Ain Shams University
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Access to [Urban] Land in the Greater Metropolitan Area:

Rethinking the Market Driven Model of Land Development in Costa Rica

A Thesis submitted in the Partial Fulfillment for the Requirement of the Degree of Master of Science in Integrated Urbanism and Sustainable Design

by

Pamela Gil Salas

Supervised by

Dr. Mohamed Salheen
Professor of Integrated Planning & Design
Ain Shams University

Dr. Astrid Ley
Professor of Integrated Urbanism
University of Stuttgart

August, 2020

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Examiners Committee
Title, Name & Affiliation

Signature

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Prof. (Title/Name)
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University of (...)

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08/16/2020

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Disclaimer

This dissertation is submitted to Ain Shams University (ASU) and University of Stuttgart - Faculty of Architecture and Urban Planning (USTUTT) for the degree of Integrated Urbanism and Sustainable Design (IUSD), in accordance to IUSD-ASU regulations.

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As a scholarship holder, I would like to first acknowledge the German Academic Exchange Service (DAAD) for supporting the Development-Related Postgraduate Courses (EPOS) in developing countries. The experience I gained while studying in Germany and Egypt has allowed me to expand my understanding of the world, through this experience, even the most basic of things have been opened to re-evaluation.

To my supervisors, Dr. Astrid Ley and Dr. Mohamed Salheen, I appreciate all of your support through this process, you have urged me to explore my thesis topic through different lenses. To seek knowledge and understanding of our world is one of the things I hold in the highest regard, thank you for encouraging me to pursue this.

To my IUSD family, thank you for being part of this journey, you have become my friends, my support system, you have my unequivocal trust. I hold you with the greatest regard.

To my family, even though for the time being we are far apart, you have always been a beacon inspiration, your motivation has kept me going through the hardest of times.

To Mridula, you have my unwavering admiration, I am so grateful to have you as my sister.

To Rob, I am at awe with you. You have taught me so much with your boundless kindness, patience, and generosity. I cannot state how grateful I am for your unfailing support. I endured this thesis because of you.

Thank you!

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Pamela Gil Salas

The Central Valley of Costa Rica has undergone an accelerated process of urbanization. In over thirty years the conversion of rural and peri-urban land in the Greater Metropolitan Area –or GAM for its acronym in Spanish– has led to the gradual depletion of available land for urban development. The resulting socio-territorial transformations produced by a market-driven form of urban development reflect macro-structural processes indicative of an ingrained *capitalist form of urbanization*.

In the absence of tools and mechanisms that could have promoted a more sustainable approach to land use and planning, the role of the real estate market –paired with lax state regulations and policies– has been prominent in the development of urban land. Furthermore, the commodification of land as a means of capital accumulation has deepened the territorial asymmetries present in the GAM and increased socio-economic inequality. Therefore, *El Ordenamiento Territorial* or Land Management constitutes one of the main challenges for Costa Rica's sustainable development. The research problem aims then, to be part of this current debate, in identifying how the environmental, social, metropolitan, economic, and political dimensions are affected by a lack of consensus-building and a defined vision in the organization, use, and occupation of the territory. Evidencing that all too often, the laxity in regulations, policymaking, and planning has acted as an instrument of the real estate market.

Keywords: *Gran Área Metropolitana (GAM), Ordenamiento Territorial*, Land Management, Capitalist Form of Urbanization, Urban Transformation Processes.

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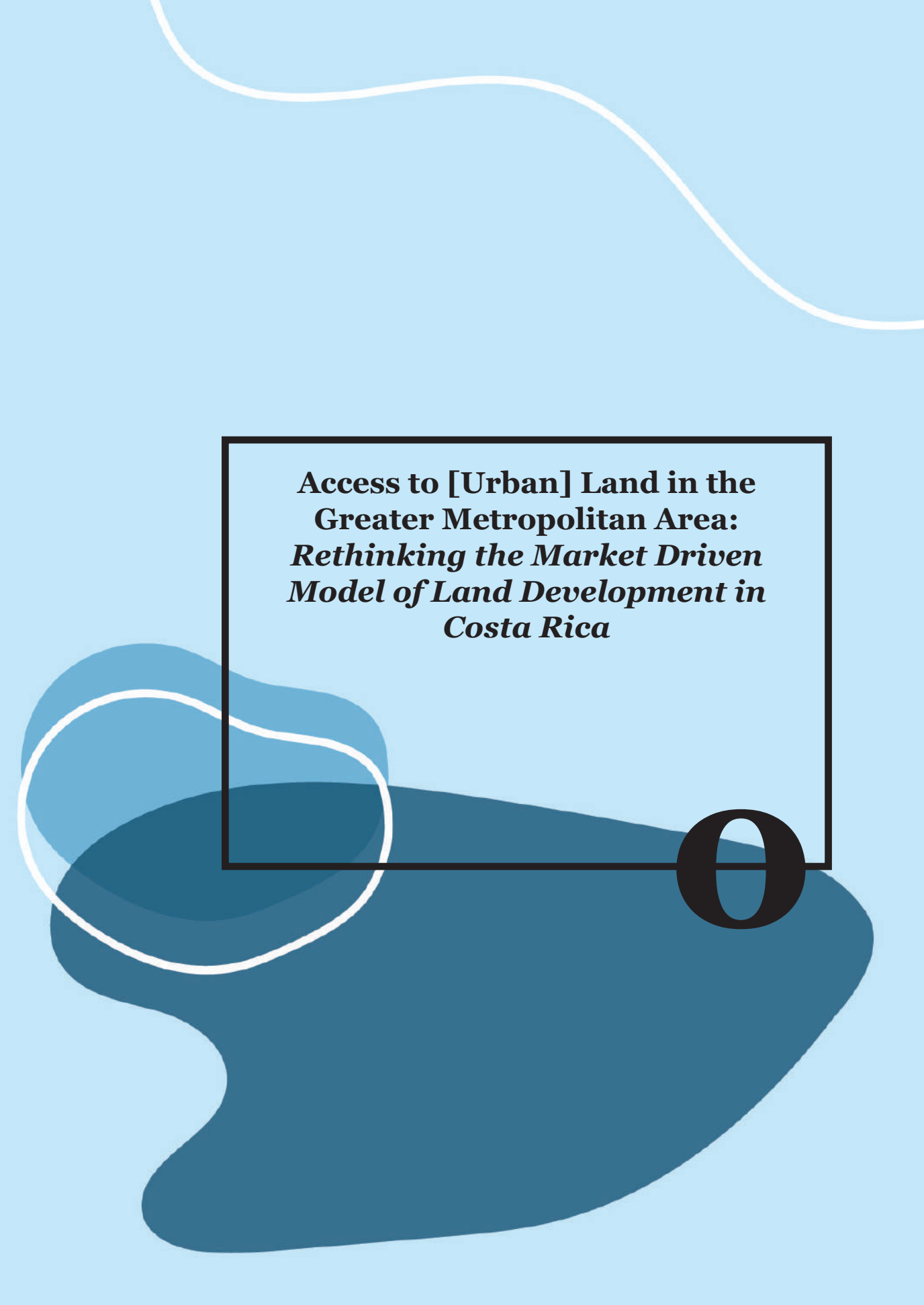
AMSJO	*Área Metropolitana de San José*	San José Metropolitan Area
CBA	*Canasta Básica*	Basic Food Basket
GAM	*Gran Área Metropolitana*	Great Metropolitan Area
INEC	*Instituto Nacional de Estadística y Censos*	National Institute of Statistics and Censuses
INTA	*Instituto Nacional de Innovación y Transferencia en Tecnología Agropecuaria*	National Institute for Innovation and Agricultural Technology Transfering
INVU	*Instituto Nacional de Vivienda y Urbanismo*	National Institute for Housing and Urban Development
MIDEPLAN	*Ministerio de Planificación Nacional y Política Económica*	Ministry for National Planning and Economic Policy
PAES	*Programas de Ajuste Estructural*	Structural Adjustment Programs
PEN	*Programa Estado de la Nación*	State of the Nation Program
PRUGAM	*Plan Regional Urbano de la Gran Área Metropolitana*	Regional Urban Plan for the Greater Metropolitan Area

Access to [Urban] Land in the Greater Metropolitan Area: *Rethinking the Market Driven Model of Land Development in Costa Rica*



Chapter 1. Introduction to the Research Topic, Research Problem & Statement, and Objectives

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The Central Valley[1] of Costa Rica has undergone an accelerated process of urbanization. In over thirty years the conversion of rural and peri-urban land in the Greater Metropolitan Area –or GAM for its acronym in Spanish– has led to the gradual depletion of available land for urban development.

We therefore acknowledge that the resulting socio-territorial transformations produced by a market-driven form of urban development reflect macro-structural processes indicative of an ingrained *capitalist form of urbanization*[2].

[1] The Central Valley is considered to be part of the country's Central Region, it has an extension of 3,237 square kilometers which is equivalent to 6.3% of the national territory, whereas, the Central Region has an area of 10,669 square kilometers and represents 20.8% of the national territory (Programa Estado de la Nación, 2015, p. 281). Historically, the Central Valley has been associated geographically with the central area of the country, which includes the capital cities of the provinces of San José, Alajuela, Cartago, and Heredia (Martínez, 2014, p.4). The Greater Metropolitan Area is located within the Central Valley.

[2] According to Brenner (2014), the development, intensification and worldwide expansion of capitalism produces a vast, variegated terrain of urban(ized) conditions that include yet progressively extend beyond the zones of agglomeration […]. As this erstwhile non-urban realm is increasingly subsumed within and operationalized by a world encompassing—and, indeed, world-making—process of capitalist urbanization, the meaning of the urban must itself be fundamentally re-imagined both in theory and in practice (Brenner, 2014, p.16).

Within this setting, the transformations that have occurred in the Central Valley have moved away from a society characterized by social integration that had a relatively homogeneous social structure[3]. These urban dynamics have consolidated an unequal and polarized society, which for the case of the GAM translates into social segregation and territorial fragmentation (van Lidth de Jeude & Schutte, 2010, p.47).

In this understanding, it is apparent that in the GAM, *the territory has been the result of a strategy* (Borja et al., 2003, p. 32). Decades of unplanned, unsustainable, and socially exclusionary urban development (Programa Estado de la Nación, 2015, p. 65) have shaped the metropolitan system. We hold that the territorial strategies adopted –or not adopted– are the outcome of a logic that prioritizes exchange-value over use-value and hence, favors the gains of economic capital over environmental, social, cultural, and symbolic capital.

Furthermore, we consider that at the base of this *capitalist form of urbanization* there is a dominant way of thinking about [urban][4] land, which itself responds to a market approach. We acknowledge that this process has led to the commodification of [urban] land in the metropolitan area and, in turn, has created greater socio-economic inequality.

[3] The GAM was made up of relatively similar neighborhoods in terms of socio-spatial conformation that had basic urban services alike (Fumero, 2009, p.8).

[4] The word [urban] is used in brackets to represent the conceptual ambiguity of the meaning of 'urbanity'. In a broader sense, we have reflected on these questionings about the [urban] from two aspects:

> Number 1: What is urbanization? How are urbanization processes inscribed in built environments, landscapes and territories, beyond the boundaries of cities? What would a complete or generalized formation of urbanization entail, in experiential, social, spatial and environmental terms? (Brenner, 2014, p. 26)
>
> Number 2: Can the spatial boundaries of cities be coherently delineated—whether in theory, analysis or experience? Is a new formation of complete urbanization being consolidated in specific regions and territories? If so, what are its major manifestations—whether in built environments, spatial configurations or infrastructural arrangements, in political discourses, or in everyday life? (Ibid)

The decades of intense urban expansion in the GAM have affected greatly the urban system. Therefore, our first aim is to understand: how has the metropolization processes in the Central Valley evolved over the years? What factors are associated with this process? And, how has it impacted the development of [urban] land in space and time?

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El Ordenamiento Territorial[5] or Land Management constitutes one of the main challenges for Costa Rica's sustainable development. As there have been no adequate forms of governance that have efficiently regulated land use and land consumption the conflicts and challenges that have arisen are many.

In the context of the GAM, *el Ordenamiento Territorial* is associated with various topics, including land-use patterns and efficiency; housing and socio-spatial segregation; urban growth and provision of public services; the encroachment of rural land by urban activities; ecological footprint; water conservation; air and water pollution; waste management; disaster risk reduction; and infrastructure provision and urban mobility. The inexistence of these mechanisms has worsened the ecological debt, and affected the quality of life, it has compromised the availability of natural resources, and generated high socio-economic costs (Programa Estado de la Nación, 2015, p. 279).

[5] El *Ordenamiento Territorial* is the process of managing not just the use and development of land. It is also a planning strategy, that is technical and political in its nature, and which purpose is to configure, in the long term, the organization, use, and occupation of the territory according to its potentials and limitations; the expectations and aspirations of the population; and the regional development objectives (Palacio and Sánchez, 2003; in Programa Estado de la Nación, 2015, p. 279).

In the absence of tools and mechanisms that could have promoted a more sustainable approach to land use and planning, the role of the real estate market –paired with lax state regulations and policies– has been prominent in the development of urban land. The research problem aims then, to be part of the current debate on Land Management or *OrdenamientoTerritorial* as it is known in Costa Rica.

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The commodification[6] of land has become a compelling cause in the emergence of land markets which produce large financial windfalls. Hence, the conversion of peri-urban and agricultural land has been a major force driving the urbanization process. In light of these circumstances, most of the land[7] available within the GAM has been depleted.

The growth of GAM has been defined by the topographic conditions of the Central Valley[8], its natural borders and hydrographic basins have partly contained the expansion of the urban footprint, leaving no more space available which could support the consumption patterns of previous years or the urban expansion of the GAM.

Therefore, the rapid urbanization process of the GAM has exhausted land which is suitable for urban development, which in turn has affected the

[6] The commodification of land under a *capitalist form of urbanization* generates price and value formation, land is therefore used as a means of capital accumulation.

[7] Currently, there is about 17.3% of the GAM that has some potential for urban development, which is around 9,200 hectares of unbuilt land (Programa Estado de la Nación, 2019, p. 154).

[8] The Central Valley is a plateau surrounded by a volcanic mountain and although its boundaries are not well defined –its limits have not been established by an administrative division– this geographical area is mainly defined by its natural borders and hydrographic basins (Programa Estado de la Nación, 2015, p. 281).

price[9] of [urban] land. Historically, this dynamic has influenced demographic fluctuations in two ways. The first one, by occupying peri-urban areas, where there was more land available to develop and, therefore, it was more affordable. The second one, in the emptying of city centers, where land is scarce, expensive, and, paradoxically, where urban services, infrastructure, and equipment are better, particularly in the Metropolitan Area of San José (or AMSJO for its acronym in Spanish).

We hold that the scarcity of land paired with the commodification of land will most likely reinforce the territorial asymmetries and the availability of resources, predominantly in the access to affordable housing and job markets, but also the provision of urban services such as education, health, and/or cultural programs. In turn, this scenario most likely will generate greater social inequality if the current form of urbanization maintains its predominance.

[9] In effect, the variation in the price of urban land is subject to its availability. In other words, the increase in the cost of [urban] land is proportional to its scarcity.

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The GAM is the main urban agglomeration in Costa Rica. According to the population projections of the INEC (2013), it is where 51% of the country's population currently resides. Furthermore, the vast majority of developed land is for residential purposes, around 70% of the built area corresponds to this category (Programa Estado de la Nación, 2015, p. 302) showing a close link between population and the demand for housing.

The urbanization process of the GAM over the years has drawn our attention to this relationship, for the private actors operating in the housing and land markets of the GAM, it seems it has become a prevailing source of capital accumulation. The research then will explore the role of [urban] land and housing and how it has been the basis of a *capitalist form of urbanization*.

Given this backdrop, we must first understand:

1. How has land been depleted in the Greater Metropolitan Area?
2. What factors are associated with this process?
3. How has the urban territory been reconfigured by the practices in land development?
4. How do the territorial asymmetries express within the GAM?

Furthermore, we consider that this process has been a fundamental vector in deepening social inequality in the GAM. To contest the dominant way of thinking about [urban] land and its repercussions, the main question here is: ***How do the territorial asymmetries of the urban land development model reinforce socio-economic inequality within the GAM?***

Define the antecedents of the territorial asymmetries present in the GAM, with specific regards to the development of urban land and the consequences of this process in the deepening socio-economic inequality

1. Characterize the transformation process of the GAM and the factors associated with the depletion of available land for urban development
2. Identify the role of [urban] land and housing as the basis of a capitalist form of urbanization in the GAM
3. Define the connection between the production of [urban] land and the generation of socio-economic disparities within the GAM

Chapter 2. Research Methodology

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The reflections of this research are based on a personal position[10], which is to rethink what we mean when we talk about [urban] land. It is a stand of social, political, and ideological nature.

