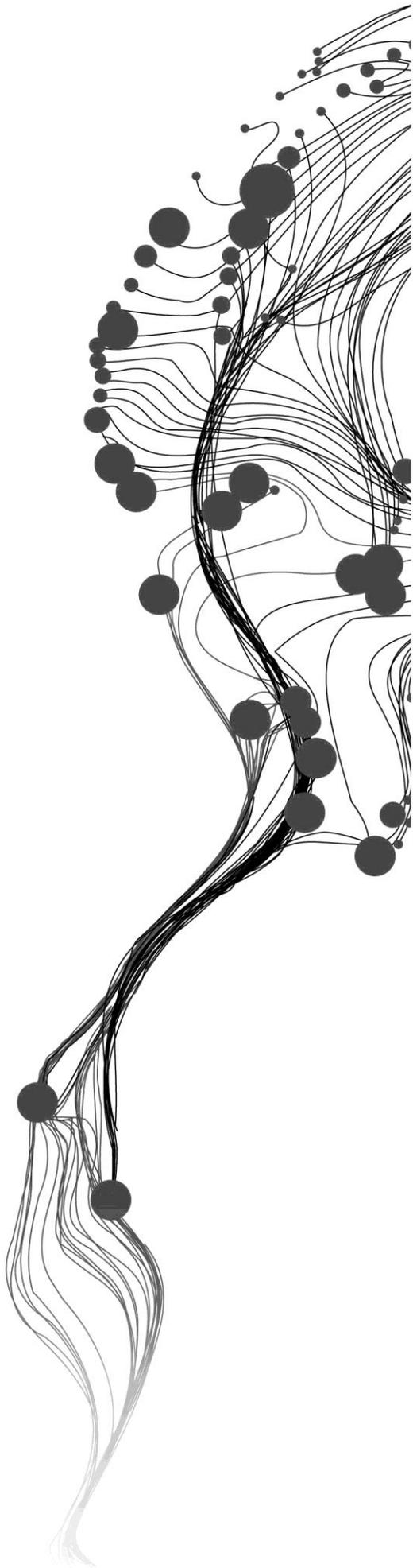


CONDITIONING THE SOCIAL TENURE DOMAIN MODEL (STD M) IN COLOMBIA -CASE STUDY

OLGA LUCIA FERNANDEZ MORENO
February, 2011

SUPERVISORS:
Ir. C.H.J, Christiaan Lemmen
Drs. J.C, Johan de Meijere



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OLGA LUCIA FERNANDEZ MORENO
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SUPERVISORS:

Ir. C.H.J, Christiaan Lemmen

Drs. J.C, Johan de Meijere

THESIS ASSESSMENT BOARD:

T Prof. Dr. J.A. Zevenbergen,(Chair)

Mr. Dr. J.L. van Gelder (External Examiner, Institute for the Study of Crime and Law Enforcement (NSCR))

DISCLAIMER

This document describes work undertaken as part of a programme of study at the Faculty of Geo-Information Science and Earth Observation of the University of Twente. All views and opinions expressed therein remain the sole responsibility of the author, and do not necessarily represent those of the Faculty.

ABSTRACT

Informal settlements, as a consequence of urbanization, are spreading across developing countries.. Informal relationships between people and land are generally not recognized and not registered in Land Administration Systems.

In this research it is explained that people living in informal areas are nevertheless recognized by the Government from other perspectives such as provision of education, public infrastructure and even taxation. Both population registering and voting registering are also recognized by the government.

Those observations are based on field work data collecting in informal area in Villa Gloria and El Triunfo in Bogota, Colombia. In those locations people must organize themselves in order to have their own land books because the formal ownership was neither recognized nor legally and publicly registered.

Based on these observations a framework for recognition and consolidation has been identified. Such a scheme includes four phases in the gradual 'formalization' of the area. This research explains how the communities and urban area are progressively developed with little presence of the State. The phases are identified in this development showing the community's attitude to organize itself for claiming tenure security and property rights.

This is related to the steps of The STDM and LADM models, which were used to understand the current situation and how this local system can be regularized. As a result, it fits to reality so that one can understand it. Such a reality requires the regularization and recognition of the public Registration Institution. This framework may become a guide to address similar cases in developing countries.

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ABBREVIATION

CVP	Caja de Vivienda Popular – Popular Housing Fund
CODENSA	Empresa Comercializadora de Energia del departamento y Bogota.
DANE	Departamento Administrativo Nacional de Estadistica-National Administrative Department of Statistics
DAP	Departamento Administrativo de Planeacion- Administrative Department of Planning
HOBIS	Hogares de Bienestar Social-Social Welfare Homes-
IDU	Instituto de Desarrollo Urbano- Institute of Urban development
EAAB	Empresa de Acueducto y Alcantarillado de Bogota –Water and Sewage Company of
IGAC	Instituto Geografico Agustin Codazzi- Geographic Institute Agustin Codazzi
ICBF	Instituto Colombiano de Bienestar Familiar -Colombian Institute of Family Welfare Bogota
IDPAC	District Institute of Participation and Communal Action
INCODER	Instituto Colombiano de Desarrollo Rural –Colombian Institute of Rural Development-
JAC	Junta de Accion Comunal – Community Action Board
JAL	Junta Administradora Local – Local Administrative Board
LADM	Land Administration Domain Model
POT	Plan de Ordenamiento de Bogota -Development plan of Bogota
SISBEN	Sistema de Indentificacion de Potenciales Beneficiarios de Programas Sociales - Identification system of potential beneficiaries of social programs
VIS	Vivienda de Interes Social –Housing of social interest
UAECD	Unidad Administrativa de Catastro Distrital- Administrative Unit of District Cadaster
UPZ	Unidad Planeacion Zonal –Zonal Planning Unit
SMMV	Salario Minimo Mensual Vigente -Current monthly minimum wage-
STDM	The Social Tenure Domain Model

GLOSSARY

Illegal:	land occupations that contradict existing rules, code civil and public authorization.
Clandestine:	subdivision established without official recognition.
Informal:	areas that started illegal but receive recognition.
Manzana:	block or set of parcels that has unique identification and is used for Institutions and users
Plot:	also called parcel it is a piece of land that can be built or not.
Promesa de Venta:	‘Sell Promise’- legal contract between two parties which transfer the domain into the study area.
Estrato:	-stratus- Socio economic classification, which is used to land taxes and the payment of Services in Colombia. It ranges from six to one, being six the highest and one the lower.
Sisben level:	Colombian classification for low income persons (similar to stratus). This is defined in five groups according to the socio economic conditions. The score obtained gives a person the benefit to participate as beneficiary of different social government programs.
Locality:	Administrative and Political area in which the City is divided. Each locality has its own local mayor and Ediles Both mayor and Ediles are appointed by popular election.
Ownership:	Ownership is a freehold, unconditional and indefinite. It May however be expropriated in the public interest, with compensation. It is legalized by deed. It can be registered or not and is negotiable. It may be expropriated by the public interest against compensation (Articles 58, 60 and 64 Constitution; Articles 166 civil code, law 160 of 1994 and 388 of 1997).
Possession:	Possession of immovable property is when a person acts as owner without the legal recognitions as an owner. Adverse possession after good faith occupation of 10 years in urban, and 5 years in rural areas has to be declared by a judge. Possessors may purchase the property by expiration if it is private or by occupation if it is located in vacant land owned by the state. It can be regular or informal depending on the good faith and fair title with which it is exercised (Article 672 civil code, Law 160 of 1994; Article 27 law 387 of 1997). Possession in Colombia was recognized but not registrable until 2008 when the Colombian Congress ruled that it should be registrable -due to the land conflict in the country and the large number of displaced people- (Congreso de Colombia 2008). This process is classified as an ‘ordinary process’ so no specified time is defined. In Bogota, for persons that belong to the socio economic “estrato” 1 or 2 and when the house can be considered as a <i>Housing of social interest (VIS)</i> , the CVP is the entity in charge to provide the assistance required. Otherwise, for instance in case of house with commercial use, the claim may be presented to a judge through a lawyer.
Declaration of regular possession:	According to law and specific legislation that regulate the domain of immovable considered as housing of social interest (VIS), the

possessors of urban immovable from *estrato* 1 or 2 and without register title can request to notary the inscription as regular possessor in order to be eligible to obtain the domain by ordinary prescription. The possessor needs a lawyer to present this application (Congreso de Colombia 2008). Some requirements are: identification of the parcel issue by cadastral agency certification and cadastral plan with description of boundaries and evidence of time living in the parcel. The registrar will make the annotation as ‘inscription of declaration as a regular possessor’

Invasion: Invasion is the occupation of public or private property through irregular ways. It can be done individually or in groups. Invaders can become possessors if they invade a private property and are not evicted within the next 30 day if urban, or within 15 days if rural; or they can become occupants of state property if it is not of public use, a conservation heritage or fiscal property (National Police Code).

Transit lot and temporary settlements: This is a land adjudicated by the Colombian Institute of Rural Development (INCODER) to assist displaced population registered in food programs and short and medium term productive projects. In these transit lots displaced households can only remain for a short time, after which they must look elsewhere for a place to live (Decree 2007 of 2001).

Accion Social: It is an Office of Presidencia de la Republica. It has several programs:

- For displaced people, it keeps a register of displaced people at national level. After some requirements a displaced person is recorded and can apply for government help including a housing program.
- For families with Sisben 1 and with children under seven years it provides economic help for nutrition purpose.
- Each family with Sisben 1 and have children enrolled in primary or secondary school receive economic aid each two months.

Sisben: Sisben provides the national socio economic classification that allows low income persons to apply for social programs offered by the government. Those programs provide benefit in health, education, food and housing aid (Sisben, 2010).

ICBF: The Intituto Colombiano de Bienestar Familiar has two programs for families with Sisben:

- ‘Kinds Breakfast ‘ is a food assistance program aimed to children between 6 month and 5 years old , this applies for families with Sisben level 1.
- ‘Food supplements for elder people’ Dietary intervention for people older than 60 years, help to mitigate the risk of malnutrition, it provides 30% of the basic nutritional equivalent of the calories needed. Apply to displaced people that are certificated by La Agencia Presidencial para la Accion Social as component of humanitarian protection and people with Sisben level 1 or 2 .

JAC The *Juntas de Accion Comunal* (JAC) are defined as the ‘basic form of organization’ promoted by the State since the end of fifties. It is a civil organization, which is so regulated and it is recognized as the official popular base organization (Torres 2007).

Plot with basic services

It was a type of solution for the poorest. The concept of lot with public services consisted on aperture urbanized land with potable water, sewerage, electricity, streets and in some cases housing. This lot was given to economically poor families. This method had great proliferation in the decade of the 70s. The World Bank invested significant resources on this modality (Carvajalino 2003). This alternative had relation with the popular pressure of the years sixties and seventies, when the state faced a growing problem of housing deficit for the poorest.

The CVP developed in Ciudad Bolívar one of its most ambitious projects consisting in the adjudication of lots to be developed by self- construction with the technical assistance of the entity. Planed since 1983, in 1992 the CVP give 2000 urbanized lot. Each of them with a basic unit building of 15 square meters. The agency gave also credit in materials and (Carvajalino 2003) technical assistance. The consolidation process of those areas, was observed as the individual and collective effort of its inhabitants, in an isolated way from the agencies that initially promoted it. In Ciudad Bolívar Arborizadora Alta is a case where this situation was presented (Carvajalino 2003).

1. INTRODUCTION

In this first chapter includes a general description is presented of the research. Background, problem definition, research identification are presented as well. The research objectives, the methods adopted and finally thesis structure.

1.1. Background

In Colombia, land administration is based on the inventory of land, expressed in a system of cadastre and registry of property of rights. The country has statutory and customary tenure systems. The public registries manage information of the statutory system. Private property covers approximately 52.2% of the national territory, the state owns about 22% of the land; the communal for Afro Colombian is 2.8% and 23% is the communal land for indigenous people. Inside of the indigenous land are located forest area and natural parks 26% (Martinez 2003). According to DANE (2006) in Colombia population is classified into three ethnic groups (2006): 10.6% are indigenous, 3.4% are Afro Colombian and 84% of people is grouped in a single group.

In Colombia, access to land has historically been a major source of political power and social conflict. The agrarian structure is characterized by a trend towards re-concentration of land. The concentration of land is explained in UN-HABITAT (2005) as 0.4% of the population owns 62% of the best land; Martinez (2003) states that 6.3% of the owners have 81% of the total titled land and the 93% have only 18% of the tiled land. The armed conflict –involving guerrilla, self defense groups, drug traffickers, and the national army- affects civil populations and peasants who become indirect participants. This has forced the inhabitants to leave their land, leading to an exodus towards the cities where displaced people live in precarious conditions, increasing the existing slums areas and populations (about 3'823.000 people by 2006), and with no government protection to access new land or recover their lost land. In Ruiz (2007) it is affirmed that 81% of the municipalities in the country have received displaced people, women and children the most affected (75%).

The urbanization process has changed the development in the country. While in 1950s approximately 60% of population lived in rural areas (UN-HABITAT 2005), by 2005 this changed to 76% living in urban areas (DANE 2005). In 2004, 1.3 million houses of all urban households were in precarious settlements (slums), with serious shortages in qualitative of the houses. Moreover, according to the last census in 2005, in Colombia 19'800.000 people live in poverty, from which 7 million are in extreme poverty (DANE 2005).

Communal lands, that covers 30 million hectares with 14% of the population (Martinez 2003), were traditionally recognized to Indigenous and Afro-Colombian groups. Now it requires verification by the government (Colombia 1994). In total those groups received 1306 titles, from which 710 titles were given to indigenous and 132 titles to Afro-Colombian (DANE 2005). After that, armed conflict took place and those groups were evicted from their land. They had to move to informal settlements (mostly in slums areas) with little or no land right protection. For this groups a claim for a place to live is out of reach.

The relation between people and land given by the public registers differs from the reality. In places such as slum areas people live without property rights and do not have a regulation to record their information in a registration system. Since 16% of the population in Colombia is living in such conditions (DANE 2005).

Land administration is defined as the process of determining, recording and disseminating information about the tenure, value and use of land when implementing land management policies (UN/ECE 1996). Land Administration includes land registry and cadastre. Land registration is a process of official recording of official recording rights in land through titles or deeds. Cadastre is a methodically arranged public inventory of data concerning properties within a certain country or district, based on a survey of their boundaries. (Williamson 1990). However, they were designed to benefit part of population and to protect the interest of a wealthy elite (Zevenbergen 1999), whose properties are recorded and constitute indeed the public inventory, whereas the majority of the population's rights are excluded from it. This is particularly true in Latin America.

The land administration system (LAS) facilitates the implementation of land use policies, support effective land market, sustainable economic development, political stability and social justice (UN-FIG, 1996). Using the current technology this information can be represented and shared in Kaufmann and Steudler 's (1998), Cadastre 2014 stated that 'modelling will be introduced instead of storing data in maps'. This procedure has several advantages such as information can be stored only once and different product can be derived, distribution and publication of cadastral information is easy possible with the help of the exchange of digital models (Kaufmann and Steudler 1998). The Land Administration Domain Model (LADM) is a standardized model that allows management and exchange cadastre and registration data (Lemmen, Van der Molen et al. 2003). Moreover LADM was submitted to International Organization for Standardization ISO it is also recognized as ISO19152 which is expected to be released in 2012 (Lemmen, Oosterom et al. 2009).

Countries in transition are recommended to investigate the possibility and integrate Land Information System (LIS) (UN/ECE 1996). Following this recommendation, these countries are upgrading their cadastre and registration agencies aiming to develop a national land information system. By having LIS a Country is expected to provide complete information about land tenure and provide better understanding of the countries reality. Proper implementation of the LADM allows managing the data from cadastre and registry, as defined by law, although incomplete in some regions as in Latin America. These countries have yet to register most of their land records.

As a complement for the informal sector LADM has The Social Tenure Domain Model (STDM), that allows for the recordation of all possible types of tenure in informal settlement or in customary areas (Lemmen 2010). In the case of developing countries this will accommodate over 70% of land information, since only 30% are in the formal (Lemmen 2010), with the advantages that all land information can be integrated.

1.2. Problem definition

In Colombia People-Land relationships are partially registered at cadastre, mainly for taxation purposes and for tenure security. Public registration refrain from formalizing property rights due to lack of titles, quality or to lack of recognition of building because of the quality building materials, among other reasons of a legal system.

Data in the public registers and cadastre often are described differently for a single place. This is even more valid in informal settlements. These institutions are independent and have their own goal. While conditions to register a property right are very strict, cadastre has another approach. Cadastre includes as many parcels in its inventory as possible -even if those parcels are not included on the registration. Thus people end up having responsibility with cadastre -taxes- but get no benefits and no legal protection for their rights.

1.3. Research identification

Colombia needs a register system suitable for the complexity of rights in informal settlements. In this research a new method is proposed. It addresses the rights of people living in informal settlements based on the STDM approach. The STDM Lemmen (2010), manages information about land, owner, users and rights, regardless any precondition. In this research STDM is proposed to be extended with more information to better understand and represent all relations in specific place between people and land.

In this research, rights that should become registered and recorded –but are not yet - are defined in a new way. This approach offers a new way of registration, once -and if- the legislation changes: a “new generation of rights”. Rights” (NGORs), obligations and recognition in informal areas were collected in the field and a new method to convert -and legally reach- this “NGORs ”, recordable-registrable rights is proposed.

The new NGORs subject of this study will be obtained from the field. This is the place where the rights, obligations and recognitions have effect on the people involved.

1.4. Research objectives

The main objective of this research is to propose a method to convert a set of existing right in the ‘Next generation of rights’ that are recordable and registrable using the LADM model. This research has the following specific objectives:

1. To describe the political and legal framework that supports and makes it possible in Colombia to formalize existing housing rights, under the STDM model, describe why this ownership is not acknowledged under the current registration.
2. Verify if the existing classes and attributes of the STDM are reflected so represented all observed people land relationships from the fieldwork.

The specific questions that need to be answered in order to attain the main objective are:

Table 1 Research questions

<i>Research objectives</i>	<i>Research questions</i>
1.	1.1 Which formal and informal land right do exist in Colombia?
	1.2 What set of right are recordable but not yet registrable?
	1.3 How to compile those rights?
2.	2.1 What are the STDM and LADM?
	2.2 What parameters can be defined to classify different types of settlements?
	2.3 How the existing right can be grouped to be included in the classes of the STDM?
	2.4 What are the main phases in development from informal to formal areas?
	2.5 How can this development be modelled?.

1.5. Conceptual framework

The main function of Land Administration is to provide land tenure security (Williamson 2001), which is done by the public registries cadastre and registration (see figure 1). These institutions depend of the political system in each country (Besemer and van der Molen 1995). They Cadastre and Registration provide information on property rights and reduce uncertainty with regard to exchange like land transfer

(Zevenbergen 1999) Thus, those who have their properties in those registers perceive this legal security that encourage them to invest on those properties, which reflects then in further development.

This tenure security allows owners to make transactions at any time such as buying, selling, renting, or other ways of transferring ownership (inherit for instance), establishing a mortgage. It also has a protection against third persons or even the state. However it requires payment and following expensive procedures and responsibilities that are not affordable to all citizens. In Zevenbergen (1999) ‘property rights’ serve the interest of the rulers, politicians instead to regular citizen. As a result, minority groups get the benefit of such system.

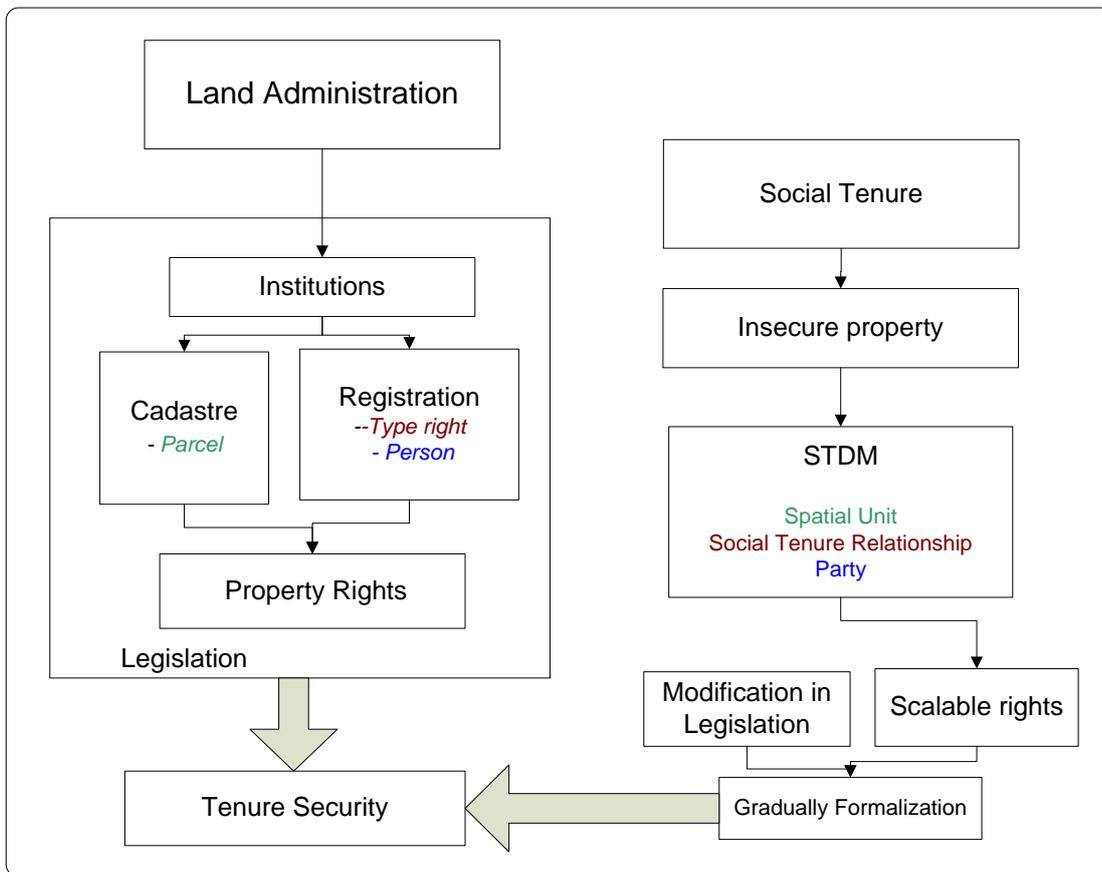


Figure 1 Conceptual Framework

Property rights that are either rejected, or excluded from the public registers, carry a social tenure (Lemmen 2010) allowing limited number of informal transaction to be carry out with different levels of uncertainty. This drastically affects the investment in those areas and the proper execution of long term and basic transactions such as inheritance, access to credit, business initiatives (Zevenbergen 1999). Those who have short time rights are unlikely to invest on land because more of the resource are needed to protect the right on it (World Bank, FIG et al. 2010). Thus, they are exposed to eviction or conflict with others (the State among them) because of lack legal protection to claim property. The State and its public registers do not -cannot - benefit owner nor their business. The need for more general cross -cultural approaches that capture the complex of many individual rights is evident (Barnes 2003).

In respond to this The Social Tenure Domain Model (STDM) was developed as an initiative of UN-HABITAT to support pro-poor land administration, specifically for developing countries (Lemmen 2010).

The STDM is part of the Land Administration Domain Model (LADM) which allows to manage formal cadastral and registry and is also proposed as ISO standard (Lemmen, Oosterom et al. 2009).

The LADM has been evaluated in some countries such as Indonesia and Portugal. In Hespanha van Oosterom et al (2006) it shows that after some adaptations it can be 'widely applicable'. Both models STDM and LADM can be linked in order to provide complete coverage. Using the STDM the current reality of settlement areas in Colombia provide a tool to find the 'continuum of land right approach' proposed by UN-HABITAT (Lemmen 2010) according to local legislation.

1.6. Methodology

The methodology has been designed based on the research questions explained in table 1 the methods used as well as the input and output for each research question are presented in table 3.

Literature Review is going to be carried out regarding to:

- Land Rights and other types of rights in Colombia
- Institutions and organizations that recognize informal settlements
- Formalization program of informal developments
- STDM and LADM

A case study in a settlement area in Bogota was selected in order to get an overview of the existing relationships between people and land. Two neighbourhoods located in informal settlement were visited: Villa Gloria and El Triunfo.

Preparation of questionnaires: before going to fieldwork some questionnaires were prepared to collect data from people and other actors living in the study area or influencing the study area.

Compilation of primary and secondary data: Primary data are data collected in the field using questionnaires, aerial photos images and interviews with stakeholders, cadastre authorities and the local government. Secondary data were obtained from institutions, cadastre and registry and through local authorities. Some of the data required are maps, images (aerial photos or satellite images) from different years, as well as records and legislation.

Field observation: some of the data required have been collected through field observation especially data regarding house materials, infrastructure and the type of facilities in the area.

Photo identification: During field work the boundaries of the spatial units were drawn using photo identification on aerial images. Those boundaries were verified with the inhabitant of each house. Part of the infrastructure of the study area has been collected from the image such as schools, state of access and street, electricity to name a few.

The logical data model developed based on the case study results is documented using Enterprise Architecture. This tool facilitates the description of the classes, (attributes, functions, list among them) to facilitate the implementation of either commercial or open source software. As an input it requires the data obtained from the field work plus the parameters per class.

1.7. Definitions of phases

The land Administration Domain Model (LADM) is a standardized model that allows management and exchange cadastre and registration data (Lemmen, Van der Molen et al. 2003). It will be used as reference to compare the current phase defined finding out how close or far is the phase from the real cadastre system. Since it is standard model that manages formal cadastral and register data, if a phase satisfy the relationship defined by the LADM, thus, it will also satisfied the real system, under after legal framework. STMD establishes that current phase satisfying the relationship as defined by the LADM reflect its real

situation. This will be the approach we will use to build our case of study the method to obtain the specific phases.

