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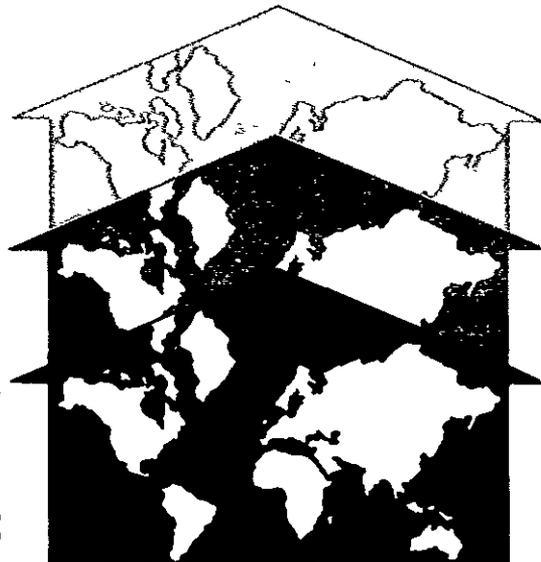
Clandestine Development in Colombia

by Brian William Blaesser

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OFFICE OF HOUSING

CLANDESTINE DEVELOPMENT IN COLOMBIA

The Pirate Housing Submarket of Medellin

by

Brian William Blaesser

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Occasional Paper Series 1981

For my parents

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ABSTRACT

The demand for housing in developing countries of South America has been met primarily by the private sector through various "submarkets" of which the squatter or land invasion settlement is the most well-documented example. Another submarket that has received less study is the market for the purchase of plots of land on the urban periphery of many South American cities by lower income families. This submarket, unlike "squattling" involves an actual purchase and sale transaction between lower income purchasers and subdividers. As a result, the individual purchasers usually obtain apparent (though often defective) proof of title to their plots of land. However, the subdivisions or settlements that result nevertheless are illegal because they occur "clandestinely" in violation of municipal regulations for subdivision approval and violate zoning laws and service provision requirements as well. Such subdivision typically enable the pirate subdivider to realize a very high profit while externalizing the costs of providing the necessary service infrastructure upon municipal governments.

In Colombia, this submarket is known as the "pirate" submarket and accounts for a significant portion of the lower income settlements in such cities as Bogota and Medellin. This study analyzes the pirate submarket and its settlements in Medellin from an economic, legal and institutional perspective through the use of two case studies as well as reports and other documents available in municipal offices. Where appropriate, comparisons to the pirate submarket of Bogota, as described in existing research, are made. The analysis traces the growth and persistence of the phenomenon of pirate settlements in Medellin in terms of various structural factors and compares the housing solution offered by the pirate submarket with those offered by alternative "legal" submarkets, particularly the government sponsored housing submarket.

It is suggested that under conditions of rapid urbanization, Medellin's rigid urban perimeter policy and high technical standards for land classification, subdivision and the provision of services, increased the cost of land dramatically within the urban perimeter, and helped foster the market behavior of pirate subdividers. These subdividers responded to the demand from lower income families for cheaper land on the urban periphery by clandestinely creating subdivisions and selling unserviced lots. Although the limited land supply within Medellin and the effectiveness of criminal sanctions against pirate subdivisions have greatly reduced the rate of pirate subdividing in Medellin, this study concludes that smaller pirate settlements continue to occur in the semi-rural areas surrounding Medellin. The persistence of the pirate submarket is explained by the inability of alternative housing submarkets to effectively compete with the pirate market housing solution. The latter provides access to a plot of land that appreciates over time as well as the attributes of spatial flexibility and economic feasibility,

that is, it provides the opportunity to build or expand the housing structure incrementally, and an installment purchase and sale arrangement suited in amount and number of payments to the lower income family's economic needs. The solutions offered by alternative housing submarkets in Medellin have usually lacked one or both of these attributes.

This study concludes that the "market" solution offered lower income families through pirate subdividing could potentially satisfy public policy concerns, particularly with respect to infrastructure costs, provided adjustments are made in the legal-institutional framework that controls the land subdivision process as well as lower income families' access to land and housing. Evaluation is made of existing and proposed modifications in that framework, particularly with respect to the subdivision approval process and related standards, and regulations governing the subdivision business, and the credit requirements of conventional financing institutions.

ACKNOWLEDGEMENTS

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My research in Medellin was made possible through the large amounts of time and information given to me by the respective directors and staffs of the Department of Municipal Planning, Empresas Publicas of Medellin, the Instituto de Credito Territorial, the Superintendencia Bancaria, Casitas de la Providencia and Barrios de Jesus, as well as by many former planning and administrative officials. The list of individuals to whom I owe my thanks is too long to set forth in this limited space. I therefore have chosen to communicate my gratitude to those individuals separately. I wish to express here in general terms my sincere appreciation to all the individuals concerned for their helpfulness and kindness during my period of research in Medellin and in subsequent communications relative to information needed for the completion of the study.

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CHAPTER I. INTRODUCTION

The rapid urbanization which has characterized the development of most countries in South America since World War II has resulted in severe housing shortages in almost every city, in particular for lower income families. Despite the establishment of various government housing programs in response to the demand for housing, the largest supply of housing has come from the private sector through various "submarkets." These submarkets supply housing solutions that provide various levels of physical quality and legal tenure to lower income families. Perhaps the best documented "submarket" of this type is that of squatter settlements which are the result of the illegal occupation or "invasion" by lower income families of urban land belonging to others. The housing settlements which result usually lack the physical infrastructure of roads, water, sewers and electricity as well as legal tenure.

Another submarket which has received less study, however, is the market for the purchase and sale of residential lots by lower income families. As the description suggests, this submarket, unlike "squatting," does not involve the act of land invasion, but rather the act of purchase, by which families enter into a purchase and sale transaction with a subdivider engaged in the business of selling lots usually on less expensive land located on the urban periphery. The subdivisions that are created are known in various South American countries as colonias ilegales (illegal subdivisions), loteos brujos (magic lots), barrios clandestinos (clandestine neighborhoods), urbanizaciones piratas (pirate subdivisions). The reason for such labels implying illegal activity is that although individual purchasers may have apparent (but often defective) proof of title to their lots, the subdivisions themselves are illegal. The reason for their illegal status is that such subdivisions occur "clandestinely" in violation of municipal regulations for the approval and development of subdivisions and usually in violation of municipal zoning laws and municipal standards for the provision of basic urban services as well.

In the typical transaction the subdivider (or his agent), without informing municipal planning authorities, simply draws up a simple plot layout or rough subdivision plan and sells lots to families by means of an installment contract with the promise of transfer of legal title at the end of the payment period. Often, however, the transaction is based only on the subdivider's oral promise of legal title and written receipts to acknowledge the downpayment and installments. The family's initial downpayment enables it to occupy their lot immediately and to begin to build their house incrementally as their income permits, along with monthly payments to the subdivider. The latter usually provides only a few bulldozed streets or access roads, and promises, but rarely provides, necessary infrastructure for urban services. Families, therefore, satisfy their service needs for water, for example, from nearby

streams, or, if necessary, by means of illegal connections to municipal service trunk lines for water and electricity.

In Colombia, these illegal subdivisions are known as barrios piratas or urbanizaciones piratas, that is, "pirate" neighborhoods or subdivisions. The Colombian governmental response both nationally and locally to such developments has been to treat them as an illegal and undesirable market phenomenon that enables the pirate subdivider to realize an exorbitant profit and to externalize the costs of providing the necessary service infrastructure upon the municipal governments. Accordingly, Colombian housing policy has been directed at policing this form of housing submarket while at the same time providing subsidized low income housing "units" and experimenting with various forms of "sites and services" programs for the urban poor. The sites and services programs are similar to pirate land developments in that the government, acting as the landowner and subdivider, sponsors subdivisions with a minimal level of services for incremental development by low income owner-builders. Such programs while more economical of Colombia's limited financial and administrative resources as a developing country than programs of "complete" housing units, nevertheless require a significant public investment. In addition, it is questionable whether government sponsored housing programs can provide a competitive alternative to the housing solution purchased by lower income families in the pirate submarket, particularly under conditions of rapid urbanization.

In light of the considerations noted above, it is important to obtain a better understanding of the nature of pirate subdivisions as a source of housing for lower income families within Colombia's private market economy. The underlying issue is whether the legal, financial and administrative institutions which govern or influence the conventional land subdivision process in Colombia can be modified so as to internalize the pirate submarket's perceived costs and to maximize its potential to provide a source of land and an opportunity for housing to lower income families.

Within the last 6 years, a number of scholars have addressed this issue in Colombia from somewhat different perspectives in studies of pirate subdivisions in the capital city of Bogota. George Vernez's 1973 study provided the first detailed economic analysis of the interrelationships between the pirate submarket of Bogota and the socio-economic structure and development of its metropolitan area.¹ Vernez estimated that nearly half of Bogota's families resided in pirate subdivisions; he found that housing investments by lower income families in pirate subdivisions contributed significantly to capital formation and to employment, and that the pirate market was an efficient allocator of land resources. His study concluded that

¹ George Vernez, "Bogota's Pirate Settlements: An Opportunity for Metropolitan Development" (unpublished Ph.D. dissertation, University of California, Berkeley, 1973).

the incremental housing construction observed in the pirate submarket should be legalized and rationalized as a means of stimulating housing and other investments by the lower income portion of the population. William A. Doebele's study in 1975² examined the legal and institutional context in which the process of pirate subdividing occurs and the attitudes of pirate barrio residents toward the formal legal system. His purpose was to assess the possibilities for legal-institutional reform that might eliminate acknowledged defects in the pirate subdivision process and maximize its benefits as identified by Vernez and confirmed by his own research. The 1976 study of Losada and Gomez³ similarly examined the legal-institutional context of the pirate submarket. In addition, they presented an analysis of the various factors which seem to explain the growth of the pirate submarket in Bogota, as well as a detailed socio-economic analysis of five pirate barrios surveyed. The latter analysis provided a good up-date for comparison with Vernez's findings. Finally, Alan Carroll's analysis in 1980⁴ of data obtained from a citywide survey of pirate subdividers by Colombia's National Superintendency of Banks provided the first glimpse of the characteristics of the pirate submarket as a land development business. Carroll's analysis also suggested that policy interventions should be devised that would enhance the existing positive aspects of the pirate subdivision business and that would direct it toward such desired social goals such as the provision of necessary infrastructure.

All of the studies mentioned focused upon the pirate submarket of Bogota. No study has yet been done of the pirate submarket in another one of Colombia's principal cities, Medellin, the capital of the Department of Antioquia, and one of the most important economic centers of the country. The broad purpose of this study is to provide a basis for comparative analysis with the Bogota studies through the presentation of case data and other research on pirate subdivisions in Medellin obtained by this author during the period 1974-1975. The more specific purposes of the study are two. The first is to determine whether the data on the pirate submarket of Medellin supports the general conclusion of the Bogota studies that, from the economic viewpoint of lower income families, the pirate

² William A. Doebele, "The Private Market and Low Income Urbanization in Developing Countries: The 'Pirate' Subdivisions of Bogota" (Cambridge, Massachusetts: Harvard University Department of City and Regional Planning, Discussion Paper No. D75-11, October, 1975).

³ Rodrigo Losada Lora and Hernando Gomez Buendia, La Tierra en el Mercado Pirata de Bogota (Bogota: Fundacion Para la Educacion Superior y el Desarrollo -- FEDESARROLLO, 1976).

⁴ Alan Carroll, Pirate Subdivisions and the Market for Residential Lots in Bogota (Washington, D.C.: The World Bank, Urban and Regional Report No. 79-12, April, 1980).

submarket, despite its defects, provides those families with a housing solution that alternative legal housing submarkets cannot equal. The second purpose is to assess existing and proposed modifications in the legal, financial and administrative institutions which govern the land subdivision process in Medellin and in Colombia in general, and which are intended to respond more realistically to the economic constraints of lower income families.

The crucial assumption underlying the specific purposes of this study is that, absent radical change in Colombia, the country's political and institutional framework will continue to support a private market economy. On the basis of this assumption it is considered reasonable to assess the pirate housing submarket as a potentially viable "market solution" for lower income families provided certain modifications are made in the legal-institutional framework which governs the operation of that submarket.

Chapter II introduces the reader to the essential background characteristics of Medellin and presents the best available estimation of the scope of the city's pirate submarket. It is hypothesized that although the rate of pirate urbanizing has decreased significantly since 1968 because of legal constraints and the scarcity of available land within the metropolitan area, pirate subdivisions nevertheless continue to occur at a yet-to-be-calculated rate in the increasingly extended peripheral areas of the city. The remainder of the chapter suggests the factors which seem to explain the growth and persistence of pirate subdivisions in Medellin. The first two parts of Chapter III set forth two case studies of pirate subdivisions in order to illustrate important characteristics of the pirate submarket in Medellin. The second of the two case studies is derived from the author's own written survey in 1975 of families in the pirate subdivision known as La Cascada. The last part of Chapter III compares the characteristics identified in the pirate subdivisions of Medellin with those of other housing submarkets in Medellin, particularly the government-sponsored housing submarket. It is concluded in this chapter that from the perspective of lower income families, the government housing submarket in Medellin does not provide a competitive alternative to the offerings available in the pirate submarket. Chapters IV and V present the comparative analysis of the pirate submarkets of Medellin and of Bogota using the data presented by this author for Medellin and the data presented by the authors of the Bogota studies mentioned above. Chapter IV compares the pirate submarkets of the two cities with respect to the characteristics of lot purchasers, the physical characteristics of subdivisions and the economic characteristics of the transactions. The first part of Chapter V sets forth the Colombian legal instruments and procedures which govern the transfer of land and compares them to the instruments and procedures used in the pirate submarket. The remainder of the chapter is devoted to a comparison of this author's survey results with those of Bosada and Gomez, and of Doebele in particular, concerning pirate barrio residents' attitudes toward the formal legal system. Such attitudinal data is relevant to any future

policy decisions which may be made to reform certain legal institutions in order to facilitate low income purchasers in the market.

Chapter VI assesses a recently instituted modification in one part of the regulatory framework which governs the subdivision process in Medellin. This modification is the so-called normas minimas or minimum subdivision standards program. The program was established as a result of the Municipal Planning Department's experience with pirate subdivisions and is intended to encourage developers in the private market to provide serviced lots under a reduced set of subdivision standards. To date, only one subdivision in Medellin has been designed and developed under the program. Case data from this subdivision is presented and assessed in light of data available from a similar program in Bogota. It is suggested that the lack of subdivision development under the normas minimas program in Medellin may be due to a limited land supply compounded by zoning restrictions, problems of developer access to capital and poor understanding of the program. Finally, Chapter VII summarizes this author's conclusions concerning the analysis presented in the preceding chapters; it also sets forth recommendations relative to existing and proposed modifications in the legal institutional framework that are intended to direct the dynamics of the pirate submarket in a manner that will improve the lower income housing solution presently provided by that submarket.

CHAPTER II. THE PIRATE HOUSING SUBMARKET OF MEDELLIN

GEOGRAPHICAL AND HISTORICAL BACKGROUND

The purpose of this section is to provide a brief historical overview of some of the principal physical and administrative developmental stages of Medellin, and to describe the growth and present status of pirate subdivisions within the municipality. With this general framework as background, the remainder of the chapter will examine the structural factors which appear to explain the growth of the pirate housing submarket in Medellin. A detailed analysis of important characteristics of the pirate submarket will be presented through two case studies in the following chapter.

Demographic Growth of the City

Medellin, the Capital of the Department of Antioquia, is situated in the Valley of Aburra at an altitude of 1500 meters (4921 feet) within the Andean mountain range that cordons off the western region of Colombia. The city's longitudinal axis is formed by the Medellin River which courses by canal through its center. Because of its spring-like climate year around (23 degrees centigrade/73 degrees Fahrenheit), the city has become known for its flowers, in particular, for its exquisite orchids.¹

Although Medellin was founded in 1616, it did not receive civil administrative powers as a municipality until 1675. Its transformation from a village to a growing urban center began during the period 1910- 1920. In 1912, the population of Medellin was approximately 71,000. By 1938, the next officially approved census,² the population had more than doubled, reaching a total of 168,000 inhabitants. During the intercensus periods 1938-1951 and 1951-1964, the city grew at an annual rate of 6%, and as a result, by 1964 the population of Medellin had become approximately 773,000. The 1973 census calculated the population at 1,151,762. During this last intercensus period, the growth rate had dropped to 4.39%. On

¹ Municipio de Medellin, Departamento Administrativo de Planeacion y S.T., Anuario Estadistico de Medellin 1976-1977 (Medellin: 1978), p. 14.

² The 1928 census was not officially approved. Ibid., p. 32 n.3.

the basis of the 1973 census the population of Medellin in 1975 was projected at 1,210,840. ³ These demographic characteristics will be discussed in more detail below as part of the analysis of the structural factors underlying the growth of pirate subdivisions in Medellin.

Municipal Planning and Administrative Structures

The city's first office of municipal planning was created in 1951 in conjunction with the adoption of the Plan Regulator ⁴ ("Regulatory Plan") produced by Jose Luis Sert and Paul Lester Weiner ⁵ during the period 1948-1950. The plan was intended to provide general directives for the reorganization of land uses in the city and for the creation of plans by the Planning Office for the control and regulation of land development. ⁶

In 1959 the Medellin City Council approved a Plan Director ("Director Plan") proposed by the Office of Planning. ⁷ The Plan delineated the basic scheme for principal streets and set forth broad zoning categories for the purposes of guiding and limiting future development. The general zoning categories established were as follows: light and heavy industrial, commercial industrial, central commercial, residential, open space ("green" zones) and transition areas (for future commercial or residential use). Although these general categories were somewhat modified in 1965, ⁸ it was not until 1968 that the city adopted a detailed set of land use sub-classifications within the general zoning categories as well as corresponding subdivision specifications. ⁹

³ Idem., Anuario Estadístico de Medellin 1975 (Medellin: 1975), p. 30.

⁴ El Alcalde de Medellin, Decreto No. 683 de 1951. The municipal planning office was more formally established and empowered with responsibility by subsequent legislative acts (ordinances) of the Medellin City Council. See generally, El Concejo Municipal de Medellin, Acuerdo No. 45 de 1960, Acuerdo No. 50 de 1962, Acuerdo No. 10 de 1970.

⁵ Town Planning Associates, New York, N.Y. U.S.A.

⁶ Jose Luis Sert and Paul Lester Weiner, Informe del Plan Piloto de Medellin (Medellin: 1950).

⁷ El Concejo Municipal de Medellin, Acuerdo No. 92 de 1959.

⁸ Ibid., Acuerdo No. 52 de 1963.

The 1959 Plan Director legislation also established the new municipal administrative subdivision of comunidades -- groupings of two or more barrios categorized as a comunidad or community on the basis of such considerations as physical terrain, land uses, the proposed municipal boundary line and the social class characteristics of barrio residents. ¹⁰ In 1963, these urban "communities" were grouped into 6 larger sectoral subdivisions called comunas (see Figure 1). ¹¹

Since the lack of, or contraband nature of basic public services is a crucial issue in the evaluation of pirate developments, it is important in this general overview to note briefly the planning efforts of the municipal services company -- Empresas Publicas de Medellin ¹² (hereafter referred to as Empresas Publicas). From the viewpoint of the pirate barrio resident, perhaps the most important planning policy of Empresas Publicas is its technical planning approach to the installation of sewer lines. Water for drinking and cooking purposes can often be obtained from nearby streams or, if necessary, by breaking and diverting water mains. The same stream, at points downstream, may be used for the elimination of sewage. ¹³ Access to electricity may be similarly obtained by contraband means. However, the temporary sewage disposal measures soon create serious health hazards. As long as sources of water and electricity remain available, residents eventually place primary emphasis upon the securement of officially approved sewer line extensions to their homes.

In the late 1950's, Empresas Publicas began efforts to plan for the growth of the city's sewer system. At the request of the company, the North American firm of Greeley and Hanson conducted a study during 1956-1957 of the sewerage collection system in the metropolitan area. One of the principal findings of the study was

⁹ El Alcalde de Medellin, Decreto No. 338 de 1968 ("Reglamentaciones de Urbanizaciones"). See also Idem., Decreto No. 474 de 1969, Decreto No. 352 de 1971, Decreto No. 109 de 1974.

¹⁰ El Concejo Municipal de Medellin, Acuerdo No. 92 de 1959, Art. 1(b).

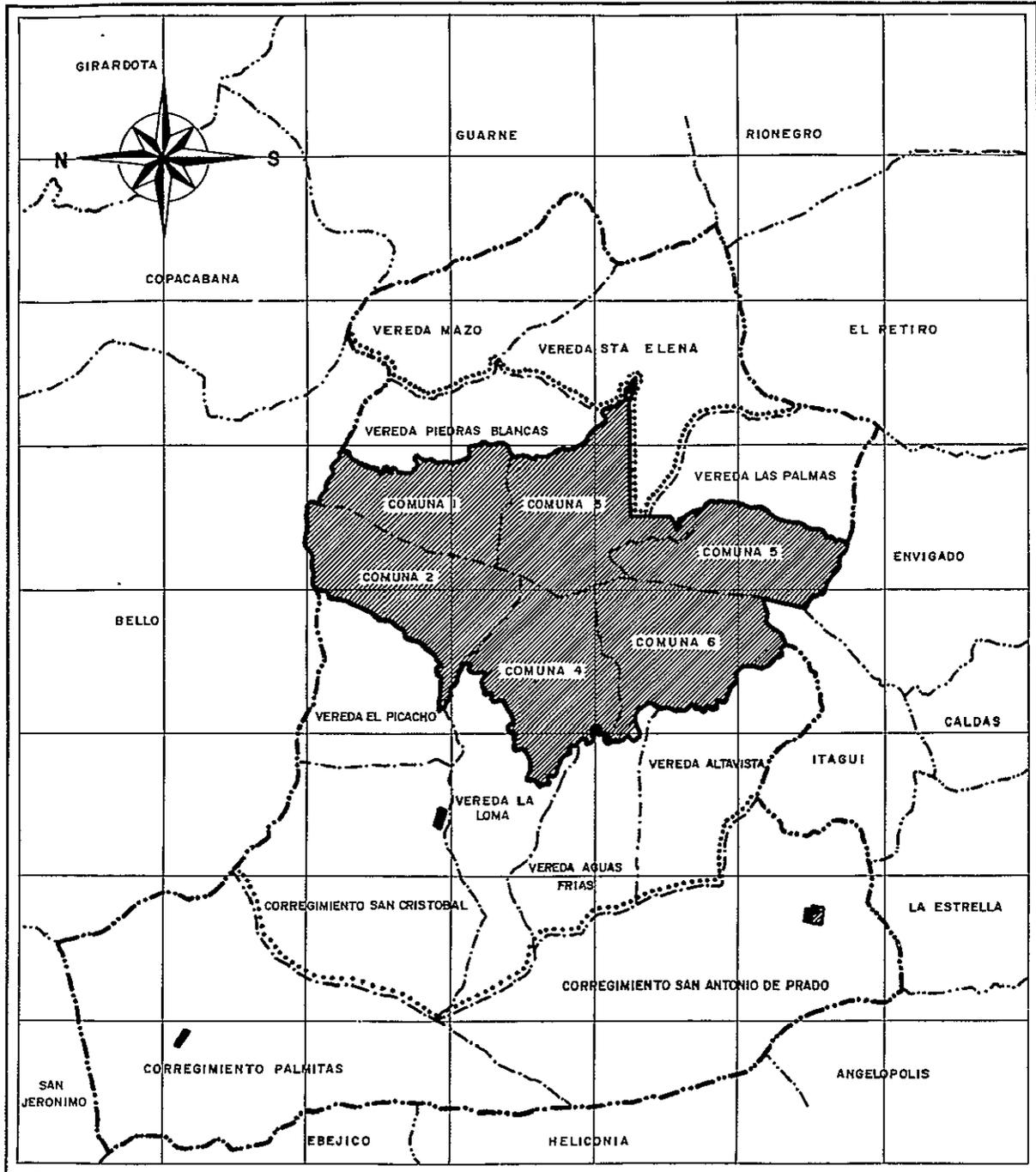
¹¹ Idem., Acuerdo No. 52 de 1963.

¹² By virtue of Presidential Decree No. 1,816 of July 1, 1955 and Acuerdo (Ordinance) No. 58 of the Administrative Council of Medellin the same year, Empresas Publicas was given an "autonomous" status as a corporation within the municipality.

¹³ Patricia Velez Mejia, "Flujos Migratorios a las Areas de Tugurios y Factores Fisicas y Socio-economicas que Inciden en la Formacion y Persistencia de este Tipo de Habitat." (Tesis de Grado, Universidad Pontificia Bolivariana, Facultad de Sociologia, 1974), p. 26.

SECTORIZACION DEL MUNICIPIO DE MEDELLIN
SEGUN ZONA URBANA Y RURAL

FIG.1 SECTORIZATION OF MEDELLIN: URBAN AND RURAL ZONES



ESCALA 1:150 000- CARTOGRAFIA DIB. LEUR

CONVENCIONES.

- · · · — LIMITE MUNICIPAL MUNICIPAL BOUNDARIES
- — — — LIMITE SECTOR URBANO URBAN SECTOR
- · · · · · LIMITE SECTOR RURAL Y SEMI-RURAL RURAL + SEMI-RURAL AREAS
- · · · — LIMITE VEREDAS Y COMUNAS VEREDA AND COMUNA BOUNDARIES

Source:
ANUARIO ESTADISTICO
DE MEDELLIN 1976-77

Figure 1. Sectorization of Medellín: Urban and Rural Zones

that the Medellin River and its tributaries were seriously polluted as a result of the practice of constructing single collector systems in which rainwater and sewage fluids were combined and eventually emptied into nearby streams. ¹⁴ The study concluded that all future sewer construction should use a separated collector system for the recovery of sewage and rainwater. ¹⁵

It was upon this premise that the first stage of the Sewer Pilot Plan (Plan Piloto de Alcantarillado Sanitario) was designed. Actual construction of the first stage did not begin until 1968 and was completed in 1972. A second stage, designed by the Colombian firm, Asesorias E Interventorias Ltda., was slated for completion in 1977. (See Figure 2). As will be discussed below, in retrospect, the decision to install a separated collector system may have been unnecessary in terms of the cost limitations and design needs of lower income housing developments; it may have been a factor which discouraged pirate developers from providing such infrastructure in their subdivisions.

The Historical Development of Pirate Subdivisions

The first pirate subdivision is reported to have existed in Medellin as early as 1885 in Comuna No. 1. ¹⁶ Studies and statistics produced by the Municipal Planning Office of Medellin generally have not distinguished between "clandestine" settlements established by means of land invasion and those established by means of a purchase and sale transaction between a buyer and a pirate subdivider. Nevertheless, because the greatest amount of land invasion in Medellin is generally agreed to have occurred in the mid 1960's and early 1970's, ¹⁷ it is reasonable to view the following

¹⁴ Asesorias E Interventorias Ltda., Plan Piloto de Alcantarillado Sanitario de Medellin, Segunda Etapa: Estudio de Factibilidad (Medellin: Julio 27 de 1972), pp. 5, 8-9.

¹⁵ Ibid., p. 9.

¹⁶ San Pablo. Developer: Honorio Velasquez. See Maria Carvajal Suarez, Estudio sobre Nucleos Piratas, de Invasion y Tugurios de la Comuna No. 1, Municipio de Medellin (Medellin: Departamento Administrativo de Planeacion y S.T., 1975), p. 7. Another illegal subdivision known as Loma de Los Gonzalez is reported to have originated in 1850 in Comuna No. 2. However, it did not involve an actual purchase and sale transaction, but rather a subdivision by legal heirs to the property. See Gilma Mosquera and William Hinestrosa, Diagnostico General sobre el Problema de la Vivienda en Medellin (Medellin: Departamento Administrativo de Planeacion y S.T., 1976), p. 76.

figures as constituting primarily pirate settlements. The figures establish that by 1910 a total of 8 pirate settlements had appeared. Between that year and 1940 another 19 settlements occurred.¹⁸ During the 1940's, when the population of Medellin increased dramatically, 16 more pirate settlements were established.¹⁹

A 1958 advisory commission report to the Mayor of Medellin calculated that the number of pirate settlements had reached a total of 54, constituting 5.67% of the net area of the city and 10% of the population.²⁰ It is interesting to note that the report classified the pirate settlements into three categories according to the perceived motives of the subdividers, and the extent to which their settlements conformed to urbanistic norms: (1) unapproved settlements completely lacking any urbanistic design or subdivision plan (haphazard lot layout); (2) Unapproved settlements established in accordance with a simple lot and street plan sketched by the subdivider, but without plans for basic services; (3) settlements whose officially approved subdivision plan and plans for the installation of services were never or were only partially completed. As regards this latter category, the report stated:

To this classification belong those subdivisions whose owners may well have had an honest understanding of their duties and obligations as developers, and later, for personal or general economic reasons, did not comply with their obligation.

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The report and subsequent interviews by the author with city officials suggest that at least during this earlier period of the growth of pirate settlements, landowners' "pirate" behavior may be explained as much by their ignorance and economic hardship as by a calculated desire to circumvent municipal planning authorities. Many owner-developers were simply ignorant of what to do with their land in the face of the increasing demand for housing lots. They lacked a "technical point of view" and found it easier merely to make a

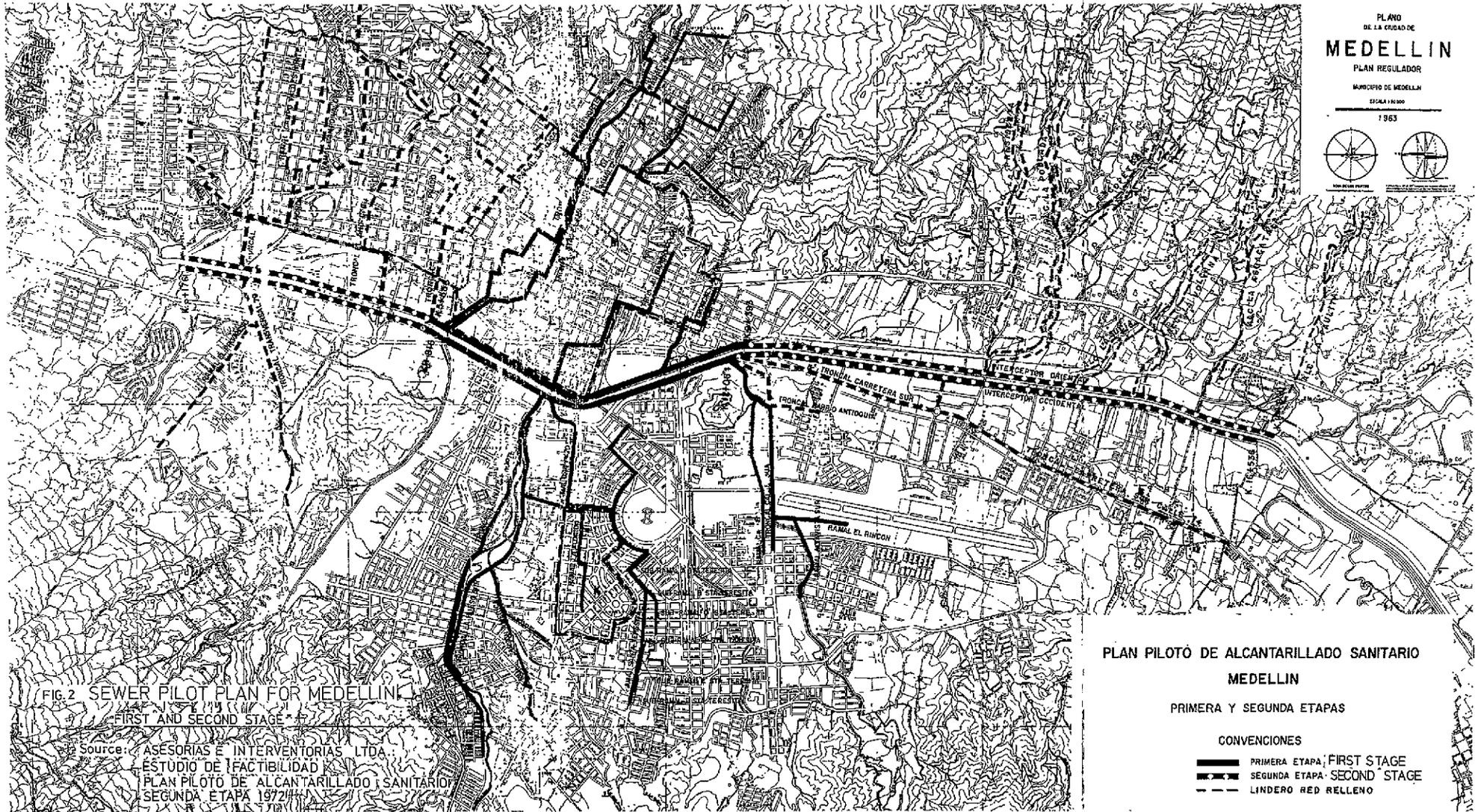
¹⁷ Gilma Mosquera and William Hinestrosa, Diagnostico General sobre el Problema de la Vivienda en Medellin (Medellin: Departamento Administrativo de Planeacion y S.T., 1976), pp. 79-80.

¹⁸ Mosquera and Hinestrosa, op. cit., pp. 77-78. In 1920, one pirate subdivider in the sector Campo Valdes is reported to have exchanged lots for work by the buyers. Ibid., p. 77.

¹⁹ Ibid., p. 78.

²⁰ Comision Consultiva sobre Barrios Piratas, Informe de la Comision, Informe sobre Barrios Piratas (Medellin: Agosto 22 de 1958), pp. 3, 6.

²¹ Ibid., p. 5.



