22	1967.93	732.97	798.55	747.21	841.15	2596.97	857.87	966.08
Non-Operating Expenses														
Interest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Depreciation	501.49	501.49	501.49	501.49	501.49	501.49	501.49	501.49	501.49	501.49	501.49	501.49	501.49	501.49
Profit Before Tax (PBT)	4,401.32	4,118.37	5,100.55	5,139.64	6,000.32	5,943.43	4,671.73	6,977.86	6,912.27	6,963.62	8,101.52	6,345.70	8,084.80	9,393.22
TAX	1486.72	1405.33	1733.43	1754.56	2041.45	2029.83	1623.31	2377.19	2360.89	2382.04	2755.33	2189.20	2756.81	3184.34
Profit After Tax (PAT)	2,914.60	2,713.04	3,367.12	3,385.08	3,958.88	3,913.61	3,048.41	4,600.67	4,551.38	4,581.57	5,346.19	4,156.50	5,327.99	6,208.88

Financial Year	31-Mar-14	31-Mar-15	31-Mar-16	31-Mar-17	31-Mar-18	31-Mar-19	31-Mar-20	31-Mar-21	31-Mar-22	31-Mar-23	31-Mar-24	31-Mar-25	31-Mar-26	31-Mar-27	31-Mar-28
Result Calculation															
Cash Flow to Project															
Capex (Including IDC)	5616.73	8,425.09													
IDC	182.54	638.90													
PBDIT			1032.02	2465.62	2791.62	3220.01	3192.21	2581.71	3707.49	3675.38	3701.42	4267.67	3422.39	4260.41	4911.46
Tax			0.00	390.00	536.80	712.72	736.92	568.70	960.93	974.72	1004.97	1208.33	951.69	1239.51	1465.08
Net Cash Flow	**-5434.18**	**-7786.19**	**1032.02**	**2075.62**	**2254.82**	**2507.29**	**2455.29**	**2013.01**	**2746.56**	**2700.66**	**2696.45**	**3059.35**	**2470.71**	**3020.90**	**3446.38**
Cash Flow to Equity															
Equity Investment	2,808.36	4,212.55													
Repayment of Loan			-	1,170.15	1,170.15	1,170.15	1,170.15	1,170.15	1,170.15	-	-	-	-	-	-
Profit After Tax	-	-	(382.19)	1,008.96	1,290.92	1,646.15	1,696.91	1,357.38	2,193.69	2,199.17	2,194.96	2,557.85	1,969.21	2,519.41	2,944.89
Depreciation	-	-	501.49	501.49	501.49	501.49	501.49	501.49	501.49	501.49	501.49	501.49	501.49	501.49	501.49
Net Cash Flow	**(2,808.36)**	**(4,212.55)**	**119.30**	**340.30**	**622.26**	**977.49**	**1,028.25**	**688.72**	**1,525.03**	**2,700.66**	**2,696.45**	**3,059.35**	**2,470.71**	**3,020.90**	**3,446.38**
DSCR Calculation															
Profit After Tax	-	-	(382.19)	1,008.96	1,290.92	1,646.15	1,696.91	1,357.38	2,193.69						
Depreciation	-	-	501.49	501.49	501.49	501.49	501.49	501.49	501.49						
Interest	-	-	912.72	836.66	684.54	532.42	380.30	228.18	76.06						
Repayment of Loan	-	-	-	1,170.15	1,170.15	1,170.15	1,170.15	1,170.15	1,170.15						
DSCR			**1.13**	**1.17**	**1.34**	**1.57**	**1.66**	**1.49**	**2.22**						

Financial Year	31-Mar-29	31-Mar-30	31-Mar-31	31-Mar-32	31-Mar-33	31-Mar-34	31-Mar-35	31-Mar-36	31-Mar-37	31-Mar-38	31-Mar-39	31-Mar-40	31-Mar-41	31-Mar-42	31-Mar-43
Result Calculation															
Cash Flow to Project															
Capex (Including IDC)															
IDC															
PBDIT	4868.69	4902.82	4619.86	5602.04	5641.13	6501.82	6444.93	5173.22	7479.35	7413.76	7465.11	8603.02	6847.19	8586.30	9894.71
Tax	1464.07	1486.72	1405.33	1733.43	1754.56	2041.45	2029.83	1623.31	2377.19	2360.89	2382.04	2755.33	2189.20	2756.81	3184.34
Net Cash Flow	**3404.62**	**3416.09**	**3214.53**	**3868.61**	**3886.58**	**4460.37**	**4415.10**	**3549.91**	**5102.16**	**5052.87**	**5083.07**	**5847.68**	**4657.99**	**5829.48**	**6710.37**
Cash Flow to Equity															
Equity Investment															
Repayment of Loan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Profit After Tax	2,903.13	2,914.60	2,713.04	3,367.12	3,385.08	3,958.88	3,913.61	3,048.41	4,600.67	4,551.38	4,581.57	5,346.19	4,156.50	5,327.99	6,208.88
Depreciation	501.49	501.49	501.49	501.49	501.49	501.49	501.49	501.49	501.49	501.49	501.49	501.49	501.49	501.49	501.49
Net Cash Flow	**3,404.62**	**3,416.09**	**3,214.53**	**3,868.61**	**3,886.58**	**4,460.37**	**4,415.10**	**3,549.91**	**5,102.16**	**5,052.87**	**5,083.07**	**5,847.68**	**4,657.99**	**5,829.48**	**6,710.37**

Assumptions & TPC Calculation for Jeevanbheemanagara

Site Assumption	Commercial	Residential
Total Land Area	59895	46489
FAR	2.5	1.75
Total FAR Area	149737.5	81355.75
No. of Floor	4	3
Ground Coverage Area as per FAR	37434	27119
Ground Coverage Ratio (GCR)	75%	75%
Total Ground Coverage Area as per GCR	44921	34867
Considered Ground Coverage	37434	27119

Construction Details	Residential	Commercial (offices)	Commercial Mall
Considered development	Yes	Yes	Yes
% Break up of Area	100%	0%	100%
Total Plinth Area considered under each mode	27119	0	37434
Total Floor Area	81356	0.00	149738
Area Covered by a Flat	900		
Total No. of Flats	90		
Parking Facility (Floor)	1	1	1
Total Parking Area	27119	0	37434

General Assumption		
Concession Period	30.00	Years
Construction Period	2.00	Years
Project Start Date	1-Apr-13	
Project Completion Date	31-Mar-15	
End of Concession Period	31-Mar-43	
Total Civil Construction Cost	4,332	INR Lakhs

Cost Assumption	Residential	Commercial (offices)	Commercial Mall
Civil Construction Cost (per sq. ft)	1,300	1,500	1,800
Other Cost for Land development (Per sq. ft)		150	
Parking Development Cost (per Sq. ft.)		800	
Contingency	2.0%		
Escalation	5.0%		
Financing Cost	1.5%		
Interest During Construction (IDC)	13%		
Insurance	0.15%		

Financial Assumptions	
Grant	0%
Equity	50%
Debt	50%
upfront Equity	25%
Rate of Interest	13%
Debt Tenure	9
Moratorium Period	3
Loan Repayment Year	6
Depreciation Rate (WDV)	10%
Corporate Tax	32.45%
MAT	20.01%

Revenue Assumption	Residential	Commercial (offices)	Commercial Mall
Lease Rental per Sq. ft	-	40	80
Advertisement			
Escalation in Lease Rental		15%	
Occupancy			
Expense Assumption			
Regular Maintenance (per Sq ft) per month	1.25		
Major Maintenance (per Sq ft) per annum	150		
Operating Maintenance (per Sq ft)		5% of Total Revenue	
Office Maintenance		5% of Total Revenue	
Parking Maintenance (per Sq ft) per annum	1 2	12	12
Escalation in Expenses	5%		
Insurance		0.15%	
Taxes & Other Regulatory Charges (per Sq ft)			

TPC Calculation	
Civil Construction Cost	4,332
Contingency	86.64
Escalation	246
Insurance	7.50
Financing Cost	37.52
Interest During Construction	292.66
Total Project Cost	**5,003**

IDC Calculation			
Year	First Year	Second Year	Total
Progress Expected	40%	60%	100%
Opening Balance of Loan	0.00	1000.55	1,000.55
Amount of Debt Drawn	1,000.55	1,500.82	2,501.37
Closing Balance of Loan	1,000.55	2,501.37	3,501.92
Interest for the year	**65.04**	**227.62**	**292.66**

Summary of Results	
Project IRR	23.26%
Equity IRR	27.03%
NPV (@ 12%)	5,392.80
DSCR (Average)	2.21
DSCR (Minimum)	1.42

Means of Finance			
Year	First Year	Second Year	Total
Debt	1,000.55	1,500.82	2,501.37
Equity	1000.55	1500.82	2,501.37
Grant	0.00	0.00	-
Total	**2,001.10**	**3,001.64**	**5,002.74**

Sensitivity Analysis	
Cost	100%
Revenue	100%

Cost Sensitivity		90%	95%	100%	105%	110%
Project IRR	23.26%	24.97%	24.09%	23.26%	22.50%	21.80%
Equity IRR	27.03%	29.51%	28.21%	27.03%	25.95%	24.97%
NPV (@ 12%)	5,392.80	5,739.51	5,567.46	5,392.80	5,218.13	5,043.47
DSCR (Average)	2.21	2.42	2.31	2.21	2.11	2.03

