

Value Capture Financing: A Proposition to Resolve the Exigency for Investment Toward Urban Infrastructure Development in Devanahalli, Bangalore

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Biography: A flair for design in general and good literature. Socially an introvert by nature but professionally ago getter. I enjoy freelancing and teaching; basically opportunities that give me a free hand to explore and try new dimensions and ways of work. I have tried my hand at the UPSC examination. A bibliophile from childhood; sports & music equally interest me too. Presently an academician working as Assistant Professor at School of Architecture, REVA University.

Abstract:

Value Capture Financing, although used in some areas as a tool for revenue generation and in turn for financing urban infrastructure, it has still not made headway as a systematic instrument for the same. Of the 17 Sustainable Development Goals, Goal 8 Includes Sustainable Economic Growth. It is intriguing that Bangalore with a population of 83.4 lakhs and being the third most populous city (Census,2011) and growing rapidly every day, has failed to implement effective Value Capture Methods successfully. The study area has projects that have added much social & economic value to its context, but the statutory bodies are unable to capture this value addition due to inefficiency & corruption. Effective tools and techniques need to be used to improve the ULB's overall financial health and financial sustainability. The study will focus on the Project BIAL IT IR Phase I of 2100 acres approved by the State and Central Government, efficient land acquisition for the same and the impact of the project on 5 adjoining Gram Panchayats and 1 Town.

The purpose of the study has been to establish the issues that the study area has faced during the Bangalore International Airport Project, its implications on the land value of the study area. A project with an exponentially high investment is identified in the study area. The study aims to prepare this area with recommendations in order to guard it against the negative impacts of the project to the study area; while excluding its actual residents and their development. The study, its analysis results and entailing Proposals are meant to holistically develop the study area while keeping the agricultural practices and ecologically sensitive areas intact. Four proposals are detailed which integrates a long term spatial proposal and policy interventions for projected statistics.

Key Words: Value Capture Finance, sustainable development, transferable development rights, municipal revenue, financial health

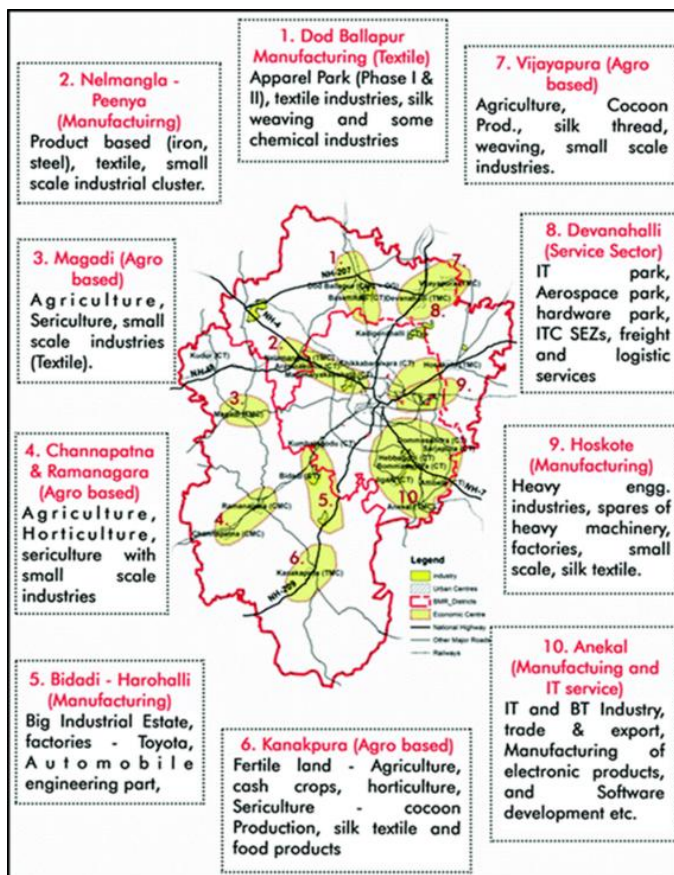
Introduction

Karnataka's urban population as per the census 2011 is 38.67% It has seen an increase from 24% in 1971 to 29% in 1981, 30.92% in 1991 and 33.98% in 2001. Compared to other metropolitan cities like Chennai, Mumbai, Calcutta and Delhi, the pace at which Bangalore is growing places it as one of the top cities in India. This holds true also in terms of the price of the land in prime areas and zones adjacent to major infrastructure, institutional and corporate projects. The analysis of Bangalore's decade wise population growth rate shows a hike of 76% between 1971 to 1981 which is the highest for any metropolitan city in India. Over the years Bangalore Urban and Rural has seen a great number of corporate as well as government infrastructure investment. The growth in and of the city has seen a boosted growth in the North direction to almost 60.3% superseding the other three directions.

Understanding the Study Area

This paper is a compendium of an extended Masters of Planning thesis by the title 'Sustainable Land Management to Augment Infrastructure Development: A Case of Devanahalli Bangalore' by the author. The study has identified 5 Gram Panchayats and 1 Town Municipal Council as the core study area. A major investment project Bangalore International Airport Limited IT Investment Region has been planned for the Devanahalli Taluk, whose first phase consists of 7 villages, 6 of the Koira GP and 1 of the

Vishwanathapura GP, of the Devanahalli Taluk (2100 acres of area are being pooled for the same). The entire project requires 12000 acres for completion and the investment is sought in the PPP Model. The study aims to understand how this project will impact 6 adjacent Gram Panchayats and Devanahalli town with respect to land values and other perspectives. The study also explores the property tax system (and the efficiency gaps in collection) in the area of Devanahalli Taluk. Further how the revenues of the said GPs can be augmented owing to increase in land value and its capture will also be studied. At present the TDR value in Bangalore is placed at twice the FSI/FAR. In comparison with attainable market values, this value is not desirable.