The premise behind this exploration is simple: land has a social function that should support social justice and not increase socio-economic inequality.

We hold that, under the current *capitalist form of urbanization* land value in the GAM is linked to its scarcity, which is a means of capital accumulation as it generates price and value formation. Therefore, a distribution in land corresponds to a distribution in wealth.

In our view, the commodification of land enables the deepening of socio-economic disparities. Consequently, the means to provide a just access to [urban] land –and the services it supports– should be strengthened, as it

[10] The research is an act that takes place within a specific socio-historical context; the social researcher makes decisions (implicitly or explicitly) that reveal their ideological adherence, their commitment. These decisions include the choice of the subject of study, its theoretical approach from specific paradigms and perspectives, as well as the use of methodological strategies and techniques. All of them design decisions, apparently purely technical or practical, but basically (or in their consequences) associated with certain ideological or socio-political position (Valles, 1999, p. 74).

should be used fundamentally for the benefit of its citizens, not the individual amassing of wealth driven by a property-led accumulation.

Further, we hold that *el Ordenamiento Territorial* could build on social-economic justice and therefore enhance social capital in the production of [urban] space in the GAM.

The research will consider the territorial organization[11] of the GAM (which is the main unit of analysis[12]), in understanding how the territorial development[13] of the Central Valley has transpired.

[11] Methodological Cityism | Typological, binary: territory is differentiated among distinct settlement types, with cities contrasted to specific non-city zones—suburbs, towns, villages, rural areas, the countryside and "natural" areas (Brenner, 2014, p. 22).
Urban Theory | Processual, dialectical: agglomerations ("cities") relate dialectically to their ("non-city") operational landscapes, which are in turn continually transformed through their roles in supporting agglomerations (Ibid).

[12] Methodological Cityism | **Bounded:** the city as a settlement type that is contrasted to other settlement types, usually within a national territory (Brenner, 2014, p. 22).
Urban Theory | **Open, variegated, multiscalar:** the urban as an unevenly developed yet worldwide condition and process of socio-spatial transformation (Ibid).

[13] *Methodological Cityism* | **Population-centric:** growth of city populations relative to total (national) population size (Brenner, 2014, p. 22).
Urban Theory | **Mediated through capitalism, state strategies and sociopolitical struggle:** worldwide implosion/explosion of capitalist sociospatial organization, encompassing the evolving relations between agglomerations and their operational landscapes within a crisis-prone capitalist world economy (Ibid).

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This section aims to present a systematic course of reading in developing an outline of the methodological strategy. It lays out the research plan which intends to organize, present, analyze, and bring forward the existing knowledge regarding the object of study, all within a defined scope. The scope has an integral quality to it, therefore, the interpretation of the [urban] reality of the GAM is based on a comprehensive framework that covers the exploration of the theoretical axes and the description of the conceptual categories of the research.

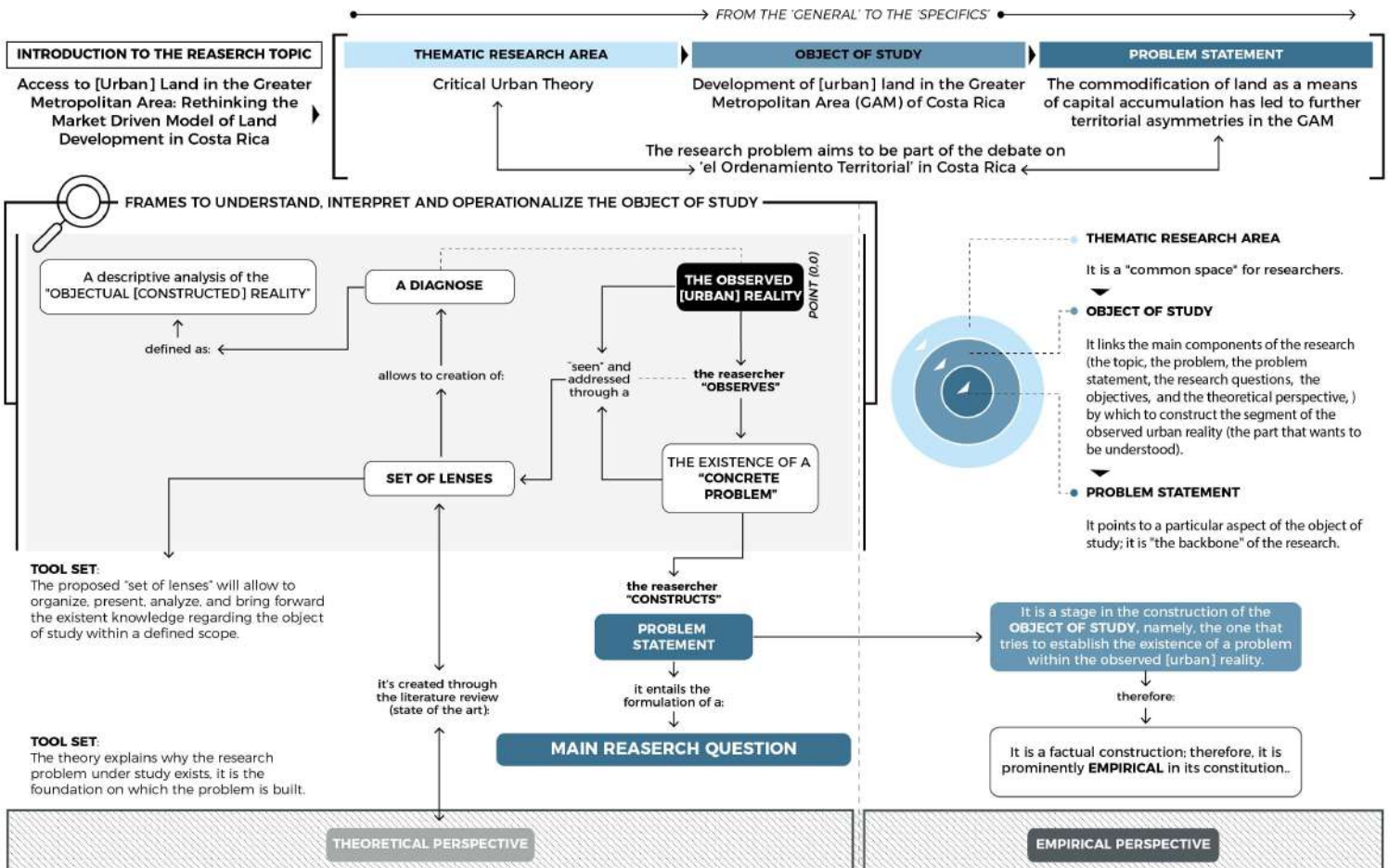
The connection between the different theoretical perspectives or 'the set of lenses' through which we will examine 'the existing problem' must generate an integrated image of the object of study that will allow us to diagnose the current territorial organization of the GAM in regards to its [urban] land.

As a result, a flexible and open strategy will be adopted; one that covers the description, understanding, interpretation, and operationalization of the urban phenomenon observed and, therefore, will allow the development of the research topic, *Access to [Urban] Land in the GAM: Rethinking the Market Driven Model of Land Development in Costa Rica*.

Thus, the methodological strategy has been structured in two parts and has been outlined entirely in the previous diagrams: the first one refers to the Theoretical and Methodological Aspects and the second one to the Operational and Methodological Aspects of the plan.

We consider that the outline thoroughly synthesizes the strategy adopted, it seeks to make clear the link between each of the components, and how these relate to one another in sequential order. However, we recognize the need to expand more in some of the aspects.

METHODOLOGICAL STRATEGY



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ASPECTS OF THE METHODOLOGICAL STRATEGY

THEORETICAL & METHODOLOGICAL ASPECTS

01. WORLD VIEW

PARADIGMS
as the foundation for basic concepts and experimental practices of a scientific discipline.

There are three main basic paradigms in political science: Positivist, the Phenomenological, and **Critical Theory** (Rojas de Escalona, 2010).

	COMPONENTS	MEANING
CP.1	ONTOLOGICAL postulation	What is the nature of the observed reality
CP.2	EPISTEMOLOGICAL postulation	What is the relation between the reasercher and the object of study
CP.3	METHODOLOGICAL postulation	How to obtain knowledge of said reality in a certain way

02. THEMATIC RESEARCH AREA

EPISTEMOLOGICAL POSTURE:

Critical Urban Theory

OBJECT OF STUDY

CORRELATIONS & UNIT OF ANALYSIS:

How does each scope impact the other?

SCOPE 1	THE TERRITORIAL DEVELOPMENT of the CENTRAL VALLEY
SCOPE 2	THE TERRITORIAL ORGANIZATION of the GAM
SCOPE 3	DEVELOPMENT OF [URBAN] LAND in the CENTRAL-GAM

DEFINING QUESTIONS:
1. How has land been depleted in the Greater Metropolitan Area?
2. What factors are associated with this process?
3. How has the urban territory been reconfigured by the practices in land development?
4. How do the territorial asymmetries express within the GAM?

03. PROBLEM STATEMENT

COMPONENTS OF THE PROBLEM STATEMENT

The problem statement can be heuristic, that is, it can bring forward an existent knowledge to try and understand a phenomenon, or it can be pragmatical and operative

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HEURISTIC (HE) OR **OPERATIVE**

PROBLEM STATEMENT | based on:

HISTORICAL data | THEORETICAL data | EMPIRICAL data

MAIN RESEARCH QUESTION

How do the territorial asymmetries of the urban land development model reinforce socio-economic inequality within the GAM?

04. REASERCH OBJECTIVES

GENERAL OBJECTIVE **[GO]**

[GO] Define the antecedents of the territorial asymmetries present in the GAM, with specific regards to the development of urban land and the consequences of this process in the deepening socio-economic inequality

SPECIFIC OBJECTIVES **[SO]**

[SO1] Characterize the transformation process of the GAM and the factors associated with the depletion of available land for urban development

[SO2] Identify the role of [urban] land and housing as the basis of a capitalist form of urbanization in the GAM

[SO3] Define the connection between the production of [urban] land and the generation of socio-economic disparities within the GAM

OPERATIONAL & METHODOLOGICAL ASPECTS

REASEARCH APPROACH

QUALITATIVE

According to Sampieri (2014), the following are some of the characteristics of a qualitative approach:

GOALS OF THE RESEARCH: To describe, understand, and interpret observed phenomena.

LOGIC: Inductive reasoning is applied, from that which is particular to the general. The conclusions of an inductive argument may be probable and are based on the data or evidence examined.

POSITION OF THE RESEARCHER: It is explicit, the researcher acknowledges her or his values and beliefs; it is even a source which becomes part of the study.

ROLE OF THE PHENOMENONS ANALYSED: Phenomena can take different "meanings"; in this sense, its role in the process is an active one.

RESEARCH DESIGN: It is characterized by being open and flexible; and is constructed through the process and development of the study or in the fieldwork.

TYPE OF STUDY

DESCRIPTIVE & EXPLORATORY

Bloom's Taxonomy: Action Verbs and Levels

[GO]	verb (LEVEL 1) **DEFINE**	its action is to gain: **KNOWLEDGE**
[SO1]	verb (LEVEL 4) **CHARACTERIZE**	its action is to: **ANALYZE**
[SO2]	verb (LEVEL 2) **IDENTIFY**	its action is to gain: **COMPREHENSION**
[SO3]	verb (LEVEL 1) **DEFINE**	its action is to gain: **KNOWLEDGE**

UNITS OF ANALYSIS

OPERATIONALIZATION OF THE UNIT OF ANALYSIS (VARIABLES)

URBAN DEVELOPMENT | [URBAN] LAND | GAM [CENTRAL GAM]

The process of "operationalization" consists of defining the object of study empirically. Therefore, it is necessary to specify which are the "entities" that will make up the "working material." These entities are defined as "units of analysis" since the analysis focuses on them. (Ynoub)

The spatial delimitation of the object of study must also be considered; be it an international, national, regional, or local context.

The temporal delimitation of the object of study must be defined, as well as the reasons why the research focuses on a certain period of study.

SPATIAL DELIMITATION

REGIONAL CONTEXT
GREATER METROPOLITAN AREA OF COSTA RICA

TEMPORAL DELIMITATION

The implementation of the Structural Adjustment Programs in Costa Rica (referred as **PAES** by its Spanish acronym) was one of the conditions imposed by the World Bank to grant Adjustment Loans

source: author

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The theoretical and methodological aspects of the research strategy frame the various components of the research: the world view or paradigm on which the study is established, the thematic research area, the object of study, the problem statement & the research questions and, the objectives of the study.

As we mentioned previously, the reflections of the research are based on a personal position, it is a stand of social, political, and ideological nature.
The research is, therefore, shaped by the worldview of the researcher; in that, it is a basic set of beliefs that guide the actions of the researcher (Guba, 1990 in, Creswell, 2018, p.5). It is also a philosophical stand, and although philosophical ideas remain largely hidden in research they influence the practice and need to be identified. This information will help explain the selection of qualitative, quantitative, or mixed methods (Creswell, 2018, p.5).

Consequently, these lines of thought have led us to position the research within a *qualitative perspective* and for this purpose the Kuhnian concept of a paradigm will be valuable.

For Kuhn (1970), a paradigm is a set of concepts admitted and agreed upon by a community, its purpose is to frame and explain an observed a phenomenon, it is the basic image of the object of science and therefore, it is the foundation on which scientific knowledge is built upon. According to this, paradigms can be understood from three perspectives: from an ontological, an epistemological, and methodological standpoints.

Therefore, the framing of the research within a specific paradigm does not only deal with the methodological aspects of the strategy, instead the

selection of a paradigm guides the researcher. The three main components of any paradigm are interrelated. So, the basic belief or principle that the researcher assumes, at the ontological level, should lead them to adopt consonant positions at the epistemological and methodological levels (Guba and Lincoln, 1994; in Valles, 1999: 25-26).

The object of study will look into the development and organization of the territory in the Central Valley of Costa Rica linked with the development of [urban] land in the GAM. It will lay the foundations in understanding the different scales of the territory under study and the definition of the territorial units of analysis.

The problem statement points to a particular aspect of the object of study, it is 'the backbone' of the research. It can be heuristic, that is, it can bring forward an existent knowledge, to try and understand a phenomenon or it can also be pragmatic and operative. The study will focus on the heuristics of the object of study.

The problem statement is based on historical, theoretical, and empirical knowledge which are defined as follows:

- The historical layer is based on the knowledge that contextualizes the significance of the identified problem, it allows us to understand the problem from a societal perspective (Bernal, 2006; in Zúñiga, 2012). It is, therefore, the background under which the problem statement is framed.

- The theoretical layer is linked to the fundamental concepts which build up the problem statement. The main concern here is to identify concepts and theories which are relevant to the thematic area of study. It is also a factual construction. However, there is no

statement that does not use basic concepts to address the phenomenon of interest, factual monism is a fallacy and even the most “hard” empirical data requires a minimum level of conceptualization. It is these theoretical concepts that allow us to point out the main elements of the problem statement and that are the basis of the question-problem (Mendicoa, 2003, in Zuñiga, 2012). Therefore, the need of both theoretical and empirical perspectives is clear.

- The empirical data sustains the question-problem. These are all the empirical elements that give the study the mandatory factuality, these elements demonstrate the problem, they are "facts" by nature, not concepts or motivations. The difference between empirical and historical data – antecedents – refers to the temporal delimitation of the object, that is, all elements that are indicated and that do not correspond to that delimitation, are, in fact, historical data, and those that fall within the delimitation, empirical data (Zuñiga, 2012).