Revenue Sensitivity		90%	95%	100%	105%	110%
Project IRR	23.26%	21.62%	22.45%	23.26%	24.06%	24.84%
Equity IRR	27.03%	24.71%	25.88%	27.03%	28.17%	29.31%
NPV (@ 12%)	5,392.80	4,483.76	4,938.28	5,392.80	5,847.31	6,299.85
DSCR (Average)	2.21	2.01	2.11	2.21	2.30	2.40

Financial Year	31-Mar-16	31-Mar-17	31-Mar-18	31-Mar-19	31-Mar-20	31-Mar-21	31-Mar-22	31-Mar-23	31-Mar-24	31-Mar-25	31-Mar-26	31-Mar-27	31-Mar-28	31-Mar-29
Revenue Estimation														
Revision in Lease Rental	1	1	1	1.15	1.15	1.15	1.32	1.32	1.32	1.52	1.52	1.52	1.75	1.75
Year wise Occupancy of Offices	50%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Lease Rental from Offices	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Year wise Occupancy of Retail Shops	30%	80%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Lease Rental from Retail Shops	431.24	1149.98	1437.48	1653.10	1653.10	1653.10	1901.07	1901.07	1901.07	2186.23	2186.23	2186.23	2514.16	2514.16
Revenue from Advertisement	4.31	11.50	14.37	16.53	16.53	16.53	19.01	19.01	19.01	21.86	21.86	21.86	25.14	25.14
Common Area Maintenance (CAM)	80.86	215.62	269.53	309.96	309.96	309.96	356.45	356.45	356.45	409.92	409.92	409.92	471.41	471.41
Total Revenue	516.41	1377.11	1721.38	1979.59	1979.59	1979.59	2276.53	2276.53	2276.53	2618.01	2618.01	2618.01	3010.71	3010.71
Expenses														
Total Operating Cost	1	1.05	1.10	1.16	1.22	1.28	1.34	1.41	1.48	1.55	1.63	1.71	1.80	1.89
Regular Maintenance	12.20	12.81	13.45	14.13	14.83		16.35	17.17	18.03	18.93		20.87	21.92	23.01
Major Maintenance						155.75					198.78			
Operating Maintenance	25.82	68.86	86.07	98.98	98.98	98.98	113.83	113.83	113.83	130.90	130.90	130.90	150.54	150.54
Administrative Expenses	10.33	27.54	34.43	39.59	39.59	39.59	45.53	45.53	45.53	52.36	52.36	52.36	60.21	60.21
Parking Maintenance					8.91			10.24			11.78			13.55
Insurance	7.24	6.97	6.70	6.43	6.16	5.90	5.63	5.36	5.09	4.82	4.56	4.29	4.02	3.75
Total Expenses	55.59	116.18	140.65	159.13	168.48	300.22	181.34	192.13	182.48	207.02	398.38	208.42	236.69	251.06
Non-Operating Expenses														
Interest	325.18	298.08	243.88	189.69	135.49	81.29	27.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Depreciation	178.67	178.67	178.67	178.67	178.67	178.67	178.67	178.67	178.67	178.67	178.67	178.67	178.67	178.67
Profit Before Tax (PBT)	(43.02)	784.18	1,158.18	1,452.10	1,496.95	1,419.41	1,889.42	1,905.73	1,915.38	2,232.32	2,040.96	2,230.92	2,595.35	2,580.98
TAX	0.00	166.34	302.31	410.84	437.23	422.72	584.82	598.74	609.64	719.47	663.67	730.97	854.32	854.24
Profit After Tax (PAT)	(43.02)	617.84	855.87	1,041.26	1,059.72	996.69	1,304.60	1,306.99	1,305.74	1,512.85	1,377.29	1,499.95	1,741.03	1,726.74

Financial Year	31-Mar-30	31-Mar-31	31-Mar-32	31-Mar-33	31-Mar-34	31-Mar-35	31-Mar-36	31-Mar-37	31-Mar-38	31-Mar-39	31-Mar-40	31-Mar-41	31-Mar-42	31-Mar-43
Revenue Estimation														
Revision in Lease Rental	1.75	2.01	2.01	2.01	2.31	2.31	2.31	2.66	2.66	2.66	3.06	3.06	3.06	3.52
Year wise Occupancy of Offices	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Lease Rental from Offices	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Year wise Occupancy of Retail Shops	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Lease Rental from Retail Shops	2514.16	2891.29	2891.29	2891.29	3324.98	3324.98	3324.98	3823.73	3823.73	3823.73	4397.28	4397.28	4397.28	5056.88
Revenue from Advertisement	25.14	28.91	28.91	28.91	33.25	33.25	33.25	38.24	38.24	38.24	43.97	43.97	43.97	50.57
Common Area Maintenance (CAM)	471.41	542.12	542.12	542.12	623.43	623.43	623.43	716.95	716.95	716.95	824.49	824.49	824.49	948.16
Total Revenue	3010.71	3462.31	3462.31	3462.31	3981.66	3981.66	3981.66	4578.91	4578.91	4578.91	5265.75	5265.75	5265.75	6055.61
Expenses														
Total Operating Cost	1.98	2.08	2.18	2.29	2.41	2.53	2.65	2.79	2.93	3.07	3.23	3.39	3.56	3.73
Regular Maintenance	24.16		26.64	27.97	29.37	30.84		34.00	35.70	37.48	39.36		43.39	45.56
Major Maintenance		253.70					323.79					413.25		
Operating Maintenance	150.54	173.12	173.12	173.12	199.08	199.08	199.08	228.95	228.95	228.95	263.29	263.29	263.29	302.78
Administrative Expenses	60.21	69.25	69.25	69.25	79.63	79.63	79.63	91.58	91.58	91.58	105.31	105.31	105.31	121.11
Parking Maintenance			15.58			17.92			20.61			23.70		
Insurance	3.48	3.22	2.95	2.68	2.41	2.14	1.88	1.61	1.34	1.07	0.80	0.54	0.27	-
Total Expenses	238.40	499.28	287.53	273.01	310.50	329.62	604.38	356.13	378.17	359.08	408.76	806.08	412.26	469.45
Non-Operating Expenses														
Interest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Depreciation	178.67	178.67	178.67	178.67	178.67	178.67	178.67	178.67	178.67	178.67	178.67	178.67	178.67	178.67
Profit Before Tax (PBT)	2,593.64	2,784.37	2,996.12	3,010.63	3,492.50	3,473.38	3,198.61	4,044.11	4,022.07	4,041.16	4,678.32	4,280.99	4,674.82	5,407.49
TAX	862.48	928.08	1000.14	1007.86	1166.93	1163.16	1076.19	1352.53	1347.15	1354.95	1563.14	1435.51	1564.47	1803.27
Profit After Tax (PAT)	1,731.17	1,856.29	1,995.98	2,002.78	2,325.57	2,310.22	2,122.42	2,691.58	2,674.92	2,686.22	3,115.17	2,845.49	3,110.35	3,604.22

Financial Year	31-Mar-14	31-Mar-15	31-Mar-16	31-Mar-17	31-Mar-18	31-Mar-19	31-Mar-20	31-Mar-21	31-Mar-22	31-Mar-23	31-Mar-24	31-Mar-25	31-Mar-26	31-Mar-27	31-Mar-28
Result Calculation															
Cash Flow to Project															
Capex (Including IDC)	2001.10	3,001.64													
IDC	65.04	227.62													
PBDIT			460.83	1260.93	1580.73	1820.46	1811.11	1679.37	2095.19	2084.40	2094.05	2410.99	2219.63	2409.59	2774.02
Tax			0.00	263.07	381.45	472.39	481.20	449.10	593.62	598.74	609.64	719.47	663.67	730.97	854.32
Net Cash Flow	**-1936.06**	**-2774.02**	**460.83**	**997.86**	**1199.28**	**1348.07**	**1329.92**	**1230.28**	**1501.57**	**1485.66**	**1484.41**	**1691.52**	**1555.96**	**1678.62**	**1919.70**
Cash Flow to Equity															
Equity Investment	1,000.55	1,500.82													
Repayment of Loan			-	416.89	416.89	416.89	416.89	416.89	416.89	-	-	-	-	-	-
Profit After Tax	-	-	(43.02)	617.84	855.87	1,041.26	1,059.72	996.69	1,304.60	1,306.99	1,305.74	1,512.85	1,377.29	1,499.95	1,741.03
Depreciation	-	-	178.67	178.67	178.67	178.67	178.67	178.67	178.67	178.67	178.67	178.67	178.67	178.67	178.67
Net Cash Flow	**(1,000.55)**	**(1,500.82)**	**135.65**	**379.61**	**617.64**	**803.04**	**821.50**	**758.47**	**1,066.37**	**1,485.66**	**1,484.41**	**1,691.52**	**1,555.96**	**1,678.62**	**1,919.70**
DSCR Calculation															
Profit After Tax	-	-	(43.02)	617.84	855.87	1,041.26	1,059.72	996.69	1,304.60						
Depreciation	-	-	178.67	178.67	178.67	178.67	178.67	178.67	178.67						
Interest	-	-	325.18	298.08	243.88	189.69	135.49	81.29	27.10						
Repayment of Loan	-	-	-	416.89	416.89	416.89	416.89	416.89	416.89						
DSCR			**1.42**	**1.53**	**1.93**	**2.32**	**2.49**	**2.52**	**3.40**						