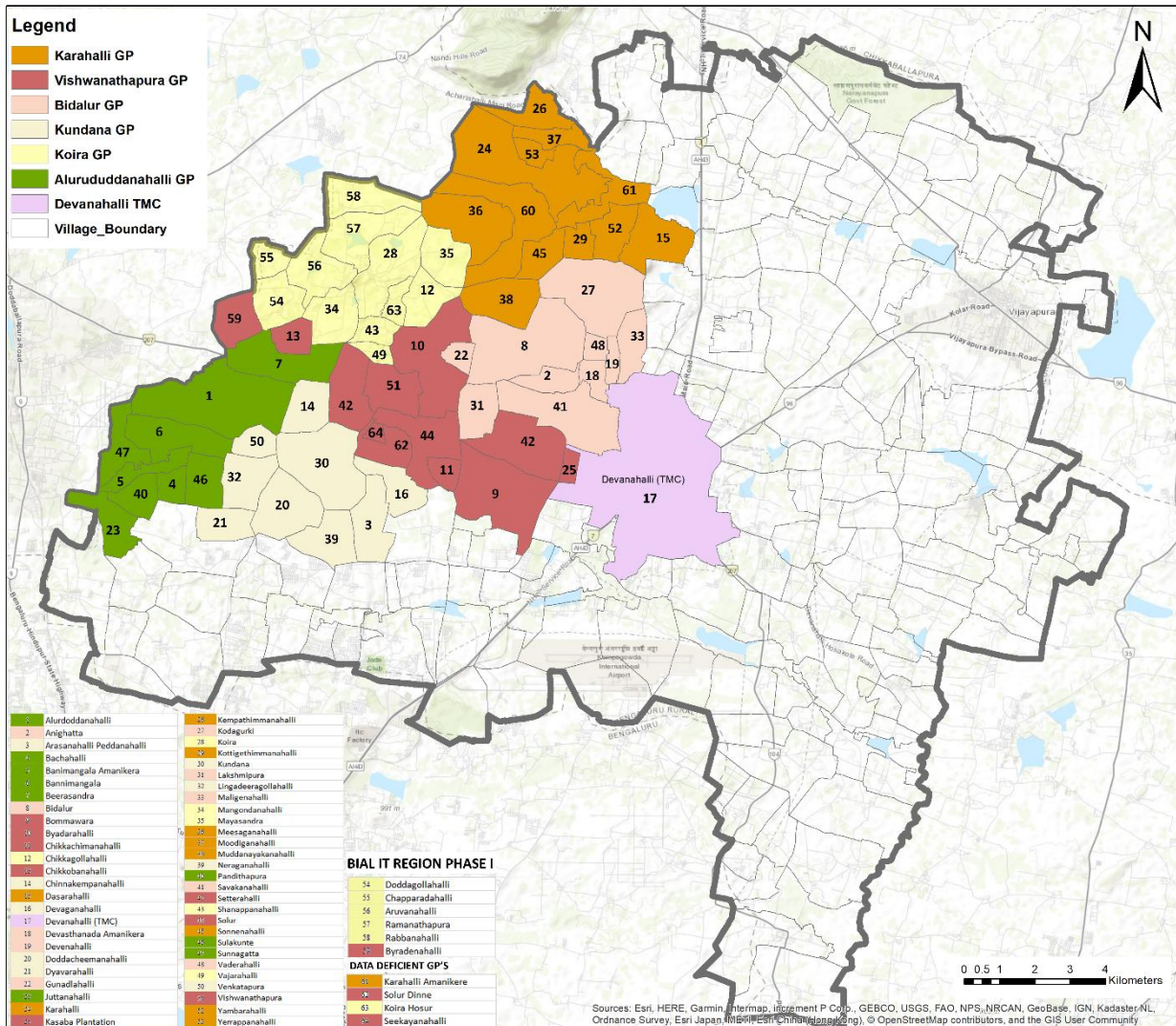
Hence, the TDR model is not very

popular except among developers in Bangalore. Hence an alternate mechanism needs to be framed for the study region. The study also aims to explore and understand the impact that the VCF Model implementation can have on the study area, the percentage increase in the revenues in terms of property taxes, sale of a plot etc. in the study area, the additional/improved infrastructure needs of the area, what part of it can be invested upon and the impact of the Value Capture Mechanisms on the existing Transferable Development Rights Policy in the study area.

Context of Study

The study area has a large number & diverse Infrastructure development and PPP business projects. These projects have added much social & economic value to the area and its surroundings. The issue is that the statutory bodies are unable to capture the value addition happening to these areas due to inefficiency & corruption. Hence effective tools and techniques need to be used to improve the overall economic efficiency and financial sustainability of Administrative bodies. This study solely focuses on the Project BIAL IT IR Phase I of 2100 acres approved by the State and Central Government, efficient land acquisition for the same and the impact of the project on 5 adjoining Gram Panchayats and 1 Town. In comparison to all the remaining taluks of the Bangalore District Devanahalli Taluk of the Bangalore Rural District is in a state of transition due to its character given the number of development projects coming up in the area. All the remaining taluks are either Agro based or manufacturing based taluks. Devanahalli Taluk is the only one developing due to IT sector Projects and other Service sector Projects. There are SEZ's that lead to further development like HR's etc. All these Projects have a critical requirement, i.e. the resource of land. Due to unaccountability and middlemen there is a speculative increase in prices in addition to natural inflation values. *Devanahalli Taluk as the study area has been finalized based on all these facts.*

Kempegowda International Airport's site, Devanahalli is now the most happening commercial hub of Bangalore at present. This attention that the area is gaining is due to the multi-billion-dollar investment proposals and affordable property pricing points in some areas. But in the city there has been a bolstering growth in the North direction to a high level of 60.3%, superseding all other three directions. The announcement of the Bengaluru International Airport (BIA) has led to skyrocketing of the land prices in the areas surrounding the KIA site including Devanahalli; which led to a series of buying-selling frenzy and dubious land transactions, which led to raids in August 2008, on real estate players in Devanahalli; where 75 premises were searched. The subsequent investigation found tax evasion to the tune of Rs.100 crores from transactions of 26 developers involving over 600 acres of land. The problem is that the statutory bodies are unable to capture the value addition happening to these areas



due to inefficiency or corruption. Hence effective tools and techniques need to be used to improve the overall economic efficiency and financial sustainability of Administrative bodies.

In comparison to all the remaining taluks of the Bangalore District Devanahalli Taluk of the Bangalore Rural District is in a state of transition due to the diversity of the development projects in progress in the area. All the remaining taluks are either Agro based or manufacturing based taluks. Devanahalli Taluk is the only one developing due to IT sector Projects and other Service sector Projects. There are SEZ's that lead to further development like HR's etc. All these Projects have a critical requirement, i.e. the resource of land. Due to unaccountability and middlemen there is a speculative increase in prices in addition to natural

inflation values. Devanahalli Taluk as the study area has been finalized based on all these facts.