PLANO
DE LA CIUDAD DE
MEDELLIN
PLAN REGULADOR
MUNICIPIO DE MEDELLIN
ESCALA 1:5000
1963



FIG. 2 SEWER PILOT PLAN FOR MEDELLIN
FIRST AND SECOND STAGE

PLAN PILOTO DE ALCANTARILLADO SANITARIO
MEDELLIN

PRIMERA Y SEGUNDA ETAPAS

CONVENCIONES

- PRIMERA ETAPA - FIRST STAGE
- SEGUNDA ETAPA - SECOND STAGE
- LINDERO RED RELLENO

Source: ASESORIAS E INTERVENTORIAS LTDA.
ESTUDIO DE FACTIBILIDAD
PLAN PILOTO DE ALCANTARILLADO SANITARIO
SEGUNDA ETAPA 1972

rough lot plan and to sell lots one by one with the use of a poliza (receipt) for simple bookkeeping. ²²

Table 1 summarizes the growth pattern of pirate subdivisions from 1958 through 1970. Keeping in mind the qualification made previously concerning the inclusion of invasion settlements within the meaning of "pirate" settlements, the data suggest that the growth of pirate settlements in Medellin peaked in the late 1960's. In 1966, 23% of the population of Medellin lived in pirate settlements. By 1970, however, there had been a dramatic dropoff in the number of pirate settlements. In one respect, this result is not surprising. In 1968 the Colombian government had passed a national law which provided criminal sanctions against subdividers who developed land outside municipal controls. ²³ The law was administered by the housing division of the Superintendancy of Banks and, at least as enforced in Medellin, was relatively effective in reducing the rate of new pirate subdivisions. ²⁴

TABLE 1

GROWTH OF PIRATE SETTLEMENTS IN MEDELLIN 1958-1970				
Year	No. of Settlements	Population	No. of Households	Percentage of Population of Medellin (%)
1958	54	55,100	8,620	10.0
1963	64	118,826	15,279	15.0
1966	76	185,110	25,736	23.3
1970	42	91,329	9,849	8.1

Source: Gilma Mosquera and William Hinestrosa, diagnostico General sobre El Problema de La Vivienda en Medellin (Medellin: Departamento Administrativo de Planeacion y S.T., 1976), p. 82.

²² Interview with Dr. Francisco Leon Guerrero Castrillon, former Chief of the Division of Technical Planning, Department of Municipal Planning (Medellin: May 16, 1975).

²³ Congreso Nacional, Ley 66 de 1968. Regulations for the law were promulgated in 1969 by means of Decreto 219. See also Decretos 1380 and 2244 of 1972.

²⁴ Mosquera and Hinestrosa op. cit.; p. 81.

The sharp decrease from 76 subdivisions to 42 subdivisions within four years, however, is somewhat misleading. It is primarily the result of the classification system used at the time by the Municipal Planning Department. Under the department's classification system, pirate settlements considered to be in the process of rehabilitation by virtue of their having one or more basic services, were excluded from the 1970 figure. The most recent housing study by the Municipal Planning Department recognized this discrepancy and set forth an updated estimate of those pirate settlements (defined narrowly to exclude invasions) which could be categorized as still in the process of development and those which could be considered normalized and integrated into the urban system of Medellin.²⁵ On the basis of the pirate settlements identified within each category by the Planning Department, this author made the calculations set forth in Table 2 (See Appendix A for listing). It should be noted that the calculations for those pirate settlements considered still in the process of development are based upon only 40 of the total of 76 identified by the Department of Planning. Many of the pirate settlements identified are part of larger barrios. Because population and area data did not exist for these pirate "sub-areas" of the larger barrios, the author decided to present a conservative estimate based upon only those pirate settlement areas listed officially by name in the statistical bulletins for Medellin. (See Appendix A for full listing of settlements included and omitted in the calculation.)

The conservative estimates presented in Table 2 suggest that from the viewpoint of pirate settlements in the process of normalization, the pirate housing submarket has been and continues to be a significant source of land and housing for lower income families. At least 14% of the population of Medellin in 1975 was housed in pirate settlements which had still not been fully normalized and integrated within the city. These settlements constituted 19% of the total urban area (comunas 1-7, including peripheral barrios). Because of the different scope of the definition of pirate settlements used in the 1958-1970 Planning Department figures (Table 1); it is difficult to construct rates of pirate urbanizing by time periods for the years 1958-1976. However, on the basis of the 1976 data it does seem reasonable to assert the following proposition. While the rate of pirate urbanizing has decreased significantly since 1968 because of legal constraints and the scarcity of available land within the metropolitan area,²⁶ pirate subdivisions

²⁵ Ibid., pp. 170-180.

²⁶ The Municipal Planning Department's most recent rough estimate of land remaining within the urban perimeter (Comunas 1-6) considered suitable for residential development is 1,597 hectares. This represents approximately 19.5% of the total area of Comunas 1-6 (8,171 hectares). The Planning Department further reduced this estimate to 1,200 hectares after applying a density criterion of 200 persons per hectare. Ibid., pp. 58

TABLE 2

EXTENT OF PIRATE SETTLEMENTS IN MEDELLIN 1975*					
Category	No. of Settlements a	Global Area (Hectares)	% Total Area	Population (1975)(a)	% of Total Population (1975)
<u>Still in Stages of Dev.(1)</u>					
a. Within Urban Perimeter	46 (23)	(941.6)	10.4	(125,570)	10.4
b. Outside Urban Perimeter	30 (17)	(761.1)	8.4	(46,951)	4.0
SUBTOTAL:	76 (40)	(1,702.7)	18.8	(172,521)	14.4
<u>Normalized + Integrated Within Urban Systems (2)</u>					
	16	563.0	6.2	193,003	16.0
TOTAL:	92	2,265.7	25.0	365,524	30.4

Notes

(1) Defined by the Department of Municipal Planning as subdivisions of high density, uncompleted single family houses initiated originally without building permits on unserviced lots but which are now in the process of obtaining streets and basic services.

(2) Defined by the Department of Municipal Planning as subdivisions or settlements of pirate origin which by means of various rehabilitation programs and self-help have finally become integrated within the urban system and receive all basic services including water, sewer and electricity, garbage collection and bus transportation.

(a) Figures in parentheses represent pirate settlements for which area and population data were available in the statistical bulletins of Medellín. Data for the additional pirate settlements identified by the Department of Municipal Planning were not available or were incomplete. All percentages and totals are calculated in relation to municipal area and population which includes so-called "peripheral" barrios officially designated as Comuna No. 7.

Sources: Mosquera and Hinestrosa, op. cit. Anuario Estadístico de Medellín 1975; Anuario Estadístico de Medellín 1976-1977.

nevertheless continue to occur at a yet-to-be-calculated rate in the

increasingly extended peripheral areas of the city (Comuna 7 and beyond).²⁷ On the basis of the data available it can be estimated that at a minimum, 761 hectares, or 45% of the land constituting pirate settlements within the urban area of the city (1702.7 hectares) are located in the "peripheral" areas (Comuna 7) surrounding the city.

Although the city administration, through the Municipal Planning Department and Empresas Publicas has sought to limit the continued expansion of residential settlements in the peripheral areas, it has been unsuccessful to date. It seems reasonable to conclude that despite policy decisions to limit the availability of services to a certain perimeter, etc., pirate urbanizing will continue into the semi-rural areas surrounding the city so long as there is access to water in nearby streams and available bus transportation. This conclusion is supported by data from one of the case studies presented in Chapter III.²⁸ Before examining such data, however, it is important to set forth the various factors which appear to explain the growth of pirate settlements in Medellin.

FACTORS UNDERLYING THE GROWTH OF PIRATE SUBDIVISIONS

It is difficult if not impossible to demonstrate a neat, symmetrical cause and effect relationship between an array of factors and the growth of a complex market phenomenon such as the pirate housing submarket. At present, the best that planners and policy makers are able to do is to identify and interrelate those structural factors which appear to define the context within which the phenomenon occurs and then to devise policies which they hope will enhance or diminish the believed impact of those factors upon the outcomes of the market system. The following factors appear to define the context within which the pirate housing submarket of Medellin has developed.

60-63.

²⁷ Census data estimates made by the Department of Municipal Planning for 1976 indicate that between 1964 and 1976 the population of the peripheral areas (Comuna 7) increased 185%. *Ibid.*, pp. 49-51. What proportion of the population increase is represented by pirate settlements is unknown. See Figure 6, for map indicating "peripheral areas" designated as Comuna 7.

²⁸ The Department of Municipal Planning also lends support to this conclusion in its most recent study on housing, in which it observes that pirate "nucleuses" continue, though on a lesser scale, in such areas as Guadarrama (Eduardo Santos), Manuel Morales, El Picachito, El Pinar and others. *Ibid.*, p. 170.

First, the city's rapid rate of growth is perhaps the most important factor which explains the sheer quantity of demand for housing in Medellín. In order to understand the development of a particular housing submarket such as the pirate submarket in response to such demand, however, it is necessary to view the city's urban growth rate in relation to two other important factors: income and municipal policies and standards governing urban growth and development. Of these two factors, income is the most critical. The reason is that the distribution of income among households determines the extent to which municipal (and national) housing standards can be sustained in the face of rapid urban growth. Government imposed housing standards increase the cost of housing; it is the relationship between the income distribution among households and the price of housing that establishes the quantity of housing which a household can afford.²⁹ To the extent that there is a negative mismatch between household incomes and housing prices, families must either severely limit the amount of housing they consume within the officially sanctioned housing market, or seek alternatives outside that market. In Medellín, the pirate housing submarket appears to have provided an alternative for lower-income families whose financial capacity to purchase housing within the market governed by municipal housing standards has been virtually nil.

The third factor, municipal policies and standards for urban growth and development, is perhaps the most difficult to describe in cause and effect terms. As already noted, the effect of such policies and standards is reflected in the overall price of housing. However, the specific impacts of various policies and standards over time upon the housing market and the growth of the pirate submarket in particular, are difficult to trace. Nevertheless, it is important to highlight the important elements of municipal policies and standards which may reasonably be said to have generally increased the cost of housing and reduced the supply available to lower income families.

A fourth factor explaining the growth of the pirate submarket is the relatively high rate of return that can be realized by pirate owner-sub-dividers who undertake only minimal land preparation and rarely provide infrastructure for urban services. This factor will be treated in more detail within the context of the case studies and the chapter on the program of minimum subdivision standards (normas minimas).

Rural to City Migration

²⁹ Orville F. Grimes, Jr., Housing for Low-Income Urban Families (IBRD Research Publication, Johns Hopkins Press: 1976), p. 10.

Massive rural to city migration in Colombia began in the late 1930's and early 1940's. Within the Department of Antioquia, the Valley of Aburra, which encompasses Medellin and nine other municipalities,³⁰ became the principal focal point for this migration. Between 1938 and 1973, the urban population of Antioquia grew from 329,702 to 1,916,753 persons, of whom 1,433,591 or 74.8% were located within the Valley of Aburra. During the intercensus periods 1938-1951, 1951-1964 and 1964-1973 the annual urban growth rates for the valley were respectively 7.14%, 7.03% and 4.19%. During the same intercensus periods the annual rural growth rates for the entire Department of Antioquia were respectively 0.65%, 1.30%, and -.43%.³¹ Within the Valley of Aburra itself, the following table summarizes the dramatic shift in the locus of the population:

TABLE 3

RURAL-URBAN POPULATION SHIFT WITHIN THE VALLEY OF ABURRA 1938-1973				
Population	1938	1951	1964	1973
Urban	67.0%	80%	90.3%	93.9%
Rural	33.0%	20%	9.7%	6.1%

Source: Plan Metropolitano: "Inventario Demografico" (Diciembre, 1975), cited in Gilma Mosquera and Williwmm Hinestrosa, Diagnostico General Sobre El Problema de La Vivienda en Medellin (Medellin: Departamento Administrativo de Planeacion y S.T., 1976), p.26.

Of the municipalities within the valley, Medellin attracted the greatest percentage of the urban-bound migration. By 1964, the population of Medellin constituted 71% of the total population of the valley. Ten years later Medellin contained 73% of the valley's population.³² As a consequence of the attraction which Medellin held for the migrating population, the city's overall annual growth rate maintained a level of 6% during the period 1938-1964. Only during the last intercensus period 1964-1973 did that rate decrease

³⁰ The other municipalities within the Valley of Aburra are: Bello, Copocabana, Girardota, Barbosa, Itaquei, Envigado, Sabaneta, La Estrella and Caldas.

³¹ Mosquera and Hinestrosa op. cit. pp. 24-25.

³² Ibid., p. 33.

to 4.39%. In order to understand the extent of immigration pressure upon Medellin, however, it is necessary to distinguish between the urban area of the city and the remainder of the city or municipality. During the 35 years between 1938 and 1973, the city's overall population grew to 1,151,761 persons of whom 1,109,748 or 96.4% were located within the urban area (Comunas 1-7) of the city. As Table 4 below indicates, calculations based upon this geographical dichotomy reveal even higher growth rates for the urban area of the city and suggest indirectly the intense demand for housing and other services which could reasonably be expected to have flowed from such concentrated in-migration.

TABLE 4

POPULATION GROWTH RATES FOR MEDELLIN DURING THE PERIOD 1938-1973			
Intercensus Period	Total % Per Year	Urban Area	Remainder of Municipality
1938-1951	6.05	6.62	1.62
1951-1964	6.00	6.30	1.72
1964-1973	4.39	4.54	1.25

Source: DANE. Population Censuses 1938-1951-1964-1973.

In order to describe the nature of the housing demand that would be expected to flow from such an influx of population, it is necessary to examine levels of income and unemployment relative to the availability of housing for that population.

Income Levels and Housing Deficits

According to statistics published by the National Department of Planning in 1975, the incomes of 59% of the families located within Medellin's urban core (Comunas 1-7) fell within the low-income category (monthly income of \$4,000 pesos or less). Thirty-five percent (35%) had incomes within the middle-income range of \$5,001-16,000 pesos; six percent (6%) had monthly incomes of \$16,001 or more (see Table 5).

Calculations made by Medellin's Department of Planning on the basis of the 1973 census indicated that 58% of the households within the seven municipal districts had monthly incomes of \$3,000 pesos or

less, while 45% had monthly earnings of \$2,000 pesos or less. Approximately 23% of the urban households had monthly incomes of \$1,000 or less. ³³

The preceding income figures provide a framework within which to assess the financial capacity of families to satisfy their housing needs from among the various solutions, private and public, provided in Medellin. It is important to note, however, that especially for lower income families in Colombia, the reported incomes do not necessarily reflect participation in the formal economy. The rapid flow of unskilled rural migrants into Colombia's urban areas and the incapacity of industry to absorb the influx of labor, has resulted in various forms of subemployment such as self-employed street vendors and odd-job laborers. The significance of this employment reality underlying the income figures cited is that the income earned by many of the lower income families is not necessarily stable or dependable. As a consequence, their financial capacity to allocate consistently a fixed portion of their income over time to meet conventional housing finance schemes is severely limited. This point will be discussed in more detail in relation to the case studies presented in Chapter III and in the later evaluation of the pirate housing submarket.

In addition to the observed financial limitations upon the capacity of many families to successfully demand housing in the market place, there are also limitations of supply. In 1976, on the basis of the 1973 census figures and a limited survey, the Department of Municipal Planning estimated Medellin's housing deficit at 26,050 units. The distribution of this deficit by income groups is shown in Table 6.

The income, employment, and housing deficit data described above have provoked both the municipal and national governments to intervene in the housing market by means of various housing programs. Such programs constitute an additional structural factor which must be considered in evaluating the importance of the pirate housing submarket. This factor will be considered in Chapter III in the form of a comparative analysis of essential characteristics of certain government housing programs with those characteristics identified in the pirate housing market.

³³ The income figure of 2,000 pesos per month was considered by the Department of Municipal Planning to be the average monthly income of a working class household. See, Departamento Administrativo de Planeacion y S.T., Estudio para la localizacion de los Centros de Atencion Integral al Preescolar en Medellin (Medellin: 1975), cited in Mosquera and Hinestrosa, op. cit., p. 102.

TABLE 5

INCOME DISTRIBUTION OF FAMILIES LIVING WITHIN THE URBAN AREA OF MEDELLIN AS OF JUNE 1975			
Monthly Income Ranges By Income Level (\$)*	Median Monthly Income (\$)*	Percentage of Families (%)	Total Percentage (%)
<u>Low Income</u>			
0 - 1,500	750	7.24	
1,501 - 3,000	2,250	21.78	59
3,001 - 5,000	4,000	30.33	
<u>Middle Income</u>			
5,001 - 7,000	6,000	14.94	
7,001 - 9,000	8,000	9.63	35
9,001 - 12,000	10,500	6.03	
12,001 - 16,000	14,000	4.38	
<u>High Income</u>			
16,001 - 20,000	18,000	2.70	
20,001 - 29,000	24,500	1.47	6
more than 29,000	N.A.	1.50	

Source: Departamento Nacional de Planeacion. Table adopted from presentation in Gilma Mosquera and William Hinestrosa, Diagnostico General sobre el Problema de La Vivienda en Medellin (Medellin: Departamento Administrativo de Planeacion y S.T., 1976), p.101.

*Note: As used here and throughout this study the dollar sign (\$) refers to Colombian pesos.

Municipal Policies and Standards Governing Urban Growth and Development

The relationship of income to prices in the urban property market and the resulting capacity of families to purchase housing is greatly influenced by related municipal policies and standards. In a relatively free property market, the price of land consists of four principal components: (1) the value of land in agricultural condition; (2) the cost of developing and servicing land for urban uses (roads, water, sewers, etc.); (3) the increment over

TABLE 6

HOUSING DEFICIT BY INCOME LEVELS IN MEDELLIN 1976		
Monthly Income Level (\$)	Deficit	Percentage (%)
\$4,000 or less	21,621	83
\$4,001-\$10,000	3,387	13
\$10,000 or more	1,042	04

Source: Departamento Administrativo de Planeacion y S.T. (Medellin, 1976).

agricultural value paid to obtain the land for urban use; (4) the premium paid for land whose location in contrast to peripheral areas provides greater accessibility to the city.³⁴

Municipal policies and standards established to govern the urbanization process influence all four price components. The most direct influence may be observed upon the second price component, namely, costs incurred to develop and service land for urban use. Planning, subdivision and building regulations as well as policies and standards which govern the provision of municipal service lines determine the amount of increased costs which are added to the agricultural land value. The degree of increased costs depends not only upon the absolute level of standards imposed but also upon the strictness with which they are applied. The third price component, the increment over agricultural value paid to obtain land for urban use, is a speculative value. Normally, land speculators can realize a speculative margin by holding land vacant which is intended for eventual development under a general land use plan, until its urban value is very high. It is the planning regulations that govern their land which insure that their land appreciates rapidly. Pirate subdivisions, however, often occur on land which is not intended for urban development under the general land use plan. Indeed, it is the peripheral location of the land and its poor prospects for services that lower the cost for prospective low-income purchasers. Nevertheless, the pirate owner-subdivider may still realize a speculative margin above the agricultural value by demanding a price premised upon his own promises to provide services, or, upon his ability to point to a municipal policy that practically insures that services eventually will be provided. This margin may be widened to the extent that the pirate developer can charge a premium for the risk he takes in subdividing in violation of municipal and national laws.³⁵

³⁴ G. Max Neutze, The Price of Land and Land Use Planning: Policy Instruments in the Urban Land Market (Organisation for Economic Co-operation and Development, Paris: 1973), pp. 1-2.

Finally, as regards the first and fourth price components, perhaps the most important municipal policy is the definition and administrative enforcement of the municipality's urban perimeter. It is the initial demarcation of the urban perimeter that determines exactly what land is intended to be preserved as agricultural land or natural areas and what land is intended to be developed and serviced for urban uses. The extent to which the urban perimeter is enforced by means of restrictive transportation and services policies, however, affects the price differential between peripheral areas and those areas with greater accessibility to the urban center. ³⁵

The following discussion of Medellin's municipal policies and standards will treat "growth policies" apart from "development standards." The distinction is somewhat artificial since both dimensions of the urbanization process are intimately related. However, for purposes of analysis it is useful to make the distinction in order to highlight the municipal administration's efforts to halt the rapid urban growth on the periphery as well as to insure certain standards for residential developments.

Growth Policies

In response to the influx of population from the Department of Antioquia, Medellin sought to enforce an urban perimeter through a number of policies. As early as 1946 proposals existed for the establishment of a green belt (cordon verde) around the city to

³⁵ Under the national law, Law 66 of 1968, a developer who subdivides without registering with the Superintendency of Banks may be imprisoned for 2-6 years. The Superintendency may also seize the pirate developer's property and transfer the administration of it to the national housing agency El Instituto de Credito Territorial. See, Ley 66 de 1968, art. 5, ord. 5; art. 11; art. 12.

³⁶ As used here and throughout this study, the term "peripheral" is defined to mean not only those areas located beyond the formal "urban perimeter" established by municipal authorities, but also those areas which while technically within the urban perimeter, are located beyond the service network as it exists at that point in time. For example, land owned by a potential pirate developer may be located outside a "sewerage zone" and may require the building of a major interceptor line before the area can be serviced. Under municipal regulations, therefore, the land cannot legally be subdivided. Because the property's location is "peripheral" to the service network which exists and is unlikely to be extended for a number of years, the property's value reflects a price differential similar to that observed between land outside the urban perimeter (prohibited services) and land inside the urban perimeter.

prevent further expansion and to limit density around the defined perimeter.³⁷ There is no evidence that the policy was ever seriously implemented. More recently, however, the policy has been revived and given legislative backing.³⁸

The establishment of six formal sectors or comunas by the city administration in 1963 may be viewed as an action which helped to rigidify the demarcation line between urban and non-urban or peripheral areas within the municipality. Comunas 1-6 were defined in accordance with water provision feasibility estimates as the urban area and all land outside those sectors was designated semi-rural or rural. As a result of the conscious effort to delimit the "urban" area, the immediately peripheral areas which ringed Comunas 1-6 were consistently designated rural or semi-rural despite the growth of numerous pirate barrios in those areas and a corresponding population growth of 176% between 1964 and 1973.³⁹ This peripheral population which officially was constituted as Comuna 7 was not even included in Medellin's "urban" census until 1973.⁴⁰ In an effort to halt growth beyond the defined perimeter, the Municipal Planning Department and Empresas Publicas entered into an informal agreement under which Empresas Publicas agreed not to extend water, sewer, electrical or telephone services to any development which had not been licensed and approved by the Planning Department.⁴¹

³⁷ Juan Carlos Duque, Fabio Botero, Gilberto Arango, Inventario y Analisis de las Areas de Posible Uso Residencial a Nivel Urbano y Suburbano en el Area Metropolitana de Medellin (Medellin: Departamento Administrativo de Planeacion y S.T., 1972), p. 22.

³⁸ El Alcalde de Medellin, Decreto No. 283 de 1977. The Decreto adopted the Planning Department's Resolution of April 14, 1977. The Resolution modified the existing zoning classification for the rural sector (R-S) (minimum area: 4,000M²) in order to permit the development of "small suburban farms" (pequeñas granjas suburbanas) at the fringe of the urban perimeter. The lot sizes within this proposed green belt may range from 1,000-1,500M² and 1,500-2,000M². It is hoped that the "micro-farms" permitted on these reduced lot sizes will provide a rural-urban transition line for the city.

³⁹ Mosquera and Hineirosa, op. cit., p. 92. Population growth estimates for the period 1938-1964 for the peripheral areas is not reliable because no distinction was made in the censuses of that period between the urban area and populated areas. Ibid., p. 37.

⁴⁰ Ibid., p. 51.

⁴¹ Instituto de Credito Territorial, Seccional de Medellin, Tugurios: La Competencia Municipal en el Asentamiento Habitacional

The effect of the municipal administration's urban perimeter policies on the one hand, was to restrict the supply of urban land and thus insure that its value would rise rapidly. Adding to this rising cost of urban land, of course, was the effect of the city's land development and services standards which will be discussed below. On the other hand, the urban perimeter policies locked the peripheral land into a rural-unserviceable status, that along with other factors such as poor topographical condition, helped to depress its price in the land market. Because of the rapid growth of the urban population, however, demand for this cheaper, unserved land nevertheless existed among lower income families who could not afford the higher priced land and housing within the perimeter. Owners of land in the peripheral areas responded to this demand. They perceived correctly that by subdividing their land on a large scale and selling lots with or without the promise of services, they could sell their land at a value which far exceeded the value of rural land located above the established water service line. ⁴²

In view of the dramatic urban population growth which Medellin experienced, it is unlikely that as a market phenomenon the actual sale of land on the periphery could have been prevented. However, with the benefit of hindsight, it is suggested that had the city administration's urban perimeter policies as well as its development and service provision standards been more flexible, owners of peripheral land might have been persuaded to subdivide in accordance with municipal planning regulations. The reasoning in support of this view is the following. Given the understanding that development and the provision of services were possible on the periphery at realistically adjusted standards, many potential pirate subdividers might have chosen to delay development in the hope that their properties would appreciate in value. As regards those owners who chose not to forego development, the city might reasonably have persuaded them that they could offer serviced lots at prices lower income families could afford and still realize profits comparable to those under a pirate system of unserved lots. Recent data on subdivisions developed under the minimal standards program (normas minimas) in Medellin, and in Bogota particularly, suggest that subdividers under the program may be able to make a greater profit than pirate subdividers. This data is discussed in Chapter V.

The conclusion stated above rests upon two assumptions. First, it is assumed that fear of land invasion was not a significant motivation behind owners' decisions to subdivide their land quickly in pirate fashion. Studies by Medellin's Municipal Planning Department suggest that the majority of invasions that occurred during the growth period of pirate settlements occurred in more

No Controlado (Presentado al XIII Congreso de la Organizaciin Interamericana de Cooperacion Intermunicipal Julio 4-8 de 1970) p. 9.

⁴² See footnote 36, supra.

centrally located areas or often on publicly owned land.⁴³ A dramatic increase of land invasions, including invasions of pirate developer land, did not occur in Medellin until approximately 1970, following the national prohibition against uncontrolled subdivisions.⁴⁴ Thus there was no motivation to develop land prematurely through pirate subdivision sales in order to avoid the possibility of invasion.

The second assumption is that pirate subdividers had sufficient capital resources to provide the service infrastructure. Interviews with local planning officials and case studies suggest that this assumption may be correct in many instances.⁴⁵ The incorrectness of this assumption, however does not invalidate the overall conclusion. Rather, it indicates that the provision of services may have been a question of timing as well as of appropriate standards. A minimal standards program which permitted the developer either to finance the infrastructure in stages in accordance with receipts from lot sales or to repay the utilities company in the same manner for financing the entire outlay, arguably could have been successful.

Although the city did not change its definition of the urban perimeter, it eventually did modify its policies and standards for the development and servicing of land. In retrospect, as described below, it would appear that these modifications were only partially successful because of problems of timeliness, improper focus and insufficient coordination.

Development Standards

Empresas Publicas

Empresas Publicas fashioned its policies and standards for pirate subdivisions in terms of the family users of the services and the ability to pay, rather than the developer. This is understandable since it was the entity responsible for the planning and provision of services; it was the Municipal Planning Department's responsibility to insure that the developer's plans were properly approved and included the installation of the necessary

⁴³ See Mosquera and Hinestrosa, op. cit., pp. 78-86, Velez, op. cit., pp. 8-10, 18-19.

⁴⁴ Ley 66 de 1968 See, Mosquera and Hinestrosa op. cit. p. 79.

⁴⁵ Interview with Dr. Francisco Leon Guerrero Castrillon, former Chief of the Division of Technical Planning, Department of Municipal Planning (Medellin May 23, 1975). See also footnote 58 infra., and El Diamante case study presented in Chapter III.

infrastructure. In view of the difficulty of controlling the demand for plots of land, however, the "user" focus of Empresas Publicas' policies effectively reduced the pressure upon the pirate developer to provide services. This policy focus coupled with the insistence upon high technical standards gave the pirate developer little incentive to undertake the cost of providing necessary service infrastructure.

The development of these policies began in 1957 when the board of directors of Empresas Publicas decided to establish a Barrio Committee (Comite de Barrios) to respond to the political pressure from pirate settlements (particularly Brasilia) for services.⁴⁶ In accordance with terms of the "agreement" referred to earlier between Empresas Publicas and Municipal Planning, the committee authorized the provision of services to a limited number of pirate barrios. Empresas Publicas, however, charged the full price of service installation to the users and gave only short terms of payment.⁴⁷ It should be recalled that it was also during this period that the study of Medellin's sewer collection system by the North American company of Greeley and Hanson was completed.⁴⁸ Its recommendation that rainwater and waste fluids be handled by the more expensive separated collector system was incorporated into the design standards of Empresas Publicas in 1959.⁴⁹ As an autonomous entity⁵⁰ about to embark upon a major planning program, Empresas Publicas' principal concern was that proper design standards be applied and that it control the decision to provide services.⁵¹ As a result, Empresas Publicas adhered strongly to the position that subdivisions must comply with all legal and planning requirements before services would be extended.⁵²

⁴⁶ Interview with Dr. Leon Dario Uribe T., Chief of the Housing Habilitation Division, Empresas Publicas of Medellin (Medellin, May 19, 1975).

⁴⁷ Ibid.

⁴⁸ 1956-1967. See, Asesoria E. Interventorias Ltda., op. cit., pp. 8-9.

⁴⁹ Ibid.

⁵⁰ See footnote 12, supra.

⁵¹ For example, the Planning Office of the Plan Regulador had proposed that public water taps (pilas) be used in peripheral areas, but Empresas Publicas opposed the idea. Interview with Dr. Javier Agudelo Dominquez, former Chief of the Plan Regulador (Medellin: July 23, 1975).

⁵² Instituto de Credito Territorial, Seccional de Medellin, op. cit., p. 19.

By 1964, however, political pressure created by the growing demand for services from the pirate barrios ⁵³ forced the Medellin city council to act. It approved the establishment of a Rotating Fund for the Rehabilitation of Barrios (Fondo Rotatorio de Habilitacion de Barrios) to finance the provision of water, sewer and electrical services to pirate settlements. ⁵⁴ The fund included contributions from the municipal treasury as well as monies loaned at 9% interest for four year periods by Colombia's national housing agency (Instituto de Credito Territorial I.C.T.). ⁵⁵

Measured by the sheer quantity of services financed and installed in the pirate settlements since its inception, the Rotating Fund has been extremely successful. (See Figures 4 and 5.) However, the consensus of some planning officials in Medellin is that the fund indirectly served as a further stimulus for pirate development. ⁵⁶ This conclusion seems correct. In effect the Rotating Fund provided pirate subdividers with a financial mechanism through which to promote their developments. They could point to the Fund and give prospective purchasers reasonable assurance that services would eventually be provided.

The principal defect of the Rotating Fund appears to have been its focus upon service users rather than upon the developer. By restricting the use of Fund monies to the provision of user services after the creation of the problem (i.e., dwellings constructed on unserviced lots), the Rotating Fund effectively structured the pirate subdivider out of the development process. The objective should have been to draw the pirate developer into the process of infrastructure development before the creation of the problem. ⁵⁷

⁵³ The principal source of political pressure for services and the prime motivation for the action taken by the city administration in 1964 was the barrio "Castilla," one of the largest pirate subdivisions in Medellin. Although criticized along with other "pirate" barrios at the time, Castilla has since come to be viewed by some local planning officials as somewhat of a "model" to compare with government sponsored housing developments in the city. See Appendix D for brief summary of the barrio's development and characteristics.

⁵⁴ El Concejo Municipal de Medellin, Acuerdo No. 37 de 1964
Acuerdo No. 23 de 1966.

⁵⁵ Instituto de Credito Territorial, Seccional de Medellin, op. cit., p. 20.

⁵⁶ Interviews conducted with Dr. Leon Dario Uribe T., Chief of the Housing Habilitation Division, Empresas Publicas of Medellin (Medellin, May 19, 1975) and Dr. Francisco Leon Guerrero Castrillon, former Chief of the Division of Technical Planning, Department of Municipal Planning (Medellin, May 19, 1975).