Table 2 Method to be used

<i>Research Objectives</i>	<i>Method</i>	<i>Input</i>	<i>Output</i>
1.	Literature Review	Relevant literature	Identified the Existing Rights
	Survey	Survey data	
	Literature Review	Questionnaires	Found the recordable rights
	Literature Review	Relevant literature	Define the process to compile land records
2.	Literature Review	Relevant literature	Found what is LADM and STDM
	Literature Review Case Study	Survey data Questionnaires	Definition of parameters and phases
	Analysis data Design of core classes Digitalization interpretation and Implementation Analysis result	Survey, Législations, Questionnaires, Images STDM model, ArcGis EA and STDM/LADM	Definition of phases for informal to formal settlement: definition of the phases and reflected current phase on the Social Tenure Domain Model that satisfy LADM

1.8. Research design

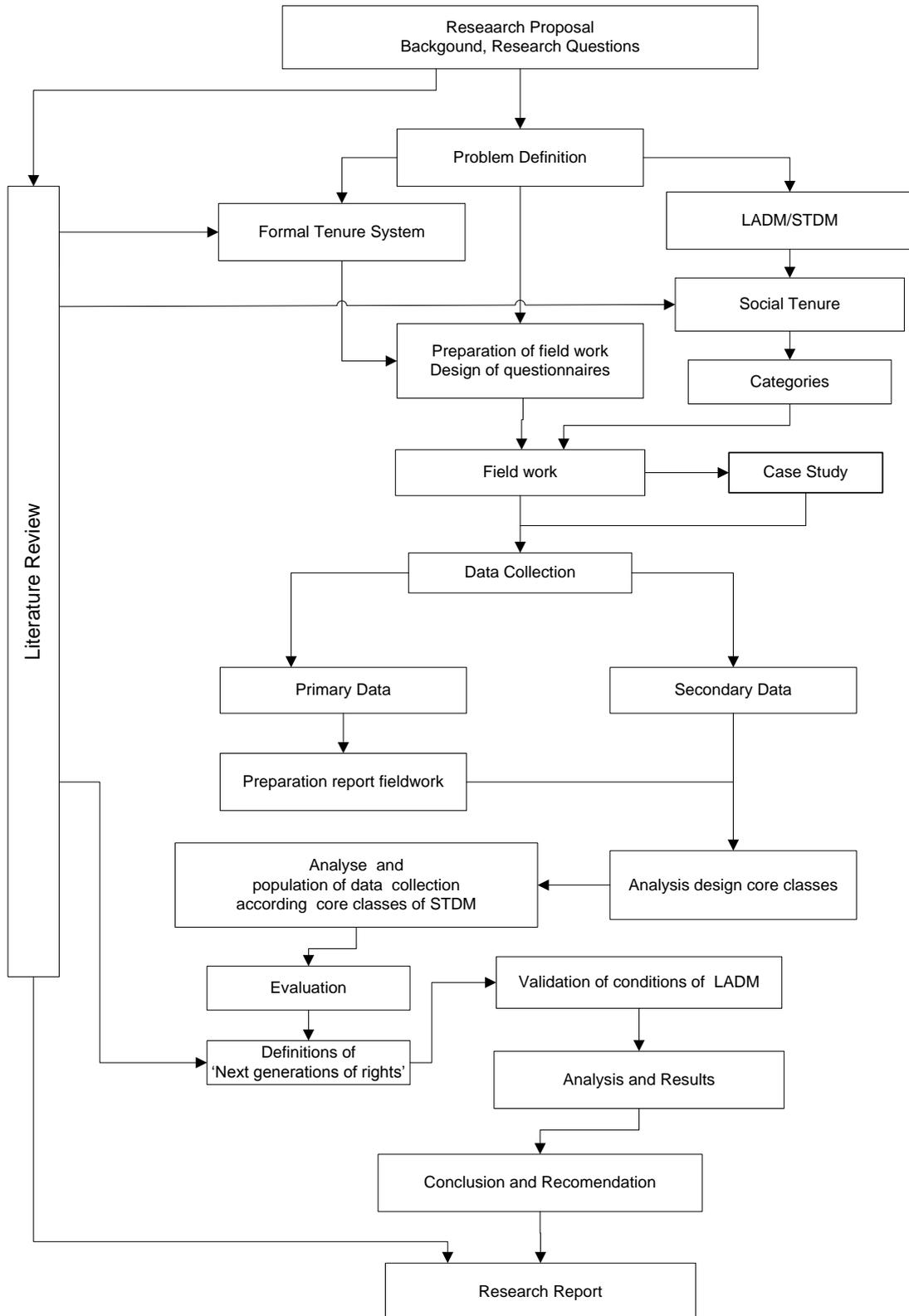


Figure 2 Overview research design

1.9. Organization of the research

This research study is structured into six main chapters:

Chapter 1 Introduction

This chapter provides the introductory part that describes the background, research problem, research questions, framework overview and selected study area.

Chapter 2 Literature Review

This chapter covers literature review, this explains the concept of which the STDM and LADM are explained, concepts and background of the Latin America and Colombia. Here Land Administration System in Colombia.

Chapter 3 Case Study and Methodology

This chapter deals the social tenure on informal settlement practice in Bogota, their legislation and the human rights which are recognized either by the Constitution or by international agreements. The method used, the description of the study area study area. This also will describe the predefined categories.

Chapter 4 Analyses

This chapter describe the results and the definition of phases identified during the analysis. The four phases are presented, phase one subdivision, phase two Armed Struggle, phase three Official Recognition and Consolidation and last the individualism.

Chapter 5 The STDM Approach

This chapter present the modelling of the phase four under STDM based on data from fieldwork and the analysis done in chapter 4. It presents the proposed 'continuum approach' of the study area. First the local perspective, second a proposed class for Colombia case and the legal perspective. Finally some remark of the STDM and tenure in the area.

Chapter 6 Conclusion and Recommendations

This chapter presents the conclusions and recommendation. In this chapter, the research question that is posed in chapter one is revisited.

2. LITERATURE REVIEW

In this chapter the concepts of Land Administration and the LADM with its specialization The STDM are presented. It also describes the Universal declaration of Human Rights and other general theories.

2.1. Land Administration

Dale and McLaughlin (2000) defines land administration “as the process of regulating land and property”. According with UNECE Land administration is defined as “the process of determining, recording and disseminating information about the tenure, value and use of land when implementing land management policies”(UN/ECE 1996; Dale 2005). FAO (2003) defines land administration as “the way in which the rules of land tenure are applied and made operational”. In opinion of Van der Molen and Enemark (2008), they identify some function of Land Administration. Those functions are represented in (Table 2) below.

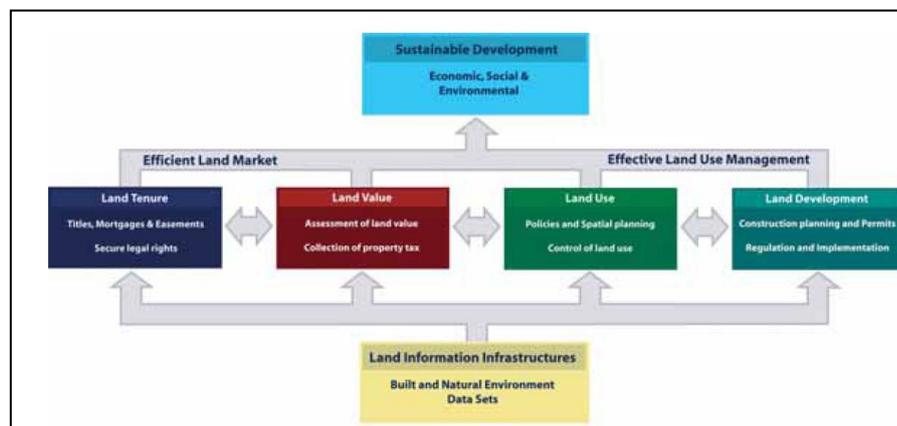


Figure 3 Global Land Administration Perspective (Enemark 2004)

In this perspective Enemark (2004) points out that land is also key factor for sustainable development.

In this perspective multipurpose cadastre and registration ((Dale and McLaughlin 2000))are main components. Land valuation process and land planning are optional. (Van der Molen and Enemark 2008) . The proper implementation of the land management is the variety of land administration function that guarantee proper administration of rights, restrictions, responsibilities and risk in relation to property, land and natural resource (Enemark 2004). These functions are: land tenure, land value, land use, land development. They have mutual dependence that determines the land value. When land administration is implemented in this way, it becomes reliable producer of information for decisions makers as politician. One of the benefits of this efficient land administration is “its role to guarantee of ownership, security of tenure and credit: facilitating efficient land transfer and land markets” and also this will facilitate the implementation of national land policies (Van der Molen and Enemark 2008). The results from land administration will show the effect of the land policies. Evaluating this output from land administration land policies can be adapted to desire needs in society (Enemark 2004).

Land Policy is defined in UNECE (1996) as ‘the whole complex of socio-economic and legal prescriptions that dictate how the land and the benefits from the land are to be allocated’ therefore it is a political issue defined by the type of government’s ideology.

The core business of land administration provides two major conditions for tenure security. First, it is robust, commonly accessible forms of tenure for which rights can be easily documented. Second, Land dispute mechanisms regardless the (quasi) legal system (UN-HABITAT 2008).

A cadastre is a set of records about land that consists of two parts: a series of maps or plans showing the size and location of all land parcels together with alpha –numeric records that describe the attributes of the land (Dale 2005). According to (Enemark 2004) cadastre include the identification of parcels, registration of land rights, the valuation of taxation of land and property and the land use. Those components of cadastre are represented in Table 3. The function of cadastre is to collect and make available graphics and textual information in support of title registration, property valuation and land resource management. It is distinguished from a land register in that the latter is fundamentally concerned with the ownership and legal rights that are attached to the land, while cadastre focuses on a wider range of attributes (UNECE 2005).

Zevenbergen (1999) describes four types of transaction evidences: oral agreement, private conveyance, deed registration and title registration. It is also added that in deed and title registration, those involved –owners and buyers- are willing to invest in land registration because it reduces the uncertainty and it reduce disputes.

A land register is a set of records of rights in land. Land registration contains proof of ownership of rights to the land. In many countries this recordation is guaranteed. A right is something to which people (individual or in groups) is entitled (UNECE 2005). For the purpose of land registration measurements are avoidable as long as the parcel can be sufficiently described and identified on the ground (Zevenbergen 1999) citing Dale.

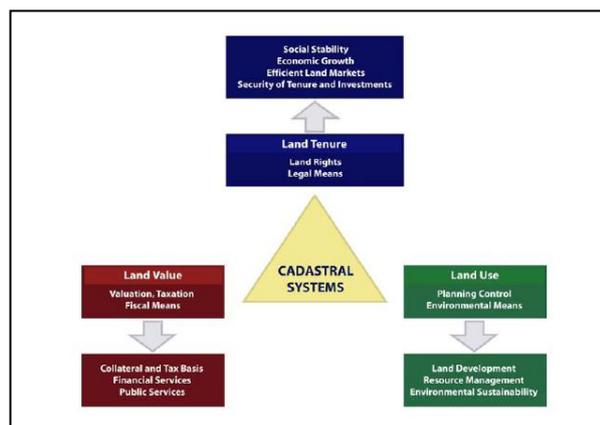


Figure 4 Cadastral system (Source: Enemark 2004)

Cadastre and registration of property is can be in one or more agencies . They are core part of Land Information system. It is identified as one of the four types of Land Administration information systems. The others are environment information, infrastructure information and socio-economic information. (Dale and McLaughlin 2000).

2.2. Importance of Land administration

According to Asperen (2007) the implementation and practice of Land Administration is an important tool to improve tenure security, which is successfully implemented in developed countries but with not the same effects in developing countries. In the latter Land registration fails to protect vulnerable groups such as women, pastoralists and secondary rights holders (Lengoiboni, Bregt et al. 2010).

In creating an efficient land administration system the policy issues should be addressed first. Policies must ensure equal access to real property to all people of both urban and rural society. The process for formalizing and subsequently transferring property rights should be as simple and efficient as possible (Dale 2005). Policy goals cannot be achieved unless there is an effective land administration infrastructure with modern information technology providing citizens with effective access to information. This infrastructure also includes organizations, standards and technological processes, as well as laws and regulations for property rights, valuation and taxation. These regulations should be transparent and meet the local requirements and needs (Dale 2005).

It is important that politician and citizen are aware of this benefits because they are costly and require frequent support. In Zevenbergen (1999) points out that “trustworthiness” is one characteristics of a good land registration system – which is one two parts of land administration-. When a stakeholders has more advantages – for instance tenure security or access to credit- than disadvantages – for example cost, time, bureaucratic offices and long procedures to register, many offices to obtain permit or any stamp -, then stakeholder will make use of the land administration systems (Dale 2005). This report also explains two main advantages of land administration: first it “Guarantee ownership and secure tenure”, second, “ensure that all citizens are aware” – as result they will practice it-.

Tenure security is the certainty that the land rights of a person over a land will be recognized for other and will receive protection against any challenge (FAO 2003). Tenure Security is defined as “the right of all individuals and groups to effective protection by the State against forced evictions” (UN-HABITAT 2004a).

Individual or groups, who use land to live or work on, will eventually perceive advantage to invest on it, to improve or protect the usefulness on the piece of land that they control. Investment involves the commitment of resources at present with the expectation of benefit in the future (Feder 1999). This degree of certainty related with the ‘stream of benefits is a key factor’ in shaping the incentives of the external agents to motivate such investment. This include both ‘objective elements (nature duration of rights, enforceability of the right, state guarantee, quality of the boundary description, conflict handling and subjective -perception of the security- (Deininger 2003).

On the other hand, Stanfield 1995 cited by Van Asperen (2007) defines tenure insecurity “ as a combination of objectives and subjective situations” (Oraá and Gomez 1997). As an example of objective insecurity he explains those cases where is a lack of official document and many persons claim any type of rights over same piece of land or when there are several documents claiming same rights and belong to different persons. Subjective insecurity is refers to cases where there is an increase in the probability of losing the right. (Buergenthal 1988).

The implementation of tenure security under statutory system, in the last century, had as main base that this system provides a superior security compared with customary system (practiced for longest time in areas as Africa). However, after some studies it was proved that customary tenure is also secure. The problem arises when tenure system are applied in areas where customary is practiced. For instance due increase of population, urbanization process and land market (Buergenthal 1988).

2.3. Types of source that provides tenure security

According to (FAO 2003) Tenure security can-not be measured directly because part of it depends on the perception of the stakeholders. This is different for instance when land is rented for short or long time, because the user will invest taking into account the time to recover his/her investment. For this reason, full security can only occur when there is full private ownership [...] is also said that “ tenure security is achieved only with the possession of the right of transference” The equivalence of tenure security with the transference to sell or mortgage are valid in very few countries. This can be varied in communal tenure where the transfer rights may be limited to successor or sell restricted to community members.

FAO (2003) distinguishes four types of source that provides tenure security: Community, Political recognition of some rights, Administrative situation and juridical formal system and the structures coercive structures.

- Community: it comprises the Community and its specific groups such as local organizations of peasant or association of persons. “When the neighbors recognize the one person’s rights, the security of this person increases”. In many system of tenure consuetudinary, individuals obtain property rights through their inclusion in social communities. The maintenance of property right ratifies the

belonging of the group, in the same way it facilitates the acquisition and safeguard property rights (FAO 2003).

- Political recognition of some rights: For instance, a government may recognize expansion and illegal settlement of a community into forest areas. This recognition means that the community has occupation rights over the land as a group without any recognition of what right has each member of the community.
- State can offer tenure security by Administrative and formal juridical system. In which specific measures in cases of illegal occupancy are defined. This can be done by cadastral system and registration of property, they deal with security while the resolution of conflicts correspond to the judicial formal system. (FAO 2003).
- Coercive structures: They are the 'warlords' which are not desirable and they appear in times of war.

According to De Soto (De Soto 2003) the public policies are the instrument to reduce poverty. De Soto explains that the poorest already have actives, they are owners: they have 'house but not title of ownership' and it is just what is needed to generate surplus value, instead they have a 'dead capital' which does not participate in the formal market. According to the author, this right of property explains why "capitalism triumph in West and fails elsewhere in the world". He also said that the legalization of those settlements and their informal business will contribute to the reduction, and eradication of the poverty in third world countries (De Soto 2003).

2.4. Background in Latin America

In Latin America poor people benefit in many cases from public services and the urban economies. On the other side, in the region the origin of informal settlements is associated with poverty, homeliness, increase of rent and lack of urban planning, policy and social response by the state (CEPAL, 2005).

Sotomayor (2008) states that 'In 1990, there were about 40 million indigenous in Latin America and the Caribbean, 10% of the total population, distributed over all the countries except for Uruguay. This population is divided into 400 ethnic groups with different languages, production methods, social organizations and world views, implying a great richness for the identity and diversity of Latin American societies'.

According to Smolka and Mullahy (2007) the lack of urban land accessible to low income people explains why some areas with devoid of infrastructure are illegal occupied. According studies done in Lima (Peru), San Pedro Sula (Honduras), Sao Pablo (Brasil) and Kington (Jamaica), about half of population is affected by tenure insecurity: precarious settlements without regulation, consolidated settlements without formal formalization and settlement located in high risk areas (CEPAL 2001). This is a common feature in Latin American cities especially in the periphery. In the region 'between 60 % to 70% of the cities' land is occupied on an irregular, illegal or clandestine and most of their homes are self- built ' Smolka and Mullahy (2007).

The cost of this tenure insecurity imply: for the poorest high cost to access public services, expensive cost imposed by 'pirates developers' and lawyers intermediates. For the local government this means restrictions and cost overrunning for installation of utilities, narrowing tax base and permanent source of social and political conflict. For the private sector means narrowness of the financial market and housing. Finally for the other inhabitant of the city means a overrun in the cost of utilities and devaluation of their properties (CEPAL 2001).

2.5. Land Administration in Colombia

Colombia is a democratic nation that respects private property (Article 58 of the Constitution). Land administration is based on the inventory of existing land, expressed in a system of cadastre and registry of property of rights, which regulate the access and use and develops into a land or property registry. This system is supported by the legislation.

2.5.1. Legislation of Cadaster and National Official Registers

Legislation of Cadastre

Resolution 2555 de 1988: This regulates the formation, updating and maintenance of the national cadastral data. Ley 14 of 1983. The law 9 1989 of the urban reform establishes rules to urban development plans, purchase and expropriation of real states. It also define that Municipalities over one hundred thousand (100.000) inhabitant, including Bogota should formulate its plan of development in accordance with the national and department policy, modern techniques of urban planning and coordination with the development urban-regional. The POT of each municipality are usually based on cadastral map. The first plan of the City was presented in 2000 by decree 619 of 2000, article 447. (Alcaldia Local Ciudad Bolivar 2008) In accordance with the purpose of the law public entities can expropriate a parcel, among other reasons, if it is needed to legalize of fact or illegal urbanization. Law 9 of 1989.

In Colombia there are four national register that collect information about people, among other data, they provide national information.

- **The Registraduria Nacional de la Republica:** among other functions, provides the unique national identification for citizens and manages the electoral process defining the place to vote.
- **The Departamento Adiminstrativo Nacional de Estadistica (DANE)** is the national registry of population and other statistics. In the last census in 2005 social aspects were included as quality of the home. In 2007 the census of quality life in Bogota was included. This census showed that 52.3% of the families owns a property and the title belongs to either head of householder 62.9% spouse or partner 30.7% or sons 6% other family member 3.5%, or person outside the family 0.7% (Alcaldia Local Ciudad Bolivar 2008).
- **Sisben: Sistema de Identificación de Potenciales Beneficiarios de Programas Sociales (SISBEN)** (DNP 2011) It provide socio economic clasification in five groups to low income people at national level.
- **Registration** in Colombia is called Registro de Instrumento Publicos (The Public Instruments Registry), it is based on title Registry works as a centralized agency with 191 offices distributed over the Country. In international classification it is a mix of French/latin and United State style of deed system (Williamson, Enemark et al. 2010). All capital cities have one or more offices. Each registration office has its own database and can manage information of more than one municipality. The information provided by, available to public against a fee, and the agency is self-financed. To register a property it is necessary to have a title, a ruling resolution or a resolution of assignment by a judge. There are no alternative methods to register land. Registration issues a document called Certificado de Libertad (certificate of liberty) which is the only legal evidence of immovable ownership in the country and it is identified by an unique Matricula Inmobiliaria. To transfer a ownership for instance are needed: a parcel's certificate of liberty, receipts of current payment of taxation land from Cadastre authority (and from IDU in the case of Bogota) and copy of the previous owner's deed. Based on those documents a new deed is prepared at a notary. The deed is presented to the registration office, up to the user, there the documentation is verified. If everything is according as defined by law a new Certificado de Libertad is issued with the name of the new owner. The description of the parcel boundaries and location is textual from the deed. However, since 1995 (CONPES 2010) it may be described using a Cadastre Certificated, issued

by a cadastral authority, as part of the deed. Registry has two main sections registration and notaries. Colombia has 811 notaries distributed in the country and they are pointed by the government. In Bogota there are three offices of registration.

- **Cadastral** The Institute Geographic Agustín Codazzi (IGAC) is a national agency and technical authority of cadastre at national Level (IGAC 2009) It includes the registration of buildings and values for fiscal purposes. IGAC is responsible for the national cadastre information with the exception of the information from four decentralized cadastre systems. The decentralized cadastres correspond to the three most important cities in Colombia, and to a Department: Bogotá (the capital of Colombia), Medellín (the capital of the Department of Antioquia), Cali (the capital of the Department of Valle del Cauca) and The Department of Antioquia.

Currently both agencies are working to communicate cadastre and registration as part of the process of modernization and regularization process in Colombia. The project is part of the national long term policy to reduce poverty and inequality called Vision of 'Colombia 2019'. IGAC, Registry and the National Department of Planning (DNP) are defining this information as a base to fix the national economy policy, regional territory planning, environmental policies, agricultural policies, policies for the restoration of violated right due violence and the protection of the property rights among others. The project started in 1992, but it shows some result that conclude that due to the lack of standardization production data from both entities and different entities's objectives, will be achieved by 2019 (CONPES, 2010). The same report showed that while in Bogotá the UADEC has registered 2'586.235 parcels in Registration are 1'416.475 parcel and the 54% of them match (were found in both database). The report also concludes that the public registers system in the country had difficulties to provide tenure security specially in rural areas (CONPES 2010).

a-Special status of the Cadastre of Bogotá- UADEC

Cadastral of Bogotá is a decentralized cadastre that is part of Treasure District Secretary, managed by the mayor of the City. It is ruled by law 14 of 1983 and it is self-financed.

The cadastre of Bogotá, which is called Unidad Administrativa Distrital Especial Catastro (UADEC), manages the district cadastre, Bogotá has 7'881.156 of inhabitants (DANE 2005). Cadastre is based on a digital map scale 1:1000 produced from aerial color photographs from 2008 still for exclusive for cadastre. For other users photos from 2004 are available. The Parcels are identified by cedula catastral, CHIP, cadastre code (generated by cadastre) and the matricula Inmobiliaria, -the unique parcel identification from registration office-. The information can be consulted by address, chip, cedula catastral or matricula Inmobiliaria. In Bogotá since 1994 property tax is done by self-assessment, which uses as base the valuation defined by the UADEC. The cadastre of Bogotá has updated its information 100% (CONPES 2010).

The agency provides the official address for the capital, which is now rearranged due to expansion and integration of new urban areas into city's urban perimeter. Therefore, for that most of the parcels in the city have two official addresses an old and new address until unification is achieved by all citizen and entities(UADEC 2007). (The urban perimeter of the city is watched daily by 50 employees interview, local government locality Ciudad Bolívar).

b-Urban Plan of the Bogotá

The 'POT' of Bogotá was created by decree 619 of 18 of July 2000 (article 447), it also created 70 Units of Zonal Planning (UPZ) to implement the 'POT' and organize the future development of the City, this has cadastre data as a main component. The locality of Ciudad Bolívar has eight UPZ and the study area is located in UPZ called Lucero. In the Article 301 the POT defines the program for resettlement. The POT also defines a set of action and activities needed to achieve the relocation of families of "estrato" 1 and 2 that are settled in areas of high risk not mitigated by landslide and flood, areas required by public works or areas required for rearrangement of the

city's development. In the art 303 defines that The CVP will be in charge to relocate people (CVP 2010). The agreement 308 of 2008 defines the economic, social, environmental development plan and public work for Bogota from 2008 to 2012.

Tenure in Colombia

Colombia is a democracy country that recognises private property (Article 58 of the Constitution). Ownership can be public, private, associative or communal. Land can be owned state, individual or groups.

To register a property is required to have a title, a ruling resolution or a resolution of assignment. There are no different methods to register land. The Colombian civil code of 1887 divides union assets in property for public use, fiscal property and vacant property. The article 673 alludes to the way one can obtain ownership as a means to secure land tenure, such as occupation, accession, transfer and adverse possession.

Legal access to land in private property can be by sale purchase of legalized property, usufruct, leasing, partition inheritance, division of community property, house leasing contract, adjudication as transit settlement, regular possession, occupation, legal process of acquisition by adverse possession and developing productive projects.

Informal or illegal accessing tenure in private property can be by sale-purchase of property (subdivision), invasion of private property and irregular possession. In state property it can be occupation or invasion and illegal subdivision of state land for sale or purchase.

Private land can be private land and real property in case for housing owned.

There are three types of group land: two communal land for: Territories indigenous and Territories of Afro Colombian. Third group for associative property, this is held by rural workers grouped in cooperatives. Article 64 of the Constitution.

According the type of tenure it can be ownership, possession, invasion, simple tenure (free usufruct), user loans (for instance use of a school) , rent, usufruct, housing leasing, transit and temporary settlement.

2.6. The LAND ADMINISTRATION DOMAIN MODEL(LADM)

From Lemmen, van Oosterom et al (2009) "The Land Administration Domain Model (LADM) aims to support 'an extensible basis for efficient and effective cadastral system development based on a Model Driven Architecture (MDA)' and to enable involved parties, both within one country and between different countries, to communicate based on the shared ontology implied by the model".

From Lemmen (Lemmen, van Oosterom et al. 2009) the scope of the LADM comprises:

- It defines a referential model, covering all basic information related components of land administration.
- It provides an abstract, conceptual schema with five packages. Each package with specific colour - related to (1) people and organizations (parties in green), (2) for geospatial objects such as parcel - Spatial Unit in blue, (3) for legal and administrative issues, property rights that include rights, responsibilities and restriction in yellow, (4) for surveying in pink, (5) for geometry and topology in purple.
- The terminology allows a shared description of different practices and procedures in various jurisdiction
- It allows the combination of land administration from different sources.

LADM should be able to accommodate any legal framework. However, Legal implications that interfere with (national) land administration laws are outside the scope of the LADM. The model, represented by

the UML class diagram, shows the relation between LA_RecorderObject (can be a parcel) and party (Party –sometime called ‘subject’) via LA_Right is the foundation of every land administration. Besides rights there can also be restrictions on responsibilities between the real estate object and the persons. (van Oosterom, Lemmen et al. 2006).The classes of the LADM are described here bellow.

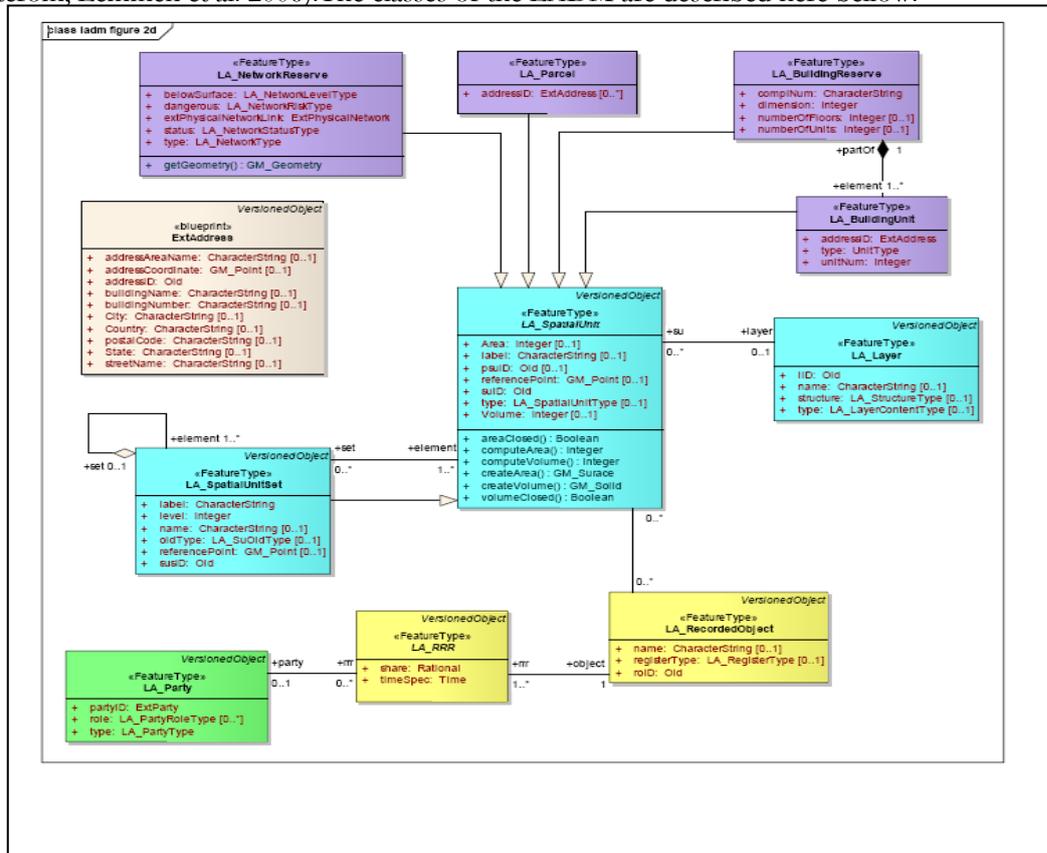


Figure 5. The basic concepts of the LADM (Lemmen 2010)

Legal and Administrative: classes LA_RRR

The principal class is (Land Administration Right, Restrictions and Responsibilities) LA_RRR is an abstract with three specializations: LA_Rights, LA_Restrictions and LA_Responsibilities. All RRRs are based on legalDocument as source. In principle legal data will not be modified without provision of legalDocument. The essential data of a legalDocument area associated with the classes RRR and Mortgage. A single legal document maybe the source of multiple instances of these classes and may even create of mix of them. LA_RRR class is associated with LA_Party, LA_RecorderObject and LA_AdminDocument. It is subclass of VersionedObject class.

