MASTER'S PROGRAMME IN URBAN MANAGEMENT AND DEVELOPMENT

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Title:

Value capturing and municipal land policies: A review of the Greenfield Land Development in The Netherlands

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Summary

This thesis dissertation is addressed to those who are interested in land development projects. Those who work in local governments and need to understand how other land market parties act in relation to these projects will make good use of the knowledge depicted by this study. Those who are particularly interested in land development in The Netherlands will find this study useful.

The motivation to carry out this research was triggered by a strong interest of the author to understand how land is supplied and disposed in a country with a long stand tradition in spatial planning like the Netherlands. Today, urbanization, decentralization and liberalization policies are increasingly challenging cities and governments around the world in their attempt to foster sustainable urban growth. Land is getting scarce, public finances are limited, and market forces are doing its work . As a result, governments are setting land and property-led issues as one of the priorities in the political agenda. Due to the strategic role that land and land markets play in the urban development, the design of effective measures to achieve a sound land policy becomes paramount. This becomes apparent when looking at urban development processes in countries like The Netherlands, Brazil, Colombia, France, etc.

This situation is particularly evident when looking at *greenfield land development* in the Netherlands where local authorities have had traditionally an active role in the acquisition, disposition and development of land during a period of almost fifty years. Consequently Dutch local authorities have secured its position to influence and control urban growth. However, this position has been significantly affected by recent political and economic changes with spin-off impacts on the Dutch land and housing markets. Developers, rural landowners, housing associations and building companies are increasingly anticipating local government's decisions on housing locations and urban expansion resulting in an apparent weakening of the municipality's position. And this has a direct impact on land prices and subsequently on housing prices and affordability. This thesis research looked at these changes as a first step to grasp the on-going changing roles and shifts in the land development models.

The research firstly aims to analyze how greenfield land development has changed in the Netherlands, and how these changes have affected the way local authorities used to pursue some of their land policy's objectives and housing targets. Secondly, the research assesses whether particular land management tools, namely *value capturing*

tools, has the potential to be introduced in the Dutch system in order to strengthen local authorities' ability to continue using land transactions as a way to financing infrastructure needed for urban and housing expansion.

The research is structured in three different analytical parts. First, we looked at the theoretical fundamentals and principles of land rent, as well as the role and potentialities of value capturing tools in land markets. This was essential to build a good understanding and acquire knowledge about how land markets work, and how land value is produced and captured. Secondly, by reviewing the role of local authorities and looking specifically at a case study, the research reveals in detail how greenfield land development works in The Netherlands, its mechanisms, steps and actors involved. The research makes an institutional and financial analysis of the case of Carnisselande, a VINEX location and large scale housing project of 10.000 housing units situated in the outskirts of Rotterdam. Stakeholders of this project were interviewed. This served as a basis to compare with past policies and approaches implemented national and locally. Finally, in chapter five, alternative land management tools to be introduced in the Netherlands are assessed.

One of the findings of the research is that the anticipation and active role of different land and housing market parties have relegated municipalities to a secondary and more passive role in land policy. Simultaneously, the research reveals that different forms of cooperation amongst the private and the public sectors have developed and has lead to a new institutional and financial equilibrium. This has serious implications on the land market and for land policies. Private stakeholders have gained stronger positions because it has actually anticipated in land purchase obliging municipalities to negotiate with them in order to execute its plans. Additionally, this puts at stake the recovery of the costs of infrastructure provision by the public sector and jeopardizes the municipality control on land use. We find that there is an increase in the share of profits and land market imperfections. It is likely that this will have serious negative effects on housing prices, affordability and the supply of social housing. Thus, municipalities will have to introduce other land management tools, value capture and/or other instruments in order to be able to capture land value increments, generate financial resources though land-related transactions, and to better control land markets.

This is addressed in the final chapter of this study. The study makes an analysis of value capturing tools and the *selling of development rights* as well as the Colombian *plus-valia* tool. It argues that lessons from these experiences could be drawn for the Netherlands' municipalities. We argue that such instruments can be introduced successfully to improve costs recovery and to limit the un-justified leaking out of planning gains, and help to regulate some of the imperfections found in the Dutch land market of today. The new land development law to be enacted in January 2008 shows that the legislators have had similar ideas since equivalent instruments are now incorporated in the new law. This makes this thesis very actual.

Key words: Netherlands, land policy, greenfield land development, land rent, cost recovery, value capture

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Table of Contents

List of Charts, Figures and Pictures

Charts

Figures

Pictures

1 Introduction

1.1 Background

Cities are growing faster than ever before, and urbanization as a process is characterizing the development of countries and region across the world. From the re-conversion of brown-field sites and deteriorated neighbourhoods into new and attractive urban areas, to the new building projects developed in the fringes of the cities to respond to the increasing demand for housing and living spaces, urban centres are experimenting a constant physical mutation pursued both by the public and the private sector. Among the factors to be taken into account in such a process, the use and management of land plays a prominent role.

According to this, local governments both from developed and developing countries are struggling to define effective tools and policies to control the process of occupation and development of land, to accommodate urban growth and to achieve a more sustainable and equitable development. To help to achieve these goals, innovative land management tools, responding to different factors and conditions, have been internationally implemented (Smolka and Furtado, 2001).

One of the main characteristics of such tools is the ability to capture the increments in land value produced by the intervention of the public sector in the planning and development of new urban projects (Lungo and Smolka, 2005). These land value's increments are usually generated, directly, by public investments, like the construction of new public infrastructure, or still, indirectly by public policies, like a change in the use and development conditions of a specific area, as it is the case of rural land in the periphery of cities transformed into new urban land. Besides, they can also play a fundamental role helping to increase the efficiency of land markets and to remove negative externalities (Smolka and Amborsky, 2000). The international experience and the existing literature on the topic largely describe how these techniques have been successfully used in different settings under different conditions as a way to finance urban development, to help public authorities to pursue their land policies objectives and to regulate urban land development

The potential applicability of these techniques becomes particularly attractive in the case of cities and countries where the lack of control over land development processes led to an inefficient management of urban land. One of the realities where this kind of situation is somehow tangible today, is the case of the Netherlands, where urban land development approaches experimented substantial changes in the past decades (Groetelaers, 2004).

Until the eighties, in the Netherlands, most housing developments on greenfield took place on land supplied directly by the municipality. After purchasing the land for a price only a little above of the price set for agricultural use, the municipality was able to recoup the costs for land servicing and acquisition from the disposal of land and to

achieve a strong control over land use (Verhage and Needham, 2003). In the last decades, simultaneously to the introduction of the VINEX housing policy - which fostered new large-scale housing developments in well-defined locations pointed out by the national government - housing prices raised substantially, together with a change in the share of social and private housing within the new developments. This change fostered a much higher proportion of private housing if compared with the past.

These new conditions increased in the Netherlands the interest of private parties in the acquisition of land, diminishing the control of public authorities over the land development process. Particularly, to recover the costs for public infrastructure and to influence land use, today, municipalities have to enter into difficult negotiations with market parties, with different outcomes depending on the particular case (Verhage and Needham, 1997). This situation leads to a state of uncertainty and subjectivity, especially because existing regulations on the topic are quite discretionary. As a result, the way to recover land assembling and infrastructure costs, to capture land value increments is today a priority issue on the national agenda, and new land policy instruments are needed in order to regulate the process of land development (Premius and Louw, 2002).

1.2 Motivation

The reasons for the definition of the case to be studied are multiple. First of all, this choice is determined by a strong interest of the author in the way land development is undertaken in the Netherlands. This country is internationally well-known for its long tradition in physical planning processes, and for the way it historically coped with the scarcity of land, leading to an exemplar use of this limited resource. Nevertheless, few things have been written over the way the planning process are traduced in actions and things actually work. Secondly, it is a good opportunity, from a professional point of view, to learn more about a country where I have been living and studying urban issues for almost one year. Thirdly, this will broaden my knowledge over international land development practices, enabling further comparisons with the Latin American context, with which I am more acquainted.

Further on, the decision to analyze specifically the outcomes of the new land development strategies is motivated by two main reasons. First, the research is an opportunity to get a better insight of how recent political and social factors fostered the liberalization of the Dutch land and housing market, after fifty years public monopoly. Secondly, it represents an interesting nation-wide case of urban land development practice where to apply the knowledge acquired on urban land issues after a year of intensive study. Last, but not least, as also stated in the existing literature, the way the land development approach changed in the Netherlands led to a national debate over the effectiveness and efficiency of the existing land management tools in the Netherlands. Accordingly, as quoted by Premius and Louw (2003), there is a national debate going on over the opportunity to introduce new policy

instruments to improve the actual system, strongly validating the specific objectives of this work.

1.3 Problem Definition

Several factors justify the need to study the potentialities of alternative land management tools in the Netherlands and abroad. These partly coincide with the negative impacts on urban land development caused by some of the major trends that are affecting cities today, which are contributing to increase the level of un-sustainability of urban growth. Accordingly, the case of the Netherlands, where municipalities are losing control over urban growth processes and where land is a very scarce resource, is just one of the many examples that suggests such study.

These factors include, firstly, the negative effects caused by urbanization processes that are affecting today most regions of the world. High levels of urbanization like in the Netherlands, that reach today the 90%, are leading to a depletion of land resources. This situation, together with an increasing demand for new housing and infrastructure are putting a lot of pressure over the way Dutch authorities are managing housing land development processes. Accordingly, an effective land policy could help to supply more efficiently the space and infrastructure demanded in order to accommodate urban growth.

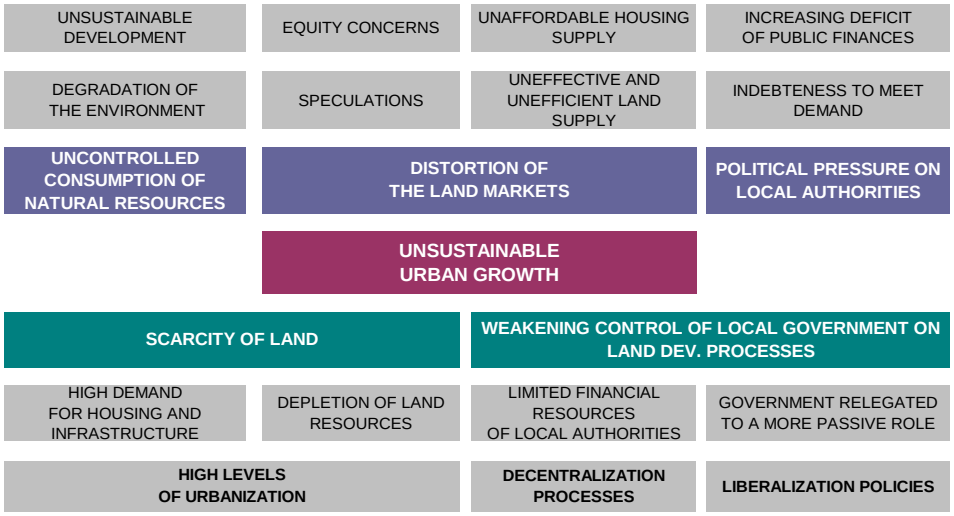
Secondly, it is also important to consider the impact of decentralization over the level of expenditures of a city. Decentralization has been characterizing many regions around the world in the recent past, and implies the transfer of new powers to local authorities. Nevertheless, together with an increased autonomy in the decision making processes, local governments have also to cope with the higher costs of management and development, since new powers also imply new costs. Besides, the transfers and financial support from central governments are becoming frequently scarcer and limited. In the Netherlands, for example, the financial ties between the central government and the local authorities have been strongly diminished in the last two decades, leaving to the latter the financial responsibilities for adequate social housing provision (Louw et al., 2003). Accordingly, the depart of the central government from the housing development context raised the financial risks for municipalities. Thus, since borrowing is not always a valid and sustainable alternative, the definition of new and more sustainable sources of finance became a priority issue for Dutch local administrations.

Simultaneously, the policies of liberalization are affecting the level of control of local authorities over the land development process. More often every time, in the Netherlands, private parties enter in competition with public authorities attracted by possible profits guaranteed by their participation in the development of new residential areas (Verhage and Needham, 2003). This situation, apart from the well-recognized benefits that a market economy brings with it, can be dangerous in the specific case of land markets since, by definition, these are inefficient and imperfect. Thus, they need to be somehow regulated to prevent negative externalities (Evans,

2004). The latter includes, for instance, speculation over land transactions and an inequitable distribution of profits among the actors involved in the process, leading to an unaffordable supply of land for new development and to higher costs of urbanization. Besides, local authorities are loosing control over the land development process as a whole, limiting their ability to influence land use and to recover public costs. Again, innovative land policies can help to redefine roles and responsibilities of the actors involved, helping to re-establish a new equilibrium of powers.

All this pressure on land and on Dutch local governments, underlines the necessity to look for alternative solutions to finance urban land development and to strengthen government control towards a more sustainable and equitable urban growth, as shown in the problem tree analysis showed below. This, if successfully achieved, will also contribute to increase living standards, to avoid the distortion of land markets, to slow down the pressure over local public finances, and more generally, to foster a more sustainable urban development that will make Dutch cities attractive and competitive places where to live and work.

Chart 1: Problem Tree Analysis, the Netherlands call for sound land policy



1.4 Scope and Objectives

The *general objectives* of this study are 1) to obtain a strong acquaintance over the role played by land in urban development processes 2) to acquire a critical understanding of the way land development can be achieved and, 3) to understand how land value capture techniques can contribute to finance and urban development

processes and to regulate land development within different geographical and political contexts. Considering the broad spectrum of the mentioned objectives, as well as the limitations of time for the proposed research, the scope of the analysis is limited to the assessment of a particular case in the Netherlands.

Therefore, the research focuses on the case of the change in the greenfield land development processes undertaken in the Netherlands during the nineties, and on the effects that this change produced on the management of land for new housing development. Particular attention is given to the issue of public costs recovery, and the distribution of the profits produced by the land development process. Within this context, in order to have a better insight of the situation, the exemplar case of the Carnisselande Vinex project is analyzed. This project is located in the outer skirt of the city of Rotterdam.

Hence, the *specific objectives* of the research are: 1) to deeply analyze how greenfield land development processes have changed in the Netherlands after the nineties, and how this affected the way local authorities pursue their objectives, 2) to evaluate what are the overall positive and negative effects of the new approach, and 3) to assess what kind of value capture instruments may be introduced in the Dutch system to improve cost recovery and to support public land policy.

Specifically, the research first analyzes how land development takes place in the Netherlands comparing it with the past, and analyzing how the new panorama affected the municipal control over land use and the distribution of costs and profits among the partners involved in the land development process. It further defines pros and cons of the new land development approach, particularly analyzing the effects that the new approach produced on land markets and municipal land policy. Finally it considers how the implementation of value capturing techniques can be an useful tool to improve the recovering of public costs and to strengthen municipal powers in the management of greenfield land.

1.5 Research Questions

- How greenfield land development has changed in the Netherlands after the nineties, and how this affected the way local authorities pursue their objectives?

- What are the main positive and negative implications of the way greenfield land development is carried on today in the Netherlands?

- How alternative land value capture tools, as internationally conceived, could be used to improve cost recovery and to support municipal land policy?

2 Research Methods

2.1 Type and Strategy of Research

As we stated in the research questions, the specific objectives of the research aim to asses *how* the land development process have recently changed in the Netherlands, *what are* the advantages and disadvantages of the new approach, and *how* alternative land management tools can be introduced to help to improve the recovery of land development costs. Accordingly, an *explanatory* research's approach is the one that fits better with the characteristics of the proposed study.

The type of questions to be answered, *how* and *what*, together with the fact that the research will focus particularly on the analysis of well determined real-life events, suggested the use of a *case study* approach. The election of this particular strategy, apart from the type of questions to be answered, is also validated by the fact that the research is mainly concerned with the analysis of contemporary events, upon which a full variety of information is still available - documents, potential interviews with stakeholders and direct observation – and where relevant behaviours cannot be manipulated. These conditions, together with the specific type of research questions, ensure that the case study is the appropriate choice for the strategy to be adopted.

Finally, a *qualitative* approach for the collection of data has characterized the field work period, since the information to be gathered is mostly of a non-quantitative nature. The results and the conclusions of the research are focussed on author's qualitative interpretation of data, and they are analyzed based on a specific analytical framework (see data analysis section).

2.2 Research Design

The research is divided into three parts. The first part coincides with the phase of preparation. First, there is the definition of the scope and objectives of the research, as well as of the research's problem. Than, the object and the scope of the research are stated: greenfield housing land development in the Netherlands. After that, we define the case to analyze and the research questions.

The second part, the *literature review*, is where the theoretical framework is built up. The third part starts with the phase of data collection. Here, primary and secondary data on the Dutch study case is gathered and analyzed, in order to answer to the research questions and, eventually, to suggest *alternative land tools* to be introduced. Lastly, there is the *conclusion's* section, where an answer to the research question is given, as well as final recommendations and policy implications.

Chart 2: Research Design

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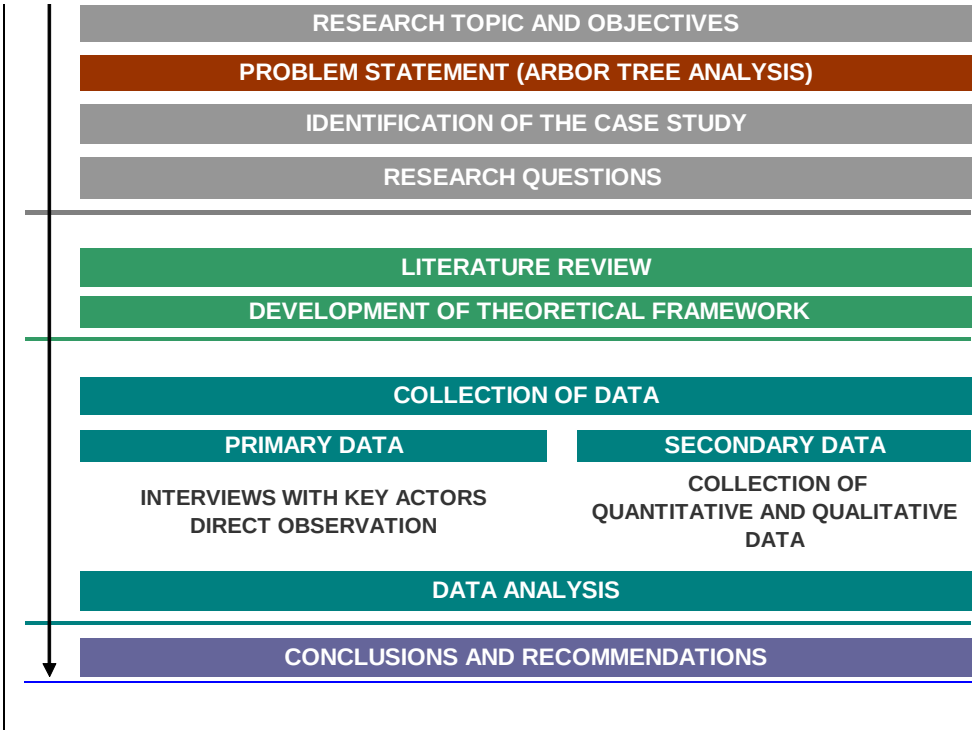
RESEARCH'S TOPIC DEFINITION
PROBLEM STATEMENT (ARBOR TREE ANALYSIS)
IDENTIFICATION OF THE SCOPE:
GREENFIELD HOUSING DEVELOPMENT IN THE NL
DEFINITION OF THE CASE: CARNISSELANDE VINEX LOCATION
RESEARCH QUESTIONS
LITERATURE REVIEW
DEVELOPMENT OF THEORETICAL FRAMEWORK
COLLECTION OF DATA: FIELD WORK IN THE NL
UNIT OF ANALYSIS: LAND DEVELOPMENT
PRIMARY DATA
SECONDARY DATA
INTERVIEWS WITH KEY ACTORS
DIRECT OBSERVATION
COLLECTION OF
QUANTITATIVE AND QUALITATIVE
DATA
DATA ANALYSIS
CONCLUSIONS AND POLICY IMPLICATIONS



2.3 Data Collection

During this phase, which concerns specifically to the case study section, there has been a collection of both primary and secondary data.

