INNOVATIVE FINANCING FOR URBAN INFRASTRUCTURE AND MUNICIPAL SERVICES IN CHANDIGARH CITY

A DISSERTATION

Submitted in partial fulfilment of the requirements

for the award of the degree of

Master of Urban and Rural Planning

by

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CANDIDATE'S DECLARATION

I hereby declare that the work being presented in this dissertation titled **Innovative Financing of Urban Infrastructure and Municipal Services in Chandigarh city**, in partial fulfilment of the requirement for the award of degree of **Master of Urban and Rural Planning,** submitted to Department of Architecture & Planning, IIT Roorkee is an authentic record of my own work carried out from July 2018 to May 2019 under the supervision and guidance of **Dr. Uttam K. Roy**, Assistant Professor, Department of Architecture & Planning, Indian Institute of Technology Roorkee.

I also declare that I have not submitted the matter embodied in this dissertation for the award of any other degree.

Place: Roorkee

Date: 24/05/2019 **(DIVYAM GARG)**

CERTIFICATE

This is to certify that the above statement made by the candidate, **Divyam Garg** is correct to the best of my knowledge.

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(DIVYAM GARG)

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1 INTRODUCTION

1.1 Background

With urbanisation spreading across the globe, it has become imperative upon the governments to regulate it and ensure that it takes place in a sustainable manner. Most of this urbanisation will take place in countries which are currently under-developed or developing and are poised to witness a shift towards developed status in the next few decades. These countries are mostly located in Africa and Asia and that is where the maximum demand for sustainable development practices will emerge from. If this demand for organised development is not answered in a timely manner, it will create cities where citizens will struggle to possess even basic necessities like clean drinking water, affordable housing, employment, health facilities etc. Therefore, there is an urgent need for the governments all over the world to recognise this challenge as an opportunity to create cities which are clean, safe, green and sustainable cities. These cities require different kinds of infrastructure and other services to provide a decent quality of life to the people. The amount of investments required to meet this infrastructure demands are huge as estimated by some of the reports published recently.

India is one such country in Asia which will witness rapid urbanisation in the next few decades. Together, India, China and Nigeria will account for 35% of the world's projected urban population growth between 2018 and 2050 (UN DESA 2018). As per UN reports, India is likely to reach the 50% urban mark by 2050. The challenge before the nation at present is how to plan this growth of cities in a manner where the urban residents can get all the necessary facilities employing the resources at its disposal in a sustainable manner. The main responsibility lies on the local governments or municipalities to cater to the demands/ needs of the city. $ 1.2 trillion is required in capital investment to meet the projected demand in India's cities by 2030 (McKinsey 2010). The municipalities in India are one of the weakest globally with very poor revenue raising powers. Like many countries, property tax is one of the major source of own revenue for the local bodies in India. But there is a need for local bodies to be financially autonomous to meet the rising demands. Infrastructure development is costly and requires long term investments which is not possible for local governments due to their poor creditworthiness. There is a discussion all over the world to find new ways to solve this problem. Innovative financing options are being suggested and experimented with to tackle this issue. Debt financing, municipal bonds, PPP, value capture tools like betterment levy, impact fee, land sale/ lease etc. are being adopted and adapted to suit the requirements of the

area and the project. Clearly, this may also be the way for India to follow to achieve sustainable urbanisation goals.

1.2 Need of the study

Revenue raised by local governments at present is small and needs to go up if decentralization is to be truly meaningful. Property tax potential remains unexploited across ULBs. Property tax collection is far below potential. There are problems of low coverage, low rates, low collection efficiency and lack of indexation of property values, making it a non-buoyant source of revenue. Hence, there is a dire need to explore other and better sources of revenue for ULBs. Land is the most fundamental asset that is owned and managed by the States/ULBs and is a resource to generate revenues. Traditionally, States/ULBs have relied on direct sale of lands to raise funds, which is a less efficient form of resource mobilization, as compared to value capture. There is an increasing focus on creation of infrastructure by Ministries/Departments of Government of India and their agencies. For example, the Ministry of Ports is constructing a series of projects as part of the Sagarmala program. Moreover, the Delhi-Mumbai Industrial Corridor (DMIC) is being developed by the Department of Industrial Policy and Promotion (DIPP) and the Metro Rail projects by the Ministry of Urban Development (MoUD). All these projects have an area of influence in which they lead to increase in value of lands and buildings, creating opportunities for using value capture methods to mop up additional resources. The Ministry of Finance (MoF) vide their order dated 7 March 2017 have issued instructions to include VCF as an integral part of Detailed Project Report (DPR) of all projects of the Central Government. VCF Policy framework released by the Ministry of Urban Development also identifies adoption of innovative fiscal tools like value capture finance mechanisms by States and Union Territories as an important procedure in improving the financial health of municipalities across the country.

Chandigarh is a union territory (U.T.) located to the north of New Delhi and serves as the joint capital of the states of Punjab and Haryana. Unlike the state governments, UTs in India are administered by an administration headed by an Administrator who is appointed by the President. Chandigarh has a Municipal Corporation which is currently facing issues related to its financial health due to imprudent decisions taken by its management over a period of years and lack of intergovernmental transfers. Therefore, there is an immediate need to analyse the fiscal condition of the municipality, identify main problems and then solve those problems using best available options so that it can successfully discharge all functions within its mandate.

1.3 Aim

To suggest ways to augment the financial resources of Chandigarh Municipal Corporation using value capture mechanism.

1.4 Objectives

1. To analyse the fiscal condition of Chandigarh Municipal Corporation.

2. To determine plausible value capture tools that can be employed by MC Chandigarh.

3. To suggest policy measures to MC to augment its revenues through value capture mechanism.

1.5 Scope and Limitations

- The reference period for the study is April 2011 to March 2018.
- The study is majorly reliant on secondary sources of data.
- Although there can be different ways to take up this study for augmentation of finances of an urban local body but this study is confined to financing through value capture mechanism which is an innovative fiscal tool.
- The study tries to analyse the feasibility of applying value capture mechanisms in Chandigarh city.
- The study develops an implementation strategy with regard to application of land based revenue generating tools which can be employed by MC Chandigarh.
- Data for analysis has been taken from the Municipal Corporation, Chandigarh administration records and documents, reliability of which could not be ascertained in the limited time period of this study.
- For the purpose of this study, it is assumed that ample market demand exists for land in Chandigarh city.

1.6 Methodology

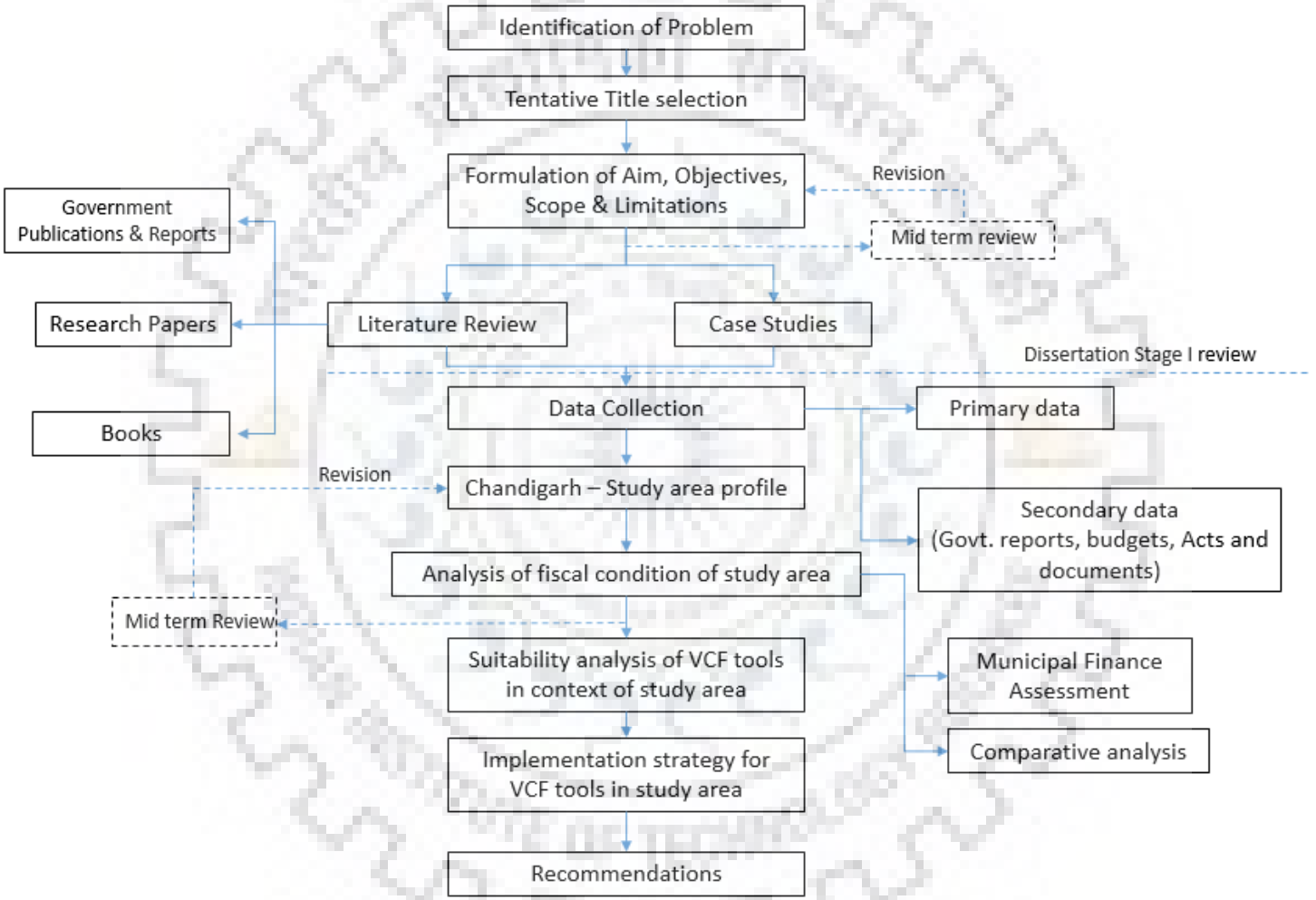

Figure 1. Methodology chart

1.7 Organization of the study

Chapter 1: Introduction

The chapter sets the background of the problem and establishes the need of the study in present context. It introduces the investment issues faced by the local governments around the world and how bad is the condition. It also discusses about the aim, objectives, scope & limitations of the study. Methodology of the study has also been described which shows the step wise procedure of how the study was conducted and how the final result of the study was reached in a logical manner.

Chapter 2: Literature Review

This chapter contains the insights and knowledge which was gathered during the course of the study through reading different reports and research studies which have previously been conducted in this area of research. It talks about the problem of urbanization in the world and necessity to develop cities in a sustainable manner, the role of local governments in the planned growth of cities and the investment problems in urban infrastructure, municipal finance in India, and value capture finance as a solution to this problem, its types and application etc. Case studied are also presented to learn from the past experiences in this area.

Chapter 3: Study Area Profile

The chapter deals about different aspects of the study area i.e. Chandigarh city. It creates a profile of the city and helps in understanding of the context in which this study is being carried out. It discusses about the economic condition, administration, planning and architecture, demography and Municipal Corporation which helps to take into consideration necessary limitations while doing further work. Many of the causes of the problem faced by Municipal Corporation in developing infrastructure and satisfactorily discharging its other functions have been identified from the study area profile.

Chapter 4: Analysis of fiscal health

The chapter provides an assessment of the fiscal health of Chandigarh Municipal Corporation. It presents an analysis of the financial data of the MCC collected from the office of the corporation and its website. Trend analysis of income & expenditure components is done to see how they have performed over the time period of 2011-18. Financial ratios have been computed which give an idea about the fiscal strength of the MCC and its level of fiscal autonomy. Further, comparative analysis has been done to see how good or bad MCC is

performing in comparison with well performing ULBs. Property tax system of the city has also been analysed and issues identified.

Chapter 5: Value capture financing strategy for Chandigarh

Value capture finance mechanisms can help Chandigarh in increasing its own revenue receipts. Suitability analysis of different VCF tools in context of Chandigarh has been presented and implementation strategy for the same is discussed. Property tax reforms are also discussed in detail.

Chapter 6: Recommendations

This chapter provides recommendations to resolve the financial problems of the Chandigarh Municipal Corporation. The recommendations have been divided into six sections, namely, administration, governance, planning, property tax, value capture finance and public participation.

Chapter 7: Conclusion

A summary of the study is provided along with the major findings, limitations and suggestions for further research. The chapter includes a brief description of how the study was carried out and in what way the study is different. The study has tried to address the problem of municipal finance using the land value capture mechanism. VCF is not a regular source of revenue for municipalities in India and can be exploited to meet the investment requirements of governments at various levels. Many similar studies are available at project level but this one of a kind attempt at analysing the suitability of VCF tools at the city level which would make it easier for the municipalities to adopt and adapt them.

2 LITERATURE REVIEW

2.1 Urbanisation and the rise of cities

Urbanisation is taking place all over the world at a rapid pace. According to World Urbanisation Prospects 2018 report, 55% of world's population resides in urban areas i.e. more people live in urban areas today than in rural areas. By 2050, 68% of the world's population is expected to be urban and most of this urbanisation is going to take place in Asian countries. The areas undergoing the process of urbanisation have to face a different set of challenges than they faced in the past as the demographic and socio-economic characteristics of the area change rapidly. More and more people are migrating to cities to live a better quality of life and explore better livelihood opportunities offered by them. With growth of cities, both in size and number, the focus of governments has slowly been shifting to manage this change and provide basic services like drinking water, sanitation, housing, jobs etc. to the people. This brings into picture, the role, local governments have to play in controlling, managing and guiding such developments in proper direction. Certainly the importance of local governments has increased significantly at the global level in past decades and there has been a lot of discussion around how they should govern future cities, relationship they should have with the upper tiers of government, their composition and powers, and their revenue sources to finance the growing infrastructure needs.

Rao and Bird (2010) assert that for sustainable urban development; good policies, good local governance systems and sound arrangements to finance public services are critical elements. They not only determine the nature and quality of public services provided but also the structure of incentives and accountability. Open multicultural policies are necessary to attract capital and labour, whereas if the policies are restrictive, they create insecurity and prevent efficient migration. If the cities want to be competitive, they should provide quality public services in adequate quantity and they should be responsive to the needs of people and businesses. To accomplish this, they require sufficient sources of finance, effective participatory mechanisms that elicit the preferences of people and also mechanisms to provide the services that meet these preferences. The best way a governance system can ensure enhanced accountability is by ensuring that the beneficiaries should pay for the services / benefits they receive.

2.2 State of urbanisation in India

As per the census of India, the urban population of India has increased from 62 million in 1951 to 286 million in 2001 and 377 million in 2011. The urbanisation levels have been increasing at a rate much faster than the rest of the world. Together, India, China and Nigeria will account for 35% of the world's projected urban population growth between 2018 and 2050 (UN DESA 2018).

Table 1. Urbanisation in India

Particulars	2001	2011
Level of urbanisation	28%	31%
Number of UAs/ towns	5,161	7,935
Number of statutory towns	3,799	4,041
Number of census towns	1,362	3,894
Class I cities	393	468
Million plus cities	35	53

The data shows that much of the growth has been taking outside the statutory limits of urban local bodies. 70% of India's urban population resides in Class I cities and 43% in million plus cities.

In 2014, India's urban population was estimated at 410 million and it is projected to reach 814 million by 2050. Also, the country would have a rural population of 806 million in 2050 as compared to an estimated 857 million in 2014 (United Nations 2014). By 2050, urban population of India would be slightly more than the rural population but the main concern is that the responsibility for raising resources to address country's urban as well as rural development needs lies on its cities.

The urbanisation in India has been slow and low as compared to world average. While world the urbanisation levels increased by 23% between 1950 and 2011, in India it increased only 14%. According to UN projections, the country would lag behind many developing countries in reaching the 50% urban threshold. It is likely to reach 50% urban mark in 2050 (United Nations 2014). According to economists, the slow pace of urbanisation is not a healthy sign and it reflects the failure of cities to generate employment (Mohan 1996). They also argue that insufficient or poor investments in infrastructure might have delayed secondary and tertiary

growth, leading to creation of too few jobs in these sectors. Despite of low level and pace of urbanisation in India, there are strong reasons to believe that the coming decades would witness an accelerating phase of urban growth in the country (Mohanty 2016). Three stages of urbanisation are suggested by the demographic research. Stage I is marked by traditional rural society, with predominance of agriculture and dispersed settlements. Second stage is the acceleration stage characterised by the basic restructuring of the economy and investments in social overheads take place. The proportion of urban population increases gradually in the initial phase but speeds up after reaching the level of around 30%. The third stage or the terminal stage where urban population share exceeds 70% or more (Davis 1962 and 1965). With urbanisation level being 31% in 2011, India has entered the take-off stage of urbanisation.

In addition to demographic factors, economic factors will also play a pivotal role in growth of urban centres in India. India is one of the fastest growing economies of the world. The future growth depends much on the secondary and the tertiary sectors which cluster in cities to reap the benefits of agglomeration externalities. In a high growth scenario, India may also achieve the 50% level of urbanisation well before 2050.

2.3 Growing importance of Urban Public Finance

As the cities grow around the world, it becomes imperative upon the governments to manage this growth so that it takes place in a sustainable manner. Cities are responsible for generating revenue for taking care of both urban as well as rural development concerns. It is also widely accepted that cities are the engines of economic growth. But city as an organism also requires some organs to work efficiently, the roads, green spaces, water, communication and other such infrastructure and services. Urban economic theory focuses on how cities form and grow to reap the benefits of agglomeration economies. The externalities which occur due to co-location of firms, households and institutions manifest in the form of higher density in cities. The activities which then take place in these areas related to learning, sharing, producing and networking accelerates the economic activity, which, in turn, leads to overall economic growth of a nation. These productive activities and trade also then form the tax base of central, state and local governments. The collected taxes are then used to finance further development and simultaneously create opportunities. In a manner, the growth pays for itself and it can be a model for self-financed urban development.

Mohanty (2016) discusses that importance of municipal finance or urban public finance can be realised from the role cities play as catalysts of economic growth and not only as places of

living and working. City and regional infrastructure improves the working efficiency and also the productivity of households and firms. Urban public finance is crucial for the installation of such infrastructure and also provision of public services. As India looks forward to a phase of rapid urbanisation, it becomes all the more important to find a sustainable way to finance large investments required for infrastructure development.

ADB (2011) study lists some of the major reasons why municipal finance matters a lot. Improvements in municipal finance are crucial for India to achieve its economic growth objectives, a robust municipal finance system is required for effective implementation and management of India's urban policy agenda and sound municipal finance is a prerequisite for better service delivery. It also highlights the limited capacity of the local governments to generate resources from their tax and non-tax bases. Despite a country wide trend towards improved tax to GDP ratio, share of local bodies in country's total tax resources has stagnated at 1.7%.

2.4 Municipalities in India

Urban governance in India is the responsibility of the local governments/ municipalities or the urban local bodies. The body may be known as Nagar Panchayat, Municipal Committee or Municipal Corporation depending upon the population served by it. The local government system got constitutional status in India only after the passage of 73rd and 74th constitutional amendment acts (CAAs) in 1992. Twelfth schedule of the Indian constitution provides a list of the functions to be discharged by the urban local bodies in India. There are 18 functions in the list. They are –

1. Urban planning including town planning;
2. Regulation of land use and construction of buildings;
3. Planning for economic and social development;
4. Roads and bridges;
5. Water supply for domestic, industrial and commercial purposes;
6. Public health, sanitation, conservancy and solid waste management;
7. Fire services;
8. Urban forestry, protection of the environment and promotion of ecological aspects;
9. Safeguarding the interests of weaker sections of society, including the handicapped and mentally retarded;
10. Slum improvement and up gradation;

11. Urban poverty alleviation;
12. Provision of urban amenities and facilities such as parks, gardens and playgrounds;
13. Promotion of cultural, educational and aesthetic aspects;
14. Burials and burial grounds; cremations, cremation grounds and electric crematoriums;
15. Cattle ponds, prevention of cruelty to animals;
16. Vital statistics including registration of births and deaths;
17. Public amenities including street lighting, parking lots, bus stops and public conveniences; and
18. Regulation of slaughter houses and tanneries.

It is up to the state governments to specify the domain of the local governments in these areas. There is no clarity in most urban areas with regard to functions of local governments because out of these 18 items in 'municipal list' many are also either in the State list or Concurrent list of the Seventh Schedule causing overlapping of functions not only with State government but also Central government. Constitution of India specifies the division of taxes between the Centre and the states but does not specify revenue base of the urban local bodies. 74th CAA also does not mention anything about which revenues or taxes should be levied by urban local bodies. The ULBs generally get their resources through own sources, state revenue, government grant, loans from state governments and market borrowings. In most cases, ULBs are not even aware about the opportunities and avenues they have of revenue generation through tax and non-tax sources. They do not have the capacity to optimize tax collection even if they know (Singh and Singh 2015).

ASCI (2014) report describes that urban areas in India have become places of growth and also of threat due to weak urban governance. It results into haphazard planning, poor service delivery, limited competitiveness and poor perception of ULBs among the public. Some of the characteristics of local governance systems are their lack of professional management, absence of citizens participation mechanisms, poorly designed cadre and recruitment systems, ineffective program implementation etc. State centric governance is another major problem, states empower the ULBs to carry out some functions and also their revenue sources. ULBs are unable to monitor the implementation of policies and programs which is exacerbated by the absence of authentic and reliable data.

UN-Habitat (2002) gives the following principles of good urban governance – rule of law, sustainability, subsidiarity, security, transparency, accountability, equity, civic engagement,

efficient service delivery, equity to decision centres, promotion of local economic development etc. Clarity in the assignment of functions to each levels of government is an important precondition for efficient provision of public services. After the assignment of functions is done, it is equally important to assign financial powers also. Accountability should be strengthened while assigning local revenue sources rather than weakened. The best way to make local governments accountable is by making the beneficiaries pay for the services they get, even if paying a minimum cost. Local governments should have enough revenue raising powers so that they can increase expenditures on public services on the basis of public requirements and demands (Rao and Bird 2010). There is interference in the working of municipalities by Central and State politicians in varying degrees. Fiscal decentralization does not only mean devolvement of appropriate functions and finances to the local governments but also should give decision making powers regarding them. Municipal Commissioners are deputed to the Municipal Corporations by the State governments. Since local government has no role in appointment, promotion or transfer of the Commissioner, he is not accountable to the local elected representatives but to the State government. For effective urban governance structures in India, state governments should make the Municipal Commissioners primarily accountable and responsible to the respective local bodies.

ADB (2011) study demonstrates that existing system of local governance in India is vastly inefficient as municipalities are unable to utilize their existing revenue raising powers. The estimates in the report indicate that municipalities can enhance their revenues by about 110% without undergoing any fundamental changes in the system of property valuation and tax design structure. Strengthening of fiscal position of the municipalities through finance reforms is a key component of Indian government's development agenda.

2.5 Revenue sources and Expenditures of municipalities

Every local body has its sources of revenue defined by the municipal act of the state in which it is located. State governments empower the local body to levy taxes and collect fees to generate revenue but these taxes/ levies/ fees are not uniform across the country and they vary from state to state. Such a scenario results in poor revenue generating capacity of ULBs in most states. Some states like Maharashtra, Karnataka, and Andhra Pradesh etc. have devolved many functions and taxes to their local bodies and that is reflected in the working capacity of the local bodies in these states. Major sources of revenue and expenditure heads as per the budgets of different Municipal Corporations in India are as shown in the table below.

Table 2. Revenue sources and Expenditure of Municipal Corporations in India

#	Revenues	Revenue Source
	Revenues- Own Sources	
1	Tax Revenue	Property tax, advertisement tax, vacant land tax, tax on animals, cares, carriages, octroi, etc.
2	Non-tax revenue	User charges and fees, hire charges, lease amounts, fees, fines, rent on buildings, machinery, and plants, etc.
	Revenues- Non-own Sources	
3	Assigned revenues	Entertainment tax, profession tax, surcharge on stamp duty, motor vehicle tax, etc.
4	Grants-in-aid	Plan grants transferred under various schemes and projects, Non-plan grants and specific transfers, grants under externally aided projects
5	Barrowings/Loans	Barrowings for capital works from state and central governments, financial institutions, municipal bonds, etc.
6	Other Receipts	Miscellaneous receipts, sundry receipts, etc.
	Expenditure –Revenue	
1	Establishment	Employee salaries, allowances, welfare, pension benefits, etc.,
2	Administrative	Rents, office maintenance, transport and communications, printing and stationary, legal charges, etc.
3	O&M	Power and fuel, procurement, hire charges, repairs, interest payment on loans, etc.
4	Others	Welfare and other miscellaneous expenditure
	Expenditure – Capital	
5	Capital	Water supply, sewerage, SWM, health and sanitation, roads, street lighting, tools and equipment, payment of principal on loans, etc.

Source: ASCI (2014)

2.5.1 Importance of own source revenues

- Own revenue sources of revenue are important for any level of government as they help in achieving financial autonomy.
- Less dependence on upper tiers of government for grants and funds to carry out works.
- Better planning, designing and execution of functions assigned to the local body.

2.5.2 Importance of own tax revenue sources

- Tax revenues for any city are predictable & dependable as they provide higher stability to the revenue as compared to non-tax revenues.
- Tax revenues are useful for the overall development of the area as some benefits are shared by all the residents of a city.