As per the study, *Transfer of Development Rights: An Effective Tool for Sustainable Urban Development (C.S. Kankariya et.al.)*, TDR is one of the best ways to preserve land and also boosts the economy directly as well as indirectly. The urban population of India growing rapidly and such growth is putting extreme pressure on its resources like the agricultural and forest lands, the wildlife and environment in general. But in spite of trying to catch up the infrastructure growth and basic requirements for the growing population are not being able to be met at the same speed of growth. Hence various economy boosting tools are being explored to help cope with rapid development and Transferable Development Right (TDR) is one such tool. It helps to accelerate the growth of the city with respect to the infrastructure, the TDR is the one of the tool can be used. There are advantages as well as disadvantages to the Transferable Development Right Tool. Preservation of land, Flexibility, Potential to compensate and Sustainable development can be achieved through the TDR Tool. Indecisiveness, Originality in design as the TDR Model designed for locality cannot be used for another model, Difficulty in identifying every owner and seller and requirement of critical market knowledge for successful implementation of the TDR Model; are some difficulties in implementation of the TDR Tool.

“Land is the biggest constraint for the growth of the manufacturing sector. At present, the availability, cost and the process of obtaining land causes significant financial and time overruns for business looking to grow or set up industries in the State. This contributes to lack of competitiveness for the manufacturing sector” (Land Governance Assessment Framework Karnataka State Report, 2014). The southern Indian State of Karnataka presents a paradox in land governance. The State has in the last two decades have been using Information Technology to improve and maintain land records. Despite this Karnataka has seen and grabbing cases of huge scales. Though the state has seen progressive land policies over decades in the recent past and up to today there are instances of diverting agricultural land for non-agricultural purposes.

Data Analysis: An Overview

The data analysis has been conducted in the order to study the various objectives. In the below stated order respectively. The aim of the study is to, “To model a Land Value Capture (LVC) System for the study area in order to augment Municipal Revenue mobilization; to further promote asset creation.” This makes it necessary to understand the existing tax system (property & land tax) system, the efficiency in its collection (demand & collection percentage and the difference between them) which is fulfilled by working Objective 1. Followed by this, the Land Value trends for the study area over four 5 year periods have been compared. (20015, 2010, 2015 & 2020). An overlap of the timeline for the initiation and implementation of the Bengaluru International Airport and the price pattern variation of the guidance values have been analysed. This is to understand the impact of the Airport on the Land Values of the study area which is satisfied by Objective 2.

Objective 3 focusses on the Land Requirement for the BIAL IT Investment Region Phase 1 and the issues that the government is facing in acquiring them. Hence a Transferable Development Right (TDR) Model will be proposed based comparative analysis of four different TDR Models that have been studied to find the most suitable one for the study area. Objective 4 involves projecting the land value for the years 2025 and 2030 followed by using the Hedonic Pricing Regression Model and the Slope Price Gradient to project the land value for the year 2035 while also considering the impact of the BIAL IT IR project for the year 2035 in the pricing pattern. Based on this, a Land Value Capture Model for the study area will be framed. An example village from the Kundana Gram Panchayat will be used to project the Property Tax Demand and Collection in the Business as Usual Scenario and Project Impact Scenario. The results will either prove or nullify the hypothesis that, “Operationalizing Land Value Capture tool/model by local government can lead to build municipal asset and infrastructure development. “

The objectives and adjoining Analysis to achieve the respective objectives is as briefed below:

Objective 1: To explore existing system of municipal revenue generation with respect to land resources and the gap in target to collection.

Gap analysis: Analyse the gap between the total demand, current demand and collection of property tax. Identify the land value capture methods if any, in the study area. Analyse if the institutional bodies are able to achieve the collection of the targeted demand; if not the reason for the same.

Objective 2: To explore and map the land value trend of the study area over 5 years (2005, 2010, 2015 & 2020) and impact of the International Airport Project on its surroundings in terms of land value.

Property Value Trends: Comparative study of the guidance value of properties for the years 2005, 2010, 2015 & 2020. The % range of difference between the guidance value and market value of the properties in the study area.

Project Impact Analysis: Map the extent unto which the BIAL IT Investment Region Project can impact the surrounding land of the adjacent Gram Panchayats. The same will be done with a comparative study of the land value of the study area after the during and after completion of the Kempegowda International Airport.

Objective 3: To comparatively analyse the most feasible TDR Model for the land acquisition of the BIAL IT Investment Region Phase I

To analyse the existing TDR System in the study area if any; else to introduce a TDR Framework proposal apt for the area. A TDR proposal that will supplement land pooling for the 2nd phase of the project.

Objective 4: To assess local body revenue target of the study area post the BIAL IT Investment Region Phase I Project impact and hypothetical implementation of the Land Value Capture Model.

Hedonic Price Model: Statistical analysis of the impact of the BIAL IT Investment Region Phase 1 consisting of 6 villages of 2100 acres and the increase in land value that it will bring about including natural inflation values.

Price Slope Gradient: Find the slope equation and the slope index using distance between the target project and the area of least proximity to the project.

Using the above data project, the land value for BAU Scenario and Project Impact Scenario

Analysis & Inference

The Analysis based on the objectives have been summarised with the inferences and observations.

OBJECTIVE 1: To explore existing system of municipal revenue generation with respect to land resources and the gap in target to collection.

Gap analysis:

1. Inference: On comparative analysis it can be observed that maximum demand and collection target is met in the Devanahalli TMC. (From 2010 to 2021) From the remaining Gram Panchayats the Property tax collection of the total demand % ranges between 21% to 76% over the years. The % collection of current demand is better satisfied than in the GP's. It ranges from 60% to 117% (due to the collection including previous demand). The reasons for inability of the institutions to collection of taxes are put forth below: Inability of the owners of agricultural land to pay tax. Land is not use for agro production hence no income from the same, Non-cooperation from land owners to pay taxes & dissatisfaction with services from the government bodies, hence the hesitation to pay. A well-structured Good Governance model to be framed to keep corruption at bay and increase efficiency of the local government body. (Fig 1)

OBJECTIVE 2: To explore and map the land value trend of the study area over 5 years (2005, 2010, 2015 & 2020) and impact of the International Airport Project on its surroundings in terms of land value.