Secondary data first refers to the collection of useful information about the ways land development took place in Carnisselande, as well as in other exemplar Vinex locations. This has been gathered through a desktop research, analyzing academic papers developed on the research's topic. The collection of information about land development practices allows to help to somehow generalize the findings of the Carnisselande case, and consequently to acquire a broad understanding of the way greenfield land development works. Moreover, the collection of secondary data regarding the financial costs of the different stages of land transactions, contribute to develop the financial analysis, and thus to have an insight of the financial outcomes of the process (see *Data analysis* section).

Primary data is centred in the collection of in depth *semi-structured* interviews with key actors both from the private and the public sector involved in the Carnisselande project, as well as with some experts from the public and academic sector. Accordingly, all the persons interviewed have been selected based on their knowledge over land policy and urban land development in the Netherlands. The sample

population has been selected using a *purposive sampling* technique. The interviews ensured the collection of fundamental data for the research. Given the limited amount of interviews and the qualitative nature of data, the technique used does not allow analytical generalization. Nevertheless it contributes to strengthen by triangulation with secondary data author's conclusions.

- **List of interviews:**

Since the interviews are semi-structured, either the order or the kind of question has changed during the interview according to the particular situation and/or opportunity. The objective of the interviews was to focus the discussion toward the general research topic and, according to the particular circumstance, to stimulate a more focused discussion over a specific subject.

1) Mr.Peter Leyten,	Proyect Manager, Carnisselande, public sector
2) Mr.Boudewijn Losekoot	Financial Controller, Carnisselande, public sector
3) Mr.van den Boomen,	Project Supervisor, Carnisselande, private sector
4) Mr.Erik van de Klerk,	Land Specialist, VROM, public sector
5) Dt.Barrie Needham,	Land Specialist, Nijmegen University, academic sector
6) Dt.Erik Louw,	Land Specialist, TU-Delft, academic sector
8) Dt.Herman de Wolff	Land Specialist, TU-Delft, academic sector

2.4 Quality of the instrument: semi-structured interviews

- **Validity**

The topic to be discussed during the open interviews, which is the way the land development took place in the study case, ensures that no abstract concepts will be discussed. Thus, any misunderstanding and any subjectivity in the understanding of the questions is avoided. This ensures that interviews for this specific type of research guarantee a construct validity.

- **Reliability**

The nature of the questions to be done during the interviews is based, mostly, on real facts and not on subjective opinions. This ensures that the information obtained in the interviews would not change over time.

- **Objectivity**

To ensure the objectivity of the instruments the interviewer will guarantee maximum neutrality in the way he will introduce the questions.

2.5 Data Analysis

The tool to analyze data utilized for our research is a simplified approach of a model proposed by Verhage and Needham (2003) to study housing land development mechanisms and their financial outcomes. The framework is subdivided into two different stages: an institutional analysis (steps 1), and a financial analysis (step 2). The suggested steps to follow are developed as follows:

1. identification of the actors and events, by mapping the events, the steps, and actors in the land development process as well as their power relations.

2. identification of the financial flows and potential *surplus* occurred in the land development process. The analysis determines who paid for what (with a special emphasis on infrastructure costs), and what are the specific profits of each actor.

This approach is practically developed in the following chapters as follows. In chapter 4, we proceed with the *institutional analysis* of the land development in order to define 1) how the land development used to work in the past, and why it has changed, and 2) how the new institutional arrangements introduced under the present approach work today. This enables to define how the roles and activities of the actors involved have changed, and how this specifically affected the role of public authorities. Besides, we develop a *financial analysis* of a real case, the Carnisselande project. This, in order to understand 1) how cost recovery is carried on in practice today, 2) how profits are distributed about the actors involved and, finally, 2) to determine the presence of potential *land development gains* (see below) associated with an increase in the value of land. The reason to identify this surplus, is that it might be captured and used to finance urban development, diverting excessive profits away from landowners and developers.

To finalize, based on the personal conclusions of the analytical approach described, and on the results of the interviews with the institutional actors, we identify which are the overall positive and negative implications of the present approach. Accordingly, particular attention is given to the limitations of local authorities to recover efficiently public costs and on the effects produced by the new approach on land value and land market. Finally, on chapter 5 an assessment over the introduction of alternative land value capture techniques is carried on, in order to respond to the limitations detected at the end of chapter 4. This part is based on author's personal conclusions, on the outcomes of the desktop research, and on the knowledge acquired during the preparation of the theoretical framework.

- **The Development Gains**

As stated by Verhage and Needham (2003), the development gains are the extra profits earned by an actor within the development process after subtracting the normal

profits he should get. This *surplus* is attributed to land and therefore reflected in the market value of land. According to Verhage, (2001) it can arise especially when there is a big difference between housing price and production costs. This difference is usually called *an extra price for housing*, and it is caused, for example, by local policies for housing development which can constrain artificially the supply of new housing. "*According to Ricardo's land price theory, an extra price on housing will also increase land value, and consequently the potential development gains*"(Verhage and Needham, 1997). Who benefits more from this *surplus* depends on the particular role and on the bargaining powers of the actors involved (Needham and de Kam, 2004). These are the landowner, the municipality and the housing developers.

In the case of the land developer, by *development gain* (DV2), we mean the residual value resulted by subtracting, from the income generated by the serviced plots, the costs of providing the primary services, the capital costs, and the value of the land in its first use. In the case of the housing builder, the development gain (DV3) is obtained subtracting from the total income received by the developer, all the direct and indirect costs associated with the construction of the houses and onsite infrastructure, all the costs associated with the acquisition of land, as well as the normal profits of the housing business. Finally, in the case of the farm owner, the surplus (DV1) is calculated deducing, from the income received by the farm owner, the value of farm land and the normal profits associated with the selling of it.

Chart 3: How to measure the share of planning gains.

BUILDING PROCESS	**GAIN FOR HOUSING DEVELOPER (DV3)**	
	B. INCOME RECEIVED FROM SELLING THE HOUSES - C. COSTS OF BUILDING HOUSES D. COSTS OF CAPITAL E. NORMAL PROFITS F. PRICE PAID FOR SERVICED LAND	**DV3=B-(C+D+E+F)**
LAND DEV. PROCESS	**GAIN FOR LAND DEVELOPER (DV2)**	
	F. INCOME RECEIVED FROM SELLING SERVICED LAND - G. COSTS OF PRIMARY AND SECUNDARY INFRASTRUCTURE H. COSTS OF CAPITAL I. NORMAL PROFITS L. PRICE PAID FOR UN-SERVICED LAND	**DV2=F-(G+H+I+J)**
CHANGE OF LAND USE	**GAIN FOR FIRST LANDOWNER (DV1)**	
	J. INCOME RECEIVED FROM SELLING UN-SERVICED LAND K. COSTS OF CAPITAL L. NORMAL PROFITS M. VALUE OF FARM LAND	**DV1=J-(K+L+M)**

Verhage and Needham, 2001

2.6 Analytical Framework

To conclude this chapter, we can finally describe altogether the analytical framework utilized to develop the research, once the research topic and the research design have been set. The framework can be divided into five different steps.

The built up of the *theoretical framework* is the first step, and it is subdivided into two different parts. In the first part the principal economic theories over land rent and land value are analyzed. This part allows to define the relevance of land markets, their role and the way they work. In the second part, the literature review proceeds with a detailed analysis of the different types of value capturing tools described in the literature. The latter is further developed with a brief review of international cases where such tools have been successfully implemented. The aim of this part is to acquire a deep understanding over the way land value is produced and captured. Besides, it explains how land management techniques can be a useful way to help public authorities to finance urban development and to enhance public land policies. All together, this first step enables the acquisition of the theoretical background and the practical skills needed to analyze land markets around the world.

The second step starts after the definition of the scope of the thesis, and though, of the research questions. This step is divided into two different parts.

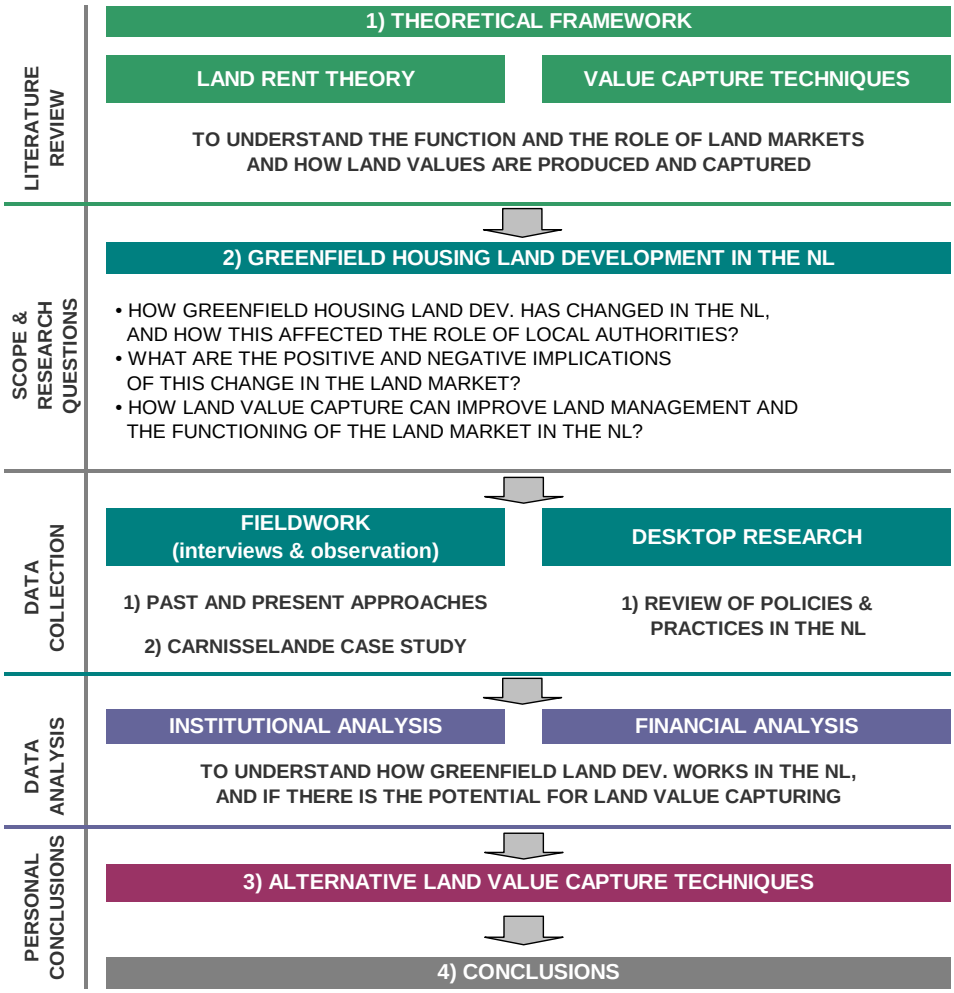
The first part focuses its attention in the way land development and the financing of the public infrastructure have changed after the nineties in the Netherlands. After a broad analysis carried on at the national level to understand the general context and to review its changes, attention is paid to the case of the the Carnisellande housing project, a real greenfield land development of more than 12.000 in the periphery of Rotterdam. As *unit of analysis*, the land development mechanism has been chosen, since the objective is to determine the way it works and the pros and cons of it. *Semi-structured* interviews as well as a desktop research have been used to collect the needed information (see the *data collection* section).

In the second part, data is analyzed. As previously mentioned, two complementary methodological approaches have been used: an institutional analysis, where both past and present policies and practices are analyzed, and a financial analysis over a specific case study to analyze the outcomes of the way the system has recently changed. The precise way these analysis are carried on is explained in the *data analysis* section. After that, the definition of the negative and positive implications underlined during the analysis is carried out. This allows to proceed with the next step

In the third step, alternative land management tools and value capture techniques are introduced as a result of the author's perception of the context. The tools suggested, are derived from the knowledge acquired during the *literature review*, and adapted to the Dutch context according the data acquired during the research. The objective is to give some suggestions on how to improve the efficiency of land markets in the Netherlands, particularly to the case of the greenfield land development, and to increase the ability of public authorities to retain additional financial gains from the development process.

Finally, in the fourth step, conclusions are given, an answer to each one of the research question is given, and further research topics are suggested to strengthen the conclusions of the present work.

Chart 4: Analytical Framework



3 Literature Review

3.1 Land Rent Theory

3.1.1 Land's characteristics

There are five main factors of production which are needed for the supply of the built environment. These are labor, capital, infrastructure, building materials and land. Among all these, land covers a particular role for the unique characteristics that distinguish it.

Land, physically speaking, is fixed in quantity, since it cannot be reproduced and neither destroyed. Although this condition is almost always valid, there are some interesting exceptions. In the case of the Netherlands and Hong Kong, for example, the extreme need for more space helped to develop the necessary technology to rescue new land from the sea. Nonetheless, in general terms, these are isolate experiences, and each city or country has to cope with a limited quantity of land, and with no chances to increase it.

Another characteristic that makes land a unique element is its immobility: a piece of land placed in a fixed location will not be able to be translated somewhere else. This condition makes of every piece of land something unique, because new external attributes related to that particular location will help to distinguish it. These external attributes, by differentiating that piece of land from others with similar internal characteristics (i.e. topography, size), will also contribute to increase land scarcity, since it will be not easy to find a valid substitute for a particular piece of land with particular conditions.

Consequently, land's irreproducibility and its fixed location, as well as its scarcity, make of this element a high demanded and valuable asset. This is especially true if we also consider that almost all human activities need a piece of land to be implemented. To build a house where to live, to built a street so to connect one place from an other, to produce alimentary resources for our sustainability, or simply to configure the concept of place itself, land is essential. Nevertheless, because of its particular properties it is not easy as it is for the other factors of production mentioned above to set a price and an economic value for it.

3.1.2 The residual value of land

Generally, in order to evaluate a price for a factor of production needed for the supply of a determined good, is common practice to calculate the costs of producing it. In the case of capital, for instance, it is possible to easily valuate how much would it cost to buy a particular machinery needed for a specific sector of an industry, since costs of producing it are well known. But land, as we stated above, is not reproducible. This particular condition makes it impossible to estimate a cost of production for it and, consequently, to fix a price related to that cost. Accordingly, land prices have been mostly determined exclusively by a competition among potential buyers, subjecting land price definition to the demand side. (Morales Schechinger, 2005a)

But what are the interests that foster the demand side to compete for land? And how this can help to determine a price for land? Since we are considering land as a factor of production, potential buyers are usually interested in acquiring land to use it for some specific activities that can be placed on it. Some example can include real estate activities, agricultural production, or still, the development of an industrial site. All these different uses will foster competition among interested parties with different interests. Each one of these actors will compete accordingly to their expectations of economic return based on the investment to be made on that land. *And the land will be sell to the best bidder, according to the specific use permitted for a specific location.* Consequently, land demand and land prices are strictly related to the use to be given to a particular piece of land. (Morales Schechinger, 2005b)

The manner the price of land is calculated is by using the residual theory approach where, according to our previous hypothesis, land is considered as a factor of production. This theory states that for every good for which the land has been used as a factor of production, exists a market, where a selling price can be freely determined by the interaction on the supply and the demand. This, is valid for building construction as well as for agricultural production, for instance. Thus, it is possible to estimate a price for land, which is derived from the price of the marketable good (Verhage, 2001).

The way the residual price of land is calculated is well explained by Kruyt (Kruyt et al., 1990): *"A producer knows the price of a product X, and he can calculate the costs to produce X on a certain location if the necessary land would be free of charge. (…) The difference between costs and price is called the residual value. If a producer could have the land at his disposal free of charge, the residual amount would be profits. If not he will be prepared to pay an amount of money to obtain the land necessary to produce. This amount of money can mount up to the entire residual value."*

This approach to calculate land prices, which assumes that the value of price is demanded driven, is not recent. It was first proposed by the classical economists, who were interested in the economic analysis of the theory of agricultural land rent, and who developed a first, basic, approach to determine land rent, and indeed land value. Further on, the classical model, and especially the Ricardo's assumptions, have been developed by others economists in the course of history, by adding to it relevant considerations that slightly changed and evolved the original thought. In the following sections we will give a brief description of how the concept developed by analyzing the main theories, as a fundamental step to understand the determination and the meaning of land rent and value.

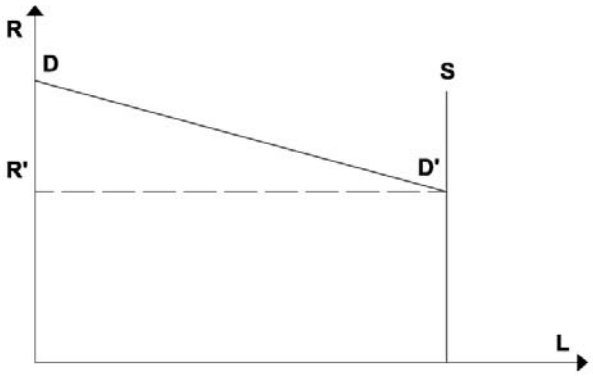
3.1.3 Ricardo's rent theory

The concept of land rent has been firstly introduced by Ricardo, a British economist in 1812. According to Ricardo (1817) land rent was: "the portion of the produce of the earth which is paid to the landlord for the use of the original and indestructible power of the soil". Thus, if a producer is interested in buying that particular land from the landlord, he will have to pay a price which is a capitalized expression of the land rent (Morales Schechinger, 2005b).

But how land rent is derived in Classical Economy? In Ricardo assumptions, land was fixed in quantity, it was only used for agricultural purposes, and only a single product, corn, was produced. So, if we summarize these assumptions with an economic analysis (Evans, 2004), as showed in Figure 1, the situation becomes clear.

Rent (R) is set on the vertical axis and land's quantity (L) on the horizontal axis. Given that land is fixed in quantity, the supply curve (S) results to be totally inelastic. On the other hand, the demand curve for land, which is derived from the demand for corn, is represented by a downward sloping curve DD'. The point of equilibrium between D and S fixes the land rent (R') to be paid to the landowner.

Figure 1: Ricardo's explanation over the price of land for corn production (1816)



Source: Evans, 2004

Among the conclusions that can be drawn from this analysis, the most relevant is that land rent is purely demand driven. This is explained by the fact that the supply of land is actually fixed, and the amount of rent to be paid will change only in the case of a

shift in the demand curve. As Ricardo stated (1812): "corn is not high because a rent is paid, but a rent is paid because corn is high!"

But Ricardo goes even further, stating that while in the earlier stages of development, only the most fertile lands are under cultivation, with an increase in population, new, less fertile and more difficult to work land is putting under cultivation. And the consequence of introducing an inferior kind of land is a sensible increase in the costs of working it. So, the final market price for the product will be equal to the cost of production in the less fertile land.

Accordingly, on the last piece of land put under cultivation, total sales revenue equals total costs, with no exceeding surplus. On the contrary, on more productive land, total incomes exceed total costs, since costs on better lands are lower than in the less fertile lands. This situation produces a surplus called rent, or *differential rent*, which coincides with the definition of rent given above. The surplus, or part of it, is transferred to the owner to get the right to use the best land, while the worst land pays no rent, since no surplus is given. In this particular conditions, no other rents have to be paid since no other competitive uses for land exist, thus there is no need to prevent the land from being transferred to other uses (Fine, 1982). As we will see later, this is not the case of other theories, where rent can assume more than one component.

To summarize, it can be concluded that in Ricardo's land rent theory, land rent is part, or all, of the surplus generated in fertile lands. And it has to be seen as a direct function of the productivity of the soil. Besides, due to its fixed quantity, it is also exclusively driven by the demand, meaning that rent does not enter into the cost of production (Evans, 2004).

