MSc Programme in Urban Management and Development

Rotterdam, the Netherlands

February 2022

Exploring the Potential of Land Value Capture for Funding COVID-19 Crisis Management: The Case of the LRT-2 Antipolo Station in Antipolo City, Philippines

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Country: Philippines

Report number: 1508

UMD 17

IHS Making cities work Erasmus

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Summary

Land value capture (LVC), which harnesses values from land value increments due to public investments, is worth exploring in the Philippines now that it is embarking on huge infrastructure projects. While the legal foundations for LVC have been in place in the country for a long time, this land-based financing mechanism remains largely unexplored and untapped in financing public benefits.

This research examines the potential of LVC for funding government programs. It is a qualitative case study in the Antipolo Station, one of the two newest stations of the Light Rail Transit (LRT)-2 in the Philippines. Its main objective is to examine, explore, and explain the extent to which land value increments taking place near the Antipolo Station are captured. It attempts to identify the opportunities and explain the challenges in using LVC for funding COVID-19 response in Antipolo City. The research data collection methods used were purposive semi-structured interviews and secondary data analysis.

The findings show that land value increments taking place near the Antipolo Station are captured by the City Government of Antipolo through real property tax (RPT) and the additional levies on real property. The existing legal frameworks, however, do not optimize the use of real property taxation Antipolo City. Properties are under-assessed and undertaxed because of the built-in limitations of the provisions on real property taxation, particularly on the levels of assessments, rates of taxes, and the frequency of updating the Schedule of Fair Market Values (SFMV). Further, under-utilization of the tax is due to challenges in the social acceptability of increasing RPT rates, transparency in the declaration of property values, and the administrative and technical requirements in collecting the tax

As for its use to fund COVID-19 crisis management, limits are also set by the law. LGCs must abide by the rules on the use of the General Fund, to which the proceeds of real property taxes and other revenues that are not earmarked for specific purposes go. Real property tax, or a portion of it, can be reserved specifically for COVID-19 crisis management, only if there is an enabling law on earmarking it.

This thesis ends with recommendations to address issues surrounding LVC in Antipolo City and the Philippines as well as suggestions for further research.

Keywords

Land value capture, land governance, property tax, land value, land use, COVID-19, LRT, MRT, Antipolo, Philippines

Acknowledgments

To Ore and Ate Charm for their guidance; the EULG team for their support; my family and friends for their love and encouragement- my gratitude and appreciation.

To all who carry on amid challenging times, I dedicate this piece of work.

Abbreviations

AIP	Annual Investment Program
BIR	Bureau of Internal Revenue
BPLO	Business Permits and Licensing Office
CALABARZON	Cavite, Laguna, Batangas, Rizal, Quezon
CBD	Central Business District
CDP	Comprehensive Development Plan
CLUP	Comprehensive Land Use Plan
COVID-19	Coronavirus Disease 2019
CPDO	City Planning and Development Office
CPH	Census of Population and Housing
DOF	Department of Finance
DOTr	Department of Transportation
ELA	Executive-Legislative Agenda
GCR	Greater Capital Region
HUC	Highly Urbanized City
IRA	Internal Revenue Allotment
IRR	Implementing Rules and Regulations
JICA	Japan International Cooperation Agency
LDRRMP	Local Disaster Risk Reduction and Management Fund
LGSF	Local Government Support Fund
LGU	Local Government Unit
LRT	Light Rail Transit
LRTA	Light Rail Transit Authority
LVC	Land Value Capture
MRT	Metro Rail Transit
NCR	National Capital Region
NEDA	National Economic Development Authority
NHA	National Housing Authority
OFW	Overseas Filipino Worker
PD	Presidential Decree
PEZA	Philippine Economic Zone Authority
PNR	Philippine National Railways
PPA	Programs, Plans, and Activities
RA	Republic Act
RPT	Real Property Tax
SEF	Special Education Fund
SFMV	Schedule of Fair Market Values
TRIP	Transport Investment Program

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Chapter 1: Introduction

1.1 Background

Governments and international organizations have long recognized the potential of land value capture (LVC) in funding urban development. LVC allows for the recovery of value increments that result from government investments and actions. An innovative funding source, LVC, can reinvest these captured values for further development projects that would benefit the public (Abiad et al., 2019; OECD. n.d.)

Land value capture is worth exploring in the Philippines as the country is embarking on delivering huge infrastructure projects. In line with the current administration's PHP 9-trillion worth "Build Build Build (BBB)" program that covers a total of 4, 895 projects, by far the most extensive infrastructure development initiative in the country (Buensuceso and Purisima, 2018), mass rapid transit enhancement is envisioned to address traffic congestion problems in Metro Manila and boost development in its neighboring regions. Cognizant that the current country's mass transit lines- the Light Rail Transit (LRT) Line 1 and Line 2, the Metro Rail Transit (MRT) Line 3, and the decrepit Philippine National Railways (PNR), are inefficient and can barely meet transportation and mobility demands, the government has prioritized the following projects- construction of the Mega Manila Subway; completion of MRT-7 that will run from Metro Manila to the Province of Bulacan; the Metro Manila's Unified Grand Central Station that will connect the LRT-1, MRT-3, MRT-7; and the extension of the LRT-1 and two from Metro Manila to the provinces of Cavite and Rizal, respectively (Abiad et al., 2019). These projects are expected to usher in development opportunities, and LVC can be instrumental in harnessing and distributing them for the public good.

While most of the projects mentioned have yet to be completed, the extension of the LRT-2 to Rizal, also known in some documents as the LRT-2 East Extension Project, was finished in July 2021. The two new stations- Marikina Station in Marikina City in Metro Manila and Antipolo Station in Rizal have been operational, and train rides traversing them have been in place since then. Worth $62 million, it is a public-private partnership project of the national government through the Department of Transportation (DOTr), Japanese business conglomerate Marubeni Corporation, and local company D.M. Consunji, Incorporated.

Before the construction of the Marikina and Antipolo stations, the daily ridership of the LRT-2 was, on average, 240,000. The two additional stations and the 3.8-kilometer tracks are expected to accommodate 80,000 more passengers, decrease travel time from Antipolo to Recto Station in Manila from three hours via bus or jeepney to only 40 minutes by train. Therefore, it can ease traffic congestion and increase economic productivity in Metro Manila and its neighboring local governments like Antipolo City and the Province of Rizal (San Juan, 2019; PIA-NCR, 2021).

Land-based financing approaches, of which LVC is one mechanism used, proves essential in urban development. The OECD (n.d.) reasons that it can be an integral tool in achieving government goals along with principles of good governance and urban planning. With the country hit by the novel coronavirus disease (COVID-19) pandemic, the government, be it at the central or the local levels, can benefit from a new and innovative financing framework for

health crisis management amidst the rising economic and social impacts of the pandemic, which may take a substantial amount of time and resources to withstand.

In this light, this research will look for evidence of increased values of properties near one of the two newest stations of the two-decade-old LRT-2, the Antipolo Station in Antipolo City, Province of Rizal. It will examine how the increase in land values in the area is captured, who captures it, and by which LVC instruments the capture is done. It will also explore how the captured values can be utilized for financing government actions in line with COVID-19 crisis management. Doing so, the research will shed light on the potential of land-based financing and the opportunities and challenges in its utilization for public services in crisis times.

1.2 Statement of the problem

The COVID-19 pandemic has resulted in cities grappling with security, economic, and public health problems and has exacerbated sociopolitical difficulties and tensions. The disruptions it caused and the multiple lockdowns enforced have caused not only strain on health systems but also employment, transportation, tourism, education, food, water, and supplies, among other sectors (Allam and Jones, 2020). Its impacts on the government, society, and economy are huge and long-term. Recovery may look uncertain, and even after massive vaccination, a major global recession is possible (UN Habitat, 2021)

Governments have taken measures to restrict the spread of the virus, and these have had budgetary implications. Responses of states necessitated financing relief and healthcare through massive public debts, reductions in salaries, reprioritizations of budgets, use of savings for additional spending, as well as emergency calls for funding and donations (Capano et al., 2020). The management of the crisis has also negatively affected local governments' fiscal health as amidst the pandemic, they have continued to provide a plethora of public services while at the same time struggling to mitigate the effects of the crisis on the economy and the society. With the costs necessary to pay public service workers, finance public health services and infrastructure, purchase personal protective equipment (PPE) and other medical provisions, provide contact tracing, testing, and vaccination services, deliver support to families through economic packages, and perform other responsibilities, government expenditures have been on the rise. At the same time, with the lockdowns and reduced economic activities, revenues have declined. This adverse blow on fiscal conditions of subnational governments has taken place in countries regardless of income level (UN Habitat 2021).

The Philippines, considered to have one of the world's most challenging and longest lockdowns (ABC News, 2021; Aljazeera, 2021; The Telegraph, 2021) with the shutdown of mass transportation and partial bans on public spaces, has continued to struggle on its response to the pandemic and efforts towards economic recovery. Dubbed as Asia's economic laggard, the country has been recovering at a slow rate. Compared to China, Taiwan, and Vietnam, which have already managed to return to their pre-pandemic output levels, and South Korea, Indonesia, and Thailand, which are expected to recover at the end of the year 2021, the Philippines is predicted to have an output level in the year 2025 that is 11.5% below what its output level could be if the pandemic did not happen (The Straits Times, 2021).

To cope with the aftershocks of the crisis and address economic dysfunction, ensuring that cities can obtain revenues from their own sources is vital. Sustainable financing models that allow cities to have fiscal resilience should be in place to enable them to have funds for

maintaining their response and guaranteeing public order, health, welfare systems, and social protection. In this regard, innovative financing mechanisms such as land-based financing are needed (UN Habitat, 2021).

Meanwhile, various country administrations have planned and implemented infrastructure development to address mass transportation and accessibility problems. The current administration's socio-economic agenda, the BBB Program, includes the construction of the Mega Manila Subway; completion of the MRT-7 that would connect Metro Manila or the National Capital Region to the Province of Bulacan in Central Luzon (Region III); construction of three Philippine National Railways projects to the north and south of the main island of Luzon; construction of the Metro Manila's Unified Grand Central Station; extension of the LRT-1 to the Province of Cavite in Southern Tagalog Mainland (Region IV-A); and extension of LRT-2 to the Province of Rizal, also in Southern Tagalog Mainland.

Even before the current administration's BBB Program, the LRT-2 extension has been one of the government's priorities. In 2011, the Japan International Cooperation Agency (JICA) produced a feasibility study for the LRT-2 East Extension Project. A year later, after evaluation by the National Economic Development Authority (NEDA), the feasibility study was approved.

In 2014, it was included as one of the recommendations in the roadmap for transportation infrastructure prepared by ALMEC Corporation (2014) for JICA and NEDA for consideration in the Philippines' Transport Investment Program (TRIP). The roadmap identified three study areas that play crucial roles in environmental and land use planning, transportation infrastructure, and economic development- the Metro Manila or the National Capital Region (NCR), Mega Manila, and the Greater Capital Region (GCR). Metro Manila is composed of 16 cities and one municipality in NCR. Mega Manila covers Metro Manila and the province of Bulacan in Central Luzon (Region III), and the province of Laguna, Cavite, and Rizal, where Antipolo City is located, in Region IV-A. The wider GCR area comprises the entirety of Metro Manila, Region III, and Region IV-A. The roadmap stressed Mega Manila's importance in absorbing the population overflow of Metro Manila and tagged the GCR as the economic powerhouse that drives the country's competitiveness.

With the potential to maximize the gains from this transportation investment is LVC. It is a land-based financing mechanism that captures and utilizes increments in land values due to government investments and land use changes (Smolka and Amborski, 2000; Ingram and Hong, 2012; Zhao and Larson, 2011). Its proceeds are further invested in development projects or improvements that benefit the public (Friendly, 2017; Abiad et al., 2019; OECD. n.d.).

Crucial in implementing LVC is that the increase in land values should have been triggered by a range of actions such as regulatory decisions and infrastructure investments, and not by the activities of the property owners (Abiad et al., 2019, Smolka and Amborski, 2000; Ingram and Hong, 2012). The MRT 3 provides local evidence on increased land values resulting from transportation infrastructure changes. A study done by the Asian Development Bank shows that increments in land values have been taking place since 1995, a year before the construction of the infrastructure started, with higher increases recorded in properties near the stations (Abiad et al., 2019). For the LRT-2 and its stations, no similar study has been conducted yet.

There are also legal, technical, and political requirements for successful value capture and utilization for the public good. Land-based finance is underutilized in the Philippines due to institutional constraints (Abiad et al., 2019; Buensuceso and Purisima, 2018). For one, while property taxes and taxes on property-related transactions are mandated by the Local Government Code (LGC, or the Code) and various other legislations, LVC remains challenging because of outdated property valuations, noncompliance, and lack of financial and technical capacity of local governments, and political considerations (Abiad et al., 2019). Spending the proceeds for specific purposes also poses some challenges. Legal and policy frameworks should be in place to distribute the captured values from land value increments for public goods and services such as crisis management.

Examining how land value capture can be optimized to generate funds for the public good and to bounce back from economic shocks brought about by unforeseen events such as the ongoing pandemic is essential. Research on the potential of LVC in funding public policy shall be able to assess the legal, technical and political barriers that hinder the implementation of this innovative financing source and recommend measures toward its optimum use.

1.3 Research objectives

Given the gaps and problems cited in the preceding section, this research aims to examine, explore, and explain the extent to which land value increments taking place near the Antipolo Station are captured to finance the city's needs, such as COVID-19 crisis management. It attempts to identify the opportunities and, at the same time, explain the challenges in using LVC for funding COVID-19 response in Antipolo City in particular and public benefits in general.

1.4 Main research question and research sub-questions

1.4.1 Main research question

This research primarily seeks to answer the question:

To what extent are land value increments taking place near the Antipolo Station being captured to finance COVID-19 crisis management in Antipolo City?

1.4.2 Research sub-questions:

As LVC is premised on the idea that, to begin with, there should be increases in the values of properties that benefit from government action; this research shall first look at the changes in land values in the area near the Antipolo Station. If land values have increased, it shall then probe whether these increases are captured, who does the capture, and by which instrument the capture is done. This shall shed light on how extensive LVC is carried out through various legal and technical mechanisms. Further, it shall provide examples of how LVC can be utilized as a financing tool for public benefits such as the management of the COVID-19 crisis and identify the opportunities and challenges that come with such endeavor.

To sum up, this research aims to answer the following sub-questions:

1. What are the changes in land values near the LRT-2 Antipolo Station?
2. Is the land value increment near the LRT-2 Antipolo Station captured?
3. Who captures the increment in land values?
4. What instruments are used to capture the increment in land values?
5. In what ways can captured values be used for financing public benefits, particularly COVID-19 crisis management?
6. What are the opportunities and challenges in using LVC for financing COVID-19 crisis management?

1.5 Relevance of the research topic

The research aims to add to the body of knowledge on LVC and show how it has been applied in the Philippines, particularly in the case of the Antipolo Station in Antipolo City, Rizal. It shall look at how this land-based financing scheme is used and can further be optimized for financing COVID-19 crisis management, which subnational and national governments may have to face even after the spread of the virus has been put to an end. Thus, in the academic community, it furthers the discussion of LVC as a source of revenue and a mechanism in financing public benefits.

Though not generalizable to a broader context, the case may provide a starting point for other local governments in the Philippines or even the national government in formulating a roadmap in implementing LVC and using its proceeds in funding not only COVID-19 crisis management but also other government expenditures. In a country where LVC is not popular, this study may shed light on its potential as a tool for local and national development, hence, its importance to development practitioners and policymakers.

Most importantly, this research may provide lessons on increasing fiscal resilience in times of crises as cities and countries, especially developing ones, will learn how to use LVC not only as an innovative but a steady source of revenue, thereby increasing understanding of the SDG 11- safe, resilient, and sustainable cities and human settlements.

Chapter 2: Review of related literature

This chapter presents a review of literature and studies related to the theories and concepts covered by the research. Section 2.1 defines and lays out the principles of LVC as a financing mechanism and classifies LVC instruments, focusing on property taxation, one of the commonly used instruments. Taking off from the principle that LVC recovers increments in land values, Section 2.2 discusses land values and how they are affected by government actions such as infrastructure investments. Section 2.3. presents some general challenges in LVC administration and Section 2.4. zooms in on the Philippine experience. Section 2.5. briefly reviews LVC redistribution, and Section 2.6 tackles financing COVID-19 crisis management. Section 2.7 ends the chapter by showing the conceptual framework built on the review of the theories and concepts.

2.1 Land value capture as a financing mechanism

Various authors define land value capture as a land-based financing mechanism by which a part of or all land value increments attributed to collective actions such as public infrastructure investments, land use changes, and population growth are recovered by the public sector by fiscal or non-fiscal means (Smolka and Amborski, 2000; Ingram and Hong, 2012; Zhao and Larson, 2011). Some authors extend the definition to cover the purpose of LVC to invest in further development projects or improvements that would benefit the public (Friendly, 2017; Abiad et al., 2019; OECD. n.d.).

That of land value being a result of a community effect and therefore should be recouped for the benefit of the public is not a novel idea. Alterman (2012) explains that it is rooted in the 'Social Function of Property' or 'Social Obligations Theory, which responded to the conservative conception of land rights and private property protection, that is, landowners should keep "windfalls," or the unearned increments. Proponents of the theory emphasize that even with constitutional protection, private land ownership comes with social and environmental obligations (Alexander, 2006 in Alterman, 2012), among which is to share unearned increments (Alterman, 2012). The earliest form of LVC can be traced back to 1879 when Henry George proposed the 'single tax' and argued that regular payment of rents from land alone, meaning excluding buildings and other improvements, will be sufficient to finance society's public needs (Andelson, 2000 in Alterman, 2012). The idea was supported by economists but also gained strong opposition. The idea is still partly embraced as apparent in the international widespread of the local property tax (Ivanier, 2010 in Alterman, 2012).

There is, however, a caveat in LVC, which is that only increments generated by actions other than the landowners' direct investments should be captured (Smolka and Amborski, 2000; Ingram and Hong, 2012). While increases in land and property prices may also be due to their original productivity and the general trends in population and economic growth (Rebelo, 2017; Smolka and Amborski, 2000), actions done by property owners shall be an exception in value capture (Smolka and Amborski, 2000). As stressed by Ingram and Hong (2012), values arising from private investments should "*remain in private hands* (p. 4)," otherwise, private landowners will have no incentive to invest in land and real estate.

2.1.1 Land value capture instruments

Researchers try to classify LVC instruments. Walters classifies them into fees and taxes, and *nontax value captures*. Fees and taxes include property taxes, development fees, estate tax, capital gains tax, transfer tax, stamp tax, betterment tax, and land rent or lease. Nontax value captures can be in the form of developer land sale, project-related land sale, or tax-increment financing. Most popular among local governments is the property tax being a major source of the general fund, from which resources for various development sectors come. (Walters, 2012 in Redoblado, 2013). Smolka and Amborski (2000) also came up with three categories, with the first two (*taxes and fees*) similar to Walters and the third category being *regulatory urban policy instruments.*

Alterman (2012) distinguishes among three classifications of LVC instruments: *macro, direct* and *indirect* instruments.

Macro value capture instruments are fixed in an overarching land policy regime and rooted in a broader rationale and ideology. The four types of macro value capture instruments are *1) nationalization of all land and direct government control over its use,* 2) *substitution of private property by long-term public leaseholds,* 3) *land banking*, and 4) *land readjustment.*

Direct value capture instruments cover policies for capturing all or some of the increments in real property values, based on the justification that landowners are legally or morally compelled to share a part of their wealth derived from the community with society. These instruments are further divided into two subtypes. First is the *capture of the unearned increment*, where the land value increment is not associated with government decisions but with general economic or community trends. *Second is the capture of betterment*, where the land value increment is due to government land use regulations or public infrastructure provision.

Lastly, indirect instruments, which local governments commonly utilize, aim to capture land value increment not because it is unearned but to generate revenues or in-kind substitutes to finance specific public services.

2.1.2 Land and property taxes

Land and property taxes are among the oldest and most common forms of taxes (Faure, 2000 in Chi Man Hui et al., 2004) and the revenue generation instruments most familiar to local governments (Redoblado, 2013). They can be one-time fees and taxes such as development fees, estate tax, inheritance tax, capital gains tax, transfer taxes, and severance taxes. They can also be annual land and property tax, which are regularly recurring (Walters, 2011).