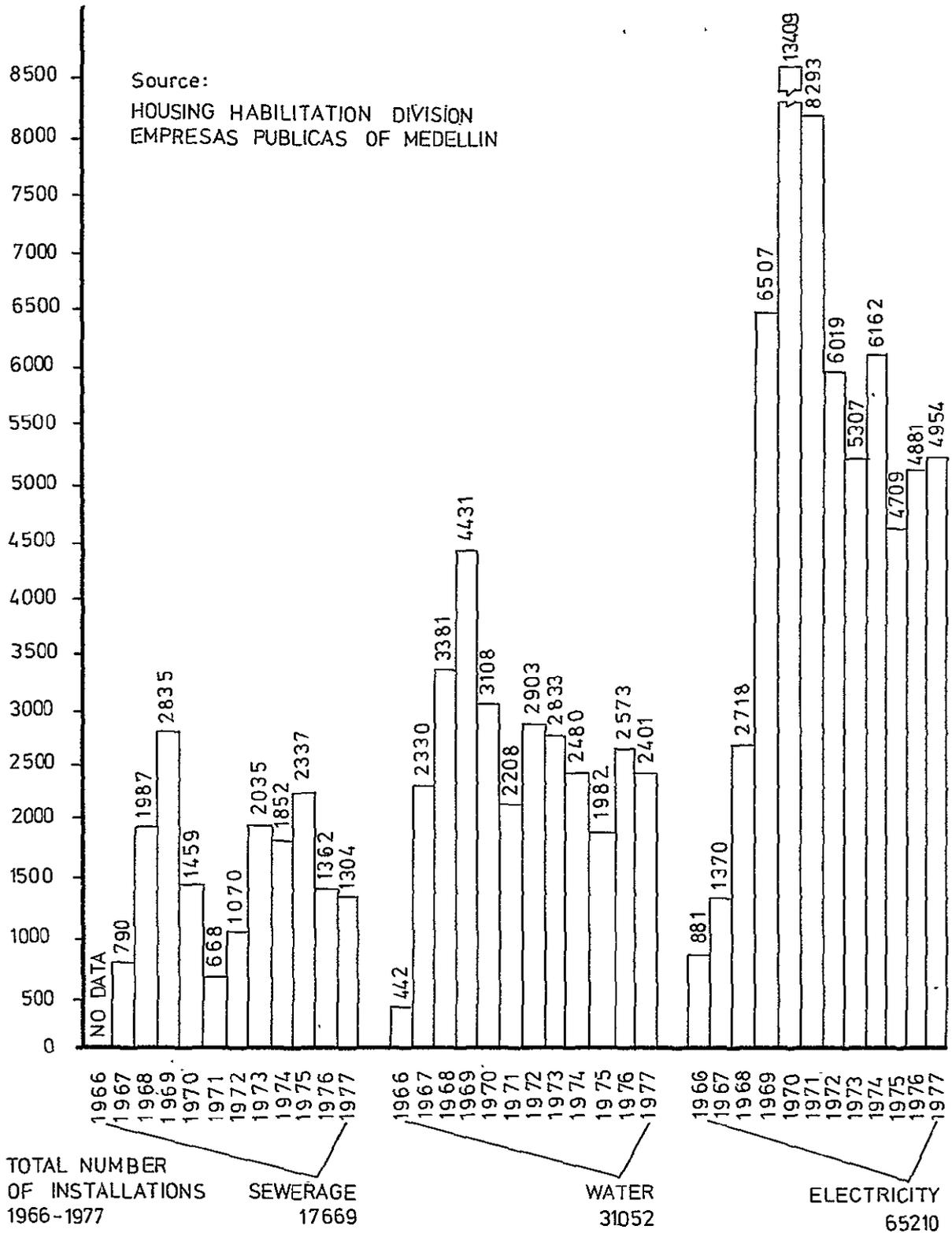


Figure 4. Number of Service Installations Made Through the Housing Habilitation Division of Empresas Publicas Between 1966 and 1977

This objective would have recognized the fact, apparent even before 1964, that many pirate developers did not have sufficient capital to finance the necessary infrastructure. Their principal assets were the land itself and the small installment accounts of buyers which, only over time, could amount to significant profits.⁵⁸ The Rotating Fund therefore might have served as the financial mechanism through which developers could have received funds to finance the installation of service infrastructure. Under such a program a developer's repayment schedule might have been adjusted to coincide with the stream of installment payments he received from his subdivision. If the availability of such a financial mechanism had proven to be an insufficient incentive for pirate developers to cooperate with the municipal administration, other political strategies might have been necessary to insure such cooperation.⁵⁹

The preceding discussion has suggested that from an institutional perspective it is important to recognize the restrictive influence of Empresas Publicas as an autonomous "technical" entity upon the degree of flexibility permitted within municipal development policies and standards. Whatever the overall technical wisdom of the Pilot Plan for Medellin, its employment of the separated collector system reflected an infrastructure model based upon the higher-income suburbs of North America rather than a model based upon the more limited financial resources of the subdivider and the lot purchaser in Medellin. The discrepancy between the model and financial realities was finally recognized by planning and utilities officials in the modifications made in 1975 to the minimum development standards, discussed in Chapter VI.⁶⁰

⁵⁷ The use of the fund in this manner apparently had been presented to Empresas Publicas, but the proposition was rejected on the ground that Empresas Publicas could only provide services after sufficient demand existed. Interview with Dr. Francisco Leon Guerrero C., former Chief of the Division of Technical Planning, Department of Municipal Planning (Medellin, May 23, 1975).

⁵⁸ This conclusion would appear to be supported indirectly by the fact that a proposal by the 1958 advisory commission on pirate barrios (Comision Consultiva, op. cit., p. 21) that the Department of Valorizacion impose the special assessments tax (valorizacion) upon pirate developers to finance the necessary subdivision costs, was never implemented. The reason, according to the then chief of the Plan Regulador, was that it was realized that in most cases the necessary assessment monies could not be obtained from the pirate developer, and even if obtainable, it would require a protracted legal effort. Interview with Dr. Javier Agudelo Dominguez, former Chief of the Plan Regulador (Medellin, July 23, 1975).

⁵⁹ For example, known pirate developers might have been informed that the city would no longer provide their lands police protection.

⁶⁰ El Alcalde de Medellin, Decreto No. 334 de 1975. The Decreto

MILLIONS OF PESOS

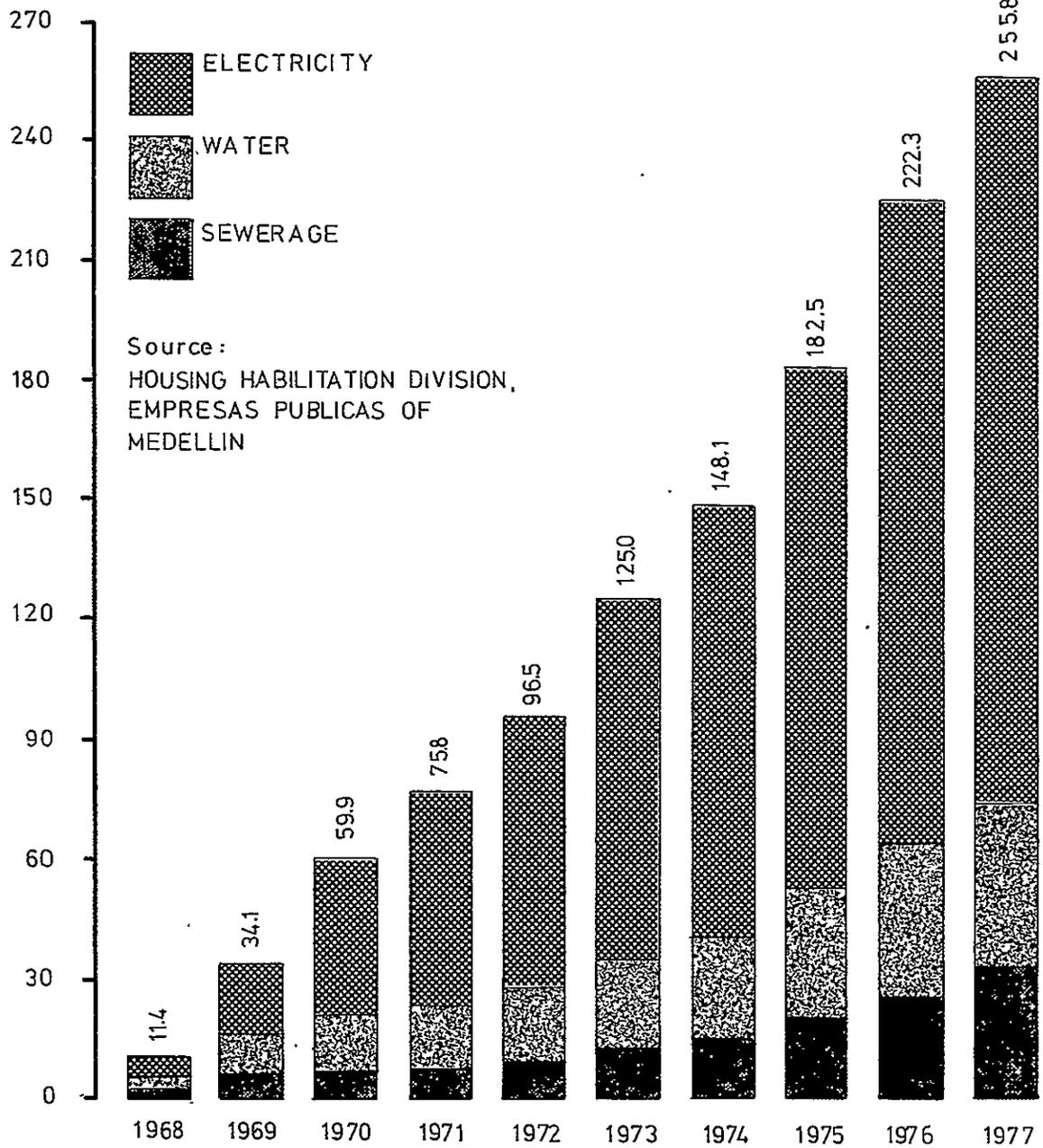


Figure 5. Extent of Investment in the Provision of Services Through the Housing Habilitation Division of Empresas Publicas Since 1968

The Department of Municipal Planning

Although it is important to emphasize the particular influence of Empresas Publicas upon municipal development policies and standards, that influence must be weighed within the larger context of standards and regulations established by Medellin's Department of Municipal Planning. These standards and regulations in the form of zoning classifications, building permits and subdivision requirements are perhaps less easily linked in specific cost terms to the behavior of pirate subdividers than are infrastructure requirements. However, it is generally recognized that they do impose costs which influence private land use decisions. To the extent that such standards and regulations embody unrealistic levels of performance, market behavior will react in ways to circumvent them.

The standards and regulations established by the first office of municipal planning in accordance with the Plan Regulador produced by the North American firm of Sert and Weiner in 1950 were unrealistic. In a 1958 study of the causes of pirate settlements in Medellin, local officials concluded that "the Plan Regulador had no discriminating criteria for (the) demands and requirements" placed upon owners who wished to develop their property. The lack of "sufficient amplitude" in the Plan's development criteria had made it impossible for developers who complied with planning requirements to offer land inexpensively to lower income groups.⁶¹ The study concluded that the resulting high cost of land, along with other factors,⁶² had contributed to the growth of the pirate submarket.

modified the previous Decreto No. 204 (1973) which had established the "minimum standards" program, by providing for the first time that subdivisions under the program could use the combined sewer collector system (rainwater and sewage fluids) Ibid., art. 1e. The motivation for the Decreto itself had been the recommendations of the "Housing Committee" established informally in 1975 by the administrative heads of the city's Public Works Department, Planning Department, Department of Valorizacion, as well as the directors of Empresas Publicas and the Instituto de Credito Territorial, in order to improve coordination and to propose solutions to the housing problem. The Committee has since been established formally in conjunction with the Department of Municipal Planning. See, Idem., Decreto No. 577 de 1976.

⁶¹ Comision Consultiva, op. cit., pp. 15-16.

⁶² The other factors cited were the massive rural to city migration; living conditions created by industrial development in Medellin; the lack of national planning; the inadequate design and coordination of urban legislation; the disparity between living costs and wage levels, and the fiscal poverty of the municipalities. Ibid., pp. 13-16.

There is no evidence following the study that any significant modifications were made in the technical standards regulations governing the planning office's approval of developments.⁶⁴ However, in 1965 the Medellin city council did pass an ordinance which authorized so-called "popular subdivisions" or developments (urbanizaciones populares) in zones specifically delimited by the Office of Planning.⁶⁵ As a sort of precursor of the "minimum standards" program established in 1973, the ordinance reduced the subdivision standards for such developments to 80m² lots with a minimum frontage of 5 meters; it exempted the developer from the obligation of ceding land to the municipality for purposes of open space, parks and community services. Such land would be purchased from the developer by the city through a number of alternative financing schemes.⁶⁶ The resolution also called upon Empresas Publicas to study means of reducing the technical specifications for the design and construction of the service network in such areas.⁶⁷ The purpose of the ordinance was to stimulate private competition with the pirate subdivider.⁶⁸

For reasons that were not clearly articulated by local officials in interviews with the author the "popular subdivisions" regulations received no response from developers and had little impact upon the pirate market in Medellin.⁶⁹ One reason appears to be that by restricting such developments to specifically designated areas within the residential zones, the regulations did not significantly

⁶³ Ibid., pp. 13-17.

⁶⁴ A proposal was made in 1960 by the Director of Municipal Planning to employ a "minimum standards" pirate subdivision-type strategy but it was rejected by the municipal administration and Empresas Publicas. Interview with Dr. Gustavo Suarez, Chief of the Technical Division, Instituto de Credito Territorial (former Director of Municipal planning) (Medellin, June 12, 1975).

⁶⁵ El Concejo Municipal de Medellin, Acuerdo No. 7 de 1965. See also, El Correo, February 27, 1965, p. 7.

⁶⁶ El Concejo Municipal de Medellin, Acuerdo No. 7 de 1965, art. 2.

⁶⁷ Ibid., art. 6.

⁶⁸ Interview with Dr. Evelio Ramirez Martinez, former mayor of Medellin (Medellin, July 28, 1975).

⁶⁹ It should be noted that this category of subdivision is still present in the zoning regulations for Medellin. See, Departamento Administrativo de Planeacion y S.T., Reglamento de Urbanizaciones (Medellin, 1974), Primera Parte, Capitulo 1, arts. 6-9, Capitulo 3,

increase the supply of land available for development through the official planning process.⁷⁰ Secondly, some of the reduced standards intended to lessen developer costs may not in fact have been implemented. Although upon the establishment of the Rotating Fund in 1964 Empresas Publicas modified its policy regarding the legal conditions required for provision of services, it continued to resist proposals that it reduce its technical design requirements.⁷¹ Also, the 1965 ceding exemption was later changed and the developer was required to cede community service and green areas (Zonas Verdes) to the city without compensation.⁷² The required transfer of property to the city without compensation for such public purposes is a cost which may have deterred some developers from undertaking a "popular subdivision." All of these reasons of course may be secondary to such broader explanations as the fact that by 1965 the pirate form of subdividing had become well established and had achieved a momentum sustained by the demand of the increasing numbers of lower income families present in the city.

The enactment by the city council of the Planning Department's normas minimas or minimum standards program in 1973 authorized minimum lot sizes of 100m² and minimum frontage of 6.5 meters.⁷³ In 1975 these standards were further reduced to 90m² and 6.0 meters respectively.⁷⁴ To date only one developer has actually developed a subdivision under the program.⁷⁵ The possible reasons for this result and the potential application of the normas minimas program in Medellin will be discussed in Chapter VI.

By way of summary, the preceding analysis of the impact of municipal development policies and standards upon the growth of the pirate submarket has suggested a number of general conclusions. These conclusions, of course, must be understood in relation to the previously discussed factors of income levels and population growth rate for Medellin. First, the rigid urban perimeter policy and the

art. 22; Segunda Parte, Capitulo 3, art. 38.

⁷⁰ The locational restrictiveness of these zoning regulations was reinforced by the pattern of land ownership at the time, namely most of the land was controlled by a relatively small number of landowners. Evelio Ramirez Interview, op. cit.

⁷¹ Ibid.

⁷² Reglamento de Urbanizaciones, op. cit., Primera Parte, Capitulo 2, art. 8.

⁷³ El Alcalde de Medellin, Decreto No. 204 de 1973.

⁷⁴ Idem., Decreto No. 334 de 1975.

⁷⁵ Data supplied by the Division of Technical Planning, Department of Municipal Planning, Medellin, April, 1979.

high technical standards which governed land classification, subdivision and the provision of services, together raised the price of land dramatically within Medellin's urban area. Lower income families, unable to afford land within the urban perimeter, purchased the cheaper land on the periphery from owners whose land was prohibited services under municipal policy. Second, even when services became available beyond the urban perimeter through the 1964 Rotating Fund, technical design standards and insufficient developer capital appear to have been significant obstacles to pirate developers' ability (and willingness) to provide serviced lots. The Planning Department's planning approval and subdivision regulations also contributed to the cost obstacles perceived by developers in Medellin. Finally, modifications in development standards and policies appear to have been implemented in some cases without sufficient coordination between the municipal bodies involved and without properly defined objectives. The example of the latter problem was the Rotating Fund which was structured to respond to user needs in a post facto fashion rather than to draw the pirate developer into the process of providing infrastructure. As implemented, therefore, the Fund indirectly acted to stimulate further pirate development in peripheral areas. The lack of coordination surrounding municipal policies and standards was best illustrated by the mismatch between the technical design standards of Empresas Publicas and the modified subdivision regulations of the Planning Department. These two aspects of a minimum standards program were not brought into line with each other until 1975.

Profit Incentives in the Pirate Submarket

It is reasonable to expect that the supply-demand disequilibrium in the Medellin urban land market which gave rise to the pirate submarket would provide pirate sellers with the opportunity to make substantial profits. To the extent that high profits are realizable in the pirate market, therefore, they constitute a fourth important factor explaining the growth and persistence of pirate subdivisions. Studies of the pirate submarket in Bogota support this proposition.⁷⁶ In Medellin, data on pirate developer profits is limited and

⁷⁶ See, Alan Carroll, Pirate Subdivisions and the Market for Residential Lots in Bogota (Washington, D.C.: The World Bank, Urban and Regional Report, No. 79-12, April, 1980); Rodrigo Losada Lora and Hernando Gomez Buendia, La Tierra en el Mercado Pirata de Bogota (Bogota: Fundacion Para la Educacion Superior Y el Desarrollo -- FEDESARROLLO, 1976); and William A. Doebele, "The Private Market and Low Income Urbanization in Developing Countries: The 'Pirate' Subdivisions of Bogota" (Cambridge, Massachusetts: Harvard University Department of City and Regional Planning, Discussion Paper No. D75-11, October 1975).

incomplete. Records of the sectional office of the Superintendency of Banks which regulates such developments did not include both purchase and sale information for parcels. What data does exist, therefore, is in the form of case studies, two of which are presented in Chapter III.

CHAPTER III. CASE STUDIES: EL DIAMANTE AND LA CASCADA

INTRODUCTION

The two case studies in this chapter are presented for the purpose of illustrating important characteristics of the pirate housing submarket in Medellin. These characteristics fall essentially into three broad categories: (1) the socio-demographic characteristics of lot purchasers in pirate subdivisions; (2) the physical characteristics of the subdivisions; (3) the economic aspects of pirate subdivisions. The concluding section of this chapter will compare the characteristics observed in the pirate subdivisions with those identifiable in other housing submarkets, particularly, the government sponsored housing market.

El Diamante was chosen as a case study because the problems it presented to municipal officials forced the formulation of minimum development standards for the subdivision, which in turn led to the design of the minimum standards program (obras minimas). It also illustrates some of the institutional conflict between the Planning Department and Empresas Publicas over the proper technical standards for the provision of services. The data for the case is drawn primarily from documents and studies available at the Department of Municipal Planning, the Superintendency of Banks and Empresas Publicas, and from interviews with local officials.

La Cascada is a case study developed from the author's own survey of the subdivision's residents over a two month period in 1975. Its importance as a study is threefold. First, unlike El Diamante, La Cascada is one of the most recent pirate subdivisions to have appeared in Medellin and therefore provides information about the earlier growth stages of such subdivisions. It was chosen by this author for the survey because in 1975 it was considered by planning officials to be the subdivision of most recent origin. Second its location in the semi-rural periphery of Medellin provides evidence that notwithstanding the criminal sanctions against unapproved subdivisions, the pirate submarket continues, albeit at a slower rate, to supply peripheral land to lower income families, most of whose prior residences were in Medellin. Third, the case study provides data on residents' attitudes and understandings concerning the legal norms which govern their land purchase transactions. This data will be presented in Chapter V as part of the comparative analysis of the pirate submarkets of Medellin and Bogota. Finally it is important to note that the sample size of the La Cascada survey is quite small (n=23). The data, therefore, is illustrative only. However, it is this author's view that the data nevertheless has considerable explanatory value since it is consistent in most

respects with the findings derived from larger survey samples of pirate subdivisions in Medellin and in Bogota.

EL DIAMANTE

Physical Setting and Origin

The barrio El Diamante is situated on rocky, inclined terrain in the northwestern comuna of Medellin (Comuna 2) known as Robledo. The owner of the tract was related to a well-known family which had engaged in a large amount of pirate subdividing in Medellin.¹ The same family held title to numerous other properties in the peripheral areas surrounding the city. Newspaper accounts date a limited number of lot sales in the area as early as 1964.² The event received newspaper coverage for reasons that illustrated the conflict that existed in Medellin between market demand for land and the zoning classifications that restricted supply. The emerging pirate settlement was on land located within a larger semi-rural zone of Robledo in which wealthy residents had built expensive homes on lots ranging from 300 to 600 m². When it became apparent to these owners that the adjacent land was being sold in small lots as part of a pirate subdivision they formally protested to the city against the loss in property value that they alleged they would suffer.³ The Department of Municipal Planning responded by drawing

¹ The owner was Juan Gregorio Arango Cock.

² El Correo, Articles, October 31, 1964, p. 2.
November 9, 1964. p. 6; November 16, 1964, p. 17.

³ Ibid. In a subsequently published "memorandum" to the public and municipal officials, the residents of the area complained:

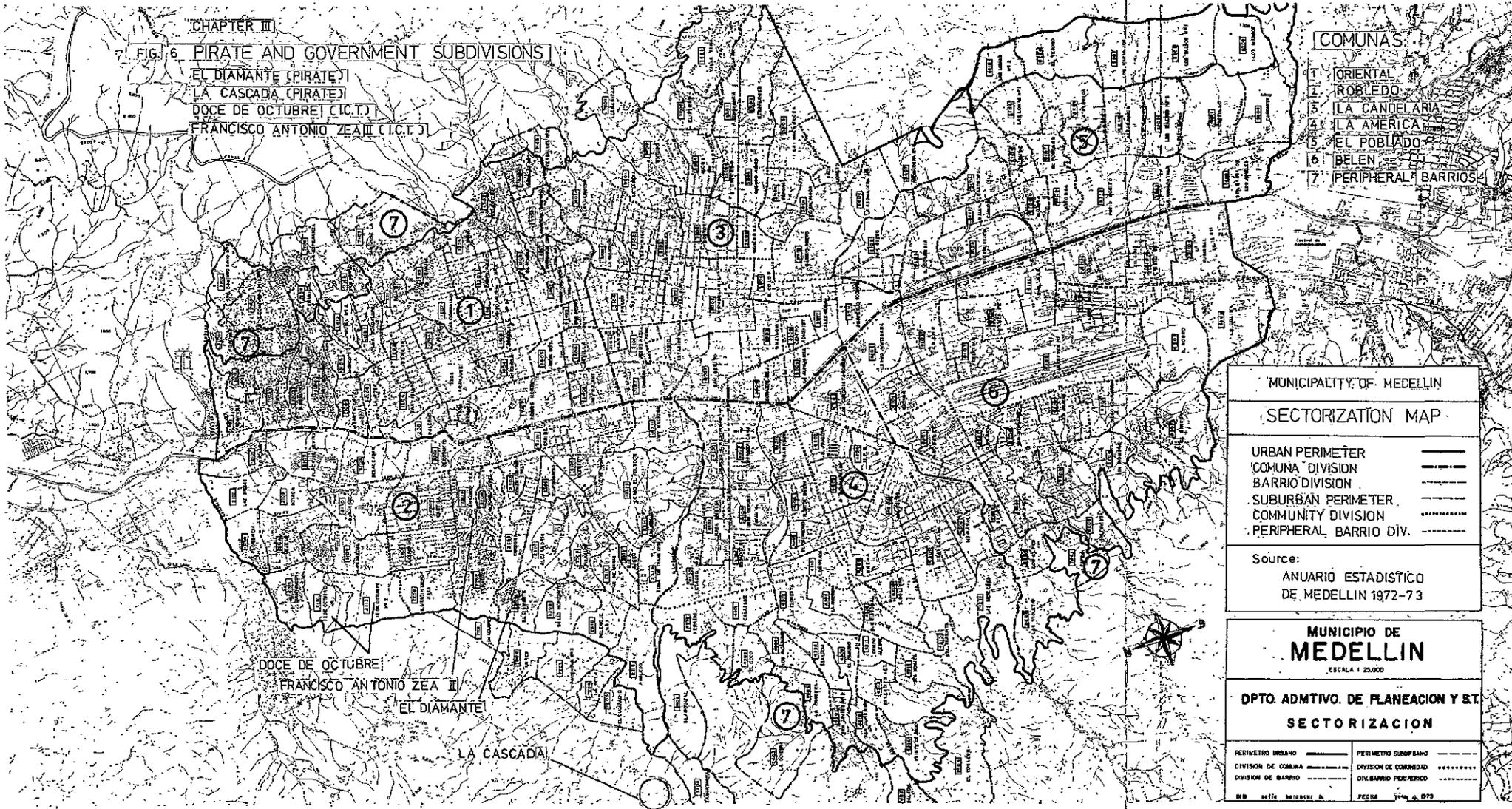
Within the traditional division between urban and semi-urban zones, Medellin is going to be left without any lands suitable for the latter type of housing, all because of pirate developers. This is an injustice which falls upon the social groups who prefer a quieter life without the complications of the central zones or the concentrated type of housing. . . . The . . . ordinances which establish minimum requirements for class 'D' subdivisions are not sufficient to put an end to pirate developers, since they will continue to violate the law in order to avoid the cost of the minimum requirements. . . .

CHAPTER III

FIG. 6. PIRATE AND GOVERNMENT SUBDIVISIONS

EL DIAMANTE (PIRATE)
 LA CASCADA (PIRATE)
 DOCE DE OCTUBRE (C.I.T.)
 FRANCISCO ANTONIO ZEA II (C.I.T.)

- COMUNAS:
- 1 ORIENTAL
 - 2 ROBLEDO
 - 3 LA CANDELARIA
 - 4 LA AMERICA
 - 5 EL POBLADO
 - 6 BELEN
 - 7 PERIPHERAL BARRIOS



DOCE DE OCTUBRE
 FRANCISCO ANTONIO ZEA II
 EL DIAMANTE
 LA CASCADA

MUNICIPALITY OF MEDELLIN

SECTORIZATION MAP

- URBAN PERIMETER ———
- COMUNA DIVISION ———
- BARRIO DIVISION ———
- SUBURBAN PERIMETER - - - - -
- COMMUNITY DIVISION ·····
- PERIPHERAL BARRIO DIV. - - - - -

Source:
 ANUARIO ESTADISTICO
 DE MEDELLIN 1972-73

MUNICIPIO DE
MEDELLIN
 ESCALA 1:25,000

DPTO. ADMTVO. DE PLANEACION Y ST.
 SECTORIZACION

- | | |
|------------------------|----------------------------------|
| PERIMETRO URBANO ——— | PERIMETRO SUBURBANO - - - - - |
| DIVISION DE COMUNA ——— | DIVISION DE COMUNIDAD ····· |
| DIVISION DE BARRIO ——— | DIV. BARRIO PERIFERICO - - - - - |
| DM 4476, 1973 | FECHA 1973 |

up a tentative subdivision plan and advising the pirate subdivider that he must provide roads, curbs, complete sewerage and water.⁴ Thus began a lengthy series of negotiations between the pirate subdivider and the offices of Municipal Planning and Empresas Publicas that were not completed until 1974. The economic aspects of these negotiations as they affected the costs and profits of the subdivision will be discussed below. In the meantime, lots continued to be sold with the bulk of sales and construction occurring between approximately 1968 and 1973.

Socio-Demographic Characteristics of Lot Purchasers

The socio-demographic data presented here is taken from a survey of 40 families in El Diamante which was conducted as part of a larger survey and study by Molina and Arias(1976).⁵ The authors' data indicated that the prior residence of approximately 60% of the families who purchased lots in El Diamante had been in either Medellin or some other municipality of the Valley of Aburra. Of these families 92% had come from residences located in other barrios of Medellin.⁶ In other words, most of the purchasers were local residents of Medellin in search of an opportunity to purchase lots and build their own homes.⁷ The average monthly income of families in El Diamante in 1975 Colombian pesos was \$2,435.⁸ This places

Ibid., "Memorando," February 13, 1965, p. 11.

⁴ Concejo de Planeacion Municipal de Medellin, Acta No. 33-65 (October 5, 1965).

⁵ Luis Eduardo Molina and Juan Antonio Arias, Estudio sobre Estructura Financiera del Submercado de Vivienda (Medellin: CEIE, Escuela de Administracion y Finanzas: 1976). The authors based their study upon a survey of three pirate subdivisions, including El Diamante. The total survey sample from the three subdivisions was 100 families. The distribution was as follows: El Diamante (40%); Barrio Miramar (40%) and La Esperanza No. 2 (20%). Where the authors' data on physical and economic aspects of the subdivision vary from Planning Department data (obtained from the developer), this author has relied upon the Planning Department data.

⁶ Ibid., p. 12.

⁷ No data was available on the residents' dweller status (renter, homeowner, etc.) in their prior places of residence.

⁸ Figure adjusted from 1976 income figure of \$3,531 indicated in Molina and Arias, op. cit., p. 15. Adjustment was based upon the inflation index for the price of all categories of goods for year

most families of the barrio within the medium low range of the "Low Income" category (\$0-5,000) which encompasses 59% of Medellin's population. (See Table 5 presented in Chapter II.) Residents earned income from jobs or activities that fell within the following general employment categories: ⁹

Industry:	48.4%
Commerce and Services:	16.2%
Government:	12.9%
Independent:	22.5%

The percentages indicate that the majority of those employed work in factory or construction jobs. It is generally regarded in Medellin as a working class barrio (obreros).

Physical Characteristics of the Subdivision

The physical characteristics of El Diamante as regards roads, net area developed, etc., changed over time in response to the negotiations between the developer and the Department of Municipal Planning. However, the following figures taken from Planning Department records ¹⁰ closely approximate the final physical dimensions of the subdivision:

1975 compared to year 1976 for Medellin, averaging inflation for both "employed persons" and "workers." Source: Revista del Banco de la Republica, January, 1978, Table 8.4.1. Because incomes have increased at a slower rate than price inflation in Colombia, the adjusted figure somewhat understates the average family income for El Diamante in 1975.

⁹ The employment categories listed are defined as follows: (1) Industry: includes those employed in manufacturing jobs in factories as well as those employed in public works and construction jobs. The term in Spanish for this category, broadly speaking is obrero. (2) Commerce and Services: includes those employed in various service capacities, such as watchman, doorman, maintenance person in industrial companies, and those employed in businesses as salespersons, helpers, etc.; (3) Government: those employed by municipal (most often) or national government departments or agencies; (4) Independent: includes "self-employed" persons such as street vendors, tailors, and owners of small commercial enterprises.

¹⁰ Junta Municipal de Planeacion y S.T., Acta No. 7 (Session: Junio 26, 1973).

<u>Land</u>		<u>% of Total</u>
Total Area	91,940 M ²	100
Open Space (zonas verdes)	22,077 M ²	24
Roads (9 & 11 mts. by section)	25,950 M ²	28
Net Area for lot development	43,912 M ²	48

No. of Lots: 380

Average Lot Size: 128M²

Frontage: 6.4 mts.

Depth: 20.0 mts.

The Economics of the Pirate Subdivision

This section presents the economics of the pirate subdivision including the basic transaction between the pirate developer and the purchasers. Additional costs subsequently assumed by the developer in response to pressure from the Department of Municipal Planning will be discussed below in a separate section that includes the calculation of developer profits. The figures and calculations presented here are based upon data supplied by the developer to the Department of Municipal Planning in 1973.¹¹

The entire cost of the tract of land before subdivision was \$1,379,000 Pesos (\$15.00/m²). Except for the design of a basic subdivision plan (see Figures 7 and 8), the developer did minimal land preparation. The buyers themselves did the heavy rock removal necessary to prepare excavations. Water was initially taken from a tank constructed by the residents near a stream that flowed across the upper part of the subdivision. Electricity was taken by contraband means. Latrines were constructed by the residents, but sewage fluids were left to flow through surface areas.¹²

¹¹ Specifically, this data on costs and terms of purchase was presented by the developer to the Division of Technical Planning, which in turn presented the data in its report to the Planning Board. See Ibid.

¹² Molina and Arias, op. cit., pp. 7-8, 87-88.

The basic transaction between the developer and the purchasers described in average figures was as follows:

Lot Sale Price:	\$12,032.
Downpayment:	\$ 1,500.
Monthly Installment Payments: \$ (60 Months)	227.
Finance Charge of 1/2%:	\$ 60.

Most of the residents purchased their lots on an installment basis. ¹³ In this regard it is important to note that the monthly installment payments of \$227 pesos over a sixty month period (\$227 x 60 = \$13,620) amounted to an implicit interest charge of 2.0% a month on the unpaid principal. Therefore, the total cost of the lot for the installment purchaser was not \$12,092 pesos (sale price plus 0.5% finance charge) but rather \$15,180 pesos, of which \$3,148 pesos consisted of interest charges. In other words, the developer whose net area land cost was approximately \$31.00 pesos per square meter (\$1,380 000/43,912 m²) was able to sell unserviced lots in the subdivision for \$94.00 pesos per square meter (\$15,180/128 m²).

The developer informed the Department of Municipal Planning in 1973 that all 380 lots in the subdivision had been sold. ¹⁴ Of this total number of lots, there was evidence that approximately 80 had been sold for the average price of \$12,032 (\$15,180 on installment purchase), while the remaining 300 had been reportedly sold for an average price, including interest charges, of \$18,000. It would be incorrect to calculate the developer's margin of profit on these figures alone since the developer did incur additional costs for infrastructure as a result of negotiations with the Municipal Planning Department. These costs and the related calculation of profits will be presented below.

¹³ Aproximately 78% of the residents in the survey sample purchased their lots on credit. Ibid., p. 28.

¹⁴ Junta Municipal de Planeacion y S.T., Acta No. 7 (Session: Junio 26, 1973). This information appears to be contradicted indirectly by the findings of Molina and Arias op. cit., who indicated that in 1976 the average price of a lot in El Diamante had risen to \$45 000 pesos and that the developer's terms of purchase had changed and now required a downpayment of \$30,000 and the remainder (\$15,000) in one year at an interest rate of 1.5% per month. Ibid., p. 30. If the authors' information is correct, it would confirm the observations of some local officials interviewed by this author, namely, that it was typical of pirate developers to hold some lots off the market until after services had been installed in order to be able to charge a higher price.

As previously indicated, the majority of purchasers in El Diamante acquired their lots on an installment basis. In order to finance their purchase over time, residents employed a variety of resource combinations that may be divided into the principal categories of salary, savings, and loan, as follows:

TABLE 7

RESOURCES USED BY PURCHASES OF LOTS ON INSTALLMENT BASIS IN EL DIAMANTE	
Resources Used	Percentage of Residents (%)
1. Salary only	8.82
Salary and cesantias (1)	2.94
Salary and bonus	2.94
2. Savings only	35.32
Savings and cesantias	11.76
Savings and bonus	5.88
Cesantias and bonus	11.76
3. Loan only	5.88
Loan and cesantias	5.88
Loan and savings	5.88
Loan and bonus	2.94

Notes

(1) The term cesantias refers to "severance pay" which by Colombian law every employer must pay to each employee upon termination of employment. However, the law also allows the employee to obtain advances from the employer on the amount of severance pay accumulated, for the specific purposes of purchasing, constructing or improving housing. See generally, Codgio Laboral de 1951: Resolucion del Ministerio del Trabajo y Seguridad Social No. 4250 de 1973. See also, Alfredo Fuentes and Rodrigo Losada, Implicaciones Socio-economicas de la Ilegalidad en Tenencia de la Tierra Urbana de Colombia (Bogota: Fundacion Para La Educacion Superior y El Desarrollo, 1978), pp. 19-21.