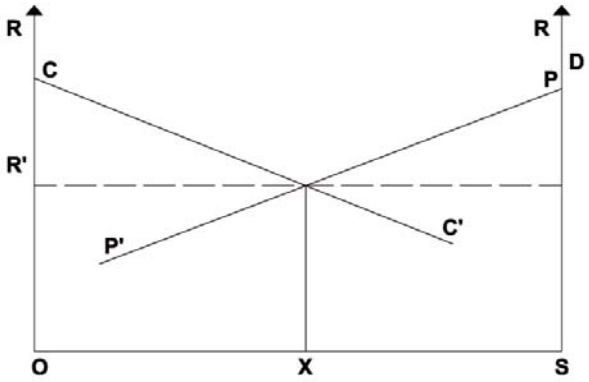
3.1.4 Neoclassical rent theory

The Neoclassical approach in the effort to explain the formation of land rent sets aside the basic assumptions on which Ricardo developed his theory, introducing new and more complex parameters of analysis. First, it assumes that agricultural land may have more than one only use, conversely these can be the production of corn and potatoes. Secondly, and as a consequence of the alternative uses, land, as any other factor of production, must receive its fair remuneration. (Evans, 2004) As a result of this new approach, the definition of land rent in the Neoclassical model assumes a different connotation, being defined by two components which are called respectively the *transfer earnings* and the *economic rent* (Verhage, 2001).

The overall new situation can be easily described in Figure 2 where, on the horizontal axis, we have a fixed amount of land. Since this quantity of land is shared between two uses, we now have two independent demand curves. The curve for crop is a downward sloping curve from the left to the right (CC'). This direction is justified by the fact that the smaller the quantity of land supplied for crop production, the smaller the quantity of corn available for the market, and so the higher will be the price of corn and, accordingly, the higher will be the rent of land.

The same approach can be used to describe the demand of potatoes (P), with the only difference that, in this case, the amount of land available increases starting from the right (S) to the left on the horizontal axis, and not from the left (O) to the right, as in the case of crop. Accordingly, we can now set two vertical axis, each one representing the rent of land for each specified use. The point of intersection between the two curves (X) is the point of equilibrium, where the rent to be paid for the two products is the same (R'), and where for each use a determined quantity of land is set.

Figure 2: The Neoclassical theory: the price for corn land is supply driven



Source: Evans, 2004

But, as we also saw in the Ricardian model, the demand for a specific product might change, inducing a shift in the demand curve. And, although in the Ricardian model this was only affecting the land rent to be paid for the only good to be produced, in this case, where we have more than one use, "an increase in the rent of land can cause an increase in the price of a good" (Evans, 2004). Let us suppose that an increase in the demand of crop induces a derived increase in the demand of land for crop. This will cause a shift of CC' to the right (C1C'1), and, as a consequence, some land that was previously used to produce potatoes will now potentially change its original use, since a higher rent is offered for the new use. As a result, the amount of land available for growing potatoes is reduced and its rent is increased (R'1), inducing lower production and higher prices for potatoes. This simple simulation shows us how, by introducing more than one use, it is possible to reverse the conclusions of Ricardo: it is not an increase in the price of a good to stimulate an increase in the rent for land, but an increase in the rent of land to cause higher prices. So, the rent for land is not exclusively determined by the demand side, as stated by Ricardo, and consequently it can be part of the cost of production for a specific good.

The different relationship between supply and demand is not the only conclusion that can be deduced by this approach. The neoclassical theory, by introducing the possibility of competition among different uses for a specific piece of land, actually comes to the conclusion that the value of land is defined by two different items: the transfer of earnings and the economic rent. (Verhage, 2001) One, the *transfer earnings* represents the amount of money that has to be paid to the landowner in order to prevent a change in the land use. This amount can be seen as the opportunity cost, which, in this specific case, is the value of any benefit forgone by not changing the use of land to the next best alternative use. In Ricardo's theory this was not considered given the fact that there was only one possible use for land. The other one, the *economic rent*, is an additional payment, a surplus, in the amount of rent paid to the landowner. This additional quantity is justified by the fact that land is scarce relative to the demand for it.

3.1.5 The theory of location differential rent and the urban land use

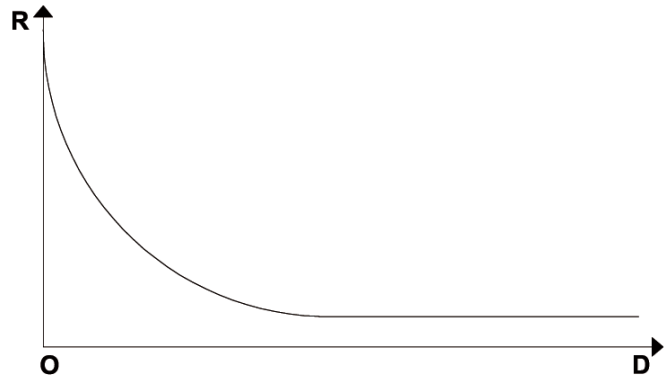
The theory of location differential rent, introduced by von Thunen in the beginning of the XIX century, that strongly influenced the analysis on land rent and land value starting from the1950s, represents an other important step ahead in the definition of a generally accepted theory of land rent. This new approach suggests that different agricultural areas of land might present different values and rents due to their relative distances from the main market centre (Evans, 2004).

Centrality and transportation become, thus, two fundamental parameters to be taken into account when analyzing agricultural land rent (Nakiboglu, 2006). The more a piece of land will be close to the market centre, the less transportation costs will affect over the producer's yielding, and the higher the bid over that piece of land will be. On the contrary, a distant land will induce higher costs of transportation, notably affecting the costs of production and, consequently, the price that the producer will be ready to offer for that particular piece of land. Therefore, different agricultural land uses will compete for the use of land at different locations, and the rights over the use of land will eventually be assigned to the highest bidder. Thus, the closer a piece of land will be to the market centre, the highest the value of land will result.

Based on von Thunen's location theory, it is Alonso in1964 who first attempted to translate the land rent location theory to the urban context. Alonso's theory is based on the following assumptions: a flat-featureless plain and the existence of a perfect market, where total information is available and where location is the only physical factor to be considered (Nakiboglu, 2006). Therefore, as stated by the theory of location differential rent, it will be the highest bidder for a specific piece of land who will eventually get the right for the use of the land. The bidding price will decrease as long as the distance from the city centre will increase, as can be seen in the graph above, where a down ward sloping rent gradient clearly shows this general tendency.

In the figure below, the distance (D) from the centre (O) is displayed on the horizontal axis while, on the vertical axis, rents and land values are placed (R).

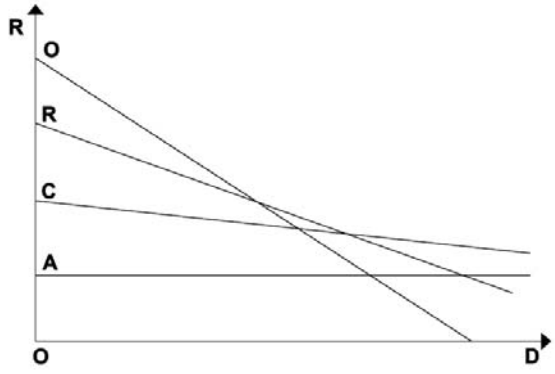
Figure 3: Land Value as a function of distance from a urban centre.



Source: Evans, 2004

Since urban areas present different types of activities, it is possible to define a different bid rent curve for each specified land use. Accordingly, Knapp introduces in his *multiple commercial sector* model, a different rent curve for each commercial activity (Knapp, 2006). In this model he considers office, retail, commercial and agriculture uses. The same concept can be extended to other relevant urban uses, as the residential and the industrial for example. He also assumes that all the goods produced are sold in the city centre, and that each one of the sectors have different location's needs and different costs of transportation and production.

Figure 4: The highest bidder for land changes according to the distance from the centre



Knapp, 2001

Given that, each bid rent curve is the result of how much a specific sector is be able to offer for the land, after discounting the costs of transportation and production from the total profits. As Figure 4 shows, different sectors present different steepness and different potential levels of payable rents: the office sector (O) is the one with the steepest curve, but also with relatively high rent values, while the agricultural (A), for instance, is the one with the lowest steepness and with the lowest payable rent values. As a consequence, after the bidding process for land will take place, the office sector will gain the closest location to the city centre, while the agricultural will be displaced to the fringes of urban areas, as can be seen in the graph above. Once again the rational for the equilibrium can be explained by the concept of "the best and highest use", which allocate the land to the use that ensure the highest return in terms of land rent.

3.2 Land Value Capturing Tools

3.2.1 Land market's imperfections and the role of government.

In a market economy buyers and sellers meet together to determine prices and exchanges of a specific good and commodity. Accordingly, prices determine the decisions and behaviours of the actors: higher prices will decrease consumer interest for a specific good, and simultaneously they will encourage its production. This is valid in the case for markets for consumer goods, as well as of markets for factors of production, as land and labour (Samuelson and Nordhaus, 1948).

As stated by Adam Smith in his well-known work "The Wealth of Nations" (1776), under a perfect competition, and with no market failures, markets will squeeze as many useful goods and services out of the available resources as possible. Moreover, as proclaimed by Smith's principle of the "invisible hand", by trying to selfishly pursuing only his or her personal interest, an individual is led, as if by an invisible hand, to achieve the best good for all. These general statements lay at the base of the theory of economics and, if theoretically applied to a land market, would mean that land rent will efficiently adjust to balance the demand and the available quantity of land supplied. Unfortunately, this is not the case for land markets, which are characterized by imperfect competition and imperfections.

Some of these imperfections are related to the unique characteristics of land: its un-reproducibility, for example, makes land a very scarce and limited commodity, notably altering the dynamics of price equilibrium typical of an efficient market economy. Moreover, the immobility of land makes of every plot an unique good with very limited alternatives for substitution. This leads to a un-balance in the power relations between buyers and sellers, favouring the latter (Morales Schechinger, 2007). All these factors lead to a sort of monopolist land market, leading to an imperfect competition.

Furthermore, other potential land market failures may be related to the unwillingness of private landowners to supply public or collective consumption goods, which are essential for the well-being of societies. Land use for public purpose is not as attractive as more lucrative uses, as the housing or commercial, since no financial profits can be generated by the allocation of public goods. Still, there are also externalities and spill-over effects associated with land markets, as well as equity concerns related to a un-equitable distribution of land.

All these negative factors call for the intervention of governments in urban land markets. Accordingly, there are three main justifications for such intervention (WorldBank, 1978). These are the following:

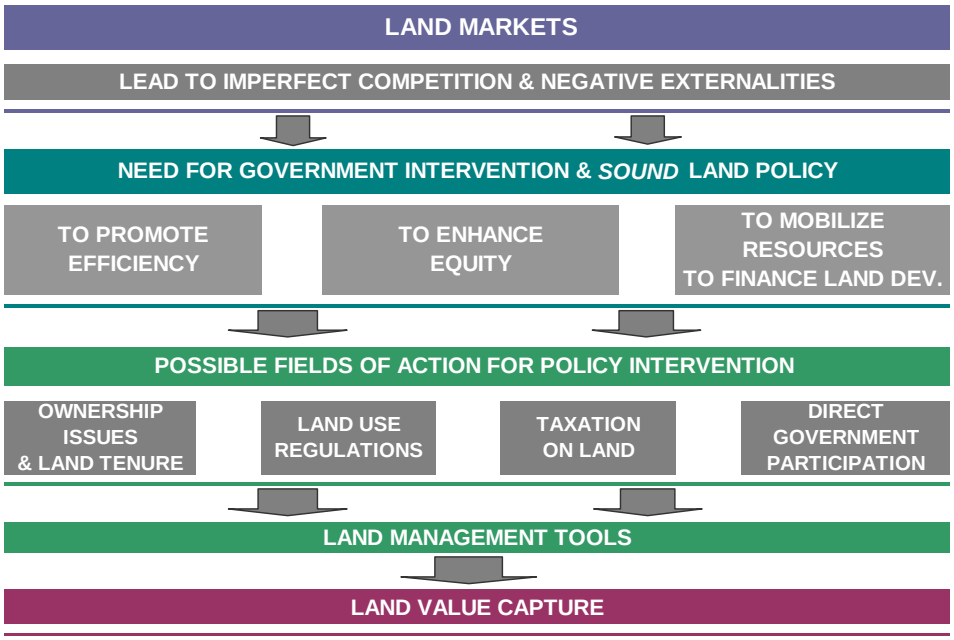
1. Promoting efficiency of the market and removing externalities in land use
2. Enhancing equity so to provide access to land to all income groups

3. Enabling the mobilization of revenue resources to finance public services

In order to achieve these general objectives governments have at its disposal a large variety of ways, which constitute the essential elements of an urban land policy. These include: 1) the formation of land tenure institutions, including different ownership typologies and land tenure arrangements, 2) the introduction of land use regulations as, for examples, zoning, building codes and rent controls, 3) the taxation over land and improvements, like property taxation, betterment levies and land value increments and finally, and 4) the direct and active intervention of governments in land markets, for example by buying and selling land.

Among the variety of land management tools established to overcome market inefficiency and imperfections and to achieve a sound land policy, governments designed a large menu of instruments related with land use and fiscal activities. Part of these have been inspired by the concept of land value capture (Smolka and Amborsky, 2000).

Chart 5: Land markets, land policy and land value capturing.



Own source, based on literature review

3.2.2 Value Capturing: definitions, objectives and characteristics

In order to introduce the concept and the different tools of land value capturing, first it is important to define what is actually going to be captured and why. In the

previous section of this chapter, we analyzed the process of land rent and value formation, identifying the different factors that affect its final value. These are its location, its productivity, and the cost of opportunity associated to different uses of land. Now, it is important to underline how land value increments can be generated and, especially, how they can be the outcome of both private and public interventions on land.

On one hand, a private intervention reflects the situation in which the landowner is the one who directly invests on land, for example, by adding some physical improvements and new buildings on it. In this case, the increasing value of land is essentially a consequence of landowner's activity, since he or she is the only responsible for such increment, and most important, he or she is the one who actually paid for it.

On the other hand, most frequently, the increment in value is the product of public interventions on a specific piece of land, or still in the nearby areas. These types of interventions are different in nature. In a first case, we can refer to a direct, physical action, as it might be the construction of a new park or the implementation of a new infrastructure in a specific area. These works will benefit the surrounding lands, which will experiment an increment in their value because of the new amenities and services provided close by. An other possibility is related to a more indirect type of action, as it can be a change in the use of an area, for example from rural to urban, or still an increase in the potential development of a piece of land, by allowing higher densities or a more intensive use of its ground area. In this case the increment in land value will affect exclusively the area directly affected by the change of the norms. (Morales Schechinger, 2005a)

The theory of land value capturing refers particularly to this second type of actions: the ones fostered, directly or indirectly, exclusively by public intervention. Usually, the increments in land value generated by this kind of actions are called *plusvalias*. Accordingly, Smolka and Amborosky (2000) define land value capturing as:

"*the process by which part or all land value increments attributed to the community effort are recouped by the public sector either through their conversion into public revenues through taxes, fees exactions and other fiscal means, or more directly in on-site land improvements for the benefit of the community*".

The main reason for the introduction of this policy approach coincides with the fact that the landowner did not take active part in the creation of the *plusvalias*, therefore these types of land value increments can be considerate as an unjustified potential source of rent for the private landowner. As a result, they can be captured and redistributed for the benefit of the all community (Smolka and Furtado, 2001). Moreover, as quoted by Smolka & Amborosky (2000), there are three types of practical objectives that can justify the application of value capture techniques.

1) value capturing to increase the tax revenue potential over the value of land
2) value capturing to finance urban infrastructure
3) value capturing to control the use of land

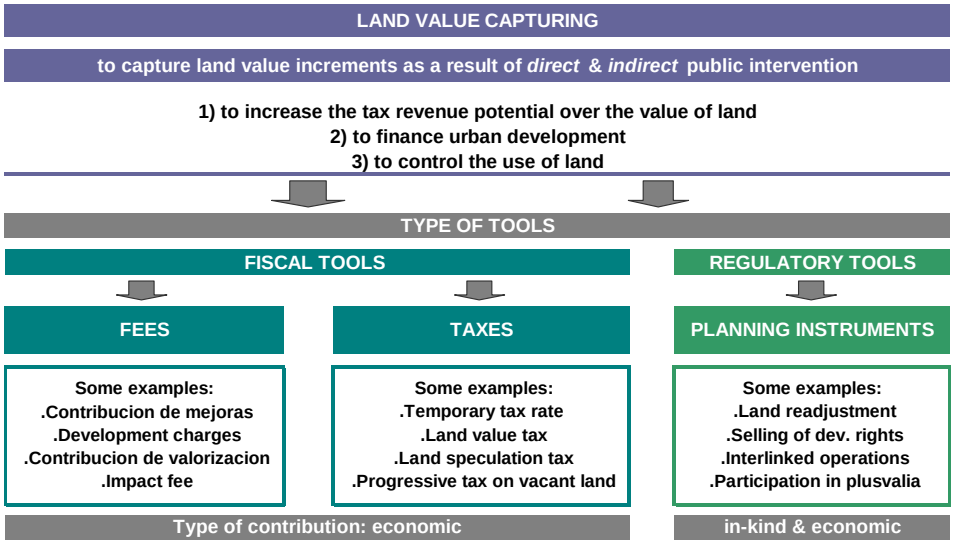
In the first case, value capturing can work for countries where the optimal collection of property tax is challenged by low coverage, valuation and/or collection ratios. Here the adoption of value capture techniques can help local authorities to alleviate the burden over public finances by supporting, or even substituting, more conventional fiscal instruments. In the second case, value capturing can represent a strong alley to ensure the feasibility of physical interventions supported and included in the local development plans. Still it might help to self-finance large-scale flag-ship urban projects as well as other kinds of physical interventions with a higher social component, all characterized by low financial resources.

Finally, as a way to control urban use, value capturing can also help to avoid land speculation, as well as the insurgence of free-riders. Besides, it can help to limit (but also to stimulate) urban development dynamics in specific areas, for example by increasing (or lowering) the fiscal pressure on land and adopting new regulations.

3.2.3 Type of Instruments

As mentioned above, the menu of value capturing instruments implemented world-wide are various and very different one from each other. Nevertheless it is possible to group them into three main categories (Smolka and Amborsky, 2000), depending on their specific characteristics. The first two categories belong to a large series of fiscal instruments, and are catalogued as *fees* and *taxes*. The third category refers, more broadly, to a group of *regulatory* tools. In this section we will briefly analyze the three categories, explaining their characteristics and giving some examples. Finally, a selection of some of the tools introduced below will be further developed with an in-depth description of successful international experiences.

Chart 6: Land value capturing, objectives and type of tools .



- **Taxes**

The general objective of taxes is to collect revenues to be invested by public authorities in the provision and delivery of public goods and services. If we now focus on the role of taxes concerning the levy of private properties and, more specifically, the taxation of private property land, Smolka and Amborosky (2000) state that every tax on land value can be considered an example of value capturing tool. This is explained by the fact that, by definition, land value is actually conformed by increments in its value. Simultaneously, given the fact that a taxation over land will consequently reduce the potential amount of private rent expected and, accordingly, the total capitalized present value of it, again, these tools can be considered an example of land value capturing techniques.

Nevertheless, due to the fact that these taxes are not always linked with a particular public action over the land, it can also be argued that, according to the definition stated above, such tools can not be precisely considered as value capturing instruments. However, to counteract this objection, Smolka (2000) remembers how, conventionally, high property tax are considered by the tax payers as an obligation in exchange for public services.