- Good taxes are also buoyant in nature as they generally increase with increase in the productivity of a city/ state/ nation.
- Land based taxes are very stable and buoyant.

2.5.3 Municipal Financial Indicators

Various indicators can be used to measure the financial performance of municipalities. These indicators use financial ratios to understand a particular aspect of the financial performance.

Table 3. Municipal Financial Indicators

Ratio	Indicator	Favourable	Good	Moderate	Poor
Capital expenditure / Total expenditure (inclusive of debt servicing)	Expenditure on improvement of services and development of infrastructure to total expenditure.	>40%	>20%	>10%	<10%
(Capital grants + revenue surplus) / Capital expenditure	Level of capital expenditure supported by non-debt related inflows.	>0.75	>0.50	>0.25	<0.25
Own tax revenues/ Revenue receipts	Level of fiscal autonomy	>70%	>50%	>25%	<25%
Revenue grants/ Revenue receipts	Level of dependence on the state government grants.	<10%	<25%	<50%	>50%

Source: O P Mathur and Sanjukta Ray (2003)

2.6 Financing urban infrastructure and services

Financing urban infrastructure and services in India is a formidable challenge. Resources available with the local bodies in India is insufficient, even falling short of the norms set by the

Zakaria Committee (India 1963). Local governments need to be provided with adequate resources of revenue so that they are able to provide the services they are mandated to provide. Poor funding and lack of financial resources is a common characteristic of municipalities in India. Seriousness regarding provision of quality public services or to make genuine efforts to increase revenue efficiently through assigned sources. Poor design of intergovernmental transfers further worsens the problem and renders local bodies unable to carry out their necessary functions (Rao and Bird 2010). There is a gross mismatch between functions and finances of local governments. If local governments have functions and functionaries but no funds, it is like having a car and a driver but no fuel.

As per the statute, local governments in India cannot run on deficit. They need to restrict their expenditures as per the available revenues. However, the absence of deficit is not an indicator of good quality provision of services. In terms of fiscal capacity and autonomy, Indian municipalities are one of the weakest globally. They have a revenue base which is narrow, inflexible and non-buoyant. The ratio of municipal revenues to combined central and state revenues has declined from 3.92% in 2007-08 to 3.62% in 2012-13. The ratio of municipal taxes to combined central and state taxes has dropped from 2.11% to 1.79% between the two financial years. If India is compared to the developed countries and comparable developing countries, it lags far behind in terms of expenditure and revenue decentralisation to local bodies. In India, municipal expenditure – GDP ratio is estimated at 1% in 2012-13 (Mohanty 2016). In contrast, local expenditure to GDP ratios for select Organization for Economic Cooperation and Development (OECD) countries in 2010 were as follows: Belgium (7.0), Germany (7.9), France (11.8), United Kingdom (14.0), Italy (15.9), and Denmark (37.3); (OECD 2012).

McKinsey (2010) estimates that expenditure required on Indian cities by 2030 would be around Rs 9.74 million crore, out of which Rs 5.31 million crore would be capital expenditure and rest O&M expenditure. Affordable housing and mass transit would be the areas which would require the largest amount of capital expenditure. The urban infrastructure investment needs of Indian cities over the period 2012-31 is pegged at around Rs 3.92 million crore by High Powered Expert Committee. It rises to Rs 5.92 million crore if operation and maintenance costs are added (HPEC 2011).

2.6.1 Innovative financing of infrastructure

Getting funding for infrastructure development is a major challenge faced by governments. Traditional methods of revenue generation like property taxes, user fees, etc. are not able to

generate enough revenues to enable infrastructure development. Therefore, there is a need to find innovative ways of financing which can help the governments in creating facilities. URDPFI guidelines - Volume I published by Ministry of Housing and Urban Affairs describe betterment levy, impact fee, PPP, etc. as innovative ways of financing which can supplement the revenues earned through traditional sources.

2.6.2 Value capture finance

There is a lot of discussion in current literature regarding the applicability of value capture finance mechanisms to meet the infrastructure investment needs. Vancouver Action Plan (1976) which was the founding document for UN Habitat in its declaration stated that –

"The unearned increment resulting from the rise in land values resulting from change in use of land, from public investment or decision, or due to the general growth of the community must be subject to appropriate recapture by public bodies (the community)."

John Stuart Mill in 1848 wrote while referring to the landowners – "They grow richer, as it were in their sleep, without working, risking, or economizing. What claim have they, on the general practice of social justice, to this accession of riches?"

Walters (2013) states that LVC has been well accepted in the fields of urban public finance and international development for implementing or reforming land based taxes. He discusses the requirements of a successful land value taxation systems. He mentions that a political champion, a good property tax law and a decentralised authority are necessary to implement the system. He further discusses other necessary factors to be taken care of while designing a land value capture scheme. The author examines efforts to implement LVC and suggests that many LVC tools need further improvement and public engagement is important for any such policy to succeed.

Phatak (2009) discusses about the different LBF (Land based financing) tools and the experience with those in different Indian cities. He also compares the Land based financing tools on measures like legal feasibility, tax base, administrative complexity and revenue potential.

Table 4. Comparison of Land based financing instruments

Measures	**Area or value linked development charge**	**Sale of development rights**	**Betterment levy or LVIT**	**Impact fee or development charge**
Legal feasibility	Area linked development charge is already provided for in laws like Maharashtra Regional and Town Planning Act, 1966. But adopting value base would need separate legal provisions.	A development right is an integral part of notion of land ownership. Development rights are not yet nationalized. Legal basis for their sale is weak.	Legal support is available in many existing Acts.	There is no legal support for US or Canadian type of impact fees that are related to explicit assessment of incremental investment in off -site infrastructure. But area linked development charges are provided for.
Tax base	Area as tax base has problem of buoyancy, as rates tend to remain static. Value of property at the time of development.	This is not a tax or fee in the strict sense. Premium could be based on the market price.	Increase in land value attributable to provision of infrastructure.	Cost of providing infrastructure to new development. On area or value of land and buildings in different uses.
Administrative complexity	Area can be unambiguously measured. Assessing value is routinely done for stamp duty purposes and does not add to	Since FSI computation is physical it is simple. The premium being linked to rates determined for other taxation	Difficult to measure the tax base, especially the increment attributable to infrastructure investment. Likely to be	In the absence of a well-established practice of preparing and publicly adopting capital improvement plans, it would be

	administrative complexity	purposes administrative complexity is not a serious problem.	contested by owners not transacting property	administratively complex to establish 'rational nexus' between the cost and new development as expected in US impact fees. But area or value based development charge is administratively the least complex
Revenue potential	Revenue potential in area linked charge suffers from lack of buoyancy. Value linked charge can overcome that problem.	Revenue potential can be manipulated by keeping the base FSI low to increase price of incremental FSI and/or development rights can be released in the market in small doses to extract higher price—inherent problems of monopoly .	Revenue potential is currently limited to 50 per cent of the betterment.	In case of impact fees it is limited to cost of development, but recovery depends upon rate of new development. Area linked development charge cannot keep pace with inflation.

Source: Phatak (2009)

Challenges and limitations to Value capture financing

Value capture tools are employed by the municipalities to appropriate the gains in land value as a result of public action. Therefore, real estate or land market has a direct effect on the functioning of VCF mechanisms and vice-versa. Peterson (2009) emphasises on three risks that are associated with land based financing.

1. *Volatility of urban land markets* – Urban land markets are volatile and especially so in developing countries. The land prices cannot increase steadily at 20-30% a year. Speculation, foreign investments and global economic conditions play an important role in how land markets behave. Volatile land prices is an intrinsic feature of the urban land markets. Therefore, it becomes risky if future capital investment plans are based on projections using recent trends in land prices and the risk becomes even greater if part of the receipts from land financing are used to cover operation costs.
2. *Lack of transparency and accountability in land sales* – Very little public accountability to review how the funds from land sales are used. Large sums of money are involved which attracts corruption and institutional capture by selling agency. These risks can be mitigated if the capital budgets and balance sheets are released publicly which will ensure the proper use of funds by the public authority. Public owned lands should be only sold at auctions to ensure transparency and proceeds from land sales/ land leasing should not be diverted to operating budgets.
3. *Need of special measures to make land based financing support investment in basic public services* – Land financing has been most often used to finance urban transportation projects or infrastructure which is required to service the new development in the urban fringe areas. The main reason why land based financing is not commonly used to finance basic services like water supply, waste water, etc. is that transport development authorities generally own excess lands which can be sold and developed unlike other basic services agencies. If the municipal government is responsible for provision of all these infrastructure services, it is not an issue because budgets are fungible and funds freed up due to extra revenue being generated through land finance can be used for investment in basic services. But it is usually experienced that the public agencies are reluctant in sharing the land sale proceeds with other agencies even within the same government. It requires reforms in governance to either create a consolidated capital budget or execute a land sales proceeds sharing agreement with the municipal government responsible for delivery of basic services.

3 STUDY AREA PROFILE

3.1 Introduction

Chandigarh is a city and a Union Territory located in North India and serves as a capital to two states i.e. Punjab & Haryana. The city is well known around the world for its architecture, urban design and quality of life. Chandigarh derives its name from the temple of "Chandi Mandir" located in the vicinity of the site selected for the city. The deity 'Chandi', the goddess of power and a fort or 'garh' laying beyond the temple gave the city its name "Chandigarh-The City Beautiful".

Chandigarh was developed post-independence as a city of dreams of India's first Prime Minister Jawaharlal Nehru which he believed will set an example for the future and also would be a symbol of new hope. The beautiful and serene city settled on the foothills of the Shivaliks is amongst the most liveable cities in India. The good & wide roads, green spaces, open skies; all provided a soothing experience to the residents of the city. Soon everybody who got to know about the city or visited Chandigarh, wished to have his/ her own abode here.

In 2015, BBC named Chandigarh as world's most perfect city on the basis that Chandigarh has performed better than most other planned cities in the world. The plan of the city by Corbusier was a success.

But conditions today are quite different. The city has witnessed a lot of change in the past decades with a growing population and traffic which has started affecting the peace of the city dwellers. The quality of being 'Chandigarh' is getting lost and if things do not change soon, the city will become just like any other bustling Indian city.

To the visitors the city looks very pretty and to most of its citizens also the outer picture looks very rosy, but the reality is not the same. The city has witnessed a quick growth in the past years but the infrastructure in the city has not developed with the same pace.

Infrastructure is the engine for growth. But Indians prefer the other way round. They wait for the growth to happen and spiral out of control. The action is taken only when it becomes indispensable. And here we are talking about the city which has one of the highest per capita income in the country and also highest per capita ownership of motor vehicles which are both highly correlated. This indicates how prosperous the city is. But of late, Municipal Corporation of Chandigarh has been reeling under fiscal stress, unable to generate enough resources to fund further infrastructure development which is ironical. The corporation is on the verge of

bankruptcy and it is the result of its own imprudent actions. It is important to invest in the infrastructure otherwise the citizens would further become reluctant to pay taxes in future due to poor quality of services by the MC. It is important to establish a benefit and expenditure linkage to earn their faith.

Urban governance needs significant improvement. As per Janaagraha's Annual Survey of India's City-Systems (ASICS), 5th edition report, Chandigarh is second last among 23 Indian cities. Chandigarh showed improvement in the total per capita capex with an average of Rs 2340.42 in the last three years. But it is lower compared to Thiruvananthapuram (Rs. 4,094.24) and Pune (Rs. 4,357.23). The own revenue to total expenditure % is on an average over three years is just 21.3%, one among the lowest which clearly indicates that there is an urgent need to increase the sources of revenue so as to become self-reliant and not dependent upon the grants from Central government. It does not perform well on AMRUT reforms such as providing internship opportunities, credit rating and publishing e-newsletters and demand collection book.

Chandigarh cannot become the model city of Nehru's dreams until it performs well on all the parameters namely urban governance, infrastructure, mobility, energy, health, environment and education.

3.2 Brief History

The city has a pre-historic past. The gently sloping plains on which modern Chandigarh exists, was in the ancient past, a wide lake ringed by a marsh. The fossil remains found at the site indicate a large variety of aquatic and amphibian life, which was supported by that environment. About 8000 years ago the area was also known to be a home to the Harappans.

Since the medieval through modern era, the area was part of the large and prosperous Punjab Province which was divided into East & West Punjab during partition of the country in 1947. The city was conceived not only to serve as the capital of East Punjab, but also to resettle thousands of refugees who had been uprooted from West Punjab.

In March, 1948, the Government of Punjab, in consultation with the Government of India, approved the area of the foothills of the Shivaliks as the site for the new capital. The location of the city site was a part of the erstwhile Ambala district as per the 1892-93 gazetteer of District Ambala. The foundation stone of the city was laid in 1952. Subsequently, at the time of reorganization of the state on 01.11.1966 into Punjab, Haryana and Himachal Pradesh, the city assumed the unique distinction of being the capital city of both, Punjab and Haryana while

it itself was declared as a Union Territory and under the direct control of the Central Government.

3.3 Location

Chandigarh is **strategically located** 250 km north of the capital city of Delhi and enjoys very good connectivity through road, rail and air. Other key cities neighbouring Chandigarh are Mohali, Panchkula, Ludhiana, Shimla, and Ambala.

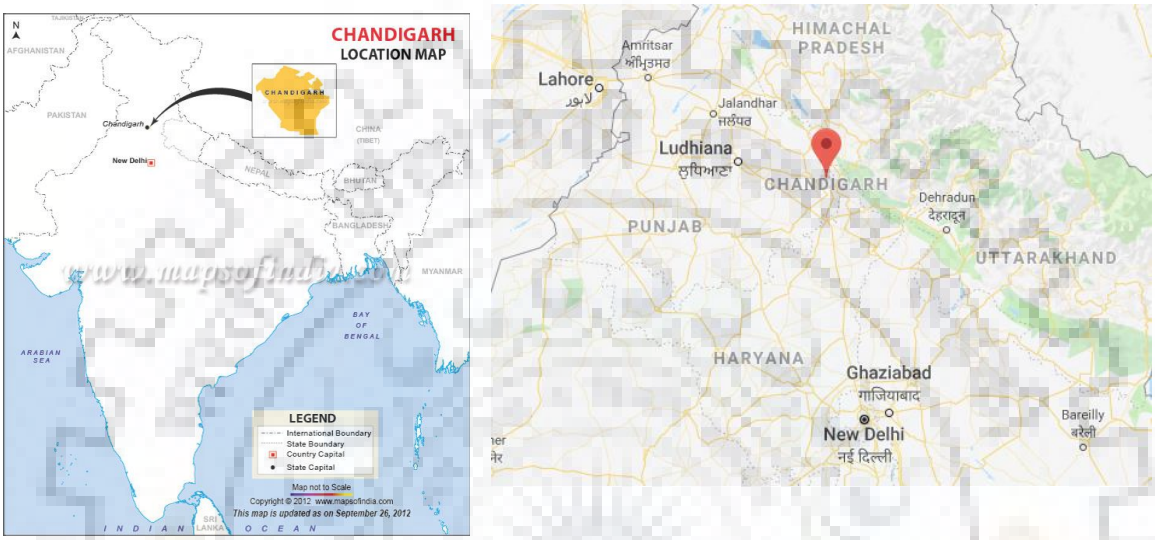

Figure 2. Location of Chandigarh

The **neighbouring towns/states depend heavily on Chandigarh** because of the availability of better educational facilities (for instance Punjab University), health facilities (for instance Post Graduate Institute of Medical Education and Research), and research institutions (like Central Scientific Instruments Organisation). They are also dependent on it as it is the centre of authority for the two states -Punjab and Haryana. Chandigarh region is **fast growing as the regional headquarter of many multi-national companies** which are catering to the states of Jammu and Kashmir, Punjab, Haryana, and Himachal.

3.4 Land use dynamics

3.4.1 Development phases

Chandigarh has been developed as a capital city for the states of Punjab & Haryana. Apart from being an administrative centre, it is also one of the most liveable cities in the world. The city was planned to be developed in three phases which are as follows:

Phase I – Sectors 1 to 30

Phase II – Sectors 31 to 47

Phase III – Sectors 48 to 56, 61 and 63.

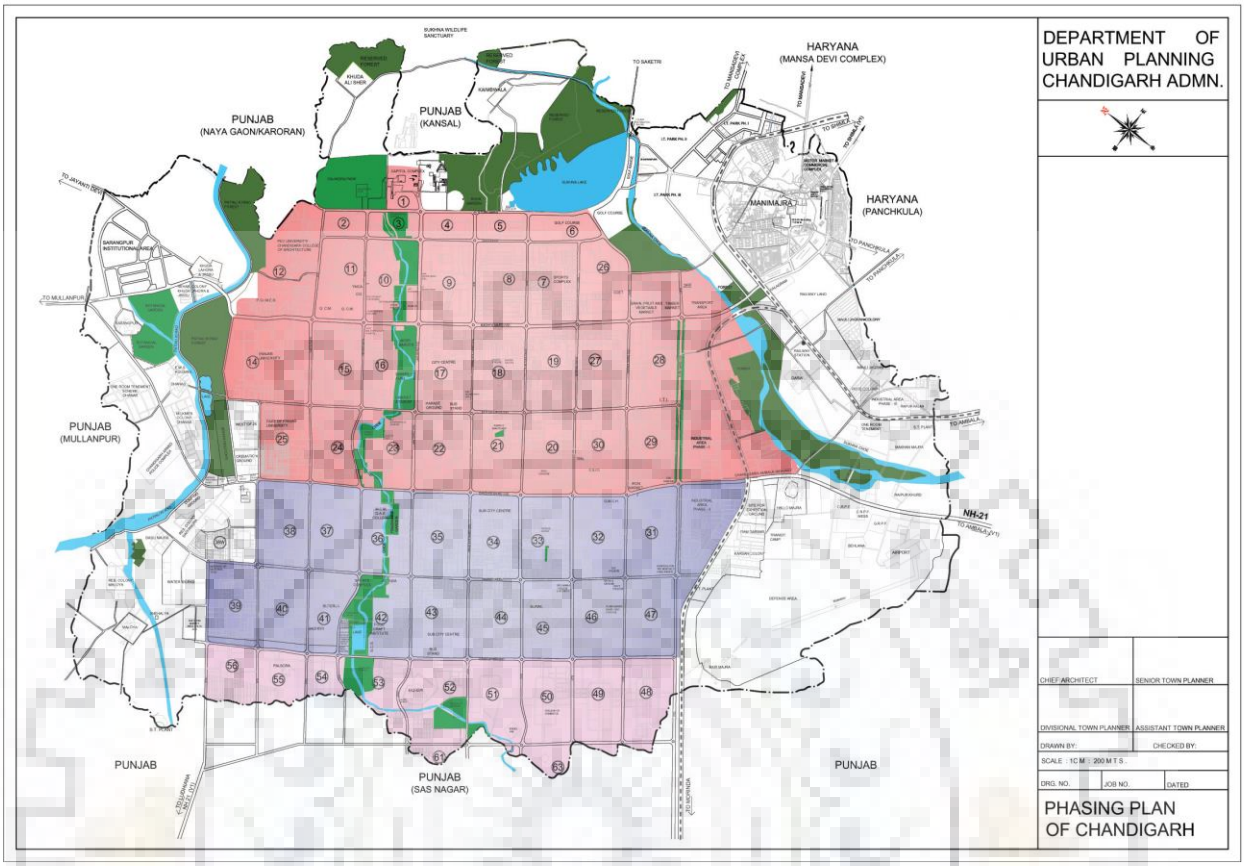

Figure 3. Phasing plan of Chandigarh

The northern sectors were developed as posh sectors with big kothis having maximum areas up to 4 kanals (about 2022 sq m) and with low population density. The important administrative buildings of the city like the High Court, Legislative Assembly, Secretariat, residences of Punjab & Haryana governors, Chief Ministers and ministers, judges, bureaucrats etc. are all located in the Phase I sectors. As we move southwards, the population density of the city increases. City centre or Central Business District is located in Sector 17 and two Sub city centres are located in Phase II sectors (34 and 43).

3.4.2 Density

The city has a density which increases as we move from the northern to the southern sectors. The population density during the last five decades i.e. from 1961-2011 has increased almost nine fold from 1051 in 1961 to 9252 persons per sq km in 2011. The sectors were planned for a population varying from 15000-25000 but there is quite a difference in the ground reality. Large variations have been observed in the population at the sector level, with the highest

population of 41,077 being recorded in Sector 45 and the lowest population of only 1 was recorded in Sector 63. The highest population in any Phase I sector was recorded in Sector 20 with a population of 22,138 whereas for Phase II sectors the maximum is 41,077 in Sector 45.

Table 5. Density for Phase I, II and III based on Census 2001 and holding capacity

Phase	Planned Density (persons/ acre)	Density as per Census 2001 (persons/acre)	Density as per Holding Capacity (persons/ acre)
I - Sector 1 to 30	16	26	34
II - Sector 31 to 47	59	60	83
III - Sector 48 t0 56, 61, 63	-	Under process of development	100

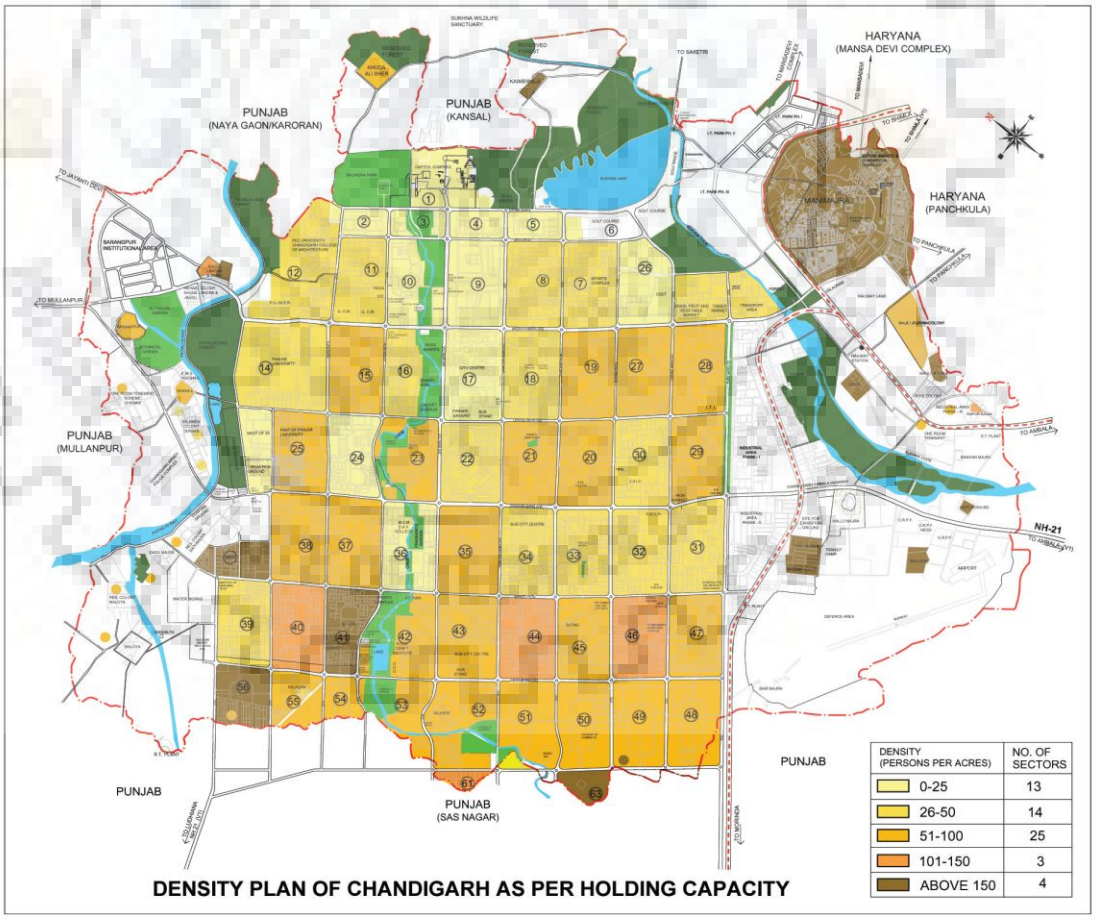

Figure 4. Density plan of Chandigarh as per holding capacity

Source: Chandigarh Master Plan 2031

The above table shows that the density of population has exceeded the planned density. Originally, Phase I sectors were designed for a meagre density of 16 persons per acre but in 2001, it had already achieved a density of 26 ppa. Sectors 31 to 47, under Phase II were developed to provide residential facilities to a larger proportion of population and the holding capacity for these sectors come out to be around 83 ppa. The Phase III is still under development. Phase III will see a much higher density than earlier phases due to higher permissible FAR and co-operative societies being constructed in these sectors. Also, Chandigarh Housing Board has been tasked to create affordable housing here to provide houses to people belonging to EWS and LIG categories.