The above information indicates that in general residents relied primarily upon savings and salaries to finance the purchase of their lots. These two resources figured in approximately 68% of the purchasers' financing schemes. Very few residents had access to loans, whether through their place of work (factory most often) or through friends or relatives. The issue of credit resources will be discussed in more detail within the context of the second case study (La Cascada) and in Chapter VII.

The Process of Legalization and Developer Profits

The Legalization Process

Perhaps because of its impact upon the higher land values of surrounding residents, as well as its precipitous growth during the period following approval of National Law No. 66 in 1968, to control subdivisions, El Diamante received particular attention from municipal authorities. The principal actors in the effort to insure that the barrio met the legalization requirements concerning subdivision layout, services and property titles were the Department of Planning, Empresas Publicas and the Medellin Housing Division Office of the National Superintendency of Banks. The latter, it will be recalled, is the national entity charged with the enforcement of the 1968 law.

It is interesting to note that early in the negotiations in response to pressure from the Planning Department, the developer apparently agreed to construct road-beds and to provide water and sewerage in accordance with the specifications of Empresas Publicas.¹⁵ The developer later reneged on the water and sewerage commitment.¹⁶ It was unclear from interviews whether the developer was simply unwilling or was financially unable to undertake the cost. The Planning Board of the Department subsequently concluded that the developer and others whose land was peripherally located could not in fact satisfy existing municipal standards and regulations for subdivisions. Therefore, in late 1972, provisional approval was given to El Diamante within a program of "minimum requirements." These requirements called for the developer to do the following:

- (1) Open up roadways in the subdivision.
- (2) Provide water by means of water taps (pilas) or through an alternative "minimum" system recommended by Empresas Publicas.
- (3) Pay for the cost of individual latrine units (sanitarios campesinos) provided by the Department of Health.

¹⁵ Interview with Dr. Leon Dario Uribe T., Chief of the Housing Rehabilitation Division, Empresas Publicas of Medellin (Medellin: May 19, 1975); Letter from developer to the Department of Municipal Planning (May 28, 1965).

¹⁶ Uribe interview, op. cit.

(4) Cede 20% of the tract for open space (zonas verdes) and community services.

(5) Cede all land necessary for roads.

For its part, the Superintendency of Banks agreed to exercise strict control over the sale of lots under the minimum requirements program. The developer was required to register with the housing division office in Medellin. Only after the latter's approval of the development plans and its inspection of the purchasers' property titles would sale of the remaining lots be authorized.¹⁷

It was more than a year, however, before a final program of minimum requirements was agreed upon by the parties involved. In part, the delay was due to the institutional conflict between the Department of Municipal Planning and Empresas Publicas over the proper standard to be required of the developer for the provision of water and sewerage. The Empresas Publicas rejected the minimum requirements for water and sewerage which the Planning Board had provisionally approved. It argued instead that the developer should provide the domiciliary sewer lines and that water could be provided by means of the previously mentioned "Rotating Fund." The Planning Board, however, was reluctant to "require" the developer to construct the local sewer lines. In its final subdivision approval therefore, it reiterated the same water and sewer requirements it previously had approved provisionally and voted only to "recommend ... without implying an obligation" that the developer construct the sewer lines.¹⁸ The Empresas Publicas stood firm against the services proposal as approved by the Planning Board; in a subsequent memorandum of agreement reached with the developer, the utilities company stated its position clearly:

"(The minimum) standards' . . . required the construction of public water taps on each of the street corners . . . and latrines with 'taza campesina' for the sewerage. As is obvious these 'standards' cannot be accepted by the company which has its own properly approved standards and it is not the Board of Municipal Planning . . . which is empowered to modify them."¹⁹

Another reason Empresas Publicas opposed the minimum standard proposal especially as to sewerage, was that the El Diamante residents themselves had told the utilities company that they

¹⁷ Junta Municipal de Planeacion y S.T., Acta No. 15 (Sesion: Noviembre 21 1972).

¹⁸ Idem., Acta No. 7 (Sesion: Junio 26, 1973).

¹⁹

Empresas Publicas, Division Habilitacion de viviendas, Acta Sobre Barrio "Bello Horizonte" (El Diamante) (Agosto 13, 1974).

preferred the cost of permanent sewer lines in order that they might later "obtain water and electricity legally." ²⁰ In other words, the residents preferred a final rather than an intermediate solution for the critical service area of sewerage in order that they might more easily obtain legitimate access to the remaining services provided by Empresas Publicas. This resident viewpoint suggests the proposition that the issue of the level of technical standards relative to service costs may be of little concern to lower-income families provided they are given a financial program through which to purchase desired services over time. Such a financial program of course usually requires some degree of subsidy; but the principal concern of pirate barrio residents who build by increments appears to be the timing of costs. A similar argument was previously made as regards most pirate developers. High technical subdivision and service standards that are not complemented with financing mechanisms that give such developers access to capital at critical points in the development process can lead to market behavior that circumvents those standards.

In the particular case of El Diamante, it appears that the pirate developer alone could have undertaken the costs of the subdivision infrastructure as originally proposed by Empresas Publicas. ²¹ The arrangement ultimately agreed upon between the developer and Empresas Publicas was as follows:

DEVELOPER	EMPRESAS PUBLICAS
1. Sewerage: investment of \$400,000 pesos in construction of domiciliary lines.	1. Sewerage: completion of remainder of construction not covered by developer's investment -- charged to users. 2. Water lines: constructed in total by means of Rotating Fund -- charged to users. 3. Electricity: constructed in total by means of program "Habilitacion de Viviendas" -- charged to users.

²⁰ Ibid Letter from Dr. Francisco J. Ramirez M. to Empresas Publicas ("Resumen de puntos tratado en la reunion sobre 'Servicios Publicos Barrio Bello Horizonte - Diamante") (Superintendencia Bancaria: Expediente 01, November 9, 1973).

²¹ The developer had actually submitted water and sewerage plans to Empresas Publicas but later declined to execute them. Uribe interview, op. cit.

The costs and finance terms of this infrastructure for the residents of El Diamante were estimated in December, 1974 as follows:

SERVICE	CONNECTING LINE	DOMICILE	TOTAL
Water	\$1,956.73	\$870.20	\$2816.93
Sewerage	2,198.89	619.00	2,817.89
Electricity ²²			
	1,346.92	915.70	2,262.62
			<u>\$7,897.44</u>

Terms of Payment: (1) no downpayment (2) term: 100 months
(3) interest: 6% annually.

Under the finance terms indicated above, the total infrastructure cost amounted to a payment schedule of \$100.55 pesos per month for each household. This means that residents who purchased their lots at the \$12,032 price on an installment basis had monthly installment expenses of \$327.55 pesos (\$277 + \$100.55).²³

Developer Profits

It is instructive at this point to examine the developer's profits in relation to three cost models derived from the infrastructure solutions proposed during the legalization process of El Diamante. The calculations are derived from cost figures submitted by the developer and Empresas Publicas to the Department of Municipal Planning in 1973. Before presenting these calculations it is important to identify the assumptions that govern this analysis and to note certain caveats.

First, although some lot sales in El Diamante occurred as early as 1966-1967, the majority of sales apparently occurred after 1968. Since it was the developer who furnished the Planning Department in 1973 with average lot prices, it is assumed that the 1973 figures can be used in relation to 1973 cost figures without seriously

²² The cost figure for electricity was limited to one half (1/2) the cost of installation by resolution of the Board of Directors of Empresas Publicas. See, Acta No. 753 (July 1, 1974).

²³ See Section D of this Chapter, *infra*, for relative comparison of this monthly installment cost with monthly installment costs in government sponsored housing programs. See also Chapter VI for analysis of monthly installment costs in a subdivision developed under the minimum standards (normas minimas) program.

distorting the gross profit calculation. Second, as regards installment purchasers, it is assumed that there is no lateness or default in lot payments.²⁴ Third, it is assumed that administrative and professional services costs add approximately 14.5% to the developer's overall costs. This estimate is derived from similar costs in a subdivision developed under the official "normas minimas" program in Medellin -- presented as a case study in Chapter VI.²⁵

A number of caveats in interpreting the data should also be noted. First, no information was obtainable concerning the terms under which the developer purchased the tract. Therefore there is no discounting for interest charges that the developer may have incurred. Second, the developer's income from lot sales is received over a 5 year period in monthly installments that include interest. Since the greater the period of time over which income is deferred, the lower its present value, the 1973 average lot prices should be discounted accordingly. Given the absence of complete information, however, this calculation was not done. Finally, the calculations presented below do not account for Colombian rates of inflation which would reduce the developer's profit in real terms.

In order to simplify the presentation, the various kinds of solutions per infrastructure category (where applicable) and their corresponding costs are presented first. These kinds of solutions are then combined into the three models as considered by municipal officials during the legalization process. For each model, three weighted average lot prices are used as presented below.

²⁴ The Cock family indicated that approximately 50% of the purchasers in their subdivisions were behind in their payments, but that all purchasers did eventually pay. Interview with Elisa Cock of Cock Alvear Hermanos y Cia Ltda. (Medellin: June 13, 1975).

²⁵ Recent data analyzed by the World Bank concerning pirate subdivisions in Bogota suggests that this estimate may in fact be too low for pirate developments. See, Alan Carroll, Pirate Subdivisions and the Market for Residential Lots in Bogota (Washington, D.C.: The World Bank, Urban and Regional Report No. 79-12, April, 1980. However, in the absence of average data from a sample of Medellin pirate subdivisions, it seems reasonable to use the 14.5% figure.

SUBDIVISION DEVELOPMENT COST ESTIMATES *

1. PURCHASE PRICE OF LAND:
 - a. Entire Tract (91,940 m2): \$1,380,000
 - b. Net Area cost per square meter ($\$1,380,000/43,912 \text{ m}^2$): \$31.43
2. BULLDOZING OF ROADS: \$200,000 (\$4.55/m²)
3. SEWERAGE:
 - a. Latrine system (sanitarios campesinos): \$25,000 (\$0.57/m²)
 - b. Complete sewer system: \$556,000 (\$12.66/m²)
4. WATER: \$531,000 (\$12.09/m²)
5. ELECTRICITY: \$220,400 (\$5.00/m²)

* Note: Data supplied by the developer to the Division of Technical Planning, Department of Municipal Planning. See footnote 11 supra.

AVERAGE LOT PRICES

(Total No. of Lots = 380)

1. Lowest average lot price as reported by developer, assuming no interest charges, for 380 lots.
 - a. Total price: \$12,032
 - b. Cost per square meter: \$94.00
2. Weighted average lot price assuming 95 lots (25% of total) sold for \$12,032 in cash and 285 lots (75% of total) on installment method for \$15,180.
 - a. Weighted average price: \$14,393
 - b. Cost per square meter: \$112.00
3. Weighted average lot price assuming all 380 lots sold on installment method, 80 lots for \$15,180 and 300 lots for \$18,000.
 - a. Weighted average price: \$17,406
 - b. Cost per square meter: \$136.00

The potential range of profits realizable by the developer in El Diamante depending upon the infrastructure solution implemented and upon the lot price charged is presented below.

TABLE 8

POTENTIAL DEVELOPER PROFITS: EL DIAMANTE 1973			
INFRASTRUCTURE SOLUTIONS	COST m2 PER SOLUTION*	LOT PRICE	PROFIT (%)
A. Solution provisionally approved by Municipal Planning Dept., June, 1972 (Acta No. 15)			
		\$12,032(\$94/m2)	69
a. Bulldozing of roads (\$4.55/m2)	\$55.69/m2	\$14,393(\$112/m2)	101
b. Latrine System (\$0.57/m2)		\$17,406(\$136/m2)	144
c. Water (\$12.09/m2)			
B. Solution actually implemented in accordance with memorandum of agreement between developer and Empresa Publicas, August, 1974			
		\$12,032(\$94/m2)	82
a. Bulldozing of roads (\$4.55/m2)	\$51.63/m2	\$14,393(\$112/m2)	117
b. Developer contribution of \$400,000 for sewerage (\$9.11/m2) constructed by Empresa Publicas		\$17,406(\$136/m2)	163
C. Solution: all service infrastructure provided by developer			
		\$12,032(\$94/m2)	25
a. Bulldozing of roads (\$4.55/m2)	\$75.26/m2	\$14,393(\$112/m2)	49
b. Sewerage (\$12.66/m2)		\$17,406(\$136/m2)	81
c. Water (\$12.09/m2)			
d. Electricity (\$5.00/m2)			

* Includes purchase price of net area (\$31.43/m2) plus 14.5% for costs of administration and professional services.

Whatever refinements could be made in the calculations of the exact profit ranges pursuant to the previously mentioned qualifications, it is clear from the above figures that the developer could indeed have provided all service infrastructure and still have realized a reasonable profit. The fact that the developer ultimately declined

to provide services except in the partial manner described in Solution B suggests that either the institutional pressure placed upon him was insufficient or that he lacked the initial capital or later cash flow necessary to provide services. The deferential posture of the Planning Board on the issue of sewerage requirements may have led the developer to conclude that he could successfully renege on his earlier commitment to provide the permanent infrastructure. An equally plausible explanation, however, may be that the developer's capital as well as cash flow circumstances did not permit him to commit more than the \$400,000 pesos agreed to in the memorandum negotiated with Empresas Publicas. The issue of developer's capital needs will be addressed more directly in Chapters VI and VII which consider respectively the questions of subdivision development under the "minimum standards" (normas minimas) program and the credit needs of lower-income purchasers.

Since the El Diamante case was the principal motivation for the development of the minimum standards program discussed in Chapter VI, it is useful here to add the following postscript to the case. It will be recalled that the problems presented by the El Diamante subdivision convinced the Planning Board that in general, developers whose lands were located on the periphery could not satisfy municipal standards and regulations for subdivisions as presently structured. The minimum requirements program for El Diamante, therefore, was proposed and discussed with the view that a set of uniform minimum requirements should be established for peripherally located land intended for lower income housing subdivisions. It is significant, however, that in the discussion of minimal development standards, the "cost barrier" rationale was linked to a second rationale, namely the fear of land invasion. The planning staff presented the minimum requirements program for El Diamante to the Planning Board as a program for

(s)ubdivisions in the peripheral zones of the city, bordering on pirate zones invaded or in the process of invasion, due to the impossibility of the owners of such lands to execute the subdivision tasks according to municipal requirements. ²⁶

In order to understand the viewpoint as quoted it is necessary to remember that the national law to control subdivision activity was enacted in 1968, four years prior to the planning staff presentation. In interviews conducted with planning officials by the author, it was the general consensus that the national law as enforced by the Banking Superintendency's housing division had significantly reduced, if not actually stopped, the growth of pirate settlements in Medellin. Planning officials expressed the additional view, however, that as a result of the prohibition against illegal subdivisions, invasions had greatly increased beginning around 1970 in the same peripheral lands, many of which belonged to well-known

²⁶ Junta Municipal de Planeacion y S.T., Acta No. 15 (Sesion: Noviembre 21, 1972).

pirate subdividers. ²⁷ Viewed in the context of these views and the previous analysis of some of the causes of pirate developments, the quotation from the Planning Board minutes involves a certain irony. It might be stated as follows: To the extent that unrealistic development standards helped stimulate the growth of the pirate submarket, it is ironic that those standards were not seriously modified until the criminal sanctions that cut off land supply through the pirate market in turn stimulated the growth of invasions.

Notwithstanding the generally recognized success of the Banking Superintendency in controlling pirate subdivisions in Medellin, the pirate submarket continues to operate, albeit at a slowed rate, in the semi-rural peripheral areas. The following case study provides one of the more recent examples of the market at work.

LA CASCADA

28

Physical Setting and Origin

²⁷ It is interesting to note that the developer of El Diamante provided the author with the following "Memorial" (undated) signed by 50 "invaders" of land in El Diamante:

The undersigned inhabitants of the barrio El Diamante, fraction of Robledo, municipality of Medellin, have presented ourselves at the office of the Messrs Cock and we have indicated that we are prepared to pay for the land which, due to our need and lack of housing we have occupied. . . .

It was the argument of this developer and others in Medellin that the National Law No. 66 (1968) as administered by the Superintendency of Banks prevented them from selling the land to the invaders. On the other hand it was the view of some planning officials that some pirate developers encouraged invasion by certain families with whom the developers were acquainted in order to present the city administration and the Superintendency of Banks with an accomplished fact and to require the provision of services. These same families, it was suggested, later paid the developer for the lots.

²⁸ The analysis presented in this section of the La Cascada pirate subdivision is derived from the author's written survey and open-ended interviews during March, April and May, 1975 of all but



Figure 9. Aerial View of Medellín Indicating Pirate Subdivision "La Cascada" (see arrow).
Source: Instituto Geografico "Agustin Codazzi".



Figure 10. Aerial Closeup of Pirate Subdivision "La Cascada" (circled).
Source: Instituto Geografico "Agustin Codazzi".



Figure 11. Hillside View of "La Cascada" (foreground)
Barrio Santa Margarita in Background.
Source: Author's photograph.



Figure 12. View of Medellin from "La Cascada." In
Foreground is project Barrios de Jesus.
Source: Author's photograph.

The bus that winds its way from the center of Medellin up the Palmitas road to San Cristobal passes close by the pirate settlement known as "La Cascada." Residents of the settlement often refer to their area as "Santa Margarita -- Sector La Cascada" since it borders just outside the peripheral semi-rural barrio of Santa Margarita, located in the western part of the municipality. (See Figures 9, 10, 11 & 12.) La Cascada is situated on steeply sloped farm land purchased by the developer in 1966. That same year, the developer sold two adjacent lots by registered deed to one family, that later sold the lots separately. Of all the lots sold by the developer, only these original two lots were transferred by means of legal title. Thereafter, the developer used both written and verbal installment sale agreements to sell the lots. Most of the lots were sold to purchasers between 1970 and 1975. (See Figures 13 and 14).

Socio-Demographic Characteristics of Lot Purchasers

Prior Residence

All of the lot purchasers surveyed were from the Department of Antioquia. The prior residence of approximately 82% of the families had been in barrios within the city of Medellin. Only 18% had resided previously in municipalities outside of Medellin. Table 9 indicates the length of time families had resided in their previous residences prior to purchasing in La Cascada.

The median period of time families had resided in their last residences prior to purchase was 3.4 years. Sixty-five percent (65%) of the families had been renters in their prior places of residence. Approximately 17% had been home owners, and another 17% had either lived with relatives or received housing as managers or caretakers of estates. The data is consistent with the findings of other studies in Medellin which indicated that most lower income families, whether originally from Medellin or from rural or small town areas, pass through a "renter" stage in Medellin during which time they accumulate some savings and begin to inquire about lots available for sale. ²⁹ The percentage of families migrating directly from

four of the families living in the subdivision. Because of the limited sample size (n = 23), the data presented is illustrative only. A description of the author's research methodology may be found in Appendix B.

²⁹ See, Patricia Velez Mejia, "Flujos Migratorios a las Areas de

PIRATE SUBDIVISION: LA CASCADA

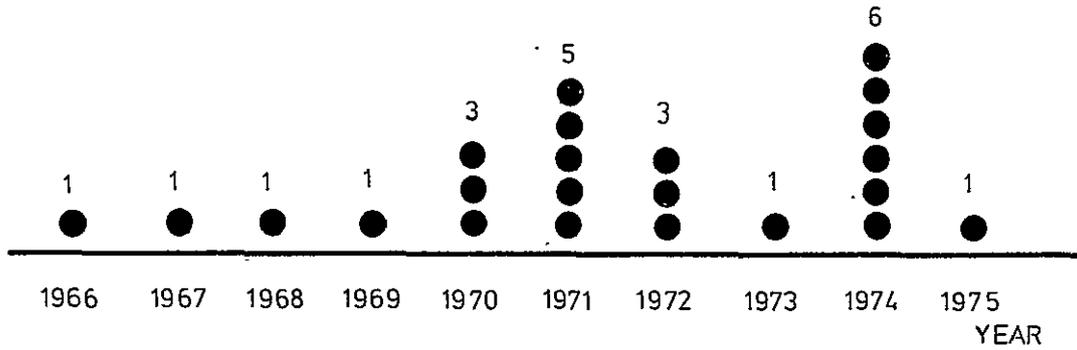


Figure 13. Frequency of Lot Purchase by Year.

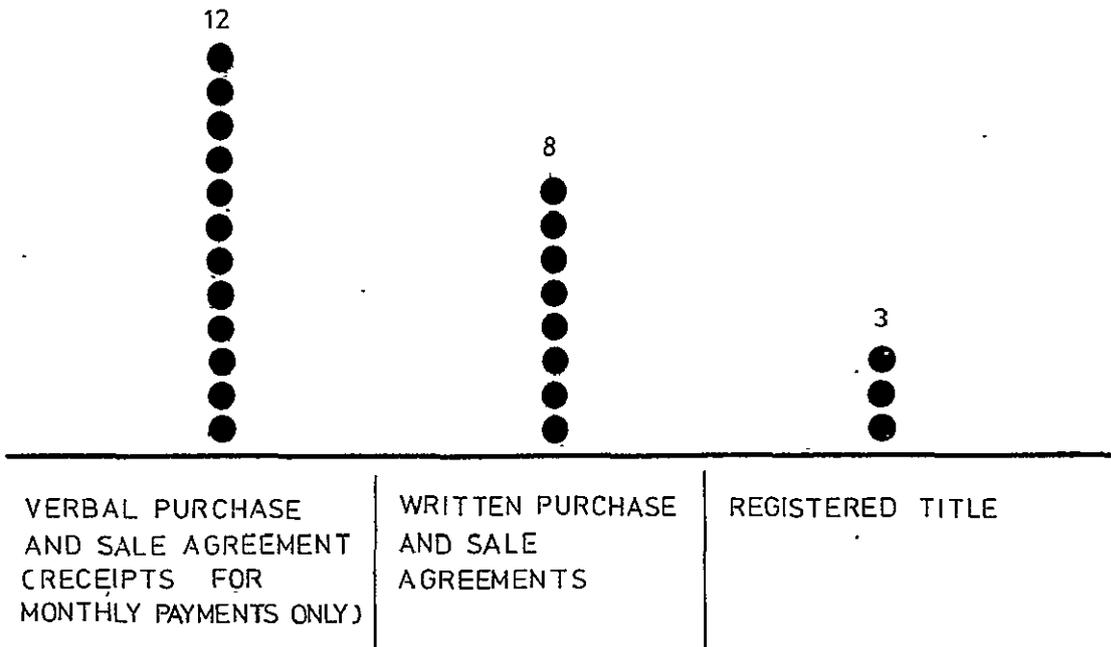


Figure 14. Types of Documents Held by Purchasers

TABLE 9

PURCHASERS' PERIOD OF TIME IN LAST RESIDENCE PRIOR TO PURCHASE OF LOT IN LA CASCADA		
Time Period	No. of Families	% of Total
Less than 1 year	6	27.27
1 - 2 years	4	18.18
2 - 5 years	6	27.28
5 - 10 years	2	9.09
10 - 20 years	3	13.63
20 years or more	1	4.34

Note: Percentages adjusted to reflect the fact that one family still lived in a residence elsewhere in Medellin.

rural or small town areas to pirate settlements in Medellin is relatively small.

Income Levels and Employment

Table 10 presents the distribution of monthly family income for La Cascada ³⁰ within the context of the overall income distribution for Medellin. The incomes of all the families in La Cascada fell within the low income category which comprises 59% of Medellin's population. The median monthly income was \$1,632 pesos. Approximately 87% of La Cascada's families had monthly incomes of less than \$3,500 of which 45% had incomes no greater than \$1,500 per month, and 55% had incomes which ranged between \$1,500 and \$3,500. In most cases, family income depended upon the earnings of the

Tugurios y Factores Fisicas y Socio-economicas que Inciden en al Formacion y Persistencia de este Tipo de Habitat" (Medellin: Tesis de Grado, Universidad Pontificia Bolivariana, Facultad de Sociologia, 1974), p. 30; Gilma Mosquera and William Hinestrosa, Diagnostico General sobre el Problema de la Vivienda en Medellin (Medellin: Departamento Administrativo de Planeacion y S.T., 1975), pp. 223-243.

³⁰ The incomes of families were all self-declared. The author was not able to verify them. For purposes of this analysis they will be assumed to have been correctly reported; however, the reliability of the specific numbers should be viewed with caution.

TABLE 10

LA CASCADA: INCOME DISTRIBUTION OF FAMILIES COMPARED WITH FAMILY INCOME DISTRIBUTION FOR URBAN AREA OF MEDELLIN 1975				
MONTHLY INCOME RANGES BY INCOME LEVEL (\$) : MEDELLIN	% OF FAMILIES MEDELLIN	% OF FAMILIES LA CASCADA	MEDELLIN	TOTAL % LA CASCADA
<u>Low Income</u>				
0 - 1,500	7.24	39.13		
1,501 - 3,000	21.78	47.82	59	100
3,001 - 5,000	30.33	13.04		
<u>Middle Income</u>				
5,001 - 7,000	14.94	0.0		
7,001 - 9,000	9.63	0.0	35	0
9,001 - 12,000	6.03	0.0		
12,001 - 16,000	4.38	0.0		
<u>High Income</u>				
16,000 or more	6.00	0.0	6	0

Note: Table adapted from table presented in Mosquera and Hinestrosa, op. cit., p. 101. Income categories are those defined by the National Department of Planning. Author's data is added to table.

household head alone. Only 25% of the families had more than one member employed. ³¹ The jobs held by family members may be grouped among the previously defined employment categories as follows:

Industry:	45%
Commerce and Services:	42%
Government:	0%
Independent:	13%

The data suggest that as in the case of El Diamante, a large percentage of the employed work in factory or construction jobs that generally provide a stable form of income. The average monthly income of workers in this category was \$1,593. In contrast to El Diamante, a high percentage of the La Cascada residents' jobs also

³¹ The term "family member" as used here includes relatives living in the home.

fell within the commerce and services category. These consisted primarily of service type jobs such as a watchman, a taxi or truck driver, or a salesperson. According to the residents surveyed, these jobs also tended to be relatively stable. The average monthly income for workers in this category was \$1,252. In contrast, residents who were independently employed (lottery ticket seller, smelter, mechanic, tailor, etc.) emphasized the variability of the amount of work they received. Their average monthly income, however, was \$1,275, slightly better than those employed in commercial and service jobs.

Physical Characteristics of the Subdivision

The total area of the subdivision is 6,400 square meters, of which approximately 3,789 m² or 59% was subdivided into 31 lots.³² The developer apparently did not make his own subdivision plan but relied instead upon an old plan that had been drawn in 1952.³³ A rough entrance road was cleared, but what little street and walk way areas that exist were done primarily by the residents themselves. Although lot sizes vary in the subdivision, two lot sizes predominate: 160 m² and 147 m². Approximately one half of the lots are 160 m² with a frontage of 8 meters and a depth of 20 meters. Another third of the lots are 147 m² with frontage and depth dimensions of 8 meters by 18.4 meters. The remainder of the lots are considerably smaller, ranging in size from 31 m² to 118 m². Except for the smaller and irregular lot sizes just mentioned the lot sizes in La Cascada are approximately 15-25% larger than the average lot sizes of El Diamante and most other pirate subdivisions within the urban perimeter of Medellin.³⁴ The larger lot sizes purchased by the residents indicate the cheaper price of unserviced, steeply sloped peripheral land as well as the

³² The net area indicated is an approximate estimate based upon the lot dimensions reported to the author as well as the author's own estimates of the sizes of 4 additional lots whose owners could not be reached for interviews. The author was told in 1975 that all lots in the subdivision had been sold.

³³ This plan is referred to in the written installment sale agreements that the developer gave to a limited number of purchasers. A copy of the actual plan was not obtainable. See Appendix C for a copy of the written installment sale contract used by the developer in La Cascada.

³⁴ The average lot size in El Diamante was 128 m². For other pirate subdivision lot size averages see, Molina and Arias, op. cit., p. 20. One exception was the pirate barrio Castilla, which included some lots as large as 256 m². See Appendix D.

articulated desire of most families to have a backyard area or solar in which to grow food crops such as yucca, plantains, etc. As regards the latter point, it is important to emphasize that the purchasers in La Cascada were not recent rural immigrants; rather they were previously established residents of Medellin who sought land and home ownership where it was still available, namely on the periphery of Medellin.

Economic Aspects of the Subdivision

Prior to their decisions to purchase a lot in La Cascada, only 30% of the residents had inquired about the availability of lots in other barrios. Those residents who did check first, reported that the minimum lot prices found ranged between \$2,000 and \$9,000 pesos; the maximum prices ranged between \$10,000 and \$30,000 pesos. All but one of the barrios had partial or complete services. The reasons why these residents chose to purchase in La Cascada instead were varied. Some identified negative qualities about the other lots considered, such as the greater expense of the serviced lot and the lack of confidence in the contemplated "deal." Others stated their reasons in terms of La Cascada, namely it was a healthy area to live in and the lot size provided space for a backyard. However, the predominant reason cited by most residents, including those who had not checked elsewhere in the market, was the connection of a friend or relative who either lived in La Cascada or knew of the availability of lots for purchase.

Except for the highest segment of the price range, the other barrio lots examined by families prior to their purchase in La Cascada were not significantly more expensive. This fact together with the reasons noted for purchasing in La Cascada suggest the hypothesis that it is the plot of land itself rather than its serviced status that is most important.³⁵ The purchasers in a

³⁵ Some support for this hypothesis can be found in the result of the author's survey of La Cascada in which 30% of the residents indicated that the developer had not promised services prior to their purchase. Losada and Gomez in their study based upon a larger sample of residents in Bogota found that 41% of the residents asserted that they had not been promised services prior to purchasing lots. The authors hypothesized from this response that at least 2/5 of the purchasers in pirate barrios bought lots knowing that the lots would lack all public services indefinitely. See Losada and Gomez, *op. cit.*, p. 142. The hypothesis stated in the text is also indirectly supported by La Cascada residents' responses to the legal issue of whether it was best to have legal title to their lots or the provision of services. Over 80% of the residents indicated that given that choice they would prefer to obtain legal

pirate subdivision appear to expect that one way or another (legally or by contraband), they will eventually obtain services. In the meantime, the possession of a plot of land and the opportunity to build according to one's needs are most important.

Terms of Purchase

As previously indicated, a few of the La Cascada residents received legal title to their property as a result of the sale of the first two lots by means of a registered deed. Thereafter, however, the developer stopped transferring by deed and instead entered into "installment sale" agreements with purchasers. Approximately 35% of the residents had received written agreements; but the majority received only a "verbal" promise to transfer title upon payment of the purchase price. The legal significance of this distinction as well as resident attitudes toward other aspects of the legal system that governs their transaction, will be discussed in Chapter IV.

Under both the written and the verbal installment agreements, the terms of purchase, except for the price, were essentially the same:

Downpayment: \$2,000
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Monthly Installments: No less than \$100.00

Term: 4 years

Late Payment Charge: 18% per year on balance overdue.

During the period 1970-1975, the price for the \$160 m2 lots ranged between \$7,500 and \$15,000 pesos, and the price for the 147 m2 lots ranged between \$9,000 and \$17,000 pesos. This means, for example, that in order to pay off the balance due on a lot priced at \$15,000

title. Some, of course, noted the link between having legal title and being able to obtain services legitimately. In contrast, however, it should be noted that Doebele in his study of Bogota pirate barrios found that in response to a similar question, 73% of those surveyed thought that both legal title and obtaining services were equally valuable. See Doebele, *op. cit.*, p. 53 n. 2. The difference in response may be attributable to the way the question of comparisons was asked by the interviewer(s) in the respective surveys.

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This figure was the most frequently reported amount of downpayment for the purchase period 1970-1974. Other downpayment amounts in order of frequency were \$1,500 and \$1,000.

with a \$2,000 downpayment, the purchaser had to pay monthly installments of approximately \$270 pesos in order to avoid the 18% late payment charge (1.5% a month). As stipulated, however, the purchase terms did give the purchaser the flexibility of paying as little as \$100 pesos on a given month if his finances were tight and making up the difference over subsequent months.

In order to pay the initial downpayment on their lots in La Cascada, purchasers relied upon the following resources:

<u>Resource</u> 37	<u>Purchasers (%)</u>
General savings	35.2
Cesantias	23.5
Salary	5.8
Sale of prior home	11.8
Loan of relative or friend	23.5

The purchasers' responses indicate that in order to pay the relatively large initial downpayment amount most purchasers obtained the necessary sum either from savings accumulated in anticipation thereof (35%) or through external resources such as cesantias and the loans of friends or relatives (47%). Only 6% of the purchasers used their weekly wages to finance the downpayment. In contrast, over 90% of the purchasers reported that they paid the monthly installments from their salaries.

Construction

Once the downpayment had been made, approximately 30% of the purchasers reported that they began construction of their homes within 1 month, another 13% within 3 months, 9% within a year, but surprisingly, almost 22% began construction more than a year after purchasing their lots. ³⁸ An examination of the circumstances of the individual families who delayed construction for more than a year reveals the following. In two of the cases, the families were

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Percentage adjusted to reflect purchasers excluded from total by virtue of their having paid the full purchase price, already having legal title, or having received the lot as a gift from a relative.