Financial Year	31-Mar-29	31-Mar-30	31-Mar-31	31-Mar-32	31-Mar-33	31-Mar-34	31-Mar-35	31-Mar-36	31-Mar-37	31-Mar-38	31-Mar-39	31-Mar-40	31-Mar-41	31-Mar-42	31-Mar-43
Result Calculation															
Cash Flow to Project															
Capex (Including IDC)															
IDC															
PBDIT	2759.65	2772.31	2963.04	3174.79	3189.30	3671.16	3652.05	3377.28	4222.78	4200.74	4219.83	4856.98	4459.66	4853.49	5586.16
Tax	854.24	862.48	928.08	1000.14	1007.86	1166.93	1163.16	1076.19	1352.53	1347.15	1354.95	1563.14	1435.51	1564.47	1803.27
Net Cash Flow	**1905.41**	**1909.84**	**2034.96**	**2174.65**	**2181.45**	**2504.24**	**2488.89**	**2301.09**	**2870.25**	**2853.59**	**2864.88**	**3293.84**	**3024.16**	**3289.02**	**3782.89**
Cash Flow to Equity															
Equity Investment															
Repayment of Loan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Profit After Tax	1,726.74	1,731.17	1,856.29	1,995.98	2,002.78	2,325.57	2,310.22	2,122.42	2,691.58	2,674.92	2,686.22	3,115.17	2,845.49	3,110.35	3,604.22
Depreciation	178.67	178.67	178.67	178.67	178.67	178.67	178.67	178.67	178.67	178.67	178.67	178.67	178.67	178.67	178.67
Net Cash Flow	**1,905.41**	**1,909.84**	**2,034.96**	**2,174.65**	**2,181.45**	**2,504.24**	**2,488.89**	**2,301.09**	**2,870.25**	**2,853.59**	**2,864.88**	**3,293.84**	**3,024.16**	**3,289.02**	**3,782.89**

Assumptions & TPC Calculation for Rajaji Nagar

Site Assumption		
Total Land Area	147557	Sq. ft
FAR	2.5	
Total FAR Area	368892.5	Sq. ft
No. of Floor	5	G+4
Ground Coverage Area as per FAR	73779	Sq. ft
Ground Coverage Ratio (GCR)	60%	
Total Ground Coverage Area as per GCR	88534.2	Sq. ft
Considered Ground Coverage	73779	Sq. ft

Construction Details	Residential	Commercial (offices)	Commercial Mall
Considered development	Yes	Yes	Yes
% Break up of Area	40%	30%	30%
Total Plinth Area considered under each mode	29511	22134	22134
Total Floor Area	147557	110668	110668
Area Covered by a Flat	1,200		
Total No. of Flats	122		
Parking Facility (Floor)	1	1	1
Total Parking Area	29511	22134	22134
proposed for Lease Rental		50%	100%

General Assumption		
Concession Period	30.00	Years
Construction Period	2.00	Years
Project Start Date	1-Apr-13	
Project Completion Date	31-Mar-15	
End of Concession Period	31-Mar-43	
Total Civil Construction Cost	6,271	INR Lakhs

Cost Assumption	Residential	Commercial (offices)	Commercial Mall
Civil Construction Cost (per sq. ft)	1,300	1,500	1,800
Other Cost for Land development (Per sq. ft)		150	
Parking Development Cost (per Sq. ft.)		800	
Contingency	2.0%		
Escalation	5.0%		
Financing Cost	1.5%		
Interest During Construction (IDC)	13%		
Insurance	0.15%		

Financial Assumptions	
Grant	0%
Equity	50%
Debt	50%
Upfront Equity	25%
Rate of Interest	13%
Debt Tenure	9
Moratorium Period	3
Loan Repayment Year	6
Depreciation Rate (WDV)	10%
Corporate Tax	32.45%
MAT	20.01%

Revenue Assumption	Residential	Commercial (offices)	Commercial Mall
Lease Rental per Sq. ft	-	40	80
Advertisement		1% of revenue	
Escalation in Lease Rental		15%	
Common Area Maintenance (CAM)		10	15
Expense Assumption			
Regular Maintenance (per Sq ft) per month	1.25		
Major Maintenance (per Sq ft) per annum	150		
Operating Maintenance (per Sq ft)		5% of Total Revenue	
Office Maintenance		2% of Total Revenue	
Parking Maintenance (per Sq ft)	1	1	1
Escalation in Expenses	5%		
Insurance		0.15%	
Taxes & Other Regulatory Charges (per Sq ft)			

TPC Calculation	
Civil Construction Cost	6,271
Contingency	125.42
Escalation	357
Insurance	10.86
Financing Cost	54.32
Interest During Construction	423.66
Total Project Cost	**7,242**

IDC Calculation			
Year	First Year	Second Year	Total
Progress Expected	40%	60%	100%
Opening Balance of Loan	0.00	2160.51	2,160.51
Amount of Debt Drawn	2,160.51	3,240.76	5,401.27
Closing Balance of Loan	2,160.51	5,401.27	7,561.77
Interest for the year	**140.43**	**491.52**	**631.95**

Summary of Results	
Project IRR	17.75%
Equity IRR	19.32%
NPV (@ 12%)	3,537.58
DSCR (Average)	1.56
DSCR (Minimum)	1.08

Means of Finance			
Year	First Year	Second Year	Total
Debt	1,448.41	2,172.61	3,621.02
Equity	1448.41	2172.61	3,621.02
Grant	0.00	0.00	-
Total	**2,896.82**	**4,345.23**	**7,242.04**

Sensitivity Analysis	
Residential Portion	40%
Cost	100%
Revenue	100%

Residential Portion Sensitivity		30%	35%	40%	45%	50%
Project IRR	17.75%	19.63%	18.71%	17.75%	16.72%	15.64%
Equity IRR	19.32%	21.91%	20.64%	19.32%	17.95%	16.51%
NPV (@ 12%)	3,537.58	4,986.59	4,262.08	3,537.58	2,813.08	2,088.58
DSCR (Average)	1.56	1.77	1.67	1.56	1.45	1.34

Cost Sensitivity		90%	95%	100%	105%	110%
Project IRR	17.75%	19.08%	18.38%	17.75%	17.16%	16.61%
Equity IRR	19.32%	21.14%	20.19%	19.32%	18.53%	17.80%
NPV (@ 12%)	3,537.58	4,026.30	3,781.94	3,537.58	3,293.22	3,048.86
DSCR (Average)	1.56	1.70	1.63	1.56	1.50	1.44

Revenue Sensitivity		90%	95%	100%	105%	110%
Project IRR	17.75%	16.45%	17.10%	17.75%	18.38%	18.99%
Equity IRR	19.32%	17.58%	18.45%	19.32%	20.18%	21.03%
NPV (@ 12%)	3,537.58	2,659.37	3,098.47	3,537.58	3,976.69	4,415.80
DSCR (Average)	1.56	1.42	1.49	1.56	1.63	1.70

Financial Year	31-Mar-16	31-Mar-17	31-Mar-18	31-Mar-19	31-Mar-20	31-Mar-21	31-Mar-22	31-Mar-23	31-Mar-24	31-Mar-25	31-Mar-26	31-Mar-27	31-Mar-28	31-Mar-29
Revenue Estimation														
Revision in Lease Rental	1	1	1	1.15	1.15	1.15	1.32	1.32	1.32	1.52	1.52	1.52	1.75	1.75
Year wise Occupancy of Offices	50%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Lease Rental from Offices	132.80	265.60	265.60	305.44	305.44	305.44	351.26	351.26	351.26	403.95	403.95	403.95	464.54	464.54
Year wise Occupancy of Retail Shops	30%	80%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Lease Rental from Retail Shops	318.72	849.93	1062.41	1221.77	1221.77	1221.77	1405.04	1405.04	1405.04	1615.79	1615.79	1615.79	1858.16	1858.16
Revenue from Advertisement	3.19	8.50	10.62	12.22	12.22	12.22	14.05	14.05	14.05	16.16	16.16	16.16	18.58	18.58
Common Area Maintenance (CAM)	126.16	292.16	332.00	381.80	381.80	381.80	439.07	439.07	439.07	504.94	504.94	504.94	580.68	580.68
Total Revenue	580.87	1416.19	1670.64	1921.24	1921.24	1921.24	2209.42	2209.42	2209.42	2540.84	2540.84	2540.84	2921.96	2921.96
Expenses														
Total Operating Cost	1	1.05	1.10	1.16	1.22	1.28	1.34	1.41	1.48	1.55	1.63	1.71	1.80	1.89
Regular Maintenance (Residential)	22.13	23.24	24.40	25.62	26.90		29.66	31.14	32.70	34.34		37.86	39.75	41.74
Major Maintenance (Residential)						282.49					360.53			
Operating Maintenance	29.04	70.81	83.53	96.06	96.06	96.06	110.47	110.47	110.47	127.04	127.04	127.04	146.10	146.10
Administrative Expenses	11.62	28.32	33.41	38.42	38.42	38.42	44.19	44.19	44.19	50.82	50.82	50.82	58.44	58.44
Parking Maintenance					10.18			11.71			13.46			15.48
Insurance	10.48	10.09	9.70	9.31	8.92	8.54	8.15	7.76	7.37	6.98	6.60	6.21	5.82	5.43
Total Expenses	73.27	132.46	151.05	169.42	180.49	425.51	192.47	205.27	194.73	219.18	558.45	221.92	250.11	267.19
Non-Operating Expenses														
Interest	470.73	431.51	353.05	274.59	196.14	117.68	39.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Depreciation	258.64	258.64	258.64	258.64	258.64	258.64	258.64	258.64	258.64	258.64	258.64	258.64	258.64	258.64
Profit Before Tax (PBT)	(221.77)	593.58	907.90	1,218.58	1,285.96	1,119.40	1,719.08	1,745.51	1,756.05	2,063.01	1,723.74	2,060.27	2,413.21	2,396.13
TAX	0.00	65.04	188.19	308.04	347.04	308.41	516.88	537.94	552.61	662.33	561.34	678.74	800.64	801.74
Profit After Tax (PAT)	(221.77)	528.54	719.71	910.54	938.92	810.99	1,202.20	1,207.56	1,203.44	1,400.68	1,162.40	1,381.53	1,612.57	1,594.39