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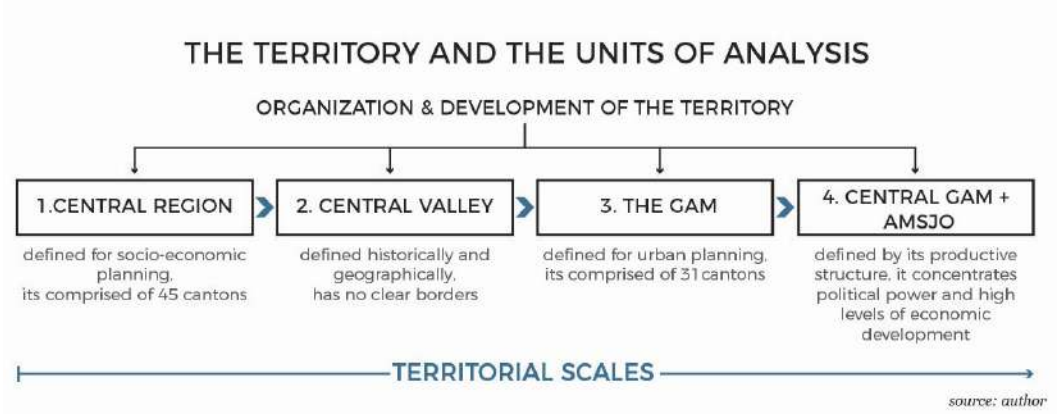
The operational and methodological aspects of the research strategy define the approach of the study, therefore, the implementation of a *qualitative approach* is proposed and the type of study will be *descriptive and exploratory*.

The ‘operationalization’ of the object of study consists of defining it empirically through the units of analysis. In understanding the development and organization of the territory we have defined various scales according to their purposes and areas.



Furthermore, the spatial delimitation of the object of study must be considered, hence the study will mainly focus on the regional scale of the GAM.

The temporal delimitation of the object of study linked to the historical data is defined from the 1980s to the present. A key event that signalled a shift in the socio-economic and political agenda of Costa Rica was the implementation of the Structural Adjustment Programs (referred to as PAES by its Spanish acronym) which was one of the conditions imposed by the World Bank to grant Adjustment Loans.

One of the reasons we consider this decade as the starting point of our study is that it marked the shift towards a neoliberal agenda in the decision making process in Costa Rica, and therefore, in the territorial organization and development of the Central Region. This would consequently lead to the *laissez-faire* approach to urban development in the 1990s.

Chapter 3. Theoretical & Empirical Perspectives

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The Greater Metropolitan Area –or GAM for its acronym in Spanish– is situated within the Central Valley[14] of Costa Rica's Central Region[15]and has an area of 1,967 square kilometers (196,700 hectares), which is equivalent to 3.8% of the nation's territory. It is made up of 31 cantons (11 of them partially included) and 164 districts (Martínez, 2014, p.5). Currently, it is where approximately 51% of the country's population resides (INEC, 2013) with a population density of 75.9 inhabitants per hectare in 2019
(Programa Estado de la Nación, 2019, p. 10) making it the largest urban agglomeration in Costa Rica and therefore, essential to the socio-economic development of the country.

[14] The Central Valley is a plateau surrounded by a volcanic mountain range known in Costa Rica as *Valle Central* or *Meseta Central* and it is considered to be part of the country's Central Region. Although the boundaries for the Central Valley are not well defined –its limits have not been established by an administrative division– this geographical area is mainly defined by its natural borders and hydrographic basins. It has an extension of 3,237 square kilometers which is equivalent to 6.3% of the national territory, whereas, the Central Region has an area of 10,669 square kilometers and represents 20.8% of the national territory. The Central Valley was established in the 1970s by the German geographer Helmuth Nuhny and was made official on January 26, 1978, by an executive decree (*decreto ejecutivo* 7944) (Programa Estado de la Nación, 2015, p. 281).

[15] Historically, the Central Valley has been associated geographically with the central area of the country, which includes the capital cities of the provinces of San José, Alajuela, Cartago, and Heredia. In 1978 the Central Region was designated for socio-economic planning, and in 1982 the Greater Metropolitan Area was designated for urban planning (Martínez, 2014, p.4).

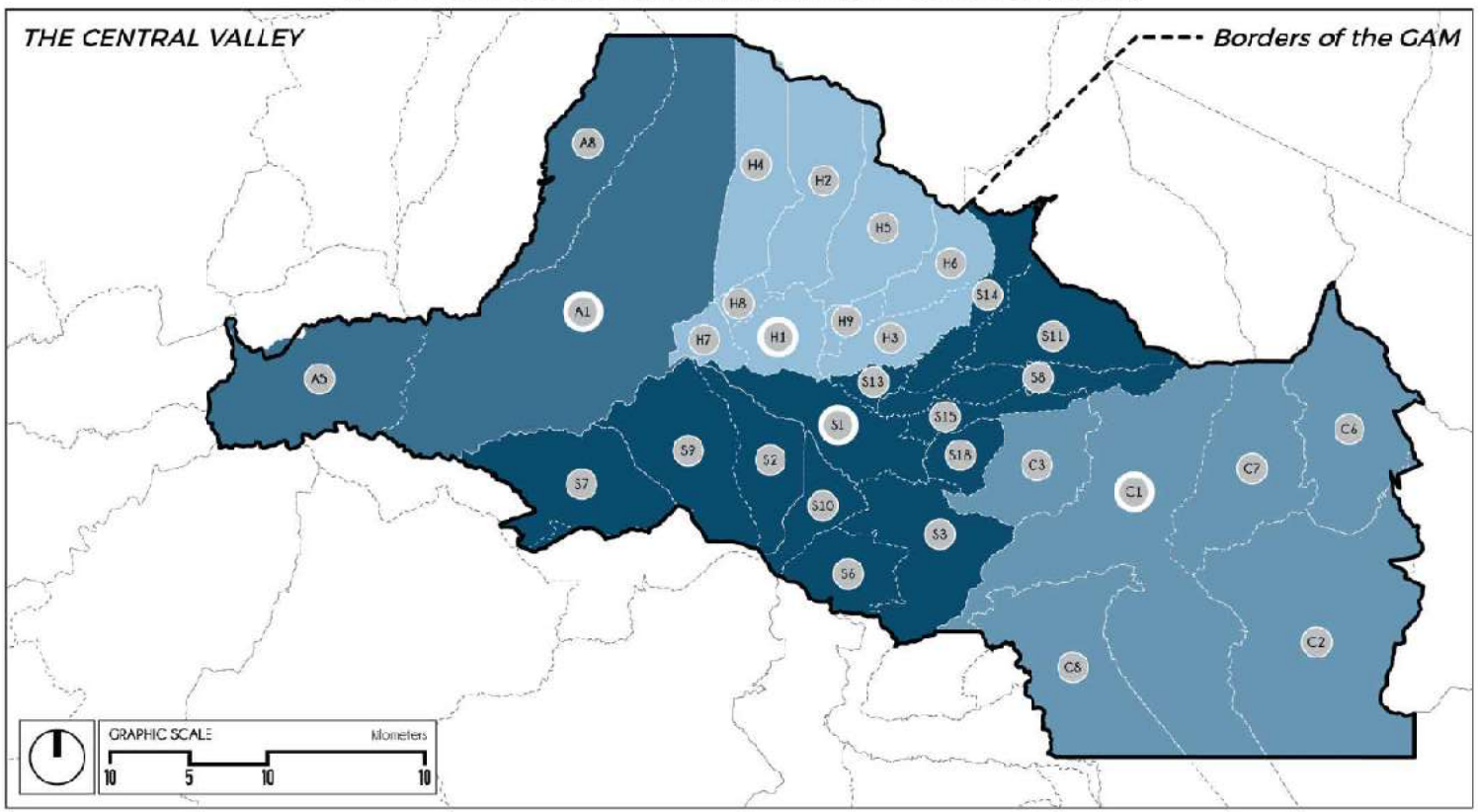
The definition of the GAM –determined in the Plan GAM 1982– was based on urban development criteria which considered the existing urban structure of the Central Valley and its adjacent areas[16] (Martínez, 2014, p. 5). The 1982 plan –created by the *Instituto Nacional de Vivienda y Urbanismo*[17] – sought to impose restrictions on urban growth and manage its expansion, to concentrate the use of urban land and confine its activities within the *Anillo de Contención* or Urban Containment Area. The perimeter determined the urban growth within the GAM and considered physical, topographic, and natural variables as well as access to public services. It covers an area of 44,200 hectares and its zoning consists of urban, protected, and agricultural land. In principle, no building permits can be granted beyond the limits of the *Anillo de Contención* in the areas that are destined for environmental conservation (Programa Estado de la Nación, 2015, pp. 288-289).

However, the reality is another one: decades of unplanned, unsustainable, and socially exclusionary urban development have profoundly changed –morphologically and functionally– the metropolitan system, leading the city to spread more and more into the Central Valley (Programa Estado de la Nación, 2015, p. 65).

[16] The plan took into consideration the surrounding rural areas for agricultural production and sources of underground water that would define the *Zona Especial de Protección* (Special Protection Zone) for environmental conservation (Martínez, 2014, p. 5). This area is a "buffer zone" between the limits of the *Anillo de Contención* (Urban Containment Area) and the outer borders of the GAM. It constitutes 152,500 hectares of predominantly agricultural land and residential developments are only allowed within the defined areas of expansion of the main districts (Plan GAM 1982, executive decree 13583-VAH-Ofiplan).

[17] In the mid-1950s, the city of San José had one of the highest growth rates of population in the world. The demographic explosion led to the creation of the Instituto Nacional de Vivienda y Urbanismo –INVU for its acronym in Spanish– (National Institute for Housing and Urban Development) to "plan the development and growth of the city and its surrounding urban centers" (Avedaño and Jiménez, 2012, p. 34).

THE GAM: POLITICAL-ADMINISTRATIVE-ORGANIZATION

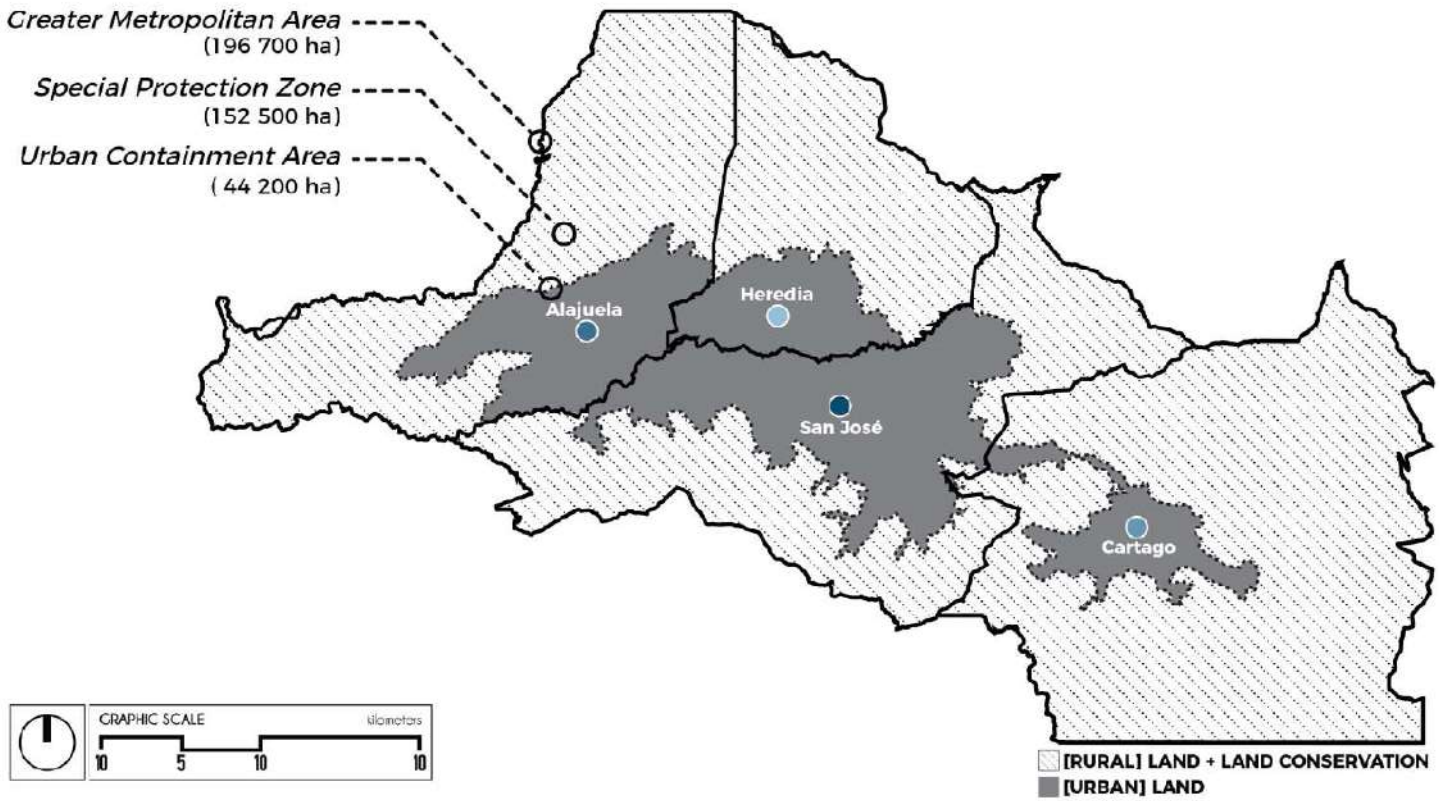


PROVINCES & CANTONS
IN THE GAM

S1. San José	S2. Escazú. S3. Desamparados. S6. Aserrí. S7. Mora. S8. Goicochea. S9. Santa Ana. S10. Alajuelita. S11. Coronado. S13. Tibás. S14. Moravia. S15. Montes de Oca. S18. Curridabat
A1. Alajuela	A5. Atenas. A8. Poás
C1. Cartago	C2. Paraíso. C3. La Unión. C6. Alvarado. C8. El Guarco. C7. Oreamuno
H1. Heredia	H2. Barva. H3. Santo Domingo. H4. Santa Bárbara. H5. San Rafael. H6. San Isidro. H7. Belén. H8. Flores. H9. San Pablo

source: Author, based on the Plan GAM 2013-2030

THE GAM: BORDERS, LIMITS AND LAND USE



PROVINCES & CANTONS
IN THE GAM

S1. San José	S2. Escazú, S3. Desamparados, S6. Aserrí, S7. Mora, S8. Goicochea, S9. Santa Ana, S10. Alajuelita, S11. Coronado, S13. Tibás, S14. Moravia, S15. Montes de Oca, S18. Curridabat
A1. Alajuela	A5. Atenas, A8. Poás
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H1. Heredia	H2. Barva, H3. Santo Domingo, H4. Santa Bárbara, H5. San Rafael, H6. San Isidro, H7. Belén, H8. Flores, H9. San Pablo

source: Author, based on the Plan GAM 2013-2030

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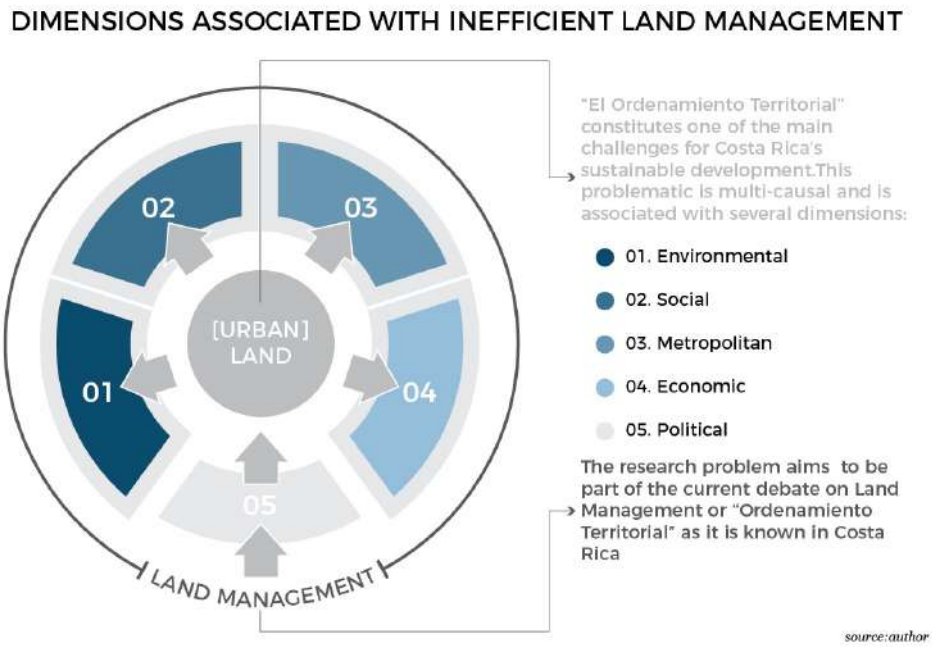
The problem in question here is one of great complexity[18], one which is defined by multiple conditions and scales. It is clear then that unraveling land policies in Costa Rica –or any other context– goes further than looking



[18] The complexity of taking into account the "urban question" requires that one considers different perspectives when looking into its many facets. Systems Thinking holds an important approach in analyzing the elements that constitute the sides of a problem, by reflecting on how each component relates to one another within a system and how it correlates within the context of larger systems.

at the institutions responsible for it. We, therefore, have opted to look into the various forms in which the conflicts and challenges that arise from inefficient Land Management are expressed. We have identified five main dimensions linked to the current debate on Land Management and we will detail briefly what they comprise in the context of GAM. These include the following:

In Costa Rica, *la Gestión Ambiental* or Environmental Policy and Management has two contradictory sides: a robust one in the field of conservation, especially regarding protected areas, and a feeble one characterized by unsustainable uses of the territory and its resources outside those protected areas (Programa Estado de la Nación, 2019, p. 56). For this reason, the reach of the environmental policies on conservation cannot contest the unsustainable and persistent use of strategic natural resources, one of those being land use.