The Spatial Unit class is an abstract classes that are defined with attributes and LA_SpatialUnit with operations. The spatial Unit has four instance LA_Parcel, LA_BuildingUnit, Building Reserve and LA_Network Reserve.

The LA_Parcel is a subclass of LA_Spatial Unit class. This is defined specific class since its definition is as spatial Unit is well known in many Countries. So it is independent represented and has one attribute addressed. This class inherited the previous attributes and function from LA_SpatialUnit.

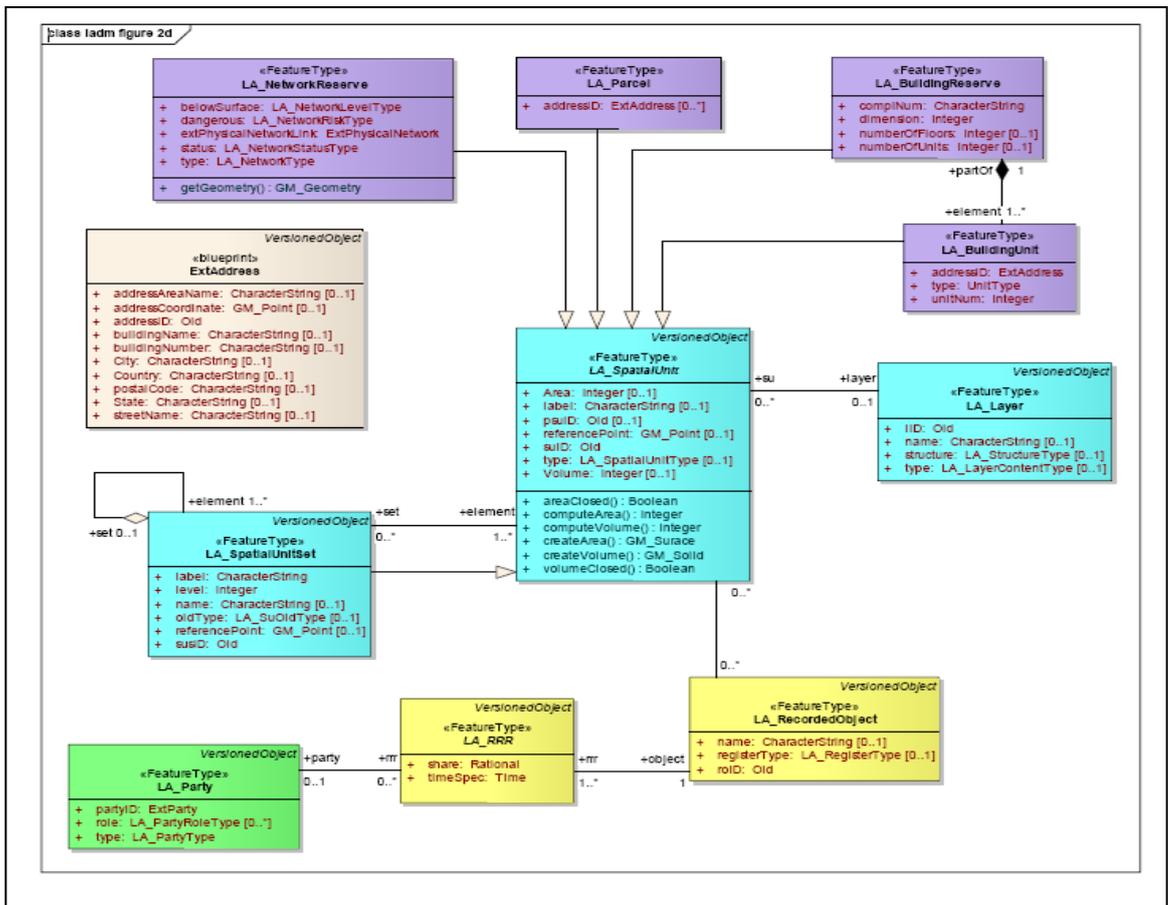


Figure 6. LA_SpatialUnit and the basic core classes

LA_Right class describes the real property right based on legislation. It has one attribute defined right Type. This can be agriActivity, grazing, lease, occupation, ownership and water rights.

The LA_Restriction class is legal limitation to property rights. This describes that owner is obligated to do something or allows third person to do or something cannot be done by the owner (van Oosterom, Lemmen et al. 2006) (for instance to build). Restriction can be imposed within private law (servitude) or within public law through zoning and environmental limitations.

It has one attribute defined LA_Restriction Type Restriction type can be monument, no Building, servitude.

The LA_Responsibility class is legal obligation that describes what owner has to do. This describe if owner is obligated to do something or not do. It has one attribute defined LA_Responsibility Type and can be monument maintenance, water maintenance.

The LA_Party describes a single person or group of persons, they can be natural to no natural .Three attributes are defined: partyID, role and type. Role : LA_PartyRoleType. Possible values: conveyor, farmer, loan Provider, surveyor. Type: LA_PartyType. Possible values: naturalPerson, nonNaturalPerson and group Party.

2.7. The Social Tenure Domain Model (STDM)

The Tenure Domain Model (STDM) is an initiative of UN-HABITAT to support land administration, it was developed to be applied in developing countries to include areas such as slum, or rural that are out of the formal land information. The Social Tenure Domain Model (STDM) allows the representation of all the relationships between people and land, regardless the level of formalization of those relationships (Lemmen 2010). The core classes Parties, Social Tenure Relationships and Spatial Units are similar to LADM Core Classes recorded object from LADM called Basic Administrative Unit is not used in the STDM version applied in this thesis. A description of the STDM core classes is given in (Figure 7)

'People – land' relationships can be expressed in terms of persons (or parties) having social tenure relationships to spatial units.

Parties are persons, or groups of persons, or non natural persons, that compose an identifiable single entity. A non natural person may be a tribe, a family, a village, a company, a municipality, the state, a farmers' cooperation, or a church community. This list may be extended, and it can be adapted to local situations, based on community needs.

Land rights may be formal ownership, apartment right, usufruct, free hold, lease hold, or state land. It can also be social tenure relationships like occupation, tenancy, non-formal and informal rights, customary rights (which can be of many different types with specific names), indigenous rights, and possession. There may be overlapping claims, disagreement and conflict situations. There may be uncontrolled privatisation. Again, this is an extensible list to be filled in with local tenancies. A restriction is a formal or informal entitlement to refrain from doing something; e.g. it is not allowed to have ownership in indigenous areas. Or it may be a servitude or mortgage as a restriction to the ownership right. There may be a temporal dimension, e.g. in case of nomadic behaviour when pastoralist cross the land depending on the season. This temporal dimension has sometimes a fuzzy nature, e.g. "just after the end of the rainy season".

Spatial units are the areas of land (or water) where the rights and social tenure relationships apply. According to the LADM/STDM ISO-standard those areas can be represented as a text ("from this tree to that river"), as a single point, as a set of unstructured lines, as a surface, or even as a 3D volume. This range of spatial unit representation can cover community based land administration systems, or rural, or urban, or other types of land administrations, like marine cadastres and 3D cadastres. Surveys may concern the identification of spatial units on a photograph, an image or a topographic map. There may be sketch maps drawn up locally. A sketch map may be drawn on a wall where a photograph is taken from.

In conclusion, the flexibility of STDM is in the recognition that parties, spatial units and social tenure relationships may appear in many ways, depending on local tradition, culture, religion and behaviour. Recordation in STDM may not only be based on formal registration of formal land rights, but may also be based on observations in reality, resulting in recordation of informal land use rights. This is also one of the principles of FIG's 'Cadastre 2014'.

Figure 7 The STDM's core classes definitions (Lemmen 2010).

As a conceptual model the STDM should be able to implement in any different customary system. For this purpose the continuum of land rights developed by UN-HABITAT (2008) is used see (Figure 8)

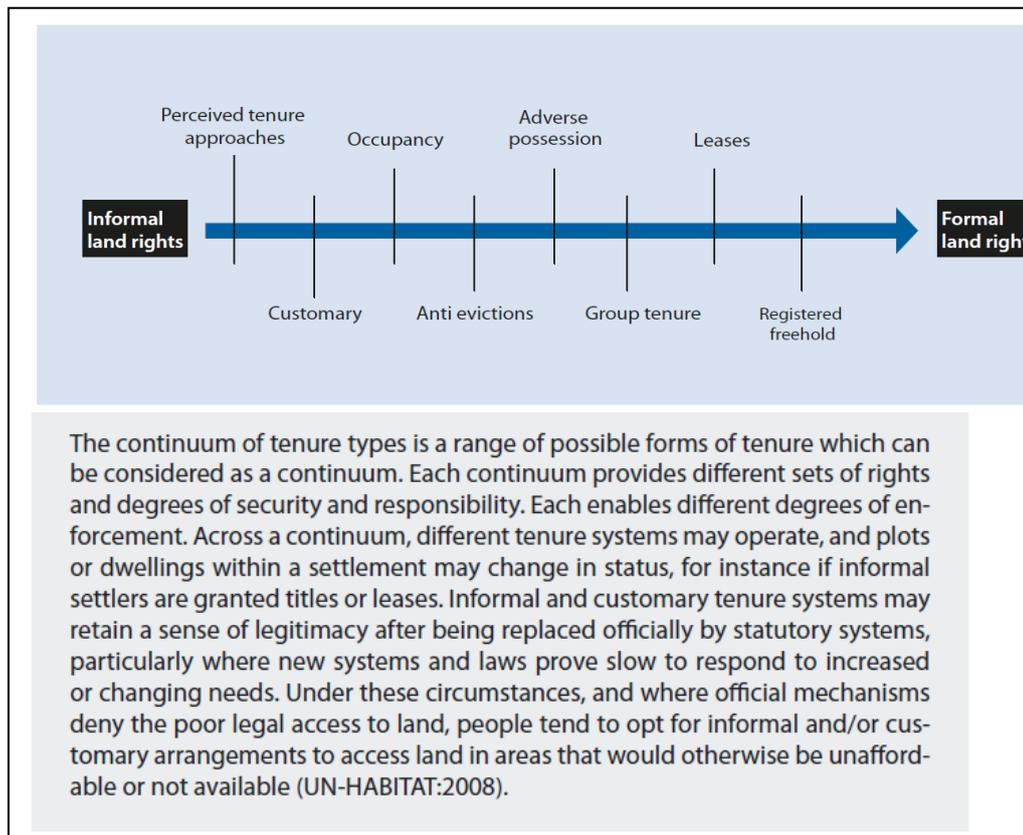


Figure 8 "The continuum land right approach" from (Lemmen 2010)

Government may provide tenure when they recognize some right to a specific groups such as the indigenous communities that in the last century are been included in some countries.

In areas of lack or without complete Land administration is needed to know how different right are being arrange among people. This will facilitate the implementation of land policies. The Human Rights need to be taking into consideration into the definitions of policies to reduce poverty.

The Millennium Development Goals has eight objectives to reduce poverty, the accomplishment of these objectives requires information from land administration both in formal and in informal areas or areas without land administration.

2.8. Summary Literature Review

Land Administration supports in the provision of tenure security. It has as main components cadastre and registration that some time could be in a single or several organizations. These systems have legal framework and update their data to produce proper information for the implementation of land policies. Land administration is implemented under a statutory system from which the state defines Institutions and agencies that implement the national registration to provide tenure security.

The LADM model facilitates the implementation of tenure security where land information –cadastre and registration- exist. Taking the advantage of technology, the model reduces the duplication of information and facilitates the sharing of land administration data. As part of this model the STDM is proposed to include all the types of tenure systems that are not included under the statutory framework.

3. CASE STUDY AND METHODOLOGY

In this chapter an overview is given of the relevant points of the Constitution of Colombia and of the international agreement and declaration which are relevant in the context of the illegal, informal area's and the recognition of rights of the people living there. Some information is presented (in brief) relevant to understanding the situation in the case study area. Finally the study area and the survey field approach is described.

3.1. The Constitution and the Human Rights

The Colombian Constitutions was modified in 1991. Its content was influenced by the International Declaration of Human Rights and the diverse participation that it had. Thereafter Colombia is defined by the Constitutions as 'a Social State of Law' where prevails democracy. It recognizes private property –as before - and includes the equal right between women and men. Follow are extracted some of its articles:

- Article 12 All persons are born free and equal...will receive the same protection and treatment by the authorities and enjoy the same rights, freedoms and opportunities...The state shall promote the conditions for real equality and effective and it will take measures in favour of discriminated or marginalized groups.
- Article 15 All person have the right to know, update and rectify the information gathered about them in the databases and in files of public or private entities.
- Article 23 Everyone has the right to submit petitions to the authorities for reason of general or particular interest and to obtain prompt resolution. The legislator may regulate the private organization to ensure the fundamental rights.
- Article 25 Right to work.
- Article 51 All Colombian have entitle to decent housing. The state will determine the conditions necessary to enforce this law and will promote plan of housing of social interest, adequate long term funding and associative forms of implementation of these housing programs.
- Article 43 Women and men have same right and opportunities. Women won't be subjected to any kind of discrimination. The state will provide special support to women householder
- Article 44 Right of Children
- Article 46 State, the society and family will concur to protection of older people
- Article 58 Private property is guarantee and other rights under civil law and other can not be ignored or violated by subsequent law.
- Article 60 The State will promote the access to property
- Article 74. All persons have the right to access public documents except in cases specified by law.

3.2. International Agreement and declaration in Favor of rights of the poor

Colombia signed international human rights agreements ICESCR, ICCPR, ICERD, CEDAW and CRC which include the right to have adequate housing. These international agreements provide specific regulations regarding land rights for minorities groups. However this information is dispersed among several organizations. In addition, Colombia's Constitution guarantees the respect and exercise of human rights of all citizens regardless land ownership or living conditions.

a) Universal Declaration on Human Rights (UDHR)

- Article 2 entitles everyone to the rights and freedoms laid down in this declaration without discrimination,
- Article 7 entitle the right to equality,
- Article 16 entitles men and women to equal rights as to, during and upon dissolution of marriage.
- Article 17 recognizes every person's right to own property and prohibits arbitrary deprivation of it.
- Article 25 confirms the right to an adequate standard living, including housing; and the right to secure in the event of disability, sickness, old age, widowhood or other lack of livelihood in circumstances beyond his control,
- Article 28 'Everyone is entitled to a social and international order in which the rights and freedoms set forth in this Declaration can be fully realized'.
- Article 29 'Everyone has a duties to the community in which alone the free a full development of his personality is possible', and
- Article 30 'Nothing in this declaration may be interpreted as implying for any State, group of person any right to engage in any activity or to perform any act aimed at the destruction of any of the rights and freedom set forth herein' (UNITED NATIONS 1948).

b) International Covenant on Civil and Political Rights (ICCPR)

- Article 3 recognizes equal rights between men and women;
- Article 17 lays down the right to protection from arbitrary or unlawful interference in a person's home;
- Article 23(4) requires appropriate steps to ensure equal rights as to, during and upon dissolution of marriage (including marital property rights);
- Article 26 confirms that everyone is entitled to the equal protection of the law, without discrimination on any ground, including sex, race and ethnicity.

c) The International Convention on the Elimination of All Forms of Racial Discrimination (ICERD)

- Article 5 (d) paragraph (v) recognizes the right to property, while paragraph (vi) confirms the right to inherit; and
- Article 5(e) paragraph (iii) recognizes the right to housing.

d) Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW)

- Article 13 requires the elimination of discrimination against women in areas of economic and social life to ensure women's equal right to bank loans, mortgages and other forms of financial credit;
- Article 14(2)(h) confirms women's right to enjoy adequate living conditions, particularly in relation to housing, sanitation, electricity and water supply, transport and communications;
- Article 15 accords women equality with men before the law, and recognizes their equal right to conclude contracts and administer property.

e) American Convention on Human Rights (ACHR)

- Article 21 confirms the right to property and states that property may only be expropriated against just compensation for reason of public utility or social interest;
- Article recognizes equal protection of the law

f) Convention on the Right of Child (CRC)

- Article 27 recognises the right of every child to a standard of living adequate for the child's physical, mental, spiritual, moral and social development.

3.3. Informal settlement in Colombia

Since 1991 the Colombian government changed its housing scheme from housing promoter to facilitator that provides grants for purchase. This has led to new forms of urban growth based solely on market rationality and the national house building disappeared (UN-HABITAT 2005). This changing of the state to assign to the private sector building and housing financing and the inability of a large segment of population to access this formal housing scheme entail an accelerated spontaneous urban growth (Tarchopulos and Ceballos 2003). The constitution of 1991 made municipalities responsible for the urban development and housing solutions (Congreso de la Republica de Colombia 1991).

The illegal developments have provided an important weight to the disordered growth of the city. Studies show that in the period between December 1986 and January 1991 this type of development took 2.218,07 ha, at the rate of -304,5 ha/year, representing 41,7% of the territorial expansion, of which 94.4% took place outside the city limit. The proportion of such developments is 44% of the total growth in the city, according to the estimation made in the territorial management plan for the city called 'POT' (Tarchopulos and Ceballos 2003). Those who subdivide the land receive between 80% and 90% of the profit from of the initial value of the purchase (Torres 2007).

In Colombia 68.5% of the urban parcels and 74.8% of the rural area are excluded from the formal system and have lack of the benefits that offers a modern economy due, among other factors, because their holders have no access to essentials institutional instrument such as property rights to obtain credit (ILD 2005).

In Colombia there are two types of informal settlement according how they originated: invader and illegal parceling -illegal development-. According to the type of area -urban or rural- and size of the parcel some agencies are assigned to manage the social issue. In rural areas and for large size parcel INCODER is in charge and in urban areas in Bogota the CVP is in charge.

The illegal developments have provided an important weight to the disordered growth of the city. Studies show that in the period between The importance of the illegal developments is that they are the only possibility that many low income households have to acquire housing (Ortiz 1995). According to Molina (1990) what people paid is equivalent to the 20% for a same plot of 60 or 70 square meters in area with regulation.

The intensification of the political, social and armed conflict makes sustainable informal urbanization trend much of the national urban structure. The indicators concerning displacement, poverty and misery confirm this. There is not tendency to show positive change in these indicators but there are signs of a growing problem. This means that nothing in particular, in relation with the political and military conflict suggesting that the social conflict will give respite and that today's informality can be integrated in urban dynamics of formality in a timely manner (Torres 2007). In this informality there is exchange of votes for machinery and material for construction between politician and community, in Gutierrez (1994) some examples are given for the case of Ciudad Bolivar, where new politician also emerged from this informality that resulted in new political parties at this time.

To manage this problem one entity CVP has as a main function to legalize those areas and improve the conditions of the informal neighborhoods, which are usually established with lack of infrastructure. Unlike other cities in the country, the most common origin of informal settlement in Bogota is illegal urbanization (Torres 2007).

The Caja de Vivienda Popular (CVP) is the agency in charge to manage housing issues of low income people. It is a district decentralized entity that was established in 1942. It has among other functions to improve and legalize parcel ownership in informal neighborhoods. This is done after the approval of the neighborhood by the District Planning Office. Since 1996 the CVP has as primary function to address the

resettlement of households living in highly vulnerable areas located in unmitigated risk and around streams, according to 'POT' of the City. For this it ratifies as a promoter of building social housing to relocate affected people (CVP 2010). The CVP 1999 started the program of 'Parcel titling' to families of 'estrato' 1 and 2 located in informal neighbourhoods. The title is available in three ways in more details (annex 5):

- 1- Assignment of a free title
- 2- Direct alienation through mediation
- 3- Abbreviated process of belonging (acquisitive prescription)

The Community, and particularly the low income people that habit in Colombia's cities, have been organized to procure a roof, basic services, improve their living conditions and to have a bigger political participation. This situation has led to assumes by various forms and different tools of confrontation with the State. This is an attempt to find solutions and improve their living quality conditions. The efforts that community made individual and collective are slow but constant. They resulted on consolidation of informal neighborhoods where the community's work and organization play the main role (Torres 2007). According to study carried out in 2002 in the District of Bogota 40% of the total of communal organization in the capital, correspond to JAC (see glossary) (DABS 2005) . The current law of the JAC is 743 of 2002 In Bogota they are under coordination of the District Institute of Participation and Communal Action IDPAC, sub direction of Communal Issues. In DABS (2005) showed that 98% of the JAC performed administrative and accounting inspection during the year 2008-2009. The 94% of the JAC have statutes approved by IDPAC. Other activities are coordinated with JAC such as improvement plans and monitoring the improvement plans(IDPAC 2010)

3.3.1. Summary literature Review Case Study

In Colombia land administration is organized in two main independent Institutions Cadastre and Registration. Cadastre works as a combination of decentralize agencies for some cities and centralized for rural areas. Registration is a centralized institution that works in coordination with notaries. Cadastre has a fiscal purpose, for that it keeps the data relate to the parcel including buildings their use and valuation. This information is the base for land and property taxation at national level.

At the same time, the country has an armed conflict that resulted in almost 4 million of displaced people, most of them indigenous, Afro-Colombian and peasants that migrate to urban areas, resulting in half of the population living in poverty. For that reason the increase of illegal settlements is a permanent problem in almost all urban areas. The state has been developing national programs to support and alleviate low income people providing subsidies as complement to obtain new home and social programs to help different groups of people. Cadastre keeps the physical inventory updated including the informal settlements in Bogota. This information is available to citizen and shared with other agencies such as CVP.

The approval of informal settlements in Bogota involves two district agencies. The approval as a neighborhood is under the responsibility of the UADP and the individual title of ownership is responsibility of The Caja de Vivienda Popular (CVP), which provides technical support to achieve this. The process is done with participation of cadastre of Bogota which provides the information relate to the parcels.

The human rights signed in the middle of this century define several fundamental rights that many countries are confirmed but its the implementations is still a goal.

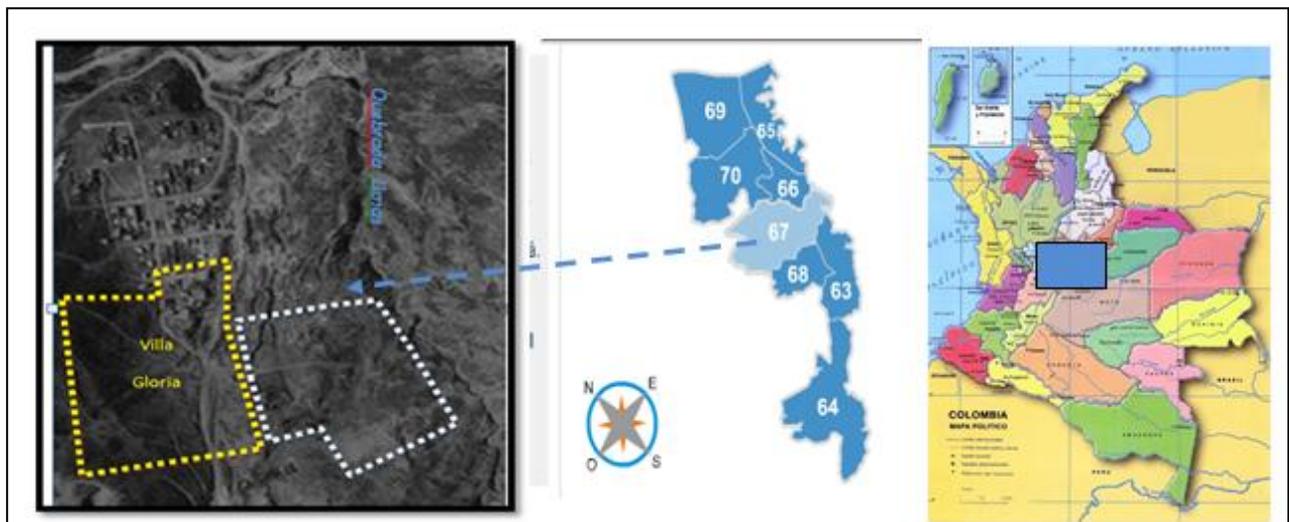
3.4. Fieldwork

3.4.1. Study area

The area of study is the locality '19' of Bogota, Ciudad Bolivar. The locality is one of the first areas of informal settlement in the city, starting in 1940. The area is selected because it is one of the areas that receives more population from different regions and is one of the poorest areas of Bogota.

According local authorities the urban area corresponds to 24% of the total area, 4 % is the expansion area and most of the area is declared rural (73%). Munch of the informal settlement area is located in this area. About 100.000 of persons are living in informal settlement located in areas of high and middle geological risk.

628.672 inhabitants lives in the locality (Alcaldia Mayor de Bogota 2003). It is one of the three largest areas and most diverse of Bogota's 20 localities. The area was classified as 'estrato 1 and 2' (the lowest in the social economic level classification which range from 1 to 6) in Bogota. Of the total of the poorest people in Bogota, the 63% of them is living in this locality. The 32% of its population is living in conditions of extreme poverty. Most of the population 58% are less than 26 years old (Alcaldia Mayor de Bogota 2003). The 69% of the urban constructions are classified as houses.



In the Right location of Bogota in blue. In the middle map of Locality of Ciudad Bolivar: the UPZ 69 where belongs the study area. Sources: from web of SDGB and aerial photo from IGAC 1978.

Figure 9 Location of the study area.

Ciudad Bolivar began to be populated by 1940, when some of the large farms located in the south of the city began to subdivide occupied persons coming from the departments of Tolima, Cundinamarca and Boyaca. In the 50s the neighborhoods of San Francisco, Meissen, Lucero, La Maria, were created in its lower area, by the Tunjuelito river. By 1970 the population was about 50,000. During the 80s a second immigration wave started and the population increased to 250.000. This time the occupation of the highest part of the locality began, which involved enormous difficulties in deploying utilities. In 1983, after the occupation of the south hills, Ciudad Bolivar was formally established as a locality (SDGB 2011). Before this, the area was part of the Locality of Bosa. During this time the development of Villa Gloria and El Triunfo began.

The locality is administered by the Major of the locality and the Board Local Administration (JAL) -that are 11 popular elected members. The area is divided in eight UPZs (Unit Zone Planning). In total, Ciudad Bolivar has 253 recognized neighborhoods, of which 147 are legal. Most of the current legal neighborhoods were legalized by DAPD -the district authority (SDGB 2011) .

The UPZ Lucero has 69 neighborhoods, from which 53 are legalized. It has 366 hectares, 22.367 lots (Alcaldía Mayor de Bogotá 2003) and 229.216 inhabitants. This UPZ has 14 public schools with 21 branches, 24 private schools to serve population of status 1 and 2. To serve the population under 4 years old the UPZ Lucero has 4 public kindergartens, 4 neighborhood houses, 158 Social Welfare Houses (HOBIS). For health care services the residents in this UPZ have access to 3 centers with different levels of attention and two hospitals (one Primary Unit of Health Care UPAS, one Basic Unit of Health Care UBAS, one Center of immediate medical Assistance CAMI). In addition, Lucero does count with one Police Station with two auxiliary branches and one marketplace.