³⁸ Of the remaining 26% interviewed, 22% had no response and for 4%, a house was already in existence on the lot.

the transferees of the lots which had originally been sold by registered deed. These families unlike those without legal title, may have felt less compulsion to begin some form of construction to establish physical possession of their lots. In addition, one of the families already owned a home elsewhere. Exceptional difficulties in accumulating sufficient resources to begin construction may have explained the delay of two other families. This conclusion seems reasonable in view of the fact that one of the families purchased only 32 square meters, while the other limited its construction on its 160 square meter lot to 10.2 square meters. Another family became so disillusioned after witnessing flooding through its lot that upon failing to obtain a "written" installment contract from the developer (so that it could try to resell the lot) it left and did not return for over a year.

In order to finance the construction of their homes, the purchasers relied upon single resources as well as resource combinations to the following extent:

TABLE 11

RESOURCES USED BY LA CASCADA RESIDENTS TO CONSTRUCT THEIR HOMES	
Construction Resource (s)	Families (%)
1. Salary only	17.39
Salary and cesantias	4.34
Salary and savings	13.04
2. Savings only	13.04
Savings and cesantias	8.69
3. Loan only	13.04
Loan, savings and sale of other home	4.34
4. Cesantias only	4.34
Cesantias and gift	4.34
Cesantias and accident compensation	4.34
5. Sale of prior home	8.69
6. Income from rented agricultural plot	4.34

From the resources indicated above it appears that salaries and savings were the two individual resources most relied upon, both alone and in combination with other resources (for 57% of the families). Loans, alone or in combination with other resources, were used by 17% of the families. Although cesantias was not used frequently as a single resource, it was used in combination with other resources by 26% of the families. In fact, salaries, savings and cesantias, alone or in combinations with one another, were used by 60% of the families.

TABLE 12

AMOUNT OF INVESTMENT IN CONSTRUCTION BY LOT PURCHASER IN LA CASCADA
AS OF 1975 (a)

Family Monthly Income Range	Lot Price (\$)	Resource(s) Used to Finance Construction	Area m2 Constr.	Time Period (yrs)	Total Amount (\$)	Yearly Average Amt. Invested (\$)
	3,000	cesantias + accid. compensation	64.0	4.5	32,000	7,111
	7,500	cesantias + savings	51.2	5.0	20,000	4,000
1,500 or less	7,500	cesantias + savings	10.2	0.8	6,540	6,540
	7,500	loan from factory	15.0	1 wk.	12,100	12,100
	15,000	cesantias	64.0	2.0	18,000	9,000
	13,000	rent from agric. plot	31.7	1.5	18,000	12,000
	17,000	salary	16.0	1.0	2,000	2,000
	16,000	sale of prior home	32.0	1.0	15,000	15,000
	5,000	salary + savings	32.0	3.0	8,000	2,666
	6,250	sale of prior home	35.2	9.0	40,000	4,444
	6,250	salary + savings	70.4	7.0	25,000	3,571
	9,500	salary	32.0	4.0	1,000(b)	250
	7,500	general savings	64.0	1.0	8,000	8,000
1,501 to 3,000	9,000	general savings	51.2	3.0	40,000	13,333
	10,000	loan, relative/friend	35.2	2.0	10,000	5,000
	17,000	loan through company	76.0	0.2	35,000	35,000
	15,600	cesantias + salary	16.0	0.2	20,000	20,000
	(gift)	cesantias + gift	44.8	1.0	18,000	18,000
	5,000	general savings	23.2	1.0	1,100	1,100
	16,000	salary	61.4	1.0	18,000	18,000
	8,050	salary + savings	51.2	1.0	18,000	18,000
3,001 to 5,000	14,000	loan, savings, home sale	64.0	2.5	25,400	10,160
	15,000	salary	64.0	3.0	40,000	13,333

Notes

(a) Investment totals include cost of materials and contracted labor, but do not include the unpaid labor of family members.

(b) House already constructed on lot at time of purchase.

Table 12 sets forth by monthly family income subcategories, each family's amount of construction investment ³⁹ in relation to the

³⁹ These figures in most cases represent residents' estimates

square meter area constructed, the period of construction and the financial resources employed. The initial purchase price of each lot is also included. In general, the figures suggest that those families who invested the largest total amounts in the construction of their houses most often relied upon such resources as loans, the cesantias or a property sale, all of which provided ready lump sums in addition to the cumulative sums achieved through saving. This observation is particularly true for the families whose monthly incomes fell within the "1,500 or less" subcategory. Only a few families (21%) in the higher monthly income subcategories (\$1,501-3,000; \$3,001-5,000) were able to invest comparatively large total amounts in construction from salary and savings resources, alone or combined.

A comparison of averages for the three family income subcategories in La Cascada with respect to amount of area constructed, period of construction and total amount invested reveals the following:

TABLE 13

COMPARISON OF CHARACTERISTICS OF LOT CONSTRUCTION OF LA CASCADA FAMILIES BY MONTHLY INCOME SUBCATEGORIES			
Family Monthly Income Range (\$)	Average Area Constructed (m2)	Average Time Period (yrs)	Average Amount Invested (\$)
1,500 or less	35.1	1.9	14,626 (417/m2)
1,501 - 3,000	46.3	2.7	19,645 (424/m2)
3,001 - 5,000	59.7	2.3	27,800 (466/m2)

As regards the amount of area constructed and the amount invested in construction, the results seem reasonable; namely, other things remaining equal, the higher a family's monthly income the greater the amount of area and the amount of money it is likely to use to construct its home. It might be expected, however, that the average period of time used to construct the dwelling would consistently decrease as income increased. The reasoning would be that families with higher incomes presumably could afford to subcontract more of the construction tasks and thereby reduce the amount of time typically required where the owners themselves do most of the construction in incremental fashion over many weekends. It does appear to be true that higher income families in pirate subdivisions use a greater proportion of subcontracted labor than families with lower incomes. For example, Molinas and Arias (1976) in their study

based upon memory rather than upon written records. The figures, therefore, should be viewed as indicative of the general amounts invested rather than specific cost estimates.

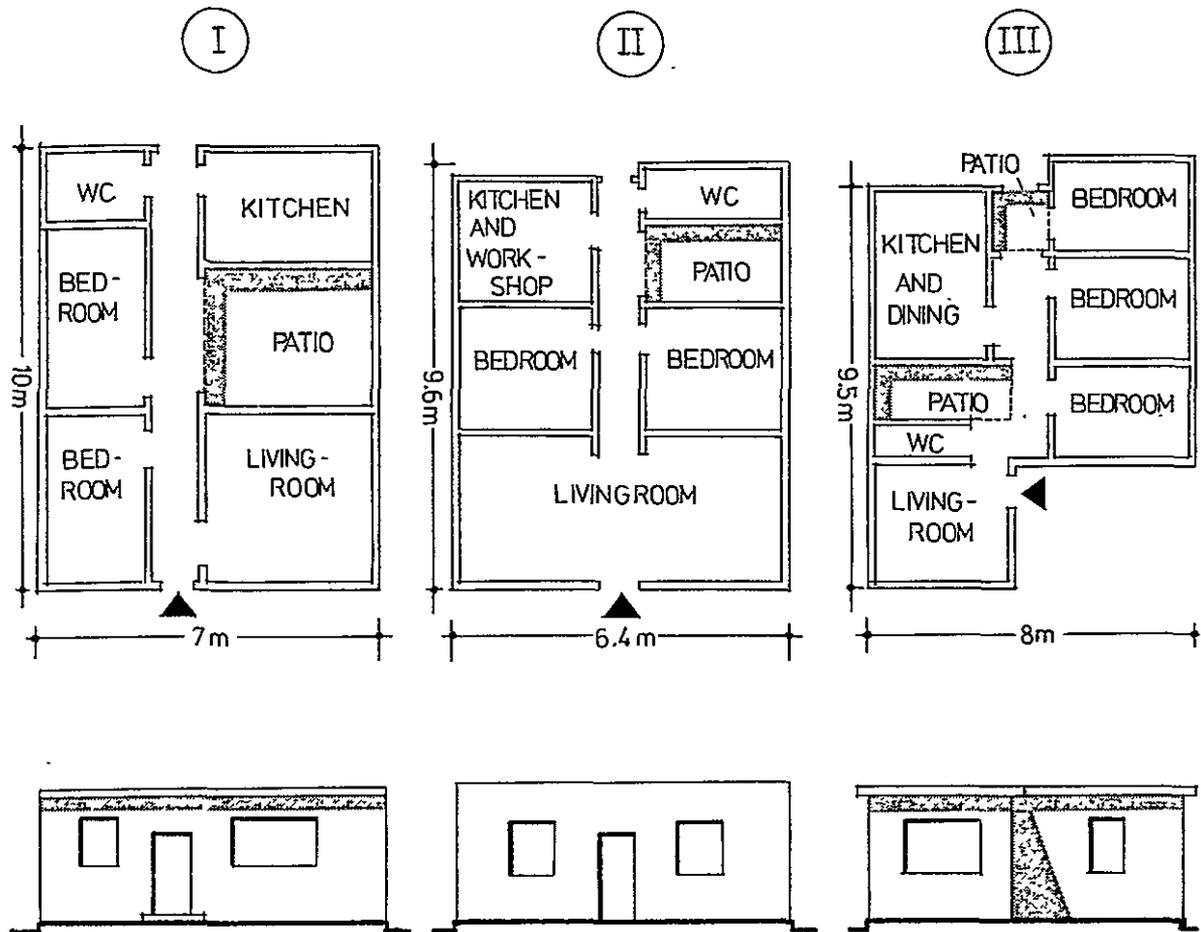


Figure 15. La Cascada: Examples of Floor Plans Designed by Residents

of the housing submarket in Medellin found that families in El Diamante, the highest income pirate barrio of the three studied, subcontracted 53% of the labor compared to 32% and 23% in the other two barrios.⁴⁰ However, consistent with the La Cascada data, they also reported that the time period required for each stage of construction was, in most cases, greater in El Diamante than in the other barrios.⁴¹

⁴⁰ Molina and Arias, *op. cit.*, p. 58.

⁴¹ *Ibid.*, pp. 31-40.

A number of factors, taken together, appear to explain the longer construction period in pirate subdivisions for higher income families despite their capacity to subcontract a larger proportion of the labor than families with lesser incomes. First, of course, the amount of construction required is greater because most families with higher monthly incomes choose to build upon a greater number of square meters and design a floor plan that usually involves more rooms and consequently more materials and construction time. The second factor which perhaps is most important in combination with the first, is the fact that regardless of the amount of contracted labor, it is the family head who nevertheless supervises the construction.⁴² As a result, work is still restricted primarily to weekends and holidays. The greater quantity of construction involved, therefore, naturally extends the number of time periods (weekends) required to complete construction. Finally, since the higher income families utilize a greater quantity of quality materials in their construction,⁴³ this fact together with the care exercised by contracted labor under the owner's supervision may tend to further lengthen the time period.

Other Economic Aspects

In studies of pirate subdivisions in Bogota, it has been observed that once purchasers have built their basic one story structure, they often rent a portion of their housing unit to another family or individual and may often add a second floor for rental purposes as well.⁴⁴ Thus, the land, which appreciates in value, together with the house itself, provide the means for a family to gradually increase its economic worth and status. Consistent with this general model, approximately 74% of the families surveyed in La Cascada indicated that they intended to add a second floor. And 27% indicated an intention to rent the additional space.⁴⁵

⁴² Ibid., p. 60.

⁴³ Ibid., p. 41.

⁴⁴ Georges Vernez, "Bogota's Pirate Settlements: An Opportunity for Metropolitan Development" (unpublished Ph.D. dissertation, University of California, Berkeley, 1973), p. 104; Rodrigo Losada and Hernando Gomez, La Tierra en el Mercado Pirata de Bogota (Bogota: Funcacion Para la Educacion Superior y el Desarrollo, 1976), pp. 92-93. The survey cited by Vernez found that approximately 1/3 of the pirate barrio families rented a portion of their dwelling. Losada and Gomez's survey indicated that approximately 10% of the families rented.

⁴⁵ In response to a related question in the author's survey, approximately 15% of the residents indicated an interest in buying and selling other lots for added income. Author's Survey Question

Provision of Services and Developer Profits

Provision of Services

Over 70% of the residents in La Cascada stated that at the time of purchase, the developer had promised at least one or more of the basic services of water, sewerage and electricity. In fact, none were provided. In the meantime, therefore, residents satisfied their service needs by taking water from the nearby Iguana tributary of the Medellin River and taking electricity by contraband.⁴⁶ By 1973, thirteen homes had been constructed in the subdivision. That same year a group of residents made an official complaint to the Superintendency of Banks about the developer's failure to provide services and his refusal to give written purchase and sale contracts. Following an inspection by the Superintendency, residents were reportedly advised to stop installment payments to the developer; approximately 3/4 of the residents did stop payments.⁴⁷

The residents subsequently sought water and sewerage services directly from the Empresas Publicas. Following a study and plan of the area, however, the utilities company concluded it was too costly to install the sewerage and water systems.⁴⁸ After residents' sewage began to seep into neighboring lots, the residents appealed

No. 3.10.

⁴⁶ One resident indicated that when the electricity had first been connected by contraband means, the Empresas Publicas had cut down the lines. The next time, after residents had reconnected the electricity in the same manner, they each allegedly paid the company's representative \$100.00 pesos not to cut the lines down. Author's Interview Notes (Medellin: La Cascada, February 9, 1975).

⁴⁷ Author's Interview Notes (Medellin: La Cascada, January 19, 1975) and Survey. A memorandum dated March 14, 1973 in the files of the Medellin Sectional Office of the Superintendency of Banks indicated that the Superintendency representative who inspected the La Cascada subdivision advised the Chief of the Sectional Office to send a notice to the developer prohibiting the further sale of lots. There is no evidence, however, that this notice, if sent, had any effect upon the developer's activities. By 1975, fourteen (14) more houses had been constructed upon lots, 7 of which were sold after 1973.

⁴⁸ Interview with Dr. Juan Esteban Duque, Health Inspector, Secretary of Health -- San Cristobal Section (San Cristobal: February 3, 1975). The provision of water to the subdivision presented the most difficult technical problem for Empresas

to the Department of Health which agreed to supply La Cascada with the necessary materials to install the subdivision sewerage lines through a mixed program of resident self help and monetary contributions. The Department used the study and plan of Empresas Publicas to calculate the following 1975 budget per family:

Total cost per family (including connection): \$1,200

Minimum contribution for sewerage connection by Empresas Publicas: \$800

Self help labor: calculated at \$5 pesos per hour on the assumption that the typical unskilled laborer earned approximately \$40 per day.

At the time of the author's survey in 1975, approximately one third of the families had contributed money and labor equivalent to the \$800.00 minimum. With respect to the remaining families, the subdivision leaders were having difficulty obtaining the necessary cooperation. A satisfactory solution for the provision of water had still not been found.

Developer Profits

The calculation of developer profits in the case of La Cascada is largely hypothetical since the majority of residents had ceased to make installment payments. In addition, it is not known what costs the developer may have incurred, if any, in what appeared to be minimal preparation of the subdivision site. Therefore, the following calculation of profit is derived from the following figures, known and estimated:

Purchase price of land (6,400 m ² : approx. \$4.00/m ²)	\$25,000
Administration and professional services (estimated on the basis of 14.5% of cost)	\$6,372
Cost of bulldozing entrance road and streets (estimated on the basis of \$5/m ² of the net area,	

Publicas. The utilities company determined that in order to supply La Cascada with water, large quantities of water would have to be pumped between two storage tanks, a procedure that apparently was too risky and costly. Interview with Dr. Leon Dario Uribe T., Chief of the Housing Habilitation Division, Empresas Publicas of Medellin (Medellin: May 19, 1975).

3,789 m2)	\$18,945
Total sales	\$230,650

The preceding developer costs and total lot sales as of 1975 may be presented in the following manner to show net profits:

Total sales	\$230,650
Costs:	
Purchase price of land	\$25,000
Cost of bulldozing roads	\$18,945.
Administration and professional services	\$ 6,372 \$50,317
Net Profit	<u>\$180,333</u>

In other words, on an initial investment of \$25,000 and assumed (though unlikely) additional costs of \$25,317, the developer hypothetically made a profit of \$180,333 pesos or 258%.

As in the case of El Diamante, it would appear that the developer assuming he had the necessary capital, could have provided at least the water and sewer infrastructure for the subdivision. This may be illustrated by using budget estimates provided by the Department of Health for the entire cost of the sewer and water infrastructure, using the self help of the community, which arguably the developer could have solicited from the residents of La Cascada. The Department of Health estimates were the following:

⁴⁹ Estimated using 1975 bulldozing costs for "minimum standards" subdivision (\$10.00/m2 for net area), adjusted to 1966 prices, based upon the inflation index average for "housing" costs for "employed persons" and "workers". Revista del Banco de la Republica, September 1978, Table 8.4.1 and December 1973, p. 1863. The correction for price inflation (260%) gave a cost per square meter of \$3.80. This figure was increased to \$5.00/m2 to allow for the difficulty of the terrain. Net area for La Cascada was estimated at 3,789 m2.

⁵⁰ Estimated at 14.5% of costs.

1. Sewerage Cost Allocations

Department of Health (or Developer)	\$24,750
La Cascada residents	\$17,164
SUBTOTAL	\$41,914

2. Water (without community contribution) \$10,000

TOTAL	\$51,914
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These additional infrastructure costs give the following calculation of net profits:

Total sales	\$230,650	
Costs:		
Purchase price, bulldozing of roads and overhead:	\$50,317	
Infrastructure:	\$51,914	\$102,231
Net Profit	\$128,419	

The net profit, with infrastructure installed for sewer and water, would have been \$128,419 or 26%. The same caveats that were stated in Section 8 concerning the interpretation of the profit percentages in the case of El Diamante would apply as well to the profit calculations for La Cascada.

Conclusion

The case study of La Cascada was presented to illustrate the characteristics of a developing pirate subdivision in the semi-rural periphery of Medellin. It is hypothesized that La Cascada is representative of a slow perhaps less visible process of pirate subdividing that has continued and will continue to occur in small areas of the semi-rural periphery despite the generally successful efforts of the Superintendency of banks in Medellin to halt uncontrolled subdividing. This hypothesis seems reasonable in light of a number of considerations. Before presenting these considerations, however, one background observation should be made. That is, that it is important to recognize the high degree of individualism that exists among Colombians that in turn fuels the desire for single family ownership as opposed to rental or cooperative housing. This characteristic was emphasized to the author in some of the interviews with local officials and was very

evident in the responses given to the author in his survey. This individualism combined with the common sense perception that land appreciates in value and that ownership of a plot can provide a means for economic self-improvement, give the average Colombian family strong incentives to find and purchase a lot by whatever means possible. (See Figure 16.)

With the above observation in mind, the following considerations would seem to support the hypothesis stated. First, as mentioned previously, the Municipal Planning Department estimates for 1973 indicated a housing deficit of 26,050 units, of which 83% existed among families with incomes of \$4,000 pesos or less. Medellin continues to increase in population by approximately 55,000 persons per year. In 1976 the Planning Department estimated that assuming 6 persons per household, the annual population growth would require the construction of approximately 9,100 units per year. Between the end of 1973 and the end of 1974, however, only 8,000 units were constructed, leaving an accumulated deficit in 1975 of approximately 40,000 units.⁵¹ It seems reasonable to expect that given increasing deficit of housing, particularly for lower income families, that such families will continue as before, to create their own housing solutions. While such solutions may require land invasion, the data presented in Chapter V suggest that the majority of potential pirate lot purchasers reject that alternative in favor of some sort of purchase and sale transaction.

Second, the pattern of "renter to pirate lot purchaser" observed in La Cascada, El Diamante and other pirate subdivisions appears to exist and continue even for the lowest income group of renters, the inquilinato, or tenement-type house renter.⁵² This form of housing has not received much study in Medellin. However, a preliminary study of inquilinos by the Department of Municipal Planning in 1976 indicated that only about 43% had some form of economic activity, and that income was derived primarily from work in the service sector, most often as a street vendor. Of those who had some form of employment or subemployment, 80% had monthly incomes of less than \$1,500. Despite the low income level of most of the

⁵¹ Mosquera and Hinestrosa, op. cit., pp. 197-198.

⁵² This form of renting is distinguishable from commercial apartment renting. The term "tenement-type" house renter is used here because the inquilinos find rooms to rent not only in centrally located buildings that have been converted to typical tenement houses, but also in the peripherally located pirate barrios. The important characteristic of the inquilinato family is that it rents limited space at a high rent. The 1973 census of Medellin indicated that there existed 870 houses of inquilinos located in central downtown locations as well as in some of the peripheral pirate barrio areas. These inquilinato houses were occupied by 6,262 households, or 7.2 households per tenant house. Mosquera and Hinestrosa, op. cit., p. 232.

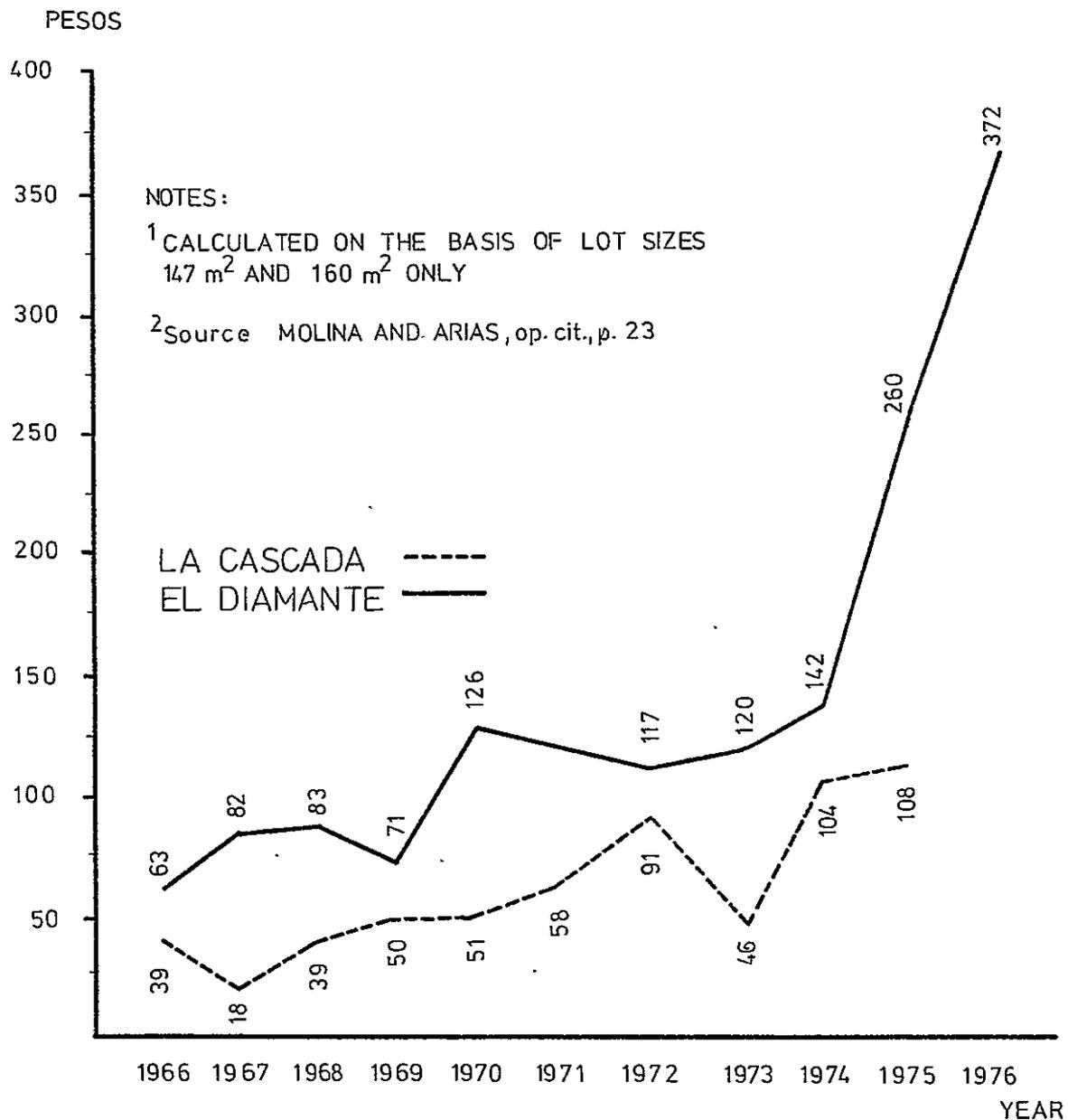


Figure 16. Average Value per Square Meter of Land
 in La Cascada and in El Diamante 1966-1975/76

(Values per M2 represent absolute values over time without adjustment for inflation, whis was approximately 374% between 1966 and 1976. Price Index, Revista del Banco de La Republica, op. cit.)

inquilinos, the Planning Department discovered in this 1976 study that various families (no statistic was given) nevertheless had already purchased a lot in a pirate barrio or were in the process of paying for one.

Viewed in the context of the La Cascada data, the Planning Department's findings are particularly significant. Approximately 87% of the total number of families in La Cascada reported monthly incomes of \$3,000 pesos or less. Of these families, 45% reported monthly incomes of \$1,500 or less. Of the total number of families reporting incomes of \$3,000 or less, 60% had been renters in such barrios as Castilla, Berlin, El Diamante, Manrique, Santa Cruz and others -- barrios, most of which were identified by the Planning Department as containing the greatest concentration of inquilinos.⁵³ More than 90% of these families purchased their lot in La Cascada after 1970, many in 1974. The inference which can be drawn from both sources of data is the following. Despite institutional constraints upon the pirate market and the decreasing availability of land within the urban area, low income families in Medellin, even those with incomes of \$1,500 or less, continue to aspire to land ownership and manage to accumulate sufficient savings to create a demand that is being met in small semi-rural pirate subdivisions.

A final consideration that supports the hypothesis of a continuing pirate submarket in the semi-rural areas, is the physical difficulty of policing such activity through the Superintendency of Banks. Technically it is the police department's "control of construction" unit that is responsible for discovering illegal construction and informing the Superintendency. However, by law, the Superintendency may only act to control a subdivision of 5 units or more.⁵⁴ With a staff of 8 persons, including secretarial help, and only two or three staff members routinely available to make inspections, the Superintendency is not equipped administratively to do follow-up inspections of small, slowly developing pirate subdivisions in the semi-rural areas. In La Cascada, for example, 13

⁵³ Ibid., p. 228B.

⁵⁴ Congreso Nacional, Ley 66 de 1968, art. 2. The Chief of the Superintendency's Housing Division in Medellin indicated that the Medellin office construed the subdivision requirement of "5 units or more" to mean that the sale of lots and construction thereon need not be continuous. Thus, technically a pirate developer could not avoid the law by selling lots through multiple agents (comisionistas) in quantities of less than 5 units each. Interview with Dr. Alvaro Cordoba Garcia, Chief of the Medellin Sectional Office of the Superintendency of Banks (Medellin: July 2, 1975). However pragmatic the Sectional Office's interpretation of the unit requirement, it nevertheless was clear that the Superintendency of Banks in Medellin did not have sufficient personnel to repeatedly inspect small, slowly growing pirate subdivisions such as La Cascada.

houses had been built before the Superintendency made its first inspection in 1973. Lot sales and construction continued thereafter despite a written warning from the Superintendency to the developer.

The preceding considerations suggest the reasonableness of the hypothesis; they do not prove the hypothesis. Proof of continued pirate market activity in the semi-rural periphery depends upon future studies by the Department of Municipal Planning. The Department has acknowledged that the semi-rural as well as rural areas surrounding Medellin have not been studied in much detail.⁵⁵ Few statistics are available. Presumably statistics will become available as the Department seeks to implement the "micro-farm" or green belt policy at the urban perimeter.

COMPARISON WITH OTHER HOUSING SUBMARKETS IN MEDELLIN

In order to understand the vitality and viability of the pirate housing submarket as illustrated in the preceding case studies, it is necessary to view it within the comparative context of other housing submarkets in Medellin. These submarkets may be grouped into three general categories. The first category consists of housing produced by private commercial companies. Government housing programs, national and municipal, constitute a second housing submarket. A third, relatively small housing submarket exists through the efforts of private, nonprofit organizations. This section will briefly consider the first category; the remainder of the analysis will be devoted to the second category, namely, the government housing programs. The government programs provide the largest quantitative alternative to the pirate housing submarket. Because of the limited quantity of housing solutions that the private nonprofit sector can provide, the third category will not be discussed in the text.⁵⁶

⁵⁵ See, Mosquera and Hinestrosa, op. cit., pp. 129-131.

⁵⁶ The most significant organization in this sector in Medellin is Barrios de Jesus, founded in 1961. In 1975 the organization had three principal kinds of housing programs: (1) single family homes; (2) single family homes on semi-rural plots (parcelas); and (3) a program for loaning building materials to squatter-type dwellers (tugurianos). The most recent projects representative of these three program categories were the following:

Program/ Project	Yr.	No. of Solutions	Price	Down- Payment	Monthly Installments
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(1) La10 s.f. \$35,000 \$6,000 \$300 for 2 yrs.
Frontera '72 then \$50

The Commercial Housing Market

In 1975, the minimum price of a house produced by commercial firms ranged from \$120,000 to \$200,000 pesos, the most typical minimum price being approximately \$150,000.⁵⁷ None of the commercial firms provide financing schemes for purchasers. The full price must be paid upon transfer. Many employers in private companies, however, do provide a "housing fund" (fondo de vivienda) through which "workers" (obreros) and "employees" (empleados) may obtain housing loans backed by future severance payments (cesantias). In 1976 one of the larger housing fund loan amounts available for "workers" was \$45,000 (maximum) at 4.0% per year with a late payment charge of 1.0%. For "employees" the maximum loan amount from the same fund was also \$45,000 but the respective interest charges were 8.0% per year and 1.0% for late payments.⁵⁸ As the data from the two case studies indicated, however, few of the pirate barrio residents worked in places of employment that had housing funds.⁵⁹ Moreover, it is apparent that even if workers (or employees) had had access to a housing fund, the minimum priced house (\$120,000) would have been beyond their financial reach.

Government Housing Programs

(2) Fuente Clara	'75	75 parcelas	\$70,000	\$8,000	\$500, 14% on bal.
(3) La Maria	'74- '75	100 fami- lies	\$5-8,000	\$ 100	\$100, 8-12% on bal.

Information source:

Interviews with Dr. Alvaro Duque Ramirez, Director of Barrios de Jesus and Dra. Luz Elena Lopez, Social Worker, Barrios de Jesus (Medellin: March 17, 1975.)

⁵⁷ Data provided by the commercial housing firm, Humberto Ochoa y Compania, Medellin. In 1979, the minimum cost of a commercially produced house was approximately \$400,000. Ibid.

⁵⁸ Information obtained from Dr. Gilberto Barrero, Official Appraiser of the Housing Fund for Empresas Publicas (Medellin: April 7, 1979). Although the housing fund of Empresas Publicas is larger than most company funds and its loan amounts are somewhat larger, its structure and operation are similar to housing funds in private companies. Some companies provide housing loans without interest. Ibid.

⁵⁹ Only one resident in La Cascada (see Table 11, supra) indicated

National: Instituto de Credito Territorial

In June, 1975, the Antioquia sectional office of Colombia's national housing agency, Instituto de Credito Territorial (hereinafter referred to as I.C.T.), ran the following newspaper advertisement:

YOU KNOW THAT A HOUSE COSTS WHAT YOU PAY FOR THE DOWNPAYMENT

The rest is like paying rent for oneself.

Any family with limited income can acquire a house for only a \$12,000 downpayment in the Residential Unit DOCE DE OCTUBRE (12th of October).

And housing is not just the house. Housing is a house with all basic services.

Your house in DOCE DE OCTUBRE has: Legally installed water, sewer and electrical services, access roads, schools and transportation.

Additional services such as: Health centers, recreation areas, a church, a swimming pool etc. You may expand and improve your house little by little according to your own taste, initiative and resources.

Your house in DOCE DE OCTUBRE will cost you practically the same as a lot in a pirate barrio. But in DOCE DE OCTUBRE your family will enjoy all the services of a modern and pleasant development. And we turn over the house to you with an officially registered deed.

And all for only \$12,000 downpayment, which you can pay using your cesantias and your June bonus. This father's day, give yourself this big gift. ⁶⁰

The content and tone of the advertisement indicate a clear attempt by I.C.T. to appeal to potential purchasers in the pirate housing market. Indeed, it was the opinion of the manager of the sectional office that the housing units offered in the Doce de Octubre development could successfully compete with the offerings in the

he had obtained a loan (\$35,000) from his company's housing fund. No "housing fund" resources were cited by Molina and Arias, op. cit., in their survey of El Diamante.

⁶⁰ EL Colombiano, June 15, 1975.

pirate housing market; the development simply needed to be properly marketed. ⁶¹

As regards the "marketing" issue, it would appear that the I.C.T. manager was correct in at least one respect; that is, in general, potential purchasers in pirate subdivisions may have had limited awareness of I.C.T. programs. If residents surveyed in La Cascada are at all representative of residents in other pirate subdivisions, this conclusion would appear to be correct. Approximately 57% of those surveyed indicated that they had not heard of I.C.T.'s programs prior to their purchase of a lot in La Cascada. Another 26% acknowledged having heard of the housing programs prior to purchase, but did not apply. Only 13% of the residents had actually applied to I.C.T. for housing and had either been unsuccessful in their application or had decided to purchase a lot instead. Of those residents who were aware of the I.C.T.'s programs and declined to apply, the following reasons were given for their decisions. First, approximately 22% expressed the view that they preferred to build their own homes, and that the I.C.T.'s housing programs offered only "prebuilt" homes. ⁶² Over 65% of the residents, however, expressed concerns related to cost. Specifically, some residents expressed the view that the initial downpayment was too high. Others stated that the installment payments were high; and some asserted that the total cost of a house in an I.C.T. program was too high. ⁶³

It is important to examine the reasonableness of the La Cascada residents' views as opposed to the view that an I.C.T. housing development such as Doce de Octubre could be successfully marketed among potential pirate lot purchasers. If we used the residents' critical views as indicators of the essential factors that they identify in weighing choices in both the private and the government housing markets, they would appear to be the following:

<u>Purchasers' Viewpoint or Concern</u>	<u>Related Housing Factor</u>
A. Opportunity to build one's own house in accordance with needs and desires	1. Lot size 2. Lot area already

⁶¹ Interview with Dr. Diter R. Castrillon O., Manager of the Sectional Office of the Instituto de Credito Territorial (Medellin: June 19, 1975). Dr. Castrillon indicated at the time that there were 700 vacancies in Doce de Octubre. The \$12,000 downpayment was premised on the view that a potential purchaser could accumulate that amount in cesantias over a 4 year period.