There are many different kind of land taxes associated with land value capturing, which pursue slightly different goals. Here we will give three brief examples, each one trying to achieve one of the three main land value capturing objectives previously identified. These are: value capturing to increase the tax revenue potential over the value of land, value capturing to finance urban infrastructure, and value capturing to control the use of land.

The *temporary tax rate* represents a good example of how local authorities can recoup the costs for new urban infrastructure. This tax is usually collected from residents who benefit an increase in the value of their land because of the public intervention. In Buenos Aires, for instance, was introduced to recover the costs for a new metro line, and it consisted in an increasing of 5% of the local property tax (Smolka and Amborsky, 2000).

An other example is the *land value tax*, whose main objective is to charge specifically the economic rent accumulated by a particular piece of land, making of it an interesting technique to increase the revenue potential over land value increments. This, because the land value tax applies only to the value of land, not considering the value of any physical improvement made on it. This particular type of property tax is conceived as an alternative to the traditional property tax which include the taxation of both land and improvements (Smolka and Amborsky, 2000).

Finally, there are also different types of taxes which are more suitable to help to control the use and occupation of land. Among them the *land speculation taxes* are applied when the costs for land is increasing rapidly. Its main objective is to reduce the rapid increase of such prices and avoid speculation. An other one is the progressive taxation on vacant land, which apply incrementally higher property taxes

to vacant land, again, as a way to stop speculation and the increase of prices. This tax is successfully used in Latin American countries like Brazil and Colombia.

- **Regulatory and Planning Tools**

Finally, the last category includes a large number of value capturing tools associated with an increment in land value caused by a change in the regulatory frameworks associated with planning regulations. The main characteristic of these tools is that both economic and in-kind contributions are allowed, depending on the specific case and instrument to be used.

In the case of in-kind contributions, two possibilities are contemplated. On one hand, developers can be required to pay their contribution by accepting the construction of some additional works, as it can be the development of part of the infrastructure to be included in the project. On the other hand, developers have the opportunity to devolve part of the valued land back to the municipality. Usually the amount of land coincides with part or all of the increment in value of the original portion of land. In this specific case, local authorities cover an active role in the land development process, being a potential buyer, seller and also user of the land (Smolka and Amborsky, 2000).

In the case of economic contribution, the regulatory tools become much more similar to fees and taxes, with the only exception that the amount to be paid does not respond to fixed tariffs. On the contrary it is often subjected to long and complicate negotiations between the public and the private sector (Smolka and Amborsky, 2000).

One common example of in-kind contribution is represented by the *exactions*, where contributions are a requirement to obtain the permission to develop and/or subdivide a specific site. Usually they include the donation of a portion of land to the municipality in terms of additional public spaces, as it is the case of Canada and Colombia, where this practice is commonly used. Here the amount of land to be donated can be the result of a negotiation process. Still, the contribution might include some improvements in the roads and infrastructure, as it is the case of Brazil, as stated by Law 6766, where the sub-divider has to designate 35% of the area for public purpose. Other interesting types of in-kind contributions include *land readjustments*, where after a reorganization of plots for new development the municipality can retain part of the land as a contribution for the increased value of land, and the Brazilian *linkage operations*, where the acquisition of additional development rights by a developer is paid back with the construction of social housing for the poor (Sandroni, 2001).

On the other side, an example of economic contribution can be found in the *selling of development rights*. This approach, well known in Brazil under the name of *solo criado*, has been designed to recover the land value increments produced by the introduction of additional development rights for a specific land. Another similar Brazilian mechanism consists in the *selling of certificates of building potential right*. In this case, a public investment located in a well defined area is financed by the

revenues collected by the selling in the open market of land development rights by public auction. The revenues collected have to be used within the area of influence of the public intervention (Sandroni, 2004).

Finally, there are many instruments that might produce both in-kind and economic contribution, as the Colombian contribution in plusvalia. With this instrument the public sector can capture up to 50% of the resulting increment in land value from administrative actions such as changes in land use, in zoning, or in density, that generate substantial benefits for the landowner. Payments are designated both for the provision of social housing and infrastructure (Botero and Smolka, 2000).

3.2.4 The Colombian experience

Among the developing world, Colombia is probably the country that possesses the longest experience in the utilization of land value capture techniques. Within the different tools introduced in the recent past in the country, there are especially two instruments which deserve major attention for the impact they produced over the urban development context in Colombia. These are the *contribuciòn de valorizacion* and the *recuperacion de plusvalia* (Otoya and Loaiza, 2000). The first tool can be catalogued as a fee, while the second belongs to the group of regulatory tools. In this section we describe the main characteristics of the two instruments and the way they work, assessing the pros and cons associated with their implementation.

- **Contribucion de Valorizacion**

The *contribucion de valorizacion* is the land value capturing instrument with the longest tradition in Colombian urban history. It was first introduced in the 1921 with the Law 25, due to an increase in the demand for urban infrastructure within the region, and to a lack of financial public resources. Since its introduction, the tool experienced different structural adjustments but, generally speaking, it has represented an essential alternative for public administrations to recover the costs associated with the construction of new infrastructure. Basically, the instrument allows to recoup the costs of public investments by charging a fee equivalent to the total amount of the investment to the direct beneficiaries.

As we mentioned, the tool has been largely adopted in the past fifty years in Colombia. However, its use has been characterized by a variable intensity among different periods. During the sixties and seventies the tool become the first resource to finance urban development and to substantially increase the revenue collection for local authorities. During the eighties, according to Doebele (Doebele, 1998), its use was gradually reduced. And during the nineties, the tool become again an important resource to finance local urban development. This national trend is exemplified in the table below.

Chart 7: *Valorizacion*, as a percentage of the total revenue collections in the main Colombian cities during the period 1980-1990

Year	City		
	Bogotà	Medellin	Cali
1980	5,10%	27,70%	31,70%
1981	5,10%	25,50%	32,40%
1982	7,10%	21,80%	20,90%
1983	13,50%	27,50%	18%
1984	7,40%	25,70%	11,30%
1985	8,90%	20,20%	12,70%
1986	9,10%	24,40%	8,20%
1987	8,10%	16,90%	2,90%
1988	3,10%	9,70%	1,50%
1989	2,10%	8,70%	4,60%
1990	1,40%	4,60%	8,90%

Source: Jaramillo (2000)

To calculate the fee to be charged to every single payer, authorities developed a pragmatic and simplified approach, which is still in use today. Basically, the total costs to be recovered are collected among the landowners who are living within a predefined distance from the new infrastructure. The percentage of the contribution decreases as long as the distance of the land from the new development increases. Simultaneously, local authorities introduced a participatory approach in the estimation of the fees, in order to allow transparency and accountability. Finally, to avoid equity concerns, recently the city of Bogotà also introduced the socio-economic level of the potential payers as an additional criteria to be used for the calculation of the contribution, levelling the contribution depending on the particular income.

According to Jaramillo (2000), the legitimacy of the instrument has been justified considering the ideas of the economic liberalism, since its approach is in line with the way the market economy works. First, the contribution of the landowner is compensated by a tangible and differential benefit. Thus, it is more likely to be accepted if compared with other kind of fees and taxes. Secondly, the fact that only the effective beneficiaries are asked to contribute ensures that a certain level of consideration over an equitable distribution of costs and benefits is ensured among the society. Finally, the instrument, as the case of Colombia testifies, represents a valid instrument to finance urban development, especially for countries where a decentralization process is underway, since it represents a valid alternative to support local expenditures.

Nevertheless, the *contribucion de valorizacion* also presents many challenges and limitations. Among them, there are many concerns related to the complexity in the administration of the fee, especially regarding the frequent long delays in the recollection of contributions. The latter, together with inflation, may easily undermine the complete recovery of costs, affecting the financial equilibrium of the project to be implemented. Furthermore, the application of the tool can lead to a socio-spatial segregation, since authorities will prefer to develop the new infrastructure in areas where the level of income can ensure the effectiveness of the value capture instrument. The latter is especially valid for developing countries, where there are higher disparities in terms of income. Finally, there is also scepticism towards the validity of the approaches utilized to define the economic impact of the public investments on every single piece of land. This last topic is fundamental in order to guarantee a balanced distribution of costs and benefits among the contributors.

Today in Colombia this tools is not used as much as it was in the past, mainly because of the limitations mentioned above. Nevertheless, Law 388 clearly includes it among the available instruments that local authorities posses to finance urban development. Accordingly there is a national debate going on analyzing the opportunity to reintroduce the use of the *contribucion de valorizacion* in the Colombian context .

- **Participation in Plusvalia**

The long tradition in the definition of value capturing tools in Colombia is testified, together with the *contribucion de valorizacion,* by the recent introduction of a new land management tool called *participacion en plusvalia* and included in the Law 388\1997 (Jaramillo, 2000). This instrument was introduced as a complement to the contribucion de valorizacion, but not as a substitute, since the objectives and the terms of applicability of the two instruments are quite different.

While the previous tool was centred exclusively in the recovering of investment costs for new infrastructure, this new instrument aims to capture the increments in the value of land caused by different types of public actions. The type of actions that might generate the need for using it are basically three. The first is a change in the zoning regulations in a specific area, with a consequent increase in the value of land, as it is case of the inclusion of rural area into the urban boundaries. The second action coincides with an increase in the development rights for a specified piece of land, as it can be the case of higher densities. The last action include every sort of physical work financed with public money which leads to an increase in the value of surrounding lands (Jaramillo, 2000).

According to the law, the total amount to be paid to local authorities is a part of the total increment in value registered by a specific piece of land. The contribution varies between the 30% and the 50% of the total increment, the precise percentage will be determined in a discretionary way by local authorities. The reasons to limit the contribution to only a part of the total *plusvalia*, according to Jaramillo (2000) are mainly associated with political reasons: it will more acceptable for a landowner to pay only a portion of the received benefit, since in this way he/she will be able to

retain part of the value. On the other hand, the introduction of a variable range will allow the administrators to adapt the tools to different situations. The law also includes an exception to the rule, as it is the case of land to be destined to social housing.

The method to calculate the participation consist of two different land appraisals. The first will define the value of land prior to the public intervention that, according to the law, has to be done using a commercial valuation. The second appraisal will estimate the value of the land after the public intervention. The difference between the two will determine the total increment in the land value. The contribution to be paid will be a portion of the total increment. This approach should ensure a limited number of errors in the definition of the values if compared with the previous tool, since, at least in the case of the change in use the area to be valuated is precisely delimited.

One of the main characteristics of this tool is its discretionary: according to the law, local authorities are able to decide whether or not adopt the tool. This approach can be justified with many arguments. First, it is important to remember that not all the changes in urban use produce high increments in the value of land. Thus, depending on the specific case, and taking into account that the implementation of the *participacion in plusvalia* is not cost-free, it will be important to assess whether the are conditions and the opportunities to use the tool. Furthermore, the decision of not using it could also be motivated by some strategic decisions. This can be the case of an area to be regenerated and where private investment is needed. In such case the levy of a fee would probably disincentive investors and developers. Finally, there is also a social motivation, which consists in the opportunity of exempting low income groups from paying the plusvalia.

This tool, due to its recent introduction in the Colombian regulatory framework, is still being analyzed and is believed to need some minor adjustment in order to be fully and efficiently implemented. Once this will be achieved, the tool will represents, together with the *contribucion en valorizacion*, a valid instrument to finance urban development and foster a more equitable redistribution of public investments.

3.2.5 The Brazilian experience with *Solo Criado*

The process of creation and appropriation of land's *plusvalias* is strictly linked with the way public authorities have been promoting and financing urban development in Brazil during the last decades (Sandroni, 2001). Among the many different approaches, we focus here on the concept of *solo criado,* which enhanced the implementation of two slightly different tools: the Operaciones Interligadas and the Operaciones Urbanas.

Theoretically *solo criado* is all the floor-area utilized for construction apart from the portion physically existing on the plot to be developed. If you now relate this concept with the planning norms that regulate the use and occupation of urban land, the meaning of *solo criado* is limited to all the floor-area added to what the norms

actually allow to build.(Sandroni, 2004) Accordingly, the two tools described below, are based on the capturing of the value produced by an increment in the potential floor-area to be built. In this section we describe the main characteristics of the two instruments and the way they work, assessing the pros and cons associated with their implementation.

- **Interlinked Operations**

The interlinked operations basically allow the landowners to ask for a favourable change in the planning rules defined for a specific area or plot. As a compensation, the landowner will provide the municipality with a specific number of social housing to be used for the resettlement of informal settlements. The number of housing solutions will be defined proportionally to the increment in the value of land. Generally the change in the norms coincides with an increasing in the floor area to be built, alias *solo criado*.

The main objective of the tool was to solve the problem of the invasion of private land by the *favelas*. The tool, as it was originally conceived, on one hand enhanced the landowners to have the land back with an additional increased value produced by a flexibilization of the norms. On the other it allowed the inhabitants of the *favelas* to find an alternative solution to their housing needs. However, the experience shows that the tool has been largely used also in the case of un-invaded areas, since the law did not mention any particular restrictions about it (Sandroni, 2000a).

The law established that the compensation to be paid can not be lower than the 50% of the total increment in value occurred in the land. Accordingly, the method adopted to calculate the total valorization is the *criteria of the valorization* of land. This approach is very similar to the one used in the Colombian Plusvalia. First, a commercial appraisal over the value of land, after and before the changing of the norm, has to be undertaken. After that, the difference between the two values is calculated. The result will be the total increment in land value. To determine the appropriate compensation, the total increment will be multiplied by the specific percentage to be charged, which has to be more than the 50%. The precise definition of the percentage is subjected to negotiations between the parties involved (Sandroni, 2001). This approach, again, leads to subjectivity and discretionary, and it may benefit more the public or the private interests depending on the particular conditions of the case and on the power relations among the actors involved in the negotiation.

The tool has been largely and successfully used in Brazil for a period of almost ten years (1988-1998), especially in the cities of Rio de Janeiro and San Paulo, and finally was set apart due to some political problems. During this period almost 834 proposals were presented, and 313 were actually approved and executed. The total revenues collected reached the value of 156 million dollars, and it enhanced the construction of 11.102 solutions for the social housing sector. Among the most successful operations, it is worth to mention the case of the Shopping Centre West Plaza, where a developer negotiated for the permit to build extra 54.000m2 for the construction of a commercial mall, and to link with three aerial bridges the three plots

where the project was going to be built. The operation accrued a total compensation of ten million dollars after two different negotiations. The total amount was used for the construction of more than 800 social houses (Sandroni, 2000a).

One of the most recognized disadvantages of this tool coincides with its limited potential to produce additional sources of funding for public purpose, since most of the operations did not reach the million dollar. Hence, to finance large infrastructure projects it would be required the simultaneous implementation of many similar operations. An other limitation of the interlinked operations refers to the fact that the adoption of flexible planning regulations can generate negative externalities in the surrounding areas, as an increase in the traffic and congestion. This is especially the case of large scale Interlinked Operations, since they might radically affect the dynamics of the area. Finally, it is important to remember that flexible planning norms can also produce negative physical impacts on the urban environment, especially in the case of the concession of exaggerated volumes. Nevertheless, according to Sandroni (2004), this was not registered in the operations undertaken in Brazil.

- **Urban Operations**

The Urban Operations are an other way to implement the concept of *solo criado* as a source to promote and finance urban development in Brazil. In such scheme, local authorities define an urban polygon within which a series of public infrastructure projects are prioritized in order to up-grade the area. Once the perimeter of the operation is set up, the local administration introduce the possibility to change the use of the lands included in the polygon as well as the opportunity to increase the floor area ratio to be built. The resulting valorisation will be captured and shared between the landowner and the local administration. The latter will use the total amount collected to finance the projects to be implemented within the polygon of intervention (Biderman et al., April 2006).

If compared with the Interlinked Operations, the Urban Operations are conceptually different for two simple reasons. First, the compensations in a Urban Operation is paid in cash, and not in in-kind contribution, as it was the case of the previous tool. Secondly, the compensation has to be used within the polygon of intervention.

The conditions for the success of the operation are strictly related with the election of the area where to implement the operation. Accordingly, a common rule is to look for former industrial areas with a potential for redevelopment. This is because these types of areas usually present low densities and, frequently, vacant lands. Thus they can represent an ideal setting where to foster redevelopment and to introduce new planning regulations. Moreover these areas are usually located close by to the main infrastructure networks and to the centre of the city. Therefore, they could represent a interesting location for potential private investments. Investors will be attracted not only by the low prices of the additional floor area that can be acquired (these are bylaw lower than the costs of buying an equivalent area on a conventional land), but

also by the potential additional valorisation of the polygon as a consequence of the public investments.

Among the different existing cases, the Agua Branca Urban Operation represents a good example to understand the high potential for value capturing of such toll (Sandroni, 2000b). The whole operation included an area of 500 hect. located in a deteriorated urban region of Sao Paulo. Most of the land was formerly part of a local industry. The intention of the administration was to develop a new centrality, by fostering the construction of new office facilities, hotels, shopping malls, etc. But, to make the plan attractive for private investors, new infrastructure had to be built. As a result, the municipality introduced the Agua Branca Urban Operation to promote the project and to raise the necessary funds for its implementation. One of the investors, interested in the operation, asked an increase from 1 to 4 in the floor area ratio of a specific plot. This meant an increase from 72.000m2 to 290.000m2 of building area. The final compensation for such a increase in the developable area reached the 20 million dollars. The sum allowed the construction of an avenue and a 300ml. tunnel (Sandroni, 2001). This contribution was only one among many others included in the perimeter, therefore, from this example the potentiality of the tool as a financing mechanism is quite well discerned.

Among the limitations of this tool, it is important to remember that, usually, these operations take long periods to be implemented and to produce the expected effects. The experience in Brazil tells that more then ten to fifteen years are needed for an operation to be fully completed. Moreover, since, as we mentioned above, the success of the operation depends on the particular characteristics of the site, the potential implementation of the tool is restricted to very specific urban areas.

3.3 Conclusions

In the past chapter we analyzed two different sets of concepts which, all together, helped us to built up the theoretical framework needed to undertake the present research.

In the first part, the *land rent theory* section, the main objective was to acquire a good understanding of the role and function of land markets, to learn how land value can be calculated, and how its value depends on different factors.

By doing this, we first analyzed the characteristics that make land different from any other generic factor of production. This allowed us to understand how land's irreproducibility and fixed quantity make of it a unique element in the building production. After that, as a second step, we described the principles of land rent formation and the basic concepts of the residual land value calculation. This has been illustrated and explained according to one of the main historical theories over the topic, namely Ricardo's demand driven land rent theory, which is based on agricultural land. Nonetheless, since this theory is based on strict assumptions that somehow limit its validity to particular conditions, we also illustrated the

Neoclassical land rent theories, in order to have a broader picture, and to show how, under different circumstances, land value can be also affected by the supply side. This is true, for instance, in the case that more than one land use is introduced and different uses are permitted on the same piece of land. Finally, by introducing land in the urban setting with von Thunen's location differential rent theory, we added, to the generic knowledge acquired over land rent formation, an insight into the additional factors that affect land market in the urban context. Here, location concerns, driven by urban functionality, play a fundamental role in the way land value is attributed. Therefore, different locations for same uses may imply different land values, since it is not only productivity (use) that matters, but also proximity to specific areas within a city.

At the end of the first part a general understanding of the function of land market and land rent formation has been acquired. Consequently, in the second part, particular attention is given to analyze how land markets may fail due to the imperfections associated with land's nature and the market itself. Particularly, we describe how internationally conceived land management tools can help to overcome these imperfections and to enhance local governments to retain part or all of the additional value attributed to land as a consequence of public intervention. The latter can include direct intervention, as it is the case of the installation of infrastructure, but also indirect intervention, as it is the case of planning restrictions, etc. Within this part, after a general overview of the large set of existing tools, particular attention is given to the value capture approach of Brazil and Colombia.