3.4.2. Interviews

In total were conducted 93 interviews from which 75 correspond to the study area and 18 to external persons involved in government agency with the exception of 2 lawyers consulted to better understanding of the legal situation.

In the neighborhoods Villa Gloria and EL Triunfo 75 persons, from which 60 was by individual interview and other (15) using group interview. The questionnaires used were structured with some multiple choice and some open ended. From government 18 interviews were conducted with staff from local government: Staff of Special Administrative Unit of District Cadastre [Unidad Administrativa Especial Catastro Distrital, UAECD], Registrar's Office South, one edil and two collaborated of other edil, two staff of the Planning District, two staff of the Caja de Vivienda Popular section of legalization which included the lawyer in charge of this case, one staff of Habitat: Control and monitoring office of Housing [Oficina de Control y vigilancia de la Vivienda], three staff of the Local Town Hall of Ciudad Bolívar. Two lawyers and two staff from utilities of water and electricity.

During the interview the boundaries of each lot were collected on aerial photos by photo identification process. The images were enlarged and printed in different scales (approximate 1:500 and 1:1000), in total seven printed areas were used. To complement some sketch of group of plot –*manzana*– were drawn both individual and block and notes to facilitate the data processing and location of the lots.

3.4.3. The sample size

The sample was defined by using Slovin's formula as follows:

$n = N / (1 + NE^2)$, where: n = sample size, N = population size, E = margin of error (10%).

In the study area the total number of households is 794 ((Secretaría de Gobierno de Bogotá 2010) therefore the simple size for the case study is $= 794 / (1 + 794 (10\%)^2) = 88$ lots

The sample size according to Slovin's formula with 10% of error was 88 lots, so it was expected to get 88 questionnaires. During field work 60 individual questionnaires with the photo identification of each plot were collected. Additional group interviews were conducted.

3.4.4. Survey Observation

During field observation data were collected about infrastructure, material of street, type of access to different areas, type of transportation. How community is organized. Pictures and notes were taken to complement this information. The participants in the interviews were mainly old people and women. The approach started with an old person who contacted me with the head representative of the community, the president of the JAC of EL Triunfo who is the main leader in the area. After explaining to him the purpose of the survey he informed all community by a loudspeaker that is heard in six neighborhoods around. Afterwards a meeting was prepared to share with the community the purpose of the study and to select the interesting. From this meeting some contacts were made and the list and address of the head of each community were collected.

Secondary Data Collection

The Table 3 describes secondary data collected in two part spatial data and descriptive, it also describes the source of it.

Table 3 Secondary data

a-Spatial data	b-Descriptive data
<ul style="list-style-type: none"> - Aerial photo scale 1:5.000 of the study area taken in 2004. UADEC. - Aerial photo scale 1:7500 of the study area 1978. Provider IGAC. - Map of Bogota scale 1:30.000, format dxf. Provider IGAC. - Plan of the area scale 1:5000, 1979 Distrital office of planning. - Plan of lots of the area scale 1:2000, 2004. UAECED. - Two Analogue plans of the Zonal planning Unit (UPZ) 69 Lucero, 2004 . Scale 1:5000. Provider Distrital office of planning. 	<ul style="list-style-type: none"> - Urban nomenclature guide. Book. UAECED - Certificates of liberty of the study area (this official document describes the legal ownership of the study area). Office of Registration south. - Development plan economic, social and public works for the locality of Ciudad Bolivar 2009-2012. Local Town Hall 19 of Ciudad Bolivar. - Ciudad Bolivar monography. University Distrital Francisco Jose de Caldas. - Legislation: decrees and law relates rights and land rights in Colombia. - Additionally to understand better the information other data were collected example of : social security, level of classification in Sisben system, types of promise of sell, one certification provided by the JAC. - Place to vote, reported by The National Registration of citizenship, located in In VILLA GLORIA SUR Cra 18 M con Calle 69 K Sur Colegio Distrital Villa Mar. (Report from Registraduria)

3.4.5. Definition of parameters

The parameters were defined using as reference variables defined by UN-HABITAT (2003) and CEPAL and adopted in the study area. They were selected to obtain the attributes for the core classes of the SDTM model, in table (Table 4). Describing the parcel some parameter from UN-HABITAT were used and adopted, since they are defined to determine whether an area is a slum. In this case, instead to collect the access to public services, the type of these services was collected for each plot.

In UN/CEPAL (2005) slums areas are located using methodologies proposed by UNHABITAT and CELADE, results are compared and the advantages of each methodology is explained. The study was done using data from census from each country combined with satellite images and digital maps. The countries were in Paraguay (Asuncion), Brasil (Sao Pablo), Chile (Penaloen), Ecuador (Quito) and Republica Dominicana (Santo Domingo)(UN/CEPAL 2005). From this the concept of Manzana is included.

To collect the parcel boundaries aerial photo identification process was used, which is part of the methodology used by IGAC, the technical authoritative agency of cadaster in Colombia.

Table 4 Variables for the Study Area

<i>Class</i>	<i>Initial Variables</i>	<i>Variables in the study area</i>
Party	<ul style="list-style-type: none"> - Individual or group - Gender - Type of Groups: cooperative, society 	<ul style="list-style-type: none"> - Type of person: natural person or not natural person - Householder by Gender - Women householder - Older person householder - Group: couple, JAC
Social Tenure Relationship	<ul style="list-style-type: none"> - Time, - Type of access, - Level of participation (right of voting or paying taxation), developing area by Type of communal work, and -Other according the local legislation 	<ul style="list-style-type: none"> - Time living in place, - Type of access to land: Invader: pacific (with payment) - Type of document: name, - Years of the document, - Level of Participation (right of voting or payingtaxation), - Level of participation in developing area by communal work, and - Level of relation with government
Spatial Unit	<ul style="list-style-type: none"> - Inadequate access to water supply - Inadequate access to basic sanitation - Poor quality housing structure - Status residential insecure 	<ul style="list-style-type: none"> -The location taken was related to the main access and possible - Restriction according the Plan of the City or others, -Types of basic public services, - Types of house's material, - Location into the manzana, - Type of infrastructure - Access to public transport, -Type of house's access, -Status of insecure: according opinion from people and observation and topography.

Source: Made using concepts of the STDM model, for spatial Unit it was taken concept from UNHABITAT(2003) and CEPAL(2005) and adapted to the study area

3.4.6. Digitalization method and tools used

The collected data was digitalized based on cadastral map scale 1:1000 from UADCD. Based on this the sectors and manzanas, types of access and types of affectations where digitalized. The infrastructure as schools, communal room and other parcel were identified based on the photo identification. Each parcel was identified with same identification as the descriptive data from the field individual questionnaires. The descriptive data classified was classified in four tables, three of them according the core main classes defined by LADM and another where additional information was collected to better understand the process and relation with government. Descriptive data was analysed by SPSS statistics software. Spatial analyst was done using ArcGis. Based on the result the modelling was done using Enterprise, by the Class Diagram.

3.4.7. Barriers

Time was constrain to obtain all the required data from people. Details about the construction, were observed but not collected because it requires more time, however the general description was included.

The deeds and the other possible files about the history of the study area in District planning office were not consulted due to time restrictions. This district office –UAPD- the services to public is available each Monday from 2pm to 5 pm but the demand is high. Therefore consulted and photocopy the existing plan only, the resolution may describe more details.

The locality of Bosa was not consulted and maybe there is information of the study areas because it was part of this locality. The role of the sellers was also not documented because that require more time.

4. ANALYSIS

This In this chapter the development over time of parts two neighbourhoods Villa Gloria and El Triunfo is explained. It describes how the area was built, how the social relationship among their inhabitant grew, how they are organized to take decisions, what type of action they have taken in order to obtain human rights and what type of rights they have already. Over time the inhabitant has been interacting with external government entities or representatives

The following four phases are proposed as each phase leads to an important milestone in the gradually ‘formalization’ of the area. Three variables are used physical description, the organization of the land issues and the achievements obtained by community, using those variables it will show progressively how the community and urban area is developed without presence of the state. The phase also show the community’s aptitude to organize themselves for both, claiming human rights and creating its own tenure system. Later, it will be partially accepted by government, with positive and negative effect as well.

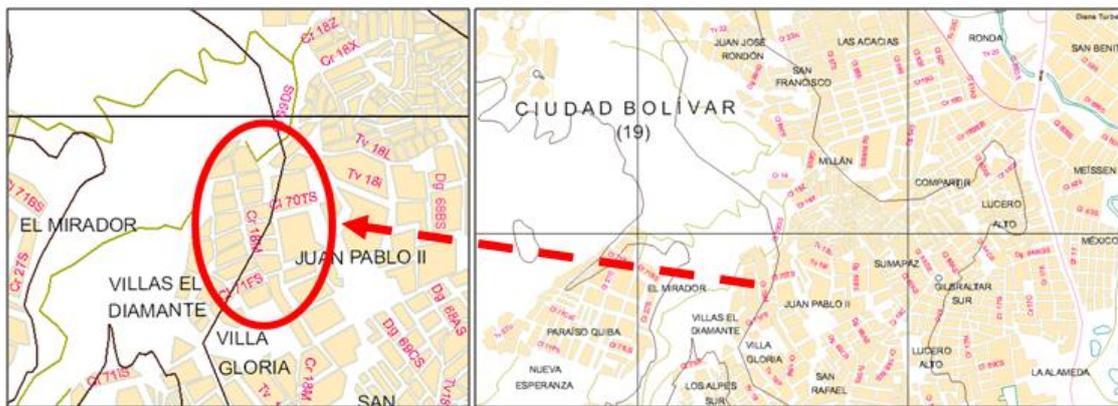


Figure 11 Villa Gloria and El Triunfo on map of Bogota (IGAC).

4.1. Phase 1: Subdivision

Start: 1970 - 1980

People came from different areas of the city and outside in search of an affordable place to live and to avoid paying rent. They had several backgrounds, former farmers and working class who found in this area the opportunity to have their own land.

4.1.1. Physical Description

Between the 70s and 80s this area was rural and under management of the locality of Bosa. Land was divided and sold. The price was lower than in the city, considering it was a rural area with no utilities, nor plans. A person would get there with a referenced of someone who had already bought a

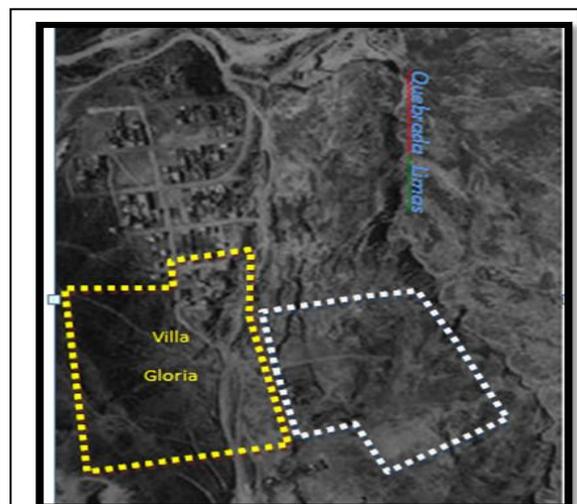


Figure 10 Study area on aerial photo

In yellow Villa Gloria and in white El Triunfo
Source: aeriaphoto IGAC 1978

piece or planned. The figure (11) shows where will be located *Villa Gloria* and in white the area *El Triunfo*.

4.1.2. Organization

Documents shows that the study area of Villa Gloria and El Trinfo as private property by early 70 and subdivided by their owner. The neighbourhood of Villa Gloria, in 1963 was private property and since 1973 Edelmira Blanco de Rodrigues has the title of ownership of the area. Her title is identified with the *Matricula Inmobiliaria* 050S-171768. In table 6 shows details of her title and the boundaries are described in Registration office. More detail about previous owner are in annex (7). The neighbourhood of *El Triunfo* - white area in Table 5 was private property, according to documents since at least 1954. Since then three transactions were done until 1964.

Table 5 Legal Ownership in the Study Area during subdivision

Villa Gloria	
Description of the parcel identified as MI 50S-171768	Registration Circle: 50S Bogota Zona Sur DPTO-Bogota D.C Municipality: Bosa. Cadastral code: BS 155 10 Folio status: Active Opening date: 21-09-1973
Area of land that has approximately 10 fanegadas that represents 64.000 square meters, it is known as <i>El Filon</i> and hereafter will be called <i>Villa Gloria</i> . This plot of land is located in the Special District of Bogota, zone of Bosa which was part of the Madrid farm or ranch Meissen. Boundaries, North: starting from a landmark located in the <i>right bank of a downstream following the edge of this stream of 200 meters</i> until found a landmark B. Orient: from landmark B straight line until find the landmark A delimiting the land that is property of the vendors and creditors themselves. South: starting from landmark A located in the boundary of ranch La Maria in 132.82 meters in string line until find the landmark B of the same ranch La Maria. Occident: starting from the landmark D straight line until found landmark C, starting point delimiting with land of vendors and creditors themselves.	
El Triunfo	
Description of the parcel identified as MI 50S-1045683 50S-434057	Registration Circle: 50S Bogota Zona Sur Dpto-Bogota D.C Municipality: Bogota. Cadastral code: BS 155 10 Folio status: Active Opening date: 14-10-1958 by deed 558 issued in notaty 10a Owner: Prieto Salazar Carlos and Ana Arevalo
The parcel is conformed by three parcels. First plot number was part of the parcels La Hoyada, San Jorge, San Juan y la Virginia with an area of 91.276,84 square meters, deed 1368 of 1966 issued in notary 9. Pot number two: plot Santa Ines that was part of the <i>farm 'Madrid'</i> of the plot la Hoyada, it has area approximate of 96.000 square meters, deed 1793 24 april of 1964 notary 9a. Plot number Three: plot San Cayetano, that was part of farm Madrid, plot mirador, it has approximated area of 96.000 square meters, deed 1794 of 24 april of 1964 issued in notary 9a. Those parcels are private property bough to Prieto Salazar Carlos and Ana Arevalo by deed 558 of 14 november of 1958, issued in notary 10.	

Both titles share as origin part of the farm Madrid. The title of Villa Gloria mentions as one the boundaries *the stream*, - the Quebrada Limas- that may suggest that the sector of the Triunfo could be included in this area. This is confirmed in the resolution 16 (2009) issued by CVP where it is cited that “the main parcel (predio de mayor extension) has the Quebrada Limas as a natural boundary” this is also confirmed by the existing interaction of people of the El Triunfo and Villa Gloria, there is lower relation with Juan Pablo. However, the legal documentation refers that the Triunfo is part of Juan Pablo original title (main parcel) , which is locate on the other side of the creek –quebrada Limas-. According to people there were not conflicts due overlaps in titles. According the interviews, the sellers had plans on which

they marked the plots. This can be clarified by searching the deeds and plan in planning offices but this was not done due to limit restriction.

The Sale of plots

From the interviews, it become clear that owners divided the area in plots for offer. The seller and new owner signed a contract called “Promesa de Venta”. After paying the seller to include the new owner in his list which he used to control who bough what plot , which was called ‘List of buyer’ . Then, the new owner had to put a phisical visible fence, usually with barbed wire as sign that the plot was sold. As time went more plots were sold and prices climbed, particularly for the section nearby the only access road to San Francisco and those by the creek. In Figure 12 shows types of those contract of the acquisition.

The document describes who is buyer and seller with their personal identification (cedula de ciudadanía), the price, and the location of the parcel using a number of plot and manzana.

Villa Gloria in this case (middle image) the contract number of the plot is cc10280337.

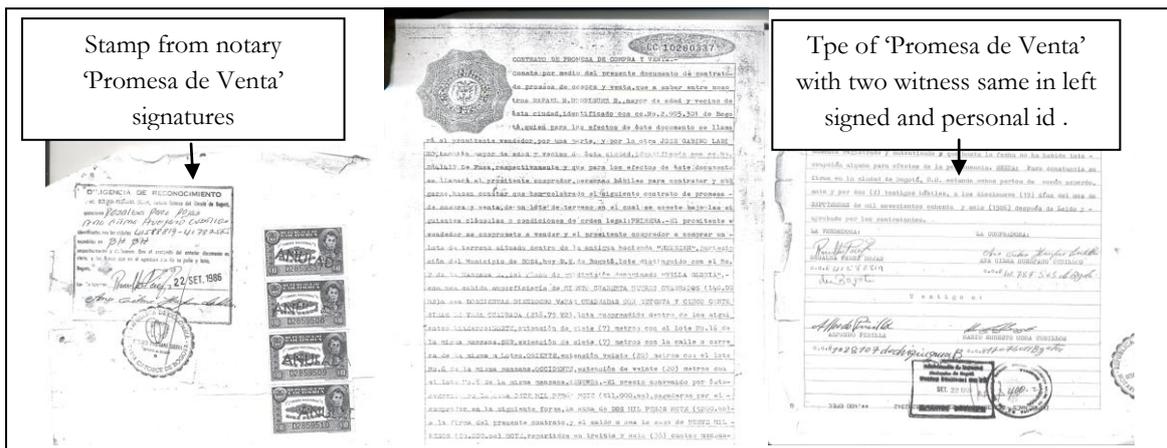


Figure 12 Example of 'Promesa de Venta'

4.1.3. Achievements

According to interviews, housing started back in the early 70s and 80s when self-built rough rustic units. Since savings had been put into buying the land, materials were of low price, low quality. Just whatever offered them a chance of a chipper fast bedroom to claim ownership of the section and eventually move in. From group interview, mention that, the first houses were built in non permanent manterial called ‘paroi’, a kind of hard clay. The main goal of this was to had posses a piece of land. A house with permanent material would be rised afterwards. Two interviewrs expressed that when they arrived 30 clay houses were standing up. Over time each new inhabitath will recognize others by construction process.

4.1.4. Summary subdivision

This Shows the lack of access to land for low income people. This need was satisfied for private persons that subdivided rural areas to become urban. Private owners benefit from this market because they sold land -without utilities, nor infrastructure of any kind- to low income people who accepted it because they did not have other affordable option. In this process (Figure 13) those low income people pay for land. They strived a lifetime to acquire an adequate living conditions. The land is private property, people paid and hold documents, they rely on, to claim possession.

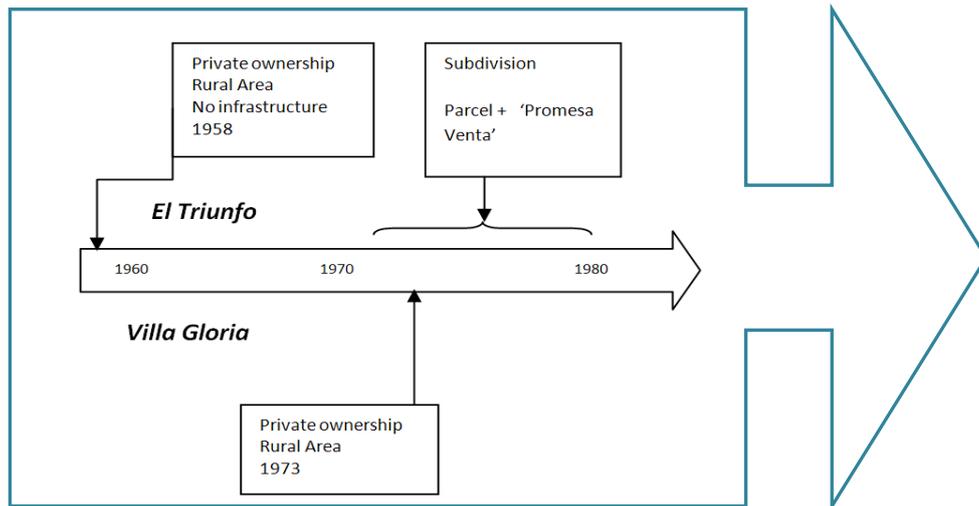


Figure 13 Phase One: Subdivision

4.2. Armed Struggle

In this phase community organize themselves to claim utilities, this resulted in frequents confrontations with police and others communities, also they started own land tenure to kept control on land issues.

Started 1981 until 1991



Figure 14 Phase two of Study Area

Villa Gloria and El Triunfo: Sources: left enlarged from IGAC map of the City and right aerialphoto from UAEDC with boundaries of the sectors identified during fieldwork.

4.2.1. Physical description

The only main access unpaved was the carrera 18 l, from San Francisco. By 80s, this urban area was built by the community that worked to open the streets, paths and common areas and some started to improve homes. This recently urban area lacked utilities and public transportation. Most thing needed to be carried walking from San Francisco, where they could also accessed to transportation.

However the needs forced them to work an they started the Junta de Accion Comunal (JAC) to coordinate access to obtain services. It was clear that being rural land utilities were not be provided by government and the access to different home required cooperation of all.

4.2.2. Organization

When all plots were occupied the sellers left. The community started to keep control of who is living in the area. They created their Junta de Accion Communal (JAC).

The JAC is nonprofits organization, that represents the community to third parties. It is head by a ‘president’ who is elected by community. The JAC started to keep the “list of buyers”. This was learned from the sellers and evolved into the current book. In Figure 15 shows one certificate issued in 1981. The JAC had juridical number. At that time was the only JAC called Villa Gloria Sur. It received NIT – tributary identification number- 60072024, issued by Ministry of Government in the Locality of Tunjuelito. At that time the Locality of Ciudad Bolivar did not exist.



Figure 15 Certification issued by JAC This belong to Villa Gloria in 1981. The

The JAC gave a number to each certificate. It describes that a plot: number of plot 7 and letter for manzana E. The certification explains that by 1979 the area was under control of Instituto de Credito Territorial (ICT). This agency - ICT was cancelled and its responsibilities were assigned to CVP.

The book has different functions: it describes total of owners in the area, -who lives where-; it is used to issue certificate by JAC about the years of a person living in the area. One of most important functions has been to solve conflict of ownership in the area. It was very useful and more relevant at the beginning. It is consulted when a new potential buyer wants to buy property in the area, to verify who has the ownership of specific property.

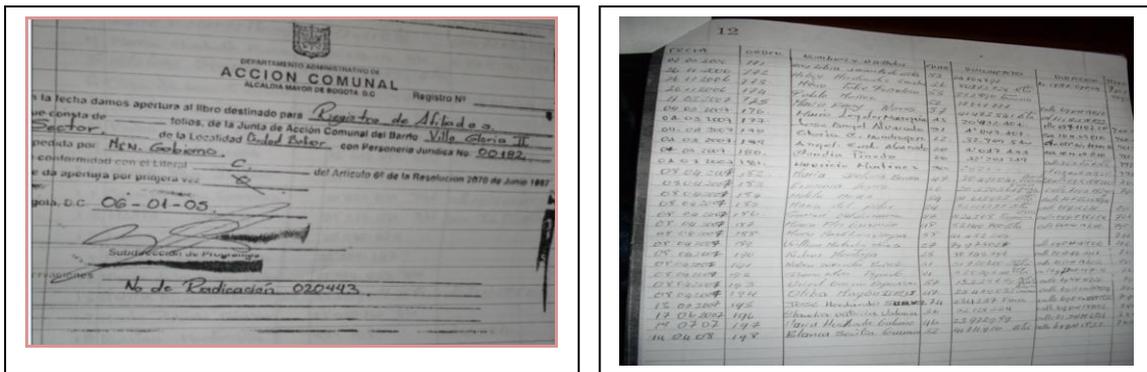


Figure 16 Libro de Afiliados of Villa Gloria. Source: Fieldwork Community of JAC of Villa Gloria II

According to the community, to be registered one needs to be recognized as owner. They recognize who built a house so among them known each other. For instance the founders are well known, there exists trust and in general the community knows that by ‘Promesa de venta’ one can do a transaction and register in the area. All participate in this system.

According the data collected in the study, plot are owned as: female owns 53% of the parcel, men 37% and couple 8%. Among the participation of the women is: 22% are widows, 13% share coparity, 38% are household and 27% are not included in the document.

Since its foundation this community has been transferring the ownership by ‘promesa de venta’. Variation on the document

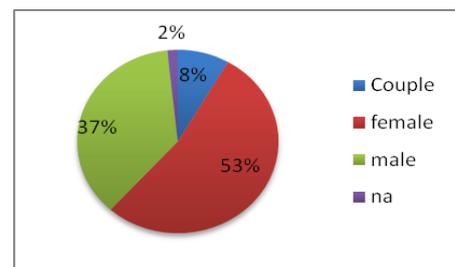


Figure 17 Civil status of owners

depends on: type of paper, whether it has witnesses and whether is authenticated by notary or not. The authentication process validate only signatures of the parties without interfering or approve its content (interview, Nelly Vargas Lawyer). This document has same the name as others known in the official system, which describe the intention of two parties to do a transaction. In case of cancellation they made agreement to compensate the other, but in any way it transferred the domain. Though so even the name is same, they have different legal implications and consequences.

4.2.3. Achievements

Documents, from this time shows that 700 owners were living in the area were almost. From the group interview, families according their capacity rebuilt the house at the same time try to get utilities, Water as a first priority and later electricity. In this process all family members are involve. As families became more stable and found better resources the quality of their houses improved. Better and more expensive materials used with the help of relatives and neighbours. At the same time common interest buildings and facilities such as the school or the water system, were planned and executed in group. Children and youngest had to work.

Water had to be carried in barrels from San Francisco, the nearest potable system the area. Later, the community made a request for water services by peaceful strikes in front of government office several time. Local government explained them that due their location out of urban boundary of the City, utilities could not be installed there. So they decided to find their own solution.

Water pipes were deployed by the community, plugging in the closest regular water pipe system. People organized their own system, transporting it from neighbourhoods through a net of hoses and stored in a concrete tank -built by them (Figure 18) . From the tank, water would be distributed or collected by the families. Team work was very important. Each family was responsible, for taking care of one hose. They checked and maintained it in good working condition. This way of resolving their common needs developed strong community relationships.

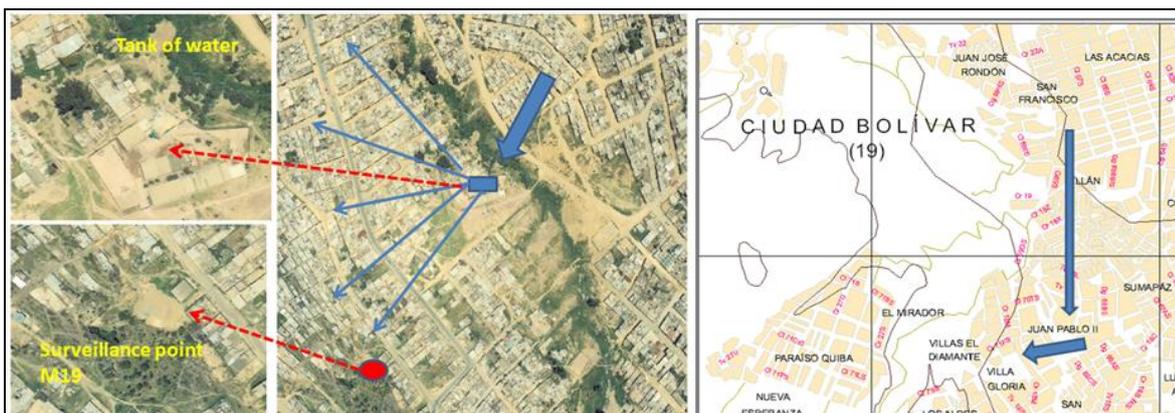


Figure 18 Route of the first utilities connection

The community told that the power grid was obtained when community helped itself with irregular connections to the power grid for the first four years. In the meanwhile the community would collect money to buy wire and other materials and pay a skilful person, to remake connections, over and over again. Supplies would be either stolen or authorities ran disconnection orders. The community was sometimes protected by irregular anti-government military groups.

This provided utility to community but also created disputes with neighbouring communities, the public forces and of the utility service companies in Bogota. This resulted in physical fights with police while the community was supported by guerrilla group M19. This group installed one permanent point (see Figure 18) to guarantee the permanent services and some persons –who lived around the concrete tank formed a

security team to watch any threat against their utilities system. For that people around the tank are very respected for the works done for the benefit of others. there exists solidarity to them and the community protects them against any threat. Both illegal connections demanded constant surveillance and communal investment. The back and forth confrontations and people’s frustration ended after almost one decade.