Financial Year	31-Mar-30	31-Mar-31	31-Mar-32	31-Mar-33	31-Mar-34	31-Mar-35	31-Mar-36	31-Mar-37	31-Mar-38	31-Mar-39	31-Mar-40	31-Mar-41	31-Mar-42	31-Mar-43
Revenue Estimation														
Revision in Lease Rental	1.75	2.01	2.01	2.01	2.31	2.31	2.31	2.66	2.66	2.66	3.06	3.06	3.06	3.52
Year wise Occupancy of Offices	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Lease Rental from Offices	464.54	534.22	534.22	534.22	614.35	614.35	614.35	706.51	706.51	706.51	812.48	812.48	812.48	934.36
Year wise Occupancy of Retail Shops	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Lease Rental from Retail Shops	1858.16	2136.89	2136.89	2136.89	2457.42	2457.42	2457.42	2826.03	2826.03	2826.03	3249.94	3249.94	3249.94	3737.43
Revenue from Advertisement	18.58	21.37	21.37	21.37	24.57	24.57	24.57	28.26	28.26	28.26	32.50	32.50	32.50	37.37
Common Area Maintenance (CAM)	580.68	667.78	667.78	667.78	767.94	767.94	767.94	883.14	883.14	883.14	1015.61	1015.61	1015.61	1167.95
Total Revenue	2921.96	3360.25	3360.25	3360.25	3864.29	3864.29	3864.29	4443.94	4443.94	4443.94	5110.53	5110.53	5110.53	5877.11
Expenses														
Total Operating Cost	1.98	2.08	2.18	2.29	2.41	2.53	2.65	2.79	2.93	3.07	3.23	3.39	3.56	3.73
Regular Maintenance (Residential)	43.82		48.31	50.73	53.27	55.93		61.66	64.75	67.98	71.38		78.70	82.63
Major Maintenance (Residential)		460.14					587.27					749.52		
Operating Maintenance	146.10	168.01	168.01	168.01	193.21	193.21	193.21	222.20	222.20	222.20	255.53	255.53	255.53	293.86
Administrative Expenses	58.44	67.21	67.21	67.21	77.29	77.29	77.29	88.88	88.88	88.88	102.21	102.21	102.21	117.54
Parking Maintenance			17.81			20.48			23.55			27.08		
Insurance	5.04	4.66	4.27	3.88	3.49	3.10	2.72	2.33	1.94	1.55	1.16	0.78	0.39	-
Total Expenses	253.40	700.01	305.61	289.83	327.26	350.01	860.49	375.07	401.31	380.61	430.28	1135.12	436.82	494.03
Non-Operating Expenses														
Interest	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Depreciation	258.64	258.64	258.64	258.64	258.64	258.64	258.64	258.64	258.64	258.64	258.64	258.64	258.64	258.64
Profit Before Tax (PBT)	2,409.91	2,401.60	2,796.00	2,811.78	3,278.39	3,255.64	2,745.16	3,810.23	3,783.98	3,804.68	4,421.60	3,716.77	4,415.06	5,124.43
TAX	812.19	814.86	947.69	957.16	1112.49	1108.64	946.16	1294.63	1288.69	1297.72	1499.99	1273.15	1501.43	1733.14
Profit After Tax (PAT)	1,597.73	1,586.73	1,848.32	1,854.62	2,165.89	2,147.00	1,799.00	2,515.59	2,495.29	2,506.96	2,921.61	2,443.62	2,913.63	3,391.29

Result Calculation

Cash Flow to Project

Financial Year	31-Mar-14	31-Mar-15	31-Mar-16	31-Mar-17	31-Mar-18	31-Mar-19	31-Mar-20	31-Mar-21	31-Mar-22	31-Mar-23	31-Mar-24	31-Mar-25	31-Mar-26	31-Mar-27	31-Mar-28
Capex (Including IDC)	2896.82	4,345.23													
IDC	94.15	329.51													
PBDIT			507.60	1283.73	1519.59	1751.82	1740.74	1495.73	2016.95	2004.15	2014.69	2321.66	1982.38	2318.91	2671.86
Tax			-70.29	205.07	302.75	397.15	410.68	346.60	529.61	537.94	552.61	662.33	561.34	678.74	800.64
Net Cash Flow	**-2802.67**	**-4015.71**	**577.89**	**1078.66**	**1216.84**	**1354.67**	**1330.06**	**1149.13**	**1487.34**	**1466.21**	**1462.08**	**1659.32**	**1421.04**	**1640.17**	**1871.21**

Cash Flow to Equity

Financial Year	31-Mar-14	31-Mar-15	31-Mar-16	31-Mar-17	31-Mar-18	31-Mar-19	31-Mar-20	31-Mar-21	31-Mar-22	31-Mar-23	31-Mar-24	31-Mar-25	31-Mar-26	31-Mar-27	31-Mar-28
Equity Investment	1,448.41	2,172.61													
Repayment of Loan			-	603.50	603.50	603.50	603.50	603.50	603.50	-	-	-	-	-	-
Profit After Tax	-	-	(221.77)	528.54	719.71	910.54	938.92	810.99	1,202.20	1,207.56	1,203.44	1,400.68	1,162.40	1,381.53	1,612.57
Depreciation	-	-	258.64	258.64	258.64	258.64	258.64	258.64	258.64	258.64	258.64	258.64	258.64	258.64	258.64
Net Cash Flow	**(1,448.41)**	**(2,172.61)**	**36.87**	**183.68**	**374.85**	**565.68**	**594.06**	**466.13**	**857.34**	**1,466.21**	**1,462.08**	**1,659.32**	**1,421.04**	**1,640.17**	**1,871.21**

DSCR Calculation

Financial Year	31-Mar-14	31-Mar-15	31-Mar-16	31-Mar-17	31-Mar-18	31-Mar-19	31-Mar-20	31-Mar-21	31-Mar-22
Profit After Tax	-	-	(221.77)	528.54	719.71	910.54	938.92	810.99	1,202.20
Depreciation	-	-	258.64	258.64	258.64	258.64	258.64	258.64	258.64
Interest	-	-	470.73	431.51	353.05	274.59	196.14	117.68	39.23
Repayment of Loan	-	-	-	603.50	603.50	603.50	603.50	603.50	603.50
DSCR			**1.08**	**1.18**	**1.39**	**1.64**	**1.74**	**1.65**	**2.33**

Financial Year	31-Mar-29	31-Mar-30	31-Mar-31	31-Mar-32	31-Mar-33	31-Mar-34	31-Mar-35	31-Mar-36	31-Mar-37	31-Mar-38	31-Mar-39	31-Mar-40	31-Mar-41	31-Mar-42	31-Mar-43
Result Calculation															
Cash Flow to Project															
Capex (Including IDC)															
IDC															
PBDIT	2654.77	2668.56	2660.24	3054.65	3070.43	3537.03	3514.28	3003.81	4068.87	4042.62	4063.33	4680.24	3975.41	4673.70	5383.07
Tax	801.74	812.19	814.86	947.69	957.16	1112.49	1108.64	946.16	1294.63	1288.69	1297.72	1499.99	1273.15	1501.43	1733.14
Net Cash Flow	**1853.03**	**1856.37**	**1845.38**	**2106.96**	**2113.27**	**2424.54**	**2405.64**	**2057.64**	**2774.24**	**2753.94**	**2765.60**	**3180.25**	**2702.26**	**3172.27**	**3649.93**
Cash Flow to Equity															
Equity Investment															
Repayment of Loan	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Profit After Tax	1,594.39	1,597.73	1,586.73	1,848.32	1,854.62	2,165.89	2,147.00	1,799.00	2,515.59	2,495.29	2,506.96	2,921.61	2,443.62	2,913.63	3,391.29
Depreciation	258.64	258.64	258.64	258.64	258.64	258.64	258.64	258.64	258.64	258.64	258.64	258.64	258.64	258.64	258.64
Net Cash Flow	**1,853.03**	**1,856.37**	**1,845.38**	**2,106.96**	**2,113.27**	**2,424.54**	**2,405.64**	**2,057.64**	**2,774.24**	**2,753.94**	**2,765.60**	**3,180.25**	**2,702.26**	**3,172.27**	**3,649.93**