⁶² This view was not entirely correct. As early as 1970 the I.C.T. in Medellin had instituted "minimum solution" programs. See text at footnote 77, infra.

⁶³ The remainder indicated that they had not had the time to investigate the I.C.T. programs.

	constructed or constructable
B. Total cost of housing (lot + house)	3. Purchase price
C. Amount of downpayment	4. Downpayment
D. Amount of monthly installment payments	5. Scheme for installment payments

The list of housing factors translated from expressed purchasers' concerns is simple and straight-forward. It is noteworthy, however, that unlike the elements or attributes listed in the I.C.T. advertisement, the purchaser list does not include direct mention of services. Certainly they figure implicitly in the determination of total cost; but as observed in the La Cascada case study, it would appear that pirate lot purchasers place priority upon the potential value of the lot itself, and make the assumption that services can eventually be obtained legally or otherwise. In addition, while one of the purchasers' principal concerns in addition to the downpayment is the installment amount required, the I.C.T. advertisement neglects to provide the specific figure in conjunction with the downpayment amount. The specific figures are provided in brochures at the I.C.T. office; but its omission in the advertisement suggests a failure to appreciate the emphasis placed by pirate lot purchasers upon the amount of the monthly installment calculated in relation to their low, often unstable, incomes. Finally, the purchasers' list of concerns and the advertisement reflect two different ways of viewing total cost. From the viewpoint of the purchaser, the total cost of housing consists first of the total lot price and second, of whatever the purchaser is able to invest in the construction of a dwelling. In this context, the advertisement's assertion that the "house in Doce De Octubre will cost . . . practically the same as a lot in a pirate barrio" has little meaning. The total cost for the I.C.T. house is fixed; the total cost of the purchasers' house in a pirate subdivision is not fixed, and may vary among individual purchasers over time in accordance with income and needs.

The above comparison is superficial, but it is intended to highlight the essential factors that appear to shape the pirate lot purchaser's evaluation of housing choices. In a table set forth below the pirate housing market vs. government (I.C.T.) housing market choices available to the potential purchaser will be presented in specific cost terms.

Before making the specific cost comparisons, however, it is important to understand some background information about the specific government programs used in the comparative analysis. In 1969, the I.C.T. commissioned a study of housing demand by the Center for Economic Investigations of the University of Antioquia.

The study concluded that as of March, 1969, 35,431 low income and medium low income families lacked their own housing. Of this total, 16,000 of the families fell within the low income category with incomes less than \$900 pesos per month (1969). The perceived housing deficit as well as the conclusion that the National Law No. 66 (1968) had practically paralyzed the activities of pirate developers, led the I.C.T. to conclude that a large construction program of housing units was necessary and possible. One factor in particular supported the I.C.T.'s belief that such a quantitative solution was feasible. As a result of the general paralysis of pirate developer activities, some land owners, many of them pirate developers, were willing to sell large tracts of peripheral land at relatively low prices. Accordingly, the I.C.T. purchased large tracts of peripheral land, particularly in the northwestern part of the city.⁶⁴ Another factor that reinforced the belief in the need for a large scale solution was the general view that a massive rationally implemented housing program was necessary in the peripheral areas to prevent the invasion of those areas by low income families. As previously noted, land invasions did begin to increase significantly in Medellin around 1970.⁶⁵

The solution proposed by I.C.T. was the Doce de Octubre development on land purchased in 1969 (in part from a pirate developer) by I.C.T. in accordance with the recommendations of the study on housing demand. As approved collectively by the boards of directors of I.C.T. and the Departments of Valorizacion and Planning in 1971, the development contemplated 6,500 single family units constructed in a number of stages. The I.C.T. Sectional Manager presented the housing development as one intended for "low income persons such as workers in construction and for those sectors of the population with monthly income less than \$1,500 (1971) or employed in sporadic jobs."⁶⁶ In other words, Doce de Octubre quite clearly was intended to provide an alternative solution to that segment of low income families that heretofore had sought housing in the pirate market.⁶⁷ The development offers three types of houses, Types A, B

⁶⁴ Instituto de Credito Territorial, Seccional de Medellin, Tugurios: La Competencia Municipal en el Asentamiento Habitacional No Controlado (Presentado al XIII Congreso de la Organizacion Interamericana de Cooperacion Intermunicipal, Julio 4-8 de 1970), pp. 27-30.

⁶⁵ See Chapter II, footnote 17, supra.

⁶⁶ Departamento Administrativo de Planeacion y S.T., Acta No. 5 (Abril 6, 1971).

⁶⁷ It should be noted, however, that the first stage of Doce de Octubre included the transfer to the housing development of approximately 150 families from an invasion area called Tenche in the Barrio of Fatima as part of a program to eradicate slum areas in the central zones of the city. See, Gloria Eugenia Echeverry V.

and C, on the same lot size of 72 square meters. (See Figures 17 and 19.) House Type A is the least expensive of the solutions and is used as the model in the cost comparisons presented below.

The other I.C.T. development presented in the housing case comparison is the second stage of Francisco Antonio Zea (hereafter referred to as Zea II), also built on land purchased by I.C.T. in 1969.⁶⁸ (See Figures 18 and 20.) Because of the higher economic classes living around the proposed development area and zoning restrictions on density, the solutions constructed by I.C.T. (two floors-single family) and offered in 1972 were necessarily more expensive than those offered in Doce de Octubre.⁶⁹ Nevertheless, the units were intended for lower income families and must be considered representative of the kind of housing solution offered by the government housing market in 1972.⁷⁰

Table 14 presented below is constructed from data available for specific years that cover the period 1971-1976. Instead of presenting the cost data in relation to a particular base year, the table presents the data in the actual time sequence in which it occurred or was relevant. It is believed that this format represents more realistically the nature of the housing markets as perceived by the potential pirate lot purchaser. If the data from the El Diamante case study, and particularly the La Cascada case study are indicative, it would appear that the typical pirate lot purchaser spends at least 3-4 years as a renter before seeking to purchase housing. During that time it is probably reasonable to assume that the potential purchaser at least takes notice of kinds of housing available for purchase. However, if the La Cascada data is correct, it would appear that very few pirate lot purchasers actually

et al., "Evolucion de las Familias Erradicadas del Sector de Tugurios Tenche a la Urbanizacion Doce de Octubre, 1972-1975" (Medellin: I.C.T., 1975).

⁶⁸ Because of limited funds and the low-income status of the purchasers in the first stage of the development (Zea I), the I.C.T. actually experimented with the provision of minimum services (water taps and latrines) for approximately 6 months. This minimum services approach, however, was rejected by the city administration and Empresas Publicas as violative of necessary standards. Interview with Dr. Gustavo Suarez, Chief of the Technical Division, Instituto de Credito Territorial, Seccional de Antioquia (Medellin: June 12, 1975).

⁶⁹ Ibid.

⁷⁰ The I.C.T. did not officially shift its housing strategies in order to include more "minimum standard" solutions (i.e., lots with services) until 1974, (Board of Directors' Resolution No. 002). See, INSCREDIAL, Politica de Vivienda (Bogota: I.C.T., Seccion Publicaciones, 1974).

Source: I.C.T. BROCHURE, MEDELLIN

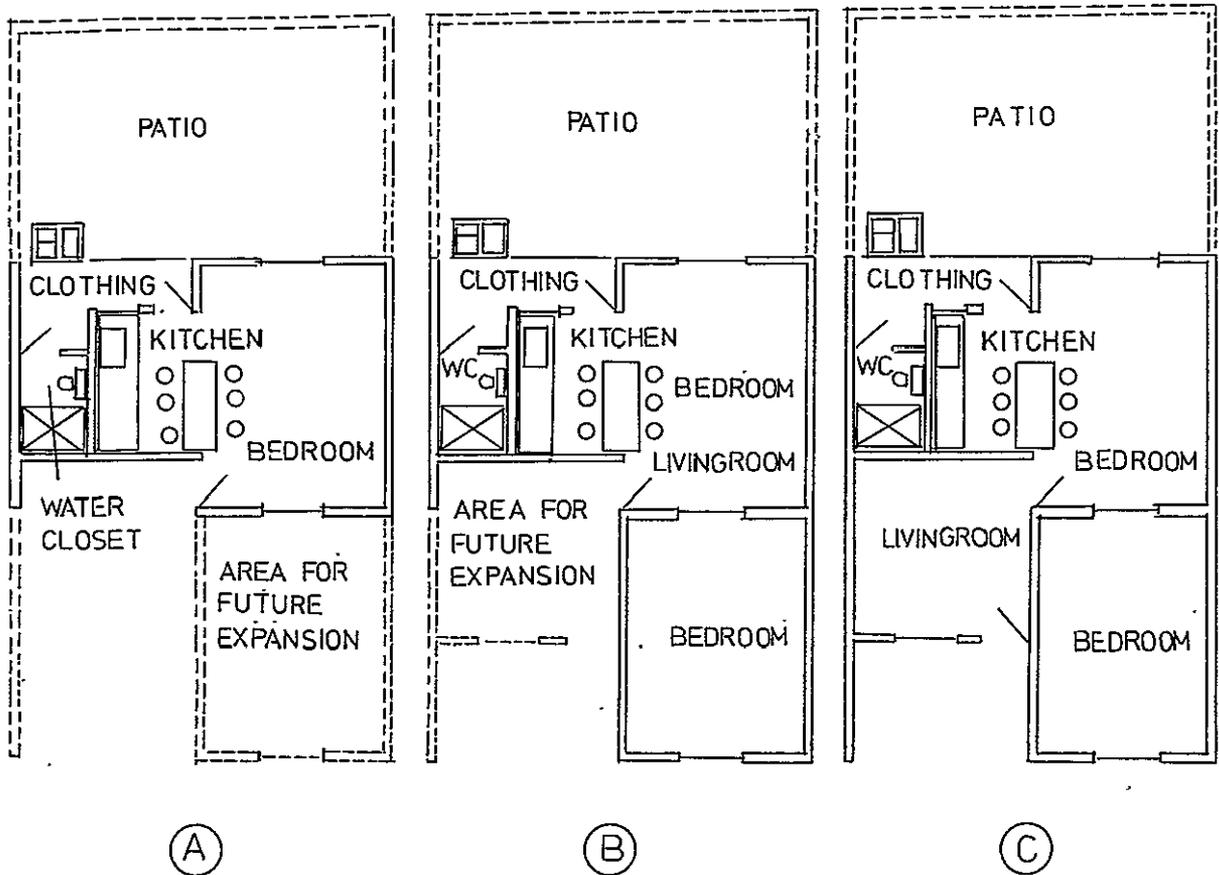


Figure 17. I.C.T. Subdivision on Doce de Octubre, Medellin
Types of Houses

Source: I.C.T., MEDELLIN

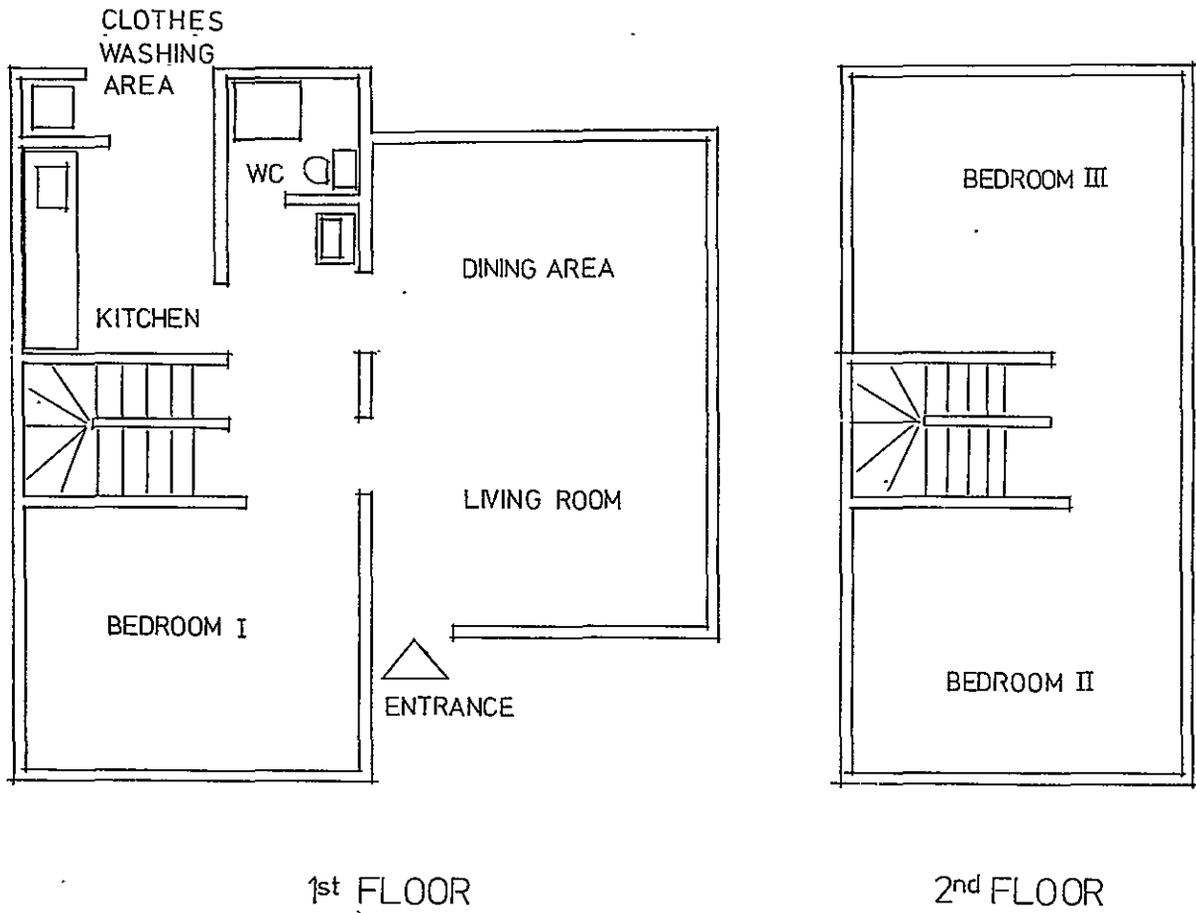


Figure 18. I.C.T. Subdivision Francisco Antonio Zea Segunda Etapa (Second Stage), Medellin. Housing Floor Plan

"survey" the housing market(s) at the point they are ready to purchase. Rather, the more typical pirate lot purchaser model appears to be that of the purchaser who opts to buy a lot or a house upon hearing of its availability -- without inquiring further -- as long as the choice meets the housing factors or criteria set forth above. Table 14 is constructed upon this purchaser model and assumes, for example, that the potential purchaser, having become aware of the availability of government housing (Doce de Octubre) in 1971, may also learn during the following year (1972-1973) that housing in another government project (Zea II) is available, and that there are lots for sale in El Diamante. Assuming that at some point within the 5 year period the potential purchaser has accumulated sufficient savings or possibly cesantias advancements, which market provides the best choice as judged by the purchaser criteria set forth above? These criteria were: (1) lot size; (2) lot area constructable; (3) purchase price; (4) downpayment; and (5) installment payment scheme.

If we assume that the potential purchaser as early as 1971 in fact had sufficient savings or cesantias to consider the possibility of purchasing, the "Type A" solution offered in Doce de Octubre, judged by the criteria mentioned, might have been attractive. Except for the issue of lot size and constructable area, the other criteria or terms of payment were quite favorable. The purchaser could have opted to pay no downpayment, paid monthly installment payments whose incremented value per year would not have reached \$200 pesos for approximately ten years, and have obtained a fully serviced house for \$26,873 pesos.

As regards the question of lot size and constructable area, it is conceivable that the possibility of eventually expanding the home from 20 square meters to approximately 50 square meters, or 75% of the total lot (72m²), would have been satisfactory. For example, constructed areas on the very large lots in La Cascada ranged from 35-60 m². However, if the case studies of pirate lot purchasers are representative, it would appear that it is not the specific amount of family space constructable on the lot that is most important, but rather the flexibility of the use of the space on the lot. In the Doce de Octubre development, the units were not designed to allow for a second floor,⁷¹ a feature that was observed in the La Cascada study to be important to the residents for potential rental value as well as for personal use. In addition, a 20 square meter house expanded to 40 or 50 square meters would have little space for other uses such as a garden or small business, that could serve as sources for additional economic gain.

⁷¹ A second floor could technically be added, but the roof would have to be torn down, at considerable expense. See, Molina and Arias, op. cit., p. 116.

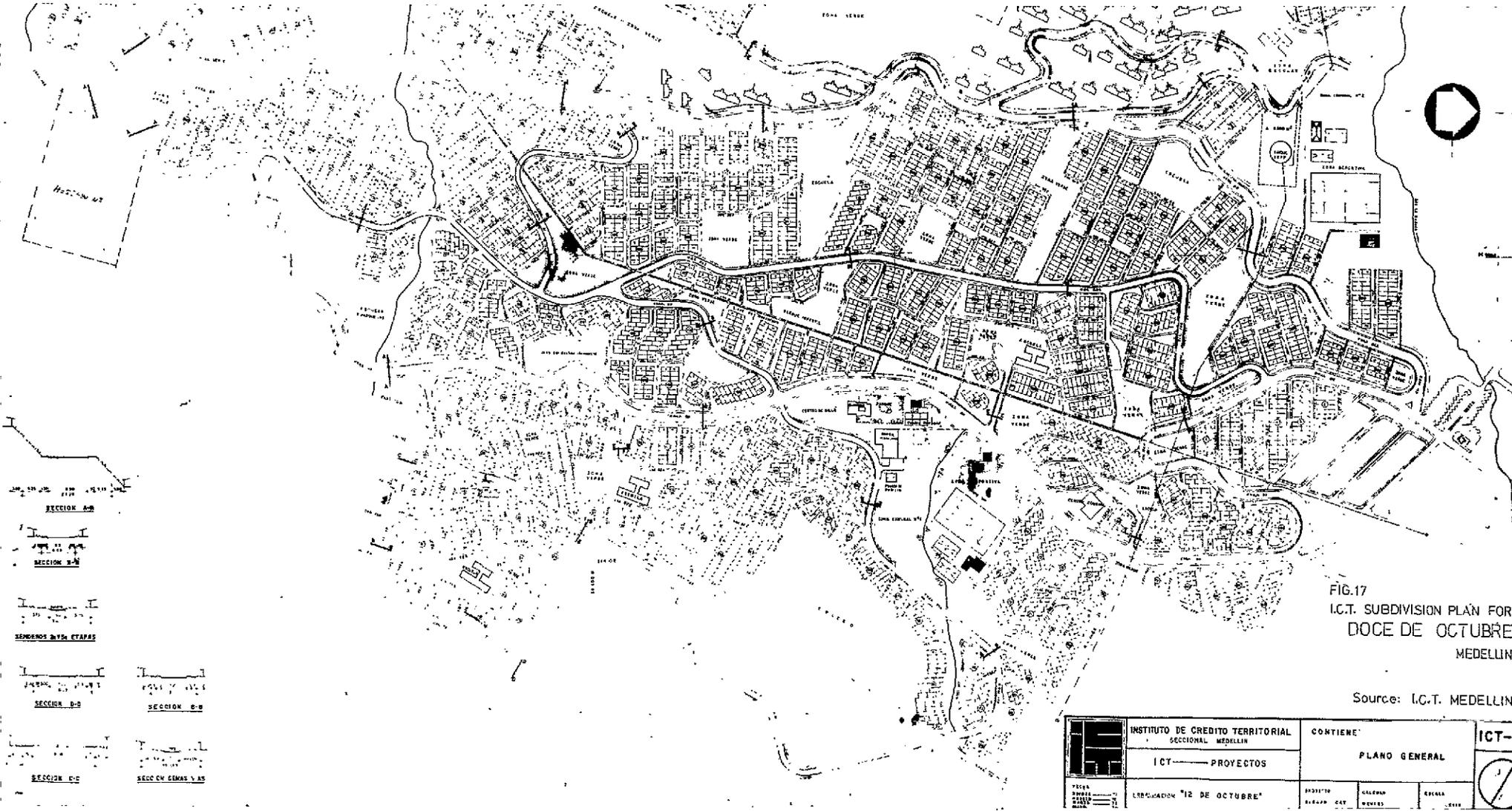
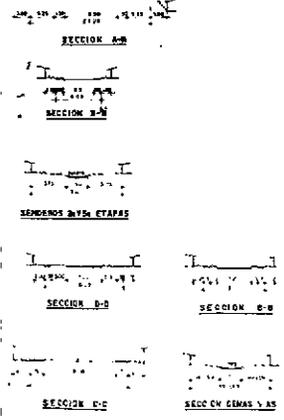


FIG.17
 I.C.T. SUBDIVISION PLAN FOR
 DOCE DE OCTUBRE
 MEDELLIN

Source: I.C.T. MEDELLIN



	INSTITUTO DE CREDITO TERRITORIAL SECCIONAL MEDELLIN	CONTIENE			
	ICT — PROYECTOS	PLANO GENERAL			
ESCALA 1:10000	LEYENDAS 12 DE OCTUBRE	PROYECTO SECCION A-D	CALLEJAS BARRIO	CERCAS LINEA	

However the potential purchaser would have resolved the spatial issues presented in the Type A housing model, it is apparent that after 1971, the financing cost for both the Doce de Octubre units as well as the two story units offered in Zea II, greatly reduced the attractiveness of the government housing market in comparison to alternatives available in the pirate housing market. Between 1971 and 1974 the purchase price of a Type A unit in Doce de Octubre rose from \$22,500 to \$55,000 or 144%. Similarly, the downpayment, originally none or \$3,000, increased to \$10,000, an increase of 333% above the original \$3,000 amount. The minimum first year monthly installment payment had increased more than six (6) times. The Zea II units required a downpayment in 1972 of \$9,800 -- practically the same downpayment required two years later in Doce de Octubre. The units themselves while offering two floors of living space covering 60 square meters, cost in 1972 almost twice the amount of a Type A unit offered the year before in Doce de Octubre.

During the same three year period, a potential purchaser who had learned of available lots in El Diamante would have discovered undeveloped 128 square meter lots requiring on the average, a downpayment of \$1,50 (one half the amount for a Type A house in 1971)⁷² and a monthly installment charge of \$227.00 (less than half that required the first year of purchase of a Type A unit in 1974). If we recall that the pirate lot purchaser's criteria emphasize spatial flexibility and the most feasible financial terms rather than services and existing housing structure, it is reasonable to expect that the potential purchaser would opt for a lot in the pirate subdivision market during the period in question.

A similar dramatic increase in the financing requirements for a Type A unit in Doce de Octubre can be observed during the period 1974-76 (approximately 160%). In contrast, the purchase terms set by the pirate developer in La Cascada as well as the amount of area purchasable, make the unserviced subdivision lot the more viable alternative when evaluated from the perspective of the purchaser's housing criteria.

An examination in Table 14 of the respective costs incurred by I.C.T. and the pirate developer prior to sale, suggests one of the reasons why the pirate submarket competes successfully against government housing alternatives. The Zea II development and El Diamante provide a good comparative illustration. In 1969, the I.C.T. purchased the first part of the tract for the Francisco Antonio Zea development at \$25.00/m². It was from this portion that the Zea II subdivision was developed. The unurbanized lot cost in 1969 of the Zea II development was \$90.16 per square meter.⁷³

⁷² The survey by Molina and Arias of El Diamante residents revealed that some downpayments were as high as \$3,000, and in one case, \$12,000. However, the majority of downpayments ranged between \$400 and \$1000. Ibid., p. 28.

TABLE 14

COMPARISON OF GOVERNMENT HOUSING MARKET AND PIRATE HOUSING MARKET, MEDELLIN: 1972-1976						
Characteristics	ICT: 12 de Octubre ^a Type A ^a 1971 (a)	ICT: ZEA II (a) 1972	El Diamante 1973	ICT: 12 de Octubre ^a Type A ^a 1974 (a)	La Cascada 1975 (a)	ICT: 12 de Octubre ^a Type A ^a 1976
Total Area	468,000 m2	102,940 m2	91,940 m2	468,000 m2	6,400 m2	468,000 m2
Net Area	180,000 m2	26,941 m2	43,912 m2	180,000 m2	3,789 m2	180,000 m2
Total No. of Lots	1,200	448 (b)	380	1,061	31	130
Lot Size	72 m2	60 m2	128 m2	72 m2	160 m2	72 m2
Avg. Lot Area Constructed (m2)	20.26 m2	1st fl. = 40.05 m2 2nd fl. = 20.89 m2	88.56 m2 (a)	20.26 m2	35-60 m2	20.26 m2
Unurbanized Total Lot Cost /m2	no information	\$ 8,029.00(c)	\$4,023.00(b)	no information	\$ 1,056.00(b)	\$30,000.00(a)
Urbanized Total Lot Cost /m2	no information	131.53(c)	31.43(b)	no information	6.59	no information
House Construc- tion cost	no information	19,195.00	(8,832.00)(c)	no information	no verifiable cost data	no information
TOTAL COST	no information	314.47	69.00(c)	no information	\$14-20,000.00	\$45,300.00(a)
SELLING PRICE	\$22,500.00(b) \$26,873.00(c) \$43,762.00(d)	\$47,645.00	\$20-40,000 (f)	\$55,000.00	(\$32-38,000)	\$75,300.00(a)
Downpayment	0 or \$3,000	\$9,800.00	\$1,500.00(g)	\$10,000.00	\$2,000.00	\$17,000.00(b)
Installment Payments/Mo.	\$ 85.47(c)	1st yr: \$417.39 (5% incr./yr)	\$ 227.00(g)	1st yr: \$527.51 (5% incr./yr)	\$ 270.00	1st yr: \$855.00(b) (5% incr./yr)
Payment Period	15 yrs (180 mos.)(c) 18 yrs (216 mos)(d)	13 yrs (156 mos)	5 yrs (60 mos) (g)	12 yrs (144 mos)	4 yrs (48 mos)	12 yrs (144 mos) (b)
Interest Charges	6% on annual bal. 2% for ins.	11% on annual bal. 2% for ins.	24% on annual bal. (g) 0.5% finance chg.	12% on annual bal. 2% for ins.	18% annually bal. overdue after 4 yr. term	12% on annual bal. 2% for ins.
Services	all provided	all provided	none provided (contraband)	all provided	none provided (contraband)	all provided
Open Space (%)	26%	31,427 m2 (33%)	22,077 m2 (24%)	26%	minimal	26%
Community Services	health ctr/2 schools/police/ church/market/ sports area	school/ hospital (nearby)/ church	school	health ctr/ 2 schools/ police/church/ market/sports area	school & church in nearby barrio	health ctr/ 2 schools/ police/church/ market/sports area

Notes

Doce de Octubre 1971

(a) Data source: Molina and Arias, Estudio sobre Estructura Financiera de Submercado de Vivienda, (Medellin: CEIE, Escuela de Administracion y Finanzas, 1976), p. 101.

(b) Purchase price if paid in full upon transfer.

(c) Financed cost and term if downpayment of \$3,000.

(d) Financed cost and term if no downpayment.

Francisco Antonio Zea II

(a) Source for cost figures and terms of purchase: Gustavo Suarez Vasquez, Director Tecnico, I.C.T., "Barrio Francisco Antonio Zea -- Medellin Liquidacion Definitiva de 616 Casas UF de Dos Plantas" (Medellin: Febrero 1974); Gerencia Seccional, I.C.T., "Memorando: Liquidacion de Venta Plan Francisco Antonio Zea 448 Soluciones Casas-tipo Etapa 2A" (Medellin: Febrero 21, 1972).

(b) The actual lot total was 464. Calculations exclude a 16 lot section.

(c) Purchased originally in 1969 at \$25.00/m². Cost represents the "financed" cost per square meter of undeveloped lot as of March, 1972, the date the houses were offered for sale.

El Diamante

(a) Source: Molina and Arias, op. cit., p. 20.

(b) Net area cost of land to developer according to information received by the Department of Municipal Planning, 1973.

(c) Hypothetical cost, assuming developer had provided all service infrastructure in accordance with cost estimates presented in case study, supra.

(d) Based upon survey (n=40) of residents' housing costs, estimated in current prices for construction between 1966-1975. Housing construction costs for period indicated, averaged 66. 4% of the total housing cost (lot + construction). Molina and Arias, op. cit., pp. 23, 63-64, 68-69.

(e) Total cost range of 67.5% of residents surveyed. Ibid., p. 63-64.

(f) Hypothetical price based upon total cost of incremental construction over time. Lot with constructed house, if actually sold by owner, presumably could demand a higher price.

(g) Finance terms based upon information received from developer by the Department of Municipal Planning, 1973.

Doce de Octubre 1974

(a) Data source: Gerencia Seccional, I.C.T., "Memorando: Liquidacion definitiva 1,802 casas Uab. Doce de Octubre" (Medellin: Octubre 22, 1974).

La Cascada

(a) Data source: Author's survey, interviews and document research,

1975.

(b) Original net area cost of land to developer.

Doce de Octubre 1976

(a) Source: Arias and Molina, op. cit., pp. 104, 115.

(b) Source: I.C.T., Seccional de Antioquia, "Confirmacion de datos acerca de Octubre a INSCREDIAL, Bogota" (Medellin: Diciembre 14, 1976)

However, in order to purchase the Zea tract as well as other large tracts which the I.C.T. had decided to buy in the peripheral areas of Medellin, the purchase was financed. By 1972, therefore, the "financed" unurbanized lot cost had become \$131.53/m². The cost of urbanizing the lots, including the provision of infrastructure, brought the cost in 1972 to \$314.47/m², or approximately \$19,195 per lot, before the cost per housing unit was added (\$28,450). In contrast, the developer's costs in El Diamante remained unchanged from \$31.43/m² since he incurred no financing costs and undertook minimal subdivision preparation. In this sense he was typical of pirate developers in Medellin whose peripheral land was either inherited or purchased by them at low prices years before. Because the pirate developer incurred no significant additional costs in the form of financing charges or subdivision preparation over the time period prior to lot sales,⁷⁴ he could offer land at prices well below the land value that had accrued in the I.C.T. development prior to the sale of the housing units.⁷⁵ It should be noted that in 1970, the Antioquia sectional office of I.C.T. had initiated a form of "sites and services" program⁷⁶ entitled "Minimum Solutions"

⁷³ Gustavo Suarez Vasquez, Director Tecnico, I.C.T., Seccional de Antioquia "Barrio Francisco Antonio Zea -- Medellin Liquidacion Definitiva de 616 Cases UF de Dos Plantas" (Medellin: Febrero, 1974).

⁷⁴ The pirate developer does, of course, incur the cost of real estate taxes. However, by not officially subdividing his land and by issuing only "receipts" (recibos) for purchasers' installment payments on their lots, he can maintain the tract of land in its global form and keep the original, low, farm land assessment.

⁷⁵ In fact, with the reasonable expectation that services would eventually be provided to the subdivision by means of the Rotating Fund of Empresas Publicas, many pirate developers could even decide to keep some lots off the market in order to sell later at a higher "serviced lot" price. Interview with Dr. Leon Dario Uribe T., Chief of the Housing Habilitation Division, Empresas Publicas of Medellin (Medellin: May 19, 1975).

(soluciones minimas) by which lots with individual latrines and public water taps and a small outbuilding (10 m2) were provided. ⁷⁷ A sites and services approach for lower income families was given further emphasis in 1974 as a result of the formulation of a new housing policy by the national office of I.C.T. ⁷⁸ Under a strategy defined as "Construction of Houses for Progressive Development" (Construccion de Viviendas Para Desarrollo Progressive), the I.C.T. began to provide low income families with a serviced lot on credit (lote con servicios), to provide additional financial assistance for subsequent self-help or contracted housing construction (soluciones minimas). The I.C.T. central office in Bogota estimated in 1975 that on a nationwide level, the average cost of a "lot with services" was \$18,000 pesos. The terms of finance for the lot were: no downpayment, 12 year repayment period at 9% per year, and a 5% annual increase in monthly installment payments. For the program years 1974 and 1975 the "lot with services" program nationally produced 6,473 serviced lots. The corresponding figure for houses constructed under the "minimum solutions" program was 26,759, the majority (87%) of the houses having been constructed primarily with contracted rather than self-help labor. ⁷⁹ For the program year 1974, the I.C.T. Antioquia sectional office financed 232 serviced lots under the "lot with services" program and 504 houses under the "minimum solutions" program. ⁸⁰

The relatively low numerical total cited for the "lot with services" program largely reflects the start-up period of the program. It seems reasonable to expect that as a national entity, the I.C.T. would have the administrative capacity to greatly increase its program rate of producing serviced lots. As regards implementation of the program in Medellin, it would appear that at

⁷⁶ The term "sites and services" is used to refer to publicly sponsored subdivisions in which the basic urban infrastructure (building lots, water supply, waste disposal, surface drainage, street lighting and access ways) is provided for low income owners to progressively build upon. The "sites and services" program may include additional components such as the "outbuilding" provided in the I.C.T. program as well as social services and technical assistance. See, generally, The International Bank for Reconstruction and Development (IBRD), Sites and Services Projects (Washington, D.C.: April, 1974).

⁷⁷ Mosquera and Hinestrosa, op. cit., pp. 209-210.

⁷⁸ See, footnote 70, supra.

⁷⁹ Data supplied to the author by Dr. Eduardo Pelaez Herran, Chief of the Physical Programming Section, I.C.T. (Bogota: February 13, 1975).