Property Value Trends & Project Impact Analysis

Inference: It can be observed from the above analysis that the implementation of the Bangalore International Airport has exponentially affected the guidance value of the land in proximity of the project. Even the study area as further as 15kms away has shown great increase in the property value. The land value from the base year 2005 to 2020 in some cases has even increased up to 2000%. Hence, on comparison of the proximity analysis of both the BIA Project and BIAL IT IR Project given the vastness and amount of investment into the project is bound to bring a huge value addition to all land in its proximity and the whole taluk. Speculative value as in the case of KIA is to be avoided in the BIAL Phase I project, else it may become difficult to procure land for the expansion of the same in the future. (Fig 2)

OBJECTIVE 3: To comparatively analyse the most feasible TDR Model for the land acquisition of the BIAL IT Investment Region Phase I

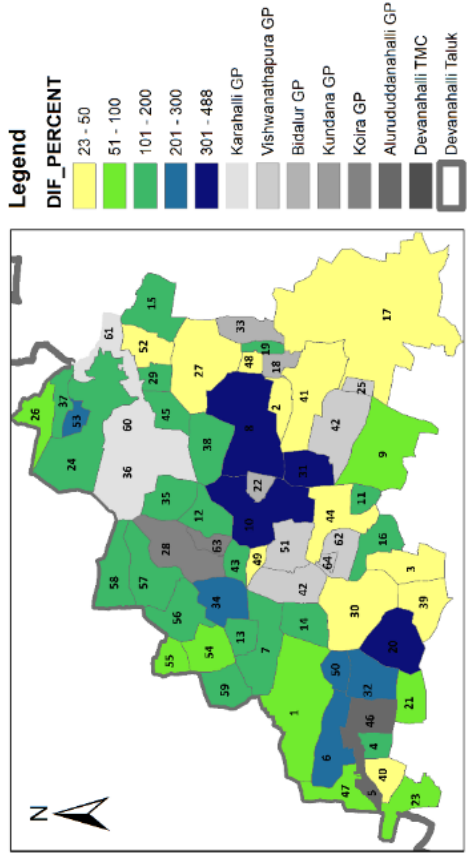
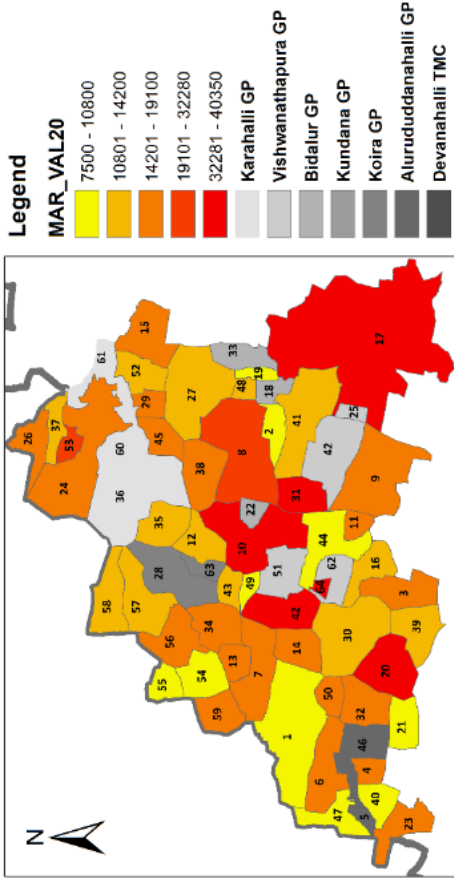
Inference: On comparing the 4 TDR Models that were studied in Bangalore Urban; given the mixed character of the study area a Model that integrates many of the models' aspects has been framed in order to provide flexibility and feasible options of TDR to the land owner as well as the government.

OBJECTIVE 4: To assess local body revenue target of the study area post the BIAL IT Investment Region Phase I Project impact and hypothetical implementation of the Land Value Capture Model.

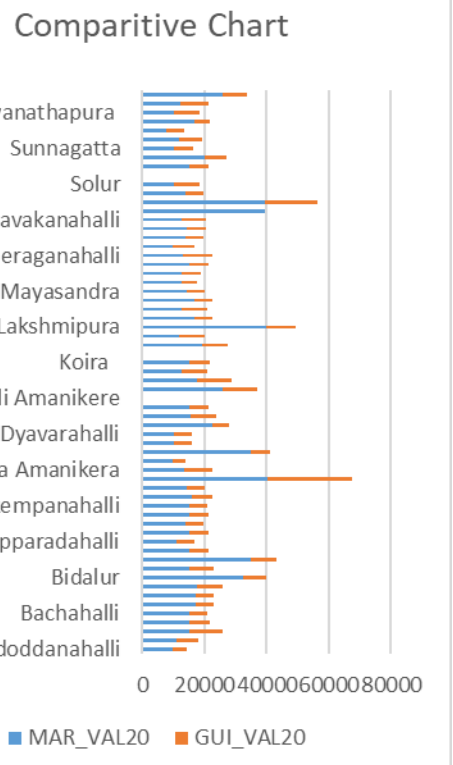
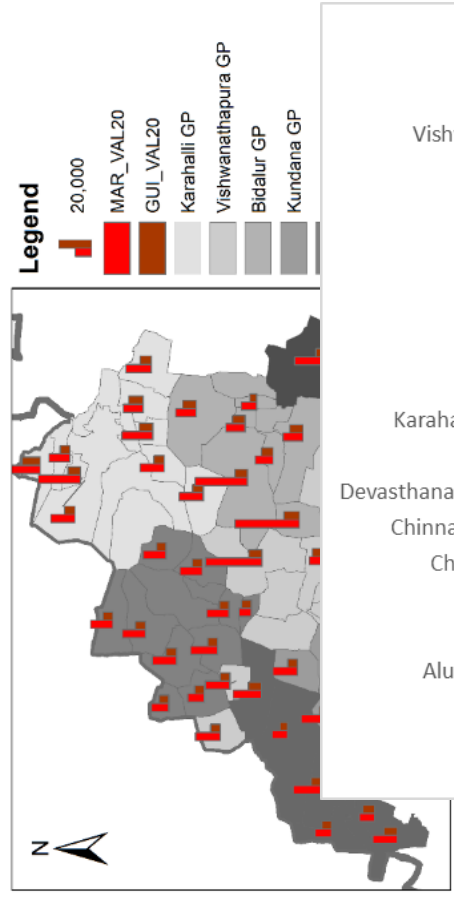
Hedonic Price Model & Price Slope Gradient

Inference: Using the Hedonic Pricing Regression Model & the Price Slope Gradient (to understand the spatial relationship between the land price and distance from the CBD (here the centre of the BIAL IT IR Project) the price of the property for the year 2035 has been projected since the period 2020 – 2030 is phased for the Land Acquisition and implementation of the BIAL IT IR Project. The projection of land value for the same years in the Business as usual scenario has also been done to understand the impact of the project. The difference % in land value between the 2 scenarios is between 650% to 2000% The above inferences will guide the proposals to achieve the aim and either prove or nullify the hypothesis. The Proposals will follow the below given broad framework:

- LVC Model with Institutional Efficiency Framework
- Mainstream Taxation
- Special Taxes/Charges & Levies
- Taking a village from the Gram Panchayat of Kundana, project the Revenues generated in Business as usual Scenario and Project Impact Scenario
- Land Use Revision /Zoning Revision
- Revenue generating capacity of the TDR Framework for the Region