Annexure B: Photographs of all three Project Sites

View of Storm Water Drain at Wilson Garden

View of ground floor of Wilson Garden quarters (water level goes up to red mark)

View of commercial site at Jeevanbheemanagara

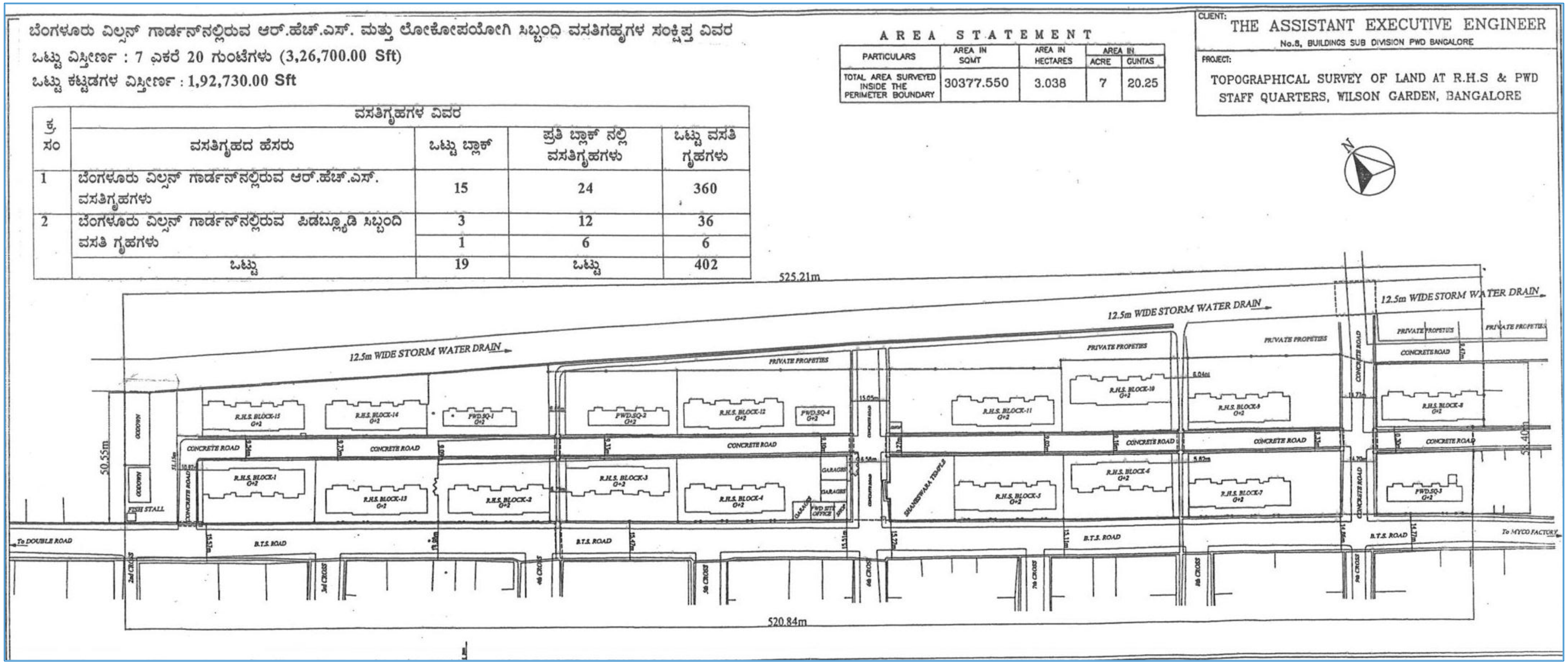
View of ISRO quarters at Jeevanbheemanagara (which is opposite to residential site)

View of Project site at Rajaji Nagar

View of Project site at Rajaji Nagar

Annexure C: Site Layout for proposed Land Parcels

Site Layout Wilson Garden



ಬೆಂಗಳೂರು ವಿಲ್ಸನ್ ಗಾರ್ಡನ್‌ನಲ್ಲಿರುವ ಆರ್.ಹೆಚ್.ಎಸ್. ಮತ್ತು ಲೋಕೋಪಯೋಗಿ ಸಿಬ್ಬಂದಿ ವಸತಿಗೃಹಗಳ ಸಂಕ್ಷಿಪ್ತ ವಿವರ

ಒಟ್ಟು ವಿಸ್ತೀರ್ಣ : 7 ಎಕರೆ 20 ಗುಂಟೆಗಳು (3,26,700.00 Sft)

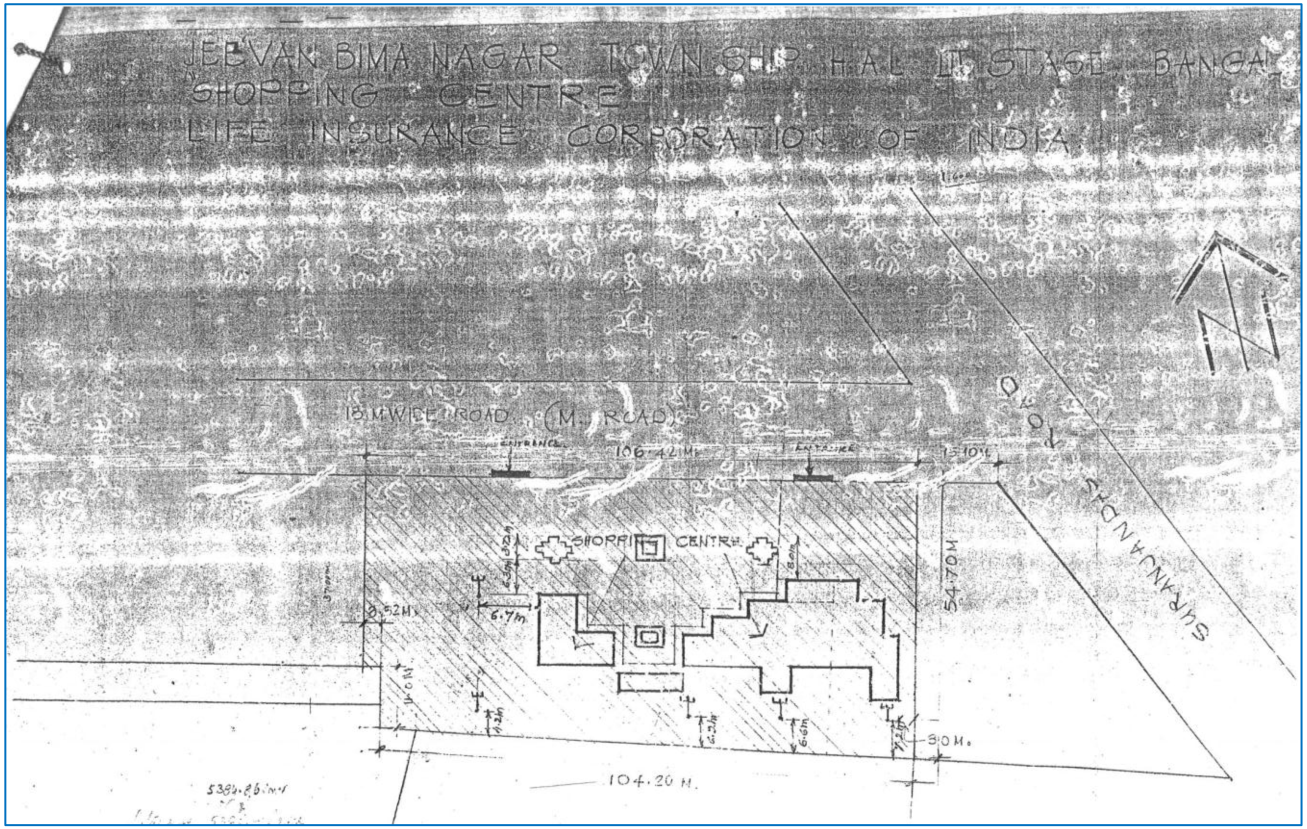
ಒಟ್ಟು ಕಟ್ಟಡಗಳ ವಿಸ್ತೀರ್ಣ : 1,92,730.00 Sft

ಕ್ರ ಸಂ	ವಸತಿಗೃಹಗಳ ವಿವರ			
	ವಸತಿಗೃಹದ ಹೆಸರು	ಒಟ್ಟು ಬ್ಲಾಕ್	ಪ್ರತಿ ಬ್ಲಾಕ್ ನಲ್ಲಿ ವಸತಿಗೃಹಗಳು	ಒಟ್ಟು ವಸತಿ ಗೃಹಗಳು
1	ಬೆಂಗಳೂರು ವಿಲ್ಸನ್ ಗಾರ್ಡನ್‌ನಲ್ಲಿರುವ ಆರ್.ಹೆಚ್.ಎಸ್. ವಸತಿಗೃಹಗಳು	15	24	360
2	ಬೆಂಗಳೂರು ವಿಲ್ಸನ್ ಗಾರ್ಡನ್‌ನಲ್ಲಿರುವ ಪಿಡಬ್ಲ್ಯೂಡಿ ಸಿಬ್ಬಂದಿ ವಸತಿ ಗೃಹಗಳು	3	12	36
		1	6	6
	ಒಟ್ಟು	19	ಒಟ್ಟು	402