⁸⁰ Mosquera and Hinestrosa, op. cit., p. 221. Data for the 1975 program year was unavailable.

least within the urban perimeter of the city, the "lot with services" program theoretically could provide serviced lots at a rate sufficient to meet demand, and at a price competitive with unserviced pirate lots. The I.C.T. has already purchased a large proportion of the land remaining within the urban perimeter considered suitable for residential development.⁸¹ Moreover, the I.C.T. could effectively coordinate the provision of services to new subdivision lots through the Housing Rehabilitation Division of Empresas Publicas, which has so efficiently administered the Rotating Fund.

However, for at least two reasons, the theoretical feasibility of such a sites and services undertaking by I.C.T. within the urban perimeter may not have much practical feasibility or likelihood. First, zoning restrictions upon I.C.T. purchased land and the socio-economic characteristics of surrounding barrios may limit the amount of land that the I.C.T. can develop under a sites and services program for lower income families.⁸² Also, because the amount of developable land remaining within the urban perimeter is extremely limited,⁸³ the "lot with services" would have effectiveness of only limited duration; it is unlikely that the I.C.T. would be willing to purchase significant amounts of land outside the urban perimeter of Medellin. This latter point is made clearer in the discussion which follows.

The effectiveness of a "lot with services" program in competition with the pirate submarket outside the urban perimeter depends upon a number of factors, the most important of which is a determination of the actual rate of pirate subdividing in the peripheral areas. It has been the hypothesis of this thesis that pirate subdividing, as illustrated by the La Cascada case study, continues in the semi-rural peripheral areas, although in smaller "pockets" of land and at a rate far below the rate experienced by Medellin prior to the passage of National Law No. 66 (1968).

Before assessing the potential competitiveness of a "lot with services" program with the pirate submarket outside the urban perimeter, it is necessary to evaluate from a policy viewpoint whether such a program would even be undertaken by the I.C.T. in conjunction with municipal authorities. It is unlikely for at least two reasons. First, and most importantly, such a program of fully serviced lots would violate existing municipal planning policy to restrict development particularly in the eastern and western peripheral areas of the city to the water line level defined by Empresas Publicas.⁸⁴ Second, an I.C.T. program of land acquisition

⁸¹ Ibid., pp. 136-137.

⁸² See, ibid., p. 137.

⁸³ The most recent "rough" estimate is 1,200 hectares. Ibid., p. 137.

in the peripheral areas for the purpose of providing serviced lots could act as a stimulus for land invasion once it became known that services would be provided. ⁸⁵

Even if such a program were contemplated, it is doubtful that the I.C.T. could be competitive with the pirate market in such peripheral terrain. The pirate market consists of owners who are willing to supply land irrespective of its urbanistic quality. In contrast, the I.C.T. in consultation with the Planning Department presumably would be unable and unwilling to purchase and sell lots on land that did not meet its urbanistic standards for development. ⁸⁶ It is largely because of the ability of much of the peripheral land for urban development that the "green belt" policy has been adopted for the peripheral areas just outside the urban perimeter. The implementation of that policy has been entrusted to the municipal housing entity known as Casitas de la Providencia, which is discussed briefly below in the analysis of municipal housing programs.

In conclusion, it would appear that to the extent that the pirate submarket continues to operate inside and outside the urban perimeter it is too late and too impracticable for the I.C.T. to compete successfully with it by means of a "lot with services" program in Medellin. Of course to the extent that the I.C.T. is not hindered by zoning restrictions and political considerations in implementing a "lot with services" program on its presently owned land, it would seem advisable to do so. ⁸⁷

⁸⁴ This policy was explicitly agreed to by the administrators of the municipal departments, Empresas Publicas and the I.C.T. in the so-called "Housing Committee" policy memorandum of June, 1975. See, Comite de Vivienda, "Conclusiones Generales sobre el Analisis del Problema de Vivienda de Interes Social" (Medellin, Junio de 1975), p. 2.

⁸⁵ It is noteworthy, for example, that in 1970 a portion of the I.C.T.'s Francisco Antonio Zea tract was invaded. This area, now called Zea IV or Lenin by the squatters, became the focus of an I.C.T. "rehabilitation" program, begun in 1973 to properly subdivide the invaded terrain and to eventually charge squatter families individually for the cost of the land and for the provision of services through the Rotating Fund of Empresas Publicas. In 1972, prior to beginning the sites and services program, the Manager of the I.C.T. Section in Medellin expressed the concern that publicity attending municipal efforts to rehabilitate tugurios (see footnote 86, infra) could help "stimulate" invasions, by giving would-be invaders the idea that the city administration would help them acquire the land they invaded and that the I.C.T. would give them assistance in the financing and construction of their homes. See, Junta Municipal de Planeacion y S.T., Acta No. 1 (Sesion: Febrero 16, 1972).

In the meantime, it is possible that the real arena for testing the ability of a "lot with services" program to compete with the pirate submarket will recur in other rapidly growing cities and towns of the Department of Antioquia, both inside and outside the Valley of Aburra. For example, during the last intercensus period (1964-1973), such municipalities within the valley as Copacabana, Itagui, Envigado, Girardota and Bello experienced annual urban growth rates respectively of 7.91%, 5.25%, 4.93%, 4.43% and 3.15%. Outside the Valley of Aburra during the same period, high growth rates were experienced by the following municipalities: Caucasia (9.50%); Apartado (15.03%); Turbo (6.30%); and Rionegro (6.11%).⁸⁸

If the high population growth rates experienced by these urban areas spur pirate subdividing, the successful implementation of a "lot with services" program in competition with the market will depend primarily upon questions of scale and diversity. It is this author's view that while the I.C.T. may have the administrative capacity to successfully produce (i.e., subcontract out) the necessary quantity of serviced lots to meet demand, it would likely fail to compete with the pirate submarket in two respects. First, apart from the question of administrative capacity to actually produce lots, it seems doubtful that the I.C.T. could assemble sufficient amount of land efficiently and quickly enough to compete with the offerings of the many actors (developers) in the pirate market. Moreover, even if it could efficiently assemble the necessary quantity, it is possible that the market price it would have to pay to do so would raise the cost of producing serviced lots

⁸⁶ For example, in 1971 the Medellin City Council passed an ordinance (Acuerdo No. 34) to permit the municipal administration to buy up invaded land for the purpose of "rehabilitating" squatter areas. The ordinance was subsequently amended to also permit the city to purchase uninvaded terrain for low income housing. The Department of Municipal Planning subsequently undertook a survey of land to determine what parcels might be considered urbanistically suitable for purchase. Of the 16 uninvaded properties it examined, representing approximately 2,670,770 square meters, it was able to recommend as "favorable" only 6 properties (1,190,000 m²) of which 3 (972,800 m²) were favorable only for granjas or mini-farm lots, of limited density. This meant that only about 217,000 square meters were found suitable for low income housing at normal densities. The principal defects found in the other tracts were soil erosion, steep topography and location beyond the water line. See, Departamento Administrativo de Planeacion y S.T. (Departamentos de Planeacion Fisica y Social), "Informe Sobre Tierras Ofrecidas Con Destinacion a Vivienda Popular" (Medellin: undated).

⁸⁷ A "lot with services" policy was agreed to by members of the "Housing Committee" in their 1975 memorandum. See, Comite de Vivienda, op. cit., p. 3.

above the lot prices offered in the pirate market -- even allowing for economies of scale. Second, and perhaps most important, in light of the case study data, is that the I.C.T. program could not provide the variety of lot sizes (and prices) that the diverse economic circumstances of low income families require. The I.C.T. program as presently defined provides for a fully serviced lot and financial assistance for the self help or contracted construction of no more than 40 square meters of housing. ⁸⁹ While these conditions could presumably be varied somewhat, the tendency of large scale programs for purposes of efficiency is to provide a relatively standard offering. As was observed in the La Cascada case study, potential purchasers seem primarily concerned with the flexibility, both spatially and financially, that the market offerings provide. ⁹⁰ It is argued, therefore, that provided developers could be induced to install service infrastructure, and purchasers had greater access to financial resources, the pirate market could function in an autonomous fashion to provide a large percentage of lower income families with serviced lots. Institutional reforms that would enhance the workings of such a market are considered in Chapter VII.

Municipal: Fundacion Casitas de la Providencia

⁸⁸ The 1977 and 1980 population projections for the urban areas of these cities were the following:

CITY	1977	1980
Copacabana	26,950	33,864
Itagui	115,638	130,374
Envigado	77,775	89,854
Girardota	8,852	10,081
Bello	130,392	143,106
Caucasia	19,074	25,043
Apartado	23,031	35,073
Turbo	16,832	20,218
Rionegro	27,874	33,302

Mosquera and Hinestrosa, op. cit., pp. 7, 12, 15, 17, 27

⁸⁹ INSCREDIAL, op. cit.

⁹⁰ With respect to the factor of spatial flexibility, it is interesting to note that the importance of this factor to low income families was impressed upon some local planning officials in the process of their designing and implementing a program to "rehabilitate" certain "invasion" areas, specifically, Playen de los Comuneros and Marco Fidel Suarez. They noted that even though the

The housing solutions offered by the municipal government of Medellin have been through the entity known as Fundacion Casitas de la Providencia (literally translated: "Little Houses of Providence Foundation"). For reasons briefly described below, however, the municipal entity has not been a significant provider of housing solutions in Medellin. As established in 1956 by the Medellin city council, the entity's purpose was to "construct houses for the poor classes of Medellin."⁹¹ Additional legislation the following year authorized it to rehabilitate slum areas (tugurios) in Medellin and established a social service to "raise the moral, economic, social and sanitary level" of families in such areas and to "integrate them into the life of the community."⁹²

As the entity's name and founding legislation imply, the original concept behind Casitas was charitable in nature. Although Casitas did construct approximately 1,600 solutions between 1959 and 1973, its "charity" image,⁹³ decreasing funding authorizations from the city council,⁹⁴ and its inability to compete with the major housing programs and larger financial resources of the I.C.T. diminished its role as a provider of housing in Medellin. In 1975, municipal officials were considering restructuring the entity and giving it the responsibility for carrying out the so-called "green belt" policy (cordon verde) of establishing mini-farms or granjas around the urban periphery of Medellin.⁹⁵

ultimate size of the lots designed had to be relatively small (60 m²), the families were satisfied, since they as owners, over time, could design and construct a house upon the lot area as they chose. Interviews with Dr. Francisco Leon Guerrero Castrillon, former Chief of the Division of Technical Planning, Department of Municipal Planning (Medellin: May 19, 1975) and Dr. Juan Carlos Duque, former Chief of the Department of Social Planning, Department of Municipal Planning (Medellin: July 1, 1975). See also, Juan Carlos Duque, "Programa de Rehabilitacion de Tierras" (Medellin: Depto. Planeacion Social, Planeacion Municipal, Mayo 3, 1972).

⁹¹ El Concejo Municipal de Medellin, Acuerdo No. 69 de 1956, art. 1.

⁹² El Alcalde de Medellin, Decreto No. 1 de 1957, arts. 2 and 3.

⁹³ It was the view of most municipal officials interviewed by this author that the "charity" image of Casitas compounded the entity's financial difficulties by giving the low income occupants of its housing units little incentive to keep up with their payments. For example, in 1975, in three of the entity's 5 housing projects, Villa Socorro, Efe Gomez and Paulo Sexto I, 16%, 21% and 56% of the occupants respectively were 1-5 years behind in their payments. Source: Accounting office of Casitas de la Providencia. One official

CHAPTER IV. COMPARISON OF THE PIRATE SUBMARKETS IN MEDELLIN AND IN BOGOTA

INTRODUCTION

The purpose of this chapter is to compare to the extent that it is possible, the pirate submarkets of Medellin and Bogota with respect to the characteristics of lot purchasers, the physical characteristics of subdivisions and the economic characteristics of the transactions in the two pirate markets. The qualification is noted in order to underscore the general conclusion of this author and others who have examined the pirate submarket, namely that pirate subdivisions exhibit a wide variety of lot sizes, prices, terms of purchase, and provide housing for lower income families with varied ranges of monthly incomes. Because of the variability of subdivision characteristics within the pirate market, generalizations are difficult, particularly in view of the limited sample sizes used in this study and in those of Bogota.¹ Nevertheless, it is instructive to set forth the comparative evidence as it exists for both cities and to suggest some related hypotheses in the hope that further research can clarify and extend the analysis.

expressed the idea as well that low income families did not like the idea of "little houses," and if they were from "Providence" why pay for them?

⁹⁴ For example, under 1965 legislation, the entity was supposed to receive 1.5% of the yearly municipal budget. Between 1966 and 1975, however, the authorized statutory amounts were cut by the Medellin city council a total of \$17,565,709 pesos. Money for Casitas was not even included in the municipal budget in 1974 and 1975. Source: Casitas de la Providencia, "Cuadro de Obligaciones del Municipio de Medellin con Casitas de la Providencia hasta la Vigencia de 1975 (segun exigencia acuerdo 69/56)".

⁹⁵ The author regrets that changes in the original scope of the study prevent a larger presentation of data obtained through the cooperation and help of the staff at Casitas de la Providencia concerning the entity's role in the development of Medellin's housing policy.

¹ The other Medellin study referred to in this Chapter is that of Molina and Arias, op. cit., whose survey sample size was 100.

The Bogota data presented in this chapter is drawn principally from three recent studies: Doebele (1975); Losada and Gomez (1976) and Carroll (1978).² It is important to note that the studies each reflect somewhat different purposes and perspectives. The study by Doebele primarily examined the legal and institutional context of the pirate market in Bogota; he relied upon the earlier studies by Vernez (1973) and Bogota's Department of District Planning (1973) for descriptive economic data of pirate subdivisions (and to confirm the results of his own survey).³ Losada and Gomez's study included an analysis of the social and economic aspects of pirate subdivisions as well as an analysis of the legal framework which impacts upon the market. Carroll's study was limited to an examination of the pirate market as a land development business and did not include socioeconomic data on specific pirate subdivisions. Because the study of Losada and Gomez presents detailed descriptive data of pirate subdivisions that are current with the author's own data (1975), their study is used more frequently for the comparisons presented in this chapter. However, data from the other studies mentioned are also used where helpful to broaden the analysis.

GEOGRAPHIC AND DEMOGRAPHIC CHARACTERISTICS: THE SCALE OF PIRATE MARKET ACTIVITY

Perhaps one of the most important differences which underlie the pirate markets in Bogota and Medellin is their physical settings. Medellin is situated in the relatively narrow, limited land area of the Valley of Aburra at an altitude of 1,500 meters (4,921 feet) and enjoys a warm, spring-like climate year-round. Its annual growth rate during the last intercensus period (1964-1973) has slowed to 4.39% from the pre-1964 rate of over 6%; two thirds of its growth is

² See, William A. Doebele, "The Private Market and Low Income Urbanization in Developing Countries: The 'Pirate' Subdivisions of Bogota" (Cambridge, Massachusetts: Harvard University Department of City and Regional Planning, Discussion Paper No. D75-11, October 1975); Rodrigo Losada Lora and Hernando Gomez Buendia, La Tierra en el Mercado Pirata de Bogota (Bogota: Fundacion Para la Educacion Superior y el Desarrollo -- FEDESARROLLO 1976); Alan Carroll, Pirate Subdivisions and the Market for Residential Lots in Bogota (Washington, D.C.: The World Bank, Urban and Regional Report No. 79-12, April, 1980).

³ See, George Vernez, "Bogota's Pirate Settlements: An Opportunity for Metropolitan Development" (unpublished Ph.D. dissertation, University of California, Berkeley, 1973); Departamento Administrativo de Planeacion Distrital, Mercadeo de Tierras en Barrios Clandestinos de Bogota (Bogota: 1973) (hereafter cited as Mercadeo de Tierras).

now from within the city itself. The area remaining within the urban perimeter that is suitable for residential development is estimated at only 1,200 hectares. In contrast, Bogota is located on a large triangular plateau approximately 64 kilometers (40 miles) in length and as wide as 40 kilometers (25 miles) at some points. The capital city's altitude (2,621 meters) and location in the Andes give it a rainy, cool climate; therefore warmer clothing and more substantial housing are required. Its population in 1975 was approximately three and one half million (more than three times Medellin's population) and it is estimated that it will reach over eight million by 1990. This projection translates into an annual growth rate of approximately 6.8%. Moreover, almost half of Bogota's growth is attributable to migrants from the three departments nearest the capital.

The pirate submarkets in Bogota and Medellin reflect these topographical, climatic and demographic differences in terms of the scale and the present rate of growth of pirate subdivisions. It may be argued that in Medellin, the city's more limited land area and decreasing population growth rate over time made it easier for the municipal administration and the Superintendency of Banks to police and eventually stop most pirate subdivision activity within the urban perimeter. It is generally conceded by observers in Medellin that the consequence of this successful control was increased land invasions after 1970 particularly on the northeastern slopes of the city. The persistence of the invaders in the temporary shelters was certainly aided by Medellin's warm climate. The pirate subdividing that continues within the urban perimeter of Medellin is minimal; what remains to be calculated is the amount of pirate subdividing which now appears to be occurring at a slow rate beyond the perimeter into the semi-rural areas, where vigilance and control by the Superintendency and municipal authorities is more difficult.

In the capital city, however, geographic and demographic conditions have supported quite a different scale of pirate market activity. Bogota's persistent high rate of growth and its expansive flat land area ⁴ have enabled the pirate market to continue to flourish despite policing efforts of the city administration and the Superintendency of Banks. In 1975, the Superintendency's Housing Division in Bogota had a professional staff of only 29 persons to enforce the national law against uncontrolled subdividing. ⁵ It was estimated in 1972 that approximately 31% of the city's land area and 54% of the city's population constituted pirate settlements. In

⁴ This factor should be understood in conjunction with the fact that Bogota has a very cheap and relatively effective bus system that runs most of the city's length (approximately 14.5 miles on the north-south axis). This means that the low income resident has less locational constraint upon his living place than in many other cities the size of Bogota. Doebele, op. cit., pp. 11-12.

⁵ Losada and Gomez, op. cit., p. 50.

1973, the city's Planning Department estimated that there would be a 25% increase in the demand for land between 1973 and 1978, that is, a demand for an additional 24,270 lots. ⁶ Even if greater control could be exercised over the pirate market in Bogota, land invasion, while likely to increase, might not occur in the same proportion as in Medellin. Vernez suggests that the possibility of invasion should be assessed in terms of the past efficiency of police action in Bogota against invasion and the factor of climate. Because of Bogota's cool, rainy climate year-round, shelter must be constructed of durable materials and "low income families are often reluctant to make such an investment in the face of the probably forced removal . . . and of the destruction of the temporary shelter." ⁷

LOT PURCHASER CHARACTERISTICS

Prior Residence

The data from the five barrio Bogota survey of Losada and Gomez underscore the attraction that the capital city exercises upon the surrounding departments as well as more distant departments. Only 25% of the pirate lot purchasers indicated they had always lived in Bogota, although another 24% indicated that prior to coming to Bogota they had lived in other parts of the Department of Cundinamarca. Other purchasers indicated that they had come from the Departments of Boyaca (24%), Santander (13%), Tolima (4%) as well as the Departments of Antioquia, Quindio and Risaralda (7% for all three departments); the remainder (4%) indicated other parts of the country. ⁸ The comparative analysis of this data relative to the Medellin data leads to the conclusion that unlike the Medellin pirate market that services demand primarily from the Department of Antioquia, the Bogota pirate market responds to a demand much wider in scope. Only about 49% of the purchasers were originally from the Department of Cundinamarca; the remainder came from other departments. ⁹

⁶ Mercadeo de Tierras, op. cit., p. 80.

⁷ Vernez, op. cit., p. 28.

⁸ Losada and Gomez, op. cit., pp. 79-80.

⁹ Ibid., p. 81.

As regards purchasers' residence and dweller status immediately prior to their purchase, the Losada and Gomez data generally supported the earlier hypothesis of Vernez, namely, that the majority (over 80%) reside as renters or inquilinos in peripherally as well as centrally located buildings.¹⁰ Their findings are consistent with the findings in the La Cascada survey in Medellin which indicated that approximately 65% of the purchasers had resided as renters in barrios located in peripheral and central areas of that city.

Income Levels and Employment

Income

One of the principal observations made by Vernez in his 1973 study was the extent to which the pirate market in Bogota serves the family income groups within the low-middle and middle-income levels. He estimated that the pirate market housed approximately two-thirds of Bogota's families with incomes ranging between \$500 and \$2,500 pesos (1970). Within the pirate settlements themselves, he estimated that almost 85% of the families had incomes within this range, as

TABLE 15

DISTRIBUTION OF FAMILIES BY INCOME WITHIN PIRATE SUBMARKET OF BOGOTA			
Monthly Family Income Ranges (\$ (1970))	Income Category	Percentage Distribution Bogota (%)	Percentage Distribution Pirate Submarket (%)
0 - 500	Low	7.4	4.6
501 - 1,250	Low-Middle	26.9	43.0
1,251 - 2,500	Middle	26.9	41.7
2,501 - 4,000	High-Middle	20.8	10.7
4,001 and more	High	18.0	--

Source: George Vernez, "Bogota's Pirate Settlements: An Opportunity for Metropolitan Development" (unpublished Ph.D. dissertation, University of California, Berkeley, 1973), p.25.

¹⁰ Ibid., 93-94. See also Vernez, op. cit., pp. 118-129.

indicated in Table 15.

The results of Doebele's study, derived from March, 1974 data, were consistent with Vernez's estimation of the income distribution within pirate barrios, making an adjustment of the same income categories to 1974 prices.¹¹ However, Losada and Gomez's results for the income distribution within their pirate barrio sample in 1975 do not agree with Vernez's findings. Rather, their results suggest that in 1975 Bogota's pirate barrios contained a greater composition of low and low-middle income families than was estimated to inhabit the pirate barrios in 1970.

This proposition is suggested by the data in Table 16. The table sets forth the comparison of Vernez's 1970 data for pirate barrios' family income distribution and Bogota's family income distribution, (as presented in the preceding table), with the 1975 family income distribution for the pirate barrio sample of Losada and Gomez and the family income distribution for Bogota in 1975. Vernez's income ranges were inflated to 1975 levels using the National Planning Department's correction factor of 100% for 1970-1975. Since there is no 1975 data for Bogota's overall family income distribution, it was assumed for purposes of this analysis that the income distribution remained the same. This assumption, of course, presumes that inflation affected all income ranges equally over time. In the absence of 1975 data, however, it is necessary to make such an assumption.

The data presented in Table 16 indicate that in 1975 the pirate barrio families were relatively poorer in comparison to the overall family income distribution of Bogota than they were in 1970. Stated in other terms, the data suggest that the pirate barrios in 1975 were dominated not by middle and middle income families, as estimated by Vernez in 1970, but rather by low and low-middle income families. This is evidenced by the degree of percentage difference for income ranges observed between the pirate sample income distribution and Bogota's overall income distribution for the two periods, 1970 and 1975. Thus, where Vernez's estimates indicated that the incomes of 4.6% of the pirate barrio families were low income, compared to 7.4% of Bogota's families, and 43% were low-middle compared to 26.9% for Bogota, the 1975 data suggest a significant shift in pirate barrio composition. That is, the 1975 pirate barrio sample indicated that 38% of the families were low income compared to 7.4% in Bogota, and 53% were low-middle compared to 26.9% for Bogota overall.

It is possible, of course, that the assumption as to Bogota's family income distribution in 1975 may be incorrect and that therefore the lowest income bracket is underestimated because of the relative difference in how well that income group kept up with

¹¹ Doebele's results were: Low (0.9%); Low-middle (43.0%); Middle (37.0%); and High-middle (8.0%). Doebele, op. cit., p. 22, n.2.

TABLE 16

COMPARISON OF DISTRIBUTION OF FAMILIES BY INCOME WITHIN PIRATE BARRIOS OF BOGOTA IN 1970 and in 1975

Monthly Family Income Ranges (\$) 1970	Distribution Bogota (%) (a)	Distribution Pirate Barrios (%) (a)	Monthly Family Income Ranges (\$) 1975 (b)	Distribution Bogota (%)	Distribution Pirate Barrios (%) (c)
Low					
0 - 500	7.4	4.6	0 - 1,000	7.4	38.0
Low-Middle					
501 - 1,250	26.9	43.0	1,000 - 2,500	26.9	53.0
Middle					
1,251 - 2,500	26.9	41.7	2,500 - 5,000	26.9	10.0
High-Middle					
2,501 - 4,000	20.8	10.7	5,000 - 8,000	20.8	--
High					
4,000 and more	18.0	--	8,000 and more	18.0	--

Notes (a) Source: Vernez, op. cit., p. 25.

(b) Income adjustment made using the National Department of Planning correction figure of 100% for period 1970-1975. Mosquera and Hinestrosa, op. cit., p. 100. (c) Source: Losada and Gomez, op. cit., p. 89.

inflation. Thus, the 7.4% may be the "lower bound" and the actual percentage may be higher. However, to dismiss the discrepancy observed between the lowest income percentage for the sample (38%) and the 7.4% figure for Bogota overall, the latter would have to be so much larger that it would seem difficult to argue that the difference observed is not significant.

The purpose in presenting the data available for the two time periods is to suggest an hypothesis only. That is, that assuming Vernez's estimations were correct, then on the basis of the 1975 data of Losada and Gomez it may be hypothesized that there has been a change in the demographic composition of pirate barrios in Bogota. Additional data is needed to properly test the hypothesis. ¹²

¹² It is also possible, of course, that Vernez's income distribution estimates for pirate barrios in 1970 were incorrect and that the percentage of pirate barrio families within the low income range in 1970 was closer to the figure reported in the 1975 sample. Vernez indicates that the pirate barrio sample which he used was based upon available studies of pirate settlements and not upon a random sample from the universe of pirate settlements in Bogota. See

Before considering one factor that partially explains the hypothesized shift in demographic composition of the pirate barrios of Bogota, it is useful to compare the 1975 data for Bogota and Medellin in terms of updated definitions of income categories. In 1975, using the 100% correction factor previously mentioned, the National Department of Planning redefined the "low" income category to include monthly family incomes of \$4,000 pesos or less. Table 17 below is constructed using the National Planning Department's 1975 family income ranges and income categories; it sets forth 1975 pirate barrio income distributions from the author's survey of La Cascada in Medellin and the Losada and Gomez survey of five barrios in Bogota. The Medellin data are consistent with the results of the Bogota study with respect to general income categories. Because of the comparatively small sample size of the La Cascada survey, however, it is difficult to hypothesize about the percentage differences in the income ranges of the low and middle income categories for the Medellin and the Bogota samples.

One of the factors that may explain the hypothesized shift in family income levels in the pirate market between 1970 and 1975 is the failure of incomes to keep up with the high rate of inflation in the Colombian economy. This discrepancy between incomes and price inflation is clearly demonstrated in Table 18 below for one of the income groups found in the pirate market -- the workers or obreros. Table 18 indicates, for example, that in 1970 an industrial worker earned an average monthly salary of \$1,367 pesos; in 1975, the same worker earned an average monthly salary of \$2,686 pesos, which represented an increase of 196%. However, during the same period, the cost of living increased 242%. In real terms, the worker's 1975 salary of \$2,686 corresponded to a 1970 salary of \$1,112 or a loss in buying power of 18.7%. The same pattern of decreasing incomes in real terms can be seen in the minimum wage until 1978, when a sharp increase in the minimum amount was authorized.

Employment

The comparison of kinds of employment of pirate barrio residents in Medellin and Bogota set forth below in Table 19 requires some qualifications. First, Losada and Gomez applied somewhat different employment categories than those used by this author and Molina and Arias in their Medellin study. Losada and Gomez used the following categories: (1) worker (obrero) or day laborer (jornalero), meaning those employed in factories, public works and construction jobs; (2) "employees" (empleado) in service-type jobs such as guards, doormen, maintenance persons in industry, etc.; (3) independently employed (trabajadores independientes), meaning street vendors, store owners, independent artisans, etc.; (4) domestic employment (remunerated or unremunerated). The first and third categories used by Losada and

Vernez, *op. cit.*, p. 193.

TABLE 17

COMPARISON OF MONTHLY INCOMES OF PIRATE BARRIO FAMILIES SURVEYED IN
MEDELLIN AND BOGOTA IN RELATION TO FAMILY INCOME DISTRIBUTION
FOR BOTH CITIES 1975

Monthly Income Ranges By Income level (\$): Medellin	Families (%) Medellin	Total %	Families (%) Bogota(a)	Total %	La Cascada Medellin	Total %	5 Barrios Bogota(b)	Total %
Low Income								
Median								
0 - 1,500	7.24		16.60		39.13		67.00	
1,501 - 3,000	21.78	59	23.40	61	47.82	100	27.00	98
3,001 - 5,000	30.33		21.20		13.04		5.00	
					(\$3-4,000)		(\$3-4,000)	
Middle Income								
Median								
5,001 - 7,000	14.94		13.80	14				
7,001 - 9,000	9.63	35						
9,001 - 12,000	6.03			25		0	2.00	2
12,001 - 16,000	4.38						(\$4-6,000)	
High Income								
More than 16,000	6.00	6				0		0

Notes

(a) Percentages for 1975 income ranges constructed by first inflating Vernez's 1970 income ranges using the 100% correction factor and then drawing a cumulative frequency distribution and interpolating the new 1975 income ranges from that distribution. The calculation is based on the implicit assumption that the families are distributed evenly throughout each of the income ranges.

(b) Data source: Losada and Gomez, op. cit., p. 89.

TABLE 18

AVERAGE WORKER SALARIES AND THE MINIMUM WAGE IN NOMINAL AND REAL TERMS
1970 - 1978

YEAR	WORKERS (OBREROS) SALARIES(a) (Industrial Average)			MINIMUM WAGE		
	NOMINAL	REAL	INDEX(b)	NOMINAL	REAL	INDEX(b)
70	1,367.7	1,367.7	100	519	519	100
71	1,500.0	1,347.7	98.5	519	472.3	91
72	1,658.8	1,311.3	95.8	660	524.2	101
73	1,885.7	1,181.5	86.3	660	415.2	80
74	2,241.3	1,161.3	84.9	900	467.1	90
75	2,686.1	1,112.2	81.3	1,200	498.2	95
76	3,336.4	1,152.5	84.2	1,200	415.2	80
77	4,257.4	1,040.1	76.0	1,770	430.8	83
78	5,425.0	1,189.9	87.0	2,580	565.7	109

Source: Statistics published by the National Administrative Department of Statistics (DANE), cited in Alternativa, No. 197, 1979, pp. 32-33.

- (a) Statistics correspond to July of each year.
 (b) Percentage variation of salary in real terms.

Gomez are identical to the "industry" and "independent" categories used in the Medellin studies. The two authors do not, however, explicitly link services and other commercial or business types of employment together, as set forth in Table 19. Thus, it is not clear whether or not "employees" in their terminology should be broadly construed to include employees in business jobs such as salespersons, etc. However, since the authors do define the category in terms of "services" this author concluded it was reasonable to treat the category as a proxy for "commerce and services". Second, the "domestic employment" categories included by Losada and Gomez in calculating female employment were excluded in the table as presented.

The data presented in Table 19 indicate that the employment categories that predominate in the pirate barrios surveyed in Medellin are workers in industry (obrerros) (44%) and independents (22%). In Bogota, however, the results of the Losada and Gomez survey indicate that pirate barrios residents' principal source of employment is the service sector (50%). Workers in industry, the second most frequent category of employment, constitutes only 27% of those employed. This contrast in results between the two cities is perhaps not surprising in view of their different regional settings and functions. That is, as an hypothesis, it might be expected that the pirate barrios in Medellin would have a higher percentage of industrial workers since Medellin is in the center of Antioquia, a

TABLE 19

COMPARISON (%) OF GENERAL KINDS OF EMPLOYMENT OF PIRATE BARRIO RESIDENTS IN MEDELLIN AND IN BOGOTA						
Employment Category	MEDELLIN(a)				BOGOTA(b)	
	La Cascada	El Diamante	La Esperanza	Miramar	Total Avg. (weighted) (5 barrios)	
Industry (obrero)	45.0	48.0	37.0	44.0	44.0	27.0 (32.0-2.0)
Commerce & Services	42.0	16.0	11.0	17.0	20.0	50.0 (50.0-14.0)
Government	0.0	13.0	11.0	15.0	11.0	0.0
Independent	13.0	23.0	27.0	25.0	22.0	13.0 (12.0-4.0)
Other	0.0	0.0	4.0	0.0	--	4.0

Notes (a) Employment data for La Cascada taken from author's survey. Data for the other three Medellín barrios taken from Molinas and Arias, *op. cit.*, p.15. Percentages are rounded off.

(b) Source: Losada and Gomez, *op. cit.*, pp. 86-87. Percentages indicated in parentheses are as given by authors for men and women respectively. Single percentage figures are this author's calculations for men and women combined based upon the data provided by Losada and Gomez, and limiting employment categories for women to those indicated above.

major industrial region of Colombia. Bogota, on the other hand is the capital city. As the political and financial center of the country, with over twice the population of Medellín, it is likely to have a greater demand for services and hence a larger service sector for potential employment.

Physical Characteristics of Pirate Subdivisions

Because of the variety of lot offerings in the pirate markets of both Medellin and Bogota, it is difficult to make comparative generalizations about the physical characteristics of the pirate subdivisions in the two cities. Moreover, there are no average statistics on the pirate market in Medellin, while for Bogota there now exist some average statistics derived from a survey conducted by the Superintendency of Banks in 1977. Those statistics, based upon 109 pirate subdivisions within the urban perimeter of Bogota indicate that the average lot size is approximately 125 square meters. ¹³ The Losada and Gomez study of 5 barrios found an average of 154 square meters per lot, with two thirds of the total sample ranging in size between 105 and 203 square meters. ¹⁴

Judging from the Bogota data cited above and the limited data available from case studies in Medellin, it would seem reasonable to conclude that lot sizes on average are larger in Bogota than in Medellin. Individual examples of large lot sizes in pirate subdivisions of Medellin can be given, of course, but in view of the hilly and more limited land area of Medellin, it would seem unlikely that lot sizes in pirate subdivisions would average as high as 125 square meters, at least within the urban perimeter. Outside the urban perimeter, average lot sizes might approach the sizes of those found in La Cascada (147 m² and 160 m²); but the steeply sloped terrain on the periphery would greatly reduce the actual area constructable in contrast to the constructable area of similar lot sizes on Bogota's flat plain.