The expansion of the urban footprint in the GAM coupled with the consumption patterns of [urban] land is a major environmental problem. The pressure that it exerts on the natural systems has affected the environmental services and quality of natural resources within the region. The irreversibility of urban land coverage and land use has translated into: soil degradation and contamination; pollution of vital sources of water such as areas of recharge for aquifers and rivers, a situation that threatens the availability of water for human consumption; the occupation of strategic areas for environmental preservation (forestry, natural formations of basins and aquifers, distinct life zones, and biological diversity); the alteration of natural phenomena which create flood risks and landslides on river banks; and the consumption of fertile soils with a high potential for agricultural

production which compromises food security and sovereignty (Brenes Mata et al., 2001; Pujol, 2004; MIVAH, 2006; Programa Estado de la Nación, 2015). It is disconcerting to acknowledge how the coverage of land by urban activities within one of the most fertile regions[19] in the country impacts environmental sustainability and puts at risk ecological processes, food security, and the replenishing of natural resources.

One of the first territorial asymmetries we therefore recognize as an increasing divide in the Costa Rican society is the access to and consumption of natural resources. This at the moment puts at risk future prospects on its availability and quality, among them the pressure on water sources. For instance, in 2017, the tenth decile (composed of the districts with the highest consumption rates) used 121 times more water than the first decile (the districts with the lowest consumption rates) (Programa Estado de la Nación, 2019, p. 58). The contradictions that arise between the social demands on the use of the country's resources and environmental policies are evident, particularly in the context of the GAM, and if not managed appropriately could jeopardize the well-being of its citizens and reduce the capacity of the country in matters of conservation and sustainability.

The costs –be it environmental, economic, social, or cultural–associated with this situation are vast and should consider and challenge the limits of urban development within the GAM. The prevailing dynamics of land conversion highlight that land is a finite resource and therefore, the need for a more sustainable model for land management.

[19] The composition of the soil in the Central Valley is formed by volcanic ash and is a unique resource as only 14% of the national territory has these types of soils also known as Andisols (Henríquez et al., n.d.).

The spatial consequences of land scarcity are a central theme when it comes to the competition of space within the GAM, particularly because it reinforces territorial inequalities and social disparities. As part of the topics that revolve around the debate on Land Management, it is critical to keep a close watch on the performance of social policies concerning poverty and how it relates to social and territorial inequalities.

Therefore, we deem that inequality and poverty are intrinsically linked and perform as a binary[20] within the GAM. But, how does this play out? How does poverty express spatially? Is it about access to public services, such as education, health, and/or cultural programs? Is it a question about income and the poverty line it draws? Does it have to do with inadequate housing or poor environmental conditions?

To a large extent, these are all realities lived by a considerable portion of the population in Costa Rica, which raises a question about the type of society that we are building and the political choices we are making.

- *Inequality and Poverty in Costa Rica*

On the matter of poverty and income inequality, there are clear asymmetries that persist in terms of territory and gender. Income inequality has grown considerably in the past 25 years. As it stands, the country is not only more unequal but has lost its position as one of the most equitable nations in Latin America (Programa Estado de la Nación, 2019, p. 55). In Costa Rica, the prime source of poverty and economic inequality is the labor market, for

[20] These binaries are meant to be considered as two parts of a single process, they refer to parallel urban dynamics present in the GAM. Therefore, they are not to be considered as opposites, but sequential processes.

80% of household incomes proceeds from employment; thus, inequality is determined by the productive structure and the access to labor markets (Programa Estado de la Nación, 2019, p. 54).

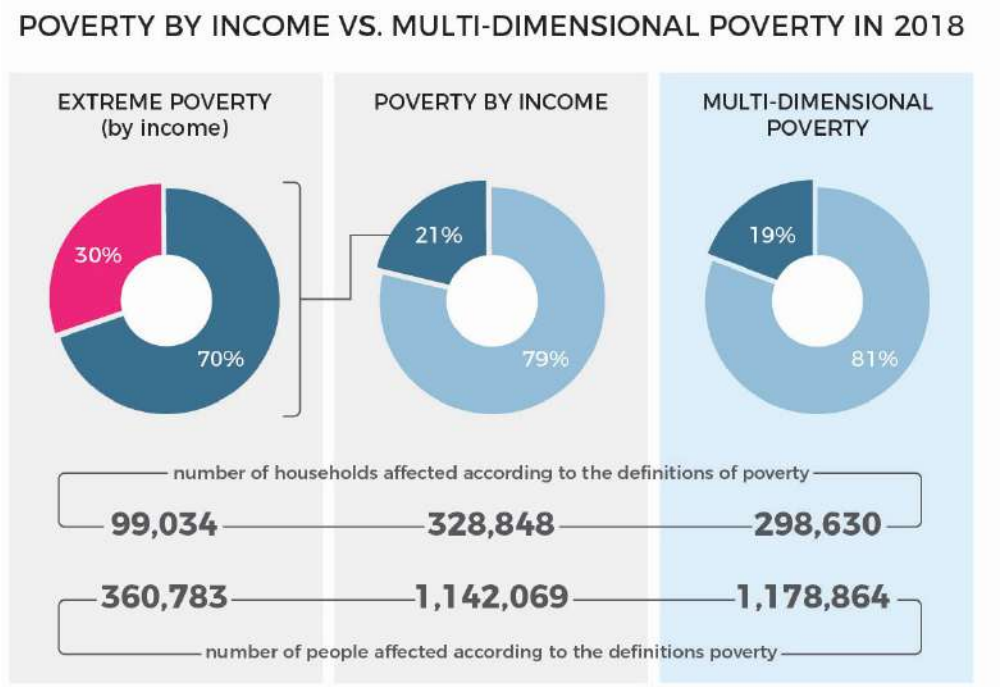
According to the measurements on poverty done in the country, there are two official ways in which it is being tracked, one is regarding the poverty line or poverty by income and the other one is a multidimensional approach to poverty.

- *Poverty by Income*

The first method considers the minimum amount required for a person to satisfy their food and non-food needs. A household is regarded as impoverished when the income per capita is equal or less than the poverty line of the respective urban or rural areas. Populations with a per capita income lower than the cost of the *Canasta Básica*[21] (CBA for its acronym in Spanish) or the Basic Food Basket are considered to be in extreme poverty (Programa Estado de la Nación, 2019, p. 91).

Following this measurement, in 2018, a fifth of the households (21.2%) were estimated to be at or under the poverty line, it affected 328,848 households and 1,142,069 people. At the same time, the number of households (in absolute terms) considered to be under extreme poverty –that is the number of people who subsist with an income below the cost of CBA– was of 99,034 households and 360,783 people, of which during 2018, 12,371 households and 54,273 people came to be part of (Programa Estado de la Nación, 2019, p. 55)

[21] According to the INEC, in April 2020, the cost of the Basic Food Basket for urban areas was 50,440 Colones (approx. 82 Euros) and in rural areas 41,954 Colones (approx. 68 Euros).



source: author, based on Programa Estado de la Nación (2019)

- *Multidimensional Poverty*

Given the multidimensional nature of poverty, the second approach defines poverty in a broader sense. The basis for this method is that in the context of Costa Rica poverty is not only defined by income but it is correlated with an access to education, health, housing, labor markets, and social protection. The scoring is based on a set of four indicators and five dimensions which are of equal importance (individually each dimension accounts for 20% of the overall score). This method calculates the disadvantage of people and households under poverty in relation to twenty indicators, a household is considered to be under poverty if the sum of the indicators produces a rate higher than 20% (Programa Estado de la Nación, 2019, p. 91).

Based on the multidimensional approach, in 2005 (which is the first year that there are available estimations) 38% of the households were affected by

poverty, a figure that roughly doubled the percentage of households that were under the poverty line that year. Moving forward, to 2017, it marked a minimum of 18.8% and in 2018 it increased to 19.1% (a variation that is not statistically significant) and it was equivalent to 298,630 households and 1,178,864 afflicted by poverty, which contrasts to the 328,848 households and 1,142,069 people that are poor by income (Programa Estado de la Nación, 2019, p. 55).

- *Inequality and the Productive Structure in the GAM*

It is our position that an initial measure of Land Management within the GAM should undertake income inequalities associated with the productive structure and its sectors. Therefore, addressing the territorial gaps that divide the country is crucial in supporting a sustainable human development.

A study carried out in 2019 for el *Programa Estado de la Nación* (PEN for its acronym in Spanish) or the State of the Nation Program revealed the pronounced inequalities in the productive structure of the country that unfold throughout the territory. Particularly, when comparing the Central Region to the rest of the territories.

The first descriptive finding of the study confirms the evident concentration of the economic activity in the GAM. It examined the regions proposed by the Mideplán[22] which were the main units of analysis and, given that within the Central Region there are significantly different dynamics in its productive structures, they subdivided the region in two: these are the cantons of the Greater Metropolitan Area (Central-GAM) and the cantons in

[22] The regional plans carried out by el *Ministerio de Planificación Nacional y Política Económica* (MIDEPLAN for its acronym in Spanish) or the Ministry for National Planning and Economic Policy considers six main regions in the country, these are: Central; Brunca; Chorotega; Huetar Caribe; Huetar Norte; and Pacífico Central.

the periphery (Central-Periphery) (Programa Estado de la Nación, 2019, p. 67).

The Central-GAM has a gravitational pull when it comes to the national economy and therefore, has a different configuration from the rest of the regions. It comprises much of the manufacturing industry (particularly that with a broad technological base); it includes commerce and trade; and, both professional services and real estate have a strong presence. The performance of the region is the base for the country's economic conditions, therefore, its position is decisive in the production of job opportunities; expressly, when compared to the other regions within the country which individually can account for up to 2%-5% of the country's economic activity (Programa Estado de la Nación, 2019, pp.68-69).

Furthermore, the Central-GAM region brings together 77% of the jobs within the country (Programa Estado de la Nación, 2019, p. 75) and provides most of the formal business park (65%) and the sales volume (82%), well above the GAM's population size; of which, nine cantons concentrate almost half of the companies. San José stands out with the highest number of businesses with 12,990, while the other cantons hold less than 6,500 each (Programa Estado de la Nación, 2019, p. 67).

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The nature of poverty and inequality is one of great complexity. We consider, however, that to confront poverty and the structural inequalities facing Costa Rican society we must take a further look into the ways we think about land and how it is intertwined with socio-economic disparities, particularly within the context of the GAM.

An obvious conflict that arises from inefficient Land Management is in itself the organization of the metropolitan system. For the case of the GAM we have identified that its morphology[23] impacts considerably its functionality, mobility, and accessibility. Consequently, one of the main challenges resulting from the lack of execution in urban planning is the correlation between traffic congestion and the patterns in urban growth, a situation that is worsened by the dependency on private vehicles and a deficient investment in public modes of transportation.

As a result, the massive reliance on the use of private vehicles and the heavy traffic on urban road networks have become increasingly problematic in the GAM, this is partly due to a low-density, dispersed, and linear urban growth model (Sánchez Hernández, 2018a, p.5) but also because of the increase in the number of private vehicles[24], both of which raise distances and travel times within the city and affect negatively the mobility of the GAM.

In Costa Rica, the propagation of a mobility system that generates large emissions of pollutants and traffic congestion has high costs for human development (Programa Estado de la Nación, 2019, p. 58). This situation is affected by various factors: public investment centered on vehicle-based infrastructure rather than the promotion of efficient modes for public transportation; an increase in the number of informal and partially regulated transport services –such as ride-hailing services– and the growing

[23] The metropolitan system is characterized by a dispersed pattern and a linear and centrifugal growth (in a radial, concentric, or tentacular pattern). The expansion of the urban footprint shaped a polycentric development of the capital cities of the provinces of San José (primary center), Heredia, and Alajuela (secondary centers).

[24] In 10 years the number of vehicles went from 797,000 in 2007 to 1,430,000 in 2016, which expresses a 6% growth per year and represents about 80% growth rate in absolute terms. In this connection, the number of automobiles (including four-wheel drive) makes up about 61% of the total of vehicles (a 5.3% growth per year and a 67 % rate in absolute terms). Furthermore, the most prominent expansion of the vehicle fleet in the GAM is the amount of motorcycles (an 11.1% growth per year and 187.3 % rate in absolute terms) (Sánchez Hernández, 2018a, p.8).

tendency of citizens to opt for unregulated private options to solve their mobility problems; residential growth that is distant and disconnected to the urban centers where the primary labor-markets are located; and, the deficiencies of public transportation and its infrastructure, which offer is characterized by radial and localized modes of mobilization and does not respond to the demands or needs for intermodal mobility of a polycentric city (Sánchez Hernández, 2018a, p.17).

Furthermore, the disparities in the productive structure considerably impact mobilization within the GAM. The agglomeration of employment in a few cantons evidences the territorial asymmetries that influence access to jobs. San José, Alajuela, Heredia, and Cartago create one out of every two jobs. If we also consider the cantons of Desamparados, Belén, and Santa Ana plus Escazú then the proportion of jobs generated is mainly concentrated in 7 out of the 31 cantons, consequently, three out of every four jobs are generated just within these urban centers. The high concentration of commercial, industrial, and service buildings in a few GAM cantons in the last decade is a solid indicator of the trend that the GAM is experiencing towards the agglomeration of employment (Sánchez Hernández, 2018b, p. 10).

The inefficiency of the transportation system produces negative externalities such as emission of green house gasses, air quality, noise emissions, traffic accidents, and congestion. In fact, just within the GAM, the costs of traffic congestion represent around 3.8% of the national GDP, which is, roughly $ 2,527 million (Sánchez Hernández, 2018a, p. 35). These high-costs overrun households and companies, thus affecting the productivity and efficiency of the production system (Sánchez Hernández, 2018b, p. 5). Given this situation, an added economic pressure is carried by workers residing away from the Central-GAM, thus accentuating even more the territorial inequalities and creating further vulnerabilities for the urban poor.

An overarching theme in urban development is that the rapid expansion of cities has systematically exceeded the capacity of local governments to provide services and infrastructure to the defined standards of urban planning (Rojas and Inter-American Development Bank, 2009, p. 4), a situation that is particularly challenging in the current economic, financial, and fiscal context of Costa Rica.

Over the past years the economic deceleration[25] and the imbalance in public finances have created a scenario of high complexity and risk, exacerbating the structural weaknesses, both in economic and political terms. The state's financial disequilibrium has left no other option than to resort to indebtedness, which imposes limitations to the management of the public debt by increasing the cost of funding and generating additional risks to an already fragile situation (Programa Estado de la Nación, 2019, p. 34).

Since 2008 the Ministry of Finance has used public debt as a strategy to cope with the insufficiency of the government's current income. As a result, the public debt of the Central Government has more than doubled in ten years, which represents 24% to 54% of Gross Domestic Product (GDP). The current level of debt is unsustainable and risky in terms of short-term solvency (Programa Estado de la Nación, 2019, p. 40). Consequently, it has exceeded the international parameters for a healthy economy. The inability of the country to finance itself has led to a drop in the ratings that assess risk by all the specialized international agencies (Programa Estado de la Nación, 2019, p.42).

[25] In 2018, a severe contraction occurred in almost all productive activities; ten out of the thirteen main economic activities of Gross Domestic Product (GDP) in Costa Rica recorded a lower growth than the previous year. However, the construction sector, the real estate market, the hospitality sector & foodservice increased its market value (Programa Estado de la Nación, 2019, p. 35).

The frailties of the current fiscal frame represent a threat to national development and limit its reactivation through public spending and investment[26]. This imbalance in public finances has further impacted the provision of resources for social programs, a condition that has impacted negatively the Human Development Index in 2018 (Programa Estado de la Nación, 2019, p. 35).