Walters (2011) asserts that land and property taxes can provide a stable local resource to finance local needs. He explains that as land is immovable and improvements are easily observed, those who benefit most from public investments are likely to pay taxes. This way, land and property taxes can capture a portion of the increase in land values that follow public investments and improved public programs. Smolka (2013) shares the same view and argues that any tax on land constitutes value capture as it recovers land values that are a product of public actions and investments that accumulated over time or the present value of land-based

services that are expected to accrue in the future. In response to arguments that property taxes should not be recognized as LVC instruments because they are not associated with a particular public action, he alludes to the "voting with your feet" or the Tiebout hypothesis. He argues that individuals choose where they reside based on the services offered by a jurisdiction in exchange for paying a particular property tax.

Land and property taxes can be excellent LVC tools, mainly when their base is sensitive to land use and population changes and reflect public investments. In some communities, tax increment financing promotes economic development and community investment by allocating revenues from property tax collected in areas with anticipated increases in assessed values for specific public purposes (German and Bernstein, 2018). Economists favor them because of several advantages. They fall entirely on landowners and do not create excess burden (Smolka, 2013; Oates and Schwab, 2009 in Smolka, 2013), and they reduce distortions in the broader economy. The imposition of land and property taxes also makes it less attractive to hold unproductive lands, thereby reducing incentives for urban sprawl and land speculation (Walters, 2011; Smolka, 2013).

However, land and property taxation management is not without any difficulty. A challenge lies in keeping the taxable values up-to-date with legal standards and land use changes over time. According to Walters (2011), the relevance of land and property taxation is lessened if the taxable values are not updated regularly and fail to be at pace with community growth. Therefore, its ability to capture value increases depends on the enabling administrative framework within which it operates (German and Bernstein, 2018). Walters et al. (2016) cited various policy and administrative considerations surrounding recurring taxes on land or those assessed and paid annually or at regular repeating intervals. Revenues from such taxes can be increased significantly if tax coverage, accuracy and timeliness of property valuation, billing and collection procedures, and taxpayers' services inquiry and appeal mechanisms are improved.

2.2 Land value and its relationship with transport infrastructures

Various factors determine the values of properties. Ingram and Hong (2012) cite five factors affecting land values: public investments in infrastructure and social services; changes in land use regulations; population growth and economic development; private investments; and the original productivity of the land.

Literature on the impact of public infrastructure and social services provision and decisions on public land use management on private property is rich. Most abundant are studies on the relationship of transportation infrastructure investments in private property values. Authors generally agree that there exists a positive relationship between the two. Smolka and Amborski (2000) suggest that in areas that can cater to higher densities, urban infrastructure and service provision can result in significant land value increases. These increases occur even before the start of the project, meaning the mere expectation of the project being undertaken spurs land price hikes. The improved accessibility brought about by infrastructure projects serves as a driver for the increase in land values. Areas catered to by transport infrastructure gain more competitive advantage over those that are not, an essential element in determining land values (Abiad et al., 2019: Doherty, 2004 in Brown-Luthango, 2011).

Several studies point to evidence of the positive influence of transportation infrastructure on values of buildings, utilities, improvements, and services near stations (Damm et al., 1080 in Brown-Luthango, 2011). In North America, for example, residential properties within the immediate transportation corridor recorded value increases ranging from 5% to 10%, while commercial property value increases ranged from 10% to 30% (Phu, 2007 in Brown-Luthango, 2011). In the case of the Washington Metro, distance to the stations was the statistically significant determinant of the transaction price of urban parcels (Damn et al., 1980 in Brown-Luthango, 2011). At 40% completion in 1981, the infrastructure led to $2 billion additional land value (Rybeck, 1981 in Brown-Luthango, 2011). By 2001, when it was completed, it resulted in at most $15 billion surplus land value (Gihring 2006 in Brown-Luthango, 2011). Positive effects were also recorded by studies done in rapid transit projects in Portland (Al Mosaind, 1993 in Brown-Luthango, 2011), New York (Hess and Almeida, 2007 in Brown-Luthango, 2011), Dallas (Doherty, 2004 in Brown-Luthango, 2011), among other areas in the United States.

There are also studies outside North America. A positive relationship between accessibility to bus rapid transport stations and apartment rents was seen in Bogota, Colombia. Specifically, for every five minutes of walking time, rents decreased between 6.8% and 9.3% (Rodriguez and Targa, 2004 in Brown-Luthango, 2011). In Sydney, Australia, the value of properties around new major motorways had increments between 30% and 60% (Fensham and Gleeson, 2003 in Brown-Luthango, 2011). In the United Kingdom, there are mixed results- a 2% average increase in house prices due to new public transport systems (Phu, 2007 in Brown-Luthango, 2011), and insignificant results in 12 out of 14 areas studied (Du and Mulley, 2007 in Brown-Luthango, 2011).

Local evidence for increased property values resulting from transportation infrastructure changes in the Philippines is from the Metro Rail Transit Line 3 (MRT 3), constructed in 1996 and opened in 2000. A study showed changes in land values before and after 1995. Residential parcels within one kilometer of the stations grew by $154 per square meter more than two kilometers away—as for commercial spaces, being within one kilometer away corresponded a difference of $545 per square meter from two kilometers away. This trend of increased values of properties in close proximity to stations has also been observed in the capital cities of the Philippines' neighbors, Thailand and Indonesia (Abiad et al., 2019).

While most studies suggest positive effects of transport investments mainly due to improvement in accessibility, less travel time, and more access to economic and cultural opportunities, some studies suggest adverse effects of transit stations' proximity to residential properties. These are due to the negative externalities of noise, pollution, crime, and the unpleasant appearance of stations (Abiad et al., 2019; Medda, 2012).

With this, we can establish that in those areas where land values had increased due to investments in infrastructure projects, increments happened even before and after the infrastructure project. As aforementioned, the expectation of infrastructure development increases property prices, and property prices continue to rise even years after the infrastructure started its operation.

2.3 Difficulties in the administration of land value capture

Rebelo (2017) points out that even if impacts of public investments, services, and land use have been scientifically and empirically assessed, it is challenging to compute land value increments and even controversial when land betterment occurred first or when the increments are a result of land use regulations. Alterman (2012) shares a similar concern. He maintains that associating value increments with public works is problematic owing to the difficulties in proving a causal relationship between the two, in determining the geographic range of impact of public works, and in determining the appropriate timing of levying the change that is reasonably close to the time that the public work was executed.

For effective implementation of LVC instruments, Smolka and Amborski (2000) list down minimum requirements: 1) adequate updating of cadastres, 2) technical capacity for adequately assessing relevant land values for a partial or complete capture and isolating the effects of general price trends and market secular movements, and 3) the political and administrative capacity for enforcing the LVC tool including notifying landowners of the sanctions for non-compliance, evasion and other issues related to payment.

2.4 Land value capture example: the Philippines

Land value capture tools are currently in place in the Philippines, although they may not be termed such (Buensuceso and Purisma, 2018; Samantela, 2019). The most common mechanism is through the Real Property Tax (RPT). Some LVC mechanisms are also done on a project-based and ad hoc basis. (Buensuceso and Purisma, 2018).

In their thesis, Samantela (2019) and Redoblado (2013) identify the different instruments for revenue-generation provided in the LGC of the Philippines and the Urban Development Housing Act that incorporate or use LVC. Under the Code, provinces, cities, and municipalities within Metro Manila may levy an annual *ad valorem* RPT on land, buildings, machinery, and other improvements. Provinces may impose no more than 1%, while cities and municipalities in Metro Manila may charge no more than 2% of the property's assessed value. The Code also provides that local governments impose an additional levy on real property for the SEF and additional tax on idle lands. The Urban Development Housing Act also mandated that local governments administer the socialized housing tax and the balanced housing requirement for subdivision developers (Redoblado, 2013). Both local governments and the national government may impose a Special Assessment Tax on lands especially benefitted by a public project that they have executed as long as the imposition is not higher than 60% of the actual cost of such project (*Republic Act 7160*; Presidential Decree 464).

Despite these mandates, the potential of LVC cost recovery and revenue generation measure has not been fully optimized due to some challenges. Buensuceso and Purisma (2018) and Abiad et al. (2019) identify barriers to effective LVC administration in the Philippines. These include inconsistent land valuation practices of local government units (LGUs) and national government agencies; outdated land values database; multilayered governance structure; outdated land use plans and weak implementation of land use regulations; and non-compliance of and lack of knowledge and technical skills among LGUs on the use of LVC mechanisms provided for by existing legislation.

2.5 Redistribution of captured values

As a financing mechanism, LVC is used to fund investments in development projects or improvements geared towards benefitting the wider community (Friendly, 2017; Abiad et al., 2019; OECD. n.d.). Therefore, it can be used to finance a myriad of actions and responsibilities that the government must spend on.

In a policy brief developed by German and Bernstein (2018), several LVC tools and jurisdictional examples were given. Betterment levies from property owners in Manizales, Colombia have been used to finance the Alfonso Lopez Plaza and various infrastructure and road improvement projects. Nearly US$2 billion from *Certificados de Potencial Adicional de Construção* (CEPAC), a form of a charge for building in Brazil, was used to finance infrastructure and planning programs in the City of Sao Paolo. The mandate to charge exactions in exchange for permission from the government to change building norms is granted on Cordoba, Argentina's provincial constitution. Meanwhile, in Orange Country, Florida, impact fees generate funds for public safety investments such as parks, fire stations, and police cruisers. While we see in these examples how value capture mechanisms are utilized differently, it is clear that the end goal of returning values to the public is realized through these mechanisms.

However, most of the literature on the redistribution of proceeds from LVC discusses obtaining financial resources for transportation investments (Peterson, 2009; Roukouni and Medda, 2012; Zhao and Larson, 2011; Abiad, 2019; Brown-Luthango, 2011; Buensuceso and Purisima, 2019, Medda, 2012). In what is described as a virtuous cycle of value capture, governments make regulatory decisions or infrastructure investments that trigger land value increases, capture all or part of the increases, and use the earnings to finance infrastructure investment. The idea is that the beneficiaries of the infrastructure project should also contribute to the project (Abiad, 2019).

One of the very few papers on LVC-funded social benefits that are not necessarily transportation investments was written by Fiendly (2017). The paper compares Toronto's Section 37 and São Paulo's onerous grant of the right to build (OODC).

Section 37 in Toronto provides for the exchange of development rights with cash or in-kind contributions. Under the Planning Act in Toronto, the types of facilities and services negotiated in Section 37 agreements are not specified. Instead, the municipalities may list community benefits they want to consider. Data from 1998 to 2015 show that most funds were used for roads and streetscaping and culture, community, recreation and parks, affordable housing, public art, heritage, transit, libraries, and other projects (Friendly, 2017).

Through the OODC in São Paulo, developers pay for development rights in exchange for providing urban improvements that would be beneficial to the community. Unlike in Toronto's Section 37, the benefits targeted are more clearly-defined in the city's 2014 master plan. The focus was on social housing, urban mobility, urban infrastructure, community equipment, public space, historical heritage, and environmental heritage (Friendly, 2017).

Through this paper, the researcher attempts to add to the limited literature on the use of LVC for supporting public benefits that are not necessarily within the realm of physical infrastructure and public works.

2.6 Financing COVID-19 crisis management

By collecting and analyzing essays, Capano et al. (2020) provide insights on the various responses to COVID-19 carried out by different national-level states. Two themes have emerged on the budgetary implications of these responses, namely financing relief and healthcare spending. As countries provided relief, they have suspended fiscal responsibilities, approved additional borrowing, reduced salaries, and used national savings. For healthcare spending, they have issued emergency calls for funding, accepted donations from the public, and reprioritized their budgets to provide additional resources needed by the public.

Similarly, the UN Habitat (2021) reported that countries, be they developed or developing, allocated significant funds, mostly from public debt, to finance their responses to t COVID-19 crisis, including but not limited to the provision of support to families through economic packages.

Arguing that the economic impact of the crisis is vast and longstanding such that even after the vaccines have been rolled out, governments will not find it easy to pay their debts and recompense for their expenses, UN-Habitat (2021) stresses that legal and policy frameworks are necessary to ensure local governments' regular financial resources to sustain their response to the crisis. It suggests that innovative financing mechanisms like LVC should be in place to fund welfare systems and enable cities and municipalities to have more fiscal resilience and sustainability.

Redoblado (2013) identifies two means by which revenues from LVC are used in financing government programs. One is through the incorporation of payments from LVC into the general fund of a local government, through which it invests in various services. Another is through earmarking, which is defined as the practice of separating from the general fund all revenues derived from LVC and using them only for specific programs (Carling, 2007 in Redoblado, 2013).

As there is scant literature on the use of LVC for funding COVID-19 crisis management, mainly because of its novelty, this research will explore how LVC revenues can support activities related to pandemic management.

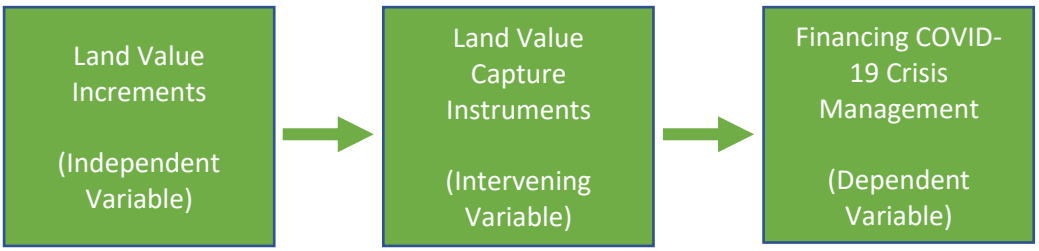
2.7 Conceptual framework

As literature has shown, government investments lead to land value increments. These increments can be captured through various LVC tools. Resulting in a virtuous cycle, these captured values can further be invested in existing or new government projects.

This research will look for evidence of increased values of properties near the Antipolo Station Station. It will examine if these are captured or not, who captures them, if any, and by which tools the capture is done. It will explore how the captured values are utilized for COVID-19 crisis management. The research will shed light on the potential of land-based financing and the opportunities and challenges in its utilization in the city.

Figure 1 shows the relationship of the three variables, namely, Land Value Increments, LVC, and Financing COVID-Crisis Management. It shows that land value increments, the independent variable, can be recovered and used to finance covid-19 crisis management, the dependent variable. Intervening between the two are LVC instruments used to recover such increments in land values.

Figure *1*. Conceptual Framework



Chapter 3: Research design, methods, and limitations

This study is a mix of explanatory and exploratory research. It first describes changes in land values near the Antipolo Station before and after the construction of the station. It then proceeds to explain how increases, if there are any, are captured by different actors and the tools utilized to capture them. Doing so explains the factors that enhance the potential of LVC, the challenges that hinder its administration, and the distribution of revenues that emanate from it. There is no rich experience in using LVC to fund COVID-19 crisis management initiatives; this research explores the possible ways and the mechanisms to be in place to use it for such purposes.

This qualitative research employed a case study as the strategy. It followed a single-case design given the difficulty and time constraints in studying more cases.

3.1 Research strategy: case study

The research used a case study as the research strategy. Thiel (2014) describes this as a strategy where a holistic approach uses one or several cases of the subject studied in a real-life setting. Case studies focus on a limited number of situations and study them in detail, aiming for more depth rather than breadth (Timney and Bailey, as cited in Thiel, 2014).

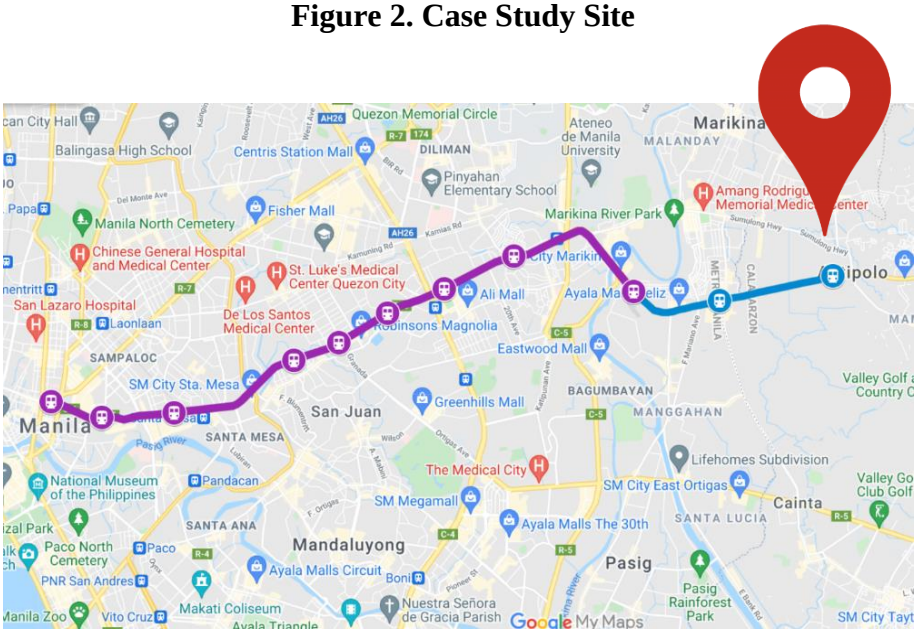
As it concentrates on a particular case, the Antipolo Station in Antipolo City, it is most appropriate for this study to use such a strategy. While the LRT-2 Extension Project had two stations completed- Marikina and Antipolo, time and logistical constraints, the difficulty of coordinating with key informants, and the ongoing pandemic limited this study to only the Antipolo Station. Hence, this is a single case study and is not meant to compare the two new stations or formulate generalizations for all other train stations in the country.

The Antipolo Station, earlier called the Masinag Station, is one of the two newest stations of the LRT-2, the other being Marikina Station, earlier called Emerald Station. The two stations are the components of the LRT-2 East Extension Project, which added about a four kilometer-track from the previously terminal station, Santolan Station in Pasig City, Metro Manila. Antipolo Station, the new terminal station, is in Barangay[1] Mayamot in the City of Antipolo, Province of Rizal.

[1] smallest unit of government, equivalent to a village

Figure 2 shows the old stations of the LRT-2, which have existed since 2003, and the two additional stations, which were constructed starting the year 2015 and finally opened in 2021. The old tracks are indicated by a purple line, while the new tracks are indicated by a blue line.

Figure 2. Case Study Site



Source: www.lrta.gov.ph

This case study examines how changes in land values near the Antipolo Station had changed starting 2009 up to 2021 when it finally started operation. The decision to start from 2009 was based on the availability of data on land values. While the oldest data found from the Bureau of Internal Revenue (BIR) website was zonal values in the City of Antipolo in 2000, it was deemed best to start from the 2009 zonal values, the second oldest dataset. While literature says that changes in land values occur as soon as there is an expectation of transportation infrastructure, the year 2000 is far too early to start the analysis. Further, Antipolo was just two years into its cityhood that year. Hence, the 2000 zonal values still reflected values when it was still just a municipality under the Province of Rizal, which are expectedly lower than values of properties within a city.

LVC mechanisms currently used in Antipolo City are also tackled. For LGU expenses related to COVID-19 relief distribution, 2020 and 2021 are covered.

3.2 Data collection, sampling selection, and size

3.2.1 Data collection

The research employed qualitative data collection and analysis to provide for a more in-depth understanding of the concepts and topics as they are applied in the context of Antipolo City. Qualitative research focuses on describing and understanding reality in the context within which it happens as reality, being complex, cannot just be simplified through numerical figures (Thiel, 2014).

To collect data, the research used primary and secondary data collection methods. Simply put, primary data are data that were collected for the first time by the researcher from the original source. Secondary data are those that have already been gathered and used previously for different purposes by another person or entity but have relevance to the research or topic at hand.

The researcher obtained primary data from property owners, real estate brokers, City Government of Antipolo staff, DOTr staff, and academicians. Primary data collection was conducted through semi-structured interviews with the key informants earlier mentioned. A semi-structured interview is an interviewing technique that uses few open questions or subjects for discussion written in an interview manual or guide and allows for flexibility through probing questions depending on the flow of the conversation (Thiel, 2014), thus producing more in-depth qualitative insights and results.