The hoses system was used for seven years until 1988. For the next two years they enjoyed a connection to the city’s district network. In 1990 individual connections were installed in almost all houses. The requirements to obtain an water billing devices –locally known as counters- were: copy of ‘Promesa de Venta’ and the certification of the householder indicating the place the counter would be installed, issued by the basic unit of communal organization the JAC. As a result not only the water was provided but also the very first address for the property was assigned. At the end of this process the sector along the creek adopted the name of El Triunfo as emblem of this process.

Table 6 Participation to build the neighbourhood

How did you participate in built the neighbour-hood?	Type of activity	Total	%
	working	13	32.5
	material	9	22.5
	cooking	3	7.5
	meeting	3	7.5
	security	2	5
	collecting money	2	5
	working and material	8	20
	Respondent	40	100

Community explained how the participation to build the neighbourhoods was organized, in (Table 6) shows that 32.5% cooperated working and 22.5% with material. This means that 75% of them cooperate either working or with material and both. They also explain that some persons were in charge of security, to cook and other to collect money and other coordinated the work.

In 1991, the new Constitution was approved with the participation of representatives from all groups including for first time indigenous minorities and afro-Colombian representatives. The preparation of the Constitutions was by three presidents. They represented the most popular parties at that time: one from conservatism party, one from Liberal party and one from M19 new political party¹ This new Constitution includes the recognition of utilities as basic services that should be provided to all settlements and other fundamental rights. Based on this the policy of national utilities were modified.

4.2.4. Summary of armed

During this period the community organize itself supported by armed groups to claim human right of utilities. After several confrontations cumunitary service for water is installed and soon with individuals counters. This community also create its own local registration to keep control of the ownership in the area in which all owners participate. The new urban area had about 700 plot and families with basic infrastructure of own school, common tank , some paths and streets were built by community. The new sector El Triunfo was created.

¹ The M19 was a urban guerrilla demobilized group whose leader was a presidential candidate and assassinated during his presidential campaign in 1990.

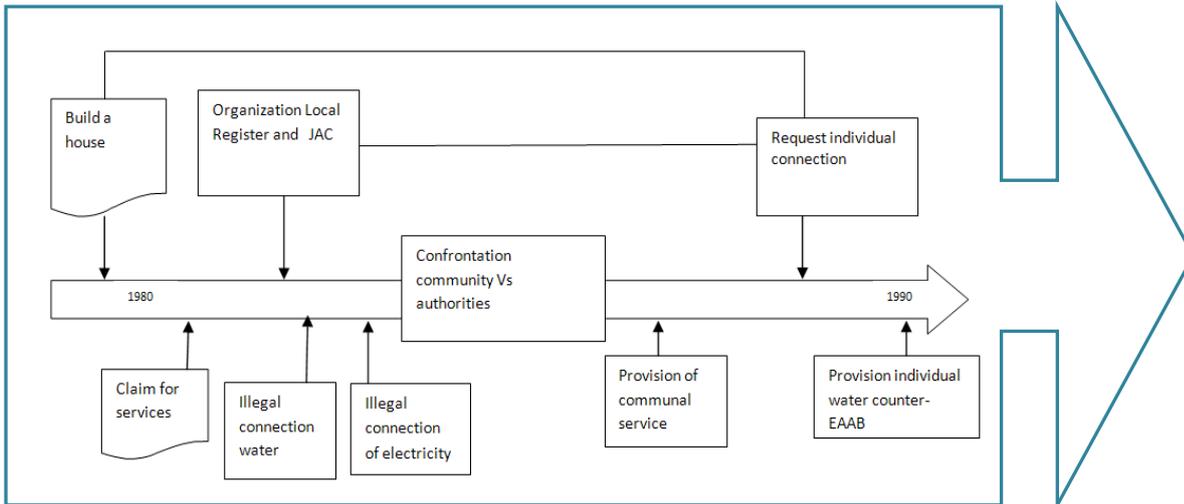


Figure 19 Summary second phase

4.3. Phase three: Official Recognition and Consolidation

The recognition of this urban area and its consolidation take place from 1992 until 2005. Nine agencies from government others that provide services in the area. This includes the local government with several social programs. This interaction improves both the physical infrastructure and the living conditions of people.

4.3.1. Physical Description



Figure 20 Recognition and Consolidation

In 1992 government officials allowed bringing electricity to legality. The network was then deployed and taken care of by the Bogota’s power company. Individual billing devices –counters- were installed as well. The school that was built started with official classes in 1995 and some material were given to the community to facilitate the teaching.

In 2004 the District Office of Urban Planning included the study area in the City, which meant both benefits and obligations. Benefits of different City programs such as request for improving streets, approval of licenses for public transportation routes, better infrastructure for schools and parks. Additionally the area needed to be part of City’s management plan ‘POT’, which is implemented by the UPZ that defines the restrictions and allowed use of lands.

In 2004, the legal system, upon which utilities are provided and maintained, was modified. Now each settlement is provided with water and electricity. Among the many reasons motivating this the ongoing fight between communities and official institutions due to power supply in informal settlements.

In 2005 the National Department of Statistic –DANE- carried out a broader national census. This census also marked houses with sticker, meaning their inhabitants were censused.

Since 2005 the IDU has paved and improved four access ways - one of them stairs, between blocks 14 and 15- where the topography of the area makes this a better way to get through. Two footpaths and one segment of the Carrera 181 see figure (mark **b** on Figure 20) . They were first made by the community and later paved by the IDU.

This include sewerage (see image 21) and collection of garbage.

After improving the streets, paths and stairs, the community signed an agreement with the IDU through its JAC to maintain this infrastructure for the following five years (interview with JAC). Currently stairs and the segment of 18m Avenue and are part of the agreement with the JAC to maintain (interview JAC).

The school and salon communal: The city government reconstructed the old building. Currently it is a district public school with adequate classrooms and open areas. During elections, , it is also used as an official place to vote. The common room of El Triunfo was also built for the district government (interview with community). community's land of both was transferred to the district government. Now they have two schools and a common room of two floors with radio loudspeaker. Secondary school in Villa Gloria and primary school are located near the concrete water tank. In Villa Gloria II, the communal room has no roof and not facilities. They do not want to lose the ownership. This brings difficulties to prepare meetings, neither can the community benefit from the district government building facilities opportunities. There is a budget to improve or build communal rooms in the locality (Alcaldía Local Ciudad Bolívar 2008).

4.3.2. Organization

The book has been modified according needs. Today it has more details, for instance, the plot number and *manzana* is not used but instead the address is used. All pages are numbered and the index is consecutive and numeric (see Figure 16) . Now the committee name which made the registration is added.

All community participate in the local registration.

This local registration serves a variety of purposes. It is accepted as evidence of possession to some agencies that provide services on behalf of government. Furthermore is currently, it is presented to District authority, who defined that the secretary of the JAC is responsible to keep the book updated according with the regulation provided by district authority which manage all JAC in Bogota (in the stamp of the local government can be see (Figure 16)).

In absence of documents they have to prove their rights, to externals in four ways: one by testimony of neighbours, second by extra trial statement, and by copy of the payment of public services (water and electricity), by the payment of land taxes. The extra trial statement is a declaration in front of an official judge standing that an individual has been in possession of a lot for a specific time. It can be also upon request of a lawyer. The judge should go to the place and he selects any neighbours and asks them who they recognise as an owner of the specific house. This also can be done in notary and has similar effect. In this case they are using part of the legal system to prove their right over land.



Figure 21 Type of Accesses to study area

Table 7 Features of the local tenure system

In the study area 90.1% of the stakeholders have a document, from which 88.4% the document called ‘Promesa de Venta’. Some 58% uses notary to sign. Notary verifies the authenticity of the person’s identification which is done by ‘cedula de ciudadanía’ (that is provided by Registraduria Nacional de la Republica). The other 9.9% who lack to have a document: 3.3 % does not have at all and he expressed ‘the purchase was by word that was enough’, 3.3 % lost it and for 3.3% their lot was part of another plot. Among them there are values such as fraternity and trust, that were built during years of hardships that forced to work together to protect their patrimony. In general community feels sure with the tenure that they have: 45% does not fear to lose the property, 28% feel a little

How was obtained the rights on the plot?	Type acquisition	Responses	%
	Promise	53	88.4
	none	2	3.3
	Occupation	2	3.3
	Division	2	3.3
	Receipt	1	1.7
Whether householder fear to lost his/her property	Fear	Responses	%
	yes	13	21,7
	little	17	28,3
	no	27	45,0
	n/a	3	5,0
	Responses	60	100
Who is informed after buying a lot in the study area?		Responses	%
	Notary	27	58.3
	Only JAC	17	35.4
	No	3	6.2
	Responses	47	100
If notary is used, what notary was used?	Notaries used	Responses	%
	Notary 58	5	35.7
	Notary 2	2	14.3
	Other notaries	7	50
	Responses	14	100

worried and 21.7% are worried. This last group are living in El Triunfo.

During the transaction 35.4% informed to JAC, 58.3% also authenticated the document in notaries to validate signatures 58.3%, and small of 6.2% group did answer this question. The notary 58, which is located in the Locality, is the notary most used.

4.3.2.1. Legal ownership of the area

Since 2002 El triunfo is owned by Caja de Vivivenda Popular. It is identified with matricula Inmobiliaria 50S-40408176 parcel named Desarrollo Urbanistico Juan Pablo II. The parcel was transferred by Bogota Distrito Capital to C,VP by public deed 183 issued in january 29 of 2002 in notary 47 and registered in the Oficina de Registro de Instrumentos Publicos D.C south zone 21 march of 2002 in folios of Matricula inmobiliaria 50S-40233903, 50S-40266580 Y 50S-40365054.

Villa Gloria’s administration is delegated to the popular housing official institution –CVP since 1986 - and the first legalization started by 2003. CVP informed owners that most of the titles they had were either invalid or insufficient documentation to support the alleged ownership. Since some of those properties rights had already been sold or endorsed to others –due to regular situations, divorces. JAC would pass judgment on the trueness of declarations, same done to get utilities.

The JAC in the Area

At the end of this period the increase in number of people caused that one more JAC were established.

Two JAC in Villa Gloria and one in the Triunfo. Each JAC has its own book and the sense of unity has changed, it is noticed in Villa Gloria while in Triunfo there is still a strong relationship among members. In Villa Gloria each committee may have different opinion.

4.3.3. Achievements

The school was built with the cooperation of Villa Gloria and El Triunfo neighbourhoods. It was also the place to meet and discuss the community needs. Many times meetings would end up with work distribution -aim to get access to legal utilities networks. The first classroom was built with communal work and self-obtained material.

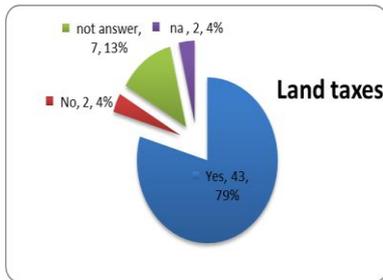


Figure 24 Land taxation

explains in next phase.

In 1999 the Cadastre surveyed all parcels and the householders were included as possessor with they personal identification. It also provided the official address for the building. This doesn't apply in case of the building defined as non-permanent material or of the empty lot, including the enclosed with bricks (UAECD 2007). As result, all houses have one more official address, that the existed. So, since 2000 the community pays land taxes, according the interviews (Figure 24) 79% paid their land taxes, 13% did not answer the question, 4% not applies because they are fiscal property

Table 8 Number of Floors and House material

Number floors	total	%
Lot	1	1.7
1 floor	37	61.6
2 floors	21	35
3 floors	1	1.7
Total	60	100
Type material		
permanent	52	86.7%
Semi-permanent	7	11.6
Not built	1	1.7%

two floors are located in the flat areas in the study area. (Figure 21). By that time they were built the street, built the school, and improve some houses. In 2004 the IDU paved the main street that later allows to have public transportation in the area, four licences were given that provide this services. According the analysis, the average area of the parcel is 73 square meters, the shape is regular and all have access to public area. Most of the parcel, have 7meters in front by 12 meters.

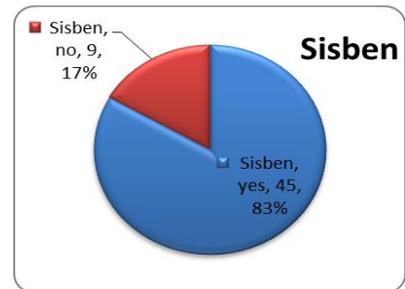


Figure 22 Beneficiaries of Sisben

In 1998 the residents of Villa Gloria and El Triunfo were included in the census of Sisben. It gives a score to each person, based on it they can apply to other social programs. The total of beneficiaries presented in Figure 22. A sticker – usually in the door or any visible place- shows that the house's habitants were censused. 83.3% of the inhabitants have sisben and 17% do not as they worked in a company for some time, so they got social affiliation through a company. Since the benefits depend on the scored obtained, they will be different for families. This will be more



Figure 23: El Triunfo type

already (the common room and the school) and 4% said that they paid in the past first years but not in the last years.

Material and parcel size

Field work showed that most of the houses have a single floor (61.6 %), 35% have 2 floors, 1.7% have 3 floors and 1.7% are considered as lot even it has temporary and fragile dwelling. The type of material is directly related with the number of floors, and also the location, the houses of

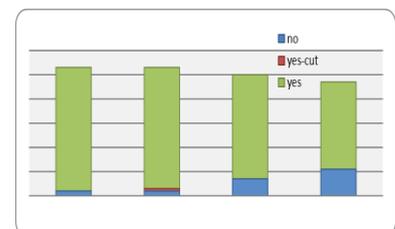


Figure 25 Utilities in the study

According the material 86.7% are built with permanent material: concrete structure, bricks wall. The

11.6% are built with semi-permanent material: structure vulnerable.

Table 9 Utilities

Utilities	Water	Energy	Gas	Telephone
yes	53	53	50	47
%	93%	91.4%	86.2%	81.0%
no	2	2	7	11
%	3.5%	3.4%	12%	19%
yes-cut	2	3	1	0
%	3.5%	5.2%	1.8%	0.0%
informed	57	58	58	58

From field observation and interviews, more that 90% of the houses have water and electricity, 86% of those houses have natural gas and 81% have local telephone. However some house have difficulties to keep the services: for 3.5% water is cut, 5.2% for electricity and 1.8% for gas services. This means that, most have no difficult but there is a small group that current payment for utilities may have difficulties.

4.3.4. Summary Recognition and Consolidation

At the end of this phase: they have recognitions of possession from EAAB, Codensa, ETB, Gas Natural and Cadastre. Social Security from national government, the area receive classification as stratus 1 and its population was included in census both from DANE, public service transportation, official schools; previous one for all. Additional according the score from Sisben others benefits are also possible. . In summary they have the right to vote in the area, right to receive social security: medical attention, several programs (see section 4.4.3). The JAC issue certifications and solved the land issues, right to have utilities and also owners can pay land taxation. By the JAC has agreement with district Authority to maintenance some access. Now in the area are three JAC two in Villa Gloria and one in El Triunfo, all owners are participating in the local registration.

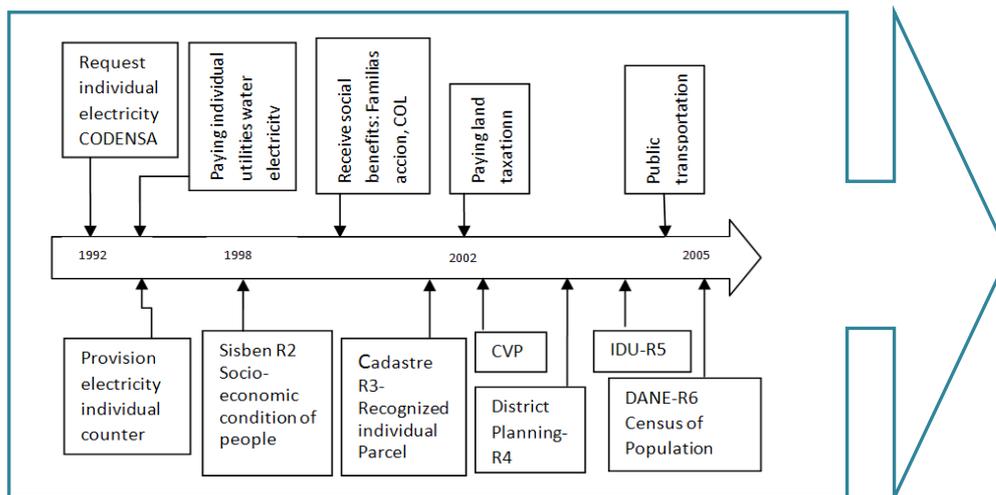


Figure 26 Third Phase Recognition and Consolidation

4.4. Individualism

After the consolidation and recognition process several changes occur are in the study area. They occur in the period of 2005 to the present.

4.4.1. Physical Description

The area has infrastructure of the public services of water, electricity, telephone and natural gas. Some of the street has been paved by district authorities and community has the responsibility to maintain of some of those. As effect of the POT some areas are affected by vial expansion of the main access and the

environmental protection of the creek. During the previous period some of the area were assigned to district authorities (Figure 27). The areas around the creek were transferred to EAAB.

4.4.2. Organization

The book is kept updated, diverse certifications are issued from it. Now it is presented to district authority that centralizes all JAC, in Bogota. Some modifications were done and all members now started to pay monthly fee. A new owner, presents his/her document

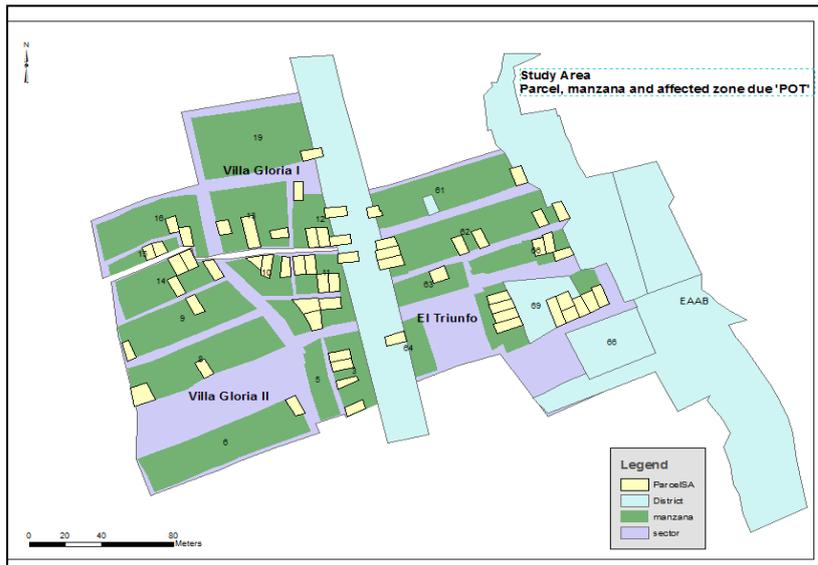


Figure 27 Study area with affectations

Source: done based on parcel boundaries from UAEDC, photo interpretation in fieldwork.

'Promesa de Venta' and the seller must be up to date with payment of monthly fee (0.20 €) to the JAC. The current book describes date, order (numeric and consecutive), name, age, personal identification, address, telephone, occupation, committee that made the inscription and the signature of the new owner. If the person is illiterate this space will be unfilled. In case of new owner in the area the older file (record -line) is erased, so the data in the book is updated but history is not maintained. Not all owners are in the book.

However, 77% is registered in the *'Libro de Afiliados'*, for 15% said that this is not needed any more and 8% did not answer this question. After the consolidation of the neighborhood the use of the book has been reduced as the receipts of the payment for utilities and land taxation are accepted instead as evidence.

There area currently in Villa Gloria two JAC's while in El Triunfo has one. Local government formulate diverse social programs for different groups of people. This requires, that community created those committees. Those committees are: communication, cultural, education, production, young, environmental, recreation, social participation, security, third age, housing, mother head family, work, association of communitarian mothers. Each committee can coordinate direct with local government. This resulted in more internal groups and decision can be taken by the committee.

4.4.3. Achievements

After the census some receive benefits. Paved streets, paths and utilities could be obtained through by official ways. Legal participation in the City's dynamic life is considered quite an accomplishment. Benefits based on quality of housing, including surrounding facilities were given differently, which also generated conflicts in the community.

Other public services of natural gas and telephone define process to obtain the services. Gas natural requires official address, certificate from cadastre and approval, and certification that should be free of any physical restriction due POT or risk. Telephone defines also the process, in this case with energy service and certification from the JAC it is installed. Both services were installed gradually

According to data most of the stakeholders have 2 youngest, the next important group 23.3% have 3 youngest. Grouping for number of youngest , the 76.80% have between 1 and 3 youngest; for 16.3% have between 4 and 5 and in the last group for 6.9% have more than 6 youngest. Their families that has Siben, receive economic help each two months for allows youngest and children to study maxim for two

children or youngest (until secondary). New families can obtain more help than older families. According to the data collected it is 45.6% of the families that receive benefit of government it is from Familias en Accion. 18% receive COL (short time program until one year, it give economic help to thirds age people), the others programs represent 4.5% each of them: Comedor comunitario (type of public restaurant), Sena (technical center), Bienestar Familiar (programs to communitarian mother), Bienestar Familiar (programs to children). This result, that now benefit are obtained independent to belong to community.

Most of the owners are living in the place for long time and new owners are coming.

In the month previous to the field work, some the houses received a visit from Hospital Vista Hermosa and in four houses they informed holders that they are candidates to receive economic help to improve bathroom and kitchen. This program provides improvement for house regardless of condition of legality. The program comes from other Locality

The relation with government improves and they are paying public services and land taxation. The area is formally urban with public transportation which facilitates the mobility.

Legalization process

The CVP started the legalization process outside of the study area from 2002 to 2005. It resulted in 192 titles delivered in Villa Gloria and 98 in El Triunfo. This influenced in the community. Since 2005 the legalization was interrupted and in 2009 the CVP lost the faculty to keep this activity in Villa Gloria. In El Triunfo was also stopped.

During the process the CVP required a document as evidence of ownership. The community by JAC solved this by the testimony on notary instead, when no document was available. These testimonies with the certification issued by JAC were accepted as evidence of ownership.

At the same time, in 2005 other neighbourhood that was legalized three years before by district –same locality-, in second instance the Administrative Tribunal was cancel due violation of private property. The first instance of the process considered priority to approve the settlement which had about 30 years. Now, it is in the last –highest- instance The Administrative Court. This jurisprudence 776 of 2005 issued by the Administrative Tribunal may suggest that there in not clear what is the priority in those cases.

Table 10 Beneficiaries of Sisben

	If Has a Sisben	Responses	Frequency %
Whether the person has a Sisben?	No	9	16.4%
	Yes	45	83.3 %
	Responses	54	100%
	Not Respond	6	0
	Total	60	0
Whether do you receive any benefit from government, what type of benefit do you receive?	Type of Benefit	Responses	Frequency %
	Familias en Accion	10	45.6
	COL	4	18.2
	Comedor Comunitario	3	13.7
	Bienestar familiar	1	4.5
	Sena-technical education	1	4.5
	Transport to school	1	4.5
	Bienestar Social	1	4.5
	Materials of construction	1	4.5
	Responses	22	100
	Not respond/na	38	0
	Total	60	0
Number of youngest per householder	Student /children	Responses	Frequency %
	1	6	14
	2	17	39.5
	3	10	23.3
	4	5	11.6
	5	2	4.7
	6	1	2.3
	7	1	2.3
	8	1	2.3
	Responded	43	100
	Not respond/na/do not have	17	0
Total	60	0	

After 2009 when CVP had not faculty to provide title, the entity offered them to start the Belonging process which means they need to demonstrate to a judge that they are possessors. This procedure differs from a regular notary ownership document- which is either not understood or otherwise accepted by affected stakeholders. According a letter and the interview in CVP, this ‘formula’ must be agreed upon by almost 30 people, who are rather reluctant to do it. The costs would have to be shared, but this seems to be a marginal

Table 11 Priority to improve the neighbourhood

Needs priority	Legalization	More Education	Paving roads	Security Police	Respondent
First	21	6	11	16	54
%	38.9%	11.1%	20.3%	29.7%	100%
Second	9	9	14	16	48
%	18.7%	18.7%	29.2%	33.4%	100%

units, which in some cases might come up to COL\$ 11,000,000 (EUR 3,500). The alternate solution is being backed up by the Vista Hermosa Hospital, which is offering building materials for kitchens and bathrooms.

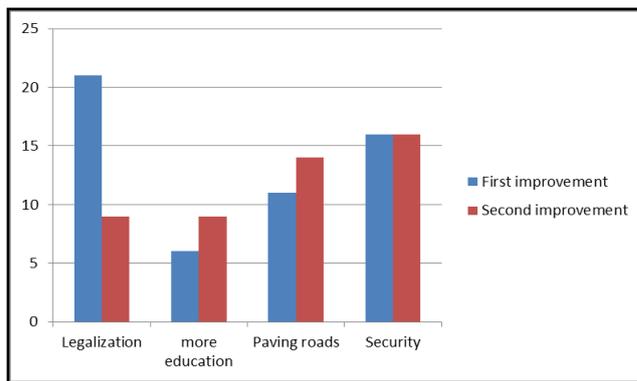


Figure 28 Priorities for improve the neighbourhoods

Table 12 Full Rights on properties

	Yes	No	No answer	Maybe	Responses
Build	42	14	2	0	56
	75%	25%	3.5%	0%	100%
Lease	13	40	3	0	56
	23.2%	71.5%	5.3%	0%	100%
work in	8	38	6	0	52
	15.4%	73.1%	11.5%	0%	100%
improve	19	17	0	21	57
	33.3%	29.9%	0%	36.8%	100%

benefited.

Table 13 Time living in the study area

How long are you living here?	Time Living in the area		
	Time in years	Responses	Frequency %
Less than 5		5	8.3%
between 5 to 10		4	6.7%
between 10 to 20		6	10%
More than 20		45	75%
Total		60	100%

issue that brings very little interest of the community. The cost varies from COL 500,000,000 to 2'000,000.00 (EUR159 to 636). One of the benefits these people would be giving up is the subsidy to build or renovate their living units, which in some cases might come up to COL\$ 11,000,000 (EUR 3,500). The alternate solution is being backed up by the Vista Hermosa Hospital, which is offering building materials for kitchens and bathrooms.

The community was asked what priorities they give to improvement the neighbourhood

The answers are presented in Table 11

According the interviews, there is interest to legalize if the process were simpler and cheaper. For 38.9% it is first priority, for 29.7% express the needs of police security into the area, because the closer station is far in other neighbourhood, they request for permanent police station. For 20.3% expressed that as priority to paving road and access. As a second

priority, in order are permanent services of police –security 33.4%, paving roads 29.2% and similar 18.7% for legalization and education.

In general is clear that there is interest of legalization. Security from police and paving the accesses are needed. The lower was education, this can be explained because it is by education programs that some of them are

Owners in the Study area where asked what types

of right they have in their properties, the answers are summarized in Table 12, in general they expressed that they can build, lease, work in, or improve. The uses of those rights depend of the availability of economic source but not external restriction. For 75% of them built their properties while 25% obtained it already built;

23.2% are part of the house is rented, 71.5% use as residential exclusively, the 15.4% work in the property, and 19% have plans to improve the house.

According the time that they are living 75% are living for more that 20 years, 10% between 10 and 20 years , 8.3% less than 5 years and 6.7% between 5 and 10 years. This means than new people start to come and dynamic of the inhabitant. The area now has in total 794 plot and there are living 2950 inhabitants (DAPD 2003).