The slowdown in productive activity, together with the uncertainty of the fiscal situation and the rise in international interest rates weigh in the stabilization and reactivation of the economy. In addition, the imbalance in public finances threatens already vulnerable dimensions for human development, such as health, education, and a dignified standard of living. As a result, the deceleration in social investment and funding is beginning to impact crucial sectors of human development, this situation will likely become more regressive and will have pressing consequences for the living and working conditions of the population (Programa Estado de la Nación, 2019, p. 51).

Within this frame, the shortage of opportunities for people to access resources that allow them to lead a dignified life has worsened. The unemployment rate (12%) reported at the end of 2018 is the highest since 2010 and prevailed throughout the first two quarters of 2019. Furthermore, incomes remained unchanged (-0.4%) and on average, rural households received 41.5% fewer proceedings than urban households (Programa Estado de la Nación, 2019, pp. 37-38).

[26] In this regard, in 2017-2018, a contraction in public spending developed, shifting from 3.1% to 0.5% of the GDP, further affecting the decrease in public investment which declined from 4.4% to -3.2% of the GDP (Programa Estado de la Nación, 2019, p. 35).

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Historically, the disparities in income and employment have affected particularly disadvantaged socio-economic groups. The most vulnerable are younger populations, women, and people with lower educational credentials who work in the few sectors that produce jobs for these groups, often in conditions of informality and poor quality of employment (Programa Estado de la Nación, 2019, p. 38).

The remittance of the economic contraction and the imbalance in public finances will most likely keep impacting the financial resources directed for social programs. Therefore, the provision of urban services and infrastructure in the GAM will be prone to affect access to housing, job markets, education, health, and cultural programs. It should be expected that this scenario will generate greater social and territorial inequalities.

It is clear then, that the development of a county is not mediated solely by economic growth and that the decisions and priorities in policymaking also count towards human development

The political economy adopted in Costa Rica is characteristic of Latin America's policies. Urban production in the GAM has not been exempt from questionable –usually inefficient, unequal, and unsustainable– public decisions that deal with the spatial allocation of investments in urban infrastructure and services and the use of arbitrary land use norms and regulations (Smolka, 2013, pp. 4-5).

The link between the provision of services and prices has enabled land speculation, clientelism, and other kinds of influence – amongst these,

corruption– between public and private interests. For this very reason, land ownership is such an important issue in the urban land policy agenda, and why the spatial allocation of public investment is so vulnerable to abuse and favoritism by well-positioned stakeholders (ibid).

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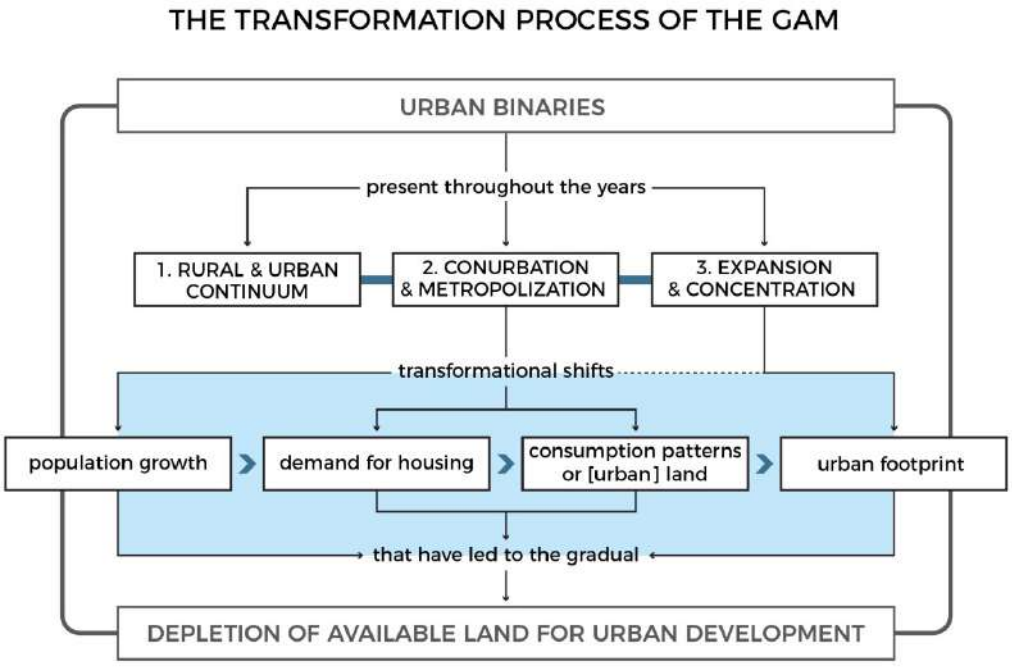
As a means to understand the evolution of the GAM and how land has been depleted, we will focus on three binaries that we consider have played a predominant role in the transformation of the Central Valley of Costa Rica.



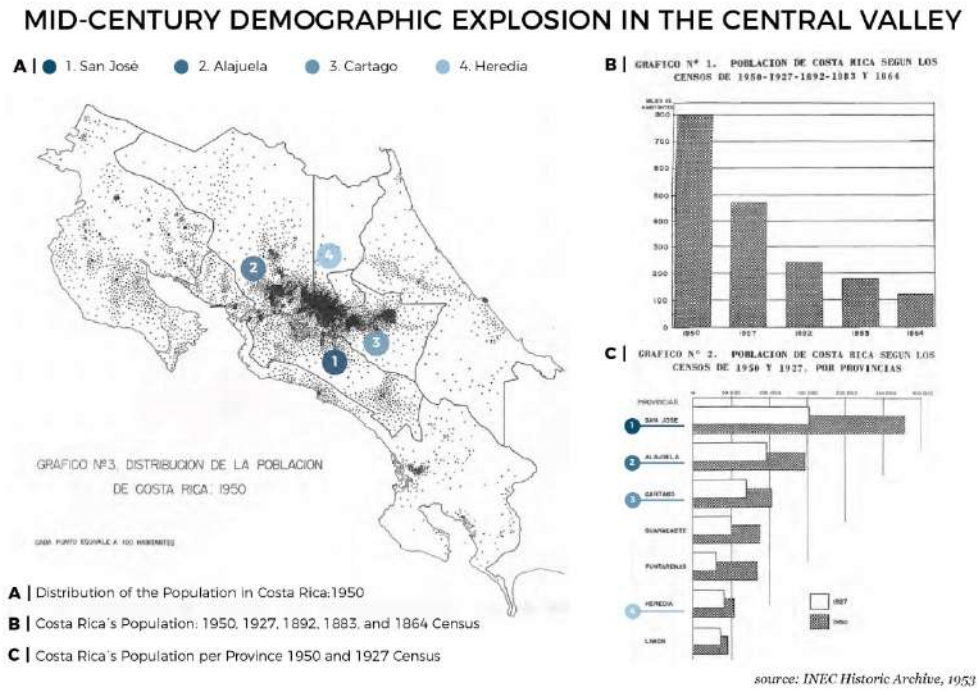
source: author

These binaries are a means to theorize the urbanization process of the Central Valley and the consequent urbanization of the Costa Rican society. We consider they are at the base of the transformations that have occurred in the last forty years and that have led to the gradual depletion of available land for urban development. They are meant to be considered as two-parts of a single process, they refer to parallel urban dynamics present in the GAM. Therefore, they are not to be considered as opposites, but sequential processes.

The first one refers to the [rural-urban] continuum, the second one to the conurbation of the urban centers that make up the GAM and the metropolization of the urban system, and the third one points out the process of expansion and concentration of the urban fabric in recent years.

2 A

As early as the 1940s, a moment in time when the main population centers were merely specks in the territory, the Central Valley exhibited an accelerated growth of its population, particularly the capital city of San José. What is currently known as the GAM had begun a prompt and unplanned demographic expansion. This process was accentuated even more in the 1960s by industrialization, and by the 1980s many of its urban centers had begun to merge (Mezger, 2016, p. 9). This process known as conurbation – that is, the melding of urban centers and rural towns previously separated within the urban system– is still underway in what is currently the metropolitan area of Costa Rica (Programa Estado de la Nación, 2015, p. 283).



MID-CENTURY DEMOGRAPHIC EXPLOSION IN THE CENTRAL VALLEY: The figures are from the census carried out in 1950 and are part of the historical archive of the *Instituto Nacional de Estadística y Censos* (National Institute of Statistics and Censuses) or INEC for its acronym in Spanish.

A) The map on the left shows the distribution of the population throughout the country in 1950, each dot represents 100 people. It also highlights the concentration of the population within the Central Valley.
B) In the top right, the graph demonstrates the evolution of the country's population for the censuses carried out in the years 1950, 1927, 1892, 1883, and 1864. The columns express the data in thousands of inhabitants.
C) The bottom right graph compares the population between the censuses carried out in 1927 and 1950 within each province. It provides evidence on how the city of San José had one of the highest growth rates of population in the world by the mid-century.

The basis for what is now the GAM –a group of intertwined rural populations– suggests that in its origins there was a great deal of land available for urbanization (even within the limits of the Urban Containment Area). These regions shared similar characteristics in terms of accessibility, geography, and distance to services in other urban centers. However, these

very same desirable characteristics led to a gradual depletion of land suitable for urban development (Sánchez Hernández, 2014, p.11).

In spite of the availability of land and the stipulations of the 82 Plan, forty years of urban development driven by private actors -in various formal and informal real estate markets– and public-led investments ignored the regulations by displacing traditional activities (mainly agricultural production) in favor of expanding residential and commercial land use, as well as the relocation of industrial areas. This has consequently impacted land use; land markets; distribution of housing and allotment of agricultural production; the environment; and reinforced social segregation (Programa Estado de la Nación, 2015, p. 282).

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The transformations of the past four decades have produced changes to the morphology and functionality of the urban system repeatedly, which in return has impacted the environmental, social, and economic systems of the metropolitan region under study.

Until recently, the expansion of the urban areas within the GAM evidenced a dispersed pattern characterized by a linear and centrifugal growth (in a radial, concentric, or tentacular pattern) which followed a network of roads that merged the once separated towns (Programa Estado de la Nación, 2015, p. 283).

Subsequently, the expansion of the urban footprint formed a homogeneous area shaping a polycentric development of the capital cities of the provinces of San José (primary center), Heredia, and Alajuela (secondary centers) with different levels of functional and physical connections. These main urban

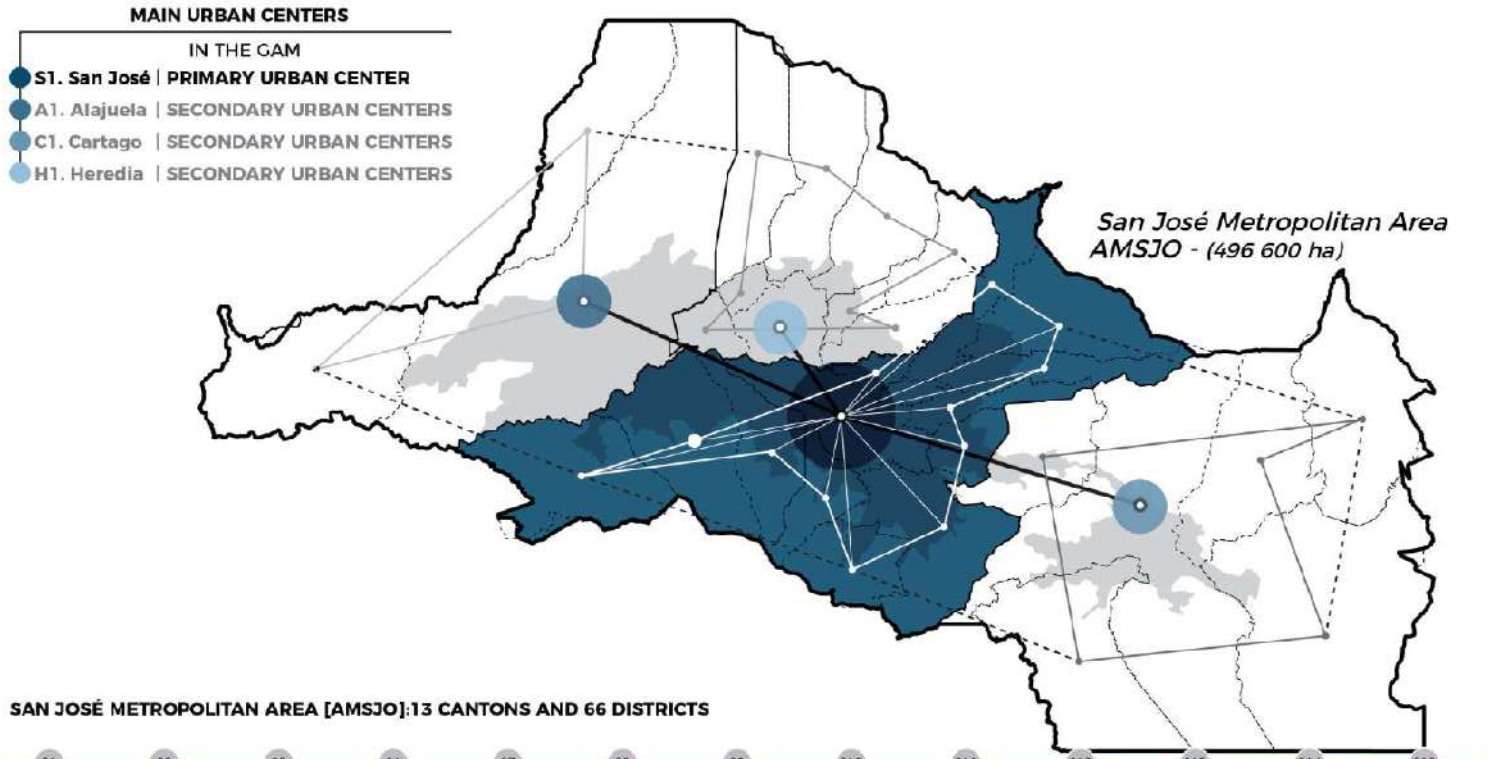
centers grew outwards towards the periphery, engrossing other small towns. Considering, that the GAM is located in a volcanic depression –that includes deep river canyons and mountains– the landscape has acted as a barrier between the different urban centers in the region, particularly when it comes to the transportation system. Due to its geography and to its origins (a collection of rural populations, small, and intermediate cities) the structure of the region has always been relatively dispersed (Pujol Mesalles and Pérez Molina, 2012, p.1).

The concepts of conurbation and metropolization are central in understanding the urban growth of the GAM. Conurbation denotes the process in which towns have developed detached from the urban fabric but are connected through various routes and later, through their physical expansion, become part of a metropolitan area (Aymerich, 2004, p. 123).

Metropolization refers to an intense and sustained process of urban expansion that configures a new space and a new regional economy. It is associated with the conurbation of intermediate cities and previously existing towns into a larger urban agglomeration. Therefore, land use, such as agriculture or forestry, are changed or reduced (ibid).

This indicates that the conurbation of the rural towns within the Central Valley has led to the metropolization process of the GAM evidencing the interrelation between the first binary (rural & urban) and the second (conurbation & metropolization).