3.4.3 Land Use

The land use in the city has been assigned keeping in mind the living character of a city by its designers. Land has been judiciously allocated to various important purposes like transportation, residential, industries, recreation, commercial etc. The slope of the ground, wind direction, view of the Shivaliks etc. have been important factors considered while planning for the city. As per Census 2011, out of total 114 sq km, the urban area is around 109.53 sq km and rural area is 4.47 sq km. Table 5 shows the distribution of land use in Chandigarh:

Table 6. Distribution of land use in Chandigarh

Land Use	Existing	Proposed
Residential	37.88	38.64
Commercial	4.76	5.07
Transportation	7.26	7.44
Industrial/ I.T. Park	4.71	5.72
Public/ Semi public	10.54	13.82
Recreational	8.62	10.00
Agriculture	-	2.95
Public Utilities	1.07	1.21
Railway land	1.12	1.12
Defence	4.52	4.52
Forest	7.50	8.89
Reserved	-	1.05
Total	87.98	100.43

Source: Chandigarh Master Plan 2031

The above table shows that a considerable percentage of land is with Defence and Railways, much part of it can be brought to better use if it is properly managed by the government. 37.88% of the land is residential, 4.76% is commercial, 7.26% is under transportation and 10.54% is for public and semi-public uses. There is discrepancy in the data as no figure has been given for land under agricultural use. Further, the table also shows the proposed land use distribution after the period for Master plan ends in 2031.

3.4.4 Land values

Land market is very dynamic in the Chandigarh region and there is ample demand for both residential and commercial property in the market as per market survey. The following major observations were made from the survey:

- The market rates are far higher than the collector rates in the residential as well as commercial segment. For example, value at collector rate for 10 Marla plot works out to be Rs 1.90 crores whereas as per market rate it is around Rs 3.00 crores.
- In the commercial segment, market rates are two times higher than the collector rates.
- In comparison to neighbouring cities of Panchkula and Mohali, prices of residential property in Chandigarh on an average 1.5 times higher. For commercial segment also, the rates are much higher than Panchkula and Mohali.
- The commercial property in Chandigarh is on leasehold basis whereas in Panchkula and Mohali it is on freehold basis.
- Businesses are moving out of Chandigarh in search of cheaper rents. Rent/ sq feet in Sector 17 is approximately Rs 1000, in industrial area it is approximately Rs 100 and in rest of the city it varies from Rs 300 to Rs 600.
- The property prices were stable for the past 4-5 years but now there is an increase in demand and the prices have increased by about 10%.

3.4.5 Problem with the Master Plan approach

Land use of the city is governed by the Master plan notified by the Chandigarh Administration. The prescriptive nature of master plan approach towards land use is very rigid. It is more significant in a city like Chandigarh which is landlocked and has a fixed land area to adopt a flexible approach towards land use. All the activities and uses have to be accommodated within the same land by varying or manipulating the land under different uses. Further, an important role needs to be played by the zoning regulations and development bye-laws to allow adequate density of development. It is usually seen that the master plans are prepared for a period of next

20-25 years but the conditions change within a few years of its preparation, demanding a change in the strategies proposed but there are no provisions in-built which may allow for flexibility. Moreover, Chandigarh cannot be planned any longer like a single entity because the functions of the city have deep linkages with its surrounding areas and without taking this into consideration, it will not be possible to prepare a development plan which successfully addresses the problems of the area. Solutions to the problems of Chandigarh lie beyond its borders. It is important to develop a regional plan including Chandigarh, Mohali, Panchkula, Zirakpur, Kharar, Mullanpur etc. and plan for the entire Greater Chandigarh region rather than in parts. Greater Mohali Area Development Authority (GMADA) has already prepared a regional plan for the Greater Mohali region for a fifty year period from 2008-2058, which is called Greater Mohali Region Master Plan. If Chandigarh does not get a regional master plan of its own, then it certainly has to align its development plans with the master plans of its neighbours. There needs to be a synchronisation among all plans to achieve optimum growth of the region but the government does not appear to be actively pursuing this matter. Previous attempts to prepare a regional plan have failed due to several reasons. Therefore, it is very important to adopt flexible planning approaches which may be adjusted to the changing requirements of the city and aspirations of the people.

3.5 Demography

As per Census 2011, UT had a population of 10, 55,450 out of which 97.25% is urban and the remaining 2.75% is rural. The territory of Chandigarh has witnessed a rapid increase in its population from the years 1951 to 2011, with a population growth of more than 44 times. Table 6 and Table 7 show the characteristics of population in Chandigarh. Table 6 shows that there has been a sudden increase in the population of the UT from 1951-61 during which period it witnessed a decadal growth rate of phenomenal 394%. Since then the decadal growth rate has been falling and was recorded as 17.19% in Census 2011. The UT crossed the mark of five lakhs population long ago as can be seen from Census 1991 data. It is imperative to consider the carrying capacity of the city while designing for future residents otherwise more residents will only be accommodated at the cost of quality of life the city is known to offer.

Table 7. Population characteristics of Chandigarh, Census 2011

	Area in sq km	Number of households	Total population (including institutional and houseless population)			Population in the age group 0-6		
			Persons	Males	Females	Persons	Males	Females
Total	114.00	2,41,173	10,55,450	5,80,663	4,74,787	1,19,434	63,536	55,898
Rural	4.47	7,140	28,991	17,150	11,841	4,270	2,282	1,988
Urban	109.53	2,34,033	10,26,459	5,63,513	4,62,946	1,15,164	61,254	53,910

Table 8. Population change in Chandigarh UT from 1951-2011

Year	Total population	Decadal absolute variation of population	Decadal growth rate
1951	24261	-	-
1961	119881	95620	394.13
1971	257251	137370	114.59
1981	451610	194359	75.55
1991	642015	190405	42.16
2001	900635	258620	40.28
2011	1055450	154815	17.19

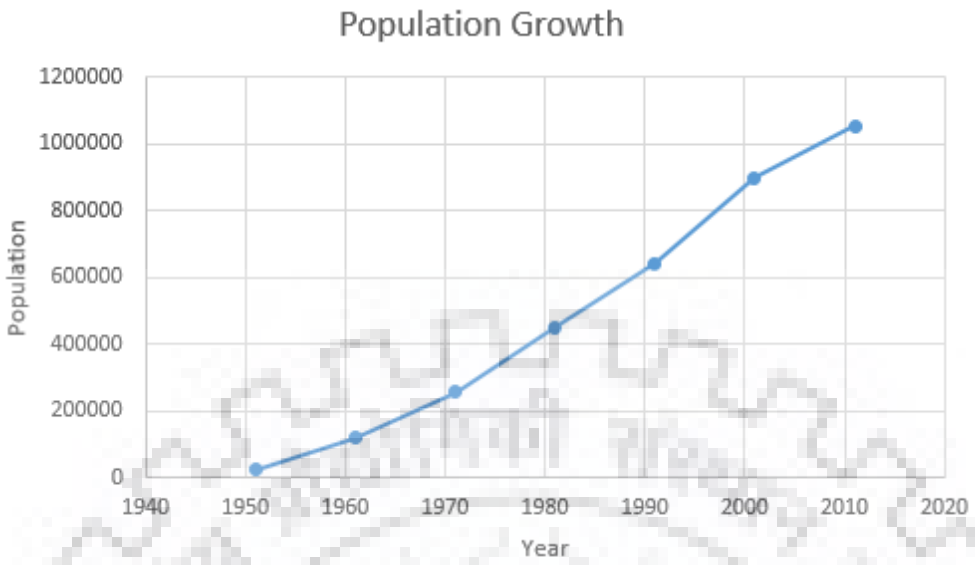

Figure 5. Population growth in Chandigarh UT

The above figure shows that the population has been consistently increasing since Chandigarh was created but after 2001 the population growth has begun to slow down. The slope of the curve indicates a deceleration in the rate of population growth indicating that the population will rise to a maximum point and then begin to decline as in case of any closed system because carrying capacity limits the growth of organisms. The curve appears to be following an S shaped curve or logistic curve of population growth. This factor has not been considered in the population projection by the master planners or the city administration. The master plan projects a population of 15-16 lakhs in 2031 but it is quite improbable given the way things are

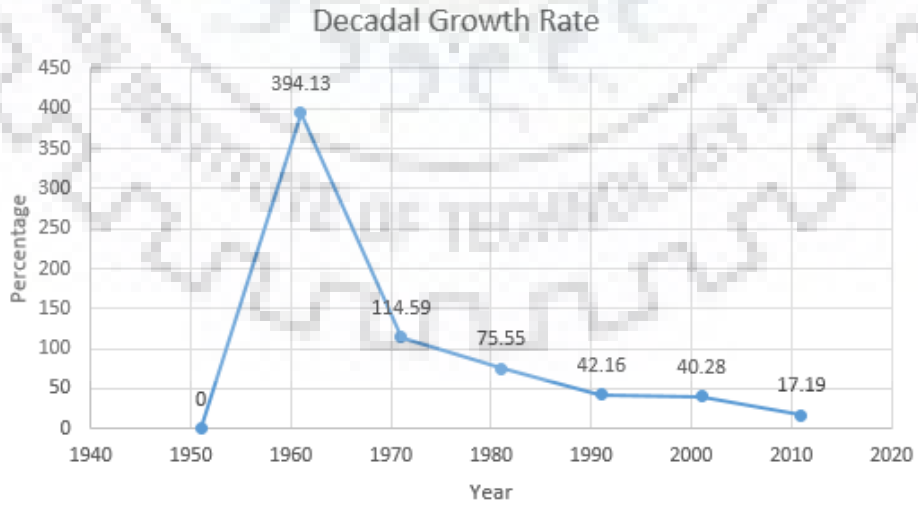

Figure 6. Decadal population growth rate curve

currently functioning. As per the logistic curve method, the population at the point of saturation comes out to be 11, 51,917.

Until there are drastic reforms undertaken by the UT administration w.r.t. development controls and zoning regulations, accommodating such numbers of people without affecting the quality of life and character of city would be a daunting task. The city which was initially planned for a population of 5 lakhs is already serving a population which is more than two twice the initial population. The time is not far when the city's infrastructure will crumble due to its inability to cope up with the imposed load.

3.6 Economy

Chandigarh has a vibrant economy based on the tertiary sector of economy as the city has numerous service providers & business solutions firms. The contribution of primary and secondary sector to the GSDP is minimal in comparison to the services sector. Trading, hotels & restaurants, banks, real estate etc. are among the fastest growing industries in Chandigarh. Some of the important industrial items are knitting needles, engineering items, tyre & tubes, cables, wires, surgical equipment, food and beverages etc.

Table 9. CAGR Sector wise from 2011-12 to 2015-16

Primary	**Secondary**	**Tertiary**
-0.7%	5.2%	9.2%

Chandigarh is mainly an administrative city. As per Census 2011,

- Work participation rate for the Chandigarh works out to 38.3 %.
- Percentage of Main workers among the total workers (persons) during 2011 Census is 95.5 %.

- Percentage of female main workers among the total workers (females) is during 2011 Census is 90.5 % which is highest among all the States.

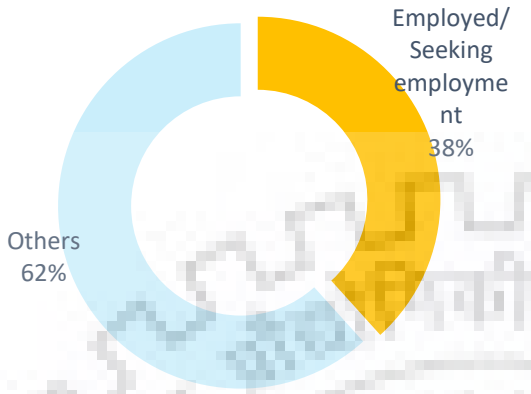

Figure 8. Work participation rate

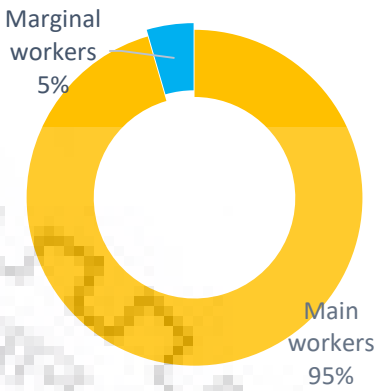

Figure 7. Total workers

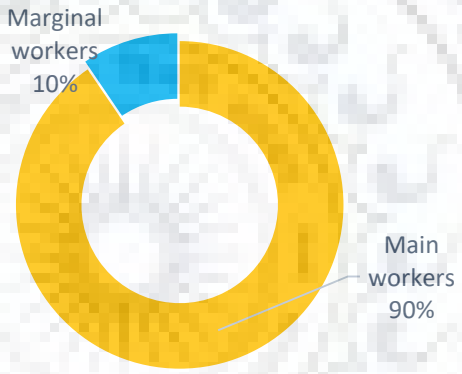

Figure 9. Female workers

Some important points regarding per capita income of Chandigarh are presented below:

- Per Capita Income of Chandigarh is one of the highest in the country, next only to Delhi and Goa.
- The annual average growth rate of Per Capita Income of Chandigarh over the period 2011-12 to 2015-16, was registered at 11.12% per annum at current price.
- In real terms, Per Capita Income of Chandigarh was calculated Rs 197663 in 2015-16 as against Rs 159116 in 2011-12, revealing an average annual growth rate of 7.23%.

Table 10. GSDP and per capita income of Chandigarh UT

State	GSDP (Rs in crores)		Per capita income (NSDP) Rs		Growth Rate of GSDP at (2011- 12) Prices (%)
	At current prices	At constant (2011-12) prices	At current prices	At constant (2011-12) prices	
2011-12					
Chandigarh	18768	18768	159116	159116	-
Punjab	266628	266628	85577	85577	-
Haryana	297539	297539	106085	106085	-
All India	8736329	8736329	63462	63463	-
2012-13					
Chandigarh	21608	20285	178549	169492	8.10
Punjab	297334	280823	94318	88915	5.32
Haryana	347032	320570	121269	111648	7.70
All India	9944013	9213017	70983	65538	5.50
2013-14					
Chandigarh	24822	22105	199135	180779	9.00
Punjab	332147	299450	103831	93238	6.60
Haryana	400662	346799	138300	119522	8.20
All India	11233522	9801370	79118	68572	6.40
2014-15					
Chandigarh	26549	22870	206760	183029	3.80
Punjab	355102	312125	108970	95807	4.23
Haryana	437462	366636	148485	124302	5.70
All India	12467959	10527674	86647	72805	7.40
2015-16					
Chandigarh	29301	25051	222710	197663	9.50
Punjab	390087	330052	118858	100141	5.74
Haryana	485184	399646	162034	133591	9.00
All India	13764037	11386145	94731	77826	8.20
2016-17					
Chandigarh	31823	26631	237599	207000	6.30
Punjab	428340	352421	128890	105386	6.80
Haryana	547396	434608	180174	143211	8.70
All India	15253714	12196006	103870	82229	7.10

Source: Adapted from (i) Economic & Statistical Organization, Punjab and (ii) Central Statistical Organization, New Delhi

Table 9 shows the GSDP and per capita income of Chandigarh, in real and nominal terms, in comparison to the neighbouring states of Punjab & Haryana to get an idea of how the economy of UT is performing as compared to the states of which it is a capital city.

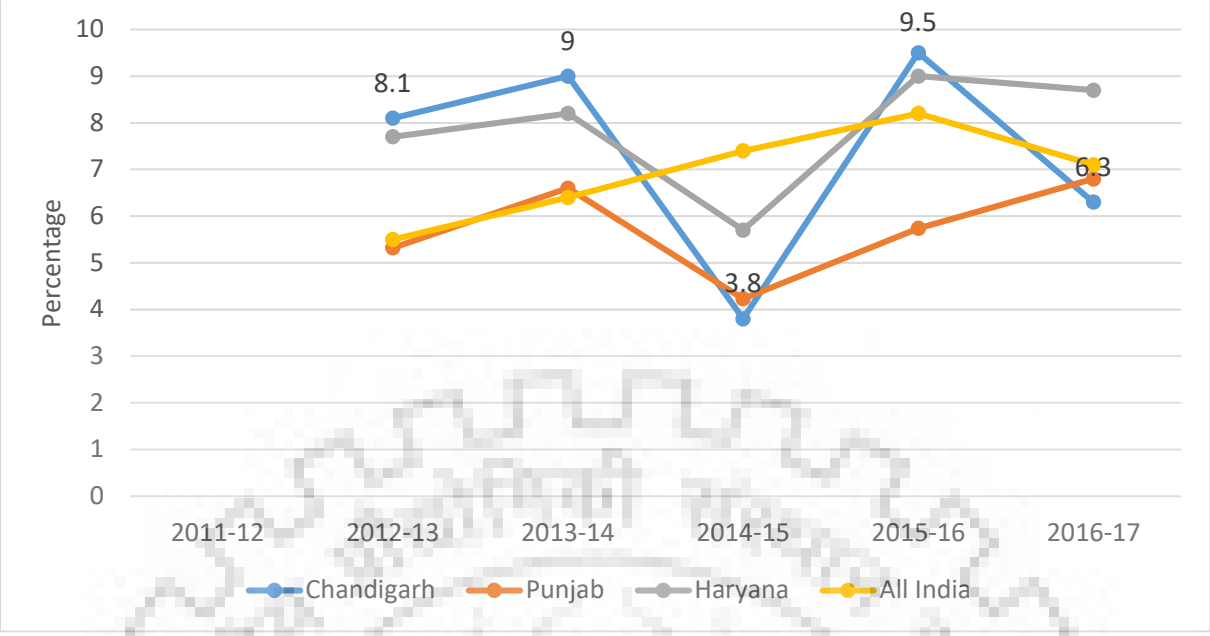

Figure 10. Growth Rate of GSDP

It can be seen from the above figure that during 2012-13, 2013-14 and 2015-16 growth rate of UT's GDP was higher than Punjab, Haryana and All India average. Dips were observed during 2014-15 and 2016-17 but still the city maintained a good growth momentum. Overall, the economy of Chandigarh has been performing well and is bound to grow in the future.

3.7 Mobility

Understanding the mobility of the Chandigarh and its surroundings is important because Chandigarh has a high floating population. Chandigarh has some of the best facilities for sports, health, education, shopping, recreation etc. which attracts a lot of visitors. These visitors not only cause congestion on the roads and parking lots but meanwhile, during their stay in the city also use its different infrastructure and services. These people need drinking water, sewerage, electricity, food, roads, etc. They learn and earn here and go back to their homes in Panchkula, Mohali, Zirakpur, Kharar etc. and do not pay up anything to the city government for the services that they benefit from. The burden of providing them infrastructure and services is borne by the residents of Chandigarh. Therefore, it is important to consider the effects of floating population on the city functions and plan accordingly. A good regional public transit system is the need of the hour. The following points should be noted –

- Highest per capita ownership of motor vehicles in India at 878 vehicles per 1000 persons, indicating high disposable incomes of the city residents.

- According to some estimates, there are around 10.5 lakh vehicles registered in Chandigarh.
- Almost 80% of the vehicles are privately owned, one of the worst ratios in the country
- Chandigarh also has the second lowest share of public transport (around 15%) amongst all transport mediums, second only to Lucknow.
- Floating vehicle population – 1, 00,000 (approx.). These people also utilize the infrastructure of the city but do not contribute anything.

3.8 Urban Design

The city is *one of its kind* in the entire world and one of the most successful projects of Corbusier. It is **a living laboratory** for students and researchers who wish to study architecture, city planning and urban design. The government has been very **conservative in its approach** towards opening up the city to rapid development which might go against the principles on which it was designed. The city has a **low rise character. Strict architectural controls and building norms** restrict space availability and drive up land prices. Any major changes to the city design or redevelopment projects have to be approved by the Chandigarh Heritage Conservation Committee. Such actions cause distortions in the market which may have poor effect on the economy and growth of the city in upcoming years.

Residential (Plotted)	**FAR (max.)**
Marla	2.0
One kanal	1.5
Two kanal	1.25
Above 2 kanal	1.0

Coal Depot	0.68
Petrol pump	0.35
Industrial	1.00
Public/ Semi-public buildings	0.25 – 1.25
Cultural & Non-academic institutional and Religious	1 – 1.25
Educational institutes	1.25 – 1.50
I.T. Park	0.50 – 1.25

Commercial	**FAR (max.)**
SCOs/ SCFs/ Booths	As per architectural control drawings
Hotel	1.50
Multiplex/ Malls (specifically earmarked sites)	1.25
Commercial (converted from industrial)	2.0

Theatres converted into multiplexes		
Plot Area	**Min. FAR allowed**	**Max. FAR achieved after allowing 50% of the min FAR for calculation of conversion**
Upto 1 acre	2.00	3.00
Above 1 acre	1.75	2.625

Transit Oriented Development	
Type of Building	**FAR**
Residential Area (20% of total scheme)	2.5
Integrated Commercial Complexes including Hotels, Motels, Banquet halls etc. (20% of total scheme)	3.0
Specialized Educational Institutes and Cultural Spaces including Auditoriums/ Museums/ Cultural Centres / Planetarium etc (15% of total scheme)	3.0
Integrated Office Spaces. (20% of total scheme)	3.0
Specialized Health care Institutes. (10% of total scheme)	3.0
Traffic and Transportation/ Metro Stations/ Parking/ ISBT-43. (15% of total scheme)	3.0

Figure 11. Permissible FAR for different land uses in Chandigarh

The above figure shows the maximum FAR allowed for construction under different land uses in Chandigarh as given in Chandigarh Building Rules (Urban) – 2017. It can be observed that the FAR is uniform throughout the city. Maximum allowable FAR is low, for example, 2.0 for residential and commercial (except for theatres converted into multiplexes – 3.0), 3.0 for TOD zone. Low FAR is a feature of most Indian cities but Chandigarh is unique in being a landlocked territory. It has few restrictions with regard to development in its periphery too. Therefore, planning for a landlocked city has to be in a different manner and there is no option apart from going upwards if future population and growth has to be accommodated. Market forces will also try to change the nature of land use and improvements and any kind of restrictions by the government would bring distortions in the land market and economy.

3.9 Multiplicity of Acts/ Laws

A multitude of laws govern the taxes & development in the city which makes it difficult for the common man to understand:

- The Punjab Municipal Corporation Act, 1976 (As Extended to UT, Chandigarh)
- The Capital of Punjab (Development and Regulation) Act, 1952
- Chandigarh Estate Rules 2007
- Leasing out of Government Built up shops/ booths on monthly rent basis in Chandigarh scheme, 2000
- Chandigarh Building Rules (Urban) 2017
- Chandigarh (Sale of Sites and Buildings) Rules 1960 under the Capital of Punjab (Development and Regulation) Act 1952
- Chandigarh Administration (Erection and Re-erection of Buildings) Rules, 2006

3.10 Administrative Setup

- Central government directly administers the UT and all legislations regarding Chandigarh have to be passed in the Parliament. It is a uni district and uni tehsil and also has 22 villages.
- An Administrator appointed by the President of India governs the UT with the help of his team comprising of bureaucrats. They head the different departments of the UT administration and are drawn from Punjab and Haryana in 60:40 ratio respectively i.e. almost all officers are on deputation. This leads to *loss of bureaucratic accountability* in the city.
- Punjab and Haryana have become *'tenant states'* of the Central government, though, ironically, neither Punjab nor Haryana has so far paid any rent on buildings while each has been utilising Chandigarh and its urban amenities since 1966. Both states lay exclusive claims to the city and using it as their capital since years but they have no role to play in its affairs.
- The recommendations regarding finances of the city are given by the Delhi Finance Commission i.e. the UT does not have a FC of its own.
- All decisions of the MC are ratified by the UT administration. A proposal is first prepared by the MC officials and it is laid before the house for its approval. If the

proposal gets the nod from the house, it is sent to the UT administration, which, on finding it acceptable, sends it to the Administrator. A notification in Chandigarh Administration gazette is then issued by the UT administration in the name of the Administrator and the proposal gets enacted in the UT.

3.11 Municipal Corporation Chandigarh

Municipal Corporation of Chandigarh was established in the year 1994 by Punjab Municipal Corporation Law (Extension to Chandigarh) Act, 1994. The elections to the house of MCC are held every five years. There are 26 wards in the city which are represented by their elected ward councillors in the house. The Corporation, in its first meeting each year, elects one of its elected members to be the chairperson known as Mayor and two other members to be Senior Deputy Mayor and the Deputy Mayor of the Corporation. During the duration of the Corporation, the office of the Mayor shall be reserved in favour of a member who is a woman for the first and the fourth year of the Corporation and in favour of a member belonging to a Scheduled Caste in the third year of the Corporation. This change of Mayor every year leads to loss of accountability and inconsistency in priorities and work. Delhi Finance Commission reviews the financial position of the Corporation and makes recommendations to the Administrator regarding measures to be taken. No parallel body like Development Authority exists in Chandigarh.