A research assistant conducted interviews with property owners under the researcher's supervision. The research assistant went to the area and interacted with the property owners. Initially, a more systematic and random way of choosing respondents was preferred. In the beginning, the research assistant was instructed to select the owner or caretaker of the 5th property from the station and, from there on, every fifth property for the succeeding interviews. As most of the target respondents were hesitant to disclose the values of their properties, fearing that the local government sent the research assistant to investigate tax payments, this system of selection proved to be difficult, not to mention the fact that owners of properties, especially those in commercial areas were not easy to find because of the strict community quarantine measures in place at the time the gathering of data was done. As such, the final set of respondents was selected by convenience. In the end, responses of 30 property owners were included for analysis.

For all other respondents, the researcher did the interview himself. Ideally, the interviews should have been done online, but due to their hectic schedule and their aversion to online interviews because of what they called "Zoom fatigue"[2], most respondents were interviewed through electronic mail correspondence, that is, a set of preliminary questions were sent to them via email, and to which they also responded via email. In such instances, probing questions and answers were also communicated through the same email thread. Of the ten respondents interviewed by the researcher, six opted for this modality, and four granted an interview through video call. Except for the three real estate brokers, all were chosen purposely by the researcher.

Except for the written interviews done in English, the interviews used a mix of English and Filipino to make sure the respondents were comfortable answering. They were recorded upon permission of the respondent and transcribed after. Responses in Filipino were translated into English.

For secondary data, the sources were national legislations and issuances; LGU documents such as schedule of base unit values for real properties near the Antipolo Station, the comprehensive development plan (CDP), comprehensive land use plan (CLUP), executive-legislative agenda (ELA), local codes and ordinances, and programs plans and activities (PPAs); zonal values

[2] Respondents described it as physical and psychological exhaustion due to long periods of video calls through Zoom and other video platforms during the pandemic.

from the BIR; and LRT-2 East Extension Project documents available on the internet. They were subjected to content analysis to triangulate the data obtained from the interviews.

Table 2 in Section 3.3 shows the sources of the primary and secondary data.

3.2.2 Sampling selection and size

Considering the limited time and resource for the conduct of the study and the difficulty in reaching and getting the cooperation of interviewees, non-probability sampling methods were used. According to Thiel (2014), non-probability sampling entails the conscious and purposive selection by the researcher of specific units of study or interviewees in this case. In this research, the researcher deemed it necessary to choose purposive sampling and convenience sampling methods. In total, 40 respondents were interviewed.

The three respondents who work at the City Government of Antipolo were chosen purposely by the researcher with the assistance of the city government. Initial contact with the city government was made through an email to the City Mayor's Office requesting assistance in identifying respondents and setting up interviews with them. At first, the researcher targeted to interview staff from six offices, namely City Council, City Planning and Development Office (CPDO), City Assessor's Department, City Treasurer's Office, City Budget Office, and Business Permits and Licensing Office (BPLO). The Mayor's Office endorsed the request letter to the CPDO for coordination with the other offices requested for an interview. Arranging for interviews with these offices took four months as they were occupied with many responsibilities the city had to attend to in the delivery of services during the pandemic. After many attempts at getting respondents from the six offices, the researcher was able to set up appointments with three offices- the CPDO, Assessor's Office, and BPLO. Fortunately, the three respondents have been with the city government for a long period and are familiar with the operations of the city, including the three offices that did not grant an interview.

Request for participation was also sent to the LRT Project Implementation Unit of the DOTr. The office asked for guide questions, which the researcher readily gave. A staff member accepted the request but sought the help of a colleague in answering the questions. He was not comfortable participating in an interview. Instead, he sent his written answers to the questions through email.

To cover subjects on which the staff of the City Government and DOTr had limited knowledge, interviews with three experts from the academia, chosen purposely, had to be conducted. Experts were tapped based on their expertise, knowledge, and experience in transportation infrastructure, property values assessment, urban planning, local governance, finance, taxation, and budgeting. The first expert is a land use planner, professor in a university, consultant to local governments, and author of various books, some of which were used as bases for sourcebooks on environmental planning in the Philippines. The second and third experts, also professors, teach courses in public administration, public policy and program administration, human resource management, local and regional governance, and local fiscal administration. Expert 1 was interviewed via Google Meet, while Experts 2 and 3 requested that they communicate their answers to initial and follow-up questions through email.

For real estate brokers, www.property24.com.ph, a website containing a list of real estate brokers, was referred to. The list was filtered for brokers with property listings in Antipolo City. A total of 273 brokers were emailed requests for an interview. Three granted the request only if it was communicated in written form.

Convenience sampling was also carried out for the interviews with property owners. Given the strict lockdown and measures to control the spread of COVID-19 in the Philippines and people's anxiety with face-to-face interactions, this was the most appropriate sampling method for them. Going to the study site multiple times for the four months the data gathering was conducted, the research assistant was able to interview 30 property owners, 19 of which rent or own commercial spaces, and 11 own houses and residential lots.

Table 1 provides a summary of data collection and sampling.

Table 1. Summary of Data Collection and Sampling

Data Collection Method	Sampling Method	Respondent Type	Sample Size	Criteria
Semi-structured interviews	Purposive	City Government staff - CPDO - Assessor's Office - BPLO	3	Knowledge and expertise in city land use planning, property values assessment, local finance, taxation, and budgeting
	Purposive	National government agency personnel - LRT Project Implementation Unit of the DOTr	1	Knowledge and expertise in transportation infrastructure and involvement in the LRT-2 East Extension Project
	Purposive	Academic experts	3	Expertise, knowledge, and experience in transportation infrastructure, property values assessment, urban planning, local governance, finance, taxation, and budgeting
	Convenience	Property owners - Commercial properties - Residential properties	19 11	Ownership and rental of property within 2 kilometers from the station; property existed since 2016
	Convenience	Real estate agents	3	Experience as a real estate agent for properties near the station since 2016
TOTAL SAMPLE SIZE			**40**	

3.3 Operationalization

This study revolved around three main concepts: land value, LVC, and spending for COVID-19 crisis management. Based on literature and the conceptual framework, as well as the breadth of responses from the respondents and the available data, these are broken down into variables, sub-variables, and measurable indicators.

The first concept, land value, concerns land value changes that can further be broken down into changes in the type of land use, accessibility, and land valuation. The concept of LVC is made

more concrete by dissecting it into LVC instruments and the institutional capacity needed for their administration. Lastly, COVID-19 crisis management is narrowed down to financing COVID-19 programs, plans, and activities (PPAs).

Table 2 summarizes the concepts, variables sub-variables, indicators, and the sources of data included to analyze the three main variables of the research.

Table 2. Operationalization: Variables and Indicators

Concept	Variable	Sub-variable	Indicator	Data Type	Data Source	Data Collection Method
Land value	Land value changes	Type of land use	Observed changes in the number of commercial, residential, and other areas	Quantitative	Primary and Secondary	Interview - City government staff - DOTr staff - Experts - Real estate brokers - Property owners LGU documents - CDP 2000-2010; 2010-2013 - CLUP 2010-2020 - ELA 2014-2016 - General Revision of Assessments of Real Property, 2014, 2015, 2018
		Land/Property valuation	The assessed value of the property, in Philippine Pesos - Before announcement of the construction of the station - After the announcement of the construction of the station	Quantitative	Primary and Secondary	Interview - City government staff - DOTr staff - Experts - Real estate brokers - Property owners LGU documents - General Revision of Assessments of Real Property 2014, 2015, 2018
			Taxes paid by the property owner, in Philippine Pesos	Quantitative	Primary and Secondary	Interview - City government staff - DOTr staff - Experts - Real estate brokers - Property owners LGU documents

						- General Revision of Assessments of Real Property 2014, 2015, 2018 Documents from BIR - Antipolo City Zonal Values 2000, 2017 - San Jose Del Monte City, Bulacan Zonal Values 2000, 2009
Land Value Capture (LVC)	LVC instruments	LVC instruments in use	Imposition as an LVC instrument *(used or not used)* - property/land taxes - additional levies on property taxes - special assessment tax (special levies) - lease Effectiveness as an LVC instrument - administrative efficiency - transparency - payment convenience - social acceptability	Qualitative	Primary and Secondary	Interview - City government staff - DOTr staff - Experts National legislations and issuances - Republic Act (RA) 7160 (Local Government Code) - Presidential Decree (PD) 464 (Real Property Code) - PD 1812 (Amending PD 464) Local legislations and issuances - City Ordinance 2018-879 (Antipolo City Revenue Code of 2019) - City Ordinance 2019-885 (Amending the Revenue Code of 2019) - City Ordinance 2019-927 (Amending the Revenue Code of 2019) - Revenue Code of 2000
	Institutional capacity	Legal capacity to administer LVC instruments	Existence of national legislations supporting LVC in local governments Existence of local legislation	Qualitative	Primary and Secondary	Interview - City government staff - Experts National legislations and issuances

			Enforcement of local legislation Presence of penalties for noncompliance Presence of processes in addressing legal appeals			- Republic Act (RA) 7160 (Local Government Code) - Presidential Decree (PD) 464 (Real Property Code) - PD 1812 (Amending PD 464) Local legislations and issuances - City Ordinance 2018-879 (Antipolo City Revenue Code of 2019) - City Ordinance 2019-885 (Amending the Revenue Code of 2019) - City Ordinance 2019-927 (Amending the Revenue Code of 2019) - Revenue Code of 2000
		Technical capacity to administer LVC instruments	Presence of regularly updated schedule of fair market values (SFMV)/real property assessments Sufficient financial resources to update SFMV	Qualitative	Primary and Secondary	Interview - City government staff - Experts LGU documents - General Revision of Assessments of Real Property, 2014, 2015, 2018 Documents from BIR - Antipolo City Zonal Values 2000, 2017 - San Jose Del Monte City, Bulacan Zonal Values 2000, 2009

COVID-19 Crisis Management	Financing COVID-19 Programs, Projects, Activities (PPAs)	Discretionary spending for COVID-19 PPAs	COVID-19 PPAs funded through LVC	Quantitative	Primary and Secondary	Interview - City government staff - Experts LGU documents - Consolidated COVID-19 Response PPAs National issuances - Local Budget Circular No-128, Department of Budget and Management
		Legal support for discretionary spending for COVID-19 PPAs	Existence of national legislation supporting local financing of COVID-19 PPAs Existence of local budget ordinance/resolution	Qualitative	Primary and Secondary	Interview - City government staff - Experts National issuances - Local Budget Circular No-128, Department of Budget and Management

3.4 Challenges and limitations

Gathering data for this research faced several setbacks and challenges. The most difficult hurdle was the COVID-19 pandemic, which negatively affected the course of communication, coordination, and other logistical arrangements made during the conduct of the research. In Antipolo City, data gathering was challenging because the city hall offices were occupied with urgent tasks related to the management of the pandemic in the city. In addition, towards the last quarter of the year, LGUs were busy preparing year-end accomplishment, financial, and accounting reports. All in all, the fieldwork took approximately five months. Coordination for interviews and requests for data were done through email, phone calls, text messages, and physical visits to the different offices of the City Hall.

Same challenges were encountered in securing interviews and data from the DOTr. After several emails were sent to real estate brokers, only three responded affirmatively.

Aside from slowing down communication and coordination with the offices and the target respondents, the pandemic also influenced the modes by which the interviews were conducted. Some respondents requested that their responses to the questions be communicated via email as they were already exhausted with videocalls.

For property owners, the availability of respondents was low because of the strict community quarantine and social distancing measures followed in the Philippines. For one, most commercial property owners, or even their caretakers, were not in their properties because they were not back to business operations when the research was conducted. Second, they were

hesitant to entertain the research assistant due to the general anxiety of people with face-to-face interactions and fear of catching the virus. In addition, property ownership and property values were sensitive topics that some of them expressed disinterest in being interviewed as they feared that the interview was some investigation on their tax payments. As such, property owner respondents were chosen by convenience. The interview questions were also limited to how much their properties are worth and how much taxes, fees, and other charges they have been regularly paying since 2016. Open-ended questions that would require long answers were scrapped.

Aside from the responses of the property owners, two data sources were used to corroborate increases in land values near the station- Antipolo's zonal valuation prepared by the BIR as the basis for the computation of internal revenue taxes and the General Revision of Assessments of Real Property from the Antipolo City Assessor's Office. For the former, data for the years 2000 and 2017 were available. The latter contained data for 2011, 2014, 2015, and 2018.

As the year 2000 is too far from 2015, the Antipolo Station's start of construction, the researcher had to estimate values for a closer year. To do this, he referred to the zonal valuation in San Jose Del Monte City, Province of Bulacan, which contained values for the years 1991, 1994, 1996, 1999, 2000, 2009, 2018. He estimated the 2009 values for three barangays identified by the Assessor's Office as surrounding the Antipolo station- Mayamot, San Roque, and Muntingdilaw by benchmarking with 2000 to 2009 increases in three barangays that surround the San Jose Del Monte Station in San Jose Del Monte City, namely, Tungkong Mangga, Poblacion, and Gaya-Gaya. First, he computed the increase rates for three barangays in San Jose Del Monte Station in 2000 and 2009. Next, he estimated the 2009 values of properties in Antipolo by multiplying their year 2000 values by the resulting increase rate. He then computed the increase rates from 2009 to 2017 in Antipolo City using estimates for 2009 and actual values for 2017.

The selection of San Jose Del Monte City as the yardstick was based on its similarities with Antipolo City. It was proclaimed as a component city of Bulacan in 1998, the same year that Antipolo became a component city of Rizal. Before that year, the two were only municipalities. San Jose Del Monte City is the location of the San Jose Del Monte Station, the terminal station of the MRT 7. The construction and opening of the MRT 7 almost followed that of the Antipolo Station with only a year's difference. MRT 7's construction started in 2016, and its operation is set to begin in 2022.

As for the General Revision of Assessments of Real Property in Antipolo for the years 2011, 2014, 2015, and 2018, there were areas that did not have values for all four years. The data sets were cleaned by removing areas that did not have complete data as there is no way to ascertain changes in their values. This research, therefore, comes with a warning that if data will be complete, it might yield different results.

3.5 Validity and reliability

Given the inherent characteristics of case studies and qualitative research, the constraints on time and resources, and the challenges and limitations identified in the preceding section, there are some issues on validity and reliability that this research considered and addressed.

Validity has two types- external and internal. External validity pertains to the generalizability of the research findings to other contexts. In contrast, internal validity refers to the soundness of the research and its effectiveness in measuring what it has set out to measure (Thiel, 2014).

It is important to note that a case study has limited external validity (Thiel, 2014). Therefore, the results are only applicable to this case and are not meant to formulate generalizations covering other contexts. Internal validity can be improved by a correct operationalization and identification of variables and indicators. In this research proposal, the operationalization was based on literature and has undergone a rigorous review by the researcher's supervisor and peers.

It is essential that interview questions are value-neutral and not leading. As such, the interview guide was pre-tested and peer reviewed. The research assistant was given an orientation before being deployed to the field. For the days that she went to the field, an end-of-day debriefing was done to elicit feedback on the clarity of the questions and their ability to obtain valid responses. As the researcher and the research assistant were limited by time zone differences and physical interaction is not possible, the orientation and debriefing sessions were done through video calls.

The research assistant noted that respondents, particularly the property owners, were timid in participating. They feared that the research assistant was sent by the city government to investigate them. It was important that trust and rapport were present. Therefore, a neutral tone in the conduct of the interviews was ensured. The researcher's student ID and an endorsement letter from the school were also shown to the respondents. A mix of English and Filipino was also used as the medium of communication to make the respondents more comfortable in answering.

While the researcher and the research assistant relied on the department heads in the identification of respondents from their office, it was ensured that the respondents were chosen carefully. In every communication with the offices, the criteria for the selection of respondents were mentioned. During the interviews, these were validated by the researcher to make sure the respondents indeed fit the criteria for selection. In addition, in instances where the researcher acquiesced to the request for "written interviews," he asked the respondents to write their answers in a very detailed manner. For unclear responses and for points that need probing, he sent follow-up questions, to which the respondent also replied via email.

Data triangulation is also crucial. That is why in this research, multiple data sources were used to substantiate the responses. Pertinent data and documents from different sources (see Table 2) were gathered for more robust data analysis.

To increase reliability, careful and complete documentation of the stages of the research and its methodologies is essential. Reliability refers to the accuracy and consistency of measurements every time they are used (Thiel, 2014). Aside from providing opportunities for supervision and feedback, the video calls between the researcher and the research assistant also allowed the latter to report the processes that transpired during the data collection, especially taking note of deviations from original plans and strategies.

Finally, as qualitative data is voluminous, ATLAS.ti was used to ensure a more systematic analysis. Transcribing responses verbatim was also essential to capture their contexts and

meanings. For answers translated from Filipino to English, the translations were reviewed by the researcher, research assistant, and peers.

3.5 Data analysis

All recordings, transcripts, translations, and notes were collected and saved under one document folder. As earlier mentioned, transcripts and translations were peer-reviewed.

Analysis of data from the semi-structured interviews with city government and NGA staff, experts, real estate brokers, and property owners, was done using ATLAS.ti. The data was grouped according to themes, coded, and interpreted, especially looking out for patterns, relationships, and links.

Quantitative data generated from the interviews with the property owners and the documents gathered were also subjected to simple statistical analysis, mainly computing for averages, central tendencies, and increases to shed light on the changes in property values throughout the years.

The findings are presented in the succeeding chapter.

Chapter 4: Research Findings

This chapter presents a discussion of the data collected and the results of the analysis. It begins with the context of the case study, followed by the findings on the study variables. To protect the privacy of the respondents, their responses are anonymized.

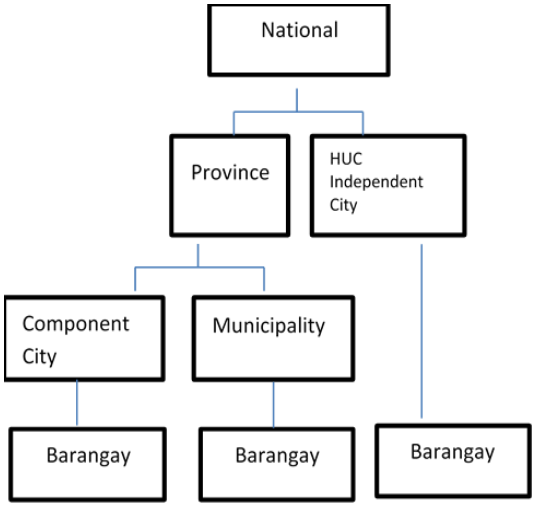
4.1 The context of the case study

Local governments, albeit to a huge extent vested with autonomy from the central government, are part and parcel of the entire Philippine Government. Therefore, its functions, responsibilities, and operations are influenced by the overall context where they are situated. Below, fiscal decentralization in the Philippines, social, political, and economic profile of Antipolo City, the LRT 2-East Extension Project, and the Antipolo Station are described.

The Republic of the Philippines has three co-equal branches, namely the Executive, Legislative, and Judicial branches. The Executive Branch is composed of the president, vice president, and the cabinet. The Legislative Branch or Congress has two houses- the upper house or the Senate, and the lower house or the House of Representatives. The Judiciary is made up of the Supreme Court and the lower courts.

The Philippine Government comprises two levels- central and local. The central government exercises supervision over local governments and performs functions such as national defence, policy formulation on taxation, revenue generation, financial management, and the various responsibilities of the cabinet or the departments.

Figure 3. Levels of Philippine Government



Source: Researcher's visualization based on the 1991 Local Government Code

The local government has three levels, each enjoying political autonomy (Official Gazette, n.d.). These are the provinces, cities and municipalities, and the barangays. Cities can be

classified as highly urbanized cities (HUCs), independent component cities, and component cities. HUCs and independent component cities are independent of the province.

The Local Government Code expounds that the national government exercises supervision over LGUs and the higher local level LGUs supervise their component LGUs

The expenditure assignments of the LGUs are also stated in the LGC. LGUs perform sets of functions that are devolved to them from NGAs, and various services and responsibilities. Llanto (2012), in his article for The Philippine Review of Economics, listed the functions previously under the turf of NGAs that are now devolved to LGUs. These functions are as follows:

Box 1. Functions Devolved to LGUs

- Land and home development improvement;
- Agriculture and fishery extension;
- Local budget services;
- Environmental management;
- Medical and health services; extension and primary health care;
- Infrastructure repair and maintenance;
- Community welfare and development;
- Domestic tourism;
- Trade and industry;
- Telecommunications services;
- Cooperative development;
- Human settlement regulation; and
- Regulation of cockfights.

Table 3 shows the specific services and facilities of LGUs, according to level.