Table 14 Population and Plots in the neighbourhoods

Neighborhood	Population	Total of plots
Villa Gloria	1728	464
El Triunfo	1229	330
Total	2950	794

Source: done using data from DAPD (2003)

The study area has evolved for a long time and today is consolidated. Individuals practice responsibilities; are paying monthly utilities and yearly their taxes. They are part of the daily activity of the city and also participate during election.

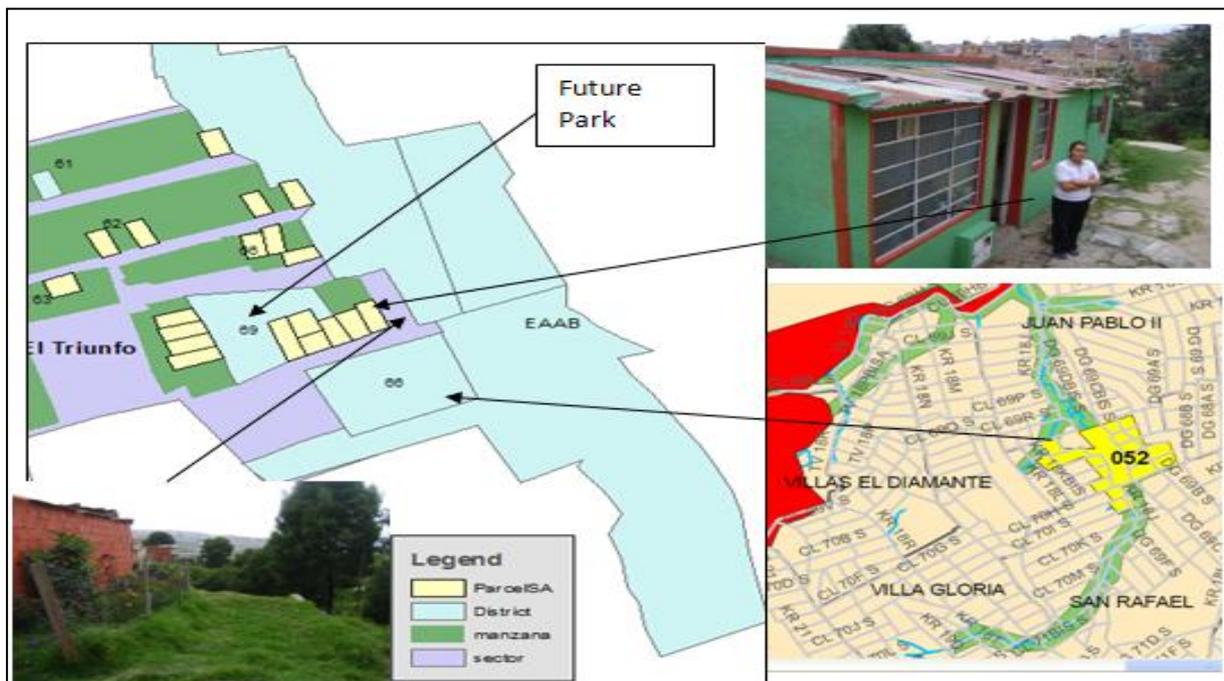


Figure 29 Risk in the area
Source fieldwork and map form local government

4.4.4. Risk in the area

The level of risk in the study area changes over time due to many factors. During subdivision all inhabitant had same risk of being evicted. This risk was reduced due to integration and organization of community that fight and succeed to live in the place. However, the consolidation of the

By the 70 and 80s the type of risk for eviction was same for all inhabitants because the land was had not urban permit. However this risk was reduced during the time and after the consolidation disappeared in most of the area, but along the creek it is started to increase. Because, the area has affectation due risk according the POT. This means that parcel closer the creek cannot be legalized. Also some parcels were transferred to different government agencies. In Figure 28 show the future park (manzana 69); manzana 66 transfer to district (school) and others to EAAB. Moreover 30 houses were demolished already in the

last 10 years. One was located in the study area (photo in the image down left the plot and top right the image 29). This has reactivated the need of unity in this sector. The Manzana 69 is planned as a future park in the plan of the locality. The manzana 66 is also district primary school, (previous it was the water tank).

4.4.5. Summary of individualism

The interaction with the government demands that more groups are conformed. Individualism emerges and according to the benefit each individual –family- claims, community members may act differently. New owners come and reduce the use of the local registration. The area may start acting as a normal real-state market, where no longer is needed to belong to a community but rather pay land taxation and utilities are used to secure ownership. Owners at this phase enjoy full property rights: sell, rent, built.

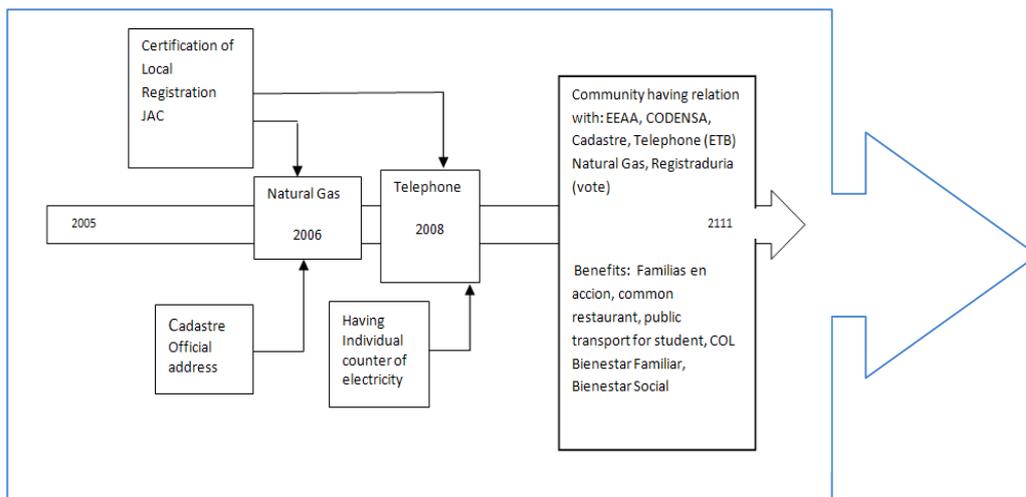


Figure 30 Phase four: Individualism

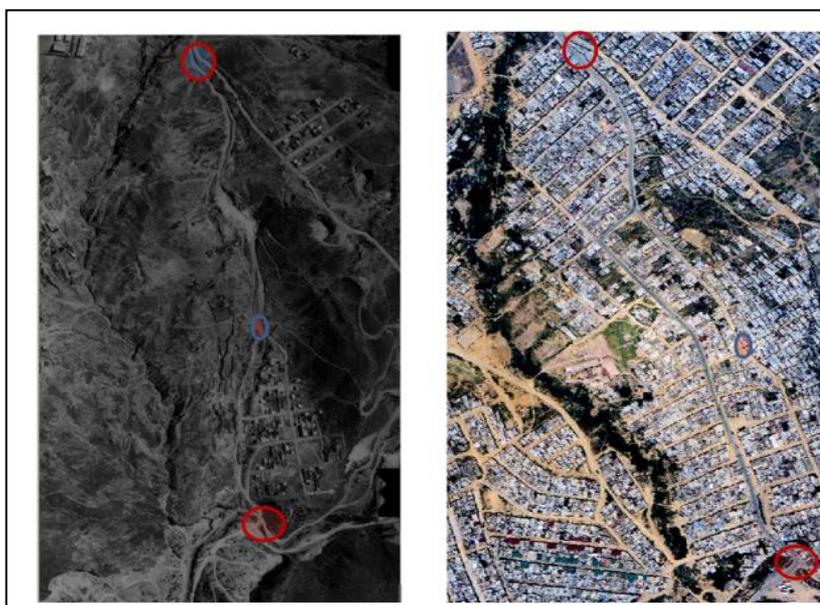


Figure 31 Study area after and before of consolidation

In summary the four phases is presented in Figure(32) below. It shows how the settlement evolve lintime.

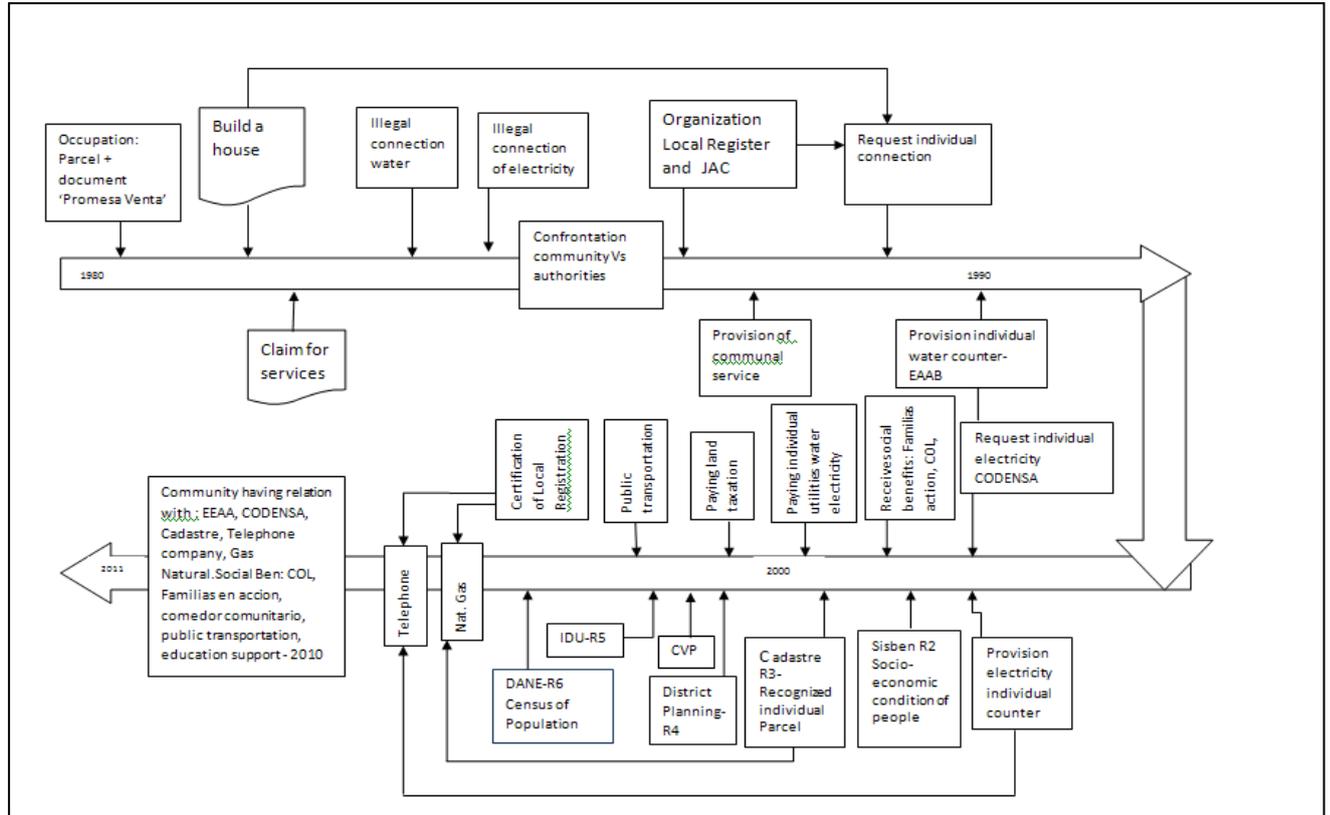


Figure 32 Summary of all the phases

5. THE STDM APPROACH

This chapter presents the main features that determine the relation between people and based on interviews and fieldwork observation. Using the STDM and LADM the current phase (four) is modeled and also The ‘continuum approach’ of the case study is presented. Finally some remarks about the model and the tenure in the study area.

5.1. STDM approach from local perspective

This approach is partly accepted in some agencies after two decades but until now it is excluded from formal registration system. Using the STDM approach, what people are been doing can be reflected to evaluate the level of the informality of the study area, whether it has overlaps with the formal system and how this reality can be absorbed into the formal system. This will explains from the local perspective and legal perspective. In the middle is proposed the inclusion of the human right for the Colombia case.

5.1.1. Local Perspective

The social tenure class is *the ‘promesa de venta’*, since it is the document that is used to transfer the ownership in the study area. The document is registered in a book called ‘Book of Affiliates’ which is a kind of public register. In this social relations are included the rights, responsibilities and restrictions. Responsibilities are very well known for all inhabitant and practiced periodically. All the houses have utilities: water, electricity, telephone and natural gas see Figure 33.

Restrictions are less known, only the restriction due to risk area is known by the inhabitants who live close to the Quebrada Limas, some of them – during interview in *manzana 69* showed a letter, from by CVP. Other restrictions as net vial expansion –from POT-, protected area or level of risk are unknown by people. Although the street kr 18l, which is commun boundary of both neighborhood, has vial affectation (due expansion of network vial POT) their inhabitant are not aware of it. All restriction can be consulted in the district center for citizen and on map of POT.

5.1.1.1. Party class

Party class has two instances according to data collected in the study area:

- Natural person: all owners identified. The attribute for this class are: name, age, civil status, gender, personal identification. The name and person id are from the government authority, The Registraduria Nacional.
- Non natural person: in this case the JAC appears that as juridical person has own identification given by government. The attributes define for this class are: juridical identification, president-name of the president-, secretary –name of the secretary-, supervised by –In Bogota there is a district authority but it change in other cities and total of members.

A JAC is conformed by a group of person as their representatives. Due that all member are also natural person, it is composition class from natural persons and this class requires at least one member, it is defined with one to many members (Figure 33) because that is condition defined by district authority. In Bogota at least 50 members are required. This class is instance of not natural Person class.

This instance of *Party class*, can be generalized in almost all the neighbourhoods in Bogota. Each formal and informal neighbourhood has at least one JAC. In the phase four, the number of people increases (see section 4.4).The case study shows (Figure 33) that in first phase it was one was only one JAC, in phase

two The JAC for the El Triunfo in created; in thirds phase are three JACs one in El Triunfo and two in Villa Gloria and in last phase there are three JACs and also committees.

Spatial Unit

The *Parcel class* has an instance *Plot* and between parcel and *Party* is direct association since the transference is done with registration, it is required to be recognized by community as an owner, which is done by Building, for that *BuildBy* is defined in the multiplicity of this relationship. The attributes are: address from EAAB-water-, address from CODENSA-electricity-, official address, parcel, area and boundaries from id –from the ‘promesa de venta-.

The average of the parcel in the study area is 73 m², the size of the lot is almost regular, and most of them were defined since the subdivision. Few divisions have been done (3.3% in the study area). 100% of the lots have been built, among them 98% have house defined as adequate for living (adequate structure); and only 2% of the houses the type of material can be arguable as adequate of living.

Other spatial unit identified are sector that is defined by community to local purpose that is same as the area in which manage each JAC.

5.1.1.2. Social Tenure Relationship

Four instances of the Social Tenure Relationship were indentified: Right, Responsibilities, Restriction and Social community relation. The first three are part of the LA_RRR and The Social Community Relation is defined in this particular case as an instance of the Right in STDM concept. The Source Document is also identified.

Right class: the rights that owners in the study area practice are: right to sell, divide, lease, obtain public utilities, work in –small businesses as groceries, shops, pharmacy to name few-, request certification to JAC, receive address, vote, obtains benefits from government, present application to obtain subsidy and pay land taxation.

Responsibilities class: the attributes for this class are payment for electricity service, water services, local phone service, natural gas services, land taxation and community voluntary services. This last is practices each time that is required without predefined frequency.

Restrictions class: There are two types of restrictions first by POT and second by Risk. The first are defined in the development plan of the city. There current main access (carrera 18) is planned to broaden but no time is defined yet to do it (see annexes). The second, there is a restriction due to risk along the creek where part of land was already transferred to EAAB. All parcels around already has restriction imposed by environmental authority, this is called ‘land protected’. People are little aware of the restrictions.

Source Document class: It has two instances first, the *ExtrajudicialStatementByNotary* and second, *Extrajudicial StatementByJudge*. The fist has as attributes name of the notary, date, notary id, notary statement. For the second, name of the judge, judge number, date, statement content. This class has relation with Book class and The Socio Tenure Relationship class.

Book class: This class describes the current book used by the community in the study area. The attributes that it already has are: book id - index number-, date, supervised by –district authority in Bogota-, total members and total pages.

The Local tenure is seen as trust evidence, practiced and updated. This local system has not map component but is already was done by cadastre so all data needed to transform into the formal exist under high level. It satisfied two (five and six) of the conditions described in Zevenbergen and Haile (2010) for the implementation of the model.

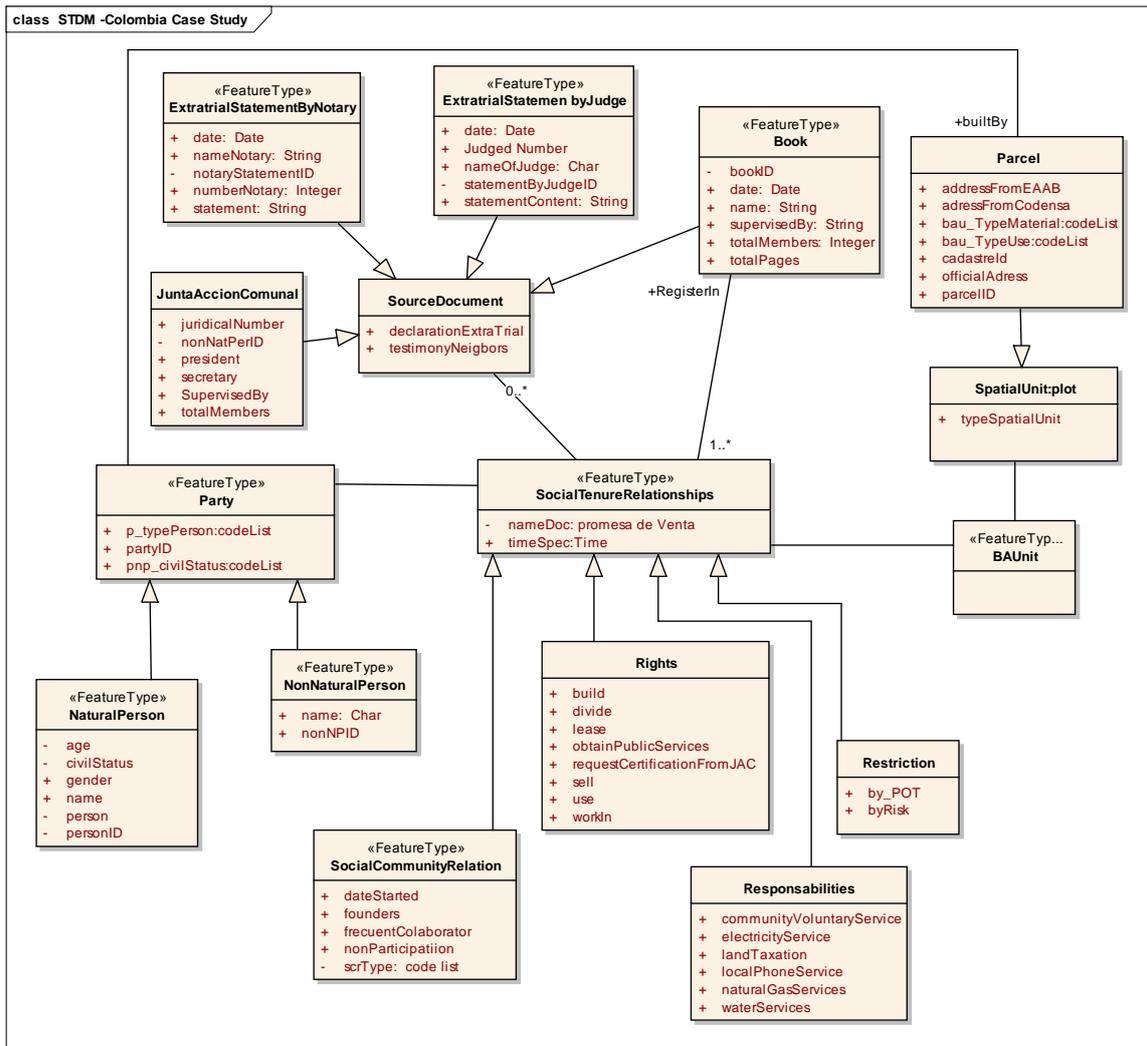


Figure 33 STDM Approach Local Perspective

5.1.2. Human Right into the Social Tenure Domain Model

Within the Social Tenure Relationships of the STDM it is proposed to add the *Human Rights class*, as an instance of the Social Tenure Relationships in Colombia. This will describe the human rights approved, in Colombia and in most countries. **The housing right** could be part of land administration. The reason is that house needs a land to stand up or the right on it, therefore house and land are related. This means, that house and land may not be seen independently from the social perspective. Justification of this is based on the article 29 and 30 of the Universal UDHR where define that all rights are interrelated and also the Constitution that define the right to have dignity condition of living.

In Colombia all citizens have the right to access to property and to have decent housing (Table 15) (Table 16) This will help to achieve equality for the poorest and specially women for overcoming poverty. In the case study, this will protect the owners that are now more vulnerable as is described in section (4.4.4). In the case study, housing right, women rights are recognized by the Constitution and several international treaties. However, until now, those rights are not registered and less implemented.

Under this broad social concept the STDM will be suitable fill the gap between the current lack of land information on informal settlement and the current priority in the Country to solve land issues.

Using the classification given by Cassese cited in (Oraá and Gomez 1997) The Universal Declaration of Human Right can be classified as those rights related with individuals, the civil/political rights and the socio- economic and cultural.

The right to individuals refers also for group by family or Community. Then, under the concepts of STDM person, family and community are instance of this class. Here also is added a relationship between community and Party since, it is defined in The Human Right, that persons has duties with the community. Family is also one instance of group of Party.

Collecting the recognized right in Colombia two classifications are presented in next two tables. First table shows a general classification according to the Constitution and international Agreements. Second, according type of person to show woman and children rights.

Table 15 Classification the Human Rights in Colombia

Party	Spatial Unit	Rights		Based on
		Equality person	Housing	
Art 16 (1)women and men equal upon and dissolution of marriage (3)family...to right to state protection	Art 25 The right adequate standard of living including housing Art 28: All person has a right to an adequate standard living	22 to social security, economic and social rights indispensable for his dignity	Art 8 protection Art 17 Right to own property (individual and collectively) Prohibit deprivation of it	UDHR Article 8, 16,17,25 22, 28, 29, 30
Art 26. Equal protection of law not discrimination on any ground			Art3 men and women equal, Equal rights marriage dissolution	ICCPR Article 3,26
	E (iii)Right on housing	(vi) Right to inherit	Art 5-d (v). Right to property	ICEERD Article 5 : e and d (iii, v,vi)
13 Elimination discrimination against women	Women right to enjoy adequate living condition, particular housing, sanitation	13-Equal right to bank loan and financial credit	15-Equal right to conclude contract and administer property	CEDAW Article 13, 15
Child's standard living conditions				CRC Article
Art 12 constitution	Art 51 all have entitle to decent housing	Art51 state will promote long term funding for housing program	Art 60 state will promote access to property	Constitution Article 12, 51, 60
Assistance to specially women household		Priority access to credit for women		Law 82 of 2003
	Obligation of municipality of meeting unsatisfied needs focus women			Law 136 of 1994 Article
		To have equal right of patrimony among permanent couples and inherit it		Law 54 of 1990 Article
Protection older people				Art 46 constitutions

Classification of right by type of right for all citizens, specific right for women and children
 Source: done base on Constitution and legislation.

Table 16 Types of Human Right by type person

Rights to all citizen	Specific Rights for Women	Specific Right for Children
Right to have decent housing Constitution To have adequate condition of living Older people to receive protection Widows also Low income right to receive subside To obtain subsidy Access to property State meeting unsatisfied needs	Priority access to credit To receive assistance women household Right to enjoy adequate condition of living (housing) Equal upon married dissolution UDHR-ICCPR State meeting unsatisfied needs focus on women	To have standard living condition State should solve their petition to protect their right Children

In Figure 34 are grouped the recognized right under perspective of Human Right

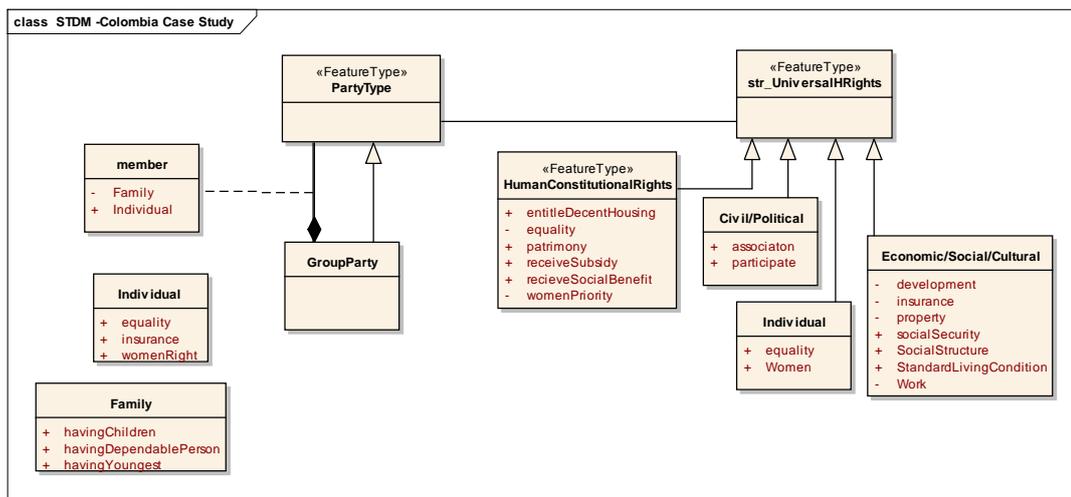


Figure 34 Proposed Class Based on Human Rights

Under the Human right women that are either married or in marital union and are not included in the document, can obtain recongnition as part of owner of those properties. In the case study they are the 27%. This inclusion in case is Colombia is base on the permanent conflict where violence and poverty affect mainly low income people.

In this class is included the housing righ that can be argue if is part of land rights. However it is a right that is also recognized by the Constitution and require recordation, for the case of Colombia. In Bogota it is collected by DANE under the last census but in other areas of the country it requires recordation.

5.1.3. Legal Perspective of the study area

From the legal perspective that may become the current possessors in new owners, is required a long process –at least two years - where are involved mainly the CVP, UAECD-cadstre-, JAC, private lawyers, private avaluator, notaries, the South Registration office and the householders. This only applies if he - possessor - can afford the cost of this process. The *Promesa de Venta* is part of the documentation required to legalize a property, original of payment of utilities –in case of free title – and the payment of land taxes. They are part of expedient that needs to be analized according varies rules form diferent entities. The ‘*Promesa de Venta*’ is seen as part of the evidence required to convince to a judge that a person meets the requirement of a title. To reinformce the argument presented are added the payment of land taxation and the utilities of water, electricity, natural gas and and local telephone. Those are LA_Responsabilities, but at

same time they have effect as evidence of possession. Therefore Responsibilities has association relation with Source Document. This relation applies regardless the type of procedure that applies during legalization process.

5.1.3.1. Party Class

In the formal system, the owners from the study area are identified as a possesor. In the case of cadastre they are identified with identified with their personal id -cedula de ciudadanía-, most of them are already recorded as posesor.

In cadastre are recorder both legal owner and possesor while in Registration only legal owner. The record of legal owners describes –in cadastre- the deed and matricula Inmobiliaria- in Registration only legal owner is register. The LADM and STDM identify people in same way using the same sources issued by the *Registraduria Nacional*. The spatial unit as Parcel is also the same as in UAEDC, CVP and in the local system.

5.1.3.2. Right Class

Both representations the LADM and the local STDM –local system-, shared Party, Parcel, and Responsibilities. They differ in the recognition of Rights by the formal –statutory system- but in practice owners enjoy the strongest right of ownership: they rent, sell, divide, and transfer their rights. This is evidence of the high level of development of this local social tenure system.