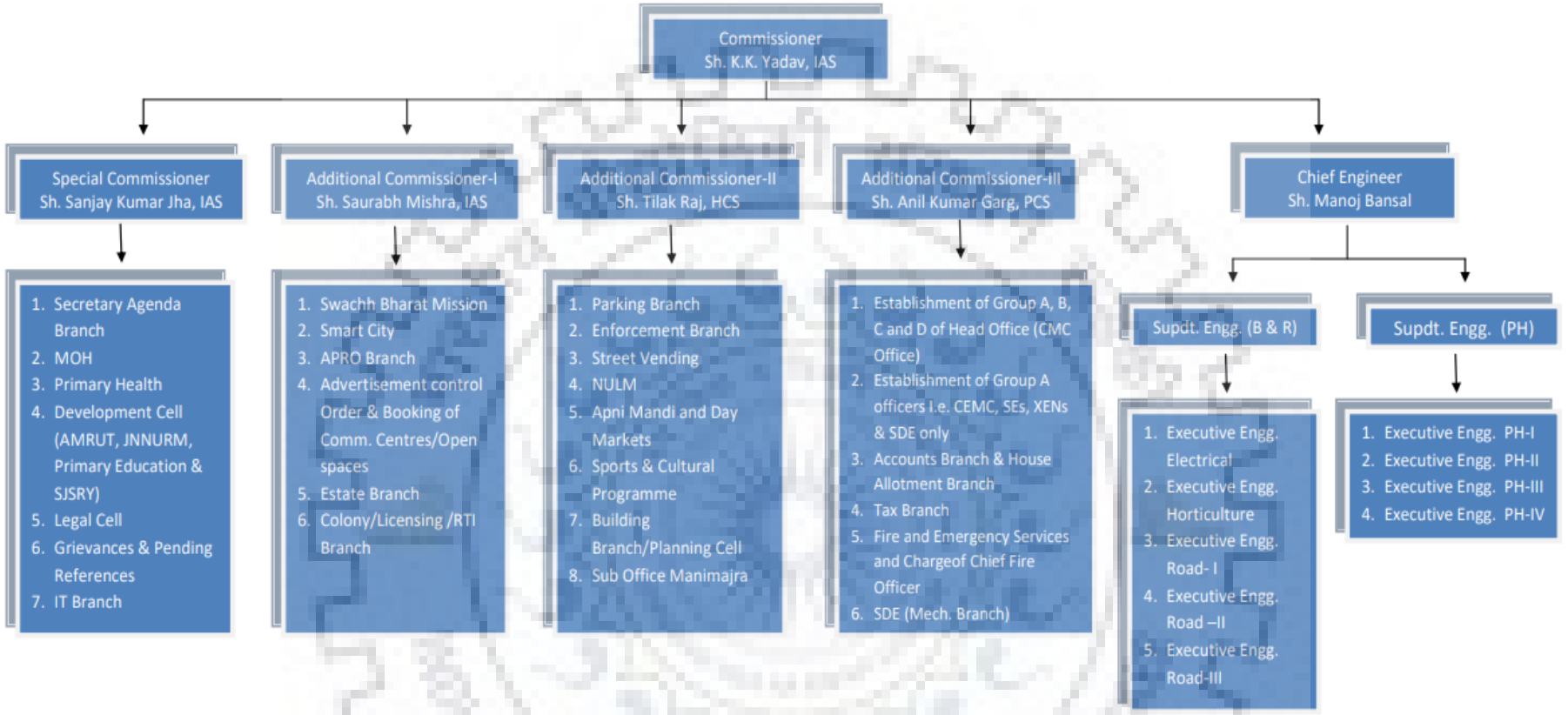

Figure 12. Organisation chart of Municipal Corporation Chandigarh

The MC is headed by a Commissioner who is generally an Indian Administrative officer and is supported by additional Commissioners who are each responsible for several areas like establishment, tax branch, accounts, smart city, street vending, parking, primary health, etc.

The work of preparing budget and accounting lies with the accounts office which is headed by a Chief Accounts Officer and property tax is dealt with by the tax branch which is headed by a Superintendent. They report to Additional Commissioner III who is nodal person for all decisions regarding tax proposals, fees, value capture financing scheme being prepared etc. The main problem pertaining to reforms in taxation system lies in the incompetency of the current technical and managerial staff to develop and implement the necessary changes. They do not have the necessary know how regarding how local taxation policies affect cities at large and how to design infrastructure financing schemes using instruments at their disposal. Capacity building is required at all levels of the organization to upgrade it into a professional city management body. The roles of different organizations like MC Chandigarh, Chandigarh Transport Undertaking (CTU), UT Planning department etc. are shown in the table below.

Table 11. Role of MCC in provision of key infrastructure services

S. No.	Key Infrastructure Services	Planning and design	Construction/ Implementation	O&M
1	Water Supply	MCC	MCC	MCC
2	Sewerage	MCC	MCC	MCC
3	Storm Water Drains	MCC	MCC	MCC
4	Solid Waste Management	MCC	MCC	MCC
5	Urban Transport – City Bus Service	CTU	CTU	CTU
6	Street Lighting	MCC	MCC	MCC/ Electricity department
7	Preparation of Master Plan/ Development Plan	Planning department, UT Admin	Planning department, UT Admin	Planning department, UT Admin
8	Housing for Urban Poor	CHB	CHB	CHB

Source: State Annual Action Plan, 2015

MCC performs only 10 out of the 18 functions enlisted in the twelfth schedule of the Indian Constitution. The functions performed by the MC are as follows:

- Roads and bridges
- Water supply for domestic, industrial and commercial purposes
- Public health, sanitation conservancy and solid waste management

- Fire services
- Provision of urban amenities and facilities such as parks, gardens, play-grounds
- Burials and burial grounds; cremations, cremation grounds and electric crematoriums
- Cattle ponds; prevention of cruelty to animals
- Vital statistics including registration of births and deaths
- Public amenities including street lighting, parking lots, bus stops and public conveniences
- Slaughter house

4 ASSESSMENT OF MUNICIPAL FINANCE

Before we analyse the finances of the Municipal Corporation of Chandigarh, it is important to understand how local governments in other countries and within India are performing, to get a fair idea about what to expect from a good financially performing local body.

Table 11 shows distribution of local government revenues in few selected OECD countries.

Table 12. Distribution of Local Government Revenues: Select OECD Countries, 2010

Country	Local government revenues as % of GDP	Taxes and user fees as % of local	As % of Total Local Government			
			Taxes	User Fees	Transfers	Other revenues
Austria	7.8	68.7	62.0	10.2	18.7	9.1
Czech	11.6	55.3	40.7	16.1	41.7	1.5
Denmark	37.1	39.1	34.3	4.9	57.5	3.2
Estonia	10.4	54.6	44.6	9.0	44.6	1.8
Finland	22.4	66.9	46.2	21.4	29.6	2.8
Germany	7.3	51.3	40.0	15.5	40.6	3.9
Luxembourg	5.2	49.2	31.2	18.1	49.2	1.5
Norway	14.2	50.1	41.1	12.7	42.2	4.0
Spain	6.4	47.5	45.1	8.9	44.4	1.6
United Kingdom	13.9	25.4	12.7	12.9	71.8	2.6

Source: OECD (2012)

It can be seen from the above table that local government revenues as % of GDP for the selected countries vary from 5.2% to 37.1% whereas in case of our study area it varies from 0.06-0.08% which is quite low. These countries have a fairly high share of their own revenue income in their total revenue receipts reflecting their higher fiscal autonomy. Moreover, taxes contribute about 68.7% in Austria, 55.3% in Czech Republic, 50.1% in Norway and 49.2% in Luxembourg showing high contribution of taxes to the total local government revenues.

The condition of local finances in India is not good in comparison to these OECD countries, but in comparison to Chandigarh it is better. The following table shows the trends in municipal revenues in India, which will give a better picture and help in understanding the situation more clearly.

Table 13. Trends in municipal revenues in India by source: 2007-08 to 2012-13

Sources of revenue	**2007-08**	**2012-13**
Own Sources		
Total taxes	37.20	32.00
Property tax	16.53	15.64
Other taxes	20.68	16.35
Non-taxes	18.50	19.70
Total own revenue sources	55.70	51.60
Other Sources		
Total other revenue sources	44.30	48.40
Total revenues	100.0	100.0
Property tax as % GDP	0.18	0.16
Own taxes as % of GDP	0.40	0.33
Own revenues as % of GDP	0.60	0.53
Municipal revenue as % of GDP	1.08	1.03

Source: ASCI (2014). Based on data furnished by state governments to the 14th Finance Commission of India, Indian Public Finance Statistics 2013-14.

The trends in Table 12 indicate the eroding fiscal autonomy of the local governments in India as a whole. Contribution of total taxes to total revenues stood at 37.20% in 2007-08 which fell to 32.00% in 2012-13. Similarly, total own revenue sources constituted about 55.70% of total revenues in 2007-08 but it also decreased to 51.60% in 2012-13. Over the years, dependence

of local governments on upper tiers of government has increased which is not a good sign. Moreover, property tax as well as own revenues have not been able to grow in sync with the GDP of the country. It is suggestive of the fact that the policies of government regarding empowering ULBs and strengthening of their fiscal health are not proving to be helpful. Municipal revenue as % of GDP is a meagre 1.03% in 2012-13.

4.1 Analysis of fiscal health of MC Chandigarh

Fiscal health of any company/ corporation is basically its ability to register profit, to repay any loan/ debt that it has taken for any work without default, and its capacity to maintain a strong balance sheet. The data for different financial parameters was collected by the investigator from Municipal Corporation's Accounts Branch office and from the budget documents of different years. Further, trends pertaining to receipts and expenditures were studied and the results have been presented in the following paragraphs. Key financial ratios are important to understand the financial performance of a local body.

Table 14. Financial data of MC Chandigarh from 2011-12 to 2017-18

Year	Budget projected	Grant in aid received	Own receipt			Total Receipt	Expenditure	Surplus/ Deficit (w.r.t col.
			Own tax	Own Non-	Total own			
1	2	3	4	5	6	7	8	9
2011-12	808.50	193.60	14.52	130.85	145.37	338.97	450.13	-111.16
2012-13	849.48	329.05	17.91	128.72	146.63	475.68	472.05	3.63
2013-14	637.85	359.13	17.93	151.75	169.68	508.81	553.41	-24.60
2014-15	792.33	327.99	17.07	130.70	147.77	475.76	517.48	-41.72
2015-16	818.80	311.39	23.02	147.48	170.50	481.69	615.38	-133.69
2016-17	1072.68	419.26	20.52	137.11	157.63	576.89	587.63	-10.74
2017-18	1005.68	319.26	42.20	149.80	192.00	511.26	651.07	-139.81

Source: MC Chandigarh

Table 14 shows the data related to budget projected, grant in aid received, own receipt and its composition, total receipt, expenditure and the surplus/ deficit in each financial year. It can be noted that the corporation has performed miserably in all years except 2012-13, during which

it posted a small profit of Rs. 3.63 crores. Also, the corporation always fell short of its projected budget for every year under consideration. It clearly conveys the ambitions or necessity of the works to be executed by the body but due to paucity of funds, some works have to be stalled indefinitely, thereby depriving the city residents the quality of services that they aspire for. Poor collection of taxes, minor contribution of own revenue sources to the total revenues and over dependence on grant in aid received are some of the major issues that are hampering corporation's ability to allocate necessary money for the works as per the budget.

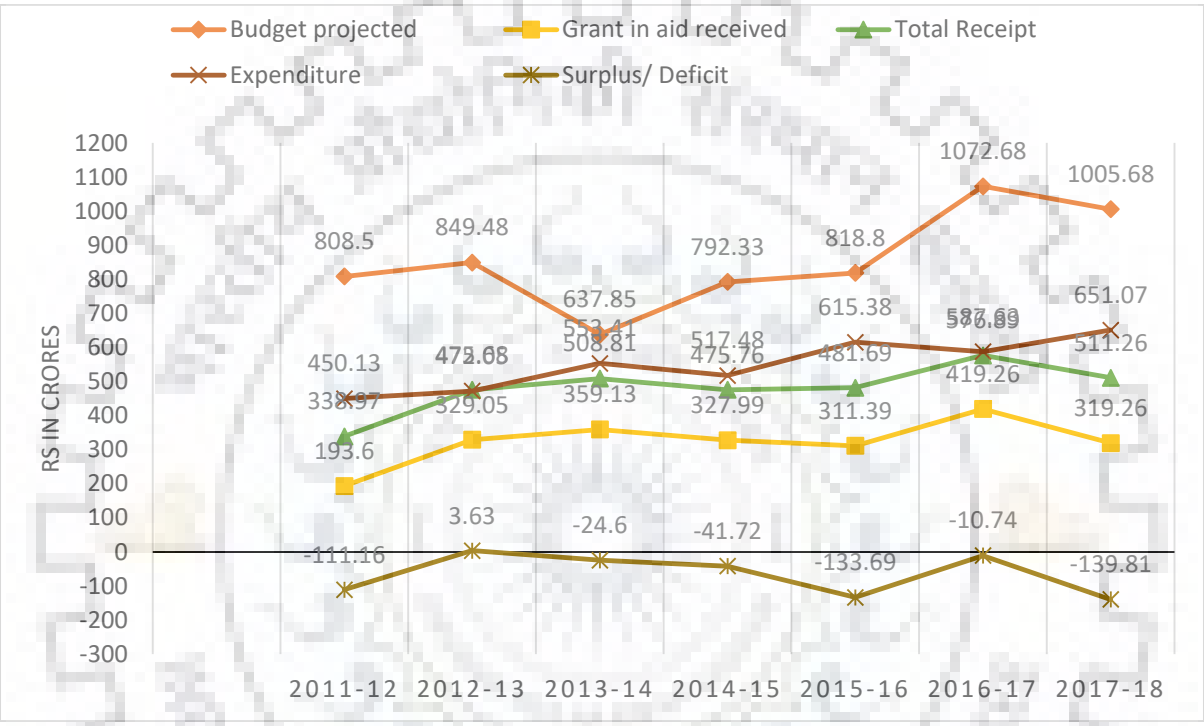

Figure 13. Financial data of MC Chandigarh from 2011-12 to 2017-18

The important inferences made from the above chart are as following –

- Graphical analysis clearly shows the poor fiscal health of the Chandigarh ULB.
- Stark difference between budget projected and expenditure shows that there is much left to be desired.
- Expenditure has remained higher than the total receipt for six out of seven years under consideration.
- Over dependence on grants has crippled the ULB financially.
- Recommendations of DFC are not being implemented by the UT Administration despite repeated requests of MCC.

- In its report submitted in March 2014, the commission recommended an increase in the MC share from 17.5 per cent to 30 per cent of the total receipts of the UT Administration.
- Own revenue growth is inconsistent and has remain stagnant.
- Improvement in own tax receipt in 2017-18 is a result of MC's frantic efforts to prevent bankruptcy but still was not able to meet expenditure.
- Except for 2012-13, the body has continuously been in red; seriously damaging the financial health as reserves/ savings were used up in payments.

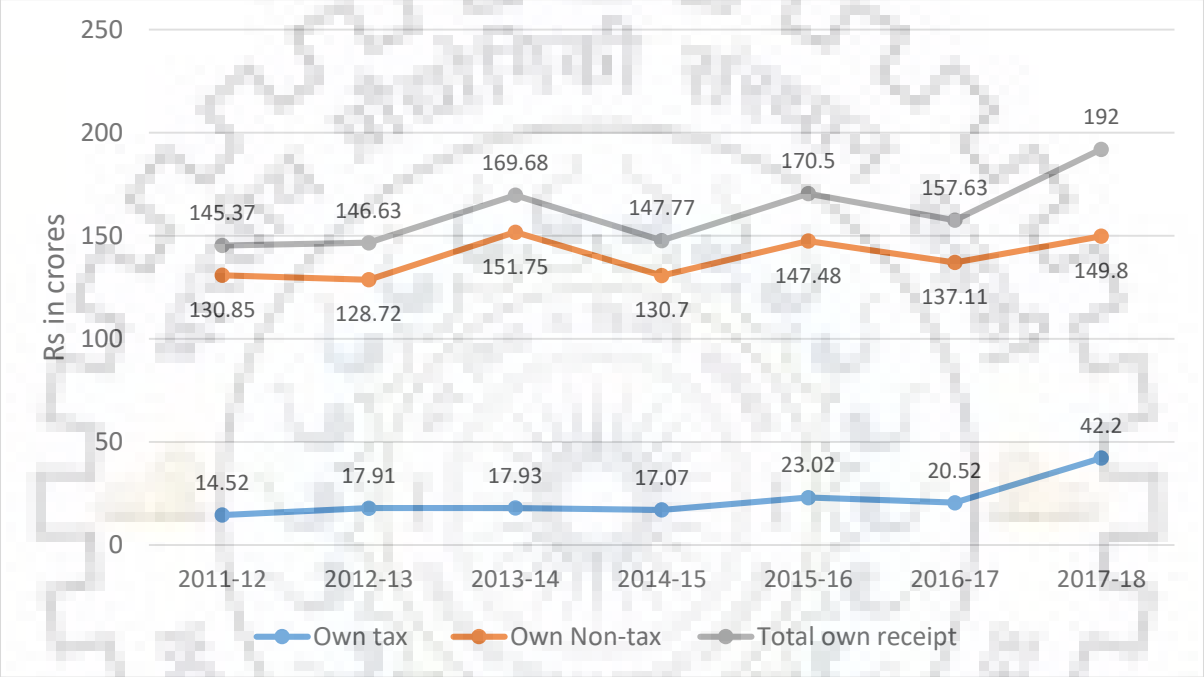

Figure 14. MC Chandigarh own receipt (own tax and own non-tax)

Few observations regarding own receipt of the MC are –

- Non-tax receipt constitutes substantial portion of the total own receipt.
- Own tax receipt has shown poor growth over the years indicating a need for urgent reforms and intervention.
- Own tax receipts are dominated by the property tax and house tax.
- The spike in tax collection during 2017-18 is due to higher property tax collections due to stricter enforcement by MCC.
- Non-tax receipt has also been inconsistent and has not shown any considerable growth.

Based on the above observations, we can easily state that the performance of the MC with regard to its finances is dismal and lacks professional management. The collections have been low and inconsistent, there are no signs of buoyancy whatsoever and very low contribution of taxes to own revenue of the ULB. Tax collections have almost been constant with only hopeful increase in 2017-18 whereas non-tax revenue follows a rise and fall pattern which is very unfavourable, takes away predictability and dependability from the corresponding revenue sources.

4.2 Key financial ratios

Key financial ratios are a set of ratios which reflect the financial performance of any organization, a local body in our case. Various ratios are presented in the table below.

1. Own tax receipt to total own receipt
2. Own non-tax receipt to total own receipt
3. Own receipt to total receipt
4. Own receipt to total expenditure
5. Total receipt as % of GSDP
6. Own tax as % of GSDP

Table 15. Key financial ratios

Year	Own Tax receipt to total own	Own Non-tax receipt to total own	Own receipt to total	Own receipt to total expenditure	Total receipt as % of GSDP	Own tax as % of GSDP
2011-12	9.99	90.01	42.89	32.30	1.81	0.077
2012-13	12.21	87.79	30.83	31.06	2.20	0.082
2013-14	10.57	89.43	33.35	30.66	2.05	0.072
2014-15	11.55	88.45	31.06	28.56	1.79	0.064
2015-16	13.50	86.50	35.40	27.71	1.64	0.078
2016-17	13.02	86.98	27.32	26.82	1.81	0.064
2017-18	21.98	78.02	37.55	29.49	-	-

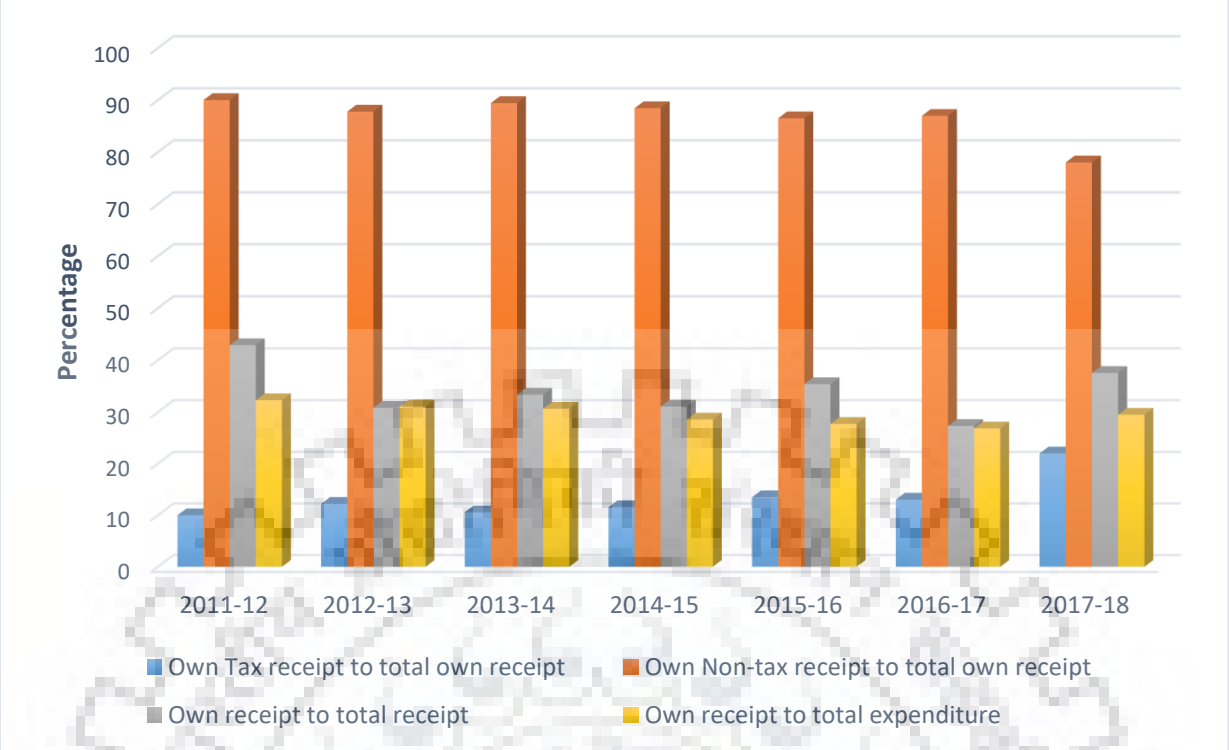

Figure 15. Key financial ratios

Some important observations from above data and chart are as follows –

- Own tax receipt to total own receipt has increased from 9.9% in 2011-12 to only 13.02% in 2016-17. 21.98% in 2017-18 is an anomaly. It shows MC does not have predictable sources of revenue.
- Own receipt to total receipt has continuously declined. From 42.89% to 37.55%, fiscal autonomy has eroded over the years.
- Chandigarh MC's own receipt is not even half of total receipt.
- MC has continuously struggled to meet expenditure from its own receipt as shown.
- Own receipt to total expenditure has come down from 32.30% in 2011-12 to 26.82% in 2016-17 before rising to 29.49% in 2017-18. It shows that the income is not able to match the pace of expenditure.
- Total receipt as % of GSDP has been fluctuating and averaging about 2. In comparison, corresponding figures for OECD countries vary from 5.2% to 37.1%.

Table 16. Measurement of financial performance

Ratio	Indicator	Ranking	Remarks
Capital expenditure / Total expenditure (21.40%)	Expenditure on improvement of services and development of infrastructure to total expenditure.	Good	Expenditure on infrastructure in absolute terms needs to increase.
(Capital grants + revenue surplus) / Capital expenditure (1.38)	Level of capital expenditure supported by non-debt related inflows.	Favourable	MC does not have any debt or other liabilities.
Own tax revenues/ Revenue receipts (3.55%)	Level of fiscal autonomy	Poor	Significant measures need to be adopted. The value should be > 70%
Revenue grants/ Revenue receipts (40.65%)	Level of dependence on the state government grants.	Moderate	Needs further improvement, should be around 10-20%

Table 16 shows poor level of fiscal autonomy of the MC and it needs significant improvement. Other parameters also do not show a healthy sign.

4.3 Low tax to GSDP ratio

GDP increase is an indication of flourishing economy and therefore, tax collections should also increase accordingly. Low tax to GDP ratio signifies that the government is not able to capture enough revenue generated by growth. Taxation is the key to long run political and economic development. To close the gap between income and expenditure, the government needs more revenue which it can get from tax revenues. Figure 16 shows the trends of local own tax revenues and GSDP of Chandigarh.

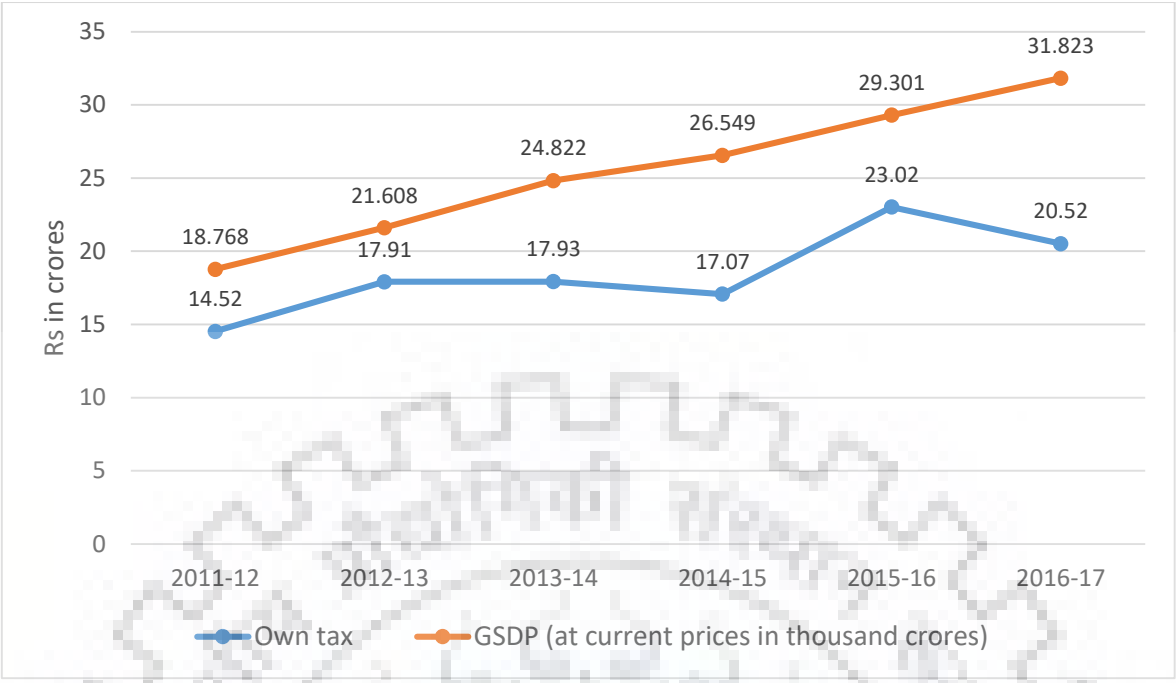

Figure 16. Local own tax revenue vs GSDP of Chandigarh

Table 17. Growth rate (%) of GSDP and local tax revenue

Year	2012-13	2013-14	2014-15	2015-16	2016-17
GSDP	8.1	9	3.8	9.5	6.3
Tax	23.1	0.11	-4.8	34.85	-10.86

For Chandigarh, tax collections are inconsistent and do not follow or show any link to the increase in GSDP which implies that there are systemic issues w.r.t. local taxation regime. From Table 17 it can be inferred that tax receipts of MC are very unpredictable and inconsistent, and hence not dependable. The variation in growth rate of local tax receipts is huge ranging from -10.86% and 34.85%.