Table 3. Services and Facilities of LGUs

Barangay	Municipality	Province	City
Agricultural support	Agriculture and fishery research and facilities Community-based forestry	Agricultural extension and on-site research services and facilities Environmental protection	All services that municipalities and provinces offer Transportation facilities Support for services relating to education, fire and police
Health center Day-care center	Primary health care, maternal and child care, secondary and tertiary health services Social welfare services	Hospital and tertiary health care Social welfare service	
General hygiene and sanitation	Solid waste management		
Baragay Justice			
Barangay roads, bridges and water systems maintenance	Municipal roads and bridges, school buildings, clinics, health centers, communal irrigation, small water impounding projects, fish ports, flood control, traffic signals and road signs	Provincial roads and bridges; inter-municipal waterworks, drainage and sewerage, flood control, and irrigation systems; reclamation projects	
Multipurpose hall, pavement, plaza, sports center satellite or public market where viable	Municipal buildings, cultural centers, public parks, sports facilities, municipal enterprises, cemetery, tourism, police and fire stations, municipal jail	Provincial buildings, provincial jails, parks Low-cost housing	
	Information services (investments, jobs, tax, marketing, public library)	Investment support e.g. credit financing Tax information and collection Inter-municipal telecommunication	
	Industrial research and development	Tourism development	

Source: 1991 Local Government Code

In terms of revenue generation, the LGUs, to some extent, also have autonomy. Legitimized by an ordinance approved by their local legislative board, they can impose taxes, fees, and other charges. Higher-level LGUs can also financially support their component units. The LGC sets the rates of these impositions. The local taxes, fees and charges, and other local revenue sources of LGUs depending on their level are summarized in Table 4.

Table 4. Locally Generated Revenues

Barangay	Municipality	Province	City
Tax on store or retailers	Business tax on manufacturers, assemblers, repackers, brewers, distillers, wholesalers, distributors, dealers, exporters, millers, etc.	Annual fixed tax for producers, wholesalers dealers and retailers of certain products	
	Tax on peddlers	Business tax on printing and publication	
Fees and charges for barangay-owned properties	Fees for sealing and licensing of weights and measures		
	Fees and charges for fishery rentals		Taxes, fees, and charges imposed by provinces and municipalities
Barangay clearance	Community tax		
Tax on sand, gravel and other quarry resources within its territory (40%)	Tax on sand, gravel and other quarry resources within its territory (30%)	Tax on sand, gravel and other quarry resources within its territory (30%)	
	Tax on banks	Amusement tax	
		Real property tax	
		Special assessments tax	
		Franchise tax	
		Professional tax	

Source: 1991 Local Government Code

LGUs can also fund their expenditure assignments from (Official Gazette, n.d.), the Internal Revenue Allotment (IRA) which is a form of intergovernmental transfer from the national government, their share in national taxes and national wealth from resources in their territories and through capital markets and conditional grants. The IRA is the LGUs' share in the internal revenue taxes collected by the national government. As provided in the LGC, 40% of the national internal revenue taxes shall be allocated to LGUs. Of this, 23% go to provinces, 23% to cities, 34% to municipalities, and 20% to barangays. To compute for the actual share of an LGU, the formula population (50%), land area (25%), and equal sharing (25%) is used for provinces, cities, or municipalities, and population (60%) and equal sharing (40%) for barangays. As to how the IRA will be used, the Code mandates that at least 20% of it shall be used as Development Fund for development projects (Official Gazette, n.d., Llanto, 2012).

Equitable sharing is also followed in the distribution of revenues from the use and development of national resources located within the LGUs. According to the Code, 40 % of the national collection of mining taxes, royalties, charges, and fees, and share from the use and development of national resources in LGUs shall be distributed to them. Like the IRA, the share in national wealth shall also be for local development and livelihood (Official Gazette, n.d.).

The Code also allows local governments to negotiate and secure grants, either financial or in-kind, from local and foreign assistance agencies so long that the projects for which these will be utilized are approved by the concerned national government agency (Official Gazette, n.d.) Examples of conditional grants are the calamity fund, municipal development fund, local government empowerment fund, and the countryside development fund (Llanto, 2009).

4.1.2 The City of Antipolo

According to the Antipolo Comprehensive Land Use Plan (CLUP) 2010-2020, the city started as a village before the 1600s. In 1650, the village became a town and was under the Province of Tondo. Later, Tondo was divided into two. Some parts were placed under Manila, some under the District of Morong, known today as the Province of Rizal in the CALABARZON Region of the Philippines. In 1853, Antipolo was formally declared part of the District of Morong. It was in 1998 when Antipolo was converted from a municipality to a component city of the Province of Rizal.

Located in the northern half of Rizal, its boundaries are the Municipality of Rodriguez, Rizal on the north; Marikina City of Metro Manila and the Municipality of San Mateo, Rizal on the northwest; the Municipalities of Taytay and Cainta, Rizal on the southwest; the Municipalities of Tanay, Teresa and Baras, Rizal on the southeast, and the Province of Quezon on the east (Figure 4). The city center, or Poblacion, is approximately 29 kilometers from Metro Manila.

Figure 4. Location Map of Antipolo City

Source: zamboanga.com

Subdivided into 16 barangays, Antipolo City covers a total land area of 38, 504.44 hectares. The city's Comprehensive Development Plan (CDP)- Executive-Legislative Agenda (ELA) 2017-2019 states that it has a total population of 776, 386 based on the 2015 Census of Population and Housing (CPH). This figure is larger by 98, 645 persons than its population in 2010, translating to an annual population growth rate of 2.62%. Further, the Roadmap for Transport Infrastructure Development prepared by JICA and NEDA in 2014 stressed that the Antipolo City and Rizal Province play essential roles in managing the population of the Greater Capital Region or GCR (CALABARZON, NCR, and Region 3), the country's economic powerhouse being home to more than a third of the entire country's population, a significant part of which is due to in-migration brought about by higher economic opportunities.

Antipolo's land use is categorized as urban and rural. In the year 2010, the urban land uses (residential, commercial, industrial, institutional, parks and recreation, tourism) made up 22.66% of the total land area of the city. Residential areas, with 7, 647.55 hectares, comprised the bulk of the city's land area. Commercial areas, which are concentrated in Poblacion and Barangay Mayamot covered 298.16 hectares. Industrial areas in Mayamot and near the borders of the city in the municipalities of Teresa, Angono spanned 242.86 hectares. Agro-industrial areas in Sitio Pinugay, Barangay San Jose accounted for 172.14 hectares (CLUP, 2010-2020).

The CLUP 2010-2020 described Antipolo City as integral to the development of the province of Rizal, the CALABARZON Region, and the GCR. Based on various provincial and regional development frameworks, it identified Antipolo as a provincial commercial, industrial, residential, and service center that provides major types of services and employment for Rizal; absorber of industrial overspill and agro-forestry, agro-processing, and small and medium enterprises (SMEs) in CALABARZON; trade and service center for industry; and a major urban center.

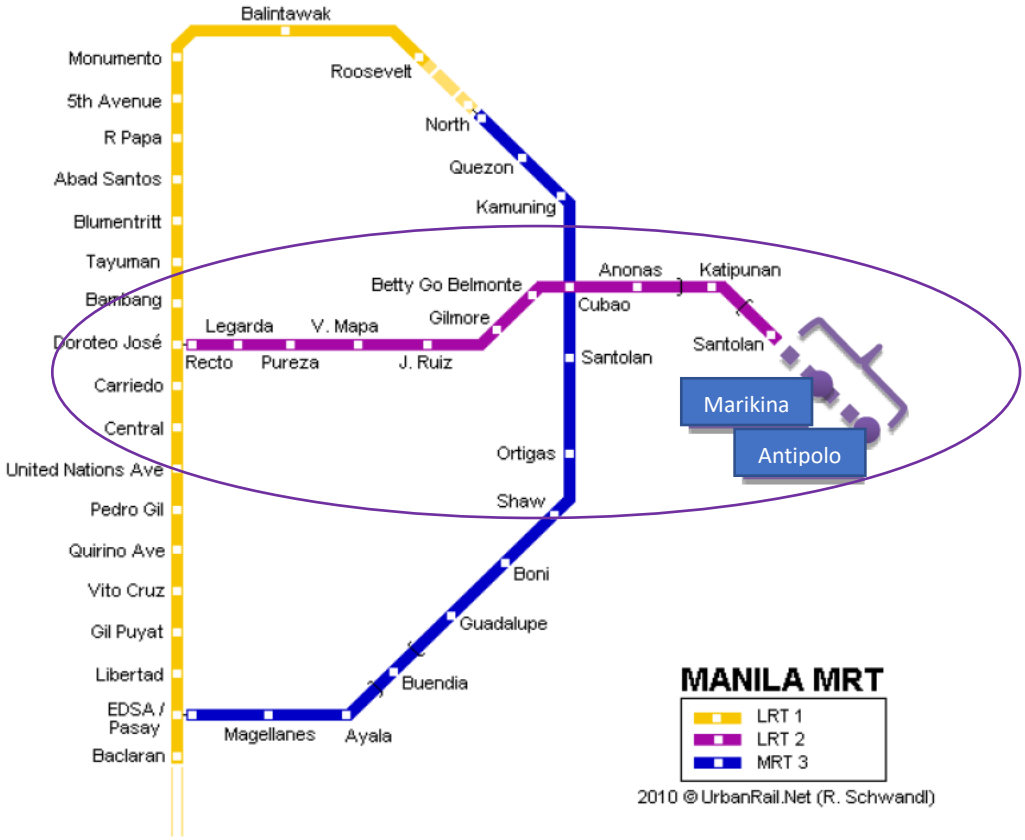
4.1.3. The LRT-2 East Extension Project and the Antipolo Station

With a total of 13.8 kilometers of track, the LRT Line 2, also known as the Purple Line, traverses four cities in Metro Manila- Manila, San Juan, Quezon, and Pasig. It was constructed from 1996 to 2003. The stations Santolan, Katipunan, Anonas, and Cubao began operation in 2003 while stations Betty Go-Belmonte, Gilmore, J. Ruiz, V. Mapa, Pureza, Legarda, and Recto opened in 2004.

In 2014, JICA and NEDA recommended the extension of the three lines in the Philippines, one of which is LRT-2. This is in line with the aim of expanding the lines to accommodate the growth of peri-urban areas in the provinces of CALABARZON. The recommendation paved way for the LRT-2 East Extension Project, which extended the elevated tracks of the LRT-2 by 4.19 kilometers from the former terminal station in Santolan to the Masinag area in Antipolo City and added two stations- Marikina (Emerald) in Marikina City, Metro Manila and Antipolo (Masinag), in the City of Antipolo, Province of Rizal. The extension started operations on 5 July 2021. Operations and maintenance of the extension is by the Light Rail Transit Authority (LRTA) of the DOTr.

Figure 5 shows the original stations and the two additional stations of LRT-2.

Figure 5. Train Lines in the Philippines



Source: ALMEC Corporation

According to the respondent from the DOTr, the project had three packages. The packages and their project component, duration, budget, source of funds, and contractor are presented in the following table.

Table 5. LRT-2 East Extension Project Packages

Package	Component	Duration	Budget	Source of Funds	Contractor
1	Design of construction of the viaducts	2015-2018	Php2.27 billion	Philippine Government	D. M. Consunji Inc. (DMCI)
2	Design and construction of the Marikina and Antipolo stations	2017-2021	Php1.172 billion	Philippine Government	DMCI
3	Design and building of trackwork, electro-mechanical system, and integration with the existing system	2019-2021	Php3.491 billion	Philippine Government, JICA, other Official Development Assistance (ODA)	DMCI and Marubeni Corporation

With the Antipolo and Marikina stations now operational, easier access to commercial establishments around the area and more efficient travel to Metro Manila are expected. It is projected that the extension will shorten commuting time from Antipolo to Recto in the City of Manila to 30 minutes, from an average of 3 hours by car. LGUs are also seen to benefit through higher overall economic output both in the short and long term. Improvement in transportation infrastructure shall also increase trade flows.

As for the Antipolo Station, Antipolo City's CLUP shows its positive impact to the Masinag area in Barangay Mayamot where it is located. Identified by the city as one of its six growth centers, the Masinag area can be a central business district (CBD) owing to its proximity to Metro Manila. With its being an inter-model transport hub and its capacity to catch urbanization spillovers from the metropolis, the Masinag junction is predicted to become a major urban center.

According to the respondent from DOTr, LGUs close to the Antipolo and Marikina Station will have financial benefits primarily from permits and taxes from companies and individual professionals, increased demands for raw materials and other supplies, yearly business permit renewals of LRTA and other businesses operating within the LGU jurisdictions, new businesses, increased household incomes, and increased taxes arising from the land value increments of nearby residential and business areas.

Figure 6. LRT-2 Antipolo Station

Source: PIA; LRTA Facebook Page

4.2 Land value changes near the Antipolo Station

The physical and demographic expansion of Antipolo City, throughout the years, has hastened development in, and the capital inflow to the city. The construction of the Antipolo Station, according to some of the interview respondents in this research, has led to many changes in the city especially land use and land or property valuations.

4.2.1 Type of land use

According to one of the respondents from the city government- City Government Staff 1, the construction of the LRT was already in the blueprint of the development plans of the City of Antipolo even way back in the 1990s when talks about the construction of the line from Recto to Santolan, and its expansion to areas neighboring NCR. Antipolo's development plans, in a sense, prepared the city for the eventual construction of the LRT. She said,

> *"the city government has already planned for it even if it (LRT-2 Antipolo Station) was not yet established. Development in the city was not just a passive acceptance of development but more of preparing from within because all these possible development perspectives will eventually come into reality because of Antipolo's proximity to Metro Manila."*

At present, Antipolo City has six growth centers. One of these is the Masinag intersection where the Antipolo Station is situated. Starting when the construction of the station was being planned, the area has been developing into a major CBD. Apart from major commercial establishments that have long existed in Masinag, there is now a shopping mall owned by SM Supermalls, operator of 78 malls in the Philippines, some of which are largest in Asia and the world, a hospital and Philippine Economic Zone Authority (PEZA)-accredited establishments.

The real estate brokers interviewed also observed an increase in residential and commercial areas within the vicinity of the station. Broker 2 specifically noted that since the start of the construction in 2015, there has been an increase in the number of commercial establishments within 1km of the station. Broker 3 emphasized that while the Masinag area has been commercialized even before the construction of the station, the establishment of a market, several fast-food chains, and the mall made it more highly commercialized. She opined that the *"construction of the station created a domino effect of the establishment of businesses"* in the area.

When asked about how the construction of the station influenced these changes, Broker 2 explained that:

> *"The station has had a direct impact on traffic and convenience while having an indirect effect on the increase of employment in the area. We believe that with this added convenience, more people from Antipolo and its vicinity have the opportunity to pursue employment within the metro and vice versa, and the foot traffic from the commuters has attracted small business owners to the immediate area of the station."*

For residential areas, the three brokers noticed that there has been an increase in the number of dormitory-type housing because of the *"rise in student and working renters (Broker 2)"* who now benefit from *"easier transportation to and from Manila, or north to south (Broker 1)."*

In sum, the number of residential and commercial areas near the Antipolo Station has increased since the planning stages of the station.

Observed changes in the values of properties near the station are discussed in the following section.

4.2.2 Land/property valuation near the station

Every three years, land values are evaluated by the city government, In every valuation year, land values in the area increase. According to City Government 1, it was in 2013, two years before the start of the construction of the Antipolo Station, that land values started to increase substantially. In that year, the first establishments in the area were erected in anticipation of the development that the LRT 2 extension will bring. City Government Staff 1 explained that there are three factors considered in land valuation- the accessibility of the area, risk and vulnerability to flood and other disasters, and the presence of services. The area is now more accessible to and from Manila and as earlier mentioned, many establishments have started operating beginning in 2013.

The three brokers' observations corroborate that of City Government Staff 1. Broker 3 estimated a conservative increase in market values of properties at 5-10% annually since 2015, or even higher in gated villages. Broker 2 observed even higher increases and noted that from several years before the completion of the station, prices of residential properties have already increased by at least 25% while prices of commercial properties, especially those along the highway more than doubled. He reported that properties that are not within the vicinity of the

station have also gone up. Residential properties farther up along Marcos Highway in the Cogeo area as well as villages along Sumulong Highway have increased from Php6, 000 to a minimum of Php8,000 and a maximum of Php25,000 per square meter. Bigger developers such as Megaworld and Sun Valley, according to him, have even increased their prices from Php15,000 to Php27,500 per square meter.

Brokers 1 and 3, however, stressed that the construction of the station is not the sole factor behind increases in property values. Specifically, Broker 3 pointed out that Antipolo City has already been known as a tourist destination, hence the expected increase in property values. Broker 1 also argued that it is normal behavior for real estate to increase quarterly.

Aside from the responses of the city government staff and the real estate brokers, this research also sought to find out the values of some properties near the Antipolo Station by interviewing property owners. 11 residential property owners and 19 commercial property owners were asked about the assessed value of their properties since 2016, a year after the start of construction of the Antipolo Station.

It can be gleaned from Table 6 that the average value of properties, residential or commercial, has been increasing from 2016 to 2021, except in 2019 when commercial properties had the same values as the previous year. For residential properties, values increased from PhP287,166.67 in 2016 to PhP683,222.22 in a span of five years. The lowest increase rate, 10%, was recorded in 2019 while the largest increase, 37%, was recorded in 2021 when the station started its operations. The commercial properties included in the interviews were, on average worth Php158,896 in 2016 and Php193,973 in 2021. Unlike in residential properties, the lowest increase, 0.24% was recorded from 2020 to 2021 among commercial properties. It is important to note, however, that the number of property owners interviewed is not a representative sample. Nevertheless, the data shows that for both residential and commercial properties, values have increased from 2016 to 2021.

Table 6. Values of Some Properties Near the Antipolo Station

Type of Property	Yearly Property Values (AVERAGE)					
	2016	**2017**	**2018**	**2019**	**2020**	**2021**
RESIDENTIAL	287,166.67	343,000.00	398,555.56	437,847.00	500,247.00	683,222.22
Increase rate from previous year	--	0.19	0.16	0.10	0.14	0.37
COMMERCIAL	158,896	160,435	192,742	192,742	193,512	193,973
Increase rate from previous year	--	0.009682182	0.20137607	0	0.00399098	0.002385069

In addition, some property owners also reported increases in their property taxes. One commercial property owner paid Php24,000 in 2016. In 2021, he paid Php29,000 for the same

property. Another commercial property owner paid Ph59, 955 property tax in 2016 and Php85, 511 in 2021.

Another source of data was the zonal values prepared by the BIR. Vicinities in Barangays San Roque, Mayamot and Muntindilaw, the three barangays closest to the station, were considered for analysis. Removing zones with no values for either 2009 or 2017, a total of 145 zones were included.

Table 7 shows that in 2009, the values of zones near the station ranged from Php357.50 to Php38,038 per square meter. The average value was Php5,336.76 per square meter. In 2017, zonal values were, on the average Php6,446, and ranged from Php400 to Php39,000 per square meter. The average increase rate from 2009 to 2019 was 40%.

Table 7. Zonal Values in Barangays San Roque, Mayamot and Muntindilaw, Antipolo City, in Philippine Peso per Square Meter

	2009 ESTIMATE (2009 value *1.43)	**2017**	**Increase Rate (2009 - 2017)**
Number of Zones	145	145	145
Minimum	357.50	400.00	-0.30
Maximum	38,038.00	39,000.00	1.80
Average	5,336.76	6,466.31	0.40

Source: Bureau of Internal Revenue

The last source of property values was the Revised Schedule of Base Unit Values for Lands, Buildings, and Other Structures in Antipolo City's General Revision of Assessments of Real Property in the years 2014, 2015, and 2018. Like BIR's zonal values, the data were cleaned to remove areas with incomplete data. 16 residential and 6 commercial locations were included in the analysis.

As seen in Table 8, residential and commercial areas did not have much increase from 2014 to 2015, the year the LRT-2 East Extension Project began its construction phase. After four years, however, the values of residential areas grew by 11% from 2014. From an average of PhP3,587.50 in 2014, values reached Php3,906.25 per square meter in 2018. For commercial areas, an increase rate of 6% from 2014 to 2018 was recorded. On average, commercial areas were Php6,850 per square meter in 2014 and Php7,250 in 2018.