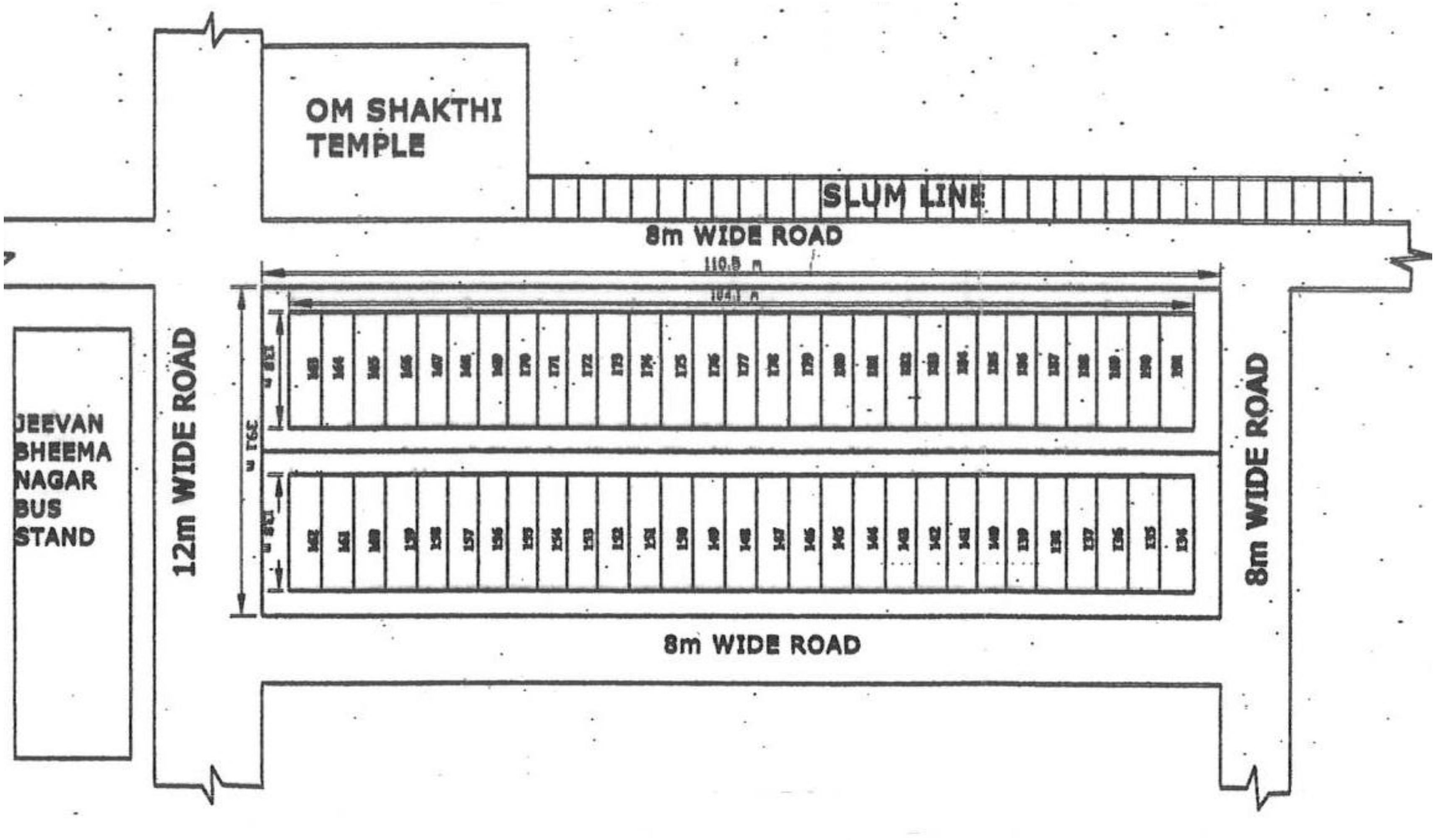
AREA STATEMENT

PARTICULARS	AREA IN SQMT	AREA IN HECTARES	AREA IN ACRE	AREA IN GUNTAS
TOTAL AREA SURVEYED INSIDE THE PERIMETER BOUNDARY	30377.550	3.038	7	20.25

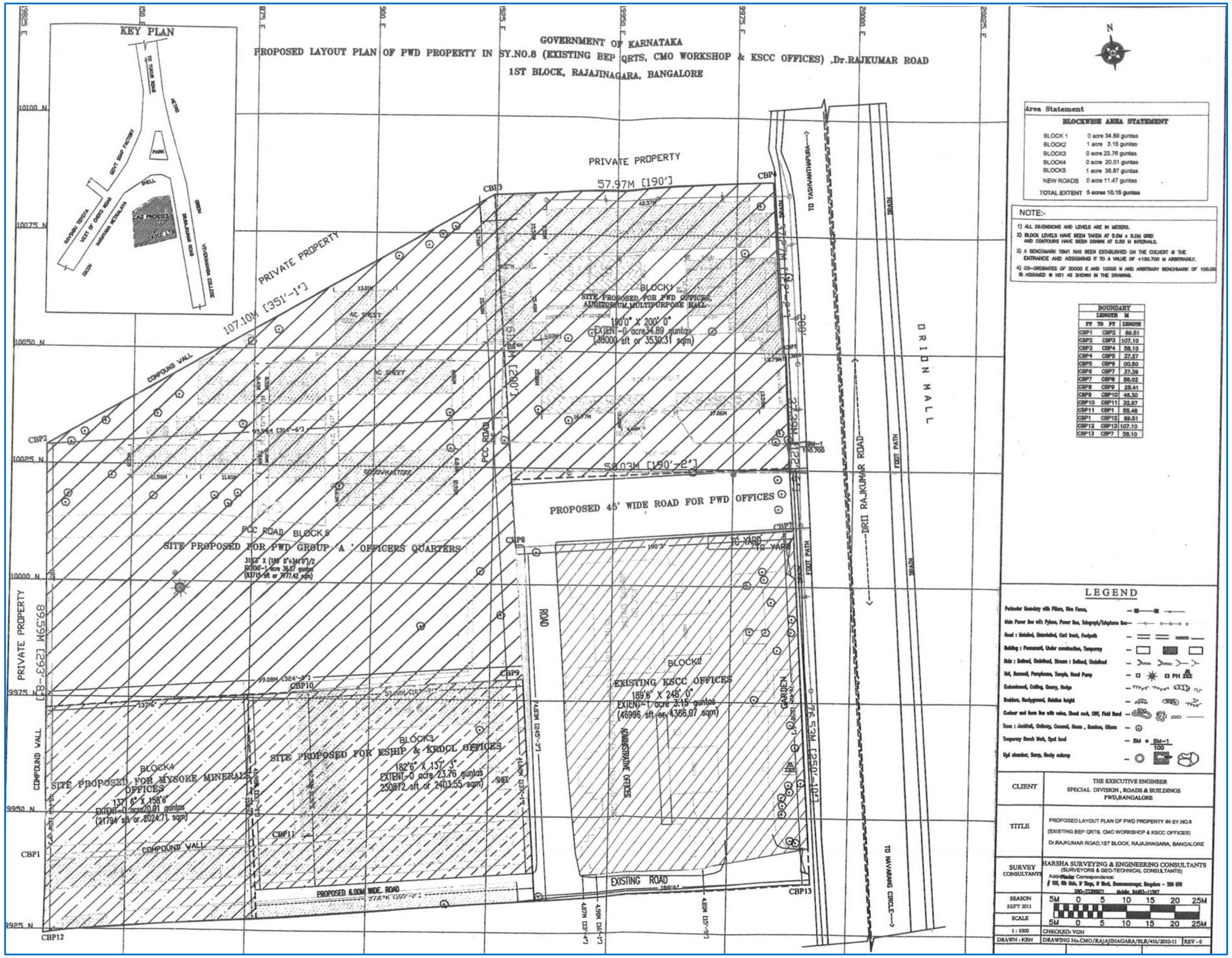
Site Layout of proposed Commercial site at Jeevanbheemanagara



Site Layout of proposed Residential site at Jeevanbheemanagara



Site Layout Rajaji Nagar



Annexures D: Best Case Studies for similar projects in world/ India

The section below tries to highlight various policy recommendations and institutional set-up for organized land development.

Policy & Regulatory Aspects

- While the LA Act, 1894 provides the principal framework for land acquisition in the country, all states have adopted it for application with primarily few procedural amendments to expedite and simplify the land acquisition process. It is interesting to note that in Gujarat a new clause 17A was introduced whereby land vested with the state Government or any state owned corporation, acquired under the LA Act, can be utilized for any public purpose other than the purpose it was originally acquired for with the prior approval of the State Government signifying that the nature of public purpose may change even after vesting.