General reasons for low tax to GDP ratio

- High tax evasions
- Low per capita income
- Unorganised/ informal sector
- Small tax base
- Low tax buoyancy
- Tax disputes
- Loopholes in taxation policies

- Tax exemptions and subsidies like agricultural subsidies etc.

Reasons for low local tax to GSDP ratio in Chandigarh

- High tax evasions
- Small tax base
- Low tax buoyancy
- Loopholes in taxation policies
- Tax exemptions and subsidies like agricultural subsidies etc.

4.4 Per capita analysis

Per capita analysis is significant to understand the contribution made by each citizen of the city towards its local revenues and how much expenditure is being done per person to provide necessary infrastructure and services by the local body. The following table shows computed values for per capita own tax receipt, per capita own receipt, per capita non-own receipt, per capita receipt and per capita expenditure for Chandigarh MC.

Table 18. Per capita analysis of receipt and expenditure

Year	Population	Per capita own tax receipt	Per capita own receipt	Per capita non-own receipt	Per capita receipt	Per capita expenditure
2011-12	970602	149.60	1497.73	1994.63	3492.36	4637.63
2012-13	993226	180.32	1476.30	3312.94	4789.24	4752.69
2013-14	1016379	176.41	1669.45	3336.65	5006.10	5444.91
2014-15	1040070	164.12	1420.76	3153.54	4574.30	4975.43
2015-16	1064315	216.29	1601.96	2923.86	4525.82	5781.93
2016-17	1089123	188.41	1447.31	3849.52	5296.83	5395.44
2017-18	1114512	378.64	1722.72	2864.57	4587.29	5841.74

After computing the per capita receipt and per capita expenditure values, a comparison chart has been presented to compare it with the average per capita values for the year 2012-13 for all MCs in India and for all ULBs in India (Nagar Panchayats, Municipalities and Municipal Corporations). Per capita own tax receipt for MCC is Rs 180.32, Rs 1765 for all MCs in India and Rs 1095 for all urban local bodies in India. Similarly, per capita own receipt is Rs 1476.30 for MCC, Rs 2690 for all MCs and Rs 1681 for all ULBs in India. Per capita non-own receipt is Rs 3313 for MCC, Rs 1283 for all MCs and Rs 1600 for all ULBs. These numbers also show the poor own revenue generating capacity of the local body under study when compared to all ULBs across India.

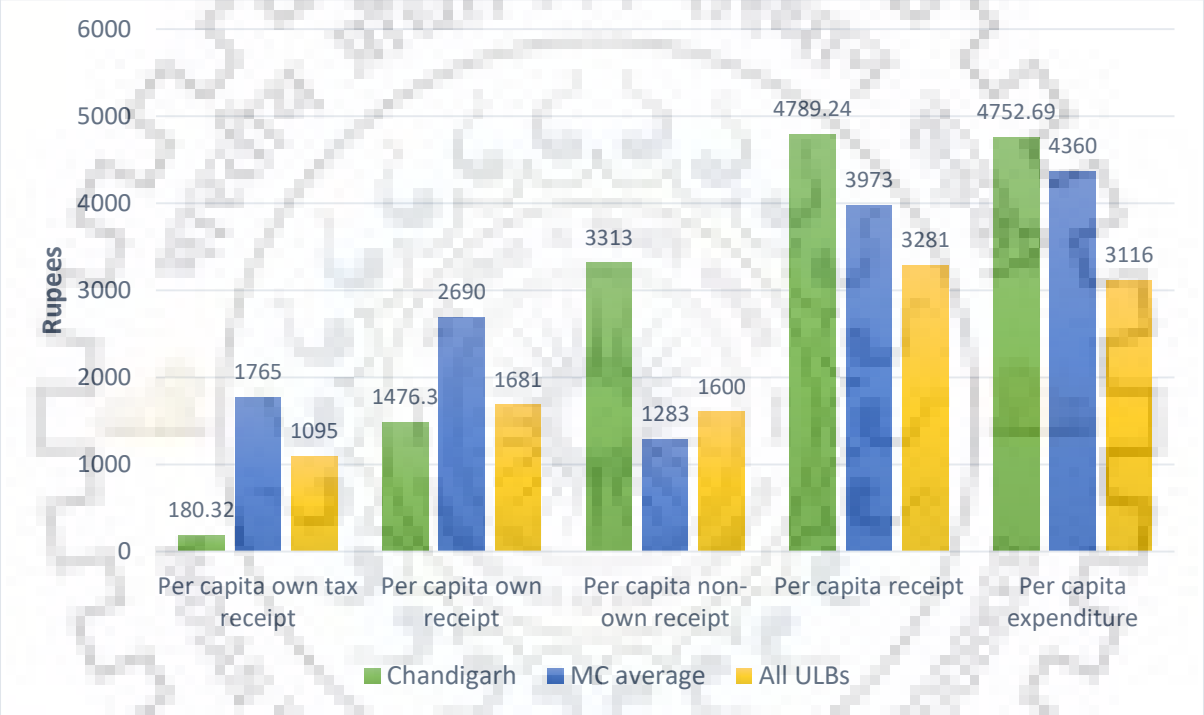

Figure 17. Per capita analysis of receipt and expenditure, 2012-13

4.5 Property Tax collections

Property tax is one of the most important taxes levied by the urban local bodies in India. It is the single largest tax contributing to own revenues in almost all local bodies. It has many advantages as compared to other kinds of taxes, primary being land is owned by upper class people and any tax on land does not burden the worker class and secondary being land is immovable and it becomes difficult for owners to evade tax. Following table shows property tax data for MC Chandigarh.

Table 19. Property tax collections by MCC during 2011-12 to 2017-18

Year	Tax collection (in Rs cr)			Notices issued		Per capita property tax
	Residential	Commercial	Total	Residential	Commercial	
2011-12	-	14.52	14.52	-	18083	149.60
2012-13	-	17.91	17.91	-	19051	180.32
2013-14	-	17.93	17.93	-	22362	176.41
2014-15	-	17.07	17.07	-	22444	164.12
2015-16	4.38	18.64	23.02	30113	22876	216.29
2016-17	3.99	16.53	20.52	24718	22970	188.41
2017-18	11.78	30.42	42.20	40326	22978	378.64

Source: Tax branch, MCC

Compiled by: Author

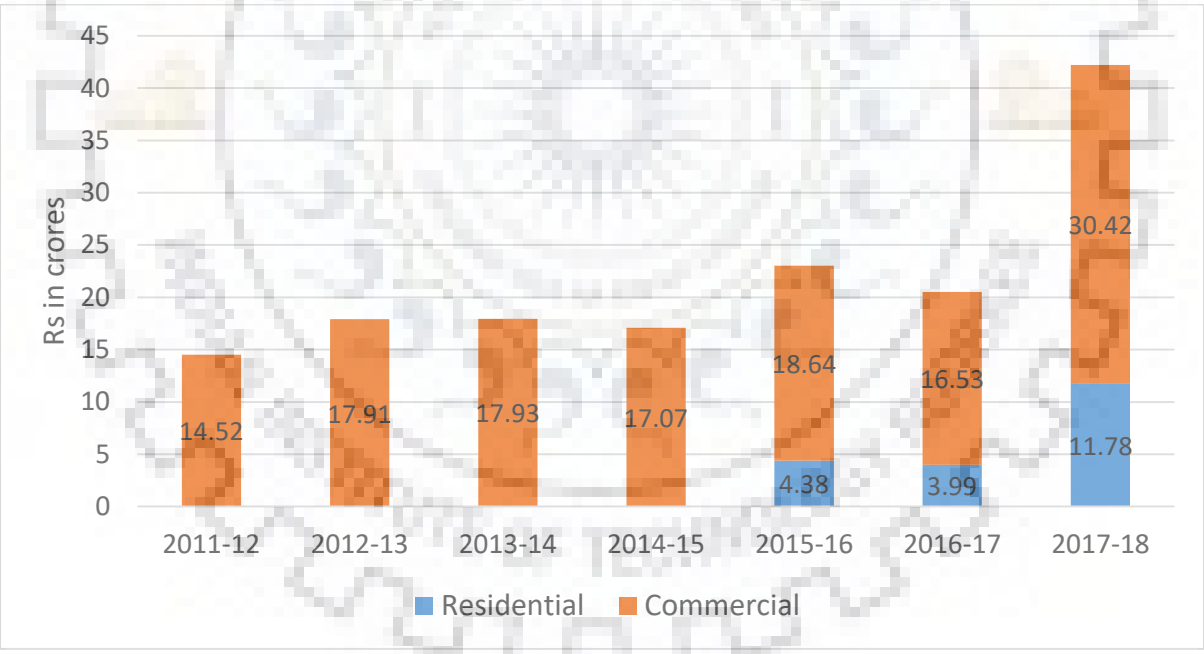

Figure 18. Property tax collections during 2011-12 to 2017-18

The important observations regarding property tax collections are as follows –

- Property tax collections have been dismal and inconsistent over the years.
- Tax collection is not proportional to the number of notices issued indicating poor enforcement and tax evasion.

- The MC does not follow any proper mechanism/ system to issue notices and project demand leading to unpredictable tax collections.
- House Tax was introduced recently in the year 2015-16 and that too at a very minimal rate of Rs 2 per sq yard and decreasing successively by 20% for successive zones.
- A jump in 2017-18 collections is witnessed due to stricter enforcement by the MC. Unpaid amount of past years was also extracted from the defaulters with a penalty.
- The GIS linked database of properties is under preparation.

4.5.1 Glossary for estimating inefficiencies in property tax collection

- Number of total property = Assessed property + unassessed properties
- Unassessed properties = Exempted properties + free riders – free riders are those that are not on the property tax register.
- Coverage ratio = (Assessed property/total properties) x 100
- Collection efficiency= (Property tax actually collected/property tax actually demanded) x 100
- Loss incurred due to inefficiencies = (per capita property tax demand x number of properties under the head).
- Effective tax demand = Actual demand +demand lost due to the inefficiencies
- Percent of demand lost due to inefficiencies = (Loss in demand due to the inefficiency/effective tax demand) x 100

It is difficult to estimate inefficiencies in the property tax system due to unavailability of property data with the MC Tax branch. The situation is very precarious and reflects the poor and unprofessional management of property records by the MC. There has been no survey of properties in the past ten years in spite of the norm that properties have to be surveyed every three to five years and updated records shall be created. There is no information about how many properties are there, identity of tax evaders, coverage of properties and efficiency of tax collection. Grossly unprofessional practices and poor management has led to dismal property tax collections.

4.5.2 House Tax

The following lines taken from the press release of UT administration informing imposition of property tax on residential lands and buildings in Chandigarh from 2015-16 by the order of the Administrator demonstrates the lackadaisical attitude with which the MC Chandigarh functions.

"The Municipal Corporation, Chandigarh has not been able to impose Property Tax on Residential Lands and Buildings in conformity with directions of the Chandigarh Administration referred to above till date.

The Chandigarh Administration feels that it is necessary for the Municipal Corporation to raise its own resources for the development of the city and provision of quality services to its Citizens by imposing the Property Tax on all Lands and Buildings in the jurisdiction of the Municipal Corporation, including Residential Lands and Buildings.

No tax of such nature is being imposed in the city of Chandigarh in respect of the said land/buildings and so the provision of Section 90(4) of Municipal Corporation Act."

As per the property tax notification of the UT administration, following rates have been used for levying property tax on residential properties from 2015.

A) Houses

Zones	Sectors in the zone	Rate of Property Tax per annum
I	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 17, 18, 19, 26, 26(E), 27 & 28.	1. Rs.2/- per sq. yard on the entire plot area **plus** 2. Rs.1/- per sq. ft. on the total covered area of all the floors.
II	20, 21, 22, 23, 24, 25, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 38(West). Modern Housing Complex Manimajra, Shivalik Enclave Manimajra, Industrial Area phase I & phase II. All SCFs situated in the Municipal limits.	80% of the rates of Zone-I
III	39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 61 & 63, others.	60% of the rates of Zone-I

B) CHB Flats, Cooperative House Building Societies & other residential flats (excluding SCFs) having total covered area of 500 sq. ft. and above falling within MC limits (irrespective of zones).

Total covered area	Rs. 0.75 (paisa seventy five only) per sq. ft. per annum.

Few important remarks regarding house tax are –

- A very simple flat rate method is used
- Introduced in the year 2015-16
- No buoyancy
- No provision for revision of rates
- No provision for indexation of rates
- No linkage to factors like age of building, location of building, type of construction, nature of use, carpet area, FSI etc.
- No house tax is paid by residential house/ flat having area less than 500 sq ft.

To find out the inequities in House Tax, let us consider two properties of same configuration in terms of plot area, FAR, covered area etc., both situated in Zone I.

Zone I Sector 7 (Case 1)

Area = 500 sq yards = 4500 sq ft

Rate per sq yard = Rs 2.00

Amount of tax = Rs 2 x 500 = Rs 1000

FAR = 1.5

Built Up Area = 500 x 9 x 1.5 = 6750 sq ft

Ground Floor = 2250 x 1

First Floor = 2250 x 1

Second Floor = 2250 x 1

Tax on covered area = 3 x 2250 x 1 = Rs 6750

Therefore, total tax = **Rs 7750**

Zone I Sectors 14-28 (Case 2)

Area = 500 sq yards, FAR = 1.5

Similarly, Total tax = **Rs 7750**

The following observations can be made from the above illustrations –

I. Tax on built up portion or improvement is greater than that on land which will discourage improvements on land.

Rate per sq yard on land = Rs 2

Rate per sq yard on covered area= Rs 9 (as rate per sq feet is given to be Re 1)

II. Effective rates of property taxation

Case 1

Plot value = Rs 3, 91, 25,000[1]

Building construction cost = Rs 2000[2] x 6750 = 1, 35, 00,000

Total value = Rs 5, 26, 25,000

Property tax to value = 0.0147%

Case 2

Plot value = Rs 3, 71, 69,000

Building construction cost = Rs 2000 x 6750 = 1, 35, 00,000

Total value = Rs 5, 06, 69,000

Property tax to value = 0.0153%

Effective rate in Case 2 is more than Case 1 even though total value of property in Case 1 is higher than in Case 2.

III. No consideration has been given to the locational features, age of the building, nature of use, type of construction etc. which may vary the tax amount if considered.

[1] **Collector rates** for urban residential area have been used to assess values as they are the minimum land values on which stamp duty is collected

[2] Plinth Area Rate for residential properties in Chandigarh

4.5.3 Property Tax

Property tax on commercial, industrial, and institutional buildings in Chandigarh is known as Property tax. The rates per unit area to calculate the property tax for commercial properties have been notified by the UT administration. The property tax for commercial buildings is levied based on the Annual Rateable value of the building which is the gross annual rent at which the buildings or land may reasonably be expected to let from month to month or from year to year.

The notification of MC Chandigarh regarding Self-Assessment scheme of property tax for commercial buildings states that

"The various prevalent systems, for collection of Tax were examined. It was found that the Quality / Area based method and the Capital Value method provided many loopholes, causing harassment to individuals and leakage of revenue. In comparison of these methods, the Unit Area Rental Value method, amply met the objectives narrated above and provided a system that is simple, scientific, hassle free, transparent, just and people friendly. On the basis of this system, A "Self –Assessment plan" for payment of property Tax has been devised."

Table 16 shows rent per square feet per month for different groups at ground floor level. The rates decrease successively from Zone A to Zone D.

Table 20. Rent per square feet per month for different groups – ground floor

1	2	3	4	5	6
Group	Sector	Zone A	Zone B	Zone C	Zone D
I	17	20	15	13	Min.Tax at Flat rate Rs.50/-p.m.
II	22,34 & 35	16	13	12	Min.Tax at Flat rate Rs.50/-p.m.
III	7,8,9,15,19 & 26	14	12	9	Min.Tax at Flat rate Rs.50/-p.m.
IV	Other-Sectors& Industrial Area Ph-I & II	10	8	6	Min.Tax at Flat rate Rs.50/-p.m.
V	Sites earmarked for specific purpose e.g. Institutions, Clubs,Petrolpums etc.	Rs. 10 per sq.ft.			

Source: SAS property tax, Municipal Corporation Chandigarh

The rates of Ground Floors only have been provided in the above table according to Zone of a Group. In respect of basement the rate given in the column No. 3, 4 & 5 has to be reduced by 50% and for the upper stories, rate is to be reduced by 20% of the rent of the last floor (rounded off to the nearest Rupee). Table 17 shows the worked out storey-wise rates for all groups and zones.

Table 21. Rent per square feet per month for different groups and zones

1	2	3	4	5	6	7	8
GroupI	Basement	GF	Ist	IInd	IIIrd	IVth	Vth onwards
Zone A	10	20	16	13	10	8	6
Zone B	8	15	12	10	8	6	5
Zone C	7	13	10	8	6	5	4
Zone D	Minimum Tax at flat Rate Rs. 50 /- P.M						

1	2	3	4	5	6	7	8
GroupII	Basement	GF	Ist	IInd	IIIrd	IVth	Vth onwards
Zone A	8	16	13	10	8	6	5
Zone B	7	13	10	8	6	5	4
Zone C	6	12	10	8	6	5	4
Zone D	Minimum Tax at flat Rate Rs. 50 /- P.M						

1	2	3	4	5	6	7	8
GroupIII	Basement	GF	Ist	IInd	IIIrd	IVth	Vth onwards
Zone A	7	14	11	9	7	6	5
Zone B	6	12	10	8	6	5	4
Zone C	5	9	7	6	5	4	3
Zone D	Minimum Tax at flat Rate Rs. 50 /- P.M						

1	2	3	4	5	6	7	8
GroupIV	Basement	GF	Ist	IInd	IIIrd	IVth	Vth onwards
Zone A	5	10	8	6	5	4	3
Zone B	4	8	6	5	4	3	3
Zone C	3	6	5	4	3	3	3
Zone D	Minimum Tax at flat Rate Rs. 50 /- P.M						

Source: SAS property tax, Municipal Corporation Chandigarh

Some salient features regarding property tax are –

- Self-Assessment Scheme.
- MC started levying property tax **@ 3% of ARV** in 2003-04.

- Divided into **4 groups and 4 zones**. Further, rates (per sq ft per month) have been prescribed for each floor which are to be multiplied by built up area of that floor to get the tax value.
- Add all individual tax values and multiply the total by 12 to get the **Annual Rateable Value (ARV)**. 10% per annum of the ARV is allowed as discount on account of cost of repairs. Thus, ARV is to be reduced by 10%.
- The figure of Annual rateable value shall be rounded up to the nearest multiple of 100/- and the figure so arrive will be Net Annual Rateable Value.
- Unit area monthly rental values increased by 10% in August 2017; **revised after 15 years since its inception**. New rates will be levied from the year 2018-19.
- **No provision for indexation** has been made so as to cause automatic rise of rates leading to buoyancy.
- **No linkage to factors** such as age of building, type of construction, self-occupied or rented out etc.

4.6 Salient Guidelines for property tax reforms: Government of India (1998)

The Government of India released some guidelines for property tax reforms in 1998. Most local bodies in India have still not brought changes in their taxation and accounting systems in alignment with the guidelines and recommendations made by several study reports. Following table evaluates the status of MC Chandigarh w.r.t. the 1998 guidelines.

Table 22. Status of property tax reforms undertaken by MCC as per GoI guidelines (1998)

S.No.	Guidelines	Status
1 a	Low rate of property tax to make it acceptable to public at large	Yes. MC has been very conservative in levying taxes
b	Minimise the discretion on the part of the assessors in tax levy	Rates are fixed by the MC Commissioner
c	Make the process of assessment, levy and collection transparent and simple	Processes are simple but inefficient
d	Ensure equity between classes of taxpayers/ property owners	Lack of equity
e	Facilitate self-assessment of the tax by property owners/ occupiers	Yes. In operation
2	Area based method. Tax on built-up property (both residential and non-residential) may be linked to factors like location of building, type of construction, use of property and carpet area	Area based methods being used in different forms. No linkage to factors.
3	Water tax component of property tax may be gradually replaced by water charges based on metering	Water charges as per metering

4	Building tax should be such that at least the direct (major) services like local roads, conservancy, lighting and fire services, whose costs and benefits are well understood and which are amenable to the principles of benefit taxes on residents, may broadly correspond to the cost of these services	Tax amount does not correspond to the benefits received by the building occupants
5	Cost of other services listed in 12th schedule, cross subsidization needs for the urban poor and funds required for lumpy capital projects of city-wise significance/ loan servicing may be broadly linked to the general tax or land component of the property tax	No such provision
6	Property tax exemptions should be minimised; even for tax exempted properties, only the general tax and not the building tax may be exempted. When exemptions are provided by the state governments, full compensation may be provided to the municipalities	50% exempted. Exemptions have been provided to plots less than 500 sq ft, colonies, defence personnel etc. No compensation.
7	Property tax rate should be linked to the inflation index, preferably related to the cost of municipal services for capital works	Not practised
8	The task of verification and measurement of properties and detailed costing of services may be undertaken in a comprehensive manner once every five years	Not practised
9	Municipal tax appellate authorities be constituted for hearing property tax appeals	Not constituted
10	Properties under dispute or unauthorised construction shall pay property tax as per law	Yes

The status report of property tax reforms undertaken by MCC shows that there is a lot left to be desired. The government gave these guidelines almost two decades ago and to this date, no action has been taken to adhere to them. It clearly shows the inefficient and unprofessional working attitude of the corporation and calls for strong action against the officials responsible for this delay. Accountability for such delays should be fixed and suitable action should be taken so that citizen welfare is not harmed due to incompetency of few people in the local body. Further, necessary steps to enhance skills and knowledge of MC officials should be taken to keep them abreast with the latest developments and practices in the field of local public finance, so that they can carry out their work with full sincerity and capability.

4.7 Issues identified in property tax system

- Low rates of taxation
- Low tax compliance
- Inequitable
- No linkage to factors like location, age of building, type of construction, etc.
- Poor coverage and efficiency
- No regular revision of rates
- Incompetent staff
- No GIS based mapping of properties
- Populist measures/ policies
- 50% properties exempted
- No long term planning with regard to financial health of MC
- Property tax amount is less than even monthly rent earned by properties

4.8 Municipal Performance Index 2019: Assessment Framework, MoHUA

Finance: Revenue Management sector

Scoring is not possible as it depends upon the entries received from all municipalities under consideration and is relative. Data pertains to 2014- 15, 2015-16 and 2016-17.

S.No.	Indicator	Mode of measurement	Unit	Scoring criteria	Status/ Comments
1.	Own Revenue Vs Total revenue(three-year average)	Numerator: Own Revenue of your ULB (in Rupees) Denominator: Total revenue of your ULB including grants (in Rupees)	Percentage	Higher the better	31.02%. Low fiscal autonomy. Overdependence on grants. Needs significant improvement.
2.	Tax Revenue Vs Total Own Revenue (three-year average)	Numerator: Tax Revenue of your ULB (in Rupees) Denominator: Total Own Revenue of your ULB (in Rupees)	Percentage	Lower the better	12.74%. Taxes are important for city wide development and city level infrastructure. Lower may not always be better and there should be a minimum prescribed limit. A judicious mix of tax and non-tax sources is important.
3.	Tax coverage Efficiency	Numerator: Number of properties covered under the tax net Denominator: Total properties within the municipality	Percentage	Higher the better	No reliable data exists. Preparation of authentic land records and inter-linking of databases of UT and MC.
4.	Properties mapped on GIS	Numerator: Total properties mapped on GIS Denominator: Total properties	Percentage	Higher the better	GIS mapping is in progress.
5.	Tax Collection Efficiency (three year average)	Numerator: Total amount of property tax collected (out of billed for previous financial year) by ULB (in Rupees) Denominator: Total amount of property tax billed by ULB in the previous financial year (in Rupees)	Percentage	Higher the better	Self-Assessment method, no bills generated. Cannot be determined.