Table 8. Base Unit Values for Properties in Antipolo Philippine Peso per Square Meter

	Year 2014	**Year 2015**	**Year 2018**	**Increase Rate (2014 - 2018)**
Number of RESIDENTIAL Areas	16	16	16	16
Minimum	2,100.00	2,100.00	2,300.00	0.04
Maximum	7,200.00	7, 200.00	7,500.00	0.35
Average	3, 587.50	3, 656.00	3, 906.25	0.11
Number of COMMERCIAL Areas	6	6	6	6
Minimum	5,200.00	5,200.00	5,700.00	0.04
Maximum	8, 200.00	8, 200.00	8, 500.00	0.08
Average	6,850	6,850	7, 250.00	0.06

Source: Antipolo City General Revision of Assessments of Real Property, 2014, 2015, and 2018

To sum up, residential and commercial properties near the Antipolo Station have benefitted from the construction of the station due primarily to improved accessibility and the establishment of additional services and amenities that followed. As corroborated by the responses of the respondents and numerical data, the values of properties increased even before the start of the construction of the station due to the anticipation of development it will bring forth.

4.3 Land value capture in Antipolo City

Land Value Capture has long been recognized in different laws in the Philippines and adopted for implementation in local governments. However, their implementation and the ability to capture values have been influenced by the limitations of the laws, as well as the practices and capacities of institutions implementing them. This section traces the evolution of national policies on LVC in the Philippines and their localization in provinces, cities, and municipalities. It particularly pays attention to how LVC practices are carried out in Antipolo City, how effectively these capture land value increases, and the legal and technical capacities of the city for LVC.

4.3.1 National policies on LVC

The earliest attempt to implement LVC in the Philippines, according to Expert 1 who is a land use planner, professor in a university and consultant to local governments can be traced as far back to the early 1900s during the American occupation when a Special Assessment Tax was proposed in a bill to require property owners to shoulder the cost of public projects that they will benefit from. Said bill, however, was not passed into law.

The more recent bases of LVC in the country are found in the Presidential Decree (PD) 464 of 1974 that enacted The Real Property Tax (RPT) Code and the Republic Act (RA) 7160 otherwise known as the LGC of 1991. These two laws mandate the use of LVC by national and local governments. These LVC instruments are discussed below.

Special levy by the national and local governments

According to PD 464, a special levy can be imposed by the national government or the LGUs, depending on which has the jurisdiction and the project proponent, on lands that will be especially benefitted by public works. Section 55 specifies that the national government, through a department order by the Secretary of Finance, can impose and collect a special levy on lands that will benefit from national government projects. The levy to be collected should cover not more than 60 percent of the costs of the proposed project and go to the general fund of the national government.

PD 464 also allows the imposition of a special levy by local governments, a provision that was later adopted by the LGC. Through an ordinance passed by the provincial, city, or municipal board or council, also known as *Sanggunian,* a province, city or municipality can impose and collect a special levy on lands within its territory that will derive advantages because of the *"laying out, opening, constructing, straightening, widening, grading, paving, curbing, walling, deepening, or otherwise establishing, repairing, enlarging, or improving public avenues, roads, streets, alleys, sidewalks, parks, plazas, bridges, landing places, wharves, piers, docks, levees, reservoirs, waterworks, watercourses, esteros, canals, drains, and sewers."* Like in the case of the national government, the levy should not also be more than 60 percent of the costs of the proposed projects, including those related to the acquisition of the land where the projects lie. A taxpayer can pay his or her due in tranches- a minimum of five to a maximum

of ten installments. The *Sanggunian* may also fix different rates for lands in different parts of the province, city, or municipality according to whether they will derive more or fewer benefits.

Real property taxes

While PD 464 also governed real property taxation among LGUs in the Philippines, the LGC, which came into effect almost two decades after the presidential decree and promoted decentralization and local government autonomy in the Philippines, is now the legal basis of real property taxation in the country. Under the Code, an annual *ad valorem* tax on real property such as land, buildings, machinery, and other improvements attached to the real property shall also be collected by LGUs. Exempted from being taxed are real properties owned by the government, churches, cooperatives, charitable organizations, and those that are used for water and power supply, pollution control, and environmental protection.

The Code, in Section 218, specifies the assessment level, also called the base of the tax depending on land use. The assessment level is applied to the fair market values of lands to determine their assessed value, as shown in Table 9. Assessment levels are also prescribed for buildings, structures, and machinery based on their land use and their fair market value. For example, a building or structure that is Php 2 million in fair market value, and built on a residential area will have an assessed value that is 40% of its market value. This assessed value shall be taxed based on the tax rate ceilings set by the Code. To compare, a building or structure, also worth Php2 million in fair market value but located in an agricultural area will have a 50% assessment level. For another building or structure with a similar fair market value but is in a commercial area, the tax base will be 70% of its assessed value.

Table 9. Assessment Levels/Tax Base for Lands in the Philippines

Class	Assessment Level
Residential	20%
Agricultural	40%
Commercial	50%
Industrial	50%
Mineral	50%
Timberland	20%

Source: 1991 Local Government Code

The Code also prescribes tax rates to the assessed values of properties. In Section 233, the ceiling for tax rates to be allowed in provinces, and cities and municipalities in Metro Manila are as follows:

> *"a) In the case of a province, at the rate not exceeding one percent (1%) of the assessed value of the real property; and*
>
> *b) In the case of a city or a municipality within the Metropolitan Manila Area, at the rate not exceeding two percent (2%) of the assessed value of the real property."*

To compute for the tax to be imposed on a property, the fair market value of the property, therefore, should be available beforehand. The Code prescribes that property owners file with the local assessor their sworn declaration of real property, indicating the true value of their property, which shall be the fair market value of the property. This should be done every three years. Provincial, city, and municipal assessors of municipalities within NCR are mandated to prepare a Schedule of Fair Market Values (SFMV) for the properties situated in their respective LGUs for enactment by their *Sanggunian.* The SFMV is used as the basis for the revision of property assessments, and the basis in computing the assessed value and the corresponding tax.

As to how the proceeds of the basic RPT including its interests, and the revenues from the use, lease or disposition, or redemption of auctioned property is distributed, Section 241 spells it out, to wit:

a) For provinces:
   1) 35 % shall go to the general fund of the province
   2) 40% to the general fund of the municipality where the property is located
   3) 25% to the Barangay where the property is located

b) For cities:
   1) 70% to the general fund of the city
   2) 30% to component barangays (50% to the barangay where the property is located; 50% distributed equally among all component barangays of the city)

c) For municipalities in Metro Manila:
   1) 35% to the Metropolitan Manila Authority
   2) 35% to the general fund of the municipality where the property is located
   3) 30% to component barangays (50% to the barangay where the property is located; 50% distributed equally among all component barangays of the municipality)

Additional levies on real property: The Special Education Fund and the Idle Land Tax

Aside from the special levy discussed earlier, there are two other additional levies that LGUs may impose. The Code authorizes local governments to impose an additional levy on real property for the Special Education Fund (SEF) and an additional *ad valorem* tax on idle lands.

Section 235 states that a province or city, or a municipality within Metro Manila, may impose a SEF tax of one percent on the assessed value of real properties, in addition to the basic RPT.

The SEF tax collection goes to the SEF Fund of the LGU, which is automatically released to its Local School Board for the needs of the education sector within its jurisdiction. In the case of provinces, 50% goes to the provincial Local School Board and the other 50% goes to the municipal Local School Board (Section 272).

Section 236 sets the rate for the Idle Land Tax. A province or a city, or a municipality in NCR may charge owners of idle lands an additional tax equivalent to 5% of the assessed value of the property. The collection also accrues to the general fund of the LGU concerned. In the case of a municipality within NCR, it is decided equally between the municipality and the Metropolitan Manila Authority (Section 273).

Public land lease

The Code recognizes not only the political but also the corporate nature of LGUs. Being corporate entities, they are vested with the power to have and use a corporate seal and to enter contracts representing their inhabitants. This corporate power allows them to acquire, develop, lease, encumber, alienate, or dispose of personal properties.

In short, both the national and local governments have the authority to capture land value increases. This can be done through the Special Assessment Tax, mainstream real property taxation, and the additional levies to RPT, particularly the additional levy for the SEF and the additional tax on idle lands. PD 464 and the LGC govern the imposition and collection of these revenue-generating instruments. Local governments, through the use of their corporate seal, may also acquire and develop real properties, and generate revenues from their utilization. Implementation both at the national and local levels, however, is influenced by several factors including but not limited to political contexts and institutional capacities. In the next section, the LVC policies and practices in Antipolo are tackled.

4.3.2 Local policies supporting LVC in Antipolo City

Antipolo City has its own revenue code, pursuant to the LGC. In 2018, 18 years after its last revenue code, Antipolo City passed City Ordinance No. 2018-879, which enacted the 2019 Antipolo City Revenue Code.

Where applicable, the city's Revenue Code adopted the provisions of the LGC and also introduced provisions that are specific for the city such as setting rates within the ceiling set by national legislation. For example, the imposition of a special levy on lands is adopted without any changes in the rate of the levy. Consistent with the LGC, the Revenue Code of the city states that a levy shall be imposed on lands that benefit from public works projects carried out by the city using its funds, at a rate that is not higher than 60% of the actual costs of such projects. The proceeds of the levy shall accrue to the general fund of the city, as mandated by the LGC.

As the LGC gives authority to LGUs to impose the basic RPT, Antipolo City levies an annual *ad valorem* tax on real properties based on their assessed values. Compliant with the provisions of the LGC, the city imposes the following rates, which are within the 2%- of-assessed value limit for cities.

Table 10. Real Property Tax Rates in Antipolo City

Class	Tax Rate
Agricultural	1% of assessed value
Residential	1.5 % of assessed value
Commercial or Industrial	2% of assessed value

Source: 2019 Antipolo Revenue Code

Following the LGC, there is a 70-30 division between the city and its component barangays. Of the 30% that goes to barangays, half is for the barangay where the property is located, and the half is divided equally among all component barangays.

In line with the LGC, the Antipolo City Revenue Code also orders the collection of an additional levy on real property to be used for the city's SEF. Collected simultaneously with the RPT, it is levied on 1% of the assessed value of the property.

In the case of idle lands, the city 2019 Revenue Code set it at 2%, which was to be increased every year by 1% every year until the ceiling of 5%, as set by the LGC, is reached in 2022. Before 2018, the last revision of the revenue code was in 2000. For almost 20 years, the tax on idle land was at 2% of its assessed value. According to three experts, this is a common problem among LGUs. While they are ordered to revise their revenue code every five years, only a few are compliant. This can be due to a number of reasons including lack of resources, expertise, guidance, and political will. The city government staff interviewed were not able to provide answers as to why the city had not revised its revenue code from 2000 to 2019.

4.3.3 LVC practices in Antipolo City

In the interviews with the three city government staff, four LVC tools are used in Antipolo City by the City Government of Antipolo. These are the RPT and the additional levy for the SEF and idle lands. The city government is also considering leasing government properties in the near future.

Real Property Tax and the additional levy for the SEF

According to Experts 1 and 2, the RPT and the additional levy for the SEF are the main instruments used to capture values of properties in local governments. Consequently, City Government Staff 1 and 2 said that the two are the city's bloodline. Thus, the city is religious in collecting them not only among property owners near the Antipolo Station but in the entire city in general.

The RPT, along with the additional levy for the SEF, is collected regularly. It starts to accrue on the first of January every year and can be paid in four installments, that is every quarter of the year. While the collection is annual, property valuation, as mandated by the LGC is done every three years. Hence, the values are in effect for the next three years after valuation is done regardless of the increase in values for the current year.

City Government Staff 1 and 2 enumerated the steps the city follows in the valuation of properties, as embodied in its Appraisal and Assessment Calendar. It starts with the declaration of real property by the owner from 1 January to 30 June of the first year. The declarant files a sworn statement with the City Assessor's Office. The sworn statement contains the true value of the property, which is its current and fair market value as determined by the owner. From July 1 to September 30, the city assessor's office the data from the declarations are analyzed for necessary adjustments using the information on sales of properties with a similar location, access to services, and amenities or infrastructure. This is done to prepare the schedule of fair market values (SFMV) which should be finalized by October 15 of the same year. The SFMV is the assessment roll of all properties within the city's territory and their current values. It is submitted to the *Sanggunian* before the year ends. It becomes valid when it is adopted by an ordinance not later than 31 January of the second year. Around February, it is published in a newspaper of general circulation. The rest of the second year is the preparation of the revised tax declaration, which is sent to the property owners. The revised tax declaration becomes effective on 1 January of the third year.

Idle Land Tax

The three experts as well as two of the city government who were respondents of the interview said that the Idle Land Tax is not so heavily utilized and total collection from this source is almost negligible compared to real property taxes. Expert 1 stressed that the Idle Land Tax's primary purpose is not to generate revenue out of taxes but to *"incentivize the use of lands for productivity gains and induce development.* He added that the idle land "*discourages people from speculating, which is the practice of buying lands and waiting for their values to increase and then selling them."* City government staff 1 and 2 also reported that there are only very few idle lands in the city, especially in the Antipolo Station because of the fast-paced development and urbanization.

Although the tax on idle land already appeared in the 2000 Revenue Code of the city, it was only in 2019 when it was implemented, following the 2018 revision. As it was a new tax to be collected, City Government Staff 1 said it was *"really chaotic for everyone."* While the LGC was enacted in 1991, the Implementing Rules and Regulations (IRR) on the use of the tax was only made available 10 years later. City Government Staff said the administration of the tax is not problematic anymore as they are already used to it. In addition, most properties that were once considered idle are now exempt from the tax because the owners have already cleaned and maintained them, the properties are not occupied or fenced, or with ongoing development.

Lease of government properties

The City of Antipolo has two vacant lots in the Masinag area. For the City of Antipolo Finance Committee, it will not be wise to dispose of it because it has a very high value. That is why the committee is planning on having it leased rather than disposing of it totally. In the long run, the committee believes that it will provide more income for the city.

Currently, there are two proposals from investors but no negotiation has taken place yet as the Finance Committee has yet to study them. The city is also waiting for more proposals for the two lots that it wants to lease.

The two lots were discovered in 2013 after the city administration ordered an inventory of the properties of the city. Without the inventory, the city government would not have found out that it owns two properties in the area. Property inventory, for City Government Staff 1, is essential for LGUs because local chief executives, or the mayors, only have a term of three years. The transfer of data or all relevant information on the LGU's properties, from the outgoing to the incoming administration, must be along with an inventory of the properties to check which ones are utilized or not. Inventory of the city's properties also helps in the setting of the direction the administration may take when it comes to the management of its assets.

4.3.4 The Non-implementation of the Special Levy/Assessment Tax

The LGC and even earlier legislations have long laid the basis for the imposition of the special levy for lands benefitted by public works. Also called the Special Assessment Tax, this LVC instrument according to Expert 1 can be likened to betterment charges used in other countries.

However, despite the presence of legal foundations for its implementation, it remains underutilized, or unutilized, in the Philippines. To the best of the three experts' knowledge, no government office, be it at the national or local government level, has ever used the instrument and no record of such practice among NGAs and LGUs was found by the researcher. Three main reasons behind its non-implementation surfaced during the interviews- lack of guidelines and models for implementation from the national government, low social acceptability, and weak political support from government officials.

As for the lack of implementing guidelines, City Government Staff 1 commented that:

> *"It (Special Assessment Tax) is in the Local Government Code. The only problem is that it has not been institutionalized as to the computation of the betterment. For local government units, we need the guidance of the national government as to the computation of this betterment assessment. Having this institutionalized will make the parameters clear. How will we forecast the benefits of a project? How will we compute for the tax? Should it be uniform, or different for every property owner? These should be laid out in a guideline."*

Expert 1 also shared the same idea. He stressed the need for models that LGUs can follow in measuring the foreseen benefits and determining the minimum and maximum distance to be included for taxation.

Not only will national guidelines clarify how the betterment tax will be computed and applied to different property owners. The two respondents added that it will make it easier for LGUs to introduce it to taxpayers because the guidelines will provide legitimacy to such imposition. According to City Government Staff 1:

> *"Social acceptability will be brought forth by the guidelines. Social acceptability will have to be institutionalized first before we can implement the betterment tax. Because for people, it is not normal for them to pay for a project. They always say that it's part of the government's responsibility. If it is not socially acceptable, that would be a great problem (for local governments). The guidelines in computing the benefits that property*

owners will derive from a government project will help in communicating with them and justifying that there are required additional fees to be paid."

More on social acceptability, Expert 1 noted that even if LVC has been introduced as early as the American Regime in the country, people still do not understand the concept, making it difficult to introduce the Special Assessment Tax. Its implementation will surely elicit complaints from the people because the dominant perspective is that the government, through the taxes that people have been paying, is responsible for public works. Payment of the Special Assessment Tax, therefore, is seen as double taxation by taxpayers.

Proving to people the benefits they will get from the project is also challenging because the special levy is not based on the value of the land but on the cost of the project. As earlier mentioned, the government is allowed by law to assess a maximum of 60% of the project cost to be apportioned among the benefited property owners, with the remaining 40% to be financed by general taxation from other sources. The land value increment that the government is capturing, which is not yet realized at the time the project is proposed is only theoretical and yet to be seen in the future.

The non-implementation of the Special Assessment Tax also gives a glimpse of the political environment in the Philippines, particularly the lack of political will of legislators and the protection of their personal interests. Aside from local governments waiting for other local governments to start implementing the tax and for models that can be replicated, public officials are cautious so as not to antagonize the taxpayers and lose their support in the elections. Like other local taxes, the special levy must be legitimized by an ordinance. Public officials who will support such unpopular measures will most likely gain critics, thereby negatively affecting their popularity among voters. Further, Expert 1 stressed that the public officials themselves are more likely the landed elites or business owners. Accordingly, they would not legislate measures that would put them at a disadvantage.

According to Expert 1, the national government, which is the major implementer of transport infrastructure projects has many times missed out on the opportunity to use the special levy. If used properly, the tax could have been a sustainable and equitable fund source for these public investments. The LRT 2 extension is no different. It could have provided an opportunity for the national government to study its would-be effects on properties within its vicinity and explore the possibility of financing through the special levy. He stressed that now that these projects have been constructed, the Special Assessment Tax can no longer be used on them as one cannot anymore argue that land value increase is solely on the account of the infrastructure investment. In other words, one cannot assess after the fact. As stipulated in the LGC, it should have been when the project was on its conceptualization stage that the system for the Special Assessment Tax is built up and the supporting ordinance approved, following the consultations and negotiations with, and the consequent approval of the people for such financing scheme for the project.

As for Antipolo, the city is not at the appropriate government level to administer the special levy on the properties near the Antipolo Station because it is not the one that is responsible for the construction of the station. As to the possibility of utilizing the special levy to fund future projects, City Government Staff 1 stressed that feasibility studies have to be done first and more guidance from the national government is needed. She remarked,

"*The legal foundation is there already but Antipolo is just waiting for more specific models, guidelines on implementation, and of course, the right project."*

4.3.5 Effectiveness of LVC instruments

When asked whether real property taxation along with the additional levies on real property effectively captures the increments in land values, two of the three city government staff and all the three experts interviewed said that while real property taxes indeed capture land value increases as they are based on land values, they do not capture that much. Expert 1 explained that the RPT can be an effective LVC instrument if its assessment matches the current market value of properties. According to the three experts, it is hardly the case among local governments because of the inherent problems in the legal foundation of, the practices in, and attitude toward real property taxation. City Government Staff 1 and 2 also had the same views. City Government Staff 3 measured effectiveness in terms of the amount of tax collected and said that real property taxation is effective if it is convenient for people to pay, and easy for the government to collect.

The responses of the experts and the city government staff on the effectiveness of real property taxation can generally be classified into four indicators- administrative efficiency, transparency, payment convenience, and social acceptability.

Administrative efficiency

The three experts argued that the majority LGUs in the Philippines are still unable to capture increases in real properties due to their refusal or failure to update their SFMV every three years as mandated by the LGC. Referring to a report released by the DOF, Expert 2 said that only about 40% of LGUs have updated their SFMV. The other 60%, which is composed of 97 cities and 48 provinces, have SFMV that is outdated. This translates to a loss of around Php30 billion in revenues for LGUs.