- In order to promote planned development of new townships in the Gujarat and to encourage Private Sector Investment / Foreign Direct Investment (FDI) in housing and real estate sector, the provisions of the Gujarat Tenancy and Agricultural Lands Laws (Amendment) Act, 1997, have made land conversion easier with no prior sanction required for bonafide industrial use. The Collector is required to be informed within 30 days from date of purchase for issue of certificate. This is however not applicable for urban land, land owned by scheduled tribes, land sale exceeding 10 hectares or exceeding 4 times the area of construction for proposed industrial purpose.

- Rajasthan Township Policy (Above 10 Hectares of Land), 2010, was framed which specifies planned schemes, land development control norms, guidelines for approval / completion of internal development works, eligibility criteria for the developer (presented in the alongside figure)

Eligibility Criteria for the Developer

S. No.	Category Area of Land in Hectares	Minimum net worth in Rupees	Minimum turnover (in last 5 year) in Rupees	Minimum number of Tech. Staff on payroll (for atleast last one year)	Experience of land development	Time period for completion of the complete project
1	2	3	4	5	6	10
(a)	< 40.	25 cr.	200 cr.	50	5 yrs.	3 yrs.
(b)	40-80	50 cr.	3000 cr.	75	6 yrs.	4 yrs.
(c)	80-200	75 cr.	500 cr.	100	7 yrs.	5 yrs.
(d)	200-400	100 cr.	750 cr.	150	8 yrs.	6 yrs.
(e)	> 400	250 cr.	1000 cr.	200	10 yrs.	8 yrs

- Govt. of Gujarat provides many fiscal incentives for attracting investment across sectors
  - ✓ Education Institutes
    - – Provision of land as per the AICTE requirements at a token rate of Re.1/- for 30 years
    - – Funds 50% of the total project cost up to a limit of Rs.10 Crores for engineering institutes and Rs.5 Crores for Polytechnics
  - ✓ ITES
    - – Stamp Duty waiver for IT park developer and concession for IT – ITES units
    - – Exemption from payment of electricity duty for 5 years from commencement of operations
  - ✓ Food Processing Industry
    - – Interest subsidies to agro-industrial units
    - – Air & sea freight subsidies for agro exports

Institutional Set-up

Many states have successfully created land bank through State Agencies by either acquiring land under LA Act 1984 for public purpose or assembling state land holdings available for setting up of where industries / educational institutes/some real estate activities.

- Andhra Pradesh Industrial Infrastructure Corporation Limited (APIIC) has created a land bank of more than 1 lakh acres, which is allocated land at fixed rates and also auctions after determining floor rates
- HSIIDC has created a land bank of 17000 acres earmarked for industrial belts and infrastructure projects
- Many of the State Housing Boards have been successful in development of mixed land use development in state owned land. One of the successful example is that of West Bengal Housing Board (WBHB)

> West Bengal Housing Board (WBHB) is one of the pioneers in forming JVs with private players for housing development. WBHB has formed 8 joint venture companies since 1993; currently 5 such public-private JVs are operational in West Bengal, where in land is extended by WBHB and the private sector investing for construction. One such JV is Bengal Ambuja Housing Development Ltd. This company is an outcome of a joint venture between the West Bengal Housing Board and Gujarat Ambuja Cements Ltd. Company is an infrastructure and housing development company that operates in the eastern part of India. It works in the commercial as well as the residential areas and has completed many projects under this banner.

- On similar lines Bihar State Housing Board, is currently exploring options of developing residential accommodation schemes by unlocking the value of commercial land in the city of Patna.

In this section we would try to look at the some of the examples of developing land parcels with mixed land-use in International and Indian scenario. These will provide broad indicators for designing successful facility and PPP options which can be adopted suitably for the project design.

Liberty Corner on PPP, Ireland

Project Description- Liberty Corner is a landmark civic building located in the North East Inner City Regeneration area in the centre of Dublin. The project was commissioned on PPP basis by Dublin City Council and developed by McCabe Builders in 2005. This is a complex of 100,000 sq. ft. with mixed use which includes an arts centre, Ireland's largest dance centre, a crèche, retail and enterprise units, and 65 private apartments. The buildings make up an entire city block and form the new urban edge of Foley Park, James Joyce Street and Foley Street

Examples in Land Parcel Development in Karnataka

Development of retail & accommodation facilities for KSRTC Passengers and General Public and commercial complex on KSRTC Site at Hassan on PPP Basis

- Project consist sting of Construction of:
  1. Retail/ Commercial Block of around 2.4 lakh sq. ft.
  2. Hotel Blocks of around 80,000 sq. ft.
- Type of PPP- **DBFO**T
- **Contracting Authority**- Karnataka State Road Transport Corporation (KSRTC)
- Contract Period- 30 years
- Contract Award Method- Domestic Competitive Bidding
- Bid Criteria- Lowest Grant/highest Premium amount
- Estimated Project Cost- Rs. 91.5 Cr.

Development of KSRTC offices guest house and Commercial Complex on KSRTC site at Mangalore on PPP basis

- Construction of KSRTC office space of 10,000 sq. ft. and Guest House of 3,000 sq. ft. and vehicle parking area
- Estimated Project cost- Rs. 20.7 Cr
- Type of PPP –**DBFOT**
- Contracting Agency- KSRTC
- Contract Period- 30 Years

Examples in Land Parcel Development in Karnataka

Development of 1.60 acres land parcel along Hosur road

- Development of land parcel to Hypermarket, Karnataka Land Army Corporation Ltd (KLAC), Office space,3 Star Rated Business Hotel
- Land is being developed with an intention to :
  - Office space for KLAC
  - To unlock the value of real estate to provide KLAC with additional revenues
- Estimated cost- Rs. 106.82 Cr.
- PPP Type- DBOT
- Sponsoring Dept.- Karnataka Land Army Corporation Ltd.
- Exec. Agency- KSIIDC
- Current Status- Cleared by SLSWA and recommended for approval by SHLC

Examples on Housing Projects

Housing Clusters for Central Paramilitary Forces

The Union Budget 2009-10 announced launch of massive housing programme aimed at creating 100,000 residential accommodations for CPMF. The Ministry of Home affairs (MHA) proposed to develop such housing units in PPP mode so that the constriction process is accelerated, around 250-300 sites were identified out of which 5 clusters covering approximately 30 sites namely Assam I, Assam II, Jallandhar, Kadarpur-NCR and Uttarakhand were selected for pilot roll out on DBFOT-Annuity basis. In line, MHA adopted a two stage bidding process was adopted for of the bidder asking for the minimum semi-annuity payments

Delhi Police Housing on PPP

The Delhi Police Housing on PPP project has been recently awarded to Punj Lloyd Infrastructure Ltd (PLIL) in January 2012. The project encompasses other than development of residential quarters the commercial operation of non-residential infrastructure such as schools, healthcare and convenience shopping facilities as per the norms laid down in the Delhi Master Plan, 2021. PLIL is expected to sign a concession agreement with the Delhi Police, which is under the aegis of the Ministry of Home Affairs, for 25 years and will be entitled to semi-annual annuities of INR 62.75 Crore, along with construction milestone-linked lump sum payments of INR 316 Crore.

Annexure E: TOR for Technical Consultant and Transaction Advisor

Scope of Services- Technical Consultant

The scope of services shall comprise the following, but not limited to:

1. ***Market surveys and demand assessment***

   The Consultant shall make an assessment of the market demand for various aspects of the Project facility for a period of 10 (ten) years, 20 (twenty) years and 30 (thirty) years respectively based on analysis of existing market trends and socio-economic influencing factors. The Consultant shall submit a Report on the market demand analysis. The end result of this stage will be identification of the facilities to be proposed for the project.

2. ***Need for the project***

   Based on the assessment of the market demand, the Consultant shall conduct a detailed SWOT analysis and provide a broad assessment on the need for the project.

3. ***Engineering surveys and investigations***

   i. Identify the suitable location of the proposed project facility
   ii. Estimate the Land requirement for the Project facility
   iii. Topographic survey, Geotechnical investigations as required to be carried out for project facility design and arriving at the project cost

4. ***Environment & Social impact assessment***

   i. The Consultant shall undertake environment impact assessment of the Project as per provisions of the Applicable Laws on environment protection and identify a package of measures to reduce/eliminate the adverse impact identified during the assessment. An environmental impact assessment report and environmental management plan shall be prepared based on such assessment. The management plan shall include project specific mitigation and monitoring measures for identified impacts as well as management and monitoring plans to address them.
   ii. The Consultant shall also assist the Authority in addressing the comments and suggestions received during the EIA process with a view to getting environmental clearance from the competent authority.
   iii. The Consultant shall also identify the resettlement & rehabilitation requirements of the project site along with package to be offered for the same to the beneficiaries

5. ***Preliminary designs of project facility and services***

   The Consultant shall arrive at the preliminary designs of various components of the Project keeping in view the requirements of the Authority and the scope of services described in this TOR. The site layout and preliminary engineering designs shall be supplemented with explanatory drawings, technical specifications, charts, and notes as necessary.

6. ***Preparation of Preliminary Cost Estimates***

   The Consultant shall work out indicative BOQ of various components and prepare cost estimates of the Project with a break up of cost for each component separately.

7. ***Establishing the Financial Viability of the Project***

   Detailed financial analysis is required to be undertaken by the Consultant. However, the Consultant shall provide the estimated construction costs, operation and maintenance costs, demand forecast, revenues etc. as part of its financial analysis and appraisal of the Project.