6.	Review of Property tax	Is the municipality mandated to review property tax rates from time to time as per the applicable Municipal Act? (Y/N)	Yes or No	1 mark for each affirmative answer	No. Rates can only be revised through a notification by UT administration.
7.	Last revision of taxes	If yes, when was the last revision due as per the Act? Has it been carried out? And when?	Yes or No	1 mark for each affirmative answer	Not applicable. Last revision for property tax took place in 2017, 15 years after its inception. House tax being levied since 2015 and continuing at same rates.
8.	Accrual Based Double entry accounting system	Whether Accrual Based Double entry accounting system implemented in your ULB?	Yes or No	1 mark for each affirmative answer	Yes.
9.	Alternate source of financing raised by ULB (PPP, Municipality bonds, CSR, Land Monetisation, Open Market Borrowings, Value Capture Finance, External Financing)	Numerator: Earnings from alternate sources of financing	Percentage	Higher the better	Zero. No alternate source of financing has yet been exploited. A serious consideration needs to be given to this aspect to improve fiscal health and also reduce dependence of MCC on grants.
		Denominator: Total earnings			
10.	Budget Efficiency for the last three years	Actual Revenue (Revised Estimates) - Budgeted Revenue	Difference	Higher the better	-632.54 cr. Substantial negative difference. High expectations of grants. Reflects lack of professional competence of MC cadre and adherence to populist practices.

4.9 Comparative Analysis

A comparative analysis has been done with the ULBs of Pune, Vijayawada and Kochi to examine how Municipal Corporations in other states have been performing.

The rationale for choosing these three cities is their comparability to Chandigarh, each in terms of population, area and population density. Moreover, it shows that despite being located in different parts of India, Kochi in South, Pune in West and Vijayawada in East, all three MCs have a different state legislative environment w.r.t. devolvement of taxes/ fees and revenue raising powers given to the ULBs. The analysis shows that all three chosen corporations have been performing well over a period of past three years. They have a very strong own revenue base and their dependence on upper tiers of government has reduced over the years. One of the main reasons of this difference between Chandigarh and other ULBs is their empowerment by the statutes. Another reason is their technical and managerial capabilities to enforce timely reforms and monitor the progress.

Table 23. City statistics: Population, Area, Population Density, per capita income, Credit rating, Major Tax revenue sources

City	Population (2011)	Area (km^2)	Population density (persons per km^2)	Per capita income (Rs	Credit rating	Major tax revenue sources
Pune	31,24,458	331.32	9430	1.27	AA+	Octroi, Local Body tax, Property tax, Water tax
Kochi	6,77,381	94.88	7139	1.61	BBB	Property tax, Profession tax, Advertisement tax,
Vijayawada	10,34,358	61.88	16715	1.62	A-	Property tax, Vacant Land tax, Entertainment tax, Profession tax (Assigned)
Chandigarh	10,55,450	114.00	9258	2.42	BBB	Property tax and house tax

Source: Census of India, Credit rating reports, Budget documents

From the above table we can see that Vijayawada and Chandigarh have identical population figures, Kochi has an area almost close to Chandigarh, Pune has a population density approximately same as Chandigarh and Chandigarh has the highest per capita income of all the four cities under consideration. Pune has a very high credit rating of AA+ which keeps it in the

higher investment grade slab. Kochi and Vijayawada also have fairly good creditworthiness. Chandigarh has a credit rating of ‘BBB’ as per a private rating agency Infomerics, which denotes a lower medium investment grade but the credibility of credit rating agencies is also a big problem now a days. Also, different credit rating charts are followed by these agencies which may sometimes lead to misinterpretation of the financial capabilities of an organization.

Table 24. Receipt and Expenditure details of Pune, Kochi and Vijayawada Municipal Corporations

Year	Own tax receipt	Total own receipt	Total receipt	Total Expenditure	Own tax receipt to total receipt	Total Own receipt to total receipt	Surplus/ Deficit
	PUNE MUNICIPAL CORPORATION, MAHARASHTRA						
2014-15	2087.25	3221.32	3325.73	3195.32	62.76	96.86	130.41
2015-16	2545.50	3927.24	4037.33	3484.65	63.05	97.27	552.68
2016-17	2552.35	3393.66	3728.46	4089.00	68.46	91.02	-360.54
	KOCHI MUNICIPAL CORPORATION, KERALA						
2014-15	104.86	135.95	266.95	175.61	39.28	50.93	91.34
2015-16	103.61	145.85	224.45	196.11	46.16	64.98	28.34
2016-17	116.21	149.61	184.00	145.60	63.16	81.31	38.40
	VIJAYAWADA MUNICIPAL CORPORATION, ANDHRA PRADESH						
2014-15	82.81	175.23	303.51	263.76	27.28	57.73	39.75
2015-16	120.51	248.36	293.17	247.20	41.11	84.72	45.97
2016-17	128.27	354.52	449.77	327.33	28.52	78.82	122.44

Source: Budget documents, Income & Expenditure statements of MCs and Author

4.9.1 Own tax receipt to total own receipt

Table 25. Own tax receipt to total own receipt – Pune, Kochi, Vijayawada and Chandigarh

Year	Pune	Kochi	Vijayawada	Chandigarh
2014-15	64.79	77.13	47.62	11.55
2015-16	64.82	71.04	48.52	13.50
2016-17	75.21	77.68	36.18	13.02

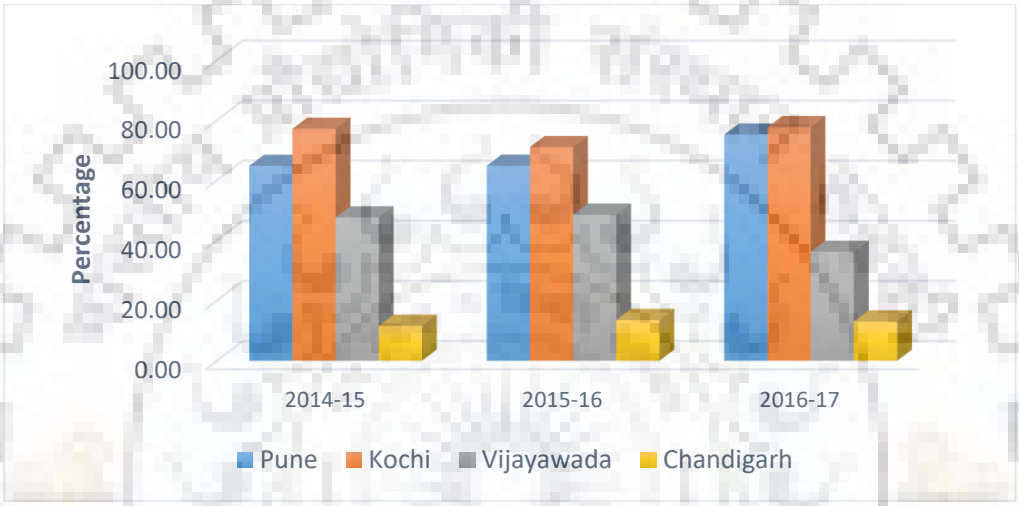

Figure 19. Own tax receipt to total own receipt

The following observations can be made from the table and figure shown above.

- The numbers clearly show the poor performance of Chandigarh when compared to the other three MCs.
- Pune, Kochi and Vijayawada have greater contribution of tax receipts to their total own receipts unlike Chandigarh.
- Highest contribution is for Kochi at 77.68% during 2016-17 and lowest is for Vijayawada at 36.18% during 2016-2017.
- Despite fluctuations in some years, they have been to maintain a good own tax revenues.
- Therefore, Chandigarh needs to up its game to match up to the best MCs in India in terms of tax contribution to own receipt.

4.9.2 Own non-tax receipt to total own receipt

Table 26. Own non-tax to total own receipt

Year	Pune	Kochi	Vijayawada	Chandigarh
2014-15	35.21	22.87	52.74	88.45
2015-16	35.18	28.96	51.48	86.50
2016-17	24.79	22.32	63.82	86.98

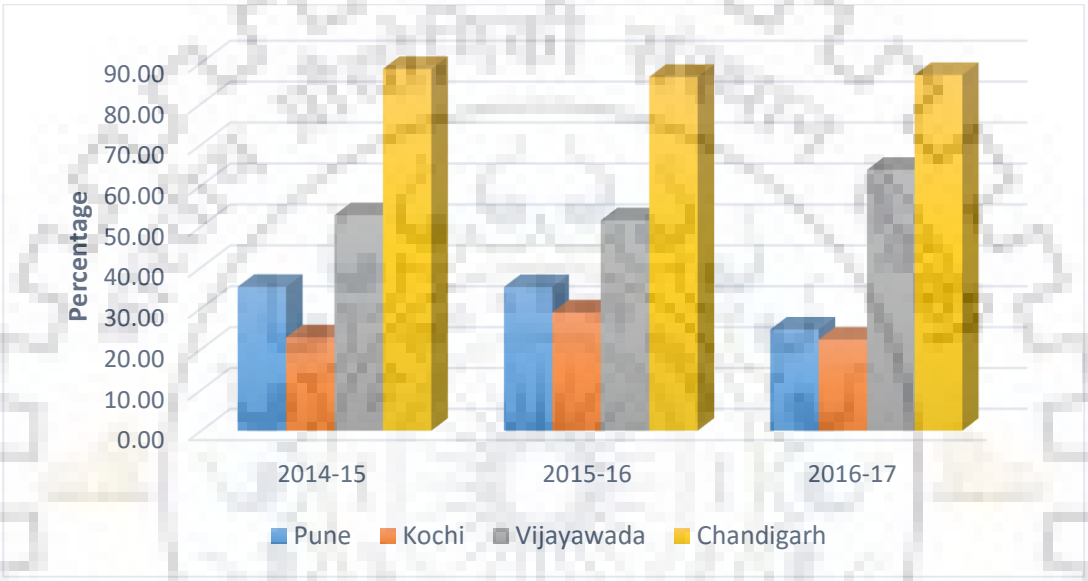

Figure 20. Own non-tax to total own receipt

The following observations can be made from the table and figure shown above.

- Chandigarh has a dominance of non-tax receipt in its total own receipt as depicted by the figures. It is mainly due to very low own tax income as compared to others.
- Among the ULBs under consideration, Kochi has the lowest share at 22.32% in 2016-17 and Vijayawada highest at 63.82% in 2016-17.
- Chandigarh MC has been able to get good revenues from non-tax sources but those have to be supplemented by augmentation of tax revenue for a good total own receipt.

4.9.3 Own receipt to total receipt

Table 27. Own receipt to total receipt

Year	Pune	Kochi	Vijayawada	Chandigarh
2014-15	96.86	50.93	57.73	31.06
2015-16	97.27	64.98	84.72	35.4
2016-17	91.02	81.31	78.82	27.32

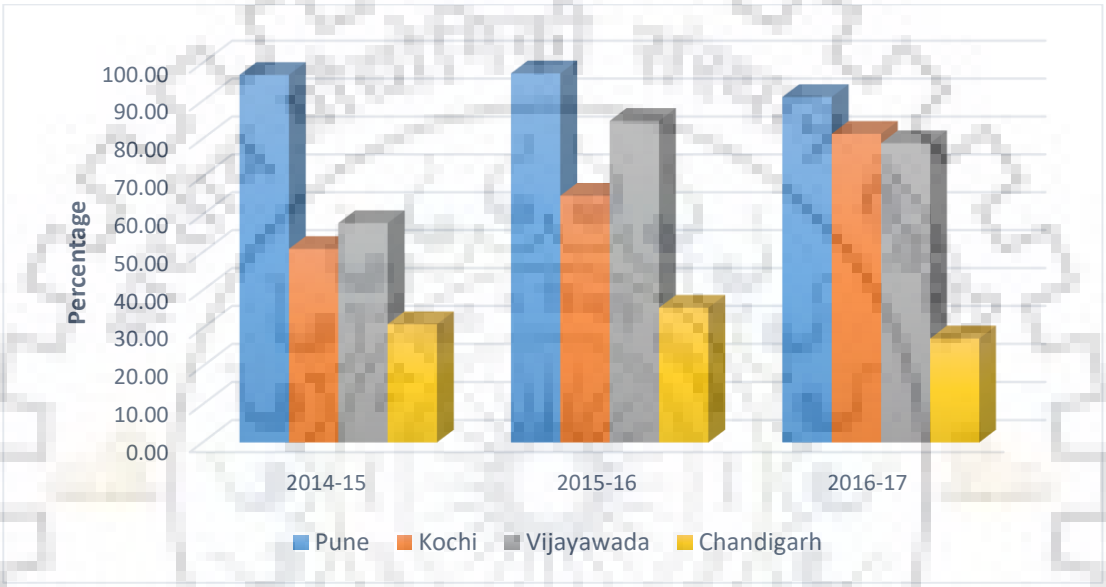

Figure 21. Own receipt to total receipt

The following observations can be made from the table and figure shown above.

- Chandigarh MC is not able to generate even half of its total own revenues itself which is unexpected of a local body of a city like Chandigarh.
- All three MCs of Pune, Kochi and Vijayawada have shown very good performance in this regard.
- Pune has been able to consistently generate more than 90% of the total revenue from its own revenue.
- For Kochi and Vijayawada also, it has improved over the years.
- Chandigarh's own revenue generating capacity has hovered around 30% which is not a very good sign.
- Over the years, fiscal autonomy of MCC has eroded making it heavily dependent on devolutions from higher levels of government.

4.9.4 Own receipt to total expenditure

Table 28. Own receipt to total expenditure

Year	Pune	Kochi	Vijayawada	Chandigarh
2014-15	100.81	77.42	66.44	28.56
2015-16	112.70	74.37	100.47	27.71
2016-17	82.99	102.75	108.31	26.82

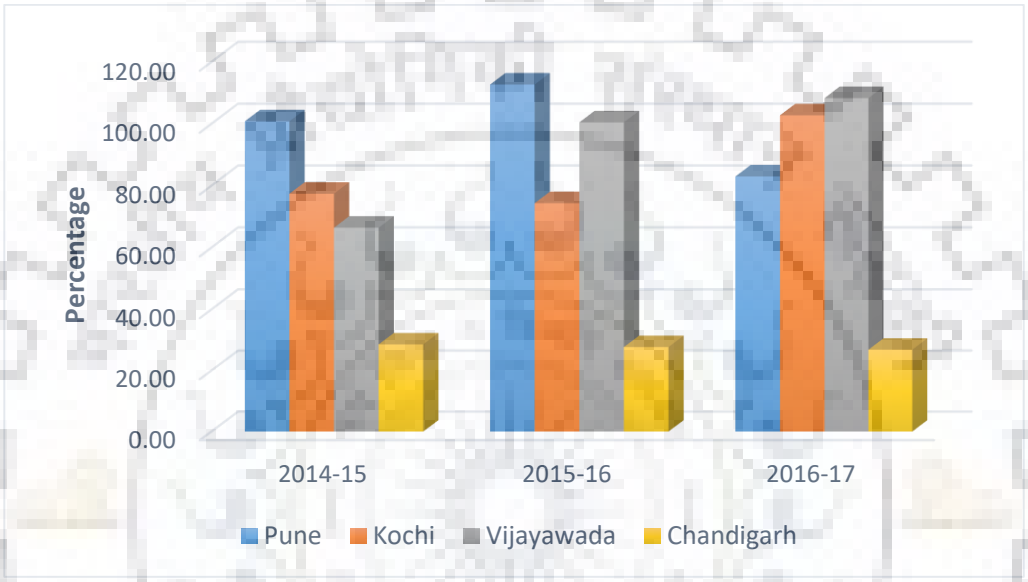

Figure 22. Own receipt to total expenditure

The following observations can be made from the table and figure shown above.

- There is a stark difference between numbers for MCC and those of others.
- Chandigarh, with a GDP per capita of around $4450 in 2016-17 and a higher per capita income than the other three ULB areas, is struggling to meet its expenditures which clearly shows the **'rich city – poor city government'** syndrome.
- Own receipt to total expenditure percentage has continuously declined over the three year period from 28.56% to 26.82%.
- Pune, Kochi and Vijayawada have generated revenues more than the expenditure and created good reserves.
- Over the years, MCC has lost its creditworthiness and a high own receipt to total expenditure ratio is important to get a good credit rating which reflects its capacity to meet its financial commitment.

4.10 Options available with MCC

Municipal Corporation of Chandigarh has the following revenue sources available at its disposal.

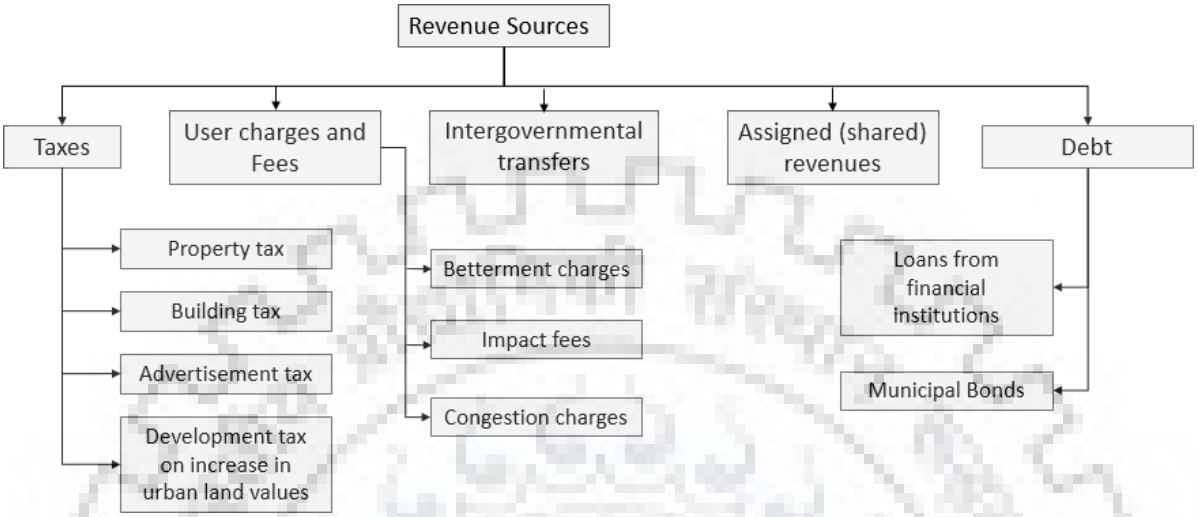

Figure 23. Revenue sources of MC Chandigarh

The above figure shows the options available with MC in accordance with the Punjab Municipal Corporation Law (Extension to Chandigarh) Act, 1994 to get money to carry out its works. The main revenue sources are taxes, user charges and fees, intergovernmental transfers, assigned (shared) revenues and debt.

Taxes are the most predictable, dependable and buoyant source of revenue which the local body can tap into. Taxes can be easily used to fund infrastructure investments whose benefits are enjoyed by all the city residents. Moreover, the power to levy land based taxes and determine their rates rests with the MC though it needs ratification by the UT administration. Property tax and Development taxes or value capture tools should be explored by the MC to improve its own source revenues which is essential to improve its financial health. Building tax is not being levied and low rates would not provide substantial earnings. Also, taxes on buildings are considered regressive as they would discourage improvements on land. Advertisement tax can be levied but it would not yield substantial revenue.

User charges and fees can be imposed but the revenue stream may be unpredictable because number of users may vary from time to time and also it depends on the success of the services provided. User charges and fees can help by taking care of the O&M cost of the infrastructure. These can best be used when beneficiaries can be identified and easily be charged on the basis

of quantum of services used by them. It is one of the most efficient and equitable source of revenue. Provisions for progressive charging or tariff blocks can be included to shift more costs towards taxpayers with higher paying capacities. Betterment levies, impact fees, congestion charging etc. can be explored under this revenue source.

Intergovernmental transfers are not happening in the required amount leaving the MC to fend for itself. In spite of recommendations of Delhi Finance Commission to UT administration to devolve 30% of its annual budget to MC but it is not being implemented. Irregular and inadequate transfers cannot be used to plan and execute city level infrastructure works. Moreover, Central government has changed its stance to not bail out inefficient local bodies so that they work in a tight budget constraints, thus improving their efficiency and project management abilities.

In current scenario, it is very difficult for the corporation to get a loan or issue municipal bonds as its creditworthiness is poor. As per SEBI guidelines 2017, Municipalities making public issue of debt securities should have ***"surplus as per its Income and Expenditure Statement, in any of the three immediately preceding financial years or any other financial criteria as specified by SEBI from time to time"***

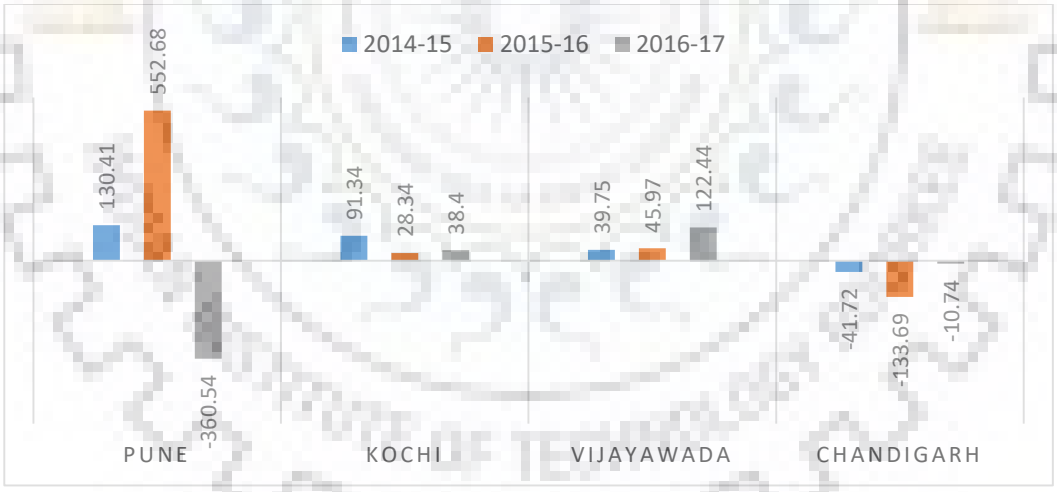

Figure 24. Surplus/ Deficit of MCs from 2014-15 to 2016-17

The above figure shows that the Chandigarh MC has continuously been in deficit since 2014-15 indicating its ineligibility as per SEBI guidelines to issue municipal bonds or public issue of debt securities.

4.11 Understanding the taxpayers

When any study about taxation and related issues is carried out, the majority of them focuses on the systemic issues, enforcement issues, legislative issues etc. and very few even touch upon the role of taxpayers in successful implementation of any taxation scheme or policy.

In the study of urban planning too, it is taught that for preparation of a successful plan, participation of the people for whom the plan is being prepared is very essential. Otherwise there is always a risk that the plan might not meet the needs for which it was designed. Similarly, in taxation also it becomes important to identify the issues and then address each one of them appropriately. Some issues may involve mere change of taxpayer behaviour rather than devising tedious policy measures.

Therefore, to understand the common taxpayer of Chandigarh a small survey was carried out by the investigator and the reasons for why people do not pay taxes are enlisted below:

- **Ignorance** - I do not know about my tax responsibilities.
- **Improper use** - My money is not used for development of state/ my area.
- **Unreasonable rates** - Taxes are too high.
- **Nobody pays** - Nobody in my neighbourhood pays so why should I pay
- **No punishment** - Nobody asks us to pay.
- **Dissatisfaction** - Unsatisfied with the quality of services provided.

After pondering over the reasons taxpayers provided for not paying up, following problems were identified:

1. **Lack of tax education/ awareness** – People do not know about their responsibilities as a resident of the city and as responsible citizens of the country. They do not why taxes should be paid, how their money is used, how will it eventually help them etc.
2. **Corruption** – The money paid by the people is not used for development works but by the officials to fill their pockets. It is important to develop trust between government and its taxpayers.
3. **Discrimination/ State is looting** – Indiscriminately high rates are charged from the people due to multiple reasons. It highlights the need to maintain efficiency and equity in the taxation systems.
4. **Tax evasion and waivers from government** – Tax evasion is prevalent. In India, it is usually witnessed that after few years, governments come up with a tax waiver scheme

and all unpaid taxes are waived off. It gives a hope to taxpayers to not pay and wait till some action is taken.

5. **Lack of proper enforcement** – Local body does not enforce the tax properly. No proper records are maintained and identification of defaulters is difficult. No levy of penalties and fines.
6. **Poor quality of services** – Every person expects to get the services for what he/ she is paying for. Poor services and infrastructure lead to disenchantment of the public and that is reflected in lower tax collections.

Some additional issues are –

Top down approach. Any reports pertaining to finances or related issues published by Central government/ States/ other institutions or organizations including Finance Commission reports mainly focus on systemic issues with no importance given to the people from whom the taxes are to be collected and on whom they will be spent upon.

No space to opinions/ views of citizens. A FC report takes in views from all stakeholders i.e. Governments (Centre and state), SFCs, etc. but nowhere are views of citizens taken up and what do they want.

No focus on education of taxpayers. Raising awareness amongst the citizenry about their roles & responsibilities in running the government (Centre, State, local), why paying taxes matter, how will it help them, addressing taxpayers concerns regarding improper use of their money etc. There should be a separate chapter for this problem in reports.