The issues and complementary topics discussed in the two parts of this theoretical chapter, as structured, help us to build up a critical overview over the topic of the research, which is value capture and urban land development. This knowledge is fundamental to be able to read how land markets function and how they can be regulated within different settings. Therefore, we are now ready to start analyzing our research's scope, which refers to assess the recent changes in the land market for greenfield land developments in the Netherlands, to evaluate its outcomes, and to suggest some corrective land policy measures.

4 Greenfield Housing Land Development in the NL

4.1 Introduction

There are three levels of government in the Netherlands : the central government, the provinces (12) and, at the lower level, the municipalities (502). Every level covers a specific role according to the specific objectives of the spatial planning policy. Among these, municipalities realize spatial planning through a land development policy which aims specifically to renew deteriorated urban areas and to foster new urban development on greenfield locations. This, mainly to accommodate new housing estates and industrial sites (Priemus and Louw, 2003).

In the next pages we focus our attention on the development of new greenfield housing development, where municipalities play a prime role. By greenfield housing development, as quoted by Verhage and Needham (1997), we mean "*the process during which a site on which there has not been any previous urban use is transformed from its original use to a housing use*". Within this process, we focus our attention on the land development phase, which refers to "*the activity of putting infrastructure and other services into an area on which several building are to be put… connecting the area to be developed to the existing built-up area"* (Verhage and Needham, 1997).

Picture 1: An aerial view of a recently completed greenfield housing development: the Carnisselande Vinex location in the Netherlands

Source: Google

Developing a greenfield location is very expensive because of the many factors that have to be taken into account. First, it requires the implementation of new urban infrastructure, which includes both primary (access roads, drainage, water, gas, etc) and secondary services (connection to public transport, public buildings, etc). Second, these areas frequently requires to be drained to allow construction, and/or decontaminated to accommodate the new use. As a result, greenfield developments usually include the construction of thousands of dwellings in order to make the plan financially feasible. Consequently, this process requires the acquisition and assembly of large amounts of land (Needham, 2007b).

Since in the Netherlands land banking is not a common option, the only way to achieve this is by acquiring the needed land from the original landowners. After the land has been acquired and assembled, it will be reorganized by the land developer into a new number of plots with different shapes and sizes, according to the procedures of a land readjustment scheme (Needham, 2007b). This, in order to follow the directions of the spatial plan. Further on, the area will be fully serviced. Once the site is ready, the construction of the new housing solutions will take place. The whole process requires a period of ten to fifteen years to be fully realized.

Even if, technically, the way the land development process is carried on has not changed in the past sixty years, starting with the nineties there has been a significant change in the institutional role covered by municipalities within the process (Priemus and Louw, 2003). Before the nineties, and starting from the fifties, the greenfield development was based on an "active municipal land policy" (Needham, 2007a), where local authorities had a complete control over the land development. From the nineties, due to various political and economic factors, this approach has shifted toward a less active municipal land policy.

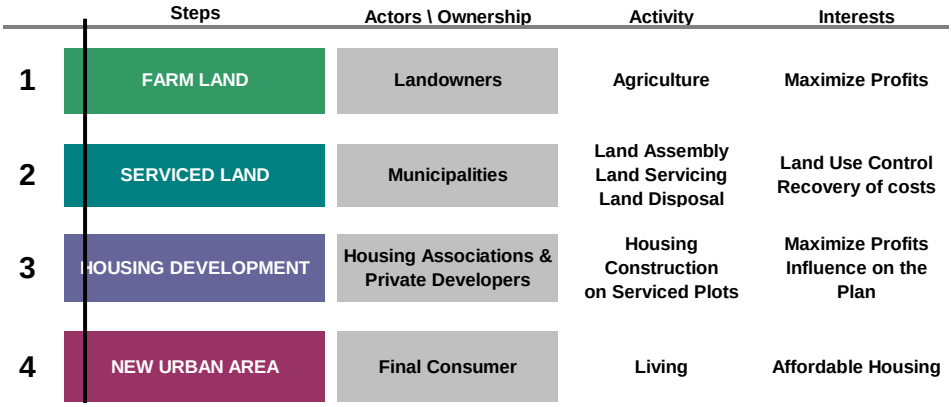
On one side, this change altered the roles of the institutional actors involved in the process. As a consequence, the effectiveness of the existing land management tools used by local authorities, as well as their control over the land development process have been reduced, limiting *de facto* their powers to influence actively land use and their ability to recover public costs. On the other side, as also described by Verhage and Needham (1997), this change increased the possibility of making higher profits on housing land development.

4.2 Fifty Years of Successful Active Municipal Land Policy

For almost fifty years, up to the nineties, in greenfield housing development local authorities have been actively participating and controlling the phase of land development. Municipalities usually acquired the plots of land within the area to be developed directly from the original landowners. These were generally farmers, since the land to be bought was mainly used for agricultural purposes. After buying the land, they organized the area according to the specific directions of the plan, subdividing it in well-defined plots, each one with a specific use: social housing,

marketable housing, public space, streets, etc. Then, they serviced the land, installing the primary and secondary services after draining and/or decontaminating the soil (Priemus and Louw, 2002).

Chart 8: Greenfield land development before the nineties: active land municipal policy



Own Source

After the assembling and servicing of land was carried out, municipalities proceeded with the disposal of the serviced plots to housing corporations and to private developers. The former were in charge of the construction of the social housings, while the latter were in charge of the marketable housing solutions. Accordingly, municipalities were the only actor to intervene actively in the phase of land development, leaving to the other institutional actors the phase of building development. By doing this, according to De Wolff (2002) they managed to achieve the specific objectives pursued by local authorities in the development of greenfield sites. These are: *land use control*, *cost recovery.*

First, by selling the plots after servicing the land, municipalities were able to recoup the costs of acquiring the land and servicing it, adopting a "cost recovery" approach, as defined by Louw during an interview. This worked as follow: the total income produced by the disposal of serviced land had to be equal to all the costs generated by the land development process. These included the costs of land purchase and of servicing the land. Furthermore, the price to be paid for the plots could also include some costs associated with the making of the plan and with the implementation of secondary services. Prices of land for non-marketable housing were set at a norm price, while land prices for marketable housing were set up to the market price (Needham, 1992).

Secondly, the ownership of the land guaranteed that municipalities had extra powers, apart from the statutory public powers set by the law to control land use. By selling or leasing the land (Needham, 2003), local authorities could include additional

prescriptions over the use of land that otherwise it would have been impossible to include in the land use plan. The share of rental versus private housing, the use of specific materials, and the specific norms related to the quality of the urban environment, are just a few examples of the additional conditions included in the land transactions to enforce the control over the land use.

The reasons why this active municipal land development approach was possible were mainly because private parties were not interested in taking part in the land development process. First, up to the nineties, there were no specific indications from the public sector on where the future urban expansion would have taken place. As a result, developers considered too risky to buy in advance land without knowing if and when the area would have change from rural to urban use. Secondly, since there was no artificial scarcity in the supply of land, and the share of social housing versus private housing reached the 75-80%, the average disposal prices for building land were low. Consequently the possibility to make higher profits by entering the land market was reduced (de Wolff, 2007).

4.2.1 The Share of Development Gains

The situation described, led to a sort of public monopoly over the land development process. This enabled municipalities to retain much of the financial margin produced by the process. The reasons why they managed to do it are described here below.

The municipality used to acquire farm land at its existing use value or at a price slightly higher. This can be explained by the fact that there were no competition in the land market and, thus, no significant increase in the offered price for land. Moreover, since the price offered by the municipality was calculated taking into account all the costs associated with the servicing of land, the value of farm land was again reduced significantly. Finally, municipalities used to buy the land well before any rumor for new urban development existed, avoiding any expectation associated with the next use of land. All these factors ensured that the farm owners were getting a reasonable price for their land, only a few higher than the existing land value. Therefore, during the phase of farm land acquisition, original landowners were able to retain just a small portion of the development gains, while municipalities were able to capture it most. (Verhage and Needham, 1997).

Once the land was assembled and serviced, municipality used to sell the land to the developers. As we stated before, land was sold to a price that included all the costs associated with the installing of primary services, plus some contributions for the installation of secondary services and for the costs associated with the development of the land use plan. As quoted by Verhage and Needham (2003) “the municipalities calculated beforehand, when setting the disposal price, the expenditures on the residential environment”. By doing this, they were able to recover the basic costs, capturing as much as possible the financial margin produced and to reinvest in the environment.

Finally, according to Needham (1997) during this period development gains were reduced for housing development. Firstly, the type of housing to be build was mainly

social housing (75%) and the selling prices for such typology were pre-arranged in order to enable consumers to afford it. Secondly, there was enough supply of land for new housing, and no artificial scarcity was pursued by planning directions, and the demand for marketable housing was scarce. Thus, houses were sold only a little above their production costs, leaving to the developers only the acceptable profits recouped by the selling of houses.

4.2.2 Statutory Tools to Enhance an Active Land Policy

After describing the active way local authorities managed to pursue their objectives, it is also important to underline what are the public powers that municipalities had to influence land use and to guarantee the achievement of an active land policy. Accordingly, we describe the *land use plan*, as a tool to control land use, and both the *pre-emption right* and the *compulsory purchase* to facilitate land acquisition, the main step toward a municipal active land policy.

The *Land Use Plan (Bestemmingen plan)* is a general plan that all the local authorities have to prepare for the undeveloped areas within a municipality. The reason to prepare a land use plan is to define the specific uses allowed for a specific area. There is no limitation to the permitted uses, the only limit is that any criteria and prescription that is not "*spatially relevant"* cannot be included in the plan. This means that the share of housing types, or the quality of the materials to be used, for instance, cannot be included in the plan, limiting the power of the instrument to control how development is carried on.

Another characteristic of the plan is that it is "*legally binding*". This means that "a building permit cannot be issued if it is not in accordance with the plan, nor may a permit may be refused if it is in accordance with the plan". Nevertheless it is important to underline that the land use plan is not as inflexible as it may seem. On the contrary, it is subject to changes and modifications according to the particular situations and needs (Needham et al., 1993). Hence, this property of the plan made of it an extremely useful tool during the negotiation process.

The Compulsory Purchase Act *(Onteingeningswet)* allows public authorities to purchase a piece of land when the owner is not willing to sell, nor to develop the site according to the land use plan. Under these circumstances Art.77 allows a compulsory purchase "in the interest of spatial planning and housing". The price to be paid for the expropriation is usually far lower than the price that it would have been paid through an amicable transaction. Thus, the latter solution is most frequently preferred by landowners who are not interested in developing the site by themselves. Nevertheless, this tool can represent an alternative instrument to strengthen the power of local authorities in the process of land acquisition.

The Pre-Emption Right allows municipalities to exercise the first right of acquisition over a land. This means that if a landowner decide to sell his property, he has to offer it first to the local authority. To make the tool effective, a municipality previously has to designate the area where it intends to exercise the right. An other condition is the issue of a land use plan. If there is no agreement over the selling price, the law

specifies the criteria to fix it. This is based on the price that a municipality would have paid under a compulsory purchase. Again, the tool facilitates the achievement of an active municipal land policy. Nevertheless, this instrument has been scarcely used, since no other parties were interested in the acquisition of land before the nineties.

4.2.3 The Equilibrium of Powers

The *active municipal land policy* described above worked successfully for almost fifty years. This mechanism was satisfactorily accepted by all the actors involved: landowners, public authorities, housing associations and developers. The strong control over the ownership and development of land by the municipality did not affect the relationships among them, since each one was able to pursue its main interests (Louw et al., 2003). By selling the land for a fair price, slightly higher than the mere value of rural land, landowners were able to reinvest it in the acquisition of new agricultural land. Municipalities, were able to control the outcomes of the development and to recover most of the costs associated with the land development. Finally, developers were able to build housing estates, receiving from them a reasonable profit and maintaining good relationships with the local authorities for future cooperation.

This stable equilibrium is well described in the table below were the powers relations among actors involved are indicated. Among them, municipalities, through an active land policy were able to strengthen their position by adding to the powers ensured by the statutory law the private powers granted by the ownership of land. This position, made possible because of the particular conditions of the land and housing market, made less relevant the use of specific tools to enforce the recovery of costs. Besides, there were no special tool to capture development gains, since these were scarce and shared among the parties under the control of the municipality.

Chart 9: Power relations and dependency among stakeholders

Dependency experienced by	Power exercised by Municipality	Power exercised by Developers	Power exercised by Landowner
Municipality	-	Economic	Private Law
Private Developer	Private Law Public Law Economic	-	n.a.
First Landowner	Private Law Public Law Economic	n.a.	-

Source: Verhage and Needham, 1997

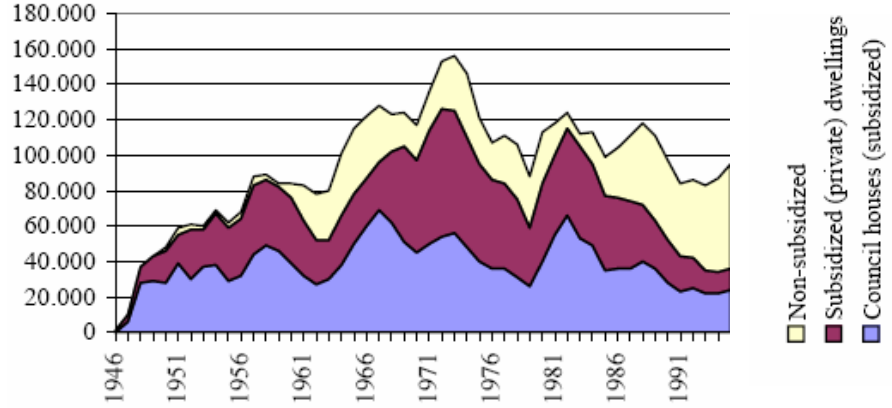
4.3 New Land Development Approaches in the Netherlands

4.3.1 The Factors of Change

Starting with the nineties, new political and economic factors changed radically the rules of the game, altering significantly the stability of a mechanism that had been working for almost fifty years. As a result, the roles, the power relations among the actors involved in the development of greenfield sites also got altered, affecting the way local authorities managed to pursue their primary objectives.

The first factor to be taken into account is, in 1990, the publication of the *Memorandum on Housing in the 1990s* (*Volkshuisvesting in de Jaren Negentig*, Ministry of Housing, Spatial Planning and the Environment, VROM, 1989). For the first time after fifty years, the government changed is policy on housing, prioritizing the construction of ownership housing schemes. According to Mr.van de Klerk, a land and housing specialist from the VROM: "the share of marketable housing in the new large scale housing developments increased up to 70%, together with a vertiginous decrease of social housing sector".

Figure 5: Quantity of social and owner occupied housing production in the NL in the last fifty years



Source: Groetelaers, 2004

National government simultaneously decided for the reduction of the land development subsidizes for the social rental sector. This made land prices for social housing the object of negotiations between the public sector and the housing associations. Moreover, national governments also abolished social housing subsidizes (Louw et al., 2003).

Parallel to this fast-changing context, prices for owner-occupied housing started to raise constantly. And this trend was not followed proportionally by an increase in the construction costs, as showed in the graph below (Groetelaers, 2006). This two factors enhanced the possibility of higher profits for housing developers. Consequently, private parties, for the first time, were finding an interest in the opportunity to participate actively in the land market, since risks were lower if compared to the past, "when owning land on which social housing were projected was rather unpleasant" (de Wolff, 2007).

Figure 6: Increase in housing prices after the ninety

This change of direction towards a more liberal policy in the context of housing development was supported by an increase in the confidence of the consumer towards owner-occupied housing. This was motivated by new favourable economic conditions that were benefiting Dutch households. As Mr. van de Kerk underlined: "the participation of the women in the labour force increased notably. This allowed households, in many cases, to double their income, and to increase their spending capacity." Besides, relatively low mortgage interests rates, as well as an increase in rent prices, also influenced the new trend, stimulating the shift in the demand from rental housing schemes to owner-occupied solution.

Finally, the last factor to stimulate market forces to participate in the land market coincided with the publication of the *Supplement to the Fourth Memorandum on Spatial Planning Extra (Vierde Nota over de Ruimtelijke Ordening Extra, VINEX*, Ministry of Housing, Spatial Planning and the Environment, VROM, 1990).

The VINEX policy document stressed the importance to concentrate new housing construction programmes for large-scale development locations (VINEX locations) within specific areas close to existing urban centres. This was decided in order to

protect green areas from new urban development, concentrating new housing developments closer to transport facilities, as suggested by the compact city policy (de Wolff, 2007). Moreover, according to Needham (2007), national spatial authorities "decided that there was no more quantitative shortage of housing, so it was not necessary that land for house building was designated generously". Thus, by "creating an artificial scarcity of housing land, the price of land would increase, and municipalities would have been able to make larger profits on land development".

Figure 7: Map of the VINEX locations according to the official policy document

Source: VINEX policy, 1990

Nevertheless, the concentration of development on few pre-defined VINEX locations, and the fact that these locations were publicly known well before development were going to take place, caused an un-expected effect. Market parties, attracted by the

opportunities of getting involved in the new VINEX housing developments, started to acquire the land in advance, anticipating local authorities (Groetelaers, 2004). This phenomenon happened, first, because buying agricultural land was less risky than in the past, and, more important, because it ensured the active participation in the building process via land ownership. Their interest was neither speculative and nor to develop the land, but to gain a share in a highly profitable "new" housing business .

As a result the active position of local authorities in the land development process got strongly affected. The common way of pursuing the public objectives got undermined, as well as the dependency relations among the actors involved. Thus, also the existing statutory tools to enforce an active municipal land policy started to fail, since they were not designed for the new conditions. So, during the past fifteen years, new forms of cooperation and institutional arrangements between public and private parties have been developed, leading to a new sort of equilibrium of roles and powers in the land development for greenfield sites (VINEX locations). The way these new arrangements work as well as their outcomes in terms of costs recovery and the creation and capture of development gains is the topic of the next sections.

Picture 2: IJburg VINEX location, Amsterdam, 2007

Own Source

4.3.2 Current Practices for Greenfield Land Development in the NL

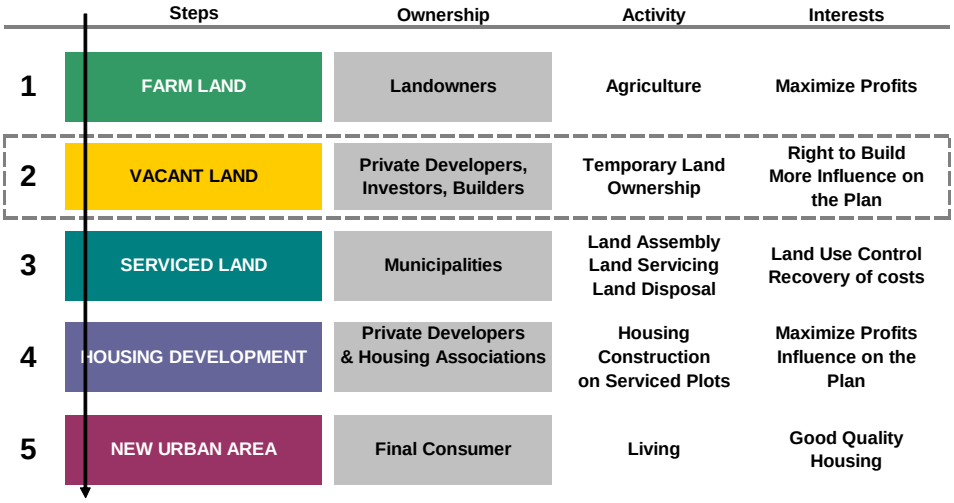
The involvement of market parties in the land market, as reported by Needham during an interview, "was the result of a mis-calculation of public parties". Regarding this, Mr Needham goes even further, stating that "land market has always been a *contestable market*, but the private sector was simply not interested in it until the prices for land and housing went up".