The Responsibilities class has double relation within the LADM. Because what is considered as the legal ownership inside the local STDM is also considered outside but as an evidence of the possession. This possession can be further become ownership. Here the utilities agencies and cadaster (UAEDC) have a role as the Source document class. The testimonies issued by judge and by notary have this same effect in both systems.

Restriction class has as types as: plan vial POT which are the areas defined to extend the net vial to improve the movility in the city- protected area, risk area, fiscal.

5.1.3.3. Spatial Unit: Parcel class and Manzana

The parcel is located into a ‘manzana’ which has local and it has an official identification. Almost all parcels plots in the study area were defined since the first parcelling (about 1980), few division are been made after.

When the government entities of planning and cadastre included the study area in their databases, they were renamed. The neighbourhoods were approved by district government but sector are only local used and had not recognition for any government authority. Although each entity gave different number to each lot, the concepts of both are common and used for government and local users. In this research was used the number of ‘manzana’ generated by cadastre because it is published as a guide (UAECD 2007).

Due that it was already surveyed by cadastre (UAEDC), the parcel is already defined as a poligon with georeferenced system. Additionally cadastre of Bogota provide topology to all parcel. This means that each poligono has quality control geometric and topological.

As result, the Spatial Unit in the case study the plot is described as a topological spatial unit, which is the highest (because it range from point, image, lines, unstructured polygon) geometric description, de according the five classification presented in LADM (Lemmen, Oosterom et al. 2009).

Parcel identification: Parcel has two parcel id in cadastre in and Registration other parcel id. The official identification of the parcel for cadastre is Cadastre shares with other agencies. Cadastre provides parcel’s location and official address to CVP, EAAB and also is the base of POT.

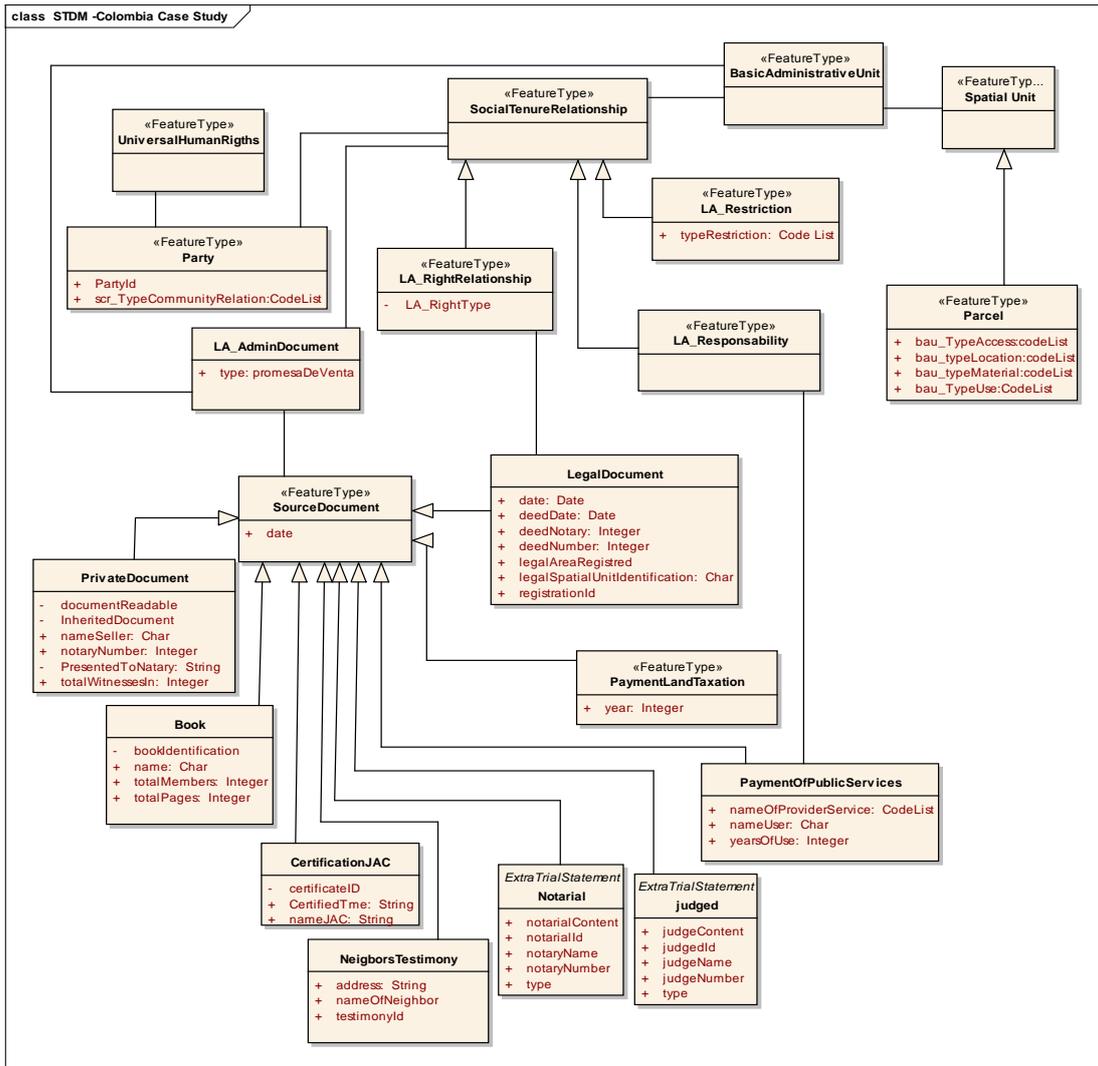


Figure 35 STDM Approach Legal Perspective

The respective index of that describe the Code List is presented in Figure 36. This index includes the Code List either defined in local or legal perspective..

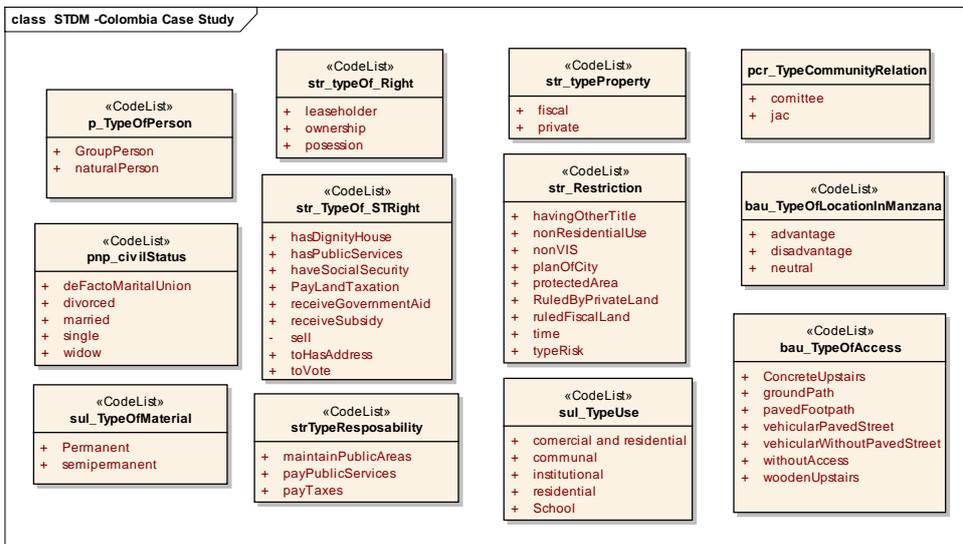


Figure 36 STDM Approach list of Index

5.1.4. The ‘Continuum approach’ in the study area

The study area was explained by phases naming the main events over a timeline. Each phase has its own attributes that started from an informal and it gradually moves towards a Formal ownership (see Figure 35). Each phase has its own possible rights according the ‘continuum approach’. Here, for instance in the first phase may apply Occupation because there is no property rights registration and deeds were never issued; the second phase can be included within group tenure because community is organized and, for the first time, community members use a sort of instrument to register how property rights are distributed across a portion of land. This phenomenon has been well proved as there exists a ‘Libro de Afiliados’ that must be submitted to the District Government by the Junta de Acción Comunal (JAC), which is a sort of local organization aiming to represent people’s interests and ask for their rights. In the third phase where several agencies recognize the householders as the legal possessors: once the time required by the law has passed, either rights of regular possession can be claimed as it is the case of Villa Gloria (where a private property case must be carried, in order to recognize the new owners of a land that has been illegally plotted) or property rights are demanded by means of a judicial process called “belonging process”, as it is case of the El Triunfo (where government is the owner). In the last fourth phase that is modelled under LADM, it is suggested that according with the rights already granted by the community, this local tenure is closer to the formal land right recognition of ownership.

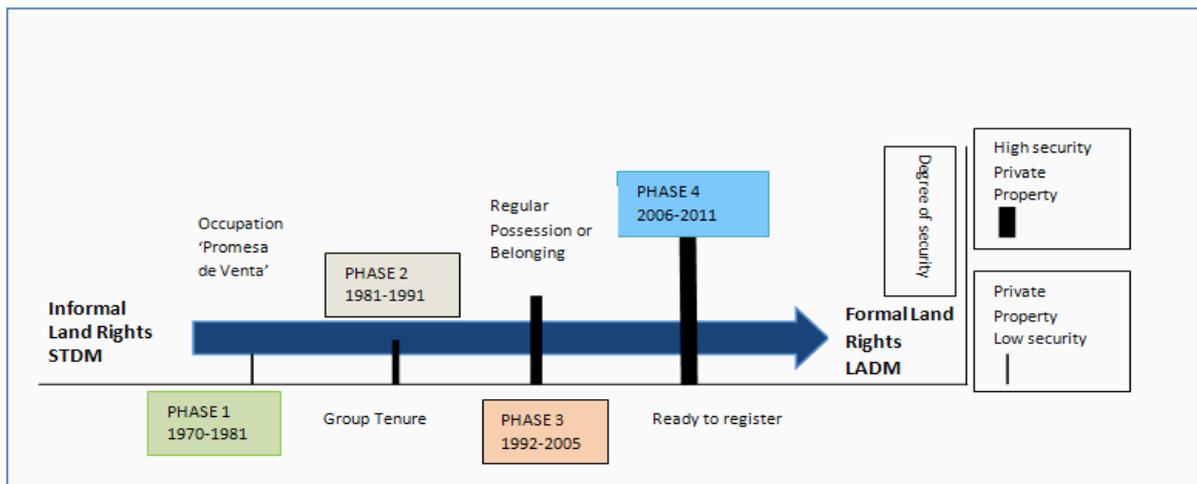


Figure 37 The STDM continuum land right approach in the study area
 Source: Adapted from : “The continuum land right approach” UN-HABITAT(2008) and “From pavement dweller to freeholder ” Payne (2002).

According to the previous result, it is possible to determine in which phase any settlement is. This information is required by the government at different levels. Therefore the implementation of the STDM could facilitate and anticipate expected results. For instance, if phase two is identified, government can be informed in order to avoid any further confrontations. By identifying in which phase a settlement is, it is possible to provide information from Land Administration to decision makers in order to assess the expected outcomes derived from community’s actions as well as government’s actions.

Some remarks about the model

- 1- The current link between people and land either at local or formal perspective can be modelled by using the LADM and its specialization the STDM model. This implies that the previous phases can also be modelled.

- 2- The Party of the study area is recognized in formal perspective they have same main attribute personal id.
- 3- Parcel in the study area is included in cadastre, as each parcel has an official identification and address. In addition, each owner of the study area is described as a possessor. All attributes that were found can be added into the model.
- 4- Party and Parcel are present in both perspectives.
- 5- The spatial identified units are: sector (used under a local perspective) and “manzana” (i.e. block-, used under both local and legal perspectives).
- 6- People, who under the local perspective are called owners, are also recognized as possessors under the legal perspective.
- 7- The model allows depicting the reality under our case study and it is capable of providing alternative approaches to explain the land-people relationships. Under this methodology the current land administration and management decisions may obtain more reliable information and a deeper understanding of this area. This responds to the needs for improving the current land administration (UNH/ 2005). The STDM responds to the previous need in land administration and propose an alternative approach.
- 8- The model has the advantage that depicts in a simpler way all type of relations between people and land. It is useful when many agencies are involved as happen in our case study. For the legalization process, for instance, many approvals are needed.
- 9- Using the concepts of STDM two perspectives are presented in this research for the same area. This shows the flexibility of the model and its flexibility to explain one area from different perspective or users. The easier the explanation is, the more possibilities to find a solution exist. Here, local and legal solutions are found, but work can be extended to other sort of solutions (for example economic and social ones).
- 10- Implementation limitations, such the ones faced when implementing the SDTM -when the developing state is near formal- I consider that this may be addressed by the cadastre office. They have the vast and best quality of information. But, at this level, is thinkable that the community keeps its book and Cadaster gathers and further updates the data. This requires further discussion.

General Remarks

Property rights over the land, within the study area, are transferred without intervention of formal institutions. In our study case, people transfer land-property as they transfer any other good or movable asset. This practice differs from the formal system, in which registration is required to transfer the property right over immovable goods, thus differing from those used for movable assets (Zevenbergen, (1999).

The formal system is also influenced by the how local system is run: it gathers information so that public utilities are charged and taxes are levied –from the local tenure systems- and even public infrastructure and facilities are built to improve access to the neighbourhoods; also some social assistance programs are provided by the government. This leads to a contradiction that helps to explain why the informal sector is so widely spread over Latin America (De Soto, 2000): whereas property rights over the land are not well recognized, some other rights and charges (which under normal circumstances would require a legal property system) are commonly carried out.

The consolidation of the study area, which took over 30 years, is explained in different ways by four phases that have their own features. They describe how gradually an illegal settlement becomes consolidated. During the process, more rights are obtained achieving recognition by local, district and

national government authorities. All rights identified were modelled into the concept of STDM and it allows to explain why this was so.

The fact that, Villa Gloria is kept as private property shows a superior protection of property rights rather than the social function the land is supposed to have -according to the National Constitution (article 58, part 1)-: in those cases the private property needs to yield on favour of the social interest (Herrera 2003). According to the law, possession that the community has over the parcels was granted already. It is expected that if government manages the area, then land property rights will be recognized, which has not happened yet.

Government support is focused on two issues: economic help by different programs –short/medium term mainly- and improving public infrastructure in the neighborhoods. However, there is no clear intention to recognize individual property although the area has government’s property control through the CVP. This was also observed in ILD (2005) and (Fernandes 2002) where more attention is given to legalized, as neighborhood, than to an individual property recognition. However, from the interviews with the community and the CVP, official agencies tried to provide assistance to achieve the formal belonging process, but due to high costs this was considered out of the possibilities for the community.

The registration in cadastre offers advantages to householders in informal settlement. It gave to each house an official address, as long as it was built on durable materials; it also includes all parcels and householders as possessors into the city map. This registration is part of the evidence to obtain the ownership and it demands householders to pay land taxes. However, the registration in cadastre has only fiscal effects but it is not evidence of ownership.

According to the legal document there can be overlaps of property rights in the sector of El Triunfo, but the inhabitants expressed that they did not have any tenure conflicts. Confirming this requires more documentation and an exhaustive search in previous deeds. However, this shows that describing boundaries in a text may allow some overlaps.

Bottom line is, based on relations of trust and with the interest of satisfying basic housing needs, people in the study area have paid for their land. Original sellers –who transferred ownership- created a settlement problem in the area. The state neglected to regulate, control, facilitate -in the worst case forbid- this sort of business. Thus, property rights issues persist and they must be addressed.

6. CONCLUSION AND RECOMENDATIONS

6.1. Conclusions

At the beginning of development of the study area, all inhabitants had the same property rights over the land. They bought plots in different locations, but after 30 years the rights they could claim depended on the location. Now the area is under government control. While Villa Gloria is under private land regulation because the owner is a particular person, El Triunfo is owned by CVP, so it is under government public regulation. This results in advantages for Villa Gloria after the consolidation process. Evidence of this is the current infrastructure improvement that has just taken place in this area. Inhabitants of El Triunfo instead, face more difficulties: the implementation of road plan –from ‘POT’ (according to the acronym in Spanish for territorial zoning plan)- may find easier expropriation under calle 18l (see annex 12). For families that are living next to ‘Quebrada Limas’ without legal entitlement document may face relocation and this is the only option offered to them. If they cannot pay for the relocation, they will be back to the struggling-for-land times, only now with less participation possibilities and more chances to end up with empty hands. So, after 30 years, the legal map changed favouring inhabitants of Villa Gloria.

The system practiced in the study area was built by them. It is simple, practiced by all at low cost and therefore, it is affordable to everyone. The local system started because the people could not access the formal system and it was developed using elements from the formal system adapted to local needs. Those elements are: a.) informal subdivision, b.) the ‘Libro de Afiliados’ (Book) and c.) the ‘promesa de venta’. This went on 30 years in the absence of any registration. The system has been used in solving the problems in the local area, therefore it is part of the solution generated by community. This ratifies what USAID (1993) states: that ‘the emerges of informal settlements of housing as political, social and economic phenomenon is not itself a problem, it is the spontaneous solution of the lowest income people of a country, that face conditions of distributive unjust in the economic and juridical structure in most developing countries’ USAID (1993) cited by (Torres 2007).

The result obtained in this research ratifies that, in practice, the informal right of the possessor of the case study is quite formal, because it can be recognized by law and by his/her peers FAO (2003). Thus, the faster those rights are recognized by Public Registration Systems the sooner mutual benefits will come up for both community and government.

Using the STDM made possible to model the last phase of the case study. The level of preparation that such a settlement requires in order to turn it into a formal tenure system can be considered as an adequate one. Because two of the core classes, i.e. Party and Parcel, are presented in both perspectives (the local and the legal ones), the owners can thus claim property rights derived from actual possession over the asset. This means that having implemented the STDM, the actual link between people and land can be accurately depicted. This also will contribute to the transformation from STDM to the formal land administration.

The local system can be improved to facilitate the further formalization by two main tools: first, by standardizing documents and second, by preventing deletion of any name (in order to keep records). The fact that the ‘Promesa de Venta’ has a variety of formats and records, such as type of document, the number of witnesses, the description of the location of the house, use of a notary -among others- reveals that it lacks standardization.

The fact that as many as 65% of the householders tried to legalize their properties indicate that they found advantages in the legal system. From the interviews with the local community, inheritance and credits are some of the aspects that people value. Also they noticed that properties with legal documents increase their valuation. However due the cost that getting such documents implies, moving to the formal system will remain out of the question. They will continue in the local 'informal' system.

The study area shows, that it is far from the current concept of a slum. There, all houses are connected to the public utilities networking system. There is also a small commercial area along the main access' way and some public facilities. The whole relationship with the city is the same as in other formal areas. This may suggest that the area began as slum, and that its current informality exists because there is no legal recognition of the 'Promesa de Venta'.

Cadastral in Bogota has two main functions i.e. fiscal and cadastral. It serves to levy taxes on property land and it provides maps to other district agencies such as CVP (for legalization purposes). It is also the base of the zoning territorial plans –POT-. Therefore it is a type of multipurpose registration system but it remains mainly as a physical information provider. The juridical effect is low: it can only be used as evidence in case of formal settlement. This differs of modern land administration where cadastral and registration 'belong together as whole' (Kaufmann and Steudler 1998) and where Land valuation process and land planning are optional (Van der Molen and Enemark 2008) but in the case of Cadastral of Bogota they are the main (valuation and provider for the land planning) function.

6.2. Revisit question

Objective 1: To describe the political and legal framework that supports and makes it possible in Colombia to formalize existing housing rights, under the STDM model, describe why this ownership is not acknowledged under the current registration.

1.1 Which formal and informal land right do exist in Colombia?

In Colombia formal land rights need registration under a statutory system. Private property is obtained after registration in Public Instrument Register, the only entity entitled to recognize ownerships. Other land rights do exist and they are: usufruct, leasing, partition inheritance, division of community property, house leasing contract, adjudication as transit settlement, regular possession, occupation, legal process of acquisition by adverse possession and developing productive projects. Communal land requires since 2008 recognition by government agency that transform their customary rights to titles (see invasion and possession 3.1.2.3). In informal or illegal areas there exist land rights to purchase property, invasion and irregular possession.

1.2 What set of right are recordable but not yet registrable?

In the formal tenure of the country state, private property, group property is subject to registration in the Institution that guaranties the ownership. Other rights as use, rent, invasion, simple tenure (free usufruct), user loans (for instance use of a school), rent, usufruct, housing leasing, transit and temporary settlement do exist but they are not registrable. For displaced people there is an agency which started making record of some of them after a specific procedure.

Other types of rights are access to public utilities which include water, electricity, local phone, sewerage and collection of garbage. They are recordable but not registrable. The right to pay land taxation is registrable for Cadastral but not for the Official Registration. Those rights were identified in this research as it is presented in chapter four, a summary of 5.1.2. Additionally the human rights adopted in the National Constitution includes women rights, children rights, community rights, housing rights, and both individual and socio economic rights –among others-, all them are recordable but not registrable. See more details in section (5.2.2),(table 16) and a summary is also presented in (Figure 31).

Possession has been recognized in the country for a long time, but it is not registrable in Registration Office. Regular possession started to be registrable since 2008 as it is explained in the glossary, but in the formal system most of the holders who were granted those rights are unable to register their land.

It was also found that, within an informal settlement, a local tenure system was created and it keeps registration of property rights of the owners. These rights are not recognized by the official registration system.

1.3 How to compile those rights?

All types of rights can be compiled in the STDM model: some may exist depending on how the settlement kept records in several sources and other records need to be collected. Those rights that are not registrable can be compiled in STDM from several sources from national, district and local government, also from agencies that provide services on behalf of government and the community. Using STDM those rights are represented under a local and a legal perspective. From national level the national census has information about people and their living conditions. There is also census that provides social security for people who are considered as poor under Colombian Government Standards (such a register is called, Sisben) which records people according to their economic needs. In this research the agencies that provide utilities in the study area are EAAB, CODENSA, GAS NATURAL and ETB, they provides drinkable water, electricity, natural gas, and a hard phone line respectively (see section 4.3). The local government provides several assistance programs for people and gives some benefits for people in need (see 5.4.1). Community has also information about its land tenure (see section 5.1.1). From cadastre (UAECD) householders have registration as possessors as well. The housing right is already recorded by the DANE's census, which reported the total amount of families that did not own a house or did not live under proper housing conditions.

Objective 2: Verify if the existing classes and attributes of the STDM are reflected so represented all observed people land relationships from the fieldwork.

2.1 What are the LADM and the STDM?

The LADM model is a standardized model that allows the implementation of any cadastral system based on modeling architecture. Using current technology and a standardized language of the UML, the LADM was developed to facilitate both modeling and sharing cadastral data. The Current version is the sixth and it is also part of the ISO standards. LADM was developed, as it is explained by the author, due to the fact that each country has designed its own cadastral system independently for many reasons, being political and juridical the most important ones. Two common features that allow to see this singularity in the cadastral system, is that it can be centralized or decentralized – according the political system -and the type of registration can be based on title or on deed –according the juridical system. Based on this unique feature, countries make also unique each cadastral system. This makes information sharing and interpretation quite difficult to accomplish. The model describes the formal relation between people and land, in short, by using three core classes that refers people (Party), rights – including responsibilities and restrictions-(Rights) and parcel (Spatial Unit).

The STDM model

The STDM is an specialization of LADM to be applied in developing countries to include areas such as slum, or rural that are out of the formal land information. The Social Tenure Domain Model (STDM) allows the representation of all the relationships between people and land, regardless the level of formalization of those relationships. It has similar structure as LADM but flexible possibility to include all types of existing relationships between people and land. In this research, core classes were used in order to reflect the reality of the people-land relationship across two neighborhoods that are placed in the study area. Some of the defined attributes were used and other were added. The representation was done

according to both local and legal point of views for this situation. More detail is explained in section 5.2.1 and 5.2.3.

2.2 What parameters can be defined to classify different types of settlements?

In this research several attributes were defined to obtain main features for the core classes of the STDM people (party), rights (social tenure relationships) and the parcel (spatial unit). In short, some of the attributes used were based on some defined for the LADM, other were from parameter defined by UN-HABITAT and adaptation of them to the study area, as it is described in 3.2.5. For the core classes Party (person), age and gender were used. For the Right: right types, types of utilities, types of restrictions, types of documents; forms of organization and community participation as well as community-government relationship. For parcel, were based on UN-HABITAT: types of access to the area, infrastructure in the area, topography, use, type of house material and access, and other services in the area. More detail in section 3.2.5

2.3 How the existing rights can be grouped to be included in the classes of the STDM?

The existing right identified in the study area were grouped by the physical characteristics of the area, the organization aspect which involves internal organization and its interaction with the government and the Achievement that people can obtain individual or as a group. Over time this characteristics change in the study area. In chapter 4 is dedicated to explain in time overview, how each characteristic evolve. Later, in chapter five all previous characteristics are indentified according the attributes defined to each of the core classes of the STDM and LADM model. Based on this, as it is explained in section 5.1.1 local understanding of the a settlement is presented and in 5.1.3 legal perspective shows the current condition to transform those existing right in formal rights.

Based on the Constitution and the Human right a classification of right is presented types of right that has relation with each of the core class of the LADM, there are individual, and group right as family and community, political and socio economic and cultural rights. A summary of the rights recongnized in Colombia were grouped by type of person: all Citizen, women and Children as is presented in 5.1.2. Those classification are modeled under STDM concepts.

2.4 What are the main phases in development from informal to formal areas?

In this research four phases were defined based on a.) The physical features of the area, b.) Land property rights scheme in the area and 3.) Achievement obtained by community. During each progressive phase, the attributes of the area as well as people and rights that community can claim, evolve. Therefore the relationship between people and land also change. In phase one started the development of one settlement with new inhabitants in similar condition -a summary is presented as presented in (4.1.4, summary in 4.1.4); second phase is the armed struggle where people started to claim rights as well as their right to own local tenure (see details in 4.2 and summary in 4.2.4), third phase is the official recognition and consolidation (see details in 4.3 and summary in 4.3.4) and last but not least, the fourth phase where individualism caused by the external interaction took place as is explained in section (4.4.) and summary in section (4.4.5).

2.5 How can this development be modelled?.

By using the LADM model and the STDM concepts, the relation between people and land in informal settlement can be modelled. In chapter 5, the current phase of individualism of the study area was modelled. Two perspectives are presented in 5.2.2: the local perspective using the STDM concepts and the legal perspective under the LADM model, (see in section 5.2.3). In both cases the core classes with

attributes are identified. For those cases where there were not class or attributes, they were added. As a result, both perspectives can be reflected.

The human rights identified in case study were modelled also. For the case of Colombia it is proposed as a class in which both the individual and the and communal (socio-economic) rights can be included. See more details in section 5.1.2 .

6.3. Recomendations

- The Social Tenure Domain model can be extended to reflect realities from other types of illegal or informal settlement. In my study case an urban phenomenon was analysed. It could be also interesting to see how the STDM can be used in settlements under phase one, two or three. This also might be used in rural areas where serious conflicts are taking place in Colombia: the peasants used to lack formal tenure and many land ownership conflicts persist there. The STDM might help to understand those cases also.
- For the implementation of the LADM in Colombia the package of legal and administrative issues may need to be independent since each one is managed likewise.
- The facts that both cadastre and registration agencies are working on making their databases coherent, and they are having many trouble due lack of standardization, suggest that further investigation of the implementation of LADM will reduce technical problems and it might contribute to a efficient implementation of the integrated approach.
- The formalization of informal and illegal settlements needs to be addressed as a national land policy. The advantages to recognize those land property rights will benefit both community and government. This will help to improve governance and reduce transaction costs during all those process.