4.12 Issues identified

- Utter neglect by the Central government
- Limited carrying capacity
- Poor financial autonomy
- Neighbouring areas are heavily dependent upon the city
- Planning of the city as an entity separate from surrounding areas
- Inadequate transfers by Central government and UT administration
- Non-implementation of recommendations by Delhi Finance Commission
- Overdependence on upper tiers of government for funds
- Low tax to GSDP ratio
- High floating population

- Absence of good regional public transport system
- Strict architectural controls and building norms, low FAR
- Multiplicity of laws
- Poor bureaucratic accountability
- Instability of leadership - Change of Mayor every year
- Inadequate local taxes
- Poor use of existing available ways to generate revenue
- Poor own receipt to total receipt ratio
- Poor own tax receipt to total own receipt ratio
- High tax evasion
- Poor enforcement by MC
- Low rates of property tax
- No revision of rates
- Lack of managerial & technical capacity in MC
- No credible GIS database of properties exists
- Lack of awareness among taxpayers
- No incorporation of financial planning in Master Plan
- Urban planning function not devolved to MC
- Heritage tag has prevented large areas in central part from coming into the market for redevelopment

The financial crisis of MCC is a cumulative result of all the issues identified above. The identified issues can be broadly grouped under three heads:

a) Political issues
b) Administrative issues
c) Systemic issues

Political issues are those which arise mainly due to the political preferences of the party in government. They may or may not give necessary attention to some or more areas/ regions as per their priorities and compulsions. For example, lack of legislative support and approvals to development plans etc.

Administrative issues are those which are related to the structures of governance, capabilities of officers & staff, overlapping jurisdictions, assignment of powers etc.

Systemic issues are those which exist due to the inaction of the governments to remove existing inefficiencies in the taxation systems, bring in necessary reforms, and improve existing systems of management.

The study would be limited to addressing the systemic issues which relate to the Municipal Corporation of Chandigarh and suggest necessary steps to improve its fiscal condition. The issues identified for this purpose are as follows –

- poor financial autonomy
- poor use of existing available ways to generate revenue
- poor own receipt to total receipt ratio
- poor own tax receipt to total own receipt ratio
- property tax related issues
- lack of managerial and technical capacity in MC
- lack of awareness among taxpayers

Solving these issues will definitely help in easing the crisis faced by MC. However, the financial problem of MC will be solved in its entirety only when all the identified issues are addressed adequately.

5 VALUE CAPTURE FINANCING STRATEGY FOR CHANDIGARH

To improve the existing fiscal condition of the MCC, there is a need to have a judicious mix of both tax and non-tax sources of revenue. For the purpose of this study, tax and non-tax options under the umbrella of Value Capture Finance have been considered.

5.1 Property Tax Reforms

Based on the 'Salient guidelines for property tax reforms: Government of India (1998)', many cities in India have already implemented the area-based methods to levy property tax which include New Delhi, Hyderabad, Bengaluru, Patna, etc. The method takes into account the characteristics of property such as location, type of construction, and nature of use. Bengaluru has adopted a hybrid between an area based and a value based method.

However, the experiment with area-based tax has been very successful in Bengaluru as compared to Delhi. The **salient features of Bengaluru UAV method** are described below:

- SAS – 2008 has shifted to the concept of UAV from ARV in SAS – 2000.
- The city is divided into 6 zones from A to F.
- Residential use properties are classified into five categories based on their structural features
- Non-residential properties are classified into several categories depending upon their type and nature of use.
- For each zone and category of property, a UAV per square feet is determined by the Commissioner, BBMP on the basis of the average market rate determined through mass appraisal method or real estate market information or any other reliable source or combination of these sources that he may consider it as sufficient and reasonable having regard to location, type of construction of the building, nature of use, built-up area, age of the building and other such factors.
- For residential use building, the rate of tax is 20% of the taxable annual value, for non-residential buildings it is 25%. The tax rate for owner occupied properties is half of that for tenanted.
- Vacant land exceeding three times the built up area is assessed at 30% of the rate fixed for built up area.

- Over a three year cycle, the value increase must be at least 15%, resulting in steadily increasing property tax collection.

Due to SAS 2008, property tax collection in Greater Bengaluru Municipal Corporation increased by 39% between 2009-10 and 2010-11. The tempo of property tax growth is continuing. (Source: Bruhath Bangalore Mahanagar Palike)

Also, **filing of annual property tax returns** in Bengaluru is now mandatory. Up to 10% of the returns filed are required to be verified randomly. Bengaluru is the first city in India to adopt a **GIS-enabled database for property tax** on a city scale, identifying 1.7 million properties and assigning them unique property identification numbers. Adopting GIS enabled systems for Chandigarh should not be a big deal because area of Bengaluru is about 700 km^2 as compared to well-planned Chandigarh's 114 km^2.

Also cities like Delhi and Mumbai use **multiplicative factors** like user category, age of building, floor factor, built up area etc. to arrive at the capital value of building on which tax is calculated.

If we compare the methods adopted in Chandigarh with these cities, we find that commercial properties are being taxed according to a similar method but tax rates are lower and residential properties are not being taxed according to the unit area based method depending upon unit area value. Also, factors such as age of the building, ownership, nature of use etc. are not being considered to calculate the tax. The reasons to go for area based assessment:

a. Reduced arbitrariness and discretion on part of officials.
b. Easy to administer
c. Simple, transparent, fair
d. Rigorous valuation techniques or expert valuer services are not necessary.
e. Can be implemented in markets which are informal and not yet fully developed
f. It will also address speculation to some extent. If landowners try to pass on their increase in tax amount to tenants, it will reflect in their inflated UAVs.

Demerits of unit area value based assessment:

a. Lack of linkage to market value
b. Classification of properties and fixation of unit area values is an issue.

Therefore, property tax reforms in Chandigarh should take care of the points noted above while improving its system.

5.1.1 Short term

i. Complete GIS based mapping of all properties and record their necessary details.

ii. Allot property tax identification number to each property and maintain proper online record.

iii. Improve tax collection efficiency, coverage of residential properties and enforcement.

5.1.2 Medium term

iv. Unit area based method (UAM) without Self-Assessment Scheme may be adopted because people have a general tendency to underestimate the value of their property to avoid taxation.

v. The city may be divided into different groups/ zones taking into consideration land values and other such considerations as the municipal corporation may find suitable so as to maintain equity in the tax levied. Generally, it is done on the basis of guidance values/ collector rates but it is seen that in some cities they are not fixed equitably.

vi. Residential properties may further be sub-divided into various categories based on their type of construction, and other such structural features.

vii. Non-residential property may be carefully classified into several categories based on the type of construction and nature of use.

viii. For each group/ zone and different category of buildings, the rates i.e. Unit Area Value rate i.e. rent per unit area may be determined by the Municipal Commissioner based on average market rates evaluated through mass appraisal method or real estate market survey or any other reliable source of information which he/ she may find sufficient and reasonable. UAVs determined may have regard to location, nature of use, plinth area, type of construction and other such factors.

ix. A graduated rate system may be adopted for both residential as well as non-residential properties with a minimum rate of 10% on taxable annual value.

x. Self-occupied properties may be given a rebate of 40% on taxable annual value. Similarly, in case of properties which have a tenant along with the owner, a rebate of 25% may be given.

xi. Fire tax as percentage of taxable annual value as the corporation may deem reasonable for the expense necessary for the conduct and management of the fire service and for related protection purposes.

xii. Deduction may be allowed for depreciation on account of age of building on taxable annual value depending upon the rates as notified by the Commissioner in property tax notification.

Table 29. Depreciation table

Life of the building	Maximum depreciation allowed (%)
Above 2 years and below 5 years	5
5 years and below 10 years	10
10 years and below 15 years	15
15 years and below 25 years	25
25 years and below 35 years	30
35 years and below 50 years	40
50 years and above	50

xiii. Deduction on account of annual repairs & maintenance may also be provided up to 10% of the taxable annual value.

xiv. There may be a provision for indexation of value between any two comprehensive revisions. Also, a minimum hike rate may be set or rates may be revised every three to five years.

xv. GIS enabled property database at city level may be maintained and every property may be assigned a unique property identification number. All the details of the property like ownership, location, built up area, number of rooms, age etc. should be recorded against each identification number.

xvi. Filing of property tax returns may be made mandatory. 5 – 10% of the returns may be randomly verified to check compliance.

xvii. Penalty may be levied on untimely and non-payment of tax amount upon issue of notice by the corporation.

xviii. Properties with area less than 500 square feet and self-occupied may be exempt from payment of tax.

xix. Municipal tax appellate authority may be constituted for hearing property tax appeals.

5.1.3 Long term

xx. Link and digitise all land records and prepare a database containing records of ownership, tenants, area, location, property value, number of rooms, FAR, type of construction, nature of use, age of building, etc.

xxi. Shift to capital value of land for all taxation purposes. The capital value of land and building may be assessed by the valuation board established as part of the reforms.

xxii. Two part/ split rate property taxation – land tax in form of Land value tax and a building tax which may broadly correspond to the cost of services for which user charges cannot be levied like lighting, local roads, conservancy etc.

xxiii. Land value tax may replace the general tax component of property tax.

xxiv. Create awareness and understanding among the citizens regarding systems of taxation and its benefit.

xxv. Exercises for capacity building of municipal cadre and confidence building of taxpayers may be conducted.

Note: The MC Act limits tax rate at 15%. It also mentions the use of Annual Rateable Value for tax calculation on lands & buildings.

Illustrations would better describe the scenario.

Residential Property

Zone-I sectors

Plot area 500 sq. yards = 500

Rate per sq. yard = Rs. 2.00

Amount of Tax = 500 x 2 = 1000.00

FAR = 1.50

Built up area as per FAR = 500 x 9 x 1.50 = 6750 sq.ft.

Ground Floor	=	2250		
First Floor	=	2250	6750 X 1 =	6750.00
Second Floor	=	2250		
			Total Tax =	**7750.00**

Basement, if any, = covered area x rate

Above illustrative example has been taken from Annexure provided by the UT administration for a Zone I sector. If we calculate the property tax for same property as per the recommended system, it would be as follows:

Plot area = 500 sq yards = 4500 sq feet, Tenanted property (assume)

Monthly UAV = Rs 10 per sq ft. (conservative approach; prevailing market rate is much higher)

FAR = 1.50

Built up area = 1.5 x 4500 = 6750 sq ft.

Taxable Annual Value = 6750 sq ft. x 10 x 12 = Rs 810000

Applicable depreciation = 30% (assuming the age of building is 25 years)

Depreciation = 0.25 x 810000 = Rs 202500

Deduction for repairs = 10% of 810000 = Rs 81000

Property tax = 10% of (810000-202500-81000) = 0.10 x 526500 = Rs 52, 650

Fire tax = 2.5% (assume) of property tax = 0.025 x 52650 = Rs 1316.25

Therefore, total amount = 52650 + 1316 = Rs 53966

Difference = Rs 53966 – Rs 7750 = Rs 46, 216

Non-Residential Property

ZONE-A SECTOR-17

1) Suppose a SCO in Sector-17, Chandigarh has an area of 17.3 x 107.9 sq. ft. having basement, ground floor, First floor, Second floor, Third floor and Fourth floor in zone-A. The total area comes to 1858.68 sq. ft. and Annual Rateable Value comes to Rs. 1314000/- and calculation of Property Tax is as under:-

Size of plot	17.3 x 07.9	=1858.68 Sq. ft.
Basement	1300 x 10	=13000-00
Ground floor	1300 x 20	=26000-00
First Floor	1500 x 16	=24000-00
Second Floor	1500 x 13	=19500-00
Third Floor	1500 x 10	=15000-00
Fourth Floor	1500 x 8	=12000-00

1,09,500 x 12 = 1314000-00 ARV
Rebate @ 10%= 131400-00
1182600-00 Net Taxable ARV

Tax @ 2%	=23652-00
Tax @ 5%	=59130-00
Tax @ 10%	=118260-00

Above illustrative example has been taken from Annexure provided by the UT administration for a Zone A, Sector 17 SCO. Property tax calculation as per the recommended system may be calculated in the following manner.

Assuming self-occupied property, age = 20 years

Total built up area = 8600 sq feet

UAV = Rs 20 per sq feet (conservative approach; prevailing market rate for Sector 17 is around Rs 500-1000 per sq ft.)

Monthly taxable value = Rs 172000

Taxable Annual Value = Rs 172000 x 12 = Rs 2064000

Depreciation = 25%

Applicable depreciation = 0.25 x 2064000 = 516000

Deduction for repairs = 10% of 2064000 = 206400

Property tax = 10% of (2064000-516000-206400) = 0.25 x 774000 = Rs 134160

Fire tax = 5% of property tax = 0.05 x 134160 = Rs 6708

Rebate for self-occupied property = 40% of property tax = 0.4 x 134160 = Rs 53664

Total tax payable = Rs 87204

Difference = Rs 87204 – Rs 35478 = Rs 51, 726

There will be quite a lot of change in property tax collection after the adoption of this method. But merely adopting any method would not suffice until other problems such as tax evasion, low coverage and efficiency are addressed.

5.2 Suitability analysis of VCF tools

Value capture tools as recognized by the Value capture finance policy framework of MoUD are as follows:

a) Land value tax
b) Fees for change of land use
c) Betterment levy
d) Development charges (Impact fees)
e) Transferable Development Rights
f) Premium on relaxation of rules or additional FSI
g) Vacant Land tax
h) Tax increment financing
i) Land acquisition and development
j) Land pooling system

The suitability analysis is strictly based on the prevailing situation/ conditions in the city. The results are subject to change with time keeping in view the change in fiscal health of MC, approach of UT administration towards development and governance structures.

5.2.1 Criteria for analysis

The criteria identified by the public finance literature for the choice of municipal taxes are as below:

1. Efficiency – The local taxes should be allocated in proportion to the benefits received by the taxpayers. Their use of service should reflect their willingness to pay.
2. Equity – Horizontal and vertical equity should be maintained to maximum extent possible. Horizontal equity means that the residents who possess the same amount of wealth or have similar incomes should be taxed at the same rate as others within that same tax bracket. Vertical equity means that who are getting more benefits or whose income is higher should contribute more.
3. Transparency – Very essential for people to know how much they are paying in taxes and how it is being used, how much they are receiving in services.
4. Administrative feasibility – The taxes should be collected with ease and minimum cost.
5. Local autonomy – The local governments should be independent to determine the rates of taxation.

6. Adequacy – Taxes should be enough to enable the local body to carry out its assigned functions, with an elastic tax base which expands as fast as expenditure.
7. Revenue stability – The flow of revenue stream should be predictable and consistent. There should not be any undue fluctuations.
8. Immobility of tax base – Local taxes should be linked to tax bases which are immobile such as land and building. Land based taxes are very efficient and prevent speculation in the land market. It also does not rule out imposition of other taxes.

Evaluation of each value capture tool on the identified criteria is performed below.

Land Value Tax	
Criteria	Comments
Efficiency	Area and location based tax. Highly efficient if designed properly.
Equity	Land ownership is essentially related to the income of the household. Tax varies with the size of holding and location. Highly equitable
Transparency	Simple design can be easily understood by the residents. Breakup of tax use can be shown by the local body.
Administrative feasibility	Assessment of land values may be challenging for the current tax administration given their educational qualifications and skills. Proper land records and management of up to date database related to land/ property is required.
Local autonomy	MCC can suggest. UT administration approval for imposition and setting of rates is mandatory.
Adequacy	Depends upon how the MC uses this option. The collections from LVT definitely needs to be supported through other means to discharge all assigned functions.
Revenue stability	Highly predictable and consistent. Hence, high stability.
Immobility of tax base	Land is an immobile tax base.

Fees for Change of Land Use (CLU)	
Criteria	Comments
Efficiency	Flat area based charges. Highly efficient.
Equity	Greater the plot size, greater the fee. But locational characteristics of the plot are not taken into consideration. Some plots may have a greater frontage than others.
Transparency	Transparency is high as charges are fixed and notified by the government.
Administrative feasibility	Easy to administer and collect. Determination of CLU fees for specific areas would be an issue.
Local autonomy	Land is a state subject. MCC cannot utilize CLU fees as of now. Amendments to MC Act required to devolve planning function to MC.
Adequacy	Inadequate. May be collected in parts and rates may not be sufficient to cover entire cost of services.
Revenue stability	It is a one-time charge. Inconsistent and unpredictable.
Immobility of tax base	Land is an immobile tax base.

Betterment levy	
Criteria	Comments
Efficiency	Difficult to establish the exact benefit received by the taxpayers. It is tricky to separate the rise in property value due to public investment from total enhancement in land values.
Equity	All taxpayers pay the levy at same rates. No consideration of plot size or income.
Transparency	Charges must be set in a transparent manner. They should reflect the amount of benefits taxpayers are getting.
Administrative feasibility	Difficult to design and implement a betterment levy system based on capital value. Absence of property related data and records exacerbate the problem. A flat rate area based value method would be easier to begin with.
Local autonomy	MCC can suggest the betterment levy to UT administration. The scheme and rates have to be notified by the UT.

Adequacy	May be adequate to cover the costs of improvement scheme for which it is being levied. Has the potential to be a major contributor to own revenue of MCC.
Revenue stability	Such levies are a one-time charge.
Immobility of tax base	Land is an immobile tax base.

Development Charges/ Impact fees	
Criteria	Comments
Efficiency	Fees or charges appropriated from the developer reflect the quality and quantity of the infrastructure they get. New development pays its fair share of cost of public expenditure.
Equity	Fairly equitable. All taxpayers pay the fees at the same unit area based rates. No change according to household size, income etc.
Transparency	Highly transparent. Easy to see linkage between fees and services received.
Administrative feasibility	High. Also depends upon the specificity/ complexity of the system. MCC can easily implement a unit area based impact fee. Administrative costs incurred in connection with impact assessment study and calculation, levy, collection and refund of impact fees may be considerable.
Local autonomy	MCC can propose it to UT administration. Can be imposed only after the notification by UT.
Adequacy	Project specific charges. Successful examples for development including roads, storm water, sewerage infrastructure, parks, library, schools, etc. have been seen.
Revenue stability	Limited. Not continuous source of revenue
Immobility of tax base	Land is immobile but incidence is on new development and new residents. They may move to another location if the charges fail to pass the cost-benefit test.

Sale of FSI	
Criteria	Comments
Efficiency	More than benefits, it is also about the increase in value of the property. It may or may not be efficient depending upon the kind of scheme designed.
Equity	Equity is high as additional FSI can be bought by the people who can afford it by paying up a premium to the authorities.
Transparency	High. An online system should be developed for the entire process and rates determined for each ratio along with maximum permissible FAR.
Administrative feasibility	Can be administered by providing suitable training to the staff. They only have to review the process and ensure no malpractice takes place.
Local autonomy	Poor as MC has no right to even determine FAR in any part of the city, leave aside selling of FAR.
Adequacy	Low because how much demand for additional FAR will be generated is not certain. Moreover, such tools can only augment the existing revenue sources of MC.
Revenue stability	It is not a perpetual and predictable source of revenue.
Immobility of tax base	Land is an immobile tax base.

Tax Increment Financing	
Criteria	Comments
Efficiency	Linked to property tax. Improvement in land values is attributed to the benefits received due to public spending. The benefits received by the taxpayers may not be in proportion to the incident tax increment.
Equity	Equitable instrument as same rate is charged from all property owners. Progressive rates may also be used to make it more equitable.

Transparency	Transparency is vital for public acceptance. Rates are decided and known to all. Collections are only used to service the debt.
Administrative feasibility	It involves credit management and servicing through the revenue stream generated by TIF mechanism. Requires necessary skill up gradation.
Local autonomy	They can design and propose a scheme to UT. It has to be notified by the UT administration.
Adequacy	Adequate to execute a particular development work for which TIF scheme has been enforced.
Revenue stability	Revenue stability is high and predictable as revenues continue to flow in until the entire loan is repaid.
Immobility of tax base	Land is an immobile tax base.

Transferable Development Rights (TDR)/ Incentive FSI	
Criteria	Comments
Efficiency	Efficient as development rights provided in lieu of development restrictions on existing plot are similar in nature.
Equity	FSI given is equal to the FSI forfeited.
Transparency	Why and where development rights can be utilized and how zones for denser developments are identified are areas of concern.
Administrative feasibility	Incorporating this tool in the overall planning scheme and identification of areas where development will be diverted needs expertise that is lacking with MC.
Local autonomy	Planning function is not yet devolved to MC.
Adequacy	It can only help the government in getting some infrastructure created in lieu of the released development rights.
Revenue stability	No revenue flow associated.
Immobility of tax base	Though DRs cannot be transferred out of the jurisdiction of the local authority but it can be utilised properly only if developers see enough benefit to participate. Benefit cost ratio should be high.

Vacant Land Tax	
Criteria	Comments
Efficiency	Paid by owners who do not improve their land within a stipulated time frame. Rates generally set higher than that for built up property to promote development of land and housing. Prevents speculation in the land market.
Equity	Equitable as taxpayers have to pay according to the size of their land holding and the rates may increase with the increase in time period for which the land is held idle.
Transparency	Rates are set by the authority and tax calculations can be easily done by the taxpayer himself.
Administrative feasibility	Does not require much skill to administer if the tax is designed properly. Land valuation and assigning different weights as per category of user and nature of development may be challenging.
Local autonomy	MC can only propose the tax to the UT administration. Imposition will follow as per the notification released by the UT.
Adequacy	Can help in augmenting the own revenues of MC.
Revenue stability	Depends upon the land lying vacant in the city. Subject to vary with time.
Immobility of tax base	Land is an immobile tax base.

The following table shows the compiled result of the evaluation of value capture tools.

Criteria	Value capture mechanism							
	Land value tax	**Fees for CLU**	**Betterment levy**	**Development Charges / Impact fees**	**Sale of FSI**	**Tax increment financing**	**Transferable Development Rights (TDR)**	**Vacant land tax**
Efficiency	H	H	M	H	M	M	H	H
Equity	H	M	M	M	H	M	H	H
Transparency	H	H	H	H	H	H	M	H
Administrative feasibility	M	M	L	H	M	L	L	M
Local autonomy	M	L	M	M	L	M	L	M
Adequacy	M	L	M	M	L	M	L	M
Revenue stability	H	L	L	L	L	H	L	M
Immobility of tax base	H	H	H	M	H	H	M	H

L = low, M = medium, H = high

To arrange the available value capture instruments in an order of preference or suitability, grades from 'High' to 'Low' has been assigned weights as High = 3, Medium = 2 and Low = 1; then a total score for each instrument was arrived at by adding the weights as per the number of occurrences of each grade.

Land value tax	**Vacant Land Tax**	**Development Charges/ Impact fees**	**Tax increment financing**	**Betterment levies**	**Sale of FSI**	**Fees for CLU**	**Transferable Development Rights (TDR)**

Most preferred **Least preferred***

(Subject to prevailing conditions)*

It also depends a lot on how well or poorly a project/ scheme has been designed. Therefore, the suitability of each VCF mechanism may vary but this is the general state of how it is expected to come out if implemented in current scenario. VCF mechanisms are well suited to markets which are upcoming and dynamic, offering numerous & diverse opportunities for real estate development. Chandigarh's land market is largely static and lacks opportunities on the scale that the neighboring areas have to offer. Therefore, in the absence of flexible planning approaches and rigidity of development norms to protect heritage, it would be difficult to adopt profitable VCF policies.

Land pooling system and land acquisition have not been considered here because these tools can be adequately employed only when local government owns large chunks of land which are amenable to development. MC should have at its disposal such amount of land so as to be able to use it for attracting development and capture enough revenue from the process. But MC Chandigarh owns only few SCOs (Shop cum office) and booths, which too are dispersed across the city. Moreover, mandate to acquire, develop land and set development regulations lies with the UT administration. MC as such is not responsible for delivery of real estate development projects. The provisions related to VCF have to be incorporated right at the inception stage of the project so as to be able to reap maximum benefits. There is no coordination between different departments to design a plan which is beneficial for all. Therefore, for the gains to accrue to the MC, it is essential that urban planning including town planning function is devolved to it at the earliest. Then only the local body will be able to plan development and in the process, also raise revenues necessary to fund infrastructure provisions.

Some cities use VC as a 'last resort' whereas cities like Hong Kong, Tokyo, etc. have implemented VC on a much larger scale. In fact, these city systems leveraged their land assets by integrating land development with transit development virtually from the start. It is always better to plan at the time of inception of projects.

Challenges associated with VCF –

a) Efficiency
b) Equity
c) Political inertia/ interference
d) Implementation
e) Identification of beneficiaries
f) Area of influence

g) Time period of recovery (one-time or recurring)

h) Rates of recovery/ taxes/ fees

i) Identification of a tool for a particular infrastructure or service

5.3 Implementation strategy for value capture instruments in Chandigarh

5.3.1 Land value tax

- Land value tax is ideal and preven ts speculation. It helps in putting land to its highest and best possible use as it discourages owners from keeping land vacant/ underutilized.
- It does not disincentivize owners who improve their land. However, it has been difficult to implement, experiences from across the world have shown resistance, both from citizens who find themselves on the raw end of the stick and politicians.
- Setting up of a valuation board is essential which will assist the MC in assessing the land values, separation of values of land and building, and building trust among the citizens.
- The rate of tax can be set anywhere from 0.25% - 1.0% of the land value. Rates can also be set in a progressive manner.
- Lands under a certain size may be exempted from LVT. For example, land holdings below 500 sq feet may be exempted.
- Tax credits should be included in the LVT to reduce burden on land-rich but income-poor citizens.
- It is better for now to bring reforms in the property tax system and slowly move towards a land value tax and building tax two part taxation system.

5.3.2 Vacant Land tax

i. Vacant land may be taxed at a rate higher than the built up property so as to promote land development and housing. It also acts against speculation in the land market in urban areas.

ii. The tax shall be progressive, with tax rate increasing with the time period for which land is held idle/ vacant.

iii. VLT shall be levied at a rate of 0.25% – 0.50% of the capital value of the plot/ land.

iv. The capital value of the plot/ land shall be calculated using the ready reckoner rates along with weight factors for various categories.