Nevertheless, since developers were not always directly interested in the development of land, new forms of collaboration aroused. The new approaches altered the role of municipalities, even if, local authorities managed to maintain in many cases an active control over land development, though missing some of their valuable powers. These new approaches include: the *building claim model*, the *public-private partnership*

model and finally the *private land development*. The common element of these approaches coincides with the first step, where farm land is bought by private parties.

The *building-claim model*, among the three models described here, is the one more similar to the previous active municipal land development policy. However, in this case, farm land is purchased in advance by interested developers and investors. After its acquisition, developers voluntarily sell the land to the municipal body, sometimes for a price even lower than the price originally paid (Louw et al., 2003). This is done under the condition that they will be entitled of the rights to buy back a defined amount of serviced land and to build on it a fixed amount of houses. On the other side, the municipality becomes responsible for the preparation of the plots and for the implementation of primary and secondary services. This special agreement is know as the *building right agreement*. Under this scheme, private parties can exercise the right of land ownership. This gives some additional bargaining powers to developers in the negotiation phase, as well as more influence in the content of the plan.

Chart 10: Urban land development in the NL after the nineties: the *building claim model.*



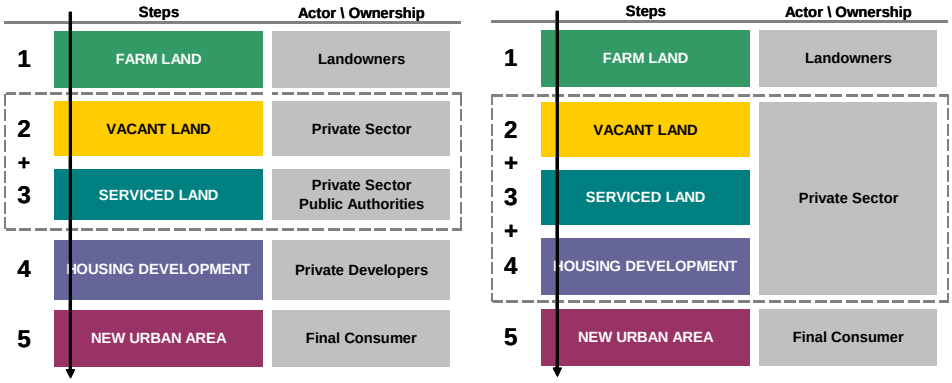
Own source

The *public-private partnership model (PPP)*, on the other side, is based on a collaboration of private and public actors in the development of land. After acquiring some of the farm land affected by the new development, developers join the municipality in a sort of private limited liability company to develop jointly the land (Needham, 2007a). The role of the company is to acquire the remaining land, to service it and, finally, to sell the serviced plots. When the tasks are accomplished the company is closed. Here, the developer's interest in buying the land in advance is motivated by the opportunity to join the company and to retain part of its shares. The

shares can be both serviced land where to build on, or still, profits from the selling of serviced plots. The latter is frequent in the case a shareholder is not interested in the building process, as it is the case of the municipality, the former in the case of the housing developers. Prices and location of the land to sell will be decided among the shareholders of the company.

Finally, the *private land development model (PLD)* is, due to its characteristics and procedures, the one that more than the others disassociates from the past. Here the land is not only acquired by private parties, but also assembled, serviced and developed. Local authorities can only behave passively, using its statutory tools to control land use. Nevertheless, special agreements can be signed with public authorities to cooperate over the way land is serviced, on the destination of land for public interests, on financial issues, etc. This model also includes the possibility for the developers to provide alone secondary services and public amenities, with the option of transferring them to a municipal body for a nominal sum after construction. This can be seen as a way to contribute to the financing of public costs. Some other times it can be the municipality to develop the public infrastructure under the condition that the costs will be paid back by the owner of the site (Needham, 2007a).

Chart 11: On the left the PPP's land dev. Approach, on the right the LDP model.



Own source

All these different approaches have been used and implemented among the different VINEX locations in the past fifteen years. Frequently, as testify the case of Waalsprong, in Nijmegen, or the case of Leidsche Reijn in Utrecht, a combination of more than one approach has been possible (Verhage and Needham, 2003). Nevertheless, a research carried on by Delft University (Groetelaers, 2004), surveying 181 greenfield housing land developments, reveals that each one of the models had a different share in the development of large scale residential areas.

The results describe a situation where the municipal land development approach is still the most frequently used. This trend is true if we take into account the number of sites surveyed, and also if we consider the number of dwellings to be developed under

each model, as showed in the table below. Nevertheless, it is important to underline that among the sites where the municipal land development approach have been undertaken, 58% of the land has been purchased directly from the original land owner, while 42% was bought from market actors, following the *building claim model*. In the remaining sites, according to the number of dwellings to be build, the *public-private partnership model* occurs more often than the *private land development model.* The latter is more frequent on smaller locations, where presumably land development is less costly and complicate.

These results clearly testify the rapid shift towards an active role of the market parties in the land development process. As quoted by Louw (2007) "ten years ago the percentage of municipal land development would have been far higher than the 90%."

In the next section of this chapter an exhaustive analysis of a specific *building right claim* case, the Carnisselande VINEX location, will be illustrated. This, in order to explain how the model works in practice, and to determine the outcomes of such approach in terms of distribution of costs and profits.

4.3.3 The Carnisselande-Portland Vinex Housing Project

The Carnisselande-Portland Vinex location, also known as Midden-Ijsselmonde, is a greenfield housing development project located to the south of the city of Rotterdam. It is one of the new large-scale housing developments contained in the *Supplement to the Fourth Memorandum on Spatial Planning Extra (Vierde Nota over de Ruimtelijke Ordening Extra, VINEX*, Ministry of Housing, Spatial Planning and the Environment, VROM, 1990). Its perimeter falls, to the east, under the jurisdiction of the municipality of Barendrecht, and to the west under the jurisdiction of Albrandswaard.

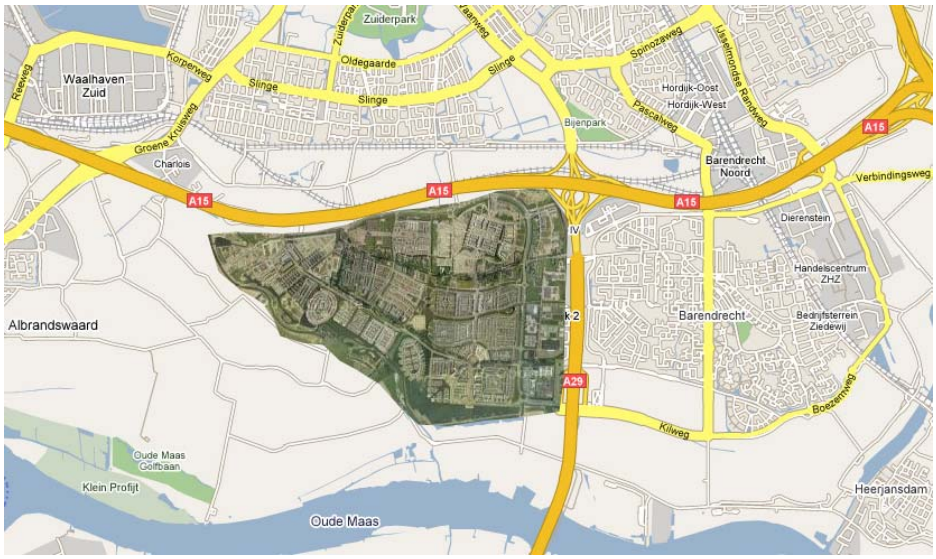
In 1995 an agreement was signed between the municipalities of Barendrecht and Albrandswaard, the Zuid-Holland province, and the national government to develop the site. The plan was to develop a new residential site over an area of almost 600 ha, to be completed within a period of ten years. Given the fact that the site was under two different jurisdictions, a public society, Ommij, was set in 1999 in order to join under one single agency the two municipalities and to achieve a more efficient administration of the housing and land development process.

Picture 3: Carnisselande Vinex location

Own source

The project included the construction of 10.200 dwellings on 60% of the total area, the remaining space was designated for roads, public spaces and public facilities, as well as many water spots. According to the new national housing policy, the share of public housing was reduced to the 25%, while the owner occupied houses reached a share of 75%. A total of 7600 dwellings were to be built in the Carnisselande location, while 2600 were planned in the Portland location. Besides, some space for offices and light industry was planned on the east side of the area to work as a buffer between the residential area and the A29 speedway.

Picture 4: Carnisselande location, south of the city of Rotterdam



Source: Google Maps

4.3.3.1 Land Development Approach

As previously mentioned, due to the *Supplement to the Fourth Memorandum on Spatial Planning Extra,* the location of the project was publicly known well before the agreement between the different levels of the public authorities was signed. The result was that also in the case of Carnisselande many market parties started to buy farm land well before hand, or still they were able to sign options to ensure the first right to buy the land. These actors included, apart from the housing developers, also builders and private investors. The latter included national pension funds as well as credit institutions like Rabobank.

As a result, the majority of the land was already owned by private parties when municipalities started to acquire it. The only plots left for the municipalities were the ones with important physical improvements on it, whose price was much higher than

simple farm land. It is important to underline that it is not the precise location of the land to be bought by developers that matters, but the guarantee to acquire the ownership of some land within the area. This condition, according to the Spatial Planning Act, entitled the owner to the right to participate in the forthcoming building process: when he is willing to follow the directions of the land use plan, the authorities cannot use the compulsory purchase to force the landowner to sell.

In the specific case of Carnisselande, the developers did not want to take active part in the land development process, even if they acquired the land before hand. Therefore, after buying the land, they entered into negotiations with the local public authorities and sold it to them temporarily, signing a *building claim agreement* (see Chart 9). So, after servicing the site, Ommij sold the plots back to the developers who signed the agreement, and retained the land for the public areas. Each developer got entitled with the right to build an established number of houses on a specific location. Specifications particularly included the location of the plot within the new site, the housing type, the average area of the dwelling and the time available for the construction. Each agreement was personal and private, and it was the result of sometimes tough negotiations.

The most complicate part of the negotiations was to reach an agreement over the price to be paid by developers to buy back the land. The financial outcomes of these negotiations were fundamental for municipality to recoup costs. Prices for the serviced plot were set using two different approaches: the *% of selling price* approach, and the *fixed price* approach.

Under the first approach the price of the serviced land was calculated as a percentage of the price at which the houses were going to be sold at the end of the development process. The percentage changed according to the type of housing to be built: land for social housing was charged as much as the 6% of the selling price of the dwelling while, for high income housing, the percentage was set at 27%. Selling prices for land for high-middle housing and low-middle income housing were set at a percentage set in between the previous ones. All these percentages were far lower than the ones offered to a private developer who was not part of a previously signed building right agreement: for high income housing, for example, the price paid for serviced land could reach the 35% of the commercial price of a dwelling.

Under the second approach the price of land was previously fixed. It took into account the range of prices set at the moment of the agreement by the regional government for selling, respectively, social housing, low and high middle income housing, and high income housing. While for almost all the housing typologies a minimum and a maximum limit are stated by the law, high income housing usually has only a minimum limit, allowing developers to decide freely the final selling price.

The fixed price approach has some limitations. The pre-defined ranges are artificially adjusted yearly, since selling prices tend to increase constantly year by year following the trend of the housing market. Consequently, the prices for serviced land has been often renegotiated, in order to enhance municipalities to participate in the share of the extra earnings produced by a increase in the selling price for housing. At today, there

is still a suit going on between a private developer and Ommij, due to a problematic re-negotiation in the fixed price set for a portion of building land. The municipality is asking a compensation of 20.000.000 Euros, while the developer is not willing to accept, stating that as well as the selling price, also the building costs have raised proportionally in the last years.

4.3.3.2 Financial Analysis

After describing how land development was carried on and how negotiations were arranged within private parties and the public sector, it is now important to analyze the financial outcomes of the operation. This helps to clarify if and how cost recovery is pursued, and how the different financial interests of the parties involved in the process were achieved.

The first land transaction occurred when landowners started to sell their land to private developers. There is no information available over the specific price paid on average for farm land. However, according to Ommij, the price was usually set five to ten times higher than the value of the land according to its original agricultural use. If we compare this situation with the past, when municipalities were the only actor in the land market and the price paid for farm land was only a few higher than its first use value, the outcomes are evident. Competition among different private parties and the expectations for the future use allowed much higher financial returns for farm owners.

Once the land has been bought, private parties sold it to Ommij for a price generally lower than the one paid originally to acquire the land. At the same time, negotiations started over the amount of housing to be build and over the price at which the land would have been bought back from municipalities. We already described the general rules set for the negotiations. What we still don't know is what these negotiations represented in terms of financial outcomes for Ommij. To understand it, we present here below the financial balance of Ommij for the Carnisselande project, where the results are quite impressive.

Let us analyze first all the costs associated with the land development. The Ommij bought all the land needed for the development from private parties and farm-owners for a price of almost 90 millions euros. To these costs we need to add all the costs associated with preparation of the site, as well as all the expenses associated with primary and secondary infrastructure. The total amount for these expenditures reaches the value of more than 300 millions euros. Moreover, the balance sheet also includes the management costs (37 millions), as well as some financial costs and some contributions to the region (54 millions). The total public expenditures reaches the sum of 497 millions.

On the other sides, the balance sheet also details the incomes generated by the land development process. Here, the most interesting data is the amount recovered by the selling of serviced land. In the case of land for housing the incomes reached the sum of 380 millions. The profits for industrial serviced land reached 75 millions. Finally,

the selling of land for public facilities summed 12 millions. Besides, there are also 10 millions recovered as penalties charged to the developers. These are produced by a delay in the payment for buying back the land from municipalities. All together, these items reach a total amount of almost 480 millions and represent the 95% of all the profits. The remaining source of income refers to subsidizes and a lump sum from the national government and the region. The total of these items reaches the sum of almost 25 millions. As a result, the total income produced by Ommij is 505 millions.

Chart 12: Financial statement of Ommij, to the left *expenditures*, to the right *revenues*

Ommij's Financial Statement*: Expenditures

Voice	Costs	%
Unserviced Land	€ 88.996.000	18%
Land Preparation Primary Services	€ 153.120.000	31%
Water spots and Bridges	€ 26.393.000	5%
Secundary Services	€ 127.820.000	26%
Ommij Administration Plan Preparation	€ 36.968.000	7%
Regional Fund	€ 34.311.000	7%
Financial Costs	€ 20.017.000	4%
Minor Costs	€ 9.750.000	2%
TOTAL COSTS	€ 497.375.000	100%

Ommij's Financial Statement*: Revenues

Voice	Income	%
Land Disposal	€ 467.769.000	93%
Interests Charges on Land	€ 9.600.000	2%
Income from Lease	€ 1.629.000	0%
Lump Sum from the Region	€ 3.403.000	1%
Subsidize for Sewage	€ 2.912.000	1%
National subsidize for Industry	€ 3.403.000	1%
Subsidize for Secundary Infrastructure	€ 4.932.000	1%
Subsidize for Transport System	€ 10.000.000	2%
TOTAL INCOME	€ 503.648.000	100%

Source: Municipality of Barendrecht

What is still missing here is the financial analysis of the developer's side. Nevertheless, something can be said. The first thing to notice is that developers accepted to pay inflated prices for farm land. Secondly, they accepted to sell the land to municipalities for a price slightly lower than the price paid to acquire it. Thirdly, municipalities were largely able to recover the costs for primary and secondary infrastructure, as well as the indirect costs of the operation. And this was achieved with the income obtained by the land disposal at the expenses of the developers. All these data suggest the following assumption, which has been confirmed during the fieldwork's interviews: private developers accepted these financial conditions because they also expected high profits. To strengthen our conclusion, an article on an expat magazine in the Netherlands, recently reported that, according to the NMV, housing prices on Vinex location have more than doubled in the past ten years, while construction costs only raised by a 20%. Which means very high profit for developers.

This brief analysis puts in evidence some relevant financial considerations. First, Ommij managed to negotiate successfully the price to charge to developers for buying back the land. The 497 millions collected as a result of the negotiations were enough to recoup almost all the costs occurred with the land development: the total costs for land development reached the sum of 497 million, while the income for land disposal produced a total amount of 480 millions! Secondly, also farm owners pursued a very high profit by selling the land at very high prices. And thirdly, assuming that the motivations described above are true, also private developers made high profits.

Let us, to conclude, calculate the approximate share of development gains obtained by the municipality. To achieve it we use the analytical formulas previously described in the methodological approach section. The first data we need is the value of the farm land. This, can be assumed to be lower than the 90 millions spent by municipalities to buy the land from private developers, since we know that the prices paid for farm land were inflated. The second data needed is the value of the serviced plots, which, all together, reaches the amount of 467 millions. This is calculated taking in consideration the price at which serviced land was sold for housing (380 millions), industrial sites (75 millions) and public facilities (12 millions). The last data is the cost for primary infrastructure, which reached 179 millions (153+26 millions). Consequently, by subtracting from the disposal price the tentative costs for farm land and the costs for primary services, we have an extra margin of almost 200 millions euros. This extra profit was enough to complete successfully the recovery of all the costs associated with the land development.

Moreover, this amount only represents the development gains captured by Ommij itself. Why? First, because we used as farm land price the inflated price paid by municipality to buy the land. Under this assumption, part of the development gains has been already retained by the farm-owner, who actually managed to sell the land for a price five to ten times higher than its real value. Thus, also landowners got a high portion of the surplus. Secondly, we are not considering the portion of development gains captured by private developers. This can be calculated subtracting from the total profits earned by developers their normal profits. And, since developer's profits are high, than development gains must also be high. But again, we have no direct data to precisely quantify them, since no developers accepted to be interviewed.

4.3.4 Positive and Negative Implications of the Current Approach

To finalize our analysis over the change in land development approach undertaken in the Netherlands we now proceed to illustrate the positive outcomes and the limitations that the new course of action presents. Our conclusions are based on the experience of the institutional actors that have been interviewed during the field work, and on the author's conclusions. First we introduce the positive implications conditions that, according to our analysis, make the new approach successful. Secondly, we illustrate the most common limitations of it.

4.3.4.1 Positive Implications

The analysis of the land development process and its financial outcomes describes a sort of *win-win* situation, where all the actors involved achieve their objectives. The municipality is able to carry on its own active land development strategy, and to control the standard of the residential environment. And, more important, it manages to recoup all the costs related with the servicing of land. Private developers, by acquiring the land in advance, obtain the certainty to build the new dwellings, and thus, to have an important share in the profits of the process. Finally, landowners are able to gain higher profits than they did in the past, by selling their land at private parties. This situation can be explained mainly thanks to two important reasons.

- **Common Interests and Dependency Relations**

The first reason includes the willingness of the actors to reach a satisfactory agreement for both parties in the phase of negotiations. This willingness is justified by the fact that developers and local authorities share some common interests, and they depend one from each other if they want to achieve them.

Developers, on the short term, wants to achieve a good standard of the built environment. If this is achieved their ability to sell the houses, as well as their market value, will increase, and consequently they can make a good profit. And, since they are not interested in the land development, they also depend on the municipality to do it. Thus, it is not convenient for them during negotiations to make an excessive use of the legal rights they have acquired through land ownership: limited financial resources for the municipality would mean a poorer and less attractive residential environment. Besides, on a long term perspective, they want to keep a good relationship with the public sector, so to be able to keep high their reputation and to work together again in the future on new housing schemes.

On the other side, also Ommij wants to maintain a good relationship with developers, since it shares with them the interest to make a good quality residential environment. And it knows that this depends on the collaboration with the private sector, since Ommij alone does not have the resources to achieve it. Besides, Ommij sees in the developer a strategic alley not only to help to purse common goals, but also to share the risks associated with the land development: under the building right approach,

developers participate more actively than before in the process, investing large sums of money both in the phase of land acquisition, and in the construction phase. So, if compared with the past, where land was bought by the public sector alone, risks for local authorities are strongly limited.