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ANNEXES

Annex 1 Questionnaire to inhabitant of the Neighbourhood

1-General about person and family

1.1 How many years are you living in this place?

- a) Less than 5 b) Between 5 and 10 c) Between 10 and 20 d) More than 20

1.2- How did you come to this place? ¿ Did you come in group or alone?

1.3- How is conformed your family? Are person younger than 18 years old?

If yes, they receive public education? Yes___No___ Which level?

- a) Kindergarden b) primary c) secondary d) No asisten

4 Which are the main changes in the neighbourhood since do you came? What are the most important (*street, hospital, school, others*)?

- a) Many b) Some c) Few d) None

5- Which could be an important change to improve the neighborhood ?

- a) Pave street b) More education c) More Security d) Legalize property

1.6- Do you have service of health ?

- a) Sisben b) Seguro social c) Centro Salud d) none

2. About dwelling

2.1 -The main material of the house are?:

Brick - Block (permanent) Wood and brick (semi-permanent)

Fabric asphaltic, tiles zinc (fragile) Other: _____

2.2- How many floor has the dwelling? _____

2.3 What public services do you have? How long do you have these basic services (water and electricity) ?

Water Sewerage Electricity Natural Gas

Garbage Recollection Public lighting

2.4 The access to the dwelling is, street:

Paved Without paved Ped an road Servitude

Concrete stairs non concrete stair

2.5 -Where do you receive the mail?

2.6- The dwelling is same since do you obtain? (Yes___Not___) 2.6.1 If not, what changes are you done

on it ? 2.6.2 Do you plan do more changes?

2.7 Who build the dwelling ?

- a) I built it b) The previous owner c) I don't know , It was built when I obtain it.

2.8 Your income depend of the dwelling? Yes___Not___

2.9 Do you live here and pay rent ? Yes___Not___

2.10 What is the use of the dwelling? (Residential, mixt, commercial, other)

3. About tenure of property

3.1 Have you ever tried to legalize your document in registry? Which is the difficulty ?

3.2 Do you know the procedure to register a title in cadastre and register ? Yes___Not ___ If yes, what is your opinion ? (Expensive , delayed, complex, it requires intermediary)

3.3 If the registration process were free, without intermediates, will you do the procedure to register your property? Yes___Not___

3.4 Do you think that it is important to have a registered title of property ? Yes___Not___

3.5 What type of document do you have of your dwelling?

- Promise of buy and sell Deed without registration
 A Receipt Any paper Other _____

3.6 If you are married, are both included in the document of the parcel?

3.7 Which procedure do you will follow, if do you want to sell ?

3.8 What rights do you have in your parcel?

- a) sell b) rent c) Divide c) Build

3.9 Do you face any fear to lose the land? Yes___ Not___

3.10 In addition to the cost of the public services, do you must pay another payment to government, (taxes, cost for construction of street, other)?

4. PARTICIPATION

4.1 Did you participate in the building of the neighbourhood ? If Yes, Could you describe how it was?

4.2 Have you ever participate in the activities to improve the neighbourhood ? If Yes, what activities?

4.3 Do you participate in elections? If Yes, could you select in which did you participate?

- a) President b) Majors c) Councilmen d) Neighbourhood e) Other _____

4.4 Your place of voting is in this locality? If not where ?

4.5 Do you participate, o somebody of your family, in some of the committee of the neighbourhood? If Yes, in Which?

[Comité de: communication, culture, education, production, JAC (joint of communal action), youths, environment, social participation, recreation, health, security, older people, de dwelling, women head of household , association of communitarians mothers]

4.6 - Who made the most important changes to improve the neighbourhood?

- a) The Community b) Government c) Both community and government

4.7- Do you receive help of government? If Yes, What type of help do you receive?

Annex 2 Questionnaire to employees: local government or agencies that work in behalf government

Entity: _____ Position: _____

- 1-What projects are planned to the Neighbourhood?
- 2-Who will be the main benefits of those projects?
- 3-How is affected the entity due the lack of legal title in the neighbourhood?
- 4- Has the agency programs in place in theses neighbourhood? If yes, what kind of programs?
- 5- What sectors require more attention by local authority?
Education Roads Health Legalization of title Transport Other: _____
- 5-What are the requirements to legalize a title? Which are the difficulties to legalize the neighbourhood?
- 6-There are programs of awareness to householders about the relevant to legalize their parcel?
- 7-What committee are working with Alcaldia? There are committees independent to define into JAL?

Annex 3 Questionnaire to Community

neighborhood: _____ total of persons: _____

- 1-How can somebody obtain a property in this neighborhood? Which is the procedure?
- 2-Under which circumstances can somebody lose a property in this neighborhood?
- 3-Which is the procedure to sell a property?
- 4-Do you know if there are projects that may affect this area?
- 5-What are the requirements to legalize the property? What the difficulties?
- 6-What type of committee have the neighbourhoods?
- 7-How is the public transportation? How many routes are?
- 8-How is health services provided in this area?
- 9-How are handled/solved land conflicts in the neighbourhoods?
- 10-How was built the area? How obtained people land here?
- 11-How is the relation with government?

Annex 4 Questionnaire to Community

No	Summary Group Interview
1	The transaction's minute is called selling promise, that is eventually taken to a notary for signs authentication. At this point, mainly some years back, it was a word given business with few receipts, if any at all. The business is then taken to settlement JAC for it to be recorded in the affiliate's book. In it the signature of those involved is taken -should the person know how to sign.
2	We all take care of each other. Many of us made it here at the same time, so when land problems arise we rely on the JAC to address and resolve them. Those problems occurred at the beginning of our community. Ss the time went on, we all got to know who owns what. We have seen those possessing the land and building their houses.
3	Some couples have divorced, some others do have problems. One of them gets to keep the documentation when he/she goes away. Same situation comes when people passes away. In these cases, when documentation is requested we rely on testimonials. These are declarations before either a notary or a judge.
4	Some do state that the road will be built, but that has been heard for the last 10 years and so far it has not happened, so we do not know. People living by the Las Limas creek do now have problem because some houses have been torn down. Those that helped us, the ones living by the water tank, we will not let them out.
5	Many entities have come, CVP is the last one. They state, through mail, that people in the area must pay. However we have already paid for our land. We have been fighting for over 20 years for our investment.
6	That has changed. Now there are many committees: work, safety, community mothers, third age.
7	Since 2004, when some pavement work was done, we have had public transportation services. Initially just one route was available. There are currently 4 and some improvised particular vehicles offering services to San Francisco.
8	Depending on the Sisben level one gets some benefits. For example, health services are provided for a variety of companies based upon the Sisben score. Other social programs, such as 'Familias en Accion' do also take into account this score to offer his services.
9	The JAC gathers the community when this is needed. When land disputes arise among siblings, for instance because the parents have passed away the JAC can't do anything about it. Each family must take care of its own business.
10	Working and asking for materials, some conditioning the roads edges, others in charge of debris management and so on. Groups with specific responsibilities were created. The situation was harder before public water and power systems were deployed. Things changed since, then we got materials to improve our school, and that way, step by step the neighborhood stood up.
11	We had many problems at first, when utilities were not available to us. During election time, candidates campaign in our zone.

Annex 5 Summary of Interviews

Table A1

Entity Name Position	Topics
Edgar Torres Unidad Catastro Distrital	<p>Catastre of Bogota includes all type of immovable legal and illegal in its inventory, in fulfilment the law 14/83. All owners or possessor paid taxation until 2007 when the law defined that only owners should paid taxation. However some possessors keep paying taxation.</p> <p>Cadastré provides its information to Caja de Vvivenda Popular , when this entities is done legalization process in informal neighborhoods. Also cadastró give the manzana catastral to possessor in order to complete evidence to apply as recognized pososors.</p> <p>The total of the inventory in UACD is higher that in Registration because we include all type of immovables, this difference is about 500.000properties. This difference will exist since we include illegal areas.</p> <p>Rounds of rivers or streams belong to Acueducto EEAA, however they are occupied or are invaded.</p> <p>The parcel of Edelmira is duplicated in cadastré.</p> <p>The information that is required by citizen for legalization process is provided in not more than 10 days and has priority according law 16</p>
Planning district Office	<p>The informal neighbourhoods have study by EEAA, DAMA, Environmental Secretary , IDU, Planning (national and district)to determine whether those areas have some affectation. They can be due risk, forest reserve, vial reserve to name a few. Each UPZ has a map to describe this condition in scale 1:5000 and all localities have a map with detail. The parcel without any affectation after this study can be legalized. Each citizen can ask for the condition of the place that tey are living free charge in all CADE (administrative point to attend citizen).</p>
Alcaldia Local de Ciudad Bolivar In charge of land issues Architect: Fredy Quintaco JAC	<p>The City's boundary is carefully verified by 50 employees of the Alcaldia that are walking daily to detect new settlements, invaders or other factors that affect the current condition.</p> <p>COL Provides economic monthly help to a group of people after study that defines them as a older with Sisben level 1.</p> <p>There are many program that people can apply, according with Sisben. For Col : it is short time help –one year –that provide economic help to older people that 60 years old.</p>
CVP	<p>Villa Gloria is a legal neighbourhood with titling problems, it is incorporated to the City. This means that it is included into the POT of the City.</p> <p>The land was under control of CVP until 2009 because her owner was declared as a illegal developer by The Superbancaria. She had not license to developer and sell her property. She did not have neither the required accounting in such cases . It resulted in the confiscation of her patrimony and appointing of an agent to act on behalf her. The entity in charged was the ITC, after INURBE and later CVP. The neighborhood's legalization was made by District Planning (this was one of causes of the intervention).</p> <p>In informal neighborhood as Villa Gloria, people should paid again because they paid to the wrong person, for that some fees has been defined that depends of the number of householders to cover the cost of lawyer and registration process.</p> <p>What information is base to determine the area and boundaries of each parcel?</p> <p>The CVP uses for parcel description (location, area) the information from the UACD. Based in it a individual study is done with other documentation to determine whether its legalization is possible.</p>
Registration Office The registrar (In charge) and lawyer	<p>The requirements and procedures to legalize all illegal property are under The CVP, this agency send us the documentation verified after previous study for each parcel. If all is correct according to law registration can issued the title and give the MI to those parcel. The cost is based on the value of the property and for VIS applies lower values, also in case of free title the price is lower about (COL 100.000). The interrelation with cadastré is in progress; at the same time there is a project to provide communication with notaries in Bogota. The result can be presented in the CONPES report.</p> <p>With the lawyer : Second interview was done due difficulties to understand the title, the summary of the answer 'To understand the legal meaning an implication of the 302 annotations in the Cetificate of Liberty for Villa Gloria a private lawyer is advise'. The lawyers do not provide this service due time restriction, the consultation is allowed by person for only five minutes.</p>

Annex 6 Detail description of register of Villa Gloria (table) and El Triunfo

Table A1 Details of Title of Villa Gloria

MI 50S-171768 Description of the parcel identified as	Registration Circle: 50S Bogota Zona Sur DPTO-Bogota D.C Municipality: Bosa. Cadastral code: BS 155 10 Folio status: Active Opening date: 21-09-1973
Area of land that has approximately 10 fanegadas that represents 64.000 square meters, it is known as <i>El Filon</i> and hereafter will be called <i>Villa Gloria</i> . This plot of land is located in the Special District of Bogota, zone of Bosa which was part of the Madrid farm or ranch Meissen. Boundaries, North: starting from a landmark located in the <i>right bank of a downstream following the edge of this stream of 200 meters</i> until found a landmark B. Orient: from landmark B straight line until find the landmark A delimiting the land that is property of the vendors and creditors themselves. South: starting from landmark A located in the boundary of ranch La Maria in 132.82 meters in string line until find the landmark B of the same ranch La Maria. Occident: starting from the landmark D straight line until found landmark C, starting point delimiting with land of vendors and creditors themselves.	



OFICINA DE REGISTRO DE INSTRUMENTOS PUBLICOS DE BOGOTA ZONA SUR
CERTIFICADO DE TRADICION Y LIBERTAD DE
MATRICULA INMOBILIARIA

Nro Matricula: 50S-40404674

Pagina 1

Impreso el 24 de Enero de 2011 a las 09:47:54 a.m
 No tiene validez sin la firma del registrador en la ultima pagina

CIRCULO REGISTRAL: 50S BOGOTA ZONA SUR DEPTO:BOGOTA D.C. MUNICIPIO:BOGOTA D.C. VEREDA:BOGOTA D.C.
 FECHA APERTURA: 09-09-2002 RADICACION: 2002-68402 CON: ESCRITURA DE: 29-08-2002
 CODIGO CATASTRAL: COD. CATASTRAL ANT.:
 ESTADO DEL FOLIO: **ACTIVO**

DESCRIPCION: CABIDA Y LINDEROS
 LOTE DE TERRENO CON UN AREA TOTAL APROXIMADA DE 11.555,98 M2.CUYOS LINDEROS CONSTAN EN LA ESCRITURA 0686 DE 29-08-2002 NOT 28 DE BOGOTA. DECRETO 1711 JULIO 06 1984.

COMPLEMENTACION:
 CAJA DE LA VIVIENDA POPULAR, ADQUIRIO LOS PREDIOS QUE ENLOBO POR CESION A TITULO GRATUITO DE BIENES FISCALES DEL DISTRITO CAPITAL DE BOGOTA, POR E. 686 DEL 29-08-2002 NOTARIA 28 DE BOGOTA D.C., CON REGISTRO A LOS FOLIOS 050-40404665 Y 666. ESTE, ADQUIRIO POR COMPRA A PRIETO SALAZAR CARLOS Y PRIETO DE AREVALO ANA, POR E. 558 DEL 14-10-58 NOTARIA 10 DE BOGOTA, CON REGISTRO AL FOLIO 050-1045683 Y 434057.

DIRECCION DEL INMUEBLE Tipo Predio: URBANO
 1) LOTE -

MATRICULA ABIERTA CON BASE EN LA(S) SIGUIENTE(S) MATRICULA(S) (En caso de Integracion y otros)
 40404665
 40404666

Figure A2 Title of El Triunfo

Annex 7 Other rules

1-Law 1098 of 2006 State Obligation Rights

Article 41. The state is the institutional context in the development of children, girls and adolescents. In Fulfilling its functions at the national, departmental, district and municipal level should (7) prevalent resolve a matter of [...] petitions or legal actions presented by children, girls and adolescents, their family or society for protect their rights.

2-Decree law 2150 de 1995. Formal Request by public agencies

Article 16: When the public administration entities required to prove the existence of any circumstance necessary for the solution of a procedure or individual petition , which is held by another public entity, shall request to entity to submit this information. In such cases, the liability of the proof does not correspond to user. Article 15. Right of turn. Agencies and entities of the national public administration aware of petition, complain or claims must comply strict with the order[...] all of them must register and it should be public on order that users can verify the strict respect to the right turn.

3-Law 812 of 2003 Obligation to provide Information

Article 74. All agencies and the national or territory public entities, public employees and all natural or juridical persons, public or private that exercise public function, providing a public service on behalf of the state[.]are obligated to provide the required information to advance planning programs [...] in accordance with their respective law.

The national public entities and territorial responsible to design and execution of public policy which tend to satisfy economic, social and cultural right, established in international instrument of human rights and in the political constitution, should provide to Defensoria del Pueblo the information in order to carry out monitoring and evaluation of these policies and establish the extent to which they develop the economic, social and cultural rights and fulfil corresponding obligations imposed by Colombian State.

The national government will review the existing information systems and will take the provisions needed to guarantee linkage, efficiency, efficacy and avoid duplication.

The National Administrative Department of Statistics, the National Department of Planning and Advocacy of people (Defensoria del Pueblo) will design, indicators to establish progress or setbacks concerning the effectiveness of the economic, social and cultural rights establish in the international human rights and in the Constitution.

4-Law 142 of 1994: Provision of the Public Services

- Art. 1 This law applies to public utilities of water, sewerage, collection of garbage, electricity, gas, public fixed telephony. All the previous services are considered as essential public services (art 4)
- 2.3 Priority attention to the basic need not satisfied on drinking water basic sanitation.
- Art 3. To establish a proportional rate system for sectors of low income, according to the equity and solidarity precepts.
- 3.7 Granting subsidies to the low income people.
- 5.4 Stratify the residential immovable according to methodology defined by government.
- Art.56 About expropriation and servitudes. Define that public entities can pass over through other parcels if it is needed to general benefit.

5-Law 54 of 1990 Marital Union and Patrimony between permanent couple

- El patrimonio o capital producto del trabajo, ayuda y socorro mutuos pertenece por partes iguales a ambos compañeros permanentes.

Annex 8 History of the legal owners of the Villa Gloria

Table A2

Registry	Notary	Party
Under control of government		
19-03 2009	Cancelled the Intervention	De :Caja de Vivienda A : Edelmira Blanco
1986 2001 1976	Intervention INURBE - Caja Vivienda Popular - Dama - Alcaldia Mayor 2001 - Superintendencia Bancaria in 1979	In 2001 ,14 july the Alcaldia Mayor de Bogota defined that Caja Vivivenda popular will be Special Agent instead of Edelmira Blanco Super took posesion to manage the business of Edelmira
Private Land: five owner can be track		
13-09-1973 presented in register	Deed 3759 del 31-08-1973 notaria 14	De: Gutierrez Reyes Gloria Sofia A:Blanco de Rodriguez Edelmira
1970	Deed 2158 del 10-06-1970 notaria 8	De: Tellez Vicaria Jose Joaquin A: Gutierrez Reyes Gloria Sofia
1970	Deed 2157 del 10-06-1970 notaria 8	De: Gutierrez Jorge Antonio A: Tellez Vicaria Jose Joaquin
1968	Deed 2629 del 26-06-1968 notaria 3	De: Gutierrez Jorge Antonio A: Gutierrez Jorge Antonio
23-10-1963	Deed 3991 del 26-09-1963 notaria 3	De Cuadro Pinillos Alfredo

Table Source: Made based on data of CVP. Resolution 702 of 2004

Annex 9 Value of Subsidy according to the score from Sisben.

Table A3

Valor Subsidio Familiar de Vivienda 2009				
Con base en el salario mínimo \$496.900				
Cajas de compensación Familiar		Fondo Nacional de Vivienda		Valor en pesos
Ingresos		Puntaje Sisbén		
Desde	Hasta	Desde	Hasta	
0	496900	0	10,88	10931800
496900	770195	10,88	14,81	10683350
770195	993800	14,81	18,75	10434900
993800	1118025	18,75	20,72	9441100
1118025	1242250	20,72	22,69	8447300
1242250	1366475	22,69	24,66	7453500
1366475	1490700	24,66	26,63	6459700
1490700	1739150	26,63	30,56	4472100
1739150	1987600	30,56	34,5	1987600

Annex 10 Description of others classes of LADM

Description of the model

LA_Mortgage class:LA_Mortgage class is associated to Right, Admin Document and Party. It has three attributes amount, interest and ranking (when more that one apply).

LA_Admin Document class :LA_AdminDocument class describes the legal evidence of the right that person has over to land. The attributes defined are: sale price, text and type. The possible values of the LA_AdminDocumentType are: agriConsent, agreLease, agriNotaryStatement, deed, mortgage and title.

LA_RecorderObject class:An instance of the this class belongs to at least one instance of a subclass LA_RRR, but an instance of this LA_RRR corresponds only one instance of LA_Recorded Object (the same instance of a subclass cannot belong to different record objects). LA Recorded Object is associated to LA_Party, LA_SpatialUnit and LA_RRR. It has three attributes: name, rolID and registerType. Register type has values such as: forest, mining, public space, rural and urban.

LA_Party class:This class describes a single person or group of persons, they can be natural to non natural .Three attributes are defined : partyID, role and type. Role : LA_PartyRoleType. Possible values: conveyor, farmer, loan Provider, surveyor. Type: LA_PartyType. Possible values : naturalPerson, nonNaturalPerson and group Party.

LA_Group Party class:This class is a set of natural persons. It will represent social structure that differs from natural person that represent government agencies, organization or companies. It has three own attributes: groupId, name and type. The LA_PartyGroupType has as a possible values : association, family or tribe. Also the class inherence attributes from LA _Party.

LA_Party Member class:Member class is an association class between Party and Group Party classes. This class is defined one attribute share, the share of the member. The total amount of share among member

LA_Layer class:The layer class allows to represent layer concept. It can be used in a Country to represent the strongest Right, from which other rights and interest can be increased or reduced. They can be shown in different layers and its structure and name will be according local Country's regulation and legislation. This class is associated only with LA_SpatialUnit. It has four attributes: lld (layer identification), name, structure and type. LA_LayerContentType may has values such as: building, mixed, network, primary right, responsibility and restriction.

LA_Group Party class

This class is a set of natural persons. It will represent social structure that differs from natural person that represent government agencies, organization or companies. It has three own attributes: groupId, name and type. The LA_PartyGroupType has as a possible values : association, family or tribe. Also the class inherence attributes from LA _Party.

LA_Building Unit class:This class is part of La Building Reserve. A set of this class compose Building Reserve. This class has three attributes adressID, unitNumber and type. Values for type can be shared or individual. Additional all attributes that inherited from Spatial Union.

LA Network Reserve:This class is defined with five attributes and one function (for obtain the geometry of the network).

- Attributes
- bellow surface: levelType: above, below,mixed, on surface
- dangerous: RiskType: riskCat1, riskCat2, riskCat3
- status: status type : inUse, outOfUse, planned
- type: LA_NetworkType : chemical

Annex 11 Type of 'Promesa de Venta'

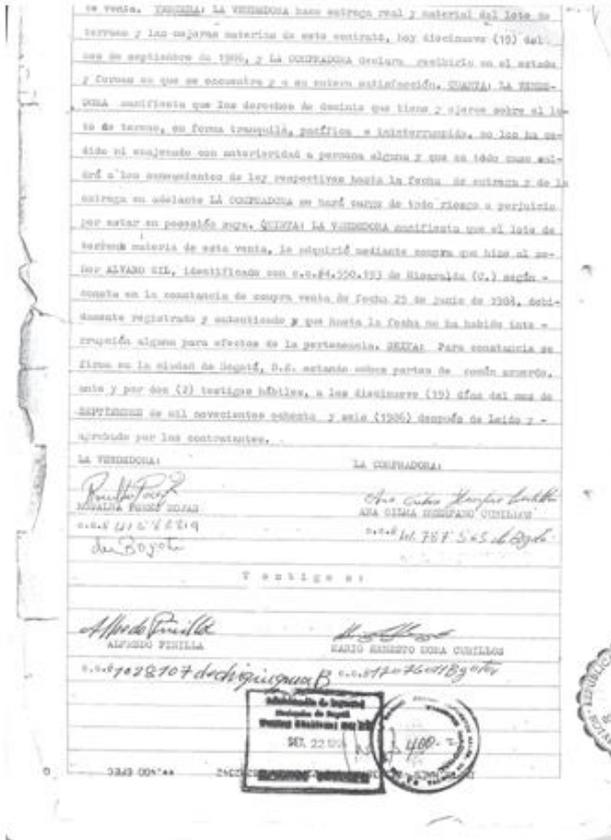


Figure A4 Promise of Sale with authentication and witness

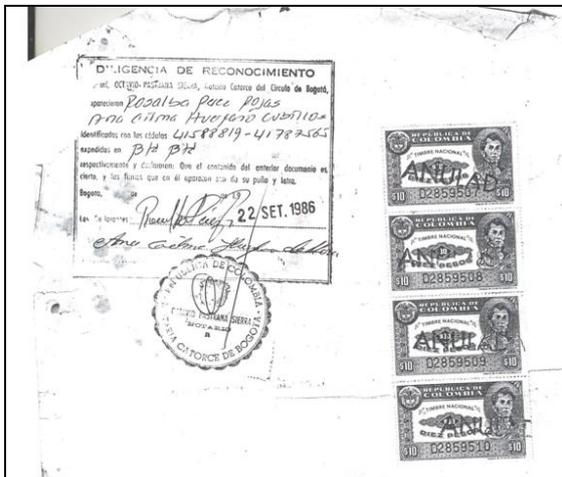


Figure A5 Stamps of the authentication process of the Promesa de Venta

Annex 12: Map of the approval of the neighborhood and restriction due POT

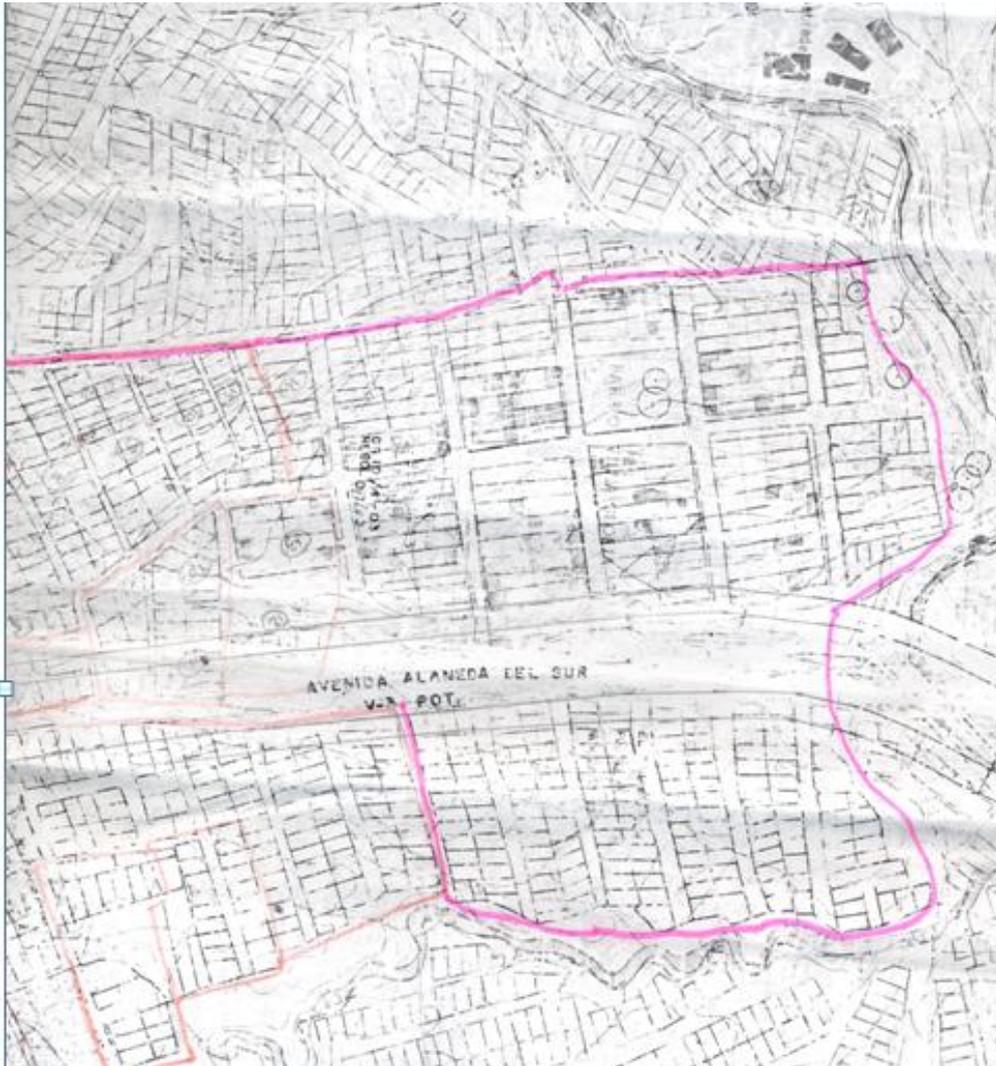


Figure A6 map of approval and restriction due POT

The Street 18l is proyeced as a Avenida Alameda. The street is boundary of the Villa Gloria and el Triunfo

Annex 13: Map of POT based on Cadastre map



Figure A7: Restriction in the study area Quebrada Limas with affectation due protected area and the future avenue Alameda current carrera 18 l.

Source: District Planning Office