Capital value of vacant land = BV x UC x FSI x AL

BV = Base value of vacant land according to the ready reckoner

UC = User category factor

FSI = Permissible/ approved floor space index or floor area ratio

AL = Area of land

v. Weight factors shall vary with the user category. For example, commercial – 1.25, industrial – 1.10, residential – 1.00 etc.

vi. The frequency of incidence of this tax shall be annual and can be deposited in two instalments. Rebate can be given if entire tax amount is deposited in one single instalment.

5.3.3 Development charges or Impact fees

- One-time upfront area-based charges meant to fund or recoup the cost of capital works or extensions of existing infrastructure systems carried out to enable/ support new development.
- Levied by local governments so that new development pay their 'fair share' of infrastructure costs through impact fees, and not all burden should go to the community.
- Different from user charges as they are not based on 'pay according to share of use' but on the principle that those who create the cost impact must be fully responsible for mitigating the same.
- Impact fees are administratively less cumbersome, more predictable, more equitable and less prone to political and bureaucratic discretions than 'negotiated exactions'.
- Capital Improvement Plan (CIP) should be prepared taking into account the city development plan, master plans for various facilities and zoning regulations.
- MC should take care of the following stipulations:
    - Clear designation of the area in which impact fees will be levied, in terms of population or geographical area to ensure that the fee is calculated, assessed, collected and spent only in the area served by the improvement.
    - The specific types of residential, commercial, industrial and other developments and/ or buildings brought under the net of impact fee.
    - Clarity in the basis of assessment i.e. square footage, per unit and so on.
    - Identify the use of the fee and list of all public facilities which will be financed using it.

- A rational nexus should be established between the new development's need for facilities, the amount of fee charged and the benefits accruing to new development from these facilities.
- Specify the time of payment of fees. Timing has unique consequences for the land seller, builder and home buyers. The fees may be assessed early in the development process and collected late.
- The fees should be collected in a separate account and the proceeds should not be used for any other purposes than specified earlier.

- The MC needs expertise for preparation of long-term infrastructure investment plan and designing impact fee. This plan should be able to clearly differentiate the cost impact a new development would have by location, land use and property characteristics. A schedule of impact fees prepared in this manner can also help in channeling urban growth to areas where it can be accommodated most efficiently.
- Therefore, it is important for the MC to be in a position where it can integrate spatial planning, capital improvement planning, financial planning and capital budgeting.
- This instrument can be employed by MC for developing infrastructure in the periphery areas of Chandigarh city and in the villages as they get transferred to the MC jurisdiction.

5.3.4 Tax Increment Financing (TIF)

- Tax Increment Financing (TIF) is a tool which uses the future rise in tax revenues to finance the cost of current infrastructure programmes.
- An area where improvement or infrastructure up gradation is required is delineated and declared as a TIF zone or TIF district. The incremental revenues from future increases in property tax or a surcharge on the existing property tax rate is levied which is ring fenced for a definite period of time to finance infrastructure improvements in the designated area.
- Suitable for application in Chandigarh as TIF is the most applicable in scenarios where an econometric technique is not possible due to data limitations or other issues.
- Chandigarh can use TIF for area based development or improvement of infrastructure and other facilities in one or more sectors. It can be used to improve water supply infrastructure, sewerage infrastructure, road improvements, street lighting, beautification of area etc.
- After a suitable area is identified for development or renewal, the TIF authority setup by the UT or MCC declares it as a TIF district. The area is delineated and a development plan is prepared with cost estimates in consultation with the local and state

governments, private developers, community and other stakeholders.

- The plan may follow the local planning and development norms.
- After a plan is ready, investment is required to finance the plan for which MC may need to issue bonds or get loans from some other financial institution to meet upfront costs. These bonds need rating to meet the capital market standards and it ensures that the TIF projects are subjected to rigorous scrutiny.
- As a result of project, the area sees better property development and increase in prices along with rise in tax base. At the time of notification of the TIF scheme, the land/ property values in the area and current tax revenues have to be recorded. These values are frozen and any future increase in land/ property value is attributed to the development or improvement work done as part of TIF. This incremental increase in the tax revenue is ring fenced to service the debt.
- The term of the TIF scheme may be five to thirty years depending upon the type and scale of development.

TIF should be used along with other available options to finance urban infrastructure and also it may not suit all kinds of situations in all cities. TIF is particularly suitable for Chandigarh as a financing option because current financial issues of local bodies do not act as an impediment to the financing of new projects. The MC can still rely on the future increase in value of property which is based on a planned urban development strategy aimed at creating, capturing and recycling land values. Spatial planning aspect is very crucial to success of TIF. Sometimes a TIF project may require certain relaxations in the master plan, such relaxations may be provided in the form of 'incentive zoning' and are justified on the ground of planned urban development and that too at no cost to public agencies. Infrastructure improves the quality of life provided by an area, creates access, improved access translates into higher land values and this increase can further finance investments that create further value.

5.3.5 Betterment levy (Development tax)

- Betterment levies can be used for regularization of illegal development and infrastructure development/ improvement work.
- Betterment charges/ levies are called as Development Tax in the MC Act of Chandigarh. MC Act says one half of the difference in market value of land at the time of commencement of development scheme and at the time of its completion may be levied as 'development tax'. Most countries in the world have experimented with betterment levy to different extent, with amount of value captured ranging from 30 to 80 % of the land value gains attributed to public policies and investments. International experiences

suggest that it may be reasonably levied at a rate of 25-30% of betterment.

- It would be better to go for unit area based charges instead of per centum of the increase in market value of land under consideration because:
    - Betterment charges would come out to be too high
    - Gradually as acceptance and understanding of such tools will increase, system can be changed to per centum wise.
    - Land and real estate market is not very dynamic w.r.t. variety of opportunities in real estate. Absence of strong governance to ensure transparency in land deals and lack of real estate opportunities makes implementation of such measures a difficult task.
    - There is a risk of litigation pertaining to disputes related to land value increase, area of influence of project etc.
- Provide option to pay the entire amount in few installments rather than single tranche.
- For the purpose of computation of Capital gains tax, any land in respect of which a land betterment charge is payable is subject to a change of ownership, the amounts paid as a land betterment charge on such land by the person disposing off the ownership of such land, shall be deductible from the amount assessed as the value of such land at the time of such change of ownership, for the purposes of the computation of capital gains tax payable by such person.

5.3.6 Sale of FSI/ Infrastructure augmentation charges

- MC Chandigarh can use this instrument along the proposed Vikas Marg TOD corridor and other undeveloped areas in the South or in villages which have come under MC jurisdiction.
- The base FAR for each land use should be kept equal to the rest of the city with a provision for sale of additional FAR up to a predetermined limit. It will help in achieving higher density of development, higher revenues for MCC and better accessibility to citizens.
- FAR can be sold at unit area rates set by the authority or auction of development rights can also be done. The base price or minimum reserved price per unit area for auction can be kept as 10% of the guidance value along the corridor.
- Proper records should be kept of all buyers and also allow resale of FAR in the market.

- Registration fees which may be a percentage of the value increment may be charged by MCC to register any change of ownership.
- To achieve optimal results, integration with spatial planning and development norms is advised.

5.3.7 Fees for CLU

- Land is a subject which is looked after by the UT administration and planning function has also yet not been devolved to the MC. Planning function needs to be within the jurisdiction of MC to plan and charge fees for conversion of land use. However, the MC can charge a fee in the form of development charges or betterment fee from the owner of land in lieu of infrastructure creation and development.

5.3.8 Transferable Development Rights (TDRs)

- TDRs can be used by Chandigarh to protect heritage areas and provide the owners incentive to use their development rights in some specified zones.
- The owners may even sell their development rights to some other person or developer.
- Currently, Chandigarh MC neither has planning jurisdiction nor technical expertise to give effect to TDRs.
- TDRs can be used to guide development towards a certain direction and achieve higher densities leading to compact development.
- Transparency of process and allocation is another area of concern.

6 RECOMMENDATIONS

6.1 Administration

- First and foremost, attention should be given to improving the current taxation systems before looking out for newer options. **Reforms in property tax system** should be made and efforts should be made to exploit it to best extent possible. Other land taxes and value capture tools also have many inherent issues which makes their equitable implementation difficult.
- Eventually, MC should shift to capital value based assessment for property taxation as and when the capacity and capability for that is available. It will bring in more efficiency, equity and also buoyancy. Meanwhile, it should work on building the system and administrative capacity.
- Land sales should not finance the operating expenses but the amount earned from such instruments should be escrowed to a separate account only to be used for capital expenditure on developmental works.
- **Capacity building programs** should be designed in a manner which is effective and relevant. It is essential for the policy makers and executives in local bodies to understand how value is generated so that they can formulate appropriate plans to capture it.
- It is usually observed that the consultants or professionals appointed for capacity building purposes are aloof of the local situation and they deliver the same course everywhere. The demand of ward representatives and officials is that it should be tailor made and delivered in a language in which they understand better. Moreover, the program should sustain itself for a duration till the learners find themselves comfortable with the subject. Learning outcomes should be a core objective of such programs.
- Case study approach, focus on concepts and some problem solving exercises may work better. It is important to consider the education level, understanding of issues, experience, age, etc. of the learner so that they find the course interesting and grasp it easily.

6.2 Governance

- Governance cuts across all reforms in financing cities. Good governance is critical for value capture financing of urban infrastructure and services. Higher taxes/ charges should also provide commensurate infrastructure facilities and services.

- A **valuation board** should be setup by the UT on lines of West Bengal Valuation Board as recommended by the Thirteenth Finance Commission also. Not only will the valuation board help in providing credible land value assessments but it will also help MC to shift its property tax system to capital value based assessment. It is very much necessary for implementation of value capture mechanisms.
- It might happen in this case that since Chandigarh region is small, neighbouring municipalities may even cut their tax rates to attract businesses and investment. Hence, minimum property tax rates should be set by the central government.
- Endogenous or own sources of revenue lay the foundation for good fiscal health of a municipality. Therefore, every ULB should aim to achieve maximum **financial autonomy** through exploitation of all available ways; whether it is taxes, user charges & fees, municipal bonds, debt, land assets etc. A plan should be prepared on how to maximise earnings using each of these to meet the required expenditure in the following years. Identify the existing deficiencies in the system, improve upon them and implement measures for betterment. Targets should be set for future and efforts should be made to achieve those.
- It would be better to leave more to the cities than to collect it all and take it to centre or state and again distribute. Afterwards, ULBs constantly look helplessly towards higher levels of government for release of funds or timely devolution which is problematic. Ultimately development work/ projects have to be executed on the ground by local/ district authorities, so they should have enough resources at their disposal to be able to fulfil their obligations. This will also lead to reduction of corruption as money will change fewer hands.
- Centre and State governments can certainly have a supervisory role to play and they can direct ULBs to change their decisions if they find them unsuitable.
- Administrative structure of the region also affects the success and how large a role can value capture play in financing projects. Sometimes overlapping interests and jurisdictions make it complex. Such agencies may also demand their share in the captured value.
- Differences in mission or objectives leads to difference in ways organizations perceive opportunities. Financing required for a development project or infrastructure is affected by the urban form but MC has no control or connection with the urban planning function

of Chandigarh. Therefore, it is unable to use planning tools to its benefit. Integrated approach would benefit the city.

- Attention should be given to **'evidence based policy making'**. Data related to various aspects of land use, land values, population density and other characteristics of development is required to determine the value created or estimate changes in land values due to public investments. In Chandigarh, no such database exists to assist the government in formulating value capture finance policy which are just and effective.
- Devolution of urban planning function to MC as per 74th CAA would help in better management of the city and also help MC to employ value capture mechanisms efficiently through its integration with land use and spatial planning.

6.3 Planning

- Chandigarh due to its small area and proximity to Panchkula, Mohali, Zirakpur, Kharar, Mullanpur etc. faces stiff competition in attracting businesses and investment. The *development policies and plans of the UT need to be in consonance with those of surrounding areas* to achieve desired results. The Chandigarh region will be able to realise its true potential only if it goes ahead in unison, otherwise competing policies would not lead it anywhere. Punjab's planning reflects its active and pro-development approach whereas Chandigarh has a lackadaisical approach.
- At international level also, cities like London, New York, Tokyo etc. undergo urban regeneration projects to gain competitive advantage and attract businesses/ investments. They take advantage of their strong infrastructure investments, land use deregulation and tax incentives to do so. It is quite natural that with time demands of businesses and citizens change and it becomes imperative upon the city to respond appropriately to retain its competitiveness or to arrest the fall in its attractiveness. Therefore, Chandigarh cannot think of retaining its attractiveness quotient without catering to the needs of citizens and businesses, for which it will have to adopt a flexible and innovative approach as it is a heritage and landlocked city.
- LVC demands professionalism. If the proceeds are not invested in the city, reluctance will tend to grow among the citizens. Such schemes should be supported by strong spatial planning to achieve optimum results. Integrated approach should be followed. Continuous development and competitiveness of the city only will be able to ensure rise in land values and also attract businesses and industries to the city.

6.4 Property Tax

- Chandigarh should learn from best practices followed across India and modify its property tax system accordingly. It is quite natural since property tax was not levied on residential properties in a timely manner and there is poor management by the Corporation, reforms are a must and tax rates initially will seem to be high as earlier people were enjoying the benefits without paying up for them. Too much dependency of the MC on grants, political interventions and its failure to foresee the conditions has resulted in the current situation.
- Land and capital are predominantly owned by affluent sections of the society, therefore the burden will not come on lower income households.
- Mapping tools based on **GIS, CAMA** (Computer Assisted Mass Appraisal) and area based property tax regimes can increase the efficiency in tax collection.
- Residential properties should also be assessed as per Unit Area Value method rather than the existing method which has no relation with the value of the property under consideration. Also, various factors like location, type of construction, age, nature of use etc. should be considered while calculating the tax.
- There should be a **provision of indexation of property values** so that there comes a little buoyancy in the property taxes. Regular revision of tax rates after fixed period of time is necessary.
- **Competency of staff** is critical for efficient tax assessment and effective tax collection.
- Seamless **linking of databases** of all departments concerned with land and property records or values should be done. This will improve governance and also help in keeping the records updated.
- An online portal for paying property tax which also has a tax calculator for self-assessment will be helpful to the citizens.
- Such changes need to be supported with political will and also necessary changes should be made in legal framework to reap full benefits of these reforms.
- Moreover, considering future development plans for Chandigarh the existing methods of assessment would not suffice. For example, in sector 43 development and TOD zone, these methods would not be able to assess the true value of the property until prescribed reforms are undertaken.

- Some amount of inequity/ arbitrariness exists in all property tax systems because a scientific way has yet to be developed to accurately assess land values and its changes due to public actions to aid local governments.

6.5 Value Capture Finance

- In the current scenario, it is very difficult for Chandigarh to go for value capture financing as its rigid architectural controls and norms would be an impediment in the implementation of such schemes. As it is landlocked, the only option it has is to go vertical. Sale of tradable air rights can help such cities in generating up-front cash and it can help local governments which face financial constraints and land shortage. Another major issue is of land valuation and its acceptance by the public. Implementation of such schemes requires good technical expertise which is currently missing in the local government of UT.
- First of all, local government needs to set its VCF policy objectives, whether it is cost recovery or the broader consideration of LVC.
- People will be reluctant to pay more taxes if they are asked to do so all of a sudden. Since at the time of their settling down at that place, there were no such provisions, it becomes difficult to implement such decisions. Therefore, efforts should be made to create awareness and understanding among the public about the concept and necessity of VCF. Slowly, the number of taxes and their rates should be modified so as to be able to cover the cost of infrastructure development and service delivery.
- Value capture mechanisms should be designed to spread the payments over a period of years e.g. a tax/ charge, the frequency of incidence of which is quinquennial and that amount should directly go to an infrastructure fund. Right allocation of revenue is very important.
- While deciding charges/ fees/ levy rates and from whom it will be charged, it is also important to consider the life of infrastructure and services under consideration.
- Time value of money – proper care should be taken of this factor while setting up rates and designing payment schemes involving instalments spread over a period of time.
- It would be better to keep elaborate and detailed value capture schemes as long term plans. Meanwhile, improvement in governance structures, capacity building of staff and preparation of land records and their digitisation may be undertaken.
- Value capture mechanisms are new to Indian municipalities and it will take time for the system to set in. It is natural that there will be initial hiccups and concerns. However,

with time, learning from experiments and experiences; a stable, efficient and equitable system would emerge that would be helpful to the local bodies in augmenting their revenues.

6.6 Public Participation

- If the money for development comes from the city itself, the citizens or users are more aware and sensitive. They are more likely to demand higher levels of transparency and ensure their money is used honestly for right purposes.
- **Transparency and accountability** are two very important aspects which result in the success or failure of any value capture finance scheme. People should be able to see clear linkages between the fees/ charges they are paying and the kind and quality of services they are receiving. If the service delivery is unsatisfactory or the fee is levied in a non-transparent manner, maintaining support of the people would be a difficult task.
- To increase the **willingness** of taxpayers, awareness regarding taxation should be created through media campaigns, SMS, etc. It is important for the people to understand why taxation is important and its critical role in enabling any government in fulfilling the aspirations of its citizens.
- Regular **audits** should be conducted to improve accountability. Corruption should be reduced in the system by all means.
- **Participatory budgeting** should be adopted. Suggestions of all stakeholders should be considered while allocating resources and for selection of projects. It will improve citizens' interest in the functioning of the local government. It will also help in improving perception of the taxpayers regarding fairness of taxation systems.
- To stop tax evasion, tax surveillance should be increased. People who do not pay taxes should have a fear of being caught and penalized. Attitude of taxpayers will change with time.
- Lack of proper enforcement and lackadaisical attitude of tax officials is also another factor which discourages taxpayers. They start taking paying local taxes casually as they know tax officials are also working perfunctorily. Capacity building of tax officials is required to ensure better public participation as well. They are the ones with whom a taxpayer interacts.
- The quality of infrastructure and services provided has a huge impact on willingness to pay. If the public is satisfied with the kind of facilities they are getting, they would

not avoid paying for them. It also gives the administration a leverage to take necessary action against defaulters.

7 SUMMARY AND CONCLUSIONS

The demand for investment in urban infrastructure is huge and the governments around the world are struggling to meet these demands. Situation is similar in India and the local governments are in a fix on how to fulfil the backlog, current and future requirements of infrastructure and services. Traditional sources of financing like property taxes, user fees, transfers from upper tiers of government etc. have not been able to equip municipalities with the required fiscal strength. The financial condition of municipalities has worsen over the years due to lack of revenue raising powers and overdependence on Central and State governments for grants. Hence, there has been a demand for innovative approaches for fiscal resource mobilization for local governments. For better management of cities and development of infrastructure in a sustainable manner, it is essential for the local bodies to become financially autonomous.

This study has attempted to solve this problem using one of the innovative methods available which is value capture financing mechanisms. It has been well established that due to public policies and investment the private properties see a rise in their values. As the land value increment is unearned and the owner has windfall gains when he sells the property, value capture concept says that public should also get a share in that land value rise which should be used for the development of the community. These tools have been utilised in some form or another since centuries but never has been there a specific policy or strategy devised to make systematic use of the tools available under the umbrella of value capture financing to develop infrastructure in a city. The study tries to answer how local governments can use each of these tools strategically to mop up revenues which can be used to meet the costs of the facilities. Local governments in India do not have the requisite technical and management capacity to appropriately identify and utilise the opportunity presented by VCF. It has been seen that the land in possession of the local body is either lying idle in large amounts or is inefficiently used. That land is an asset and can be used to generate the much needed resources that the local bodies urgently require. Another major drawback in the implementation of such tools is absence of authentic land and property records. Data pertaining to land/ property ownership, size, age, plinth area, nature of use, location characteristics, type of construction, land values etc. is of immense importance in designing a VCF scheme which is just, efficient and equitable.

For the purpose of this study, Chandigarh was chosen as the study area. Chandigarh Municipal Corporation is also facing a fiscal crunch due to which it has been failing to meet its obligations

and provide quality services to the residents of the city. To analyse the situation, data was collected related to all aspects from land use, planning, land values, economy, administration etc. because several factors come into play to create a problem of such nature and it becomes important to analyse it from all dimensions to get to the root cause. The main problems identified from the study area profile were strict architectural and development norms, heritage preservation, high floating population, inadequate intergovernmental transfers, absence of a regional plan, governance issues like instability of leadership etc. After completely understanding the context of the problem, financial data from MCC was collected. An assessment was made of the income and expenditure from 2011-18 and it was observed that the MC had been regularly spending more than its income which lead to the current situation. Also, the contribution of own revenues (tax and non-tax) is quite low as compared to healthy municipalities in India. Own tax revenues are especially in a miserable state and needs to improve. Comparative analysis was done to compare the financial parameters of Chandigarh with those of Pune, Kochi and Vijayawada. Chandigarh was found clearly lacking in area of revenue and expenditure management and serious steps need to be taken to improve the conditions. Since intergovernmental transfers are not happening, assigned revenues are in control of UT administration and debt financing cannot be utilized due to absence of good and credible credit rating of the corporation; the only option left is to explore ways to augment own revenues. A judicious mix of tax and non-tax sources of revenue is necessary for optimum functioning of the MC. Hence, value capture mechanism is the only viable option available for this purpose. Criteria for a good local tax was identified from public finance literature and each value capture tool was analysed on criterion for its suitability in Chandigarh. A suitability matrix was created with each criterion being graded on a scale of Low, Medium and High depending upon the prevailing conditions in Chandigarh. An order of preference was prepared on the basis of scores in which Land value tax came out to be the most preferred value capture tool in current situation. Further, implementation strategy for each value capture tool has been elaborated to help the MCC in designing its VCF schemes. Recommendations are given at the end for improvement in administration, governance, planning, property tax system, value capture financing and public participation.

The study is one of its kind attempt in providing guidance to cities on how they can assess their fiscal condition and choose among the available value capture tools as per their suitability. It will help Chandigarh in preparing a long term infrastructure financing plan using value capture

tools. Once the VCF tools to be used are identified, further detailed implementation strategy can only be prepared in specific context to the area and project.

7.1 Major findings

1. Local governments in India need to undertake reforms urgently to meet the demands of urbanisation.
2. Financial health of a municipality is very important in making it possible to discharge all functions assigned to it satisfactorily.
3. Value capture financing mechanisms have a good scope to augment the own revenues of municipalities in India.
4. Proper maintenance of land records is of utmost importance for any government. It has multiple benefits in terms of economic gains and also better planning.
5. Capacity building is required for MC staff to be able to understand and implement value capture mechanisms.
6. Each value capture tool requires some enabling conditions for it to be adapted successfully as per the requirements of the area or project. It is not necessary that if one tool was applied successfully at one place in some context, it may be successful for other projects also.
7. Integration of spatial planning with VCF scheme can increase the effectiveness of such schemes. Such fiscal tools can also help in achieving the objectives of land-use planning.
8. Feasibility studies should be conducted in detail to evaluate the potential of each value capture tool and the mix of tools that a government can adopt to meet its fiscal needs.
9. Public participation is very important for success of VCF and linkages of revenue and expenditure should be maintained and transparency should be given high importance.
10. Necessary amendments should be made in the MC Acts to enable the local bodies to independently take decisions and act to improve its performance.

7.2 Limitations of the study

1. Availability of relevant data was the biggest limitation of the study. Without the data, it is not possible to estimate revenue potential of a particular value capture tool. Also, it is not possible to employ regression and other techniques to estimate the rise in land values due to public investment.

2. The functioning of land market also has a big role to play in success or failure of VCF scheme. The land values do not remain constant or rise consistently, they also fall at times and there are periods of lull in the real estate market. At that time, these tools would not be able to generate much revenue for the governments. Strong technical and managerial expertise is required to take into consideration all such factors and plan for long term.
3. Strong political will and good governance are the enablers of such financing schemes. If such schemes are not backed by robust governance, there is no guarantee for the success of these schemes. Support of the government is very essential. Such issues are quite important and relevant but cannot be addressed within the scope of this work.

7.3 Scope for future work

1. How other innovative fiscal tools like PPP, debt financing and bonds help local governments in developing infrastructure? Since it was not possible to implement these other tools in concept of Chandigarh but an attempt can be made for detailed analysis of constraints and necessary conditions required for a local body to adopt these options of infrastructure financing.
2. It is also seen that taxation can play an important role in how cities shape up by offering a variety of incentives and disincentives in making location decisions. Taxation can be used to control urban sprawl, achieve compact development and other such objectives of planning. How these factors interact and how taxation can play an important role in determining built form of a city can be a direction for further study.
3. Role of regional planning and governance in improving infrastructure development and service delivery. In case of Chandigarh also it is seen that a lot of exogenous factors affect the city and its attractiveness to businesses and investment. Conflicting planning decisions, lack of intergovernmental cooperation, high mobility of people and lack of a single vision are damaging the interests of each entity. If the municipal corporations within a region act in unison with a single vision, the region can achieve new heights of growth.
4. The further study can be on assessing the gain and loss of competing cities within a region and what can be the model of governance for managing such developments. There is a need to develop complementing policies and plans. How a landlocked and heritage city like Chandigarh can suffer due to its inability to expand outwards and

upwards. How will it able to sustain itself in the long run without compromising the quality of life offered.

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