The only actor who has no particular dependency relation with the others is the original landowner. He only appears in the first phase of the process, since he owns the land where the development will take place. He acts passively, due to the fact that his only role is to sell the land and than disappear from the process. This means that he assumes no particular risk. His only interest is to maximize the profits from the selling of land. He is not interested at all in the success of the whole operation.

- **High Share of Development Gains**

The second factor coincides with a high quantity of development gains available within the process. This condition enabled each actor to pursue its personal financial objectives: higher profits for both the landowner and the developers and, simultaneously, the availability of more economic resources to be invested in the quality of the residential environment. In this sense the case of Carnisselande is quite indicative.

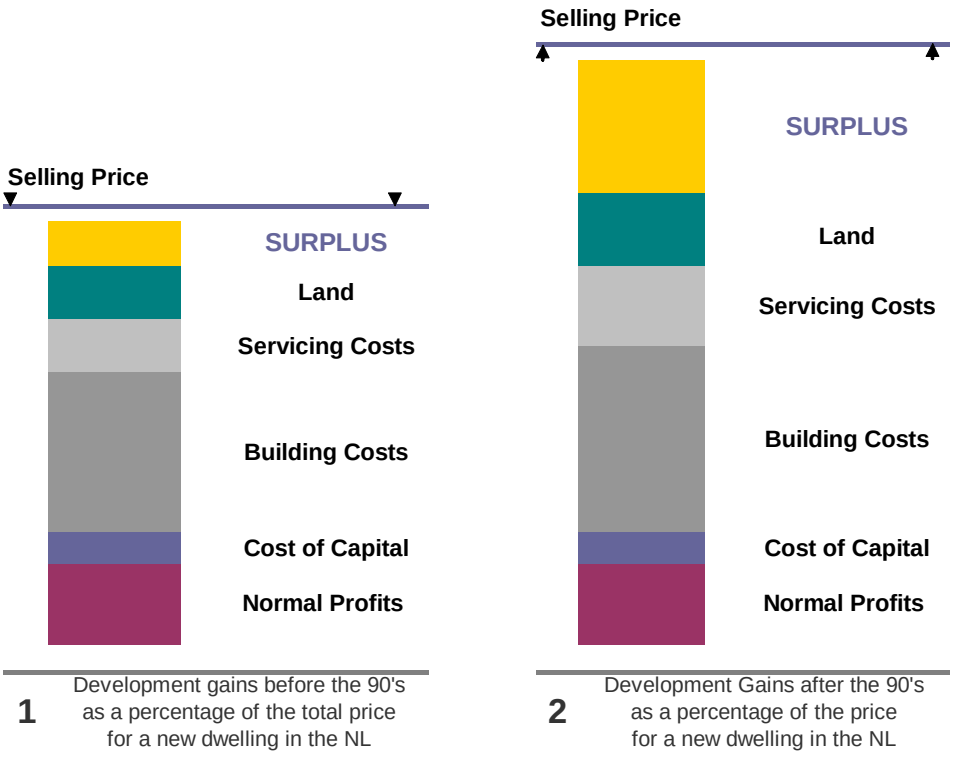
This situation has been possible because, under the new context, the share of development gains strongly increased if compared with the past. The reasons why this happened are the following: 1) the policy of housing land scarcity pursued by the government which limited new urban development to restricted areas in order to increase the value of land, 2) the liberalization of the housing market and the high demand for owner-occupied houses, and 3) a strong increase in the selling price for housing, which was far higher than the increase in production costs. The effects of these factors on the share of extra profits are graphically conceptualized in the figures below.

Figure 8 shows how the development gains, associated with the production of a new house, can be expressed graphically. The first column represents all the costs for a housing developer, as well as the normal profits he may obtain. The costs include the construction costs (direct and indirect), the costs of capital, the price of land and the costs for servicing it. On the top of the column we set the selling price for the housing production. As a result, the gray area represents the surplus, which is obtained by subtracting from the selling price of the house all the costs and reasonable profits associated with it. At this stage the development gain is low, since no scarcity over land has been applied, and selling prices are arranged by the government. This situation exemplifies the situation in the Netherlands prior to the nineties.

In the second column we make some assumptions: first, the introduction of planning restrictions to limit the quantity of developable land, and second, the selling prices for houses are set (almost) freely by the market. These are the conditions that fostered the change in the Netherlands. As a result we have an increase in the price for housing which, as shown in the image, is moved to a higher level. On the other side,

the costs of production of the houses and the normal profits also increase, but much slower than the selling price do. Consequently, the share of surplus increases.

Figure 8: Share of development gains versus costs *after* and *before* the nineties.

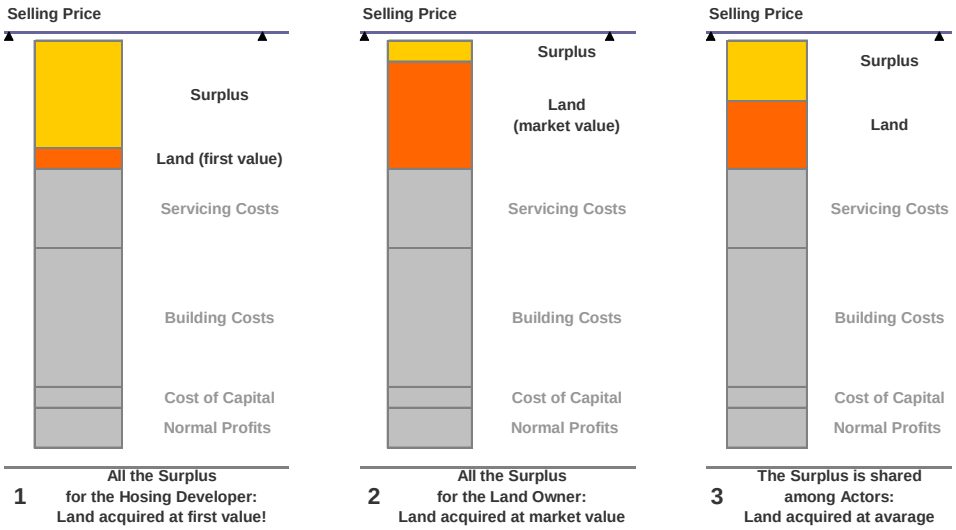


Source: Adapted from Morales Schechingher's session notes, HIS, 2007

To conclude, it is important to explain how the share of the surplus can be distributed among parties. Accordingly, the outcomes of this distribution depend specifically on the price paid by the developer for the land. If the price paid for the land excludes all possible future expectations and its close to its original farm land value, than the surplus will be all captured by the housing developer (1). On the opposite situation (2), if the price paid by the developer for the land includes expectations and is set at market value, the surplus will be largely absorbed in the previous phases of the process. Finally, as it commonly happens, if land prices paid by the developer are in between original land value and the new market value, then the surplus is shared among the actors involved in the land development process (3). The actor who will

retain more surplus is usually the one who has stronger powers in the negotiation process. Figure 9 describes the three situations.

Figure 9: Different shares of financial surplus as a function of the price paid for land.



Adapted from Morales Schechinger's session notes, IHS

4.3.4.2 Negative Implications

- **Limited Tools for Cost Recovery**

The first element that needs to be discussed is the scarce effectiveness of the existing statutory tools to recoup public costs for infrastructure when local authority does not have the ownership of land.

When a rural area is appointed as a new housing location, authorities, according to the law, have to develop a new land use plan. As we previously explained, the plan sets legally binding rules over the way the land has to be used. This means that, if the owner of the land agrees with the directions of the plan, he is entitled of the right to develop his land. Besides, public authorities have the obligation to give him the permission to build (building permit).

This situation is not a problem in a country where local authorities had the powers to force the landowner to make a contribution towards the costs of the infrastructure. But, in the case of the Netherlands, the only way to obtain it, is by a voluntary contribution from the developer, as stated by the article 42 of the Spatial Planning Act. This article allows the landowner to freely decide whether to contribute

financially, or in kind, for facilities serving the public utility. These facilities include residential roads, drainage and sewage, and public spaces. The agreement is called the "land servicing agreement" (*exploitatieovereenkomst*). But again, the application of the law cannot enforce the contribution, which remains totally voluntary.

In the past this option was not used by local authorities, since through the active municipal land policy, they were able to buy the land in advance. As a result, the costs of public services were included in the disposal price for land. But today, as private parties discovered an interest in the land market, things are slightly more complicate. Let us assume, for example, to have a new building area were the land has been already purchased by developers. It might be the case, and it actually occurs, that some of the developers decline the possibility to sign a land servicing agreement. They might think that others within the area will, allowing them to benefit from the new infrastructure without spending. These behaviour is frequent in the Netherlands, and people who behave like that are usually known as "*free riders*". The consequence is that, frequently, municipalities are obliged to pay themselves for the infrastructure, while free-riders are able to capture almost all the financial surplus produced by the new development.

The land servicing permit, apart from its voluntary character, has also others limitations. First, some costs cannot be included in the agreement. These include, for instance, the costs of providing affordable building land for the social housing sector, or the contribution towards secondary services. Second, once the agreement is signed and a building permit is issued, the agreement can still be annulled under public law. If a developer signs an agreement where costs not mentioned by the law are included, he might decide to go to court. As a result, the developer will retain the right to build, but the municipality will pay for the services.

An other option to recover public costs is the betterment levy (*baatbelasting*), which is contained in the Act that regulate municipalities (*Gementeweet)*. This levy enables local authority to recover public investments, forcing those who benefit from them to contribute financially. Nevertheless, this tool is well known for its limitations. First, the costs that can be recovered are fewer than in the servicing land agreement. Secondly, when applied, the levy must include all the beneficiaries of the works within the area, and not only the ones who had an active part in the project. Finally, as also testified by Groetelaers (2004) in a survey made to more than seventy-two Vinex locations where no proof of utilization was found, the levy is hardly used, due to administrative complications that arise with its implementation.

As illustrated, the recovery of public costs is not an easy task when municipalities have no direct control over the land and, eventually, there is no agreement on the distribution of costs. This reflection is even more valid if we also consider the limitations of the statutory tools to enforce the acquisition of land by public authorities. Compulsory purchase is hardly utilized because of the delays caused by its complicate administrative procedure, while the pre-emption right has been frequently circumvented by developers and farmers by setting up together a development company. Therefore, new and more powerful statutory tools are needed

to facilitate cost recovery where amicable agreement and public land ownership are not an option.

- **Distortion of the Farm Land Market**

Another limitation can be found in the negative externalities produced by the inflated prices paid by private actors to acquire farm land.

As we illustrated in the financial analysis of the Carnisselande case, today the prices paid for farm land can reach up to ten times the original value of agricultural land. As a result, the farm owners who own land on new housing locations earn much more than the fair price. At the same time, these farmers are displaced from the place where they have been living and working for years, and are obliged to look for new areas where to restart their activity. They usually move to rural areas, where new urban development is still not arrived and where they can still find rural land to buy.

The outcome of this situation is that they started to offer very high prices for the new land, since, due to the high profits previously earned, their ability to pay is much higher than it was in the past. This trend strongly destabilized the land market for rural land, since land prices have raised higher than they should. The distortion of prices principally affects conventional willing farm owners with limited financial resources, since they cannot access anymore to land at the new conditions.

- **Monopoly of Few Developers**

The acquisition of land in advance by a reduced number of private developers provide them with a sort of monopolistic control over the supply of housing. By acquiring the land, they automatically get the right to build on it (building right agreement) after the servicing of land is concluded. As a result, fair competition among developers is limited since, when the land is serviced, municipalities will not be able to offer it openly in the free market. This negative effect is highlighted if we also consider the planning restrictions undertaken in the past decade by the national government to limit the supply of building land.

The concern about this situation is that there are some developers who may make high profits by taking advantage of their preferential position, and others who will not be able to enter in the process. Thus, less competition could negatively incise on the prices and quality of the housing, as it frequently happens in the case of monopolistic systems. As a result, the consumer will be offered less quality for higher prices.

- **Land Speculation**

The increase in the profits ensured by the liberalization of the land market makes also possible the presence of speculators. These “intruders” of the land development process are different from the free riders described above. They have no particular interest in developing the land, but, as the farm-owners, their only goal is to speculate

over the value of land in order to get high profits by re-selling it. Their strategy is simple, and it works as follows: they first acquire farm land close to its first use value, and than they resell it at an inflated price.

Nevertheless, it is general opinion that this is not a very common phenomenon today. First, original land-owners are aware of the potential value of their land. Thus they are not willing to sell it at a low price. Second, if a speculator decides to buy a big portion of land where a new housing development might occur, he will have to wait a long time before to resell the land, because greenfield land development is a very slow and complicate process. This means that he needs to have access to many financial resources or, eventually, to be ready to pay high interests for a long period if he needs to borrow the capital. As a result, speculators are more frequent in the case of smaller area, where land development is quicker.

- **Limited Control over the Content of the Plan**

To conclude this analysis it is also important to cite an other common problem that aroused under the new system, and especially when municipalities cannot participate actively in the land development process. This limitation concerns the way municipality can control the content of the new development.

As we previously explained, the land use plan might include within its directions for the new development only “spatially relevant” aspects. This concept limits the possibilities to include particular housing standards, as it is the specific typology of the dwellings to be built, the selling price, etc. Thus, developers will have the opportunity to decide quite freely about the outcomes of the residential environment according to their own interests, which often are different from the ones of the municipality. A common concern, for example, is the percentage of social housing to be included within a new scheme. This typology limits the potential revenues of developers who are keen to include it in their projects. On the other side, for municipalities, because of its public role, are a fundamental mile stone of their housing policy.

Nevertheless, by adopting an active land development policy, municipalities can include such conditions in the land transaction contract (freehold or leaseholds), as it used to happen in the past. Today, in the case of the building right model or in the case of the public-private model, these conditions can be included as part of the agreement for the land disposal, as we saw in the case of the building right agreement. But in the case there is a private land development, and the municipality only participates passively in the process, the chance to influence the content of the plan are reduced. According to Needham (2007), in the new Spatial Planning Act, an enforcement of the powers of the land use plan will be introduced so to avoid such complications.

5 Alternatives for Cost Recovery & Value Capturing

5.1 Introduction

In the previous chapter we had an intensive journey through the way greenfield land development has changed in the past fifteen years in the Netherlands. We successfully analyzed the process from a theoretical and practical perspective, alternating a national view to an analysis of a real case study. This analysis enabled to identify how procedures and approaches have changed from the past, why this happened and, especially, what are the main outcomes and negative effects that such change has produced. Among the outcomes and limitations of the present approach we particularly emphasized two situations: 1) the limitations of the existing system to enable municipalities to recover public costs, as a result of a less active municipal land policy, and 2) a strong increase in the share of development gains within the process.

These two situations, as also described in the theoretical chapter, suggest an assessment over the opportunity to introduce additional land management tools. Therefore, in this last chapter, we analyze each one of the two situations, describing how the introduction of value capturing tools could help to improve the recoup of public costs, and to capture the planning gains that aroused within the process. In the case of the limited cost recovery procedures in the Netherlands, we analyze the new measures that the forthcoming Land Development Act will introduce the next year. In the case of the share of development gains, even though no tool has ever been included in the Dutch Law, some suggestions over the way planning gains can be captured is given. The latter is done by adopting value capture techniques, as internationally conceived, to the case of the Netherlands.

5.2 Cost Recovery and the new Land Development Act

Historically, the introduction of cost recovery tools in the Netherlands to recoup public costs associated with the implementation of public infrastructure was not a problematic issue. Local authority, as we already described, used to recover them by selling the serviced land to the willing developer, charging to the land disposal price the costs of primary services and, when possible, also additional costs linked to the implementation of secondary infrastructure as well as indirect costs. After the nineties, the involvement in the land market by private parties has changed this stable equilibrium: municipalities discovered that the public powers they had to enhance cost recovery when they do not possess the land is limited to voluntary contributions by the developer (see previous chapter).

This situation led in the past years to a national debate among the public sector and the private parties to re-examine the rules of the game. The main objective was to define corrective measures to enable local authorities to pursue their financial objectives even when an active municipal land development policy was not possible.

So, solutions were aimed at strengthen the powers of the municipality when it had to revert to a more passive role. The result of this dilemma was the recent issue of a new Land Development Act (*Grondexplotatiewet*). This Act is an amendment of the new Spatial Planning Act (*Wet Ruimtelijke Ordening*), which will be officially in force starting from the next year, 2008 (Needham, 2007). The new Act is strengthening the position of the local authorities in land development, enabling an enforcement in the way contribution towards public costs are made, and also improving the possibilities of the existing *voluntary land servicing agreement* to recover public costs

5.2.1 The Enforcement of the Law

The first measure undertaken by the government is to define a way to force un-willing developers to make contribution towards public costs. Instead of introducing new cost recovery tools, as it could be the case of a new tax or a fee, government decided to adapt its existing land instruments in such a way that public cost recovery was not merely voluntary. As a result, municipalities tomorrow will be able to limit the grant of a building permit under a precise clause: that a contribution towards infrastructure costs has been made. Otherwise, no building permit will be issued, even if the ownership of land guarantee the right to develop (de Wolff, 2007).

The pre-conditions to make this enforcement applicable are mainly related to the preparation of a Land Development Plan (*Grondexplotatieplan)*. Accordingly, municipalities, when preparing a new Land Use Plan for an area, will have to include a plan (the Land Development Plan) where an estimation of the costs related to the servicing of land are included. Thus, if a developer want to get the building right, he will have to pay a portion of the costs included in the Land Development Plan. The percentage to be charged will change according to the present and past use of the specific land. For example, in the case of former agricultural area, if one of the projects includes the construction of social housing, the developer will be charged far less than a developer who is planning to develop owner occupied houses, since the profits of the latter will be higher.

The costs that can be included in the Plan are limited. Nevertheless, they also embrace, apart from primary services, many items related to the implementation of public facilities inside and outside the area to be developed, the management costs of the project, and some more. A detailed list of these costs can be found in the implementing order for the new Act (*Besluit ruimtelijke ordening*).

The law also includes three fundamental criteria to regulate the conditions under which the costs can be recovered. These are: the *profit* criteria, the *causality* criteria and the *proportionality* criteria. The first enable to recover only the costs associated with works that benefit the area. The second refers to the fact that only works somehow connected to the new development can be included. In this sense, old works already implemented cannot be included. Finally, the proportionality criteria indicates that costs benefiting in a different way persons or communities need to be recovered proportionally.

Under these conditions, as shown by the criteria, there is no room to enable a recovery of costs for works which are not included in the plan. Nevertheless, an amendment to the Act was also introduced. The new added clause enables the recovery of some costs not included in the original Land Development Plan. These can be associated to new physical developments outside the area of the housing project. The only requirement is that these projects must be previously set in a Strategic Plan (*Structuurvisie*), which has to be prepared before the preparation of the Land Use Plan.

5.2.2 The Improvement of the Voluntary Servicing Agreement

An other measure included in the new Act is the addition of new costs to be recovered under the *voluntary servicing agreement*. Apart from the costs associated with the installation of the basic infrastructure, today, also contributions towards additional works not contained in the list of public works and not associated with the new development can be included. Again, such costs must be related to a project included in a previously prepared Strategic Plan. (de Wolff, 2007)

In this way a developer, when signing the agreement, can be asked to pay for development costs which have nothing to do with the forthcoming housing development. An example can be the contribution for some works needed to restore a protected environmental area, if the environmental restoration was already included in the strategic plan. This possibility limits the threat that a court, as it occurred in the past, could nullify the agreement because cost recovery is not inherent to the works undertaken within the new residential environment.

The voluntary agreement is usually set before a land use plan is prepared, and it includes much more possibilities of cost recovery if compared with the enforcement phase, This is because much more items are included within the list of costs that can be recouped. Accordingly, for municipalities is more convenient to reach a voluntary agreement than to force a contribution. Nevertheless, if some landowners did not reach a voluntary agreement with the municipality, local authorities will have to enforce the payment. To achieve it, as illustrated, they have to prepare a Land Development Plan before the Land Use Plan is ready. However, once the Land Development Plan is issued, there will be no chance to conclude a voluntary agreement any more. Thus, the recovery of costs will be based on the Land Development Plan, and the profits for the municipality might be strongly reduced.