GP Name	GP Number
Aluruddanahalli	1
Anighatta	2
Arsanahalli Poddanahalli	3
Buchahalli	4
Bannimangala Amanikera	5
Bannimangala	6
Beerasaandra	7
Bidalur	8
Dasarahalli	9
Devaganahalli	10
Devanahalli (TMC)	11
Devasthanada Amanikera	12
Devanahalli	13
Doddacheemanahalli	14
Dyvarahalli	15
Gunadihalali	16
Kundana	17
Lakshmipura	18
Lingadeeragollahalli	19
Malligenahalli	20
Mangondanahalli	21
Mayasandra	22
Messaganahalli	23
Moodigenahalli	24
Muddanayakanahalli	25
Subakunte	26
Sunnagatta	27
Vadurahalli	28
Vajarahalli	29
Venkatapura	30
Vishwanathapura	31
Yambarahalli	32
Yerrappanahalli	33
Devanahalli Taluk	34



Proposals

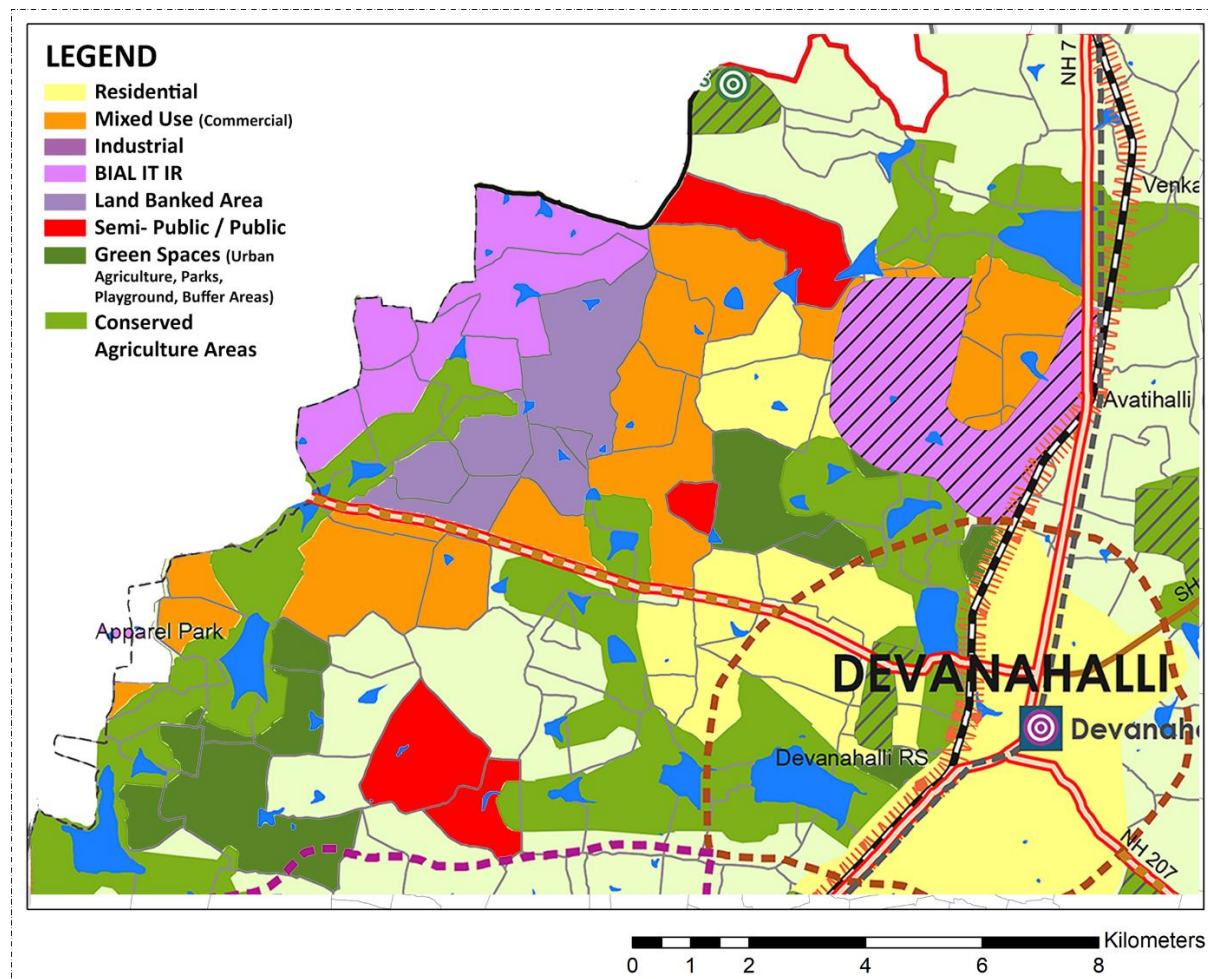
The main framework of proposals is such they can be divided into four main proposals of which Proposal 3 and Proposal 4 are sub-divided into parts 'a' and 'b'. Proposal 1 is the main Spatial Proposal for the Project Area as well as the remaining Study Area. Proposal 2 is exclusively meant to guide/recommend to the government institutions (currently facing issues regarding land acquisition) a feasible way to acquire land for the BIAL IT IR Project Phase 1. Proposal 3 deals with the taxation methods that is applicable to the study area in various cases. Also capacity building for the institutional framework is recommended. Proposal 4 involves projecting the Property Taxes in two scenarios and also property tax calculation for new property development while keeping some assumptions in mind have also been proposed.

Proposal 1: Land Utilization Plan 2035

The Land Utilization Plan 2035 for the study area has been framed to align with the vision of the Structural Development Plan 2031 for the whole of the Bangalore Metropolitan Region by the Bangalore Metropolitan Regional Development Authority, which is, "To promote the region's ecological and cultural values, while seeking optimum land utilization suited to its capability for sustained balanced economic production and inclusive growth by inducing agglomeration economies and clustered development through a decentralized planning and governance system".

The population in normal circumstances is projected to 108462 for the year 2035 (Table 5.2). The BIAL IT IR Projected is projected to create 4 million jobs. The phase one of 2100 acres will create approximately 1/4th of the number of jobs i.e. about 1 million jobs. Assuming about half of these people will have a family accompanying them with an average household of 3 considering the job profiles and age group to fit those profiles, the total population on completion of the Phase I will be at approximately at 30,08,464 lakhs. Hence the area is to be developed in a compact and inclusive manner which the Utilization Plan aims to do.