The SFMV is outdated in most LGUs because there is no legal mechanism to penalize them for non-compliance. Failure to update them yearly can be a result of resource constraints, an overlook by government officials, low prioritization in the LGU's agenda, and lack of political will as updating SFMV is a *"political suicide (Expert 1)"* by politicians who do not want to lose support from residents, especially when carried out close to local elections. Stretching the rates up to the ceiling set by the LGC is therefore a "risky move (City Government Staff 2)."

Antipolo City is one of the few LGUs that update its SFMV every three years. City Government Staff 1 and 2 said the city is *"religious"* on following the three-year calendar of activities on appraisal and assessment *(Section 4.3.3, on RPT and the Additional Levy for the SEF)* because real property taxation is a huge revenue source. However, City Government Staff 2 stressed that while three years is enough for cities that have a high number of parcels, the activities are tedious. He explained,

"*To rewrite, recompute and assign new unit values would really take time. There's also a printing requirement. Every tax declaration goes with a notice*

of assessment because the general revision will not be legal without it. You have to print them and send them to property owners, and we have 254, 151 parcels. The notice of assessment notifies the property owner of the changes, usually increases, in the market and the assessed value of their properties, and correspondingly, the Real Property Tax. It will be invalid without notifying them."

Aside from updating the SFMV, it is also important that tax rates are adjusted according to changes in social, economic, and political changes in an LGU. Ideally, the revenue code of an LGU shall be updated every five years to adjust the rates of local taxes, fees, and charges according to acceptable standards. In Antipolo's case, the last revision of its revenue code, before the 2019 Revenue Code, was in 2000. From 2000 to 2017, the tax rate for all classes of property was at 1.5%. It was in 2018 when commercial and industrial properties started to be taxed at 2%. For City Government Staff 1, the city *"had a lot of income loss for the 18 years that the revenue code was not revised, when supposedly it should have been revised every five years."* She also commented that the efficiency of an LGU in revising its revenue code depends on its direction and aggressiveness to collect taxes.

Transparency

Expert 1 and City Government Staff 1 and 2 stressed that the SFMV does not reflect true market values. As discussed earlier, the appraisal and assessment calendar starts with the declaration of real property by the owner of how much the current and fair market value of his or her property is. Relying heavily on self-declaration by the property owner, the effectiveness of real property taxation is therefore limited by the honesty and conscientiousness of the property owners.

Expert 1 noted that self-declarations are usually undervalued, sometimes even as low as one-third of the value of the property when it is used as collateral for loans in private banks. City Government Staff 2 observed that as practice, property owners declare higher value if they are to collect money as in the case of loans and lower value if they are to pay something due to their possession of the property such as real property taxes and transfer fee. City Government Staff 1 stressed though that as a *"control mechanism"* to encourage people to declare the right value is by informing them the same value they declared shall be the value to be used by the city should it exercise its power of eminent domain if the need for expropriation arises.

Payment convenience

Consistent with the LGC and the city's revenue code, the RPT and the additional levy for the SEF are paid in four installments- on or before the last day of March, June, September, and December. This scheme eases the burden of some taxpayers who find it heavy to pay them in full at once.

Pursuant to the LGC, there is also an option to pay in advance to avail of a tax discount. As written in the city's revenue code and confirmed by City Government Staff 1, taxpayers are entitled to a 10% discount if they pay before the deadlines, and 20% if they fully pay before 31 January of each year. The staff observed that peak season for payment is December and January as people want to avail themselves of the higher discount. As such, the City

Treasurer's Office makes sure to post notice of the dates when the taxes may be paid without interest and the discounts that may be availed, on or before 31 January each year at a conspicuous place at the city hall. Once a week for two consecutive weeks, the same is published in a newspaper of general circulation in the city.

City Government Staff 3 said that the collection of taxes and other local fees and charges is made convenient for taxpayers because of the establishment of a one-stop shop for assessment and payment in the city hall. This is in line with RA 11032, or the "Ease of Doing Business and Efficient Government Service Delivery Act of 2018" and RA 9485 or the "Anti-Red Tape Act (ARTA) of 2007 that it amended. LGUs, under the acts, are required to post their Citizen Charter, which is the current and up-to-date standards for the services they offer to the public. Posted in billboards in conspicuous places of the provincial, city, or municipal hall as well as in websites and published materials, the Citizen Charter is a checklist of requirements of a certain government service a person wants to avail of, the steps the person needs to do and the corresponding action of the concerned government agency or staff responsible for the action, the fees to be paid and the processing time.

Lastly, the computerized database of the city also makes assessment and collection easier for the city.

Social acceptability

Though the LGC allows tax rates to be at a maximum of 2% of market value, LGUs with rates lower than the ceiling cannot easily impose higher tax rates because it would surely elicit complaints from the people. Maximized rates may be burdensome for taxpayers to an extent that they will opt to relocate to another city with lower rates. Higher rates, for City Government 2, may lead to lower competitiveness of the city.

Increasing rates in an election year is particularly disadvantageous for public officials. In contrast, business-friendly rhetoric during the campaign period may win support from the business sector. City Government 2 noted that politicians sometimes promise not to increase rates if they win a seat in the elections. As such, it becomes difficult for them to propose an increase once they assume their post. Come election time, people may also remember officials who initiate the increase in taxes and will not vote for them anymore.

The same is true for the revision of land values according to City Government Staff 2. Every general revision comes with the requirement to hold public consultations. In such events, businessmen, entrepreneurs, developers, and big companies oppose whatever planned increase in the assessments.

City Government Staff 2 believes that resistance from taxpayers may be reduced if there is a uniform valuation process or basis as mandated by law, apart from self-declaration by property owners. The problem, however, is that there are multiple valuation systems in the Philippines by different government agencies for different purposes. Some of the agencies that have valuation methods are the BIR, government banks, National Housing Authority (NHA), Government Service Insurance System (GSIS), Social Security System, and the DOF. If there is a unified valuation from national to local, it will be required to use the true values of properties. It is therefore imperative for the Congress and Senate to legislate a single valuation method to be followed across LGUs and government agencies.

4.3.6 Institutional capacity to administer real property taxation

The effectiveness of RPT administration relies on the legal and technical capacities of local governments. Legal capacities to administer and collect taxes, impose penalties for non-compliance, and address legal appeals are vested in national laws as well as legislations adopted and enforced at the local level. Meanwhile, responses that pertain to technical capacities cover activities and resources involved in updating the SFMV and conducting revision of assessments.

Legal capacities

As previously discussed, the 1991 LGC, which lays the foundation of the local autonomy of the political subdivisions of the country, granted revenue generation, taxation, and corporate powers to provinces, cities, and municipalities. Under the Code, LGUs have to abide by the allowed tax base and valuation rules. It sets the assessment levels and maximum rates of properties according to land use. LGUs have the discretion to impose a rate equivalent to or lower than the maximum or increase it gradually until the ceiling of 2% is reached. Therefore, at the very beginning, the law limits the value that can be captured within the assessment levels and the tax structure it sets.

Local governments issue ordinances on taxation but essentially, these are guided by the LGC. Therefore, the assessment levels and tax structure stated in the Code are only carried over in local ordinances such as the local revenue code, that legitimize their implementation at the local level.

In addition, the Code does not also ensure that true values of properties are reflected in the SFMV and consequently, the general revision of assessments because it relies heavily on self-declaration by property owners. Further, updating of SFMV is done every three years, making values way below standards. The Code does not also provide a basis for enforcing compliance of LGUs in regularly updating their SFMV every three years, a common problem in more than half of LGUs in the Philippines. However, this is not the case in Antipolo as the city strictly follows the requirement every three years.

To discourage delinquency in payments, tax-delinquent properties may be distrained to effect payment. Under the Code, when an RPT becomes delinquent, the local treasurer issues a notice of delinquency which is posted in the provincial, city, or municipal hall and in a conspicuous and accessible place in all the barangays the LGU covers. The same shall be published in a newspaper of general circulation in the LGU concerned, once a week for two consecutive weeks. Unless the tax and its surcharges, interests, and penalties are settled before its due, the property is auctioned. In cases where taxpayers want to contest assessments, they may do so in writing, to which the local treasurer should decide within 60 days from the day the protest is filed. Depending on the merit of the protest, the local treasurer may cancel the assessment wholly or partially, deny the protest wholly or partially. In case of denial, upon receipt of the notice of the decision, the taxpayer is given 30 days to appeal. If no appeal is made, the decision becomes final and irrevocable.

The Code also provides for how the revenues from real property taxes, the additional levies on real properties, and even the Special Assessment Tax, which up to now has not yet been tapped by the government, shall be appropriated. Except for the additional levy for the SEF, which is

meant for the SEF, these taxes go to the general fund. As for the SEF, the Code sets the composition and functions of the Local School Board, which is the advisory committee to the *Sanggunian* on educational matters such as the appropriations and disbursement of government funds including the SEF for educational purposes.

The LGC has not yet been revised since its inception in 1991 even when it is supposed to be revised every five years. This, according to the experts is one reason why LGUs have yet to realize their full potential for autonomy and self-reliance. If changes in the constitution of the Philippines, which have been proposed several times, push through, it can also be an opportune time to review the Code and strengthen the political and fiscal autonomy of local governments.

Technical capacities

According to the experts, low-income class LGUs have no or limited capacity to update their SFMV. For LGUs that update theirs, accuracy is generally not as high as assessments that are privately initiated. For City Government Staff 2, it would be beneficial for LGUs if there is a single agency to conduct a valuation, or a single valuation base to be used to national and local taxes. A starting point, he said, can be from any of the existing agencies with valuation mandates and functions in the country.

The capacity of personnel, especially again in low-income class LGUs, is another challenge. According to Expert 3, most of the time, there is a local assessor (department head or head of the Assessor's Office) but he has no technical staff to assist in the work. There are even LGUs where the Assessor is not qualified for the job, yet for strange reasons, he/she was appointed to the position. While this is not yet a problem for Antipolo, City Government Staff 2 expressed his worries that this might pose a challenge in the future considering that the number of parcels in the city, currently at 254, 151 is continuously growing. As such, continuous capacity development activities for human resources are needed.

Expert 3 noted that for most LGUs in the country, especially those in lower-income classes, the biggest obstacle to updating the SFMV is financial constraints. Under the law, after the general revision, the City Assessor's Office must send the tax declarations to the property owners. The Code states that all property assessment notices or tax declarations sent by the assessor via mail should be free from postal fees. In practice, however, LGUs must pay for the mailing. According to City Government Staff 2, about Php3 million is spent on this. This is not a problem for Antipolo as the city has enough budget and the administration is keen on strengthening real property taxation.

4.4 COVID-19 crisis management in Antipolo City

> *"In local governments in general, not only in Antipolo, the utilization of funds is now really focused on the fight against COVID-19. We are using a huge chunk of our funds for the COVID-19 Programs, Projects, and Activities, or PPAs of the city. Many of our priority projects had taken a back seat because of the pandemic (City Government Staff 1).*

The advent of the pandemic has shifted the priorities of the city to the management of the health and economic crisis. It necessitated the use of different funds, from national and local sources, to fund and sustain its COVID-19 PPAs.

As the researcher argued in the previous chapters, LVC tools such as taxes on real property have the potential to finance COVID 19 crisis management. The following sections discuss the funds maintained by LGUs from different sources and how the funds are utilized for different purposes including the management of the pandemic.

4.4.1 Funds of the local treasury

Taxes, revenues, or receipts of any kind of the local governments are remitted in full amount to their treasury. According to the LGC and as explained by City Government Staff 1, depending on their source and use, these are credited to any of the following accounts- local funds, or the General Fund; special funds; and trust funds.

The General Fund contains the monies and resources of the LGU that are meant for the payment of expenditures, obligations, or purposes that are not declared by law to be chargeable to a specific account. In an LGU, its specific uses are embodied in the Annual Investment Program (AIP), which is a requirement for the preparation of the budget for the ensuing year. Therefore, it is used for PPAs as deemed necessary by the LGU's departments and approved by the *Sanggunian.*

Shares in real property taxes, the special levy on lands that are benefitted by public investments, and the lease of government properties go to the General Fund. Therefore, they are not targeted at specific PPAs. *"RPT is only considered as a source of income and is not a basis for earmarking of projects,"* stressed City Government Staff 1.

In contrast, special funds are earmarked funds, which means they shall be used only for specific purposes. There are two types- the SEF, which contains the share of the LGU on the additional tax on real property, and trust funds.

The LGC specifically orders that the SEF

> *"shall be allocated for the operation and maintenance of public schools, construction and repair of school buildings, facilities and equipment, educational research, purchase of books and periodicals, and sports development as determined and approved by the Local School Board."*

Trust funds contain resources from public and private sources that have officially been given to the LGU being the trustee, agent, or administrator of such resources. Like the SEF, they shall only be used for the purposes for which they are given to the LGU. An example of a trust fund is the Local Disaster Risk Reduction and Management Fund (LDRRMF) and the Local Government Support Fund (LGSF).

To end this section, real property taxes as well as the special assessment tax, and lease of local government properties go to the General Fund, which is not targeted at specific PPAs. The SEF, on the other hand, is earmarked for purposes related to education. This means that at

present, the City Government of Antipolo can use portions of the general fund to finance COVID-19 PPAs. However, to earmark them specifically for such purposes requires some legal measures to be in place first.

4.4.2 COVID-19 Programs, Projects, and Activities (PPAs)

The consolidated list of COVID-19 PPAs conducted in Antipolo City (Annex A) contained items that can be classified as the following:

- Street fumigation
- Medical and relief operations
- Distribution of Social Amelioration Program (SAP) benefits
- Testing, contact tracing, quarantine/isolation facilities services
- Vaccine procurement and administration
- Hazard pays and transportation service for frontline workers
- Assistance to displaced workers, locally stranded individuals, and returning Overseas Filipino Workers (OFWs)
- Research and development- face shield prototyping
- Educational supplies provision and student allowance support

While the budget for these PPAs was not divulged by the Antipolo City Government, the list stated that these were financed through the General Fund of the city, the LDRRMF, and the LGSF.

The LGSF is the national government's assistance to LGUs pursuant to RA 11494, otherwise known as the "*Bayanihan*[3] to Recover as One Act." The act was signed in 2020 to guide the actions of the LGUs in their budgetary activities and financial transactions related to COVID-19 interventions, and the use of the LGSF.

4.4.3 Financing COVID-19 PPAs through real property taxes

Options on the use of real property taxes to fund COVID-19 crisis management were identified by the experts. These range from short-term budgetary measures that are within the current legal framework to longer-term reforms such as amending the Code.

Expert 2 argues that given the status quo, local governments can still benefit from increased RPT collection as its proceeds accrue to the General Fund, which can be readily tapped should the need for additional funding arises. This action though needs the enactment of a supplemental budget to authorize the realigning of existing budgets or the use of other sources of funds. In the case of a pandemic whose impacts are long-term like the COVID-19 pandemic, future needs can already be incorporated in the preparation of the budget for the succeeding year. In such instances, all expenses intended to combat COVID-19 must be included in the annual appropriations ordinance.

[3] Filipino word referring to the spirit of communal unity and cooperation

Expert 3 had a longer-term perspective- that is earmarking real property taxes to target more specific purposes such as a health crisis. She calls the situation now a *"pandemic era"* as impacts on the economy and people's health and livelihood are expected to continue up to the long run. Hence, LGUs may consider assigning the revenues from real property taxation, or a portion of it, for health concerns. She argued,

> *'If the Philippines has a Special Education Fund for basic education, then it would be timely to have a special fund for health. There is a need to strengthen the health system capacity of the LGUs. More health facilities and personnel are needed to respond to the health crisis as well as vaccines as well as extension and improvement of critical care and increasing hospital capacity."*

If this is the course to be taken in all LGUs, an amendment to the 1991 LGC is needed. An LGU cannot enact an ordinance for a special share such as a Health Fund; there must be an enabling law for it to do this. As such, the clear direction of the national government in spearheading the amendment or even the long-overdue revision of the Code is very much needed.

Chapter 5: Conclusion and recommendations

Literature shows that land value increments follow the construction and, in some cases, even the mere announcement of public investments, among which is infrastructure projects. LVC taps into these increments so that they can be used as a financial source to further improve infrastructure and services, a process described as a virtuous cycle.

There are, however, legal, technical, and political challenges towards successful capturing of values, and their eventual utilization to finance public benefits such as the management of the COVID-19 crisis.

This research is an attempt at looking for evidence of value increments in properties near the Antipolo Station, one of the two new stations of the LRT-2 East Extension project of the Philippine government. It aims to examine if these increments are being captured or not, who captures them, and by which instrument the capture is done. It seeks to shed light on possible courses of action so that the captured values can be used to fund COVID-19 crisis management in the city, and directions that other LGUs may take inspiration from.

5.1 Restatement of the research questions

The research sought to answer the main research question:

> To what extent are land value increments taking place near the Antipolo Station being captured to finance COVID-19 crisis management in Antipolo City?

To arrive at answers to the main research question, the following specific questions were raised:

1. What are the changes in land values near the LRT-2 Antipolo Station?
2. Is the land value increment near the LRT-2 Antipolo Station captured?
3. Who captures the increment in land values?
4. What instruments are used to capture the increment in land values?
5. In what ways can captured values be used for financing public benefits, particularly COVID-19 crisis management?
6. What are the opportunities and challenges in using LVC for financing COVID-19 crisis management?

In the following sections, the researcher provides the answer to these questions.

5.1.1 What are the changes in land values near the LRT-2 Antipolo Station?

Ingram and Hong (2012) cited five factors that affect land values: public investments in infrastructure and social services; changes in land use regulations; population growth and economic development; private investments; and the original productivity of the land. We can see these factors coming into play in the increase of land values in Antipolo City.

Since the 1990s when the now 2-decade old LRT-2 was still in its conceptualization stage, the City of Antipolo has already expected development opportunities to come to the city. Starting 2013, two years before the government started to extend the line to Antipolo City, land use in the area where the new station would rise in 2021 has increased substantially. The Masinag intersection which is the location of the Antipolo Station has developed into a highly commercialized growth center where major commercial establishments include a shopping mall, hospitals, fast-food chains, and PEZA-accredited establishments. Apart from the expansion of the CBD, an increase in the number of residential units also took place.

Consequently, land values have also gone up. It was observed by the brokers interviewed that market values of residential properties near the station increased by 5-10% annually since 2015. This is even higher in gated communities, possibly up to 25%. For commercial properties, especially those along the highway where the elevated train tracks are located, values have more than doubled. This effect is also observed among properties that are not within the vicinity of the station but are still along the highway. Smaller developers have increased from Php6,000 to a maximum of Php8,000 per square meter. Bigger developers have increased from Php15,000 to as high as Php27,500 per square meter.

The values of properties owned by the residential and commercial property owners who participated in the interview also increased from 2016 to 2021. Residential properties increased from an average of Php287, 166.67 to Php683, 222.22. Commercial properties had an average worth of Php158,896 in 2016 and Php193,973 in 2021.

From 2009 to 2017, the zonal values, which are determined by the BIR, also increased by a rate of 40%. The average value increased from Php5,336.76 to Php6,446 per square meter. An increasing trend was also noted in Antipolo City's General Revision of Assessments of Real Properties from 2014 to 2018. The values of residential areas grew from PhP3,587.50 to Php3,906.25 per square meter, translating to an 11% increase rate. Commercial areas recorded an increase from Php6,850 to Php7,250 per square meter, an increase rate of 6%.

While these increases coincided with the gradual construction of the station, it cannot be ascertained if the station is the sole factor behind such increases. The "domino effect" in the establishment of businesses in the area may also be the sum effect of the development plans of the city that paved way for its economic and tourism development. Another possible factor behind such an increase is the normal behavior of real estate values to increase through time. Evaluating the effects of the Antipolo Station to land can benefit from further studies separating the effect of these other factors.

5.1.2 Is the land value increment near the LRT-2 Antipolo Station captured?

Yes, the increments in land values are captured. Actions to capture values are authorized by Presidential Decree (PD) 464 of 1974 that enacted The RPT Code and the Republic Act (RA) 7160 otherwise known as the Local Government Code (LGC) of 1991. Their provisions on LVC are adopted in Antipolo City's Revenue Code.

Only a small portion, however, is captured because undervaluation of properties is embedded in these very laws. They set the duration and limit of assessment and tax rates adopted in local governments including Antipolo City.

5.1.3 Who captures the increment in land values?

Both the national and local governments can capture increments in land values. There are LVC tools that they can use for projects that are within their scope as provided by law.