The Consultant shall, also provide an assessment of the financial viability of the Project with a view to estimating the likely IRR over an appropriate concession period.

8. ***Establish and detail a viable PPP mode of implementation.***

   The Consultant shall identify the service capabilities of the private sector for contribution towards this project and thereafter establish an appropriate PPP mode for implementing the project.

The scope of work indicated above is indicative and not exhaustive. There may be need for flexibility during the assignment as more information about the project emerges and what is feasible and most effective. This can be discussed and mutually agreed during the course of the assignment.

Scope of Services- Transaction Advisor

The scope of services shall comprise the following, but not limited to

1. OBJECTIVE OF THE CONSULTANCY SERVICES

Department of Urban Land Transport (the “Authority”) is engaged in the enhancement of the transport infrastructure facilities in major cities of Karnataka. As part of this endeavour, the Authority has decided to undertake the development of the subject project on PPP mode. The primary objective of the services is to assist the Authority in selecting a concessionaire for the same.

2. SCOPE OF SERVICES

The scope of services shall include:

(i) assisting the Authority in the entire bidding process up to the signing of the concession agreement;
(ii) evaluation of the strategic objectives of the Authority in relation to the Project and advising on the commercial and capital structuring, especially with reference to Applicable Laws;
(iii) review cost estimates contained in the Feasibility / Detailed Project Report (FR/DPR);
(iv) prepare a reasonable estimation of the likely revenues;
(v) assisting the Authority in identification of project risks and in allocation of the same in an efficient and economic manner;
(vi) identification and quantification of estimated financial impact of the Project on government resources;
(vii) development of various possible alternatives for revenue maximisation and preparation of revenue model for the project;
(viii) advising on tax-related issues arising out of the Project structuring;
(ix) Prepare the draft Concession Agreement;
(x) preparation of a consolidated list of approvals/consents/clearances required from Government Instrumentalities;
(xi) assist in preparation of Bid documents
(xii) Assist in invitation and evaluation of bids.
(xiii) Assist the Authority in negotiations with the bidders till signing of the agreement
(xiv) Assist the Authority till financial closure

In making its projections, recommendations and Reports, the Consultant shall identify the underlying assumptions and reach an agreement with the Authority in relation thereto. The services to be rendered by the consultants are briefly explained hereunder:

A) Transaction Adviser

The Consultant shall be responsible for review of the financial parameters and examination of the viability of the Project. The Consultant will render advisory services for preparation of bidding documents and in conducting the bidding process for selection of the concessionaire for the project. The Consultant shall also maintain, update and disseminate the necessary data and information related to the Project and the bid process. During interaction with the bidders and stakeholders, the Consultant shall assist the Authority in responding to all queries satisfactorily and within the specified time. The Consultant shall render advisory services up till Financial Closure by the selected Concessionaire.

B) Review of costs

The FR/DPR will indicate the nature and extent of infrastructure, facilities and services to be provided by the Concessionaire. The Consultant shall review and comment on the cost estimates contained in the FR/DPR. He shall ensure that appropriate provisions have been made for physical and price contingencies, financing costs, interest during construction, etc. The Consultant shall also make a broad assessment of O&M expenses to be incurred by the Concessionaire during the entire Concession period based on appropriate standards.

C) Estimation of revenue

The Consultant shall evaluate the available data and information with a view to prepare a reasonable estimation of the likely revenues of the concessionaire from the charges to be collected from the Project and from other sources of revenue, if any. It shall propose various options for optimising such revenues.

D) Development of Financial Model

The Consultant shall identify and quantify all costs, expenses and revenues of the Project, and shall prepare cash-flow statements for an appropriate concession period. Based on the above, the Consultant shall prepare the Financial Model which will indicate the possible capital structure, likely sources of financing, the costs of financing, the cash flow, debt service, return on investment etc. This would also include sensitivity analysis in relation to the critical parameters of the Financial Model.

E) Impact of Project on Government Resources

The Consultant shall also identify and quantify the estimated financial impact of the Project on the resources of the Central / State Governments and the Project Authority.

F) Project Appraisal

Based on the above analysis, the Consultant shall prepare an Appraisal Report for the Project outlining the salient features of the Project, its financial viability and its social and economic benefits. The Consultant shall work out the financial viability of the Project with a view to estimating the likely IRR over the entire concession period. The consultant would identify and suitably allocate the risk factors affecting the Project.

G) Finalization of Project Structure:

The consultant shall prepare a final project structure which will be capable of achieving sustainable operational and financial viability, thereby balancing the risks for the Authority and viability for the Concessionaire. Various commercial and legal options for Project structuring shall be examined to recommend a suitable PPP model and implementation structure. The analysis should include feedback on potential acceptability of the PPP structure by developers and lenders.

H) Drafting a Concession Agreement

The Consultant shall prepare a draft Concession Agreement (CA) based on Department of Economic Affairs, Ministry of Finance, Government of India guidelines.

I) Preparation of Bid Documents

The Consultant shall assist in preparing the bid document including Request for Proposal based on the Model RFP published by the Planning Commission, available at www.infrastructure.gov.in.

J) Assistance in the Bid Process

The Consultant shall assist the Authority in the bid process for selection of the Concessionaire from among the Bidders. This will primarily relate to participation in pre-bid meeting and answering questions or issuing clarifications with the approval of the Authority. The Consultant shall also assist the Authority in engaging with the bidders on different aspects of the Project such as its assets, the process of the transaction, the Financial Model and the structure of the Project. It will also assist the Authority in preparing internal notes and projections for securing governmental approvals, if any.

K) Assistance in selection of the preferred Bidder

The Authority intends to select the preferred bidder on the basis of the Proposals received from pre-qualified bidders. Only financial proposals will be invited as part of the Bidding Process. The Consultant shall also assist the Authority in evaluating the financial proposals and in engaging with the selected bidder till execution of the Concession Agreement and financial closure.

3. DELIVERABLES

In pursuance of this TOR, the Consultant shall undertake/deliver the following deliverables (the “Deliverables”) during the course of this Consultancy. Each deliverable shall include an executive summary, analyses, assumptions, results of computations, tables, charts, recommendations, and such other contents that generally comprise deliverables for similar consultancy work by way of best practices. The deliverables shall include:

S. No.	Deliverable	Submission Date (max time in weeks)
1	Inception Report	2
2	Draft Appraisal Report	6
3	Final Appraisal Report	8
4	Submission of Draft Bidding Documents	12
5	Assistance in conducting the RFQ process	14
6	Evaluation Report of the Bids	20
7	Signing of the Concession Agreement	22
8	Financial Closure by the Concessionaire	32

4. REPORT FORMAT AND SUBMISSION:

Reports shall be submitted in an easily readable format with data relevant to each chapter consultants shall take at most care to submit a report without spelling mistakes and grammatical errors. The report shall have proper cross referencing and numbering of subtitles in every chapter. The report shall have a neat index with correct page numbers. The consultants shall submit draft copies of every report to DULT for its initial comments before taking it to the stakeholder’s consultation meetings. The consultants shall then incorporate all the comments of DULT and submit a fair copy of the report.

5. PAYMENT SCHEDULE

Payment shall be made according to the following Schedule, which is based on the submission of deliverables.

S. No.	Deliverable	Payment as Percentage of Total Payable Fee
1	Inception Report	5%
2	Draft Appraisal Report	10%
3	Final Appraisal Report	25%
4	Submission of Draft Bidding Documents	15%
5	Assistance in conducting the RFQ process	5%
6	Evaluation Report of the Bids	15%
7	Signing of the Concession Agreement	20%
8	Financial Closure by the Concessionaire	5%

6. INFORMATION ON FIRM AND PROPOSED STAFFING

It is envisaged that the study will be undertaken by Transaction Advisers empanelled with the Department of Economic Affairs, Ministry of Finance, and Government of India. The consultants must have demonstrated experience of having worked with Karnataka government agencies having expertise and experience in similar assignments.

7. COMPOSITION OF THE CONSULTANTS TEAM

The consultants shall provide details of relevant experience in carrying out similar work along with a copy of client certificates/testimonials. CVs for proposed staff should be included with the Technical Proposal. Staff should have experience in the following disciplines:

- Team Leader (15 Years' relevant experience)
- PPP/Contract Specialist (MBA with 10 Years of relevant experience)
- Technical Expert (Civil Engineer with 10 Years of relevant experience)
- Financial Specialist (MBA Finance/CA with 5 Years of relevant experience)
- Legal Specialist (LLB with 5 Years of relevant experience))

8. DATA PRODUCED

All data accomplished by the consultants during the Study shall be the property of the client. The data collected, computer software purchased for and / or modified, during the course of the consultancy assignment should be handed over to employer by the consultant free of cost. Similarly the consultant shall hand over raw data on CDs used by them for data storage in a suitable database format. Every copy of the report will be submitted in soft copies also.

9. EMPLOYER SUPPORT

Consultants will be provided essential background documents available including FR/DPR. The designated officer would liaison with other organizations to facilitate surveys and data from secondary sources. Assistance shall be provided in establishing contact with respective agencies and prospective bidders. The Authority shall bear the cost of taking out advertisement(s), hosting pre-bid conference etc.

Deloitte.