ADMIN. BOUNDARY	2011	2021	2031	2035
Rural Bangalore	990923	1158737	1354971	1584436



Devanahalli Taluk	209622	245122	286633	335175
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Study Area	54328	68408	86138	108462
Population in BIAL IT IR PHASE 1	-	-	2000000	3008464

Table 1: Projected Population for the year 2035 (Source: Author)

The ‘Integrated Transferable Development Rights Framework’ for the Panchayats that are identified as the BIAL IT IR Phase 1. The BIAL IT IR Project Phase 1 requires 2100 acres of area which have not been acquired by the government due to speculative land values during the airport implementation. The second proposal is meant to guide the government with the acquisition of land for the same. The Transferable Development Rights Tool is analysed for the same. Four different TDR Models have been analysed to decide upon the final model for the study area. The same has been discussed in the Analysis section of the study (*Table 4.9*). The final ‘Integrated TDR Model’ has been finalised for the study area such that the final model will be flexible with the land owners and also feasible for the government agencies. 8 different options for the compensation of the acquired has been proposed. The proposals along with the conditions have been laid down in the table below (*Table 5.3*).

The Land Utilization Plan 2035 aims to achieve Functional Zoning and Built Up to Open Land Area as 60:40 ratios, where 60% of the Land will go towards, Housing, Infrastructure Development, Semi and Public usages, Mixed Usage and all the built-up areas. The remaining 40% will go to Agriculture Conservation areas, Buffer areas, parks, playgrounds and Eco parks if any. Instead of Zoning Residential and Commercial as two different zones, Mixed Zones (orange in map) are created in order to bring maximum functionality and minimum travel within the region for essentials. Also few Residential Zones have also been created for those users who prefer exclusivity of activity.

The BIAL IT IR Project Phase 1 has been demarcated (bright purple) while a portion of land required for Phase 2 has been demarcated to be ‘Land Banked’ for future development. This method is being used in order to avoid speculative price rise of the land which will make it difficult for the Government agencies to acquire land in the future. The Conserved Agricultural land marked in the BMR LUP 2031 is reflected in the Research Proposal as well and buffers of 100ft added to them. The study though attains Urban character in the future, the area conserved for agriculture is to remain untouched and fulfil urban agricultural requirements to promote food security in urban areas. The infrastructure in the study area does not meet demand requirements for the population projected for the year 2035. In the Land Utilization Plan 2035 policies categorised under Land Related Policies, Agriculture and Environment Related Policies and Government Related Policies to be formed.

As per the Gram Panchayats Grants of the Karnataka Budget 2021-22, Rs 4,580 crore has been allocated towards grants to gram panchayats. The investment for the entire BIAL Region is at 2 lakh crores approximately. Hence the first Phase of the Project will see an investment of about 350 billion rupees. Funds from the Planned Grants as well as Non-Budget Grants are channeled to the Taluk Panchayat. The Development Plan aims to fulfill all 17 Sustainable Development Goals as much as possible. Holistic development of the area which is both inclusive of the people of the area and bring in new opportunities to help the

region grow sustainably. The main aim is to help the area not lose its character completely but improve the living condition of the area while keeping intact the agricultural practices of the region, its environment and local trade.

Proposal 2: Integrated Transferable Development Rights Framework

Proposal 2 is the ‘Integrated Transferable Development Rights Framework’ for the Panchayats that are identified as the BIAL IT IR Phase 1. The BIAL IT IR Project Phase 1 requires 2100 acres of area which have not been acquired by the government due to speculative land values during the airport implementation. The second proposal is meant to guide the government with the acquisition of land for the same. The Transferable Development Rights Tool is analysed for the same. Four different TDR Models have been analysed to decide upon the final model for the study area. The same has been discussed in the Analysis section of the study (Table 4.9). The final ‘Integrated TDR Model’ has been finalised for the study area such that the final model will be flexible with the land owners and also feasible for the government agencies. 8 different options for the compensation of the acquired has been proposed. The proposals along with the conditions have been laid down in the table below (Table 5.3).

TYPE OF LAND	FUTURE USE	INTEGRATED TDR COMPENSATION MODEL
AGRICULTURE	AGRICULTURE	Same area of agricultural land
AGRICULTURE	RESIDENTIAL	Area/2 + 1.5 times FSI of generating site (Can be sold to Builder)
AGRICULTURE	RESIDENTIAL	Area/4 + 2 times FSI generating site (Can be sold to Builder)
AGRICULTURE	MONETARY	2.2 times compensation (Based on Guidance Value) + 2.5 times FSI
RESIDENTIAL	RESIDENTIAL	Same land area + 1.5 times FSI of generating site
RESIDENTIAL	RESIDENTIAL	Area/2 + 2 times FSI generating site
RESIDENTIAL	RESIDENTIAL	Area/4 + 2.5 times FSI generating site
RESIDENTIAL	MONETARY	2.2 times compensation (Based on Guidance Value) + 1.5 times FSI

Table 2: Proposal 2- Integrated TDR Framework (Source: Author)

Four different options for the Agricultural land and the Residential Land have been provided. For both types of land there is a complete monetary compensation as well. The remaining compensations involve land and increased FSI options. For the farmer that demands agricultural land in compensation for his/her land, the same will be provided. The Policy has a provision that land provided for the purpose of agriculture will be preserved for the same even in future development until the owner (farmer) decides otherwise.

A basic Development Rights Certificate template has been created (using the template of a US County), to showcase what the owner/stakeholders of land will receive once they agree to the TDR Proposal. The non-monetary compensations include a criterion for increased FSI/FAR which means that eventually the extra built up area will provide the local

government with extra revenues in the future. It is meant to be a way of sustainable finance growth for the study area.

Sl.N.	TYPES OF LAND (ENCROACHED)	AREA IN ACRES
1	Gomal and Waste (kharab and beelu)	88,355 acres
2	Tank bed (kere angala)	26,468
3	Roads, Raja kaluves, waste weirs	3,246
4	Graveyards (Smashana)	599



**BANGALORE INTERNATIONAL AIRPORT AUTHORITY
PLANNING AUTHORITY (BIAPPA)**

**EXTINGUISHMENT OF
TRANSFER of DEVELOPMENT RIGHTS (TDR)
CERTIFICATE(S)**

_____ is the owner of TDR Certificate Serial No(s). _____ (see attached Exhibit A – Deed of Transferable Development Rights). The certificate owner has applied this certificate to a TDR receiving site which has the following tax parcel number(s)

The certificate owner has received final approval of a development activity on this TDR receiving site consistent with the requirements in Sec (14) of KTCP Act, 1961 The TDR receiving site is legally described as follows:

This TDR Certificate was issued by the Bangalore International Airport Authority Planning Authority (BIAAPA) _____ after review and approval of TDR Certification Application File No. _____.