In the case of Antipolo City, only the City Government of Antipolo captures the increments in the values of properties near the Antipolo Station.

5.1.4 What instruments are used to capture the increment in land values?

PD 464 and RA 7160 grant local governments the power to administer and collect the following:

- Special Assessment Tax for lands that are benefitted by government projects
- RPT
- Additional levy on real property for the SEF
- Additional levy on idle lands
- Lease of public land

However, in practice, only real property taxes, the additional levy on real property for the SEF, and the additional levy on idle lands are used by Antipolo City. The third, however, constitutes a small portion of the revenues from real property taxation because of the small number of idle properties given the infrastructure development and economic expansion in the city.

Below are the maximum assessment levels assigned by the LGC to different classes of properties:

Residential	20%
Agricultural	40%
Commercial	50%
Industrial	50%
Mineral	50%
Timberland	20%

The LGC sets the ceiling for the tax rates to be imposed on the assessed value. For cities, the ceiling is 2%. In Antipolo City, the tax rate for agricultural properties is 2% of the assessed value. For residential properties, it is 1.5% of the assessed value. For commercial and industrial properties, the 2% ceiling is reached.

Literature as well as the experts interviewed argue that land and property taxes can be excellent LVC tools, mainly when their base is sensitive to land use and their assessment is at par with market values. However, undervaluation and consequently, under taxation, are embedded in the laws. RPT as well for the additional levies on real property are based on assessments of only a percentage of the property's market value.

As for the lease of public properties, Antipolo City has yet to benefit from this LVC instrument because it is still in the process of receiving proposals from investors. Leasing two properties near the station was planned following their discovery in an inventory of assets done by the city government in 2013.

The Special Assessment Tax remains untapped by the national and local governments despite its adoption in the Real Property Code and the Local Government Code due to lack of guidelines and models for implementation from the national government, low social acceptability, and weak political support from government officials.

5.1.5 In what ways can captured values be used for financing public benefits, particularly COVID-19 crisis management?

Except for the additional levy on real property for the SEF, which is an earmarked revenue source for education, shares on real property taxes, and the additional levies on real property, as well as land lease and the Special Assessment Tax in case it will be implemented go to the General Fund of the government level concerned.

As its disbursement is not targeted at specific purposes, the general fund can be tapped in case the approved budget for the current fiscal year is deemed insufficient and circumstances as disasters or a pandemic warrant for the approval of a supplemental budget. For the ensuing year, foreseen needs related to the management of a continuing pandemic must be incorporated in the local governments' annual investment programs

An expert also believes that earmarking real property taxes also has the potential to be earmarked for financing public benefits, such as health crisis management. In this "pandemic era," it is timely to have a Special Health Fund to which portions of RPT collection can be allocated. This, however, calls for an amendment of the 1991 LGC, an action that necessitates strong national government direction and support.

What are 5.1.6 the opportunities and challenges in using LVC for financing COVID-19 crisis management?

The challenges in using LVC for financing COVID-19 crisis management are inherent in the limitations of real property taxes as provided under the law. LGUs have prescribed limits on assessment levels and tax rates. Therefore, at the very beginning, the law limits the value that can be captured within the assessment levels and the tax structure it sets.

Social acceptability is also one challenge. Even increasing levels and rates that are still below the ceiling is difficult because of the strong resistance on the part of taxpayers, and possible political backlash on the part of government officials.

The Code does not ensure that true values of properties are reflected in the SFMV. Challenges related to transparency arise because the general revision of assessments relies heavily on self-declaration by property owners, which are below the properties' true market values.

In terms of efficiency, real property taxation relies on updating the SFMV only once every three years. Therefore, the SFMV does not reflect current values. Though not a problem in Antipolo City, updating SFMVs every three years is also a challenge in LGUs because of their low technical capacities and resources to initiate such a tedious and expensive activity, and the lack of a legal framework to penalize LGUs for non-compliance to the requirement.

Despite these challenges, real property taxes are a viable source of revenues for Antipolo City and all other LGUs because of the ubiquity of real property, and the already established manner of its payment, collection, distribution, and utilization in different units of the governments.

The Special Assessment Tax, the legal foundations of which are already existing needs to be explored in future government projects as it is an untapped resource. The national government, which has implemented most of the huge infrastructure projects in the country has yet to use the tax. LGUs can also be empowered to utilize it to fund future projects. What they only need now are the guidelines from the national government. Clear directions and orders from the national government may also serve as the starting point in introducing the tax to the people, thereby improving its social acceptability.

Lastly, the revision of the 1991 LGC, which is long overdue, can provide an avenue to leverage the use of LVC instruments in LGUs. If amendment or revision takes place, the maximum values and rates may be revisited and powers and authorities of LGUs be strengthened to improve political and fiscal decentralization.

5.1.7 The main research question: To what extent are land value increments taking place near the Antipolo Station being captured to finance COVID-19 crisis management in Antipolo City?

Land value increments taking place near the Antipolo Station are captured by the City Government of Antipolo to finance COVID-19 crisis management in Antipolo City only to the extent that is allowed by law. Real property taxation is the instrument used to capture value increments.

The existing legal frameworks, however, do not optimize the use of real property taxation Antipolo City. Properties are under-assessed and undertaxed because of the built-in limitations of the provisions on real property taxation, particularly on the levels of assessments, rates of taxes, and the frequency of updating SFMVs.

Further, under-utilization of the tax is due to challenges in the social acceptability of increasing RPT rates, transparency in as much as the declaration of property values is concerned, and the administrative and technical requirements in collecting the tax

As for its use to fund COVID-19 crisis management, limits are also set by the law. LGCs must abide by the rules on the use of the General Fund, to which the proceeds of real property taxes and other revenues that are not earmarked for specific purposes go. Real property tax, or a portion of it, can be reserved specifically for COVID-19 crisis management, only if there is an enabling law on earmarking it.

5.2 Recommendations for policy and research

Given the issues surrounding the use of real property taxes and other LVC tools in Antipolo City, particularly and LGUs in the Philippines in general, the researcher recommends uniform valuation standards to be used across LGUs and government agencies in the country. Such standards shall be able to reflect the true market values of properties. As a take-off point, land values or methods already used by an agency that already has the mandate to carry out land valuation can be adopted for taxation purposes. Doing so may address problems on transparency as well as the social acceptability of increasing the tax and the low political will of local leaders in initiating local tax and revenue reforms.

As LGUs cannot be penalized for not keeping up-to-date SFMVs, giving incentives to ones that conduct updating can increase compliance. Recognition and awards in the form of technical and financial assistance or prioritization in government programs for local government administration improvement and support are some ways to incentivize compliant LGUs.

For LGUs that are constrained financially and technically, more national government assistance is needed.

The government may explore the use of the Special Assessment Tax for future projects, the. The national government may lead the use of the tax in funding national government projects. Guidelines should be cascaded to LGUs for the possible implementation of the tax for local government projects. In addition, the national government, which has more capacity to venture into large-scale infrastructure projects like the LRT-2 East Extension may explore transferring to LGUs, fully or partially, the responsibility of carrying out the tax for financing such projects. This, of course, necessitates the passage of an enabling law for the collection of the tax and the distribution of its proceeds between the national and local governments.

The researcher also cannot overemphasize the need to revisit and revise the LGC. Unrevised for more than 20 years now, the Code needs to be updated to better suit the contexts, requirements, and potentials of LGUs for political and fiscal autonomy.

For future research, it will be interesting to conduct a quantitative analysis of the topic in the same case study site. If situations would already allow, a survey involving a representative sample of property owners can be conducted. Said survey shall investigate the values of properties and how they have changed because of the construction of the LRT-2 Antipolo Station. The quantitative study should also be able to rule out the effects of other factors that could have influenced the changes in land values.

Researchers might also be interested in replicating the research in other possible case study sites. Aside from the Antipolo Station, the Marikina Station is a new station of the LRT-2. Other government infrastructure projects may also be considered. If enough data is gathered, a multi-case study approach can be adopted.

Bibliography/References

ABC News (2021, December). This is what life is like in the Philippines amid one of the world's toughest coronavirus lockdowns. *ABC News.* Retrieved from https://www.abc.net.au/news/2020-04-29/philippines-social-volcano-threatening-to-erupt-amid-covid-19/12193188

Abiad, A., Farrin, K. and Hale, C. (2019). *Sustaining Transit Investment in Asia's Cities. A Beneficiary-Funding and Land Value Capture Perspective.* Mandaluyong City, Philippines: Asian Development Bank

Aljazeera (2022, January). Manila Lockdown: One of the longest COVID lockdowns in the world. *Aljazeera.* Retrieved from https://www.aljazeera.com/program/witness/2021/10/19/manila-lockdown-one-of-the-longest-covid-lockdowns-in-the-world

Allam, Z., and Jones, D. S. (2020). Pandemic stricken cities on lockdown. where are our planning and design professionals [now, then and into the future]? *Land Use Policy, 97*, 104805. doi:10.1016/j.landusepol.2020.104805

ALMEC Corporation (2014). *Roadmap for Transport Infrastructure Development for Metro Manila and its Surrounding Areas (Region III and IV-A).* Japan International Cooperation Agency and National Economic Development Authority. Retrieved from https://neda.gov.ph/wp-content/uploads/2015/03/FR-TR2-TECHNICAL-ANALYSIS.-12149639.pdf

Alterman, R. (2011). Land-use regulations and property values: The "Windfalls capture" idea revisited. *The Oxford handbook of urban economics and planning*. Oxford University Press. doi:10.1093/oxfordhb/9780195380620.013.0034. Retrieved from http://oxfordhandbooks.com/view/10.1093/oxfordhb/9780195380620.001.0001/oxfordhb-9780195380620-e-34

Brown-Luthango, M. (2011). Capturing land value increment to finance infrastructure Investment—Possibilities for South Africa. *Urban Forum, 22*(1), 37-52. doi:10.1007/s12132-010-9108-3

Buensuceso, H. and Purisima, C. (2018). *Funding Transport Infrastructure Development in the Philippines: A Roadmap Toward Land Value Capture.* Milken Institute.

Capano, G., Howlett, M., Jarvis, D. S. L., Ramesh, M., and Goyal, N. (2020). Mobilizing policy (in)capacity to fight COVID-19: Understanding variations in state responses. *Policy and Society, 39*(3), 285-308. doi:10.1080/14494035.2020.1787628

Chi-Man Hui, E., SzeMun Ho, V., and KimHin Ho, D. (2004). Land value capture mechanisms in Hong Kong and Singapore. *Journal of Property Investment and Finance, 22*(1), 76-100. doi:10.1108/14635780410525153

Friendly, A. (2017). Land value capture and social benefits: Toronto and São Paulo compared. *IMFG Papers on Municipal Finance and Governance, 33* Retrieved from https://www.narcis.nl/publication/RecordID/oai:dspace.library.uu.nl:1874%2F356099

Germán, L. and Bernstein, A. E. (2013). County development impact fees and building excise taxes in Maryland: Amounts and revenues. Retrieved from http://cdm16064.contentdm.oclc.org/cdm/ref/collection/p266901coll7/id/4986

Ingram, G. K., and Hong, Y. (2012). *Value capture and land policies*. Cambridge, MA: Lincoln Institute of Land Policy. Retrieved from https://ebookcentral.proquest.com/lib/[SITE_ID]/detail.action?docID=3327987

Llanto, G. M. (2012). The assignment of functions and intergovernmental fiscal relations in the Philippines 20 years after decentralization. *The Philippine Review of Economics*, 49(1), 37-80. https://pre.econ.upd.edu.ph/index.php/pre/article/viewFile/671/777

Llanto, G.M. (2009). Fiscal Decentralization and Local Finance Reforms in the Philippines. *PIDS Discussion Paper Series*, 2009(10). https://dirp4.pids.gov.ph/ris/dps/pidsdps0910.pdf

Medda, F. (2012). Land value capture finance for transport accessibility: A review. *Journal of Transport Geography, 25*, 154-161. doi:10.1016/j.jtrangeo.2012.07.013

OECD Centre for Entrepreneurship, SMEs, Regions, and Cities. (n.d.). *Building a Global Compendium on Land Value Capture.* OECD and Lincoln Institute of Land Policy

Official Gazette (n.d.). *The Constitution of the Republic of the Philippines. https://www.officialgazette.gov.ph/constitutions/1987-constitution/*

Official Gazette (n.d.). *The Local Government Code of the Philippines.* https://officialgazette.gov.ph/downloads/1991/10oct/19911010-RA-7160-CCA.pdf

Peterson, G. E. (2008). *Unlocking land values to finance urban infrastructure*. Herndon: World Bank Publications. doi:10.1596/978-0-8213-7709-3 Retrieved from https://ebookcentral.proquest.com/lib/[SITE_ID]/detail.action?docID=459647

PIA-NCR. (2021, July 6). LRT-2 East Extension begins operations. *PIA.gov.ph.* Retrieved from https://pia.gov.ph/news/2021/07/06/lrt-2-east-extension-begins-operation

Presidential Decree No. 464: The Real Property Tax Code (Ph). Retrieved from https://www.chanrobles.com/presidentialdecreeno464.htm

Rebelo, E. M. (2017). Land betterment capture revisited: A methodology for territorial plans. *Land Use Policy, 69*, 392-407. doi:10.1016/j.landusepol.2017.08.015

Redoblado, S. (2013). *Earmarked Contributions from Captured Land Value: What do they do for social housing?.* (Unpublished master's thesis). Institute for Housing and Urban Development Studies of Erasmus University Rotterdam, The Netherlands.

Republic Act 7160: The Local Government Code of the Philippines 1991 (Ph). Retrieved from https://officialgazette.gov.ph/downloads/1991/10oct/19911010-RA-7160-CCA.pdf

Roukouni, and Medda, F. (2012). Evaluation of value capture mechanisms as a funding source for urban transport: The case of London's crossrail. *Procedia, Social and Behavioral Sciences, 48,* 2393-2404. doi:10.1016/j.sbspro.2012.06.1210

Samantela, S. (2019). *Analyzing the Non-implementation of the Special Assessment Tax: The Case of Selected Cities in Metro Manila, Philippines.* (Unpublished master's thesis). Institute for Housing and Urban Development Studies of Erasmus University Rotterdam, The Netherlands.

San Juan, R. (2019, October 23). Marikina, Antipolo stations for LRT-2 East extension 'doable' in 2020 — contractor. *Philstar.com.* Retrieved from https://www.philstar.com/headlines/2019/10/23/1962683/marikina-antipolo-stations-lrt-2-east-extension-doable-2020-contractor

Smolka, M. (2013). *Implementing Value Capture in Latin America: Policies and Tools for Urban Development.* Cambridge, USA: Lincoln Institute of Land Policy

Smolka, M., and Amborski, D. (2000). *Value capture for urban Development: An Inter-American Comparison.* Lincoln Institute of Land Policy. Retrieved from https://www.lincolninst.edu/sites/default/files/pubfiles/1279_Smolka%20Final.pdf

Smolka, M. and Goytia, C. (2019). Urban Land Markets. In Orum, A., ed. 2019. *Encyclopedia of Urban and Regional Studies*. Wiley Blackwell, Hoboken USA

The Straits Times (2021, May). Covid-19 missteps could make Philippines into Asia's laggard. *The Straits Times.* Retrieved from https://www.straitstimes.com/asia/se-asia/covid-19-missteps-could-make-philippines-into-asias-laggard

The Telegraph (2022, January). Inside the world's longest and strictest coronavirus lockdown in the Philippines. *The Telegraph.* Retrieved from https://www.telegraph.co.uk/global-health/science-and-disease/inside-worlds-longest-strictest-coronavirus-lockdown-philippines/

Thiel, S. (2014). *Research Methods in Public Administration and Public Management: An Introduction.* New York, NY: Routledge

UN-Habitat. (2021). *Cities and Pandemics: Towards a More Just, Green and Healthy Future.* Nairobi, Kenya: United Nations Human Settlements Programme.

Walters, L., du Plessis, J., Haile, S. and Paterson, L. (2016). *Leveraging land: Land-based-finance for local governments: A reader*. United Nations Human Settlements Programme (UN- Habitat) Nairobi, Kenya

Walters, L. C. (2011). *Reference for IGBP land usage.* Copernicus GmbH. doi:10.5194/gmd-2017-291-ac1

Zhao, Z. J., and Larson, K. (2011). Special assessments as a value capture strategy for public transit finance. *Public Works Management and Policy, 16*(4), 320-340. doi:10.1177/1087724X11408923

Annex 1: Research Instruments

Annex 1.1 Interview Guide A: Property Owners

Good day! I am Don Jeffery Quebral, an Urban Management and Development master's student at the Institute for Housing and Urban Development Studies (IHS), Erasmus University Rotterdam, The Netherlands. For my master's thesis, I am studying the effects of the newly constructed LRT 2-Antipolo Station to property values in Antipolo City.

May I ask for your time to participate in this short survey? We assure you that your identity will be kept anonymous, and all information and personal details you will give will be treated with the utmost confidentiality and used exclusively for this research. At any time, you may withdraw your participation or skip questions you wish not to answer.

Should you have questions regarding this interview, please do not hesitate to contact me through email at daquebral@gmail.com.

Thank you very much.

Name (Optional)_____ Date: _____
Contact Number (Optional) : _____ e-mail address: _____

Real Property: __ house
__ lot
__ house and lot
__ commercial space
__ commercial lot
__ commercial space and lot
__ others _____

If commercial property,
Name of business (Optional): _____
_____

Location:
_____

Distance from Antipolo Station in km: _____ Travel time to station in minutes ___
Mode of transportation _____

Land area in m^2 (if applicable) _____ Floor area in m^2 (if applicable)_____

Ownership: a) owned
b) rented

Year acquired (if owned) _____Acquisition cost in PhP (if owned) _____

Year when first rented (if rented) _____Starting rent in PhP (if rented) _____

If property is owned, please indicate the value of the property in PhP, from 2016 to 2021. Kindly provide estimates if you cannot remember the exact figures.

2016	2017	2018	2019	2020	2021

Who assessed the value of the property (multiple answers allowed)?

_____

_____

If property is rented, please indicate the rent for the use of the property in PhP, from 2016 to 2021. Kindly provide estimates if you cannot remember the exact figures.

2016	2017	2018	2019	2020	2021

To whom did you pay rent (e.g. national government, local government, barangay, private owner, etc.) ?

_____

_____

What were the fees, charges, taxes, and other financial obligations that you paid in relation to your ownership/use of your property, from 2016 to 2021? How much did you pay? (*Kindly provide estimates if you cannot remember the exact figures.)* What was the basis of the amount paid? *(Example: 2% of assessed value of property)*? To whom did you pay them (e.g. national government, local government, barangay, private owner, etc.)?

Name of fee, charge, tax, etc.	**Amount Paid in PhP**						**Basis**	**Payee**
	2016	2017	2018	2019	2020	2021		

Thank you for your time. Again, I would like to assure you of the anonymity and confidentiality of your responses, and that they will be used solely for purposes of this research. Have a nice day!

Annex 1.2 Interview Guide B: Real Estate Brokers

Good day!

I am Don Jeffery Quebral, an Urban Management and Development master's student at the Institute for Housing and Urban Development Studies (IHS), Erasmus University Rotterdam, The Netherlands. For my thesis, I am studying the extent to which property value increases taking place near the LRT 2- Antipolo Station can be captured and used to fund COVID-19 relief distribution in Antipolo City.

May I ask that you answer the following questions as very detailed as possible? Your knowledge on these subjects will provide me with valuable information and insights that can help me answer my research questions. You may answer in English or Filipino.

Your identity will be kept anonymous, and all information and personal details you will give will be treated with the utmost confidentiality and used exclusively for this research.

Should you have questions regarding my research, please do not hesitate to reach me through daquebral@gmail.com.

Thank you very much!