THE GAM: A POLYCENTRIC "CITY"



SAN JOSÉ METROPOLITAN AREA [AMSJO]:13 CANTONS AND 66 DISTRICTS

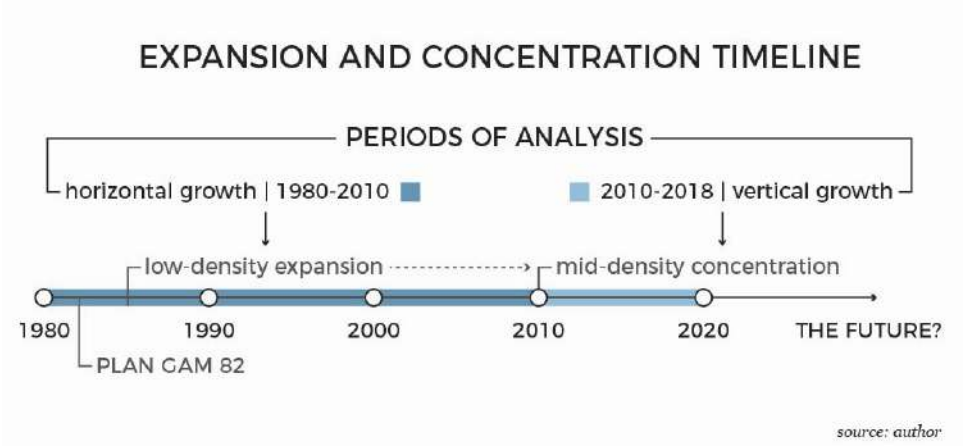
S1 San José	S2 Escazú	S3 Desamparados	S6 Aserrí	S7 Mora	S8 Goicochea	S9 Santa Ana	S10 Alajuelita	S11 Coronado	S13 Tibás	S15 Moravia	S14 Montes de Oca	S18 Curridabat
Carmen Merced Hospital Catedral Zapote San Francisco La Uruca Mata Redonda Pavas Hatillo San Sebastián	Escazú San Antonio San Rafael	Desamparados San Miguel San Juan San Rafael Arriba San Antonio Patarrá Damas San Rafael Abajo Gravilias Los Guido	Aserrí Salitrillos	Ciudad Colón	Guadalupe San Francisco Calle Blancos Mata dePlátano Ipís Rancho Redondo Purral	Santa Ana Salitral Pozos Uruca Piedades Brasil	Alajuelita San Josecito San Antonio Concepción San Felipe	San Isidro San Rafael Dulce Nombre Patalillo Cascajal	San Juan Cinco Esquinas Anselmo Llorente León XIII Colima	San Vicente San Jerónimo La Trinidad	San Pedro Sabanilla Mercedes San Rafael	Curridabat Granadilla Sánchez Tirrases

source: Author, based on the Plan GAM 2013-2030

2 3

The expansion and concentration of the urban fabric is another of the binaries that are playing a role in shaping the territory of the GAM, it refers to a shift from a horizontal growth to a vertical growth and the expansion of the urban footprint to the concentration of the existing urban fabric.

It expresses two sides in the consumption of [urban] land throughout the years and how the current concentration of the urban fabric is a result of the processes that have depleted the availability of land throughout thirty years of a low-density expansion. It is also intertwined with the urbanization (first binary) and metropolization (second binary) of the Central Valley.



Let us consider then how this twofold process has shaped the GAM.

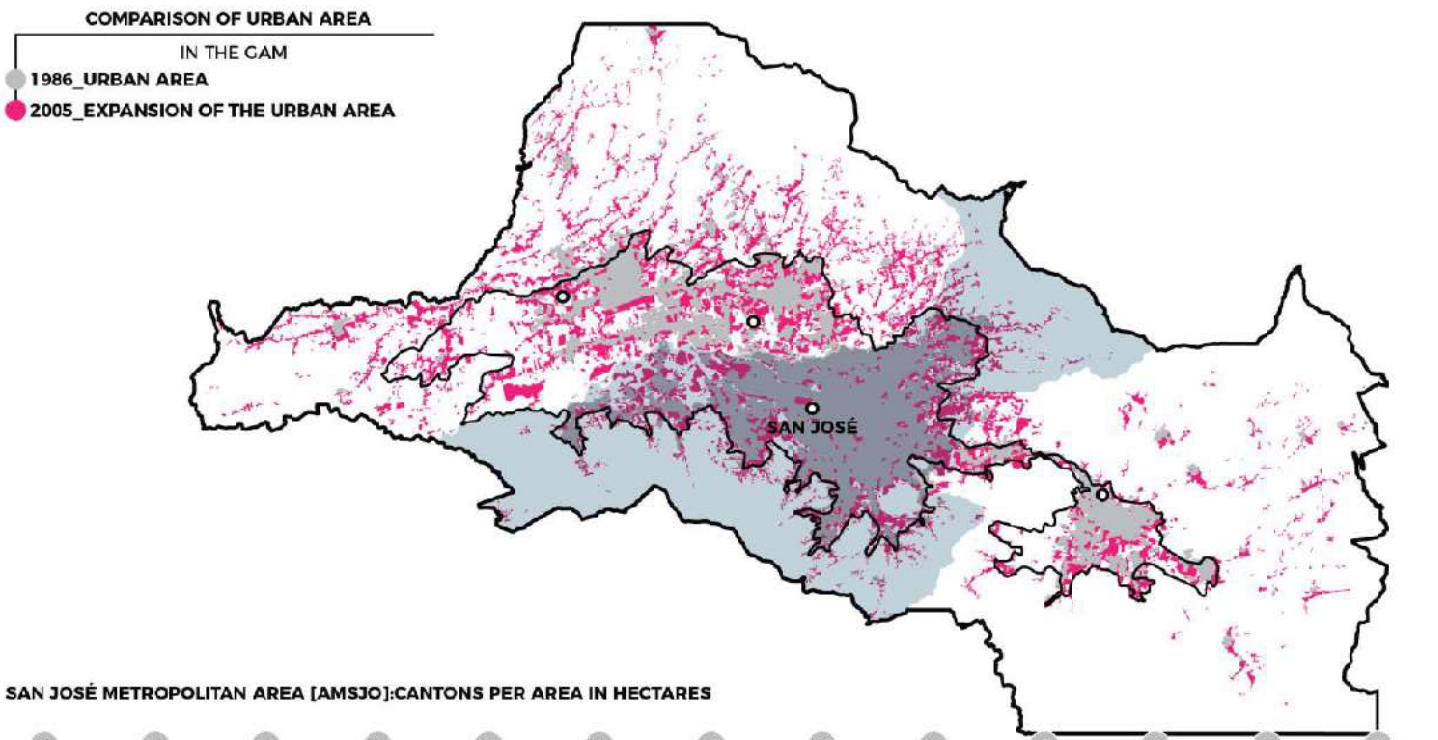
- *Expansion (1980-2010)*

The first 30 years of the metropolization process illustrates the expansion of the urban footprint within the Central Valley. The spatial analysis registers

how by the 1980s the main urban centers had grown outwards engulfing many of the smaller towns, consolidating a polycentric structure. Moreover, by the mid-2000s urban growth had spilled towards the Special Protection Zone which was intended for environmental conservation. The Central Valley went from having 16,286 hectares of built-urban-area in 1982 to 31,473 in 2012, an expansion of almost 50% of the urban footprint in just three decades (Martínez, 2014, p.27). This process happened not only by occupying unbuilt land within the consolidated urban areas and on its edges, but also by crossing the limits of the Containment Ring (Programa Estado de la Nación, 2015, p.34). As can be seen, in 1986 1% of the total urban area of the GAM was located outside the perimeter and by 2012; it had gone up to 27% (Programa Estado de la Nación, 2015, p.65).

During 1985-1995, the first controls on urban development were established, both on a regional and a local scale. These were meant to halt the disorderly growth that had transpired in the previous years. However, its effects were only partial. The extension of the built area produced alterations to the projected densities and created a diffuse urban fabric (Martínez, 2014, p.10). Furthermore, the massive projects on social housing that were developed – particularly after 1986– distorted the planning model proposed in the 82 Plan. While it increased the supply of housing, it also increased the demand for services in remote areas, consuming significant tracts of land outside the Containment Ring and the protection zone. The northeast (La Trinidad in Moravia, San Rafael in Coronado, El Carmen in Goicoechea, and Tres Ríos in La Unión) and the south sectors (Alajuelita, Los Guido) of the San José Metropolitan Area (AMSJO for its acronym in Spanish) were the most affected (Programa Estado de la Nación, 2015, p. 289).

THE GAM: URBAN FOOTPRINT 1986 & 2005



SAN JOSÉ METROPOLITAN AREA [AMSJO]:CANTONS PER AREA IN HECTARES

source: Author, based on the Plan GAM 2013-2030

Afterwards, the evidence suggests that the construction of low-density housing during the 1990s resulted in the exhaustion of most of the available building land in the metropolitan area of San José (Programa Estado de la Nación, 2015, p. 302). A market-based approach to urban development –which aligns with the neoliberal project of the 90s–, favored a dispersed growth through the construction of residential areas in the periphery. However, the northwestern part of the GAM began to densify its land-use –although in a smaller proportion– through vertical constructions in the cantons of Flores, Belén, San Pablo, and the city centers of Heredia and Alajuela (Martínez, 2015, p. 12).

Nevertheless, the province of Heredia and the northern districts of La Unión in Cartago are the main areas where the expansion of the urban footprint exceeded the stipulated limits. The growth outside the Containment Ring was mainly due to two reasons: *1)* an update of the Plan GAM carried out in 1997 (decree 25902) that re-defined urban quadrants and allowed the construction of buildings within certain parameters, and *2)* the increment in the subdivision of land alongside public roads within the Special Protection Zone. The response of the governments to this unsustainable urban growth was basically *"un dejar-hacer", a* "*laissez-faire"* approach that jeopardized fragile and vulnerable areas. The lack of regulation meant that private actors operating in the real estate market promoted the expansion of residential, commercial and office buildings (Programa Estado de la Nación, 2015, p. 289).

In the '90s, the extension of the urban footprint towards the periphery of the GAM is identified with three main causes. The first one is the accelerated growth of traffic density, particularly in the use of private vehicles, which in under twenty years went from 230,304 units (1995) to 863,401 (2014) almost quadrupling the existing number of automobiles. This increase was encouraged by fiscal policies (reduction of taxes on used cars, for example)

and by the growing offer on financing. The second factor is a rise in the number of horizontal housing –particularly of condominiums– as well as large commercial developments, and *"oficentros"* or office buildings. The third factor that manifests itself in the 1990s is the emptying of San José's city center –and to a lesser extent the city centers of Alajuela, Heredia, and Cartago– as the headquarter for various institutions, in particular public ones (Programa Estado de la Nación, 2015, pp. 289-290).

Towards the beginning of this century, the State approved new legislation and tools for environmental policy that created a wide variety of requirements in land-use transformation and occupancy of the land. However, these initiatives have been questioned, and in some cases strongly opposed. It has demonstrated a lack of dialogue and consensus-building mechanisms, of an overall vision and clear leadership in the sectors, all of which generate inter-institutional conflicts and duplicate functions. All the while, the real estate market kept on developing projects in the periphery, and has even caused an increasingly marked social segregation and spatial fragmentation of the metropolitan area (Programa Estado de la Nación, 2015, pp. 291-292).

Despite the creation of new rules and regulations, urban land in the GAM has maintained a sustained growth since the beginning of this century. An annual average of 1,804,006 m2 of new constructions have continued to add to the urban footprint -a rate that only decreased in the context of the global economic crisis of 2008-2009- of which, 66.6% corresponds to the creation of housing. The most recent phase of urban expansion concentrated in the western sector of the GAM. According to population data from the INEC, Santa Ana –in the west– holds the second place of the cantons that grew the most in the period between the censuses of 2000-2011, on a national level. A trend towards the use of condominiums is observed in the cantons which have socio-economic groups with greater purchasing power, such as Santa

Ana, Escazú, San José Centro, Heredia, and Curridabat, among others. In the case of the San José metropolitan area –the main urban center of the GAM– there was an increase in the use of apartments and condominiums as residences for upper-middle and high-income households (Programa Estado de la Nación, 2015, p. 292).

- *Concentration (2010-2019)*

As it did in the past, the built area of the GAM continued to grow between 2010 and 2019. However, it did at a slower rate and with different density patterns from those that characterized previous years. In 2019, the built area was of 34,818 hectares (an absolute growth rate of 5.2% when compared to the 33,088 hectares in 2010) which is expanding at a slower rate than previous periods. This is possibly explained by the search for more efficient land uses which has translated into an increase in vertical housing or more compact residential projects. In contrast to past decades, currently, the development of the built area has increased through the use of empty spaces on the edges or inner parts of consolidated urban areas, and not through a dispersed-expansive urban development remote from the existing urban centers. This perhaps reveals that at this time, it is more profitable to have higher densities in areas with greater urban potential than it is to build in the peripheries (as it did in the past). After years of scattered growth, the built environment of GAM is moving in a more compact and dense direction. This shift in the consumption patterns of [urban] land has relatively increased population densities. However, if we consider the entirety of the metropolitan system, a disperse growth through horizontal expansion continues to be the predominant model of urbanization (Programa Estado de la Nación, 2019, p. 154).

It is noticeable the shifts in the population, population density, and urban area of the GAM throughout the years. The occupation of the metropolitan

area evidences the inefficient way in which land has been consumed. That is to say, the occupation of the territory showed a greater proportion of area per inhabitant in the past than it does at the moment.

Population, Population Density, & Urban Area Growth in the GAM					
Year	*1986*	*1997*	*2010*	*2018*	*2019*
Population	1,434,242	1,931,255	2,377,714	2,569,462	2,642,686
Density* (population per hectare)	68.34	71.41	71.86	74.17	75.9
Urban Area	20,986 ha	27,044 ha	33,088 ha	34,639 ha	34,818
Source: Author, based on Sánchez Hernández (2018b)					

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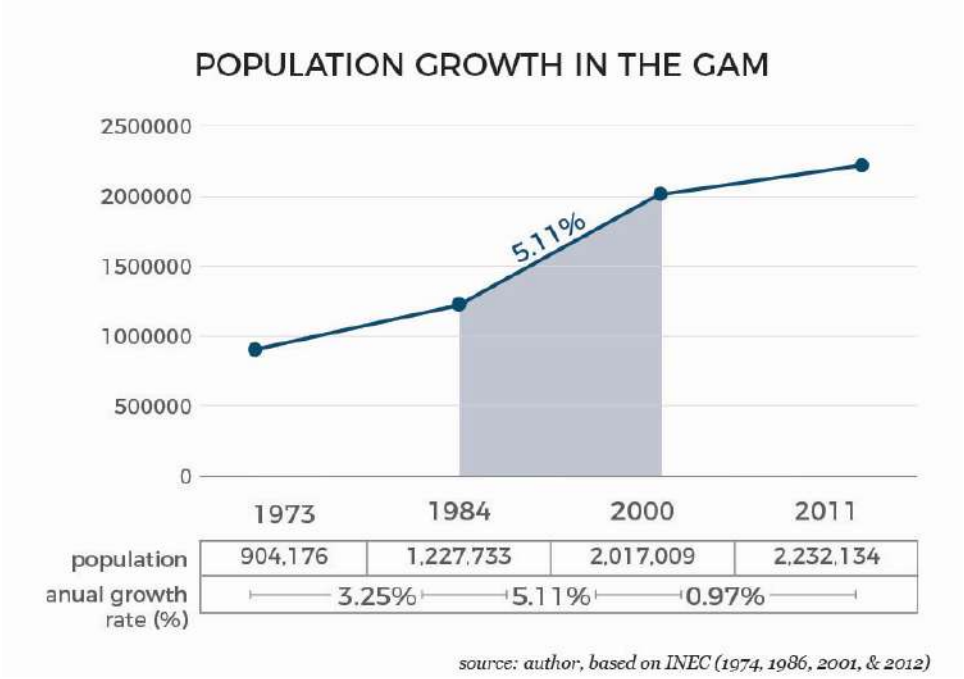
This section identifies the metropolization process of the GAM with four main aspects. The shifts in population growth; demand for housing; consumption patterns of [urban] land; and the urban footprint have altogether determined the emergence of different dynamics associated with the metropolitan area, particularly regarding the expansion and the concentration of housing. We consider that these changes have shaped collectively the development of [urban] land and the consequential depletion of it within the GAM.

The census carried out by the INEC (1974, 1986, 2001, & 2012) in 1973, 1984, 2000, and 2011 confirm the growth in which the population of the cantons in the GAM developed. In a period of almost four decades, the population went from 904,176 (1973) to 2,232,134 (2011), more than doubling the number of inhabitants.

Furthermore, between 1984 and 2000, the population of the metropolitan area had a higher growth rate than the rest of the country. A similar

situation is observed when accounting for the number of occupied housing units within the GAM[27], which grew 1.3 times during this period (Programa Estado de la Nación, 2015, p.66). However, after 2001 the gap has tended to close in comparison to the rest of the country.