Having now been applied to a receiving site development activity consistent with the requirements Sec (14) of KTCP Act, 1961, TDR Certificate Serial No. _____ is considered entirely void and extinguished and may not be reapplied to another TDR receiving site.

Issued by _____ Date of Issuance _____
BIAPPA Director

5	Forests	8,486
6	Others, including statutory & local bodies	3,000 (approx.)
	TOTAL	1,30,154

Table 3: Source- 1 Task Force Report Karnataka, June 2011

According to the ‘Task Force for Recovery of Public Land and Its Protection Report, Karnataka (June 2011)’ the government land that has been encroached is close to 1,30,154

acres. A portion of this land comes under the Bangalore Rural District as well. While considering land for the compensation it will be viable for the government agencies to consider this encroached land. This will bring double benefits to the government agencies. Either the land can be brought under the Akrama Sakrama Scheme of the Karnataka Government where the encroached land is regularized a payment of fine by the encroacher; or the land acquired can be used for the TDR Scheme.

Proposal 3a: Mainstream Taxation & other fees

Proposal 3 for the study area consists of 2 parts one which mainly lays down the Mainstream Taxation Methods that can be implemented in the study area in the Post Project Initiation scenario. At present the only revenue that the local government receives is property tax, not 100% though. The proposed added taxes for the study area are as given in the table below.

PROPOSALS					
DIST. FROM PROJECT	Impact Fee	Land Conversion Tax	Development Charges	Vacant Land Tax	Akrama Sakrama
1 - 2.5kms	The impact fees for areas falling within the jurisdiction of BIAL will range from Rs. 500 to Rs. 1500 per sq. m. while the impact fees for areas falling within	11.50 /sq. ft. Residential 57.50/sq.ft Non-Residential	The rates fixed as development charges are - Rs 200 per sq. ft. for properties up to 1,200 sq. ft., Rs 250 for properties above 1,200 sq. ft. but below 2,400 sq. ft. and Rs 350 per sq. ft. for properties above 2,400 sq. ft. but	Divided into: Vacant Land <1000 sq.m. Vacant Land > 1000 sq.m. Vacant Land > 4000	The Act allows regularizing all the properties that violate building norms. For residential buildings, the setback limit is 50% for one-time regularization and for commercial buildings, the
2.5 - 5.0kms					
5.1 - 7.5kms					

7.6 - 10kms	the jurisdiction of the B'lore. Metropolitan Development Authority (BMRDA) will range from Rs. 175 to Rs. 500 per sq. m.		below 6,000 sq. ft. and Rs 460 per sq. ft. for properties above 6,000 sq. ft.	sq.m. Between 1/- per thousand to 50/- per lakh of the taxable capital value of land.	setback limit has been set at 25%. In this scheme, after paying a penalty to the government illegally formed plots can also be regularized.
10.1 - 12.5kms					

Table 4: Proposal 3a- Special fees & Levies

An important criterion of tax collection for the area will be the Conversion tax due to the kind of development in store for the area. 37-A. Fees to be levied in certain cases of permission for change in the use or development of land or building. -(1) For the purposes of sub-section (1) of Section 18 the Planning Authority may levy a fee, not exceeding one-third of the estimated increase in the value of the land or building.

This implies that the Property Tax Administration needs to be strengthened. Improvised collection and enforcement methodologies and information and communication technology (ICT) systems and web-based platforms for taxpayer interface, e-filing, and e-payment need to be implemented. For successful implementation capacity building in property tax administration at local levels of government and training of staff is first important step. Training has an important role in

- (i) Strengthening process activities such as property valuation, property tax administration, and data analysis for decision making;

Using futuristic tools such as CAMA and GIS and training the staff adequately.

Proposal 3b: Good Governance Model (Capacity Building)

A Good Governance Model has been proposed for Capacity Building of the Local Government Institution and to improve the mainstream taxation. Effective and efficient use of technology, websites and Softwares (eg. ArcGIS, Bhuvan, USGS etc.) to be encouraged and the staff to be trained. Property taxes to be classified into simple categories. No properties to be exempted from taxation in order to avoid any confusion. Systematic maintenance of data and files for easy retrieving and use.

Proposal 4a: Property Tax Guidelines for New Property Development (Self Occupied and Rented Properties)

Proposal 4 has two parts to it. Proposal 4(A) consists of the Property Tax projection guidelines for all the new Residential and Commercial Property development projected to happen in the study area. In the tables below, property tax rates for four different areas and agricultural land for self-occupied (*Table 5.6*) and rented spaces (*Table 5.7*) have been proposed.

AREA	1-2.5KMS	2.6-5 KMS	5.1-7.5 KMS	7.6-10 KMS	10.1-12.5 KMS
600 SQ.FT.	1500	1200	1080	960	720
1200 SQ.FT.	3000	2400	2160	1920	1440
2400 SQ.FT.	6000	4800	4320	3840	2880
4800 SQ.FT.	12000	9600	8640	7680	5760
AGRICULTURAL LAND	12090/year (up to 5 acres)	9712/year(up to 5 acres)	7284/year (up to 5 acres)	4856/year (up to 5 acres)	2428/year (up to 5 acres)

Table 5: Property tax guidelines for Self Occupied properties (New Development)

AREA	1-2.5KMS	2.6-5 KMS	5.1-7.5 KMS	7.6-10 KMS	10.1-12.5 KMS
600 SQ.FT.	3000	2400	2160	1920	1440
1200 SQ.FT.	6000	4800	4320	3840	2880
2400 SQ.FT.	6000	4800	4320	3840	2880
4800 SQ.FT.	12000	9600	8640	7680	5760
1 ACRE	14000/year (up to 5 acres)	10000/year(up to 5 acres)	8000/year (up to 5 acres)	6000/year (up to 5 acres)	4000/year (up to 5 acres)

Table 6: Property tax guidelines for Rented properties (New Development)

Proposal 4b: Property Tax Projections for Existing Property (Business as Usual Scenario and Post Land Value Capture Model Scenario) For Doddacheemanahalli, Kundana Gram Panchayat.