5.3 Value Capturing and the Struggle for the Surplus

The tools presented above have a strong cost recovery approach. This focus is the result of a clear political decision of the Minister: during the presentation of the corrective measures to the Parliament, he stressed that it was not the intention of the Ministry to retain part of the profits to the private parties. On the contrary, the intention is to facilitate municipalities to pursue its main financial objectives even when participating in the development process from a more passive perspective (de Wolff, 2007). Thus, the tools are aimed to help local authorities to recuperate specifically the increase in land value caused by their investments.

Nevertheless, as we discussed in the theoretical framework and as it also happened in the Netherlands, the public sector can influence the value of land also in a indirect way, by adopting some planning decisions. This is the case of a change in the use of land, from rural to urban, or still, the decision to concentrate new urban development in a precise area. Accordingly, in this section we propose two different ways to capture the exceeding development gains aroused as a consequence of these actions. The motivation of doing that is that these extra value has not been caused by a private intervention, but on the contrary, as a result of a public intervention. Thus, the exceeding value on land need to be recovered and used to benefit the community as a whole, as suggested by the theory of land value capture. Besides, the introduction of value capture techniques can also help to limit the effect of the negative externalities aroused within the land markets.

5.3.1 Capturing of Land Plus-Value

The first instrument to be introduced is a regulatory tool that would give the right to the public authorities to participate in the increase in value, the *plus-value*, of a particular area. This tool has some similarities with the one introduced in the Colombian law, as we illustrated in the theoretical chapter. The way it should works is explained here below.

Today, when a former rural area is publicly appointed as a new residential area, its original land value is destined to increase. Thus, municipal authorities, under the building right model previously discussed, would buy the land from private parties at an inflated price. This because, as already discussed, private parties use to pay to the original landowners very high prices. As a result, during these land transactions, the increment in land value is generally retained by the first landowner. Here, it is important to underline that this gain is retained without any risk or particular involvement in the project from the landowner.

This situation could change by introducing the plus-value regulatory instrument. By doing it, when appointing a rural area for a new development, as it happened with the VINEX policy, the government would also freeze by law the price that municipalities would pay for that land. The price for land, than, could coincides with its first use value, or a value slightly higher than it. The meaning of this regulation on farm land prices is that local authorities would than be able to acquire land from landowners or

private developers at a price very close to the value of land before planning decisions were set.

Simultaneously, this approach would also cause a decrease in the prices paid by private developers to the original landowners, when they anticipate local authorities in farm land acquisition. This indirect effect is justified by the fact that private parties know that, after buying the land, they need to sell it to local authorities in order to service the land for the new development. But, with the introduction of the plus-value instrument they won't be able to sell it to local authorities for a price higher than the one set by the new law. As a result they have to offer lower prices for farm land than they do today, and the landowner would have to accept the new conditions, because no better offer is achievable. The consequences of this situation is that the increasing value of land cannot be captured anymore by first landowners. In this way, also speculative behaviours and the distortion of the rural land market should be avoided. Farm owners will have less income available to spend for their new farm land. While speculators don't have any more the legal power to sell the land at inflated prices.

One limitation of this approach is related to the possibility that the development can take place without an active intervention of the public sector in land transactions. If this happens, there is no way to apply the tool, since only by acquiring land, the municipality can take advantage of plus-value regulatory instrument. Nevertheless, even if a situation where the private sector take over the whole process is still scarce in the Netherlands, the introduction of a plus-value tax over an increase in land value due to planning restriction could be introduced, as it is the case of the Colombian Plusvalia.

The plus-value, as presented here, is mainly conceived to limit the exaggerate profits of the first land owner. This is because, according to our analysis, he does not do anything during the development process to contribute to the success of the new residential environment or to share some of the risks. Thus, we believe that he, more than the developer, does not deserve to retain extra planning gains. As a result, this approach would not help directly to retain the planning gains in the phase of negotiations between the private and public sectors to define the price of acquisition for the serviced plots. It will depend on the particular bargaining positions of the two parties to define whether the planning gains can be captured or not.

According to this last consideration, it is important to say something. If the plus-value formula cannot help to retain planning gains during negotiations than, endorsing the thesis of Mr. de Wolff (2007), we believe that the new Act could work as a complement. This is justified by the fact the new measures give much more space for local authorities to leak away from developers the extra profits, even when these are not associated with the cost recovery. The inclusion of the contribution towards external projects contained in existing Strategic Plans testifies our statement. As a result, we believe that the plus-value tool, as presented here, can become a complementary instrument to improve the recoup of planning gains.

5.3.2 Selling of Development Rights

Another way local authorities could be able to retain the increase in land value aroused from the process is the separation of the right to develop from the right to build.

Today, under the ruling law in the Netherlands, when a developer buy the farm land he also get automatically entitled of the right to build on it. Thus, again, developers pay for farm land a price which include the expectations to build on it. Nevertheless, let us assume to divide the two rights. Under this assumption, as we explain below, a public authority would be able to recover the planning gain by selling the development rights separately. The process should work as follows.

An interested developer decide to buy a portion of land where a new housing development will take place. If, by acquiring the land, he can only get the right of ownership, he will, again, offer to the first landowner a reduced price. This because he knows that, after, he will also have to buy the right to develop on it. And since this right is retained by public authorities, they can decide at what price to sell the development rights. Accordingly, the maximum price to be asked should coincide with the difference in land value produced by the change in the use of land, from rural to urban, as a result of the planning decisions.

Nevertheless, if local authorities, as it seems to happen in the Netherlands, want to share with the developer some planning profits, as a fair compensation for his active involvement in the process and for sharing the risks associated with it, they can charge for a building right only a percentage of the increased land value. This possibility is a common procedure in Brazil and Colombia, where, even if the tools adopted are different, the main objective is the same: to capture development gain. In these two countries the authorities retain a percentage of planning gains which is usually set between the 50% and the 60% of the total surplus.

Again, this approach would not interfere with the tools used by public authorities to recover public costs: one thing is the increment in value due to planning restriction, and an other is an increase in value caused by a direct financial investment on land. On the other side, this approach will automatically decrease the price offered to landowners, limiting the distortion of the rural land market and the activity of land speculators. However, it is important to say that some difficulties could arise to determine the way to calculate the increased value on land. This same consideration applies for the plus-value tool presented above.

To conclude, the separation of the right to build from ownership, if compared with the previous possibilities has some advantages. First, the capturing of planning gains would be effective even in the case the municipality is not participating actively in the process acquiring land. Secondly, by selling the right to build, municipalities could also include some conditions related to the outcomes of the physical construction of the residential environment, achieving a stronger control over the use of land.

6 Conclusions

Fifty years of greenfield housing land development in the Netherlands has been characterized by a municipal active land policy. Local authorities, being the only actor who was active in the acquisition of farm land and in the preparation of the site for the forthcoming residential areas, managed to develop a monopolistic control over the supply of new land for urban development. This happened even if, in the Netherlands, land market has always been contestable, meaning that both the private and public sector have the possibility to participate.

According to the interviews carried on and on the data gathered, the reasons for this public monopoly were due to a general disinterest of private parties to participate in a market that was full of risks and uncertainties. First, there were no specific indications on where the future urban expansion would have taken place. As a result, developers considered too risky to buy in advance land without knowing if and when the area would have change in use. Second, since there was no artificial scarcity in the supply of land, and the share of production of social housing reached the 75-80% of the whole market, the average disposal prices for building land were very low. Thus, the possibility to make higher profits by entering the land market was reduced.

So, by acquiring the farm land at a price very close to its first use value (agriculture) and by participating actively in the development process thereafter, local authorities were able to pursue their main objectives: a strong control over the use of land and therefore its planning and development, and the recovery of public investments with land development through the disposal of serviced plots. Additionally local authorities were also able to assure land allocation for social housing in order to meet the demand of those who need government support to access housing, thus safeguarding some degree of equity and social mix in residential developments. As a consequence, the powers and levels of control acquired with the land ownership made superfluous the need for and the use of any particular land management tool. In this sense, the only instruments needed, apart the land use plan, were the ones that could help municipalities to keep pursuing an active land policy. These were the compulsory purchase and the pre-emption right. The former could help to enforce the public acquisition of land and the latter - introduced in the eighties - gave local authorities the precedence over the acquisition of land.

In the beginning of the nineties, important political and social changes began to undermine this monopolistic position of Dutch municipalities leading to the liberalization of the land and housing market. First, the publication of the *Memorandum on Housing in the 1990s* boosted the shift towards more production of owner occupied houses, all in line with the national housing policy's goal to promote and increase the percentage of homeownership. Second, the demand for private housing strongly increased due to a raise in the income of Dutch families and to a decrease in the mortgages rates. Simultaneously, the housing market experienced a

strong increase in selling prices, which was not followed by a similar trend in building costs. Thirdly, the publication of the *Supplement to the Fourth Memorandum on Spatial Planning Extra (VINEX)* selected and made public the new housing locations where the production of future housing estates on greenfield land would take place in the Netherlands. The VINEX locations would provide nearly 1 million houses and satisfy the consumer's demand for the next fifteen years.

Following this announcement and the precise identification of the new locations, private developers, building companies and investors started to compete with public authorities for the acquisition of agricultural land in the areas identified by the VINEX policy. Their main interest was neither to speculate nor to develop the land alone, but to participate in the process and to gain a share in a highly profitable "new" greenfield housing development. The best way to achieve this was by acquiring land in advance and automatically gain the right to build. As a result, what had been a public monopoly for 50 years was changed into a highly competitive market.

These driving forces put a tremendous pressure on local authorities which were seeing their powers vanishing under the effects of the new events. No control of land ownership meant that the municipality's ability to recover costs and to control land use were limited to the public powers established in the Spatial Planning Act. The situation became worse when discovering that the Act does not allow municipalities to recoup public costs using alternative planning and management tools. Besides, the land use plan is "legally binding", meaning that if a landowner is willing to build according to the directives of the plan, no compulsory purchase order can be issued, thus no active land policy can be pursued. So, municipalities were moved from a strong position in the greenfield housing development process to a position where they are much more dependent on the private sector on the content of the plan.

This new scenario led to the creation of new forms of collaborations within the public and the private sector. And because the designation of the use of land through a land allocation plan (*bestemmingsplan*) and provision of basic infrastructure within its jurisdiction remains a local government mandate (approved by the Provincial Council) we witness many collaborative initiatives in land development. Today developers, investors, and building companies, after buying the land, make agreements with and sell it temporarily to local authorities, in order to let the public sector do their job: to assembly the land and to service the new plots. By doing this, developers, as owners of the land, also bargain the price at which they will buy back the land once it is ready for the building process, signing a *building right agreement*. The agreement is the result of negotiations where the interests, the bargaining powers and the dependency relations of each party play a fundamental role. Thus, negotiations become the common way to solve the financial disputes over the distribution of costs occurred within the land development process.

In order to have a better insight of the financial effects of the new approach, we analyzed a representative case study: the Carnisselande Vinex location, a greenfield housing development located in the periphery of Rotterdam. After analysing the financial statement of the public agency in charge of the project, and interviewing

some institutional actors from the public sector, we discovered that after disposing the serviced plot back to developers, local authorities managed to recover all the costs associated with the installation of primary and secondary services. Besides, they also managed to recover additional expenses. Another important finding of such analysis is related with the financial outcomes achieved by the first land owners. According to the municipality, they managed to get for their land a price up to ten times higher than its first use value. Moreover, also private parties must have earned very high profits. This could be explained by their strong bargaining position acquired with land ownership, and also considering that the only reason for private investors to enter a specific market is because returns are high.

In accordance with the situation illustrated, and based on the testimonies of the institutional actors interviewed, we reached the conclusion that under this approach each actor seems to fulfil his main interests, leading to a sort of *win-win* situation. The municipality, particularly, is still able to participate actively in land development, and thus to control the standard of the residential environment. Besides, it manages to recoup all the costs related with the servicing of land. Private developers, by acquiring the land in advance, obtain the certainty to build the new dwellings, and consequently to have an important share in the profits of the process. Finally, landowners are able to gain higher profits than they did in the past, by selling their land at inflated prices to private parties. Yet, these considerations cannot be easily generalized since, due to the limitation of time for the research, only one case was analyzed.

This equilibrium can be explained mainly thanks to two important reasons. The first coincides with the fact that developers and local authorities are interested in collaborate. Developers know that they need the municipality to assembly the land and to service it. Besides they want to keep good relations with the public sector for future collaboration. Local authorities know that, without the private sector, they cannot complete the construction of the houses and their institutional role as provider of residential estate would be negatively affected. The second reason has to do with a strong increase in the development gains that strongly increased the profits for each actor. These additional financial flows has been mostly caused by a strong increase in the selling price for marketable housing, and by the artificial scarcity of land produced by public determination.

Nevertheless, the definition of a “win-win” situation might sounds quite naïve, if we also take into consideration the negative impacts that we detected in our analysis. First, there is the unlikely effectiveness of the existing statutory tools in allowing local authorities to recoup the costs of public investments when they do not have the ownership of land. Today, the only way to get a contribution for public costs is through a voluntary land servicing agreement. So, when confronted with the presence of free-riders within the process, municipalities might be obliged to pay themselves for the costs of infrastructure provision.

Another negative effect is the distortion of the price of land in remote rural areas, caused by the excessive profits earned by the original landowners who, when

relocating to new areas, offer inflated prices for new farm land. Besides, it also exists the risk of land speculation, as a consequence of the high increase detected in the value for land. To conclude, if compared with the past, local authorities have less control over the content of the plan because of the limits of existing statutory tools to adapt to the new more passive role municipalities play today.

All these considerations suggest the introduction of alternative land management tools to regulate a market which today is strongly based on the outcomes of discretionary negotiations. To solve partly this situation some measures to improve the ability to recovery public costs are going to be introduced the next year, with the publication of the new Land Development Act. These include, first, an enforcement of the land servicing permit. If no voluntary agreement is achieved, local authorities will be able to deny a building permit if no contribution is made. Further on, the number of costs that can be included in the voluntary agreement are enlarged, so to enable municipalities to increase their cost recovery capacity. Yet, the new measurers are only focused in the enforcement of the recovery of public costs. Apparently, no additional tools have been studied to retain additional increases in land value and to limit negative externalities. As conclusion of our review of the Dutch land development approach I am of the opinion that municipalities and cities will be better-off if they are able to make use of two alternative value capturing tools in complement to the instruments that are introduced by the new Act.

The first coincides with the freezing of the prices of rural land simultaneously to the announcement of a new project (very much alike what was done in the Usme Project in Colombia). This should help municipalities to access to land at a moderate price. Besides, it would indirectly stop the acquisition of farm land by private parties at inflated prices, since, when selling it to local authorities, they would be obliged to sell it at the frozen price set by the law. As a result, municipalities would be able to retain a bigger share of the development gains aroused for planning decisions. Simultaneously, farm owners would limit their high profits, and this would have positive effects on the rural land markets. Besides, the activity of speculators would be strongly limited.

The decision to capture particularly the excessive gains of the rural land owners and land speculators is motivated by the fact that these actors do not deserve to have a share in the development gains. This can be explained by the fact that they don't contribute at all to the success of the new residential environment, nor do they share some of the risks implicit in new developments. A complementary tool to the freezing of land prices could be a plus-value tax, as a mean to charge the increase in land value due to planning decisions. This could allow public authorities to achieve value capturing even when they do not participate actively in the land development.

The second alternative is the separation of the development rights from the right of ownership. Under this scheme a public authority would be able to recover the planning gains by selling the development rights separately. The price of the building right could include all, or a part, of the extra value of land. This would depend on the will of the public sector to share it with private parties as a compensation for their

involvement in the development process and for sharing the risks. As a consequence, private parties would also offer much lower prices for farm land, since no right to build is included. This would, again, help to correct the distortion of the rural land market and the activity of speculators. Finally, by selling the development rights, municipalities could also impose tighter conditions on the use of land recouping some of the powers lost when market forces started to enter the land market.

6.1 Policy Implications

This research enlightened the role that public land ownership had in the way local authorities managed to recover public costs and to control land use in the Netherlands. A country, as described in the research, that has a strong tradition of direct government intervention in housing and urban land development. However, a new panorama emerged with the recent political and social changes in the Dutch context under which the achievement of an active municipal land policy is increasingly challenged by market forces.

As a result the position of public authorities in the Netherlands, within the land development process, is much weaker than in the past. Municipalities are gradually shifting towards a less active role within the land development context, which implies less control over land development. To pursue their land policy objectives, they often have to revert to negotiations and more collaboration with private sector parties. Besides, they are gradually loosing the financial support of the national government, as a consequence of decentralization processes.

The case of the Netherlands clearly shows how, in an era characterized by liberalization policies and decentralization, the introduction of land management tools is becoming a priority issue on the agenda of national and local governments. Today, land markets in the Netherlands are scarcely regulated on the topic, and are governed by discretionary public-private negotiations over land transactions which lack in transparency, leaving rooms for decisions that may affect public interest. Each negotiation is strictly confidential, and its outcomes are different according to the specific situation. Finally, value capture techniques have been scarcely, if ever, used in the country.

Even so, the introduction of such tools, especially when used to capture the planning gains, became a very sensitive political issue. This is why the Minister of Housing, during his introductory speech to present the forthcoming Land Development Act, stated several times that it was not the intention to capture the profits from landowners, but only to facilitate cost recovery when necessary. This means that the government sees the forthcoming Land Development Act only as a cost recovery instrument.

However, as a result of our analysis, we believe value capture techniques should also be taken into account by policy makers in the Netherlands. These particular tools have the capacity to help to regulate land markets by controlling land value, and also

to retain the planning gains that are leaking away from the process. Besides, as we learned with the Brazilian and Colombian experiences, where decentralization and liberalization are also taking place, such tools can be introduced without affecting the financial interests of market parties and providing local governments with the means to expand the public services and infrastructure provision (also to areas where poor residents live).

In Brazil, for example, we learned how negotiations can coexist with the introduction of public tools that help municipalities to retain the planning gains produced by planning decisions, and to increase their bargaining powers. Here, local authorities can only capture up to the 50% of the total increased value, leaving the rest to the private sector. In the case of Colombia, the *plusvalia*, which is used discretionarily, is a valid alternative to help authorities to control land value. Here, again, according to the law, it is possible to retain up to the 60% of the total increment in value, in order to share, as well as the risks, also the financial benefits of the operation with private developers.

This policy direction, if accepted, would go along with the well-known concern of the Netherlands for a society where equity concerns, equality and the fair redistribution of wealth are fundamental values. Whether this chance will be taken into consideration in the future by Dutch policy makers is still unclear. Mostly, it will depend on the way future events will evolve, and on the determination of the public sector to regulate the land market and to find alternative source to finance urban development.

6.2 Further Research

First, it would be relevant to analyze in quantitative terms the financial outcomes yielded by private developers in the case of Carnisselande. We were not able to collect financial data from the private developers involved, and neither to quantify their share of profits versus costs. They were not prepared to share this information with the researcher. If achieved, such a research, could be an important finding to quantify the amount of gains that are effectively leaking out of the process.

Besides, it would be important to analyze different Vinex projects in the Netherlands both from an institutional and financial point of view, and to compare them with Carnisselnde. Such a study would help to get a far complete picture of the greenfield land markets and the way they are managed, and would help to generalize our conclusions.

Finally, weather value capture would be included in the Dutch land policy, it would be interesting to analyze, among the different tiers of the government, to whom revenues collected should be destined, and for which purpose they should be used. This, because not only municipal authorities, but also regional and national authorities could be interested to use value capture as a source of finance for urban and regional development.

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