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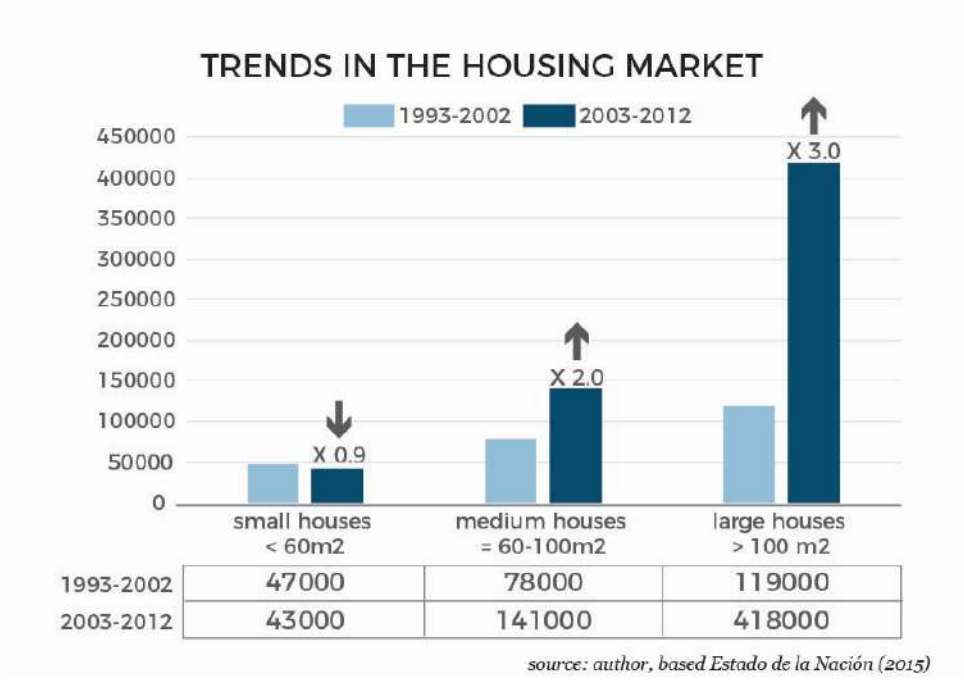
Since the vast majority of buildings in Costa Rica and the GAM are destined for residential use –around 70.0% of the built area corresponds to this

[27] The link between population and housing explains that an increase in population –particularly a growth in the number of households– leads to an increase in the demand for housing. However, a decline in population might lead to a decrease in the demand for housing. Nevertheless, this will only happen in the long run, after not only the number of people but also the number of households has started to decline. The downfall of population decline is greatest in remote rural areas and areas with lower-quality housing. At the same time, the supply of housing could influence an increase in population through migration. Considering that an adequate housing supply might attract people or influence their choice of residential location. This mechanism, however, mainly operates for migration within countries and much less for international migration (Mulder, 2006, pp. 401-402).

category and is mainly comprised of individual homes (Programa Estado de la Nación, 2015, p. 302)– and given the link between population growth and the demand in housing, it is important to point out that for the case of the GAM the production of housing has been supplied by the private market and consequently, this type of market-based development has depleted most of the developable urban land.

In this respect, the empirical evidence shows a shift in the housing market trends at the turn of the century, which in exchange has impacted land markets. The graph illustrates the comparison between two periods (1993-2002 & 2003-2012) and categorizes the total built units in three: small houses (up to 60 square meters), medium houses (60 and 100 square meters), and the large units (100 square meters and more). The total built area for small residences went from 47,000 square meters (1993-2002) to 43,000 square meters (2003-2012), shredding evidence that in the absence of State interventions to provide affordable housing its production has been led mainly by private actors in the various real estate markets. Even more disconcerting, is the fact that the construction of medium-size units almost doubled its built square footage and that the amount of very large houses increased 3.5 times (Programa Estado de la Nación, 2015, p. 303). In the same way, in the late 1980s, the ratio of private to public housing development was 1 to 1 and dropped to less than 8 to 1 by the mid-2000s suggesting that the private-housing market has primarily catered for high-income groups (Programa Estado de la Nación, 2015, p. 295). So, there are not just producers and consumers on the housing market, there is also a prominent role for landlords, developers, and financial institutions.



This supports the idea that the production of urban land is intrinsically linked to the production of housing and therefore corroborates that the development of land has been crucial to capital accumulation and that in the GAM this process has been a fundamental vector of social inequality.

3

Besides the increase in population (particularly in the 80's and 90's) that led to a change in the demand for housing, another factor related to the metropolization process is the shift in the consumption patterns of [rural-urban] land. Therefore, a market-based approach to urban development has greatly influenced the urban system.

It is noticeable the role of the real estate market in this process, which has created a "fad" and a false idea that the farther away you live from the city,

the better quality of life (PRUGAM, 2008, p. 211). Intertwined, is also a desire to own a house on a piece of land, an expression that can be traced to the "rural culture" present in the Central Valley (van Lidth de Jeude & Schutte, 2010, p. 45).

On the other hand, agricultural land-use is being transformed under the organization of *"parcela agrícola mínima productiva"* or minimum productive agricultural lot, which is designated by the *Instituto Nacional de Innovación y Transferencia en Tecnología Agropecuaria* (National Institute for Innovation and Agricultural Technology Transferring or INTA for its acronym in Spanish) with the approval of the INVU and has permitted the development of estates and sprawling haciendas with swimming pools and cobbled streets (Martínez, 2015, p. 15).

There have been notable transformations in the use of [rural] and [urban] land evidencing a continuum between both, these changes have happened through the displacement of agricultural land, migratory shifts within the GAM, or rather amid the transformation of residential areas, and, the stagnation or pullback of defined industrial areas. In other words, land-use for residential, industrial, agricultural or conservational purposes has structured the metropolitan territory (Martínez, 2015, p. 16). Not to mention that population and economic growth in the region depend and require vast quantities and quality of land to develop new residential areas and productive activities and therefore, exert great pressure on land resources. In Costa Rica, urban development is determined by at least three elements, 1) regulations (general and specific legislation), 2) policies, and 3) the market. However, in the absence and poor definition of local regulations and also a weakness in regional as well as political controls the market constitutes the basic operator for urban expansion. Hence, the land market is mostly managed through the real estate sector (Sánchez Hernández, 2014, p. 8). Evidencing, that all too often, regulations, policymaking, and planning

–or in the case of the GAM their laxity– acts as an instrument of the real estate market.

We have established that in the case of the GAM urban expansion has been driven mainly by the private market and that real estate has influenced a shift in the consumption and production patterns of [urban] land.

The intense consumption of land that has accompanied this process has resulted in a low-density-dispersed metropolitan area. The rapid and sustained expansion of three decades –specifically during the period of 1980-2010– has created a sprawled city that is still underway in some parts of the western Central Valley, and that depends enormously on the use of private vehicles.

In comparison to other Latin American cities, the GAM is much more dispersed and less densified, however, the built area produced between 1986 and 2010 -when compared to previous years- is transforming into a compacter built fabric. Furthermore, the urbanizing process has not been uniform, in the span of 24 years; ten cantons grouped more than 60% of the urban growth. Alajuela is the urban center with the highest absolute growth and the largest urbanized area in the GAM as well as the country. In recent decades, the production of housing has also had a substantial role in the urbanization process. For instance, in 1963, there were close to 64,500 housing units and by 2011 the value reached 600,000; expressing a higher growth rate than that of the increase in the population (Sánchez Hernández, 2018b, p.4).

Nevertheless, the changes that the GAM has been undergoing in the past decade (2010 -2020) evidence two sides of the urbanization process. The

first one reveals that low-density and dispersed urban system that continues its expansion. The second one is contracting and is starting to outline a compact and mid-density city.

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In this section, we characterized the Greater Metropolitan Area of Costa Rica and described its evolution since its beginning in the 1980s. In doing so, we established the influence of three concurrent binaries throughout decades of urban expansion; and, detailed the factors that have influenced the consumption and development of [urban] land by considering the association of these binaries with the urban transformation process of the Central Valley.

Furthermore, we have identified the link between the production of urban land and the production of housing for the case of the GAM and determined the role of the real estate market in a period –characterized by lax regulations and policies– that aligned with a *laissez-faire* approach to urban development. In the absence of tools and mechanisms that could have promoted a more sustainable approach to land use and planning, a low density and dispersed expansion of the urban footprint has given form to the current metropolitan system.

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We have established that the commodification of land has become a compelling cause in the emergence of land markets through years of urban expansion and have identified the connection between the production of urban land and housing. We hold that this two-fold process has been crucial to capital accumulation and a fundamental vector of social inequality in the metropolitan area of Costa Rica.

In the interest of understanding how has the consumption of [urban] land transpired in the last decade and a half –since the vast majority of developed land has been for residential purposes– it is relevant to consider the residential building typologies produced within the GAM.

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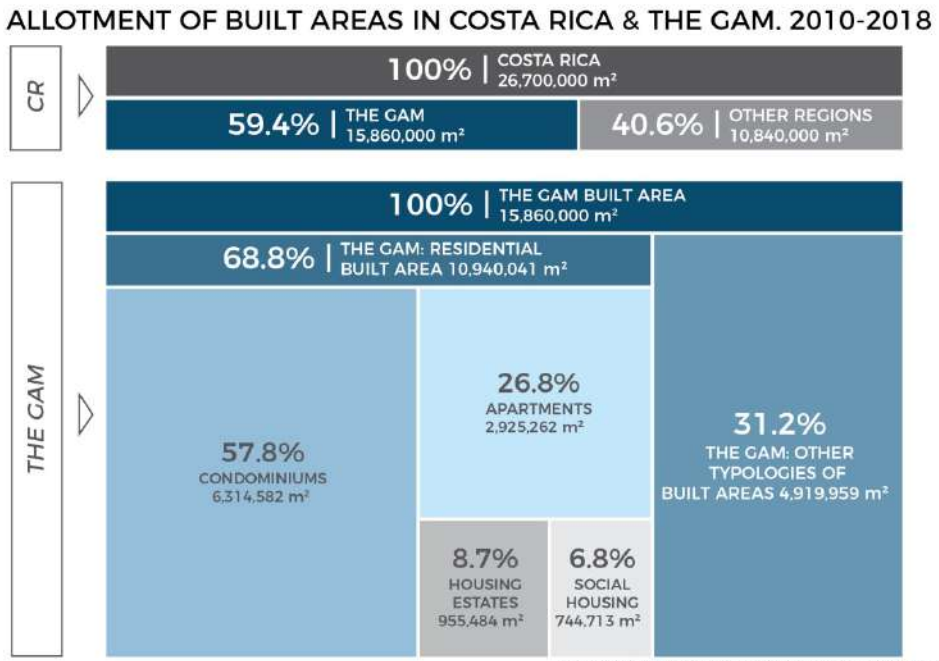
In the past years, the residential building typologies in the form of apartments or condominiums –either horizontal or vertical constructions– have gained a prominent role in the formal housing market within the Central Region. In 2005 these modalities constituted 3.6% of the housing stock, while in 2014 this rate increased to 8.3% (Sanchéz, 2014, p.5).

However, these building typologies are not present throughout the GAM, 15% of the districts cluster 78% of these constructions, so its production is grouped within a few districts. The ranges in these residential typologies and their size reflect spatially the socio-economic structure within the GAM. In contrast, in 2011, the informal land market was situated within 5% of the districts, which grouped 82% of the informal housing or *'precarios*' as it is known in Costa Rica (ibid).

From this point of view, the data related to the increase in the number of apartments, condominiums, and housing estates are of significant relevance. Therefore, we will look into the built areas in the production of residential space.

In Costa Rica, between 2010 and 2018, a total of about 26.7 million square meters were constructed, out of these, 59.4% (15.86 million square meters) were within the GAM, and of the reported constructions 68.8% (10.91 million square meters) were destined for residential purposes (Programa Estado de la Nación, 2019, p.156).

This correlates with the growth of the intermediate cities in the metropolitan area, in which the urban footprint grew at a higher rate than the average growth rate of the GAM (ibid).



source: author, based on Programa Estado de la Nación (2019)

- *Apartment buildings*

The production of apartment buildings was mainly localized in the center of the GAM and not in its intermediate cities. For the period 2010-2018, 2,925,262 square meters were allocated for this building typology, which represents 26.8% of the total of the built-residential-areas (Programa Estado de la Nación, 2019, p.156).

The canton of San José reported 59% of this total and ranks first in this building typology (it is noteworthy, that this is a trend that could reverse the emptying of San José's population registered in the last two censuses by the INEC). Furthermore, 43% of the total is distributed –in order of relevance– throughout the cantons of Escazú, Heredia, Curridabat, Montes de Oca, Santa Ana, Alajuela, La Unión, Cartago, Tibás, and Goicoechea. The

remaining twenty municipalities only account for 16% of the total of apartment buildings in nine years (ibid).

- *Condominiums*

In the residential modality of condominiums, 6,314,582 square meters were built in the GAM between 2010 and 2018, which represents about 70% of all the condominiums built in the country and 57.8% of the residential space within the GAM. The development of condominiums can be traced mainly to the cantons of Alajuela, Santa Ana, Heredia, San José, Curridabat y Escazú (Programa Estado de la Nación, 2019, p. 157).

- *Housing Estates*

Alternatively, the development of housing estates –or *urbanizaciones* as they are know in Costa Rica– in the GAM has presented a clear pattern of concentration in a few cantons –mainly in Alajuela, Cartago, San Pablo, and El Guarco– the residential projects carried out within this modality are of about 955,484 square meters and represent 8.7% of the built-residential-space (ibid).

- *Low-income Housing*

In contrast, nearly 4,432,821 square meters of housing for low-income groups were built in the country, of these only 16.8% were within the GAM, which is a total of 744,713 square meters and represents an average of 6.8% of the residential space in the metropolitan area. This particular feature in the supply of affordable housing shreds evidence in the incongruity between the demand and offer of housing (Programa Estado de la Nación, 2019, p. 157). According to Sanchéz (2018), 49% of the country's poor reside in the Central Region and 41% are under extreme poverty; what is more, within the

region, 41% of the houses are considered to be in a poor state of which, 41% are regarded as uninhabitable and 43% are deemed as not suitable for inhabitance.

As a result –if the available space could support the current forms of expansion within the city– it could be expected that the dynamics in social inclusion and exclusion within the metropolitan area will keep having an impact on society. However, the corollary that there is space left to maintain the current dynamics holds less validity (Sanchéz, 2018, p. 5).

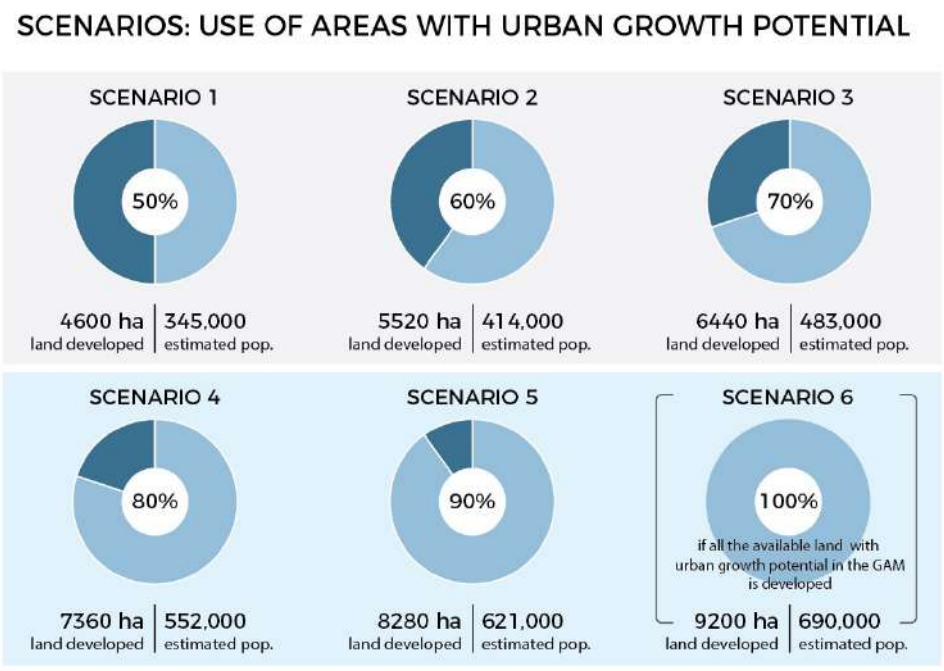
As was noted previously, between 2010 and 2018 some districts within the GAM have started to become denser through the construction of vertical housing. After decades of horizontal expansion, this would seem to have a positive impact on the functionality of the GAM. However, since this growth has not responded to guidelines in urban planning the metropolitan system does not possess the required infrastructure to support this type of development, or any possible externalities that may arise from it (Programa Estado de la Nación, 2018, p. 137).

The depletion of land suitable for urbanization is evidenced by the historical data on urban growth weighed against the urban growth potential on the available land (linked to the infrastructure needed for services and transportation); the risk areas within the GAM; and the areas subjected to environmental protection measures (outside as well as inside of the Containment Ring) (Programa Estado de la Nación, 2018, p. 137).

The GAM still has a significant capacity to absorb population growth. However, urban development should optimize the occupation of land not by

expanding through unbuilt land but by improving densities. Currently, about 17.3% of the GAM has some potential for urban development (around 9,200 hectares, 0.7 percentage points less than in 2018). Nonetheless, the existing deficiencies in infrastructure and accessibility restrict it, as the areas with the most land are mainly located at the edges of the GAM, specifically in the west and east sectors (Programa Estado de la Nación, 2019, p. 154).