Respondent's Profile

Name (Optional)		Date Accomplished
Position		Organization/Office (Optional)
Length of service (in current position)		Length of service (in organization/office)
Mobile number	Telephone number	e-mail address

Questions

1. In your own personal observation, what are the changes that have occurred near the Antipolo Station? Compare changes in properties that are within 1 kilometer from the station, with properties that are more than 1 kilometer but not more than 2 kilometers from the station. Please elaborate by describing the following:
    a) Land use before, during and after the construction of the station *e.g. changes in percentage of commercial, residential and other areas*
    b) Land and property values before, during and after the construction of the station

c) Population before, during and after the construction of the station

2. In addition to your answers in Question 1, what are the positive changes that have occurred in
   a) the area surrounding the Antipolo station since 2016
   b) in Antipolo City since 2016

3. What could have caused these changes?

4. What role do you think did the construction of the Antipolo Station play in these changes?

5. In your own personal observation, what are the changes in values of real estate properties
   a) near the Antipolo station from 2016 to 2021
   b) in Antipolo City from 2016 to 2021

(Has there been an increase or decrease in the values of properties? Please give examples. If possible, provide figures for each year from 2016 to 2021. If you are not sure of the exact figures, please provide estimates)

6. What could have caused the changes in the values of real estate properties?

7. What role do you think did the construction of the Antipolo Station play in these changes?

8. What are the fees, charges, taxes, and other financial obligations that real estate owners have to pay to the City Government in relation to their ownership/use of their property? Please enumerate all types of payments since 2016, or the earliest you can remember, up to 2021.

9. For each of your answer in Question 8, kindly indicate the amount that real estate owners have to pay? What is the basis of the amount *(Example: 2% of assessed value of property)*? Please provide figures for each year from 2016 to 2021. If you are not sure of the exact figures, please provide estimates.

Thank you for your time. Again, I would like to assure you of the anonymity and confidentiality of your responses, and that they will be used solely for purposes of this research. Have a nice day.

Annex 1.3 Interview Guide C: City Government Staff

Good day!

I am Don Jeffery Quebral, an Urban Management and Development master's student at the Institute for Housing and Urban Development Studies (IHS), Erasmus University Rotterdam, The Netherlands. For my thesis, I am studying the extent to which property value increases taking place near the LRT 2- Antipolo Station can be captured and used to fund COVID-19 relief distribution in Antipolo City.

May I ask that you answer the following questions as very detailed as possible? Your knowledge on these subjects will provide me with valuable information and insights that can help me answer my research questions. You may answer in English or Filipino.

Your identity will be kept anonymous, and all information and personal details you will give will be treated with the utmost confidentiality and used exclusively for this research.

Should you have questions regarding my research, please do not hesitate to reach me through daquebral@gmail.com.

Thank you very much!

Respondent's Profile

Name		Date Accomplished
Position		Organization/Office
Length of service (in current position)		Length of service (in organization/office)
Mobile number	Telephone number	e-mail address

About Value Capture

The following questions are mostly related to value capture. The notion of value capture is to mobilize or recover increases in land and property values that result from government investments in infrastructure or policies on land use. Land value capture tools include land and property leases, property taxes, betterment contributions/special assessments, development obligations, inclusionary/balanced housing requirements, transfer/sale of development rights, among other measures. The proceeds of this innovative land-based financing scheme can be reinvested for further development projects that would improve the social and economic resilience of local governments.

Questions

1. What are the changes that have occurred near the Antipolo Station? Compare changes in properties that are within 1 kilometer from the station, with properties that are more than 1 kilometer but not more than 2 kilometers from the station. Please elaborate by describing the following:
    a) Land use before, during and after the construction of the station *e.g. changes in percentage of commercial, residential and other areas*
    b) Land and property values before, during and after the construction of the station
    c) Population before, during and after the construction of the station

2. What value capture tools are used in Antipolo City? For each value capture tool used, kindly explain the rationale, the rate and basis of computations, and the processes and offices involved in the administration of the value capture tool. *For examples, please refer to the box on the right. Note that the box is not complete. Kindly cite all other tools that are not in the box but are used in Antipolo City.*

3. Do you think the increases in the values of land and properties near the Antipolo Station are captured by the City Government? If YES, please explain why you say so. ***(If NO, skip to question 9-12.)***

4. What are the value capture tools used by Antipolo to capture land and property value increases near the Antipolo Station? What prompted the city to use them? For each tool, please state when the city started imposing it (if it is no longer used, please also state when the city stopped imposing it).

5. How do these tools capture the land and property value increases near the Antipolo Station? How much of the value increases do they capture?

Examples of Value Capture Tools

- property/land taxes
- additional levies on property tax
- idle land tax
- betterment contributions/fees/special assessments or levies *(Charges or fees imposed on owners of selected properties to defray the cost of a public improvement or service from which they specifically benefit. Beneficiaries invest in the project.)*
- development obligations/exactions *(requiring cash or in-kind contributions from property owners/developers' in exchange for government approval or permission to develop or build on their land)*
- inclusionary/balanced housing requirements
- transfer/sale of development/building rights

6. How effective are these tools in capturing land and property value increases? Please comment on the effectiveness of each tool in terms of
    - *Level of equity (provision of varying support to payers based on specific needs or circumstances)*
    - *Administrative efficiency*
    - *Transparency*
    - *Payment convenience*

- *Fairness (non-discriminatory imposition of tool)*
- *Social acceptability*

7. Please describe the institutional capacity of the city in carrying out value capture in terms of the following:
   - *Legal capacity* (national framework supporting value capture at the local level, local framework, ordinances, penalties, mechanisms for appeals)

   - *Technical capacity* (cadastre updating, cadastre accuracy, schedule of fair market values, financial resources, material resources)
     - How do you determine fair market values?
     - How and how often do you appraise or assess properties? How do your assessments compare to assessments done by banks, real property appraisers, etc.?
     - What is the assessment level/percentage applied to fair market values to determine the taxable value?
     - Do you verify/determine whether properties within the city are properly listed in the assessment rolls? How?

   - *Human resources capacity* (issues and concerns on the availability, skills and training of technical, administrative and supervisory/managerial staff; capacity for stakeholders engagement)

8. What are the problems and challenges that the city encountered in imposing/administering these tools? How does the city cope with them?

Ask the following questions ONLY IF respondent answered NO in Question 3.

9. If the increases in the values of land and properties near the Antipolo Station are NOT captured by the City Government, why?

10. What problems and challenges hinder the use of value capture near the Antipolo Station?

11. Can value capture be done? If yes, through which tool/s (how will it be administered)?

12. What legal, technical and human capacity- related preparations have to be done for this value capture tool/s to be enforceable?

Thank you for your time. Again, I would like to assure you of the anonymity and confidentiality of your responses, and that they will be used solely for purposes of this research. Have a nice day!

Annex 1.4 Interview Guide D: Department of Transportation Staff

Good day! I am Don Jeffery Quebral, an Urban Management and Development master's student at the Institute for Housing and Urban Development Studies (IHS), Erasmus University Rotterdam, The Netherlands.

For my thesis, I am studying the extent to which land value increases taking place around the LRT 2- Antipolo Station are captured and used to fund COVID-19 relief distribution in Antipolo City.

May I ask for your time for an interview which would take at least 60 minutes. We assure you that your identity will be kept anonymous, and all information and personal details you will give will be treated with the utmost confidentiality and used exclusively for this research. At any time, you may withdraw your participation in the interview or skip questions you wish not to answer. You can ask me questions or clarifications at any point during the interview.

Should you have questions regarding this interview, please do not hesitate to contact me through email at daquebral@gmail.com.

Thank you very much!

Respondent's Profile

Name (Optional)		
Position		Organization/Office
Length of service (in current position)		Length of service (in organization/office)
Mobile number	Telephone number	e-mail address
Date	Time Started	Time Ended

Questions:

1. Can you share with me what you know about the history/development of the LRT 2-Extension Project from conceptualization, planning, construction, up to completion and operation?

2. What are the different components of the project *i.e.construction, operations and maintenance, etc.*? When did each component start and when did they end (or are expected to end)?

3. Was the target timeline for each component met? Why or why not?

4. How much is the budget for each component? What are the sources of funds?

5. Who are the implementing agency, service providers, government, NGO and private partners, and other stakeholders? How/Why were they selected? What are their expected roles or responsibilities?

6. What are the different local government units covered by the LRT-2 East Extension Project? What are their roles in the project?

7. What are the benefits that the project will bring to the a) areas surrounding the station, and b) the local government units?

8. Why was the City of Antipolo and the Masinag area chosen as the site of one of the LRT 2-East Extension station?

9. Since the announcement of the project, have there changes in the following:
    a. land use
    b. land value
    c. population
    in the areas surrounding the site of the new stations? Please describe the changes.

10. How much is the forecasted revenue from the project. What are the sources of these revenues?

11. How will the revenues from the project be allocated to the government and the partner organizations or agencies?

12. Are there specific uses intended for the revenues to be generated by the government? What are these?

13. How can local government units benefit financially, from the new stations? What possible revenue sources or opportunities can be explored?

Thank you for your time. Again, I would like to assure you of the anonymity and confidentiality of your responses, and that they will be used solely for purposes of this research. Have a nice day!

Annex 1.5 Interview Guide E: Experts

Good day!

I am Don Jeffery Quebral, an Urban Management and Development master's student at the Institute for Housing and Urban Development Studies (IHS), Erasmus University Rotterdam, The Netherlands. For my thesis, I am studying the extent to which property value increases taking place near the LRT 2- Antipolo Station can be captured and used to fund COVID-19 relief distribution in Antipolo City.

May I ask that you answer the following questions as very detailed as possible? Your knowledge on these subjects will provide me with valuable information and insights that can help me answer my research questions. You may answer in English or Filipino.

Your identity will be kept anonymous, and all information and personal details you will give will be treated with the utmost confidentiality and used exclusively for this research.

Should you have questions regarding my research, please do not hesitate to reach me through my email address, daquebral@gmail.com .

Thank you very much!

Respondent's Profile

Name		Date Accomplished
Position		Organization/Office
Length of service (in current position)		Length of service (in organization/office)
Mobile number	Telephone number	e-mail address

About Value Capture

The following questions are mostly related to value capture. The notion of value capture is to mobilize or recover increases in land and property values that result from government investments in infrastructure or policies on land use. Land value capture tools include land and property leases, property taxes, betterment contributions/special assessments, development obligations, inclusionary/balanced housing requirements, transfer/sale of development rights, among other measures. The proceeds of this innovative land-based financing scheme can be reinvested for further development projects that would improve the social and economic resilience of local governments.

Questions

1. What value capture tools are used in the Philippines? For each value capture tool used, kindly explain the rationale, the rate and bases of computations, and the processes and offices involved in the administration of the value capture tool. *For examples, please refer to the box on the right. Note that the box is not complete. Kindly cite all other tools that are not in the box but are used in the Philippines.*

2. How effective are these tools in capturing land and property value increases? Please comment on the effectiveness of each tool in terms of
   - *Level of equity (provision of varying support to payers based on specific needs or circumstances)*
   - *Administrative efficiency*
   - *Transparency*
   - *Payment convenience*
   - *Fairness (non-discriminatory imposition of tool)*
   - *Social acceptability*

3. Do you think local governments are able to capture the increases in the values of land and properties within their jurisdiction? If YES, please explain why you say so. ***(If NO, please skip to Question 6-9)***

4. Please describe the institutional capacity of local governments in carrying out value capture in terms of the following:
   - *Legal capacity* (national framework supporting value capture at the local level, local framework, ordinances, penalties, mechanisms for appeals)
   - *Technical capacity* (cadastre updating, cadastre accuracy, schedule of fair market values, financial resources, material resources)
   - *Human resources capacity* (issues and concerns on the availability, skills and training of technical, administrative and supervisory/managerial staff; capacity for stakeholders engagement)

5. What are the problems and challenges local governments encounter in imposing/administering value capture tools?

Examples of Value Capture Tools

- property/land taxes
- additional levies on property tax
- idle land tax
- betterment contributions/fees/special assessments or levies *(Charges or fees imposed on owners of selected properties to defray the cost of a public improvement or service from which they specifically benefit. Beneficiaries invest in the project.)*
- development obligations/exactions *(requiring cash or in-kind contributions from property owners/developers' in exchange for government approval or permission to develop or build on their land)*
- inclusionary/balanced housing requirements
- transfer/sale of development/building rights

Ask Questions Number 6-9 ONLY IF respondent answered NO in Question 3.

6. Why are local governments not able to capture the increases in the values of land and properties within their jurisdiction?

7. What problems and challenges hinder the use of value capture in local governments?

8. Can value capture be done? If yes, through which tool/s (how will it be administered)?

9. What legal, technical and human capacity- related preparations have to be done for these value capture tool/s to be enforceable?

Additional Questions

10. What are your thoughts on using/earmarking proceeds from value capture for specific public services or projects? Should it be done? Why or why not?

11. What kind of public services/projects do you think should be funded by proceeds from value capture? Why?

12. What are your thoughts on using/earmarking proceeds from value capture for COVID-19 crisis management in local governments? Is it reasonable? Is it possible? Why or why not?

13. What institutional or legal requirements must be be met to allow the use of value capture for funding COVID-19 crisis management in local governments?

Thank you for your time. Again, I would like to assure you of the anonymity and confidentiality of your responses, and that they will be used solely for purposes of this research. Have a nice day!

Annex 2: Antipolo City Government COVID-19 PPAs (as of February 2021

FUNDING SOURCE: LDRRMF (Current Appropriation & Trust Fund);
GENERAL FUND; &
BAYANIHAN GRANT

Activities Conducted	Office Responsible
Aerial Misting	PIO
E-Botica	CEEO/ PIO/ MIS/ Library
E-Palengke	CEEO/ PIO/ MIS
SAP Distribution	PIO/CDRRMO
Issuance of Travel Passess	PIO/ City Hall Annex I
Mobile ATM assistance in coordination with Veterans Bank	PIO
Support Services to Antipolo City Contact Tracing Center (ACCTC)	MIS
ARK Encoding - database had the patient information for those clients that undergo rapid tests.	MIS
COVID-19 Contact Tracing System (CCTS) Card	MIS
Support provided on mass testing, swab test and contact tracing; encoding of CIFs; and among others. Swab test results sent thru text messages, emails.	MIS
Printing of SAC Forms	MIS
Drafted and passed various issuances relative to COVID-19 (Executive Orders; Memorandum Orders; City Ordinances; City Resolutions; and Others)	City Legal Office
Processing of COVID related hazard benefits for frontliners and essential workers during the implementation of the Enhanced Community Quarantine and State of Public Health Emergency	HRMO
TUPAD (Tulong Pangkabuhayan Para sa mga Displaced/Disadvantage Workers) - community-based package of assistance that provides emergency employment for displaced workers; those who have lost their livelihood due to the pandemic	HRMO
Relief Operations	City Administrator's Office/ PIO/ GSO/ YSDO/ PESO
Consolidation of FB page of 16 Barangays, community associations per barangay based on report of USDO.	CPDO
Matrix on the roles of the LGU on the implementation of Social Amelioration Program based on various issuances from the national agencies	CPDO
Draft SAC Eligibility Checklist	CPDO
Consolidation of the number of residential lots per subdivision	CPDO
Reviewed the Proposed Infrastructure Projects listed in the 2020 AIP of the City	CPDO
Amendment of 2020 AIP in reference to the implementation of PPAs concerning COVID-19 Response	CPDO
Prepared matrix of COVID 19 confirmed cases per LGU in the Province of Rizal	CPDO
Mapping of supermarkets and markets within Lower and Upper Antipolo.	CPDO

Activities Conducted	Office Responsible
Proposal for the schedule of market day of the residents of the 16 barangays of the City.	CPDO
Evaluated, encoded, sequenced, and sifted the assigned accomplished SAC Forms.	CPDO/ CDRRMO
Coordinated to CSWD the status of various SAP Complaints and requests.	CPDO
Emailed to CIDG Rizal the signed ARTA reply letter relative to their request for the Master list of SAP/ 4Ps/ DOLE/ Social Pension beneficiaries and other related documents for investigative reference dated 04 June 2020.	CPDO
Prepared the list for the 41 subdivisions and conducted site validation for the tentative Targeted Rapid Testing Sites	CPDO
Provided Study for the Tax Relief Program	CPDO
Coordinated with selected Private Schools in Antipolo City dated 25 – 27 August 2020 for the schedule of distribution of Assistance from the City Government of Antipolo for their teaching personnel.	CPDO
Coordinated with DepEd for the list of Teaching and Non-teaching Personnel of Private Schools in Antipolo regarding distribution of assistance from the City Government of Antipolo on 02-04 September 2020.	CPDO
Coordinated with DepEd Antipolo dated 16 October 2020 relative to list of private school teachers who will undergo rapid testing. Per DepEd's confirmation, only 46 teachers from will participate in the rapid testing organized by the City Government.	CPDO
Prepared Matrix of allowed PPAs stated in the DBM LBC No. 128 dated Sept. 17, 2020 with corresponding offices/departments in-charge, as identified by the CPDC.	CPDO
Prepared the documentary requirements of the proposed five projects to be funded under Local Government Support Fund (LGSF) – COVID 19 Financial Assistance to Local Government Units (LGSF-COVID 19 FA TO LGUs)	CPDO
Coordinated with all 16 Barangays dated 22 October 2020 for the total number of distributed food packs during the Enhanced Community Quarantine (ECQ) period.	CPDO
Prepared status update to the CPDC dated 18 November 2020 regarding total number of relief operations in all Barangays during the Enhanced Community Quarantine (ECQ) Period.	CPDO
Facilitated the request of Tzu Chi Foundation for the List of Tricycle Drivers to be granted with assistance	CPDO
Facilitated the preparation of related-documents and series of coordination with Tzu Chi on relief operation for jeepney drivers (distribution of rice) dated August 26, 2020 and October 03, 2020	CPDO
COVID-19 Donation Hub	CDRRMO
Libreng Sakay Para sa mga Frontliners	CDRRMO
Registration for Locally Stranded Individuals (LSIs)	CDRRMO
Standby Medical Services for COVID-19 cases at Quarantine Facility	CDRRMO
Inspection of Swabbing and Quarantine Facilities	CDRRMO
Research and Innovation Agenda Unit (RIA)	AiTECH
Digital Layout of Road Map and Signage for Covid 19 Facility	AiTECH
Face Shield Project Prototyping	AiTECH

Activities Conducted	Office Responsible
Provision of free Tablets (learning gadget) for College Students	AiTECH
"Student Allowance during Pandemic" or (SAP) Allowance for students	AiTECH
Infectious Control Policies	ACHS Annex III - Cabading
Ligtas COVID Center - ACHS Annex III Cabading	ACHS Annex III - Cabading
Special Surveillance- Coronavirus 2019 (COVID-19) Surveillance	CHO
Rapid Diagnostic Test (RDT)	CHO
Real-time Reverse Transcription Polymerase Chain Reaction (RT-PCR) -	CHO
COVID Rapid Testing for Employees and Patients	RPHS Annex II - Regalado
PCR COVID Testing/Swabbing for patients and front liners	RPHS Annex II - Regalado
Contact Tracing	CHO
Community Isolation Unit (CIU) for COVID-19 confirmed and suspect	CHO
Recognition of the outstanding COVID-19 youth initiatives	LYDO
Provided Security Services for COVID-related services	OPSS
Augmentation of Personnel to Intensify COVID-19 Health Protocols Observance in Public Places	BFP
Joyride	PTRB
Food Pack Donation for TODA Association	PTRB
Financial Assistance for TODA	PTRB
Monitoring of prices for common agricultural produce	Agri.
Assisted Antipolo entrepreneurs in document preparation who were affected by the COVID 19 pandemic and are qualified to the Covid -19 Assistance to Restart Enterprises (CARES) program of the SB Corporation (SB Corp	ANTIPO
Distribution of Relief Goods from Cooperatives	CCLO
Financial Assistance to Cooperative Members	CCLO
Waived Interment Fees for covid-19 related deaths	CEEO
Monitored Stranded Workers in the City	PESO
Assisted in the Information Dessimination of the DOLE-Camp Program among our Local Companies	PESO
TUPAD Program (*Bahay Ko Linis Ko Program*)	PESO
Relief packs distribution to workers of affected companies under Category IV of the IATF Guidelines	PESO/CSWDO
Relief Operations to Displaced Workers of Resorts/Hotels & event venue.	AnCCATPO/ PESO/ BPLO/ DSWD
Member of Joint Inspection Team	PESO/BPLO
Monitoring the Arrivals of OFWs.	PESO
Assisted in the establishment of PANDA-TODA, a City Joint Program with Food Panda through a Memorandum of Agreement	PESO
Provided Technical Assistance to OFWs	AnCCATPO
Business Establishments offered free accommodation and other assistance during the pandemic	AnCCATPO

Annex 3: IHS copyright form

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2. The number of pages for the thesis is about 50 (without annexes).
3. The thesis should be edited

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