Proposal 4 (b) is a detailed case of the Doddacheemanahalli Village Property Tax Projection for the years 2025, 2030 and 2035 in two scenarios, Business as Usual and the Post Project Implementation Scenario. A comparison of the same has been conducted to analyse the positive impact that the Post Project Scenario has intended to bring. The following formula has been used to calculate the property tax projections.

$$\text{PROPERTY TAX (K)} = (\text{G} - \text{I}) * 20\%$$

Where, $G = X + Y + Z$

$I = G \times H / 100$

G = Gross Unit Area Value

X = Tenanted area of property \times Per square ft. rate of property \times 10 Months

Y = Self-occupied area of property \times Per square ft. rate of property \times 10 Months

Z = Vehicle parking area \times Per square ft. rate of vehicle parking area \times 10 Months

H = Percentage of depreciation rate (Depends up on Age of the Property)

I = Depreciation amount

Table 5.8 displays the Property Tax Demand for the Doddacheemanahalli Village in the Business as Usual Scenario 2035 and Table

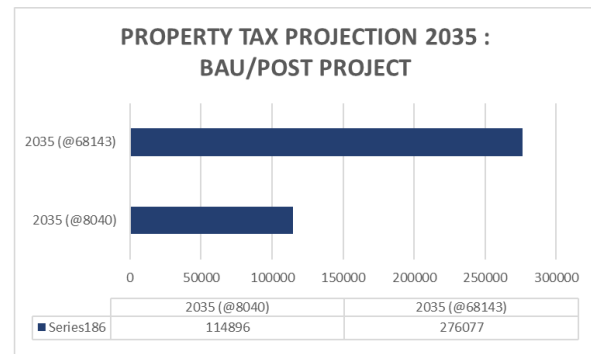
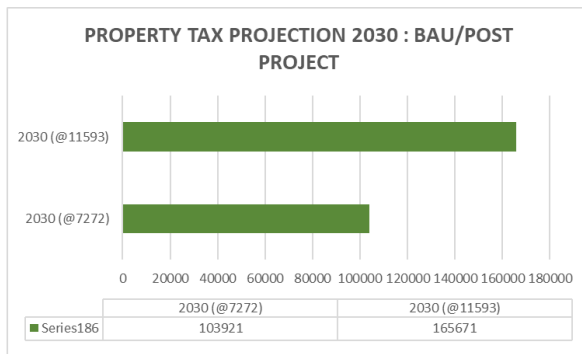
YEAR 2021-2022				PROPERTY TAX DEMAND (BAU)		
S.N.	Total Demand (@ 5950)	Collection	Balance	2025 (@6578)	2030 (@7272)	2035 (@8040)
TOT.	85029	5344	79685	94003	103921	114896

Table 7: Property Tax Demand for the Doddacheemanahalli Village in the Business as Usual Scenario 2035

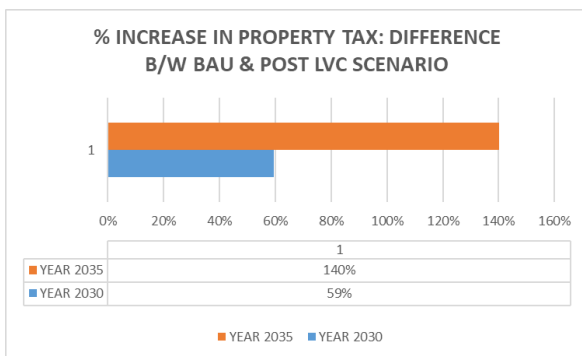
YEAR 2021-2022				PROPERTY TAX DEMAND (POST PROJECT)		
S.N.	Total Demand (@ 5950)	Collection	Balance	2025 (@6578)	2030 (@11593)	2035 (@68143)
TOT.	85029	5344	79685	94003	165671	276077

Table 8: Property Tax Demand for the Doddacheemanahalli Village in the Post Intervention Scenario 2035

The comparative analysis of the two scenarios shows that there is an increase of about 140% in the property tax. If the same were to be projected for the complete study area is projected at an excess of 6,31,50,956 Rupees.



Proposal 5: Property tax Projections & Expenditure Break-up



Approximate projection of Property Tax for the Study area for the time periods 2030 and 2035. Also the increased value has also been calculated for the years 2030 and 2035 after implementation. A new account or fund that handles only the revenue received from the Land Value Capture Model. This revenue will be used for infrastructure development in the study area.

The ratio of use will be 60% to 40% where **60% will go into infrastructure development and 40% to debt repayment**. If there is no debt repayment the money remains in the infrastructure fund.

Of the 60% used for infrastructure development the money will be split in a **60:40 ratios into Remunerative: Non-Remunerative Projects**.

The proposals are aimed to develop the area in an inclusive and sustainable manner. The proposals are meant to be solutions to the issues identified during the analysis of the four objectives of study. The Proposal 4(b) which projects the Property Tax of the Doddacheemanahalli Village shows an increase of 140% which when projected for the whole study area showed an excess of 6,31,50,956 Rupees for one year. This along with the Special Levies and Taxes will definitely strengthen the Local Authority Revenues/Finance and in turn can be used for infrastructure development and asset creation for the study area. Hence this **proves the hypothesis** of the Research Study, *“Operationalizing Land Value Capture model by local government can augment local body revenues leading to municipal asset building and infrastructure development.”*

GP_TMC (2020-21)	C_D (2020)	C_D (2030)	C_D (2035)	INCREASE 2020-30	INCREASE 2020-30
DEVANAHALLI TMC	23464000	37307760	89538624	13843760	66074624
KARAHALLI GP	17921708	28495515.72	68389237.73	10573807.72	50467529.73
VISHWANATHAPURA GP	5637798	8964098.82	21513837.17	3326300.82	15876039.17
BIDALURU GP	3940940	6266094.6	15038627.04	2325154.6	11097687.04
KUNDANA GP	2918118	4639807.62	11135538.29	1721689.62	8217420.288
KOIRA GP	1210516	1924720.44	4619329.056	714204.44	3408813.056
ALURUDUDDANAHALLI GP	1047995	1666312.05	3999148.92	618317.05	2951153.92
VALUE FROM LAND VALUE CAPTURE IN TERMS OF PROPERTY & LAND TAX				33123234.25	158093267.2

Table 9: Increased Revenue Projection for the years

The proposals also try to achieve the Sustainable Development Goals to the best extent possible. Even though the research directly achieves Sustainable Goal 8: VCF is a definite path to sustainable economic growth, in which the recovered value that public infrastructure generates for private landowners is invested in infrastructure development projects/programmes to fill the infrastructure demand supply gap. The level of economic development and employment is largely determined by how the private sector is embedded in local communities. A key role of local governments is to stimulate this embeddedness and to support responsible local businesses, which keep money circulating in the community and provide jobs, promoting equitable labor practices at the global scale through sustainable, fair trade procurement, attracting businesses and workforce through transparent and accountable practice and proper management of city budgets, enhancing high-quality education to develop a skilled workforce and fight poverty, addressing youth unemployment challenges, endorsing accessible and efficient transportation networks that stimulate freedom of movement and encouraging greater citizen participation in local economic planning, attracting and retaining families and residents in the community.

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