According to the INEC's projection on the population, between 2018 and 2050 the GAM's districts will grow by 403,287. Therefore, it is still possible to absorb this growth without having to exhaust the land currently available, perhaps with policies that may address densification in already developed urban areas. Furthermore, if the GAM maintains developing land at the same rate that it did in 1986-2019, the urban expansion would lead to the exhaustion of the available 9,200 hectares with urban potential within 22 years and 54 years if the 2010-2019 density is followed (Programa Estado de la Nación, 2019, pp. 155-156).



source: author, based on Programa Estado de la Nación (2019)

According to the construction trends by sector, it is likely that the available land with potential for urban development will employ 60% –or 5,520 ha– for housing and 40% –or 3,680 ha– for industry, commercial activities, and public works. Furthermore, various scenarios have been considered when comparing the population increase within the GAM and the occupancy of different percentages of the available 9,200 hectares with urban potential. The projections have taken into account the current population of 2.6 million in the GAM and expect that the present density of 75.9 inhabitants per hectare will continue (Programa Estado de la Nación, 2019, pp. 155-156).

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As we discussed throughout this chapter, there are various antecedents to the changes that have taken place in the GAM since its initial definition.

We have examined the evolution of the GAM through the conceptualization of three "urban binaries" (transformational forces comprised of complementary aspects) that we considered have played a predominant role in the transformation process of the Central Valley. We observed how population growth and the consequent demand in housing shifted the use of land (from rural and peri-urban to urban). We also analyzed how the GAM developed morphologically through the twin processes of conurbation and metropolization. And finally, we looked at how the Central Valley underwent an initial phase of expansion that consumed the majority of land available for development and how it is now experiencing a stage of concentration where population, urban services and activities are increasingly being focused on wealthier and more sought-after cantons.

In examining these binaries, a picture of unequal distribution has emerged. Through a process of neoliberal urban development, the land policies and management undertaken by consecutive governments can be characterized by a lack of planning and involvement. We have seen how the needs of the

population are clearly not being met by a market-driven approach – characteristic of the *capitalist form of urbanization*– and instead, the *laissez-faire* style to urban development in place has necessarily sought to extract the highest possible profits from the land available at the expense of environmental, social, and human capital.

We have also considered how there is a dominant way of thinking about [urban] land and how it is valued: not for the intrinsic social value of land itself, but instead as a consequence of the marketing efforts of private developers to present certain neighborhoods as desirable.

This market-driven approach has commanded a focus on land development and residential typologies that have enabled further social segregation and territorial fragmentation –be it in the form of gated-communities, condominiums, or closed-off housing estates–and therefore, at the expense of affordable housing in central areas, which has consequentially driven lower-income groups to under-serviced parts of the GAM.

This process has reinforced the territorial asymmetries we have discussed in a negative feedback loop, where workers are pushed further away from job centers, have more difficulty accessing public and affordable transportation, and who must find accommodation in low-quality housing.

These findings raise an obvious question about the competing forces present in the GAM: who should gain the most benefit from the development of the limited available land? The answer implied by the policies thus far chosen presents a simple answer: it is developers and landowners, and not society, who should stand to gain the most from the commodification of land.

Chapter 4. Conclusions & Recommendations

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If we were to create a new society tomorrow, what type of society would it be?

Most likely, we would envision a world that does not exist and make it so that it questions the power structures which reproduce disparities and inequalities in our societies. Then, the social contract we have agreed upon – not by choice– would no longer hold any legitimacy, mainly because it pushes behaviors and attitudes that promote exclusion in its many forms.

Exclusion from where we can live and the quality of housing, education, and health accessible; to the state in which natural resources and ecological systems are available; to the productive structures and the labor markets that are in place; but above all, exclusion to a dignified life. Realities seemingly linked to the access in [urban] land and the role that Land Management plays in enabling it.

In view of this, the starting position of the research of *finding answers to a question* shifted to a closing one, on *how an answer turns into more questions*.

These are questions which should be considered as they could bring forward alternatives to a more just way of living in an urbanized world. Particularly when facing the coronavirus pandemic (COVID-19)– and the striking repercussions afflicting the urban poor inhabiting densely populated areas (especially in informal settlements) as well as the overall global increase in poverty that will affect us all. Consequences of an insidious and unjust capitalist system that under the current circumstances has exposed the deep existing inequalities.

So, what will become of our society amid this turning point?

What if we were to consider cities and access to [urban] land as a human right? Could this provide people the dignity of choice and empower them to define their demands and needs? What form could organizations and institutions take to engage people with their habitats and create cultural and systemic changes? These are all concerns that question the type of society that we are building and the political choices that we are making.

In doing so, it is critical to understand and define who shapes the city and how it is shaped. Such knowledge could reveal and strengthen the intrinsic social function of [urban] land; and ultimately, intend to produce urban space in an open-ended manner where diversity would shape our cities.

The reflections that have made up this research challenge our societal expectations in a broader frame, for we cannot consider the topic of land and the conflicts that arise from it without considering the society that has produced them. We have maintained that land has a social function and that because of its social value it could be used as a means to support social justice.

However, as we have seen –under the current *form of capitalist urbanization*– the commodification of land is a means of capital accumulation. This dominant way of thinking about land and how it is valued increases socio-economic disparities and inequalities by structurally dismantling its potential for social justice, as it is a way of amassing individual wealth supported under property-led accumulation.

Within this frame, future studies could address the implications of the results stated in this research and explore the various ways in which the social function of land could be improved. It is important to note that we must then examine the systems we inhabit for we rarely question our social structure and values.

The research aimed to identify the connection between the occupation and development of [urban] land and the predominant *capitalist form of urbanization* present within the GAM throughout four decades of urban transformations. The rapid urbanization of the Central Valley has resulted in territorial asymmetries that have reinforced socio-economic inequality within the metropolitan area of Costa Rica.

These asymmetries –expressed spatially– have been enabled by a political ideology that favored two positions in the territorial organization and the development of the Central Region. The first one is a shift towards the neoliberal agenda in the decision-making process in Costa Rica in the 1980s. The second one a *laissez-faire* approach adopted in urban development in the 1990s. Subsequently, the lack of regulations meant that the private actors operating in the real estate market promoted the expansion of the urban footprint by substituting land use and impacting the consumption patterns of [urban] land within the GAM.

The research problem aimed then to be part of the current debate on Land Management by identifying how the environmental, social, metropolitan, economic, and political dimensions are affected by a lack of consensus-building and a defined vision in the organization, use, and occupation of the territory. Evidencing that all too often, the laxity in regulations, policymaking, and planning has acted as an instrument of the real estate market. Hence, the significance of executing adequate forms of governance which could counteract the social disparities and inequalities present throughout the GAM and that are expressed through the territorial asymmetries discussed in the research.

"If we knew what it was we were doing,
it would not be called research, would it?"
Albert Einstein

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The recommendations of this section are based on the diagnostics done regarding the territorial organization and the available land with urban development potential. It is an assessment that responds to the current economic, financial, and fiscal context of Costa Rica.

Therefore, it acknowledges the insufficiency of the government's current income and the use of public debt as a strategy to cope with the situation rather than considering the possibilities of reflecting on the topic of land under a new paradigm different from what the current *capitalist system* holds.

The quality of these recommendations could have a practical outcome for urban practitioners in the GAM. Based on these conclusions, *El Ordenamiento Territorial* or Land Management could examine the implementation of value capture in land policies and as a tool to finance urban infrastructure and services. Nevertheless, it is important to note that

value capture is not a panacea when it comes to the topic of Land Management and that we must first consider alternative ways in which land could sustain its social function.

However, we do consider that value capture could provide a robust framework to address the insufficiencies of Land Management in Costa Rica, as it has proven to be beneficial in other Latin American countries –such as Colombia and Brazil– with similar legal frames and contexts. A case in point is Costa Rica's Urban Planning Law No. 4240 of 1969 that allowed for betterment contributions and was later broadened in 1972 by a reform in the law (Smolka, 2013, p. 17).

What is value capture?

Value capture refers to the recovery by the public of the land value increments (unearned income or plusvalías as it is known in Spanish) generated by actions other than the landowner's direct investments (Smolka, 2013, p. 8). The working definition of value capture encompasses three important components: first, it refers exclusively to increments in the value of the land; second, different legal frameworks may interpret how community effort generates land value increments in various ways; and, third, the term mobilization of the land value increment is proposed rather than public appropriation (Smolka, 2013, p. 9)

Policies that take into account value capture focus primarily on the increment generated by public investments and administrative actions, such as granting permissions for the development of specific land uses and densities. The objective is to draw on publicly generated land value increments to enable local administrations to improve the performance of land use management and to fund urban infrastructure and service provision (Smolka, 2013, p. 8).

Why value capture?

Throughout all of Latin America urbanization has produced a formidable set of urban problems ranging from vast, often illegally occupied areas with minimal urban services to rampant disregard for building and land use regulations in wealthier neighborhoods in some cities. This state of affairs cannot be attributed exclusively to broader macroeconomic factors that contribute to urban poverty, but also to how the provision of urban infrastructure and services is financed, how land uses are managed, and how property rights are determined. The rapid urbanization over the last century has led to the emergence of a vigorous land market, and windfalls resulting largely from public interventions reinforced strong landowning interests. When fiscal and human resources are relatively scarce, the provision of urban infrastructure and services in those areas that can support higher densities creates significant increases in land value (Smolka, 2013, p. 4).

As we have noted previously, the case of the GAM does not fall far from the characteristic form of Latin American urbanization. Given the limitations of public investment, there is a considerable strain in the supply of serviced land, which results in significant changes in land values that are distributed unequally among landowners. Furthermore, conventional fiscal policies and instruments largely neglect how the costs of providing urban infrastructure and services are socialized, and how their benefits are privatized. The reasons for its growing popularity are manifold: regional economic stabilization and fiscal decentralization; more progressive strategies for urban planning and management; re-democratization, increased social awareness, and demands for equitable public policy responses; changing attitudes toward privatization and public-private partnerships; the influence of multilateral agencies; and pragmatic considerations to capture land value increments to raise funds for local community needs (Smolka, 2013, pp. 2-3).

Furthermore, the idea behind implementing value capture is that the benefits provided by governments to private landowners should be shared fairly among all residents. The principle that no citizen should accumulate wealth that does not result from their efforts, known as “unjustified enrichment with no cause” (e*nriquecimiento sin justa causa*), is prevalent in most Latin American constitutions (Rabello de Castro, 2012 in Smolka, 2013, p. 8).

How to implement value capture?

There exist many types of instruments that could be framed under the concept of value capture. Nonetheless, these instruments are conventionally categorized as taxes, contributions, fees, exactions, and regulatory charges (Smolka and Amborski 2007 in Smolka, 2013 p. 20).

Smolka (2013) has classified them into three groups based on the following criteria: innovative and original; most relevant to the urban problem being addressed; representative of multiple jurisdictions; consistent in the application of core principles over time; and effective in terms of the level of impact. Also, they have been organized within three groups: taxes and fees, including betterment contributions; exactions and other regulatory charges for building rights; and a variety of tools used in large urban development projects (Smolka, 2013 p. 20)

Furthermore, we consider that the set of tools that the Costa Rican context can benefit the most is regarding *property tax and betterment contributions*. Particularly, as it has been one of the main challenges in the current government's agenda.

Generally, property taxes, contributions, and fees are typically levied on existing land values or increments to those values due to changed conditions

or land uses. *The property tax or a*ny tax on land value is levied only on private property, it is a form of value capture in so far as much of the land value results from accumulated public actions and investments. *Land Value Taxation* on the other hand presents, in theory, many desirable features compared to the conventional land-plus-building property tax. It has a bearing on value capture because public expenditures for infrastructure and service improvements, norms and regulations affecting land uses, and other locational attributes (externalities in general) are all fully capitalized in land values (as opposed to buildings that tend to be valued on their intrinsic attributes) (Smolka, 2013 p. 21-22).

In addition to using value capture in the form of property taxes and betterment contributions, a first step that we consider should be implemented –as it the basis for this type of instrument– is a more reliable form of land registration and categorization to assess the real market value of properties as well as the municipal value of properties which should be determined by local governments.

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As we have seen previously, the economic deceleration and the imbalance in public finances have created a scenario of a high risk that has exacerbated the weaknesses of the economic and political systems in Costa Rica. We therefore hold that the current economic turmoil could benefit from the implementation of value capture to finance debt and as a tool to finance urban infrastructure and services, which could ultimately balance out the territorial asymmetries and lessen the social disparities and inequalities present in the GAM.

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باميلا جيل

الوصول إلى الأراضي [الحضرية] في منطقة العاصمة الكبرى: إعادة التفكير في نموذج تطوير الأراضي في كوستاريكا الموجه بقوى السوق

ملخص

شهد الوادي الأوسط في كوستاريكا عملية تحضر متسارعة. على مدى أكثر من ثلاثين عامًا ، أدى تحويل الأراضي الريفية وشبه الحضرية في منطقة العاصمة الكبرى - أو GAM لاختصارها باللغة الإسبانية - إلى استنفاد تدريجي للأراضي المتاحة للتنمية الحضرية. تعكس التحولات الاجتماعية الإقليمية الناتجة عن التنمية الحضرية المدفوعة بالسوق عمليات هيكلية كلية تدل على الرأسمالية المتأصلة في التحضر. في غياب الأدوات والآليات التي كان من الممكن أن تعزز نهجًا أكثر استدامة لاستخدام الأراضي والتخطيط ، كان دور سوق العقارات - مقترنًا بأنظمة وسياسات الدولة المتراخية - بارزًا في تطوير الأراضي الحضرية. علاوة على ذلك ، أدى تسليع الأرض كوسيلة لتراكم رأس المال إلى تعميق التفاوتات الإقليمية الموجودة في منطقة العاصمة الكبرى وزيادة التفاوت الاجتماعي والاقتصادي. لذلك ، فإن إدارة الأراضي تشكل أحد التحديات الرئيسية للتنمية المستدامة في كوستاريكا. تهدف مشكلة البحث إذن ، إلى أن تكون جزءًا من هذا النقاش الحالي ، في تحديد كيفية تأثر الأبعاد البيئية والاجتماعية والحضرية والاقتصادية والسياسية بغياب بناء توافق في الآراء ورؤية محددة في التنظيم والاستخدام و استغلال الإقليم. إثبت أنه في كثير من الأحيان ، كان التراخي في اللوائح وصنع السياسات والتخطيط بمثابة أداة لسوق العقارات.

الكلمات المفتاحية: منطقة حضرية وضواحيها (GAM) ، إدارة الأراضي ، إدارة الأراضي ، الشكل الرأسمالي للتحضر ، عمليات التحول الحضري.

إقرار

هذه الرسالة مقدمة في جامعة عين شمس وجامعة شوتجارت للحصول على درجة العمران المتكامل والتصميم المستدام. إن العمل الذي تحويه هذه الرسالة قد تم إنجازه بمعرفة الباحث سنة ...

هذا ويقر الباحث أن العمل المقدم هو خلاصة بحثه الشخصي وأنه قد اتبع الإسلوب العلمي السليم في الإشارة إلى المواد المؤخوذه من المراجع العلمية كلٌ في مكانه في مختلف أجزاء الرسالة..

وهذا إقرار مني بذلك،،،

التوقيع:

الباحث: باميلا جيل

التاريخ:٢٠٢٠/١٦/٨

الوصول إلى الأراضي [الحضرية] في منطقة العاصمة الكبرى: إعادة التفكير في نموذج تطوير الأراضي في كوستاريكا الموجه بقوى السوق

مقدمة للحصول على درجة الماجستير في العمران المتكامل والتصميم المستدام

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التوقيع

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جامعة .....

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تاريخ المناقشة:.....

الدراسات العليا

ختم الإجازة
موافقة مجلس الكلية .../.../...

أجيزت الرسالة بتاريخ:.....
موافقة مجلس الجامعة .../.../...

جامعة عين شـــــمس

جامعة شتوتجارت

08/16/2020

جامعة عين شـــــمس

جامعة شتوتجارت

[الوصول إلى الأراضي [الحضرية
في منطقة العاصمة الكبرى
إعادة التفكير في نموذج تطوير الأراضي في كوستاريكا الموجه بقوى السوق

رسالة مقدمة للحصول على درجة الماجستير في العمران المتكامل والتصميم المستدام

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أغسطس ٢٠٢٠