Economic Aspects of the Subdivisions

Terms of Purchase

Carroll's analysis of the Superintendency's survey data indicated that in Bogota the typical pirate lot purchaser can expect a downpayment of approximately 30% of the total lot value, a payment period consisting of an average of 36 monthly installments, and an implicit interest charge of less than one percent per month on the balance. ¹⁵ The purchaser terms indicated in the case data from Medellin are similar to the average Bogota purchaser model, but in

¹³ Carroll, op. cit., p. 5. Also, within the urban perimeter of Bogota there apparently is little change in average lot size relative to distance from the center. Ibid., p. 37.

¹⁴ Losada and Gomez, op. cit., p. 97.

¹⁵ Carroll, op. cit., p. 37.

the particular cases of El Diamante and La Cascada, the downpayments were closer to 15% of the total purchase price, and the payment periods were longer, 60 and 48 months respectively. In El Diamante, it was observed that the developer charged an implicit interest rate as high as 2% per month on the balance. It is very possible, of course, that a comparable sample size of pirate subdivisions in Medellin would produce average figures that conformed more explicitly to the Bogota averages. Without additional subdivision data for Medellin, comparative generalizations are difficult to make.

Construction

Losada and Gomez found that approximately 67% of the pirate barrio residents surveyed began to live on their lots (and presumably began construction) within one year of purchase. Another 14% waited between one and four years, and another 19% were already renting in the barrio in which they purchased their lots.¹⁶ Doebele, similarly found that most the purchasers (94%) began construction within one year of purchase.¹⁷ The corresponding percentage figure for La Cascada in Medellin was 52%. The general conclusion from these figures would seem to be that most pirate lot purchasers exercise their right to occupy their lots as soon as it is economically feasible to erect some form of temporary shelter. Those who choose to occupy their lots more than a year after purchase either may not have the necessary economic resources to begin construction, or may have living circumstances (ownership of another home elsewhere or rental quarters in the same barrio) that reduce the urgency to occupy their lots immediately.

Conclusion

Notwithstanding the sample size limitations upon the comparative analysis of the pirate markets in Bogota and Medellin, it seems reasonable to conclude that the two markets are similar in regard to the income and employment characteristics of pirate lot purchasers, and the basic terms of purchase. The two markets differ, however, in terms of scale and degree of activity. In Medellin, the rate of pirate urbanization has greatly slowed and continues primarily in small subdivisions in the semi-rural periphery. In contrast, Bogota continues to experience a high rate of pirate urbanization across

¹⁶ Losada and Gomez, op. cit., p. 95.

¹⁷ Doebele, Op. cit., p. 16.

its expansive plain. The principal proposition which flows from the comparative analysis is that contrary to the earlier findings of Vernez, it may no longer be correct to view the pirate market as a provider of housing to the low-middle and middle income groups. Rather, the effects of inflation and other factors requiring more analysis may lead to the conclusion that pirate markets in Bogota and Medellin serve primarily the low and low-middle income families who have no other alternative for housing except perhaps land invasion, which for reasons described in Chapter V, they are unlikely to choose.

CHAPTER V. THE LEGAL SYSTEM AND THE PIRATE SUBMARKET IN
MEDELLIN AND BOGOTA

INTRODUCTION

It was previously noted that in an economy organized upon free market principles, particularly a developing economy, unrealistically high urban development standards can lead to market behavior that circumvents those standards. It is important to understand that these legally imposed standards that govern the development of land, draw upon the overall legal system that governs property rights, particularly those rights involved in the transfer and possession of property. Just as standards for subdivision development can be unsuited to the economic circumstances of low income families, so also, the legal forms and procedures that govern the transfer of land can obstruct the process of land parcelization to low income families. To the extent that the formal legal system does so, more "informal" documents and procedures for transferring land may develop in land transactions between sellers and low income buyers.

Karst, Schwartz and Schwartz (1973) in their study of "invasion" barrios in Caracas, Venezuela, documented an informal legal system that over time showed evidence of merging into the established legal system. ¹ Doebele (1975) in his study of the legal-institutional context of the pirate subdivision market in Bogota, identified legal instruments and procedures used in the sale and purchase of lots that corresponded to those used in the conventional (non-pirate) market, but which, for various legal reasons, were inferior, and prejudicial to the rights of low income purchasers. These instruments, nevertheless, operated to give the purchasers "color of title," that is, the universally recognized right of possession, that purchasers could reasonably expect in most cases would ripen into legitimate title under the formal system. For this reason, Doebele concluded that the "pirate barrio system" could be regarded as a system "halfway between invasion and conventional subdivision" giving the low income participants a "semi-entrance" to the formal legal system. ² In contrast somewhat to Doebele's form of analysis, Losada and Gomez (1976) in their study of the same pirate market in Bogota, chose to apply a more theoretical framework in

¹ See generally, Kenneth Karst, Murray Schwartz and Audrey Schwartz, The Evolution of Law in the Barrios of Caracas (Los Angeles: Latin American Center, University of California, 1973).

² Doebele, op. cit., p. 53.

their analysis of the legal aspects of pirate subdivisions. They rejected a "legal system" view of pirate barrios, on the ground that the concept of a legal "system" implied a degree of explicitness, formality and autonomy that did not properly characterize the legal forms and procedures in pirate barrios. Instead, they suggested that it was more useful to view the pirate barrios in terms of legal or juridical "configurations" that could then be described in terms of their content (norms, institutions and values) and their form (regularity, predictability, legitimacy, specialization of function, and coherency). From this analytical perspective, the authors concluded that the legal "configurations" evident in the pirate barrios surveyed could best be described as "innovations, adaptations, or even 'deviations'" from the formal pattern of Colombian law. law. ³

Whether one views the legal instruments and procedures used in the pirate subdivision market from the institutional perspective of Doebele, or from the more theoretical, sociological perspective of Losada and Gomez, it seems reasonable to conclude that the legal form of operation of the pirate market does represent an adjustment in the market to the economic constraints of lower income families and the urban development constraints placed upon owner-developers. As already noted, however, that accomodation, legally speaking, places the low income family's ownership rights in jeopardy. Should policy makers decide to modify or reform the legal institutions that formally govern land transfer in order to facilitate low income purchasers in the market, it is important to determine the latter's understanding of and attitude toward the formal legal system. Both Doebele, and Losada and Gomez presented survey findings in this regard from their studies of the pirate market in Bogota. It is the purpose of this chapter to present and compare similar survey data from the author's case study in the pirate market in Medellin. In order to provide a legal framework for the analysis, Part B will briefly present the legal instruments that govern land transfer or the transfer of title in the conventional subdivision market, that is, the non-pirate market. ⁴ Part C will briefly describe the legal instruments that are used in the pirate market. Part D will set forth the author's own findings relative to pirate barrio residents' views of their legal circumstances and the formal legal system, and will compare those findings to those of Doebele, and Losada and Gomez.

³ Losada and Gomez, op. cit., pp. 170-176.

⁴ Other legal-institutional procedures and standards that affect the subdivision process, such as the Municipal Planning Department's subdivision requirements and the Banking Superintendency's regulations, will be considered in Chapters VI and VII respectively.

LEGAL INSTRUMENTS AND PROCEDURES GOVERNING LAND TRANSFER IN THE CONVENTIONAL SUBDIVISION

5

The following description briefly summarizes the principal documents and procedural steps required to transfer title to property in a conventional subdivision.

Separacion (separation): The prospective purchaser pays the developer or subdivider a deposit in order that the subdivider will "separate" a lot, namely, hold the lot in name of the prospective purchaser. If, within a specified time further steps to complete the purchase are not taken, the separacion lapses and the subdivider may keep the deposit.

Promesa de compraventa (literally translated, a promise of purchase-sale): The seller (subdivider) and the buyer enter into an agreement (contract) by which the seller agrees to sell and the buyer agrees to buy, a specified lot (and house, if such is the case), provided the buyer has paid the seller the purchase price of the property through a series of installment payments, with interest on the balance due, and a higher rate of interest for delays in payment. In effect, the "a promesa de compraventa is a contract to make a contract." Included in the contract usually are provisions giving the seller the right to demand full payment of the balance due, or to recover the property in the event of delays in payment, as well as provisions allocating responsibility for the payment of service installations and taxes.

Escritura publica de compraventa (title deed): Once the terms of the purchase and sale agreement have been fulfilled, the seller has an obligation to deliver an escritura⁶ or deed, that is the necessary document for the transfer of the legal title of the property to the buyer. This title deed usually sets forth a detailed description of the property, any outstanding mortgage on the property and all legal obligations of both parties.

⁵ This description, with some adaptation, is taken from William A. Doebele's excellent summary of the legal institutions that control the conventional subdivision process in his study, op. cit. The same information may also be found in William A. Doebele, "The Private Market and Low Income Urbanization: The 'Pirate' Subdivisions of Bogota," The American Journal of Comparative Law, XXV (Summer, 1977, No. 3).

⁶ Although the formal term for title deed is escritura publica de compraventa, it is popularly referred to in abbreviated form as simply an escritura. It should be noted, however, that the latter Spanish term by itself is also frequently used to mean simply a legal instrument.

Certificado de Paz y Salvo (certificate of no unpaid taxes): This certificate signifying that all property taxes have been paid, must be obtained from the real property tax authorities by one of the parties (as agreed upon) before the escritura (title deed) can be notarized and finally escritura (title deed) can be notarized and finally registered in the office of real estate records.

Escritura otorgada ante notario (notarization of the deed): Once the paz y salvo has been obtained, the escritura may be notarized by a Notary Public. When the escritura has been notarized it is referred to an escritura publica (public deed), since it becomes a public document listed at an official notary.

Escritura registrada (registered deed): The notarized document is presented to the municipal real estate record office. Once entered in the official register, the title officially passes to the buyer (subject to whatever conditions may be stipulated in the escritura).

Departamento de Catastro Municipal (municipal department of real estate taxation): One of the parties, usually the buyer, takes the registered escritura to the Department of Real Estate Taxation to insure that the tax bills will be sent to the new owner. The buyer normally performs this task since if it is not done he may encounter difficulty obtaining his own paz y salvo for purposes of selling at some later date. The seller, of course, is also interested in completing this task in order to terminate his tax liability on the property that he has sold.

LEGAL INSTRUMENTS AND PROCEDURES USED IN TRANSACTIONS IN THE PIRATE SUBDIVISION MARKET

In pirate subdivisions, whatever the form of the purchase and sale agreement (written or oral) between the buyer and the seller (subdivider), it is the "procedure" for periodic installment payments after the initial downpayment that is most common to all the transactions. That procedure is the issuance of recibos (receipts) for monthly or other time period payments. Distinctions between the legal status of buyers within the same barrio or between barrios then turn on whether they received merely a "verbal" promesa (de compraventa) or a "written" promesa such as described in the previous discussion of conventional subdivisions.

Buyers in the pirate market who are in the most precarious position legally are those who receive only a "verbal" promesa and who therefore have only their recibos or receipts to evidence an on-going purchase and sale transaction. Unfortunately, under Colombian law such receipts are only evidence of payments made and do not provide a legal basis for the enforcement of an alleged contractual obligation to transfer title upon payment of the full

purchase price. The promesa must be in writing. ⁷ Colombian law does, however, afford the buyer some protection by the recognition it gives to his status as possessor of the lot in question. Technically, where the buyer has had undisturbed peaceful possession of the lot for a year, he may allege possession and bring an action in court to preserve that possession. Conversely, the seller would have to bring a court action within a year following the buyer's possession to reclaim the property. ⁸ In practice, of course, the buyer does not have the resources to bring such a court action. Most importantly, however, it appears from what is known of buyer-pirate subdivider relations that such a protective action by the buyer is not necessary. There are few cases of legal actions by pirate subdividers to repossess lots sold. The transaction based upon receipts alone goes forward and survives because of the balance struck between the buyer's faith in the subdivider's promise to give title, and the subdivider's confidence that the buyer will be dependable in his payments. The viability of the transaction itself, of course, does not resolve the buyer's legal complications as far as technical proof of ownership, right to urban services, etc. ⁹

Where the pirate subdivider agrees to give the buyer a "written" promesa such as described above, he still does not usually conform to the procedures followed in the conventional subdivision. In the latter case, it is the usual practice for the seller to execute the escritura (deed) within a few months after the execution of the promesa. The promesa then serves as a so-called "binder," namely, a commitment by the parties to satisfy the requirements stated in the promesa (i.e., payments and other conditions) until the legal relationship is completed by means of the registered escritura. The practice of the pirate subdivider, however, is to give the promesa only, and to withhold the escritura until he has received the total number of payments including interest. As a result, the buyer is again forced to rely upon the seller's good faith promise to deliver the deed. It is true that unlike the buyer who possesses receipts only, the buyer with the promesa is in a position legally to enforce the seller's contractual obligation; however, his limited resources make this an impracticable and unlikely course of action.

As to the degree to which the pirate subdivider complies with his good faith promise, Losada and Gomez found in their survey that the developer had performed his obligation in less than 45% of the cases. The authors noted, however, that the principal explanation

⁷ Ley 153 de 1887, art. 89.

⁸ El Codigo Civil de Colombia, art. 974.

⁹ One of the documents required of individuals who request services from Empresas Publicas is the paz y salvo, which cannot be obtained, of course, without first obtaining the legal title to the property in question.

for the subdivider's nonperformance appeared to be the fact that the buyers questioned had not yet completed their payments. The authors concluded that the withholding of the deed by the seller may be his most effective way to insure cancellation of the debt owed, that is, payment of the purchase price and interest charges.¹⁰ Losada and Gomez in addition, noted other factors that might explain the subdivider's non-compliance behavior. First, in some cases, the developer may have mortgaged the property, in which case transfer of title to the buyer may be impossible or create complications the developer may wish to avoid. Second, it is possible that the developer is not at paz y salvo, that is, not paid up in his property taxes, which, as noted previously, is a prerequisite for the legal transfer of title.¹¹ This circumstance appears to have been at least one of the reasons the developer in La Cascada in Medellin refused to issue written promesas as well as escrituras to most of the residents who purchased lots after the first few lots were sold.

In conclusion, from a strictly legal point of view, it would appear that by relying upon oral or written promesas and a system of payment receipts, the buyer in the pirate market runs the risk either of dispossession or of a lengthy and costly court action to prove title. In practice, however, as will be described below, neither risk appears to be that great. In fact, the Bogota survey data of Doebele, and Losada and Gomez and this author's data in Medellin suggest that although conflicts do exist between illegal subdividers and buyers, the more important conflict may be between the less formal documents and procedures in the pirate market and the rigid requirements of the formal legal system that govern the conventional subdivision market. Moreover, the data suggest that the latter conflict does not stem from any antagonism of the lower income groups in the pirate market toward the formal legal system, but rather from the economic constraints under which lower income groups must act. The data presented in Part D suggest that they not only have confidence in the formal legal system but that they also have considerable knowledge of it as well. Of most significance, they have a desire to gain access to that system.

Before considering the issues presented in Part D, the question of buyer-illegal subdivider relations deserves further comment. Doebele's study, in particular, addressed this question and concluded that the relationship between these two actors in the market is relatively good. He found, for example, that in regard to the problem of buyer defaults in payments, only 26% of those surveyed believed that the subdivider would repossess the lot, while 57% believed that he would not. Only one of the families interviewed knew of a case of actual repossession. Moreover, 91% indicated that they had not had any disputes with the subdivider

¹⁰ Losada and Gomez, op. cit., p. 144.

¹¹ Ibid.

over payments. With respect to the escritura, 76% of those interviewed expressed confidence that the subdivider would eventually fulfill his promise to deliver the title to their property; approximately 9% had already received their escrituras. On the question of services, Doebele reported that 73% had said that they had not argued with the subdivider about the matter, although some (18%) were aware that their community board (junta) had been at issue with the subdivider over the provision of services. The general feeling of most of those surveyed (88%) was that the subdivider had not been deceitful in his dealings with buyers.¹² The findings of Losada and Gomez in their survey of pirate barrios are generally consistent with those of Doebele, although they did identify buyer-subdivider conflicts around the issues of stated purchase price and terms of payment, date of lot delivery, and promises made concerning services and delivery of title.¹³ Their overall conclusion, however, was that the buyer-subdivider relationship does not reveal the degree of abuse and conflict that has often been alleged.¹⁴

This author's own survey data of the La Cascada subdivision in Medellin reveals somewhat more conflict in buyer-subdivider relations than reported by the authors of the Bogota studies. However, as will be discussed below, the results do not necessarily dispute their findings. In the case of La Cascada, it will be recalled that approximately 3/4 of the families had stopped their payments to the subdivider because of his refusal to give written promesas and his failure to provide services as allegedly promised to approximately 70% of the purchasers. Thus the conflict between the buyers and the subdivider was clearly evident. Moreover, disenchantment was such that slightly more than half the families interviewed (52%) indicated that had they known of the difficulties they were to have with regard to services, documents, etc., they would not have purchased in La Cascada.

Nevertheless, although the residents were certainly not satisfied with the subdivider's performance, they generally exhibited confidence that matters would eventually be resolved with the subdivider. In fact, half the residents indicated that they still preferred to resolve their difficulties directly with the developer rather than attempt to do so through some official entity. In other words, they appeared to still have hope that matters could be resolved on a personal level. Moreover, if we discount for those few families who already had escrituras, 55% of those interviewed expressed the belief that they would receive title from the subdivider upon payment of the purchase price. With respect to the issue of payment defaults (or, in this case, refusal to pay), only

¹² Doelbe, op. cit., pp. 58-59.

¹³ See Losada and Gomez, op. cit., pp. 137-146.

¹⁴ Ibid., p. 145.

one resident interviewed indicated that the subdivider had threatened to get a lawyer to disposses those who didn't pay. Of the other residents who gave responses, 38% stated that late payments resulted in interest charges of 18%. This response correctly recited the terms in the written promesas held by a number of the families. It is interesting to note that those who recited the interest terms included those with only "verbal" promesas. Another 19% indicated that the subdivider "did nothing" about late payments, and 10% did not know what the subdivider would do. On the issue of services, it is significant that despite the fact that 70% stated they had been promised services by the subdivider, only 44% actually blamed the subdivider for the delay in obtaining services. Others (13%) blamed the delay on the failure of the subdivisions own community action efforts (accion comunal) to secure the necessary self-help labor and collaboration from residents (particularly with regard to sewerage installation). A few individuals (9%) blamed the delay on the fact that residents were not at paz y salvo. This view, of course, obscured the fact that most residents did not have title to their lots and therefore were not yet liable for property taxes.¹⁵ Finally, others variously blamed the Department of Municipal Planning and Empresas Publicas.

The survey results presented above suggest that despite clearly articulated dissatisfaction with the pirate subdivider, more than half the residents nevertheless expressed a basic confidence in the outcome of their dealings with the subdivider. These results, therefore, would appear to generally support the findings of the Bogota studies that the relations between buyers and subdividers are relatively good despite identifiable conflicts. Doebele's study, however, shows higher percentages of positive responses by pirate barrio residents. This difference, however, may not be significant in view of the differences between this author's sample size and that of Doebele, as well as that of Losada and Gomez. It seems reasonable to expect that in a small subdivision such as La Cascada, there would be a greater tendency for dissatisfaction to become unified and focused against the developer. Families necessarily must participate more in the community organizational efforts to obtain services, etc. In larger subdivisions, as Doebele's data indicated, the same controversy may exist, but may be handled by the community junta which involves proportionally fewer residents directly with the problems and the subdivider.

RESIDENTS' VIEWS AND UNDERSTANDING OF THE LEGAL SYSTEM

¹⁵ The response did indicate, however, that the particular residents understood the importance of the paz y salvo for the securement of services.

It would seem reasonable to suggest that the buyers' basic optimism and perseverance in their relations with illegal subdividers may stem from their general knowledge of the legal system as well as their fundamental belief that it will operate fairly on the issues of concern to them. The studies by both Doebele and by Losada and Gomez found a high degree of understanding of the legal system as well as confidence in its outcome. This part of the study will present the author's survey results in Medellin on the same issues of residents' legal knowledge and confidence in the formal system. Since the questions used by this author were the same as, or similar to, those used by Doebele in his study,¹⁶ the analysis will more closely parallel the latter's presentation in order to facilitate comparisons. Where questions used are identical and it is helpful for comparison purposes, the response percentage from Doebele's study will be indicated in brackets.

Knowledge of the Legal System

Consistent with Doebele's findings, every interviewed resident of La Cascada expressed the desire to obtain a properly registered title to his property. Approximately 78% (90%) acknowledged that they were aware that in the meantime, the lack of title meant that they did not have to pay taxes and that the subdivider did. Of those interviewed¹⁷ 86% (69%) thought that having a registered title would make it easier for their successors to inherit the property.

With regard to the relationship between the documents possessed by the residents and the procurement of urban services, only 44% (92%) indicated an understanding that such documents would be necessary. Approximately 30% did not think the documents were necessary, and another 26% did not know. Apart from the issue of sample size differences, this lower percentage compared to Doebele's findings may reflect the residents' belief that services were obtainable without regard to documents, through the Rotating Fund of Empresas Publicas. The Fund, as noted earlier, was used to extend services to subdivisions as a whole, usually before the process of legalization was completed. In a conventional subdivision, of course, the certificate of paz y salvo as well as other documents would be necessary to obtain services.

¹⁶ William A. Doebele kindly granted permission to the author to use questions from his Bogota survey questionnaire in order to permit the comparative analysis presented herein.

¹⁷ Only 7 responses were obtained for this question due to an oversight in the administering of the questionnaire.

Although a complaint had been lodged with the Superintendency of Banks against the subdivider in 1973, it is interesting to note that two years later only 17% (33%) of the residents properly identified the agency as the entity that should receive complaints about the subdivision. Another 9% identified the Department of Municipal Planning. But over 60% stated that they did not know of a procedure for complaining against the subdivider. However, even though a large percentage of residents could not identify the specific entities (i.e., the Superintendency and Municipal Planning) responsible for regulating subdivision development, they did have a perception of the overall legal and administrative system and appeared to have clear ideas of how they might go about resolving a complaint against the subdivider. Apart from the "proper" place to complain, residents asserted that the best place to complain was: the police (22%), the mayor's office (22%), the community action agency (Accion Comunal) (22%), the Superintendency of Banks (17%), the Department of Municipal Planning (9%) and a political party (4%). This pattern of varied responses would suggest that residents have markedly different perceptions of where effective authority lies within the city government for the assertion of rights and the resolution of problems.

The residents also indicated a basic understanding of their possessory rights to their property. When asked whether the documents they received would protect them against the subdivider if he reneged on the sale, 52% (81%) thought their documents would. However, another 22% answered by emphasizing the importance of their possession in combination with the documents. Only 13% (15%) believed their documents were worthless against the subdivider's claims. Losada and Gomez also found a basic understanding among pirate barrio residents of the legal protection afforded possessors. Almost 90% of those surveyed thought that a person who had lived on a lot without documents of ownership for a year, would be protected by the law against efforts by the actual owner to respossess the property. ¹⁸ The authors also found that 83% of the those interviewed knew that the escritura had to be signed before a notary public. ¹⁹

The results of the La Cascada survey in Medellin generally confirm the findings of Doebele as well as Losada and Gomez that the residents of pirate subdivisions have a considerable amount of basic knowledge of the legal system and their respective rights under that system. The question that arises, then, is whether they have confidence that those rights will be protected. The following analysis suggests that pirate barrio residents do have a high level of confidence in the formal legal system.

¹⁸ Losada and Gomez, op. cit., pp. 147-148.

¹⁹ Ibid., p. 147.

Confidence in the Legal System

It will be recalled that in La Cascada, except for those few who had legal title to their property, only 35% of the residents had written promesas, while over 50% of them had no document of purchase and sale, but only verbal promises and receipts. Nevertheless, as already noted, 55% of those with either written or verbal promises expressed the belief that upon full payment of the purchase price they would receive the title from the subdivider. As also noted, 74% believed that even if the subdivider decided to renege on his sale and tried to remove them from their lots, their documents (as well as their possession) would protect them. Moreover, were their properties to be invaded, 74% thought their documents alone would be sufficient to remove the invaders. Another 9% thought that their documents in combination with possession would be necessary. ²⁰

With regard to the residents' confidence in the sale and credit benefits that normally flow from ownership and documents of title, responses were less optimistic. Approximately 61% (58%) expressed the belief that in the event they needed to sell their property quickly to raise money that their documents would be accepted by buyers; but 39% (38%) did not think so. Only 26% (44%) believed they could successfully use their documents as security for a loan, while 74% (50%) did not believe they could. It is significant to note that one of the residents who did possess registered title to his property stated that he did not think he could use it as security for a loan. His view was founded on experience. He explained that he had gone to a local bank to obtain a loan for the construction of his house, but despite his presentation of proof of

²⁰ The logical question that occurred in the process of interviewing residents of La Cascada, 3/4 of whom were no longer paying monthly installments to the subdivider because of his failure to deliver legal documents and services, was: Why not invade instead? Only 22%, some of whom were more sarcastic than sincere, stated that they would invade. The reasoning given by some of these residents was that those who invaded seemed to receive urban services faster than those who purchased in a pirate subdivision. Another stated that "possession" was more important than "receipts." However, 78% responded strongly that they would not invade. The most frequent reason given was that invasion would bring "problems," meaning that there would be no security or hope of obtaining legal title, only the constant apprehension of losing the land they occupied. One resident stated, "I like what costs me honorably." Another indicated that "receipts" were at least "some" proof of ownership. It was apparent to the author that despite the residents' difficulties with the subdivider, the majority nevertheless felt secure in their possession and ability to prove ownership, a status that they felt would never be obtainable if they resorted to invasion.

legal title to his property, the bank had refused him credit on the ground that he lived in a "pirate barrio."

Residents of La Cascada also expressed a strong belief and confidence that their individual property rights would be respected when those rights came in conflict with public purposes. For example, 83% (90%) stated that they thought they would receive compensation for their property should it be expropriated by the government for public purposes. Similarly, approximately 78% (89%) believed that if a public service authority such as Empresas Publicas were to expropriate their property, compensation would be paid. Losada and Gomez in their Bogota study of pirate barrios approached the question of resident confidence in the legal system somewhat differently from Doebele. They designed two broad questions to determine residents' expectations about outcomes under the Colombian judicial system.

The two questions were the following:

- (1) Do you think that in general, Colombian judges are (a) very fair (b) fair (c) unfair (d) very unfair?
- (2) Considering the actual performance of the judges and the police, do you think the Colombian laws are generally fair?

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The authors then combined the two questions and scaled the responses in three intervals to determine the residents' overall "opinion of Colombian justice. The three intervals and the percentages of responses in each for all five barrios combined were as follows: ²²

Frankly positive:	19%
Neither positive nor negative:	36%
Frankly negative:	44%

The authors concluded that the negative tendency of the answers was manifested in certain barrios more than others, because of particular bad experiences. ²³ It was the authors' overall conclusion that while the residents seem to have considerable knowledge of the formal legal system, they do not appear to understand how to use that system, and that their generally negative or ambivalent opinion of the outcomes under the system suggests that they think that using it would be futile anyway. ²⁴

²¹ Losada and Gomez, op. cit., p. 148.

²² Author's calculation based upon individual barrio statistics presented by authors. See, ibid., p. 150.

²³ Ibid., p. 149.

Evaluation

The results of the studies by Doebele, and Losada and Gomez in Bogota, as well as by this author in Medellin, support the proposition that pirate barrio residents have considerable knowledge of the formal legal system that surrounds them. As regards the question of residents' confidence in the legal system, the results obtained by Losada and Gomez would appear to conflict with the findings of Doebele and this author. The studies of Doebele and this author suggested that residents generally believe that their individual property rights will be protected and that they will receive fair treatment under the formal legal system. Losada and Gomez, on the other hand, found a higher degree of resident ambivalence and cynicism toward the legal system and the outcomes obtainable under that system.

Notwithstanding this apparent difference in results between the studies mentioned, it is perhaps to be questioned whether the results are directly comparable. The methodology employed by Losada and Gomez was quite different from that employed by Doebele and this author in their respective studies. The methodology of Losada and Gomez relied upon two broadly phrased questions about Colombian justice. In contrast, the questions of Doebele and those used by this author were focused more specifically upon the issues of legal title and property rights vis-a-vis third parties and the government. It would seem reasonable to expect that the questions of Losada and Gomez would tap the more generalized cynicism and ambivalence toward the legal system that is found among lower income groups in most societies. It is also possible, of course, that the questions employed by Doebele and by this author may have tapped a form of defensive optimism about the legal system on the part of residents who understandably felt various degrees of insecurity about their ownership status. Thus, none of the studies may have properly measured actual "confidence" in the legal system and expectations of fair treatment.

Perhaps the most important conclusion possible from the results of all three studies, however, is that the residents in pirate barrios are certainly aware that they have possession of and rights to an asset that the formal legal system recognizes and values. Whatever the range of their optimism or cynicism about the operation of that system in general, it is clear that they are determined over time to eventually gain access to it and to attain the status of legitimacy that flows from legal ownership of their property. The remaining two chapters consider modifications in the legal-institutional structures that affect lower income families' access to land and housing. Chapter VI considers modifications in the formal

²⁴ Ibid.

subdivision requirements, specifically, the minimum standards program (normas minimas) in Medellin and Bogota. Chapter VII considers other planned and recommended institutional modifications as part of the conclusion to the study.

CHAPTER VI THE NORMAS MINIMAS SUBDIVISION PROGRAM AND THE PIRATE MARKET

INTRODUCTION

In Chapter III, it was observed that the difficulties encountered by Medellin planning officials with the pirate subdivision El Diamante, led them to devise a program of reduced standards for the development of the subdivision. The case of El Diamante also provided impetus for the establishment of a general program in 1973¹ of so-called "minimum standards" or normas minimas² for lower income subdivision development. Six years before, Bogota had also adopted an ordinance which allowed for reduced standards within a special district.³ In 1972 and 1973, however, following the recommendations of a major study,⁴ the Bogota city council adopted a series of ordinances that established a new normas minimas program.⁵ An important distinction between the two cities' normas minimas legislation is that the Bogota ordinance does not restrict the location of subdivisions to any particular area of the city while Medellin's ordinance limits normas minimas subdivisions to locations zoned under one residential classification only. The

¹ El Alcalde de Medellin, Decreto No. 204 de 1973. Modifications in the normas minimas requirements were made in 1975. See, idem., Decreto No. 334 de 1975.

² The exact term used in the Medellin regulations is obras minimas, meaning minimum works or construction. However, the term normas minimas is also used synonymously by many planning officials and will be used in the analysis presented in this chapter.

³ El Concejo del Distrito Especial de Bogota, Acuerdo No. 65 de 1967.

⁴ Consultecnicos, Ltda., Estudio de Normas Menimas de Urbanizaciones, Servicios Publicos Servicios Comunitarios (Study prepared for the Instituto de Credito Territorial, the Planning Department for the Bogota Special District and the National Planning Department, Bogota: 1971). This study was subjected to considerable criticism by planning officials in Medellin, in particular, the study's recommendations with respect to lot sizes and other physical dimensions for subdivisions -- considered too small and oppressive for lower income families. See, Fabio Botero Gomez, Juan Carlos Duque Ramirez and Gilberto Arango Escobar, Analisis del Estudio de Normas Minimas de Urbanizacion y de los Problemas de Vivienda Urbana Para Clases Populares (Medellin: Departamento Administrativo de

importance of this distinction will be discussed below.

These normas minimas programs as enacted in Bogota and Medellin represent modifications in one part of the legal-institutional framework that governs the subdivision process. Modifications in the other parts of that framework, namely the laws governing land transfer, considered in Chapter V, and the regulations of the Superintendency of Banks, considered indirectly in Chapter III, will be treated briefly within the context of the conclusions and recommendations of the final chapter.

This chapter will examine the nature of the subdivisions that have been produced under the modified subdivision standards as enacted in Medellin and in Bogota. In Chapter III the competitive viability of government housing programs in relation to the pirate submarket. Similarly the inquiry here is whether the private market itself, once freed of unrealistic subdivision regulations, can produce a competitive alternative to the pirate submarket -- from the viewpoint of both the subdivider and the potential pirate lot purchaser. Unfortunately, comparable amounts of data are not available for the two cities. In Bogota, average data have been obtained from subdividers for 14 normas minimas subdivisions and 135 pirate subdivisions. In Medellin, while a number of formerly illegal subdivisions have been legalized or normalized under the city's normas minimas program, only one subdivision has actually been designed and developed under the program. This subdivision, therefore, is the only source of data on normas minimas subdividing in Medellin. The pirate subdivision data, of course, is also limited to case study data. Because of the disparity in the amount and kind of data for the two cities, the following analysis will present the Bogota data first in order to provide a general framework for examining the data from the Medellin subdivision.

NORMAS MINIMAS SUBDIVISIONS AND THE PIRATE SUBMARKET IN BOGOTA

The data source for the comparative analysis of normas minimas subdivisions and pirate subdivisions in Bogota is the survey conducted by the Superintendency of Banks in Bogota in 1977. The data were analyzed in a study (1980) by Alan Carroll of the World Bank. ⁶ It is relevant to the analysis presented later in this

Planeacion y S.T., 1972).

⁵ Idem., Acuerdo No. 20 de 1972, Acuerdo No. 21 de 1972, El Alcalde de Bogota, Decreto 1259 de 1973, Decreto No. 1260 de 1973.

⁶ Allan Carroll, Pirate Subdivisions and the Market for

chapter to emphasize that the data analyzed by Carroll covered the supply and demand aspects of the pirate market as a "land development business" only. The survey did not collect data on the dwellings or residents of the normas minimas or the pirate subdivisions. The following results were reported by Carroll for the market solutions produced under normas minimas in comparison to the solutions produced in the pirate submarket.

Physical Characteristics of Subdivisions

With respect to the physical characteristics of the subdivisions, Carroll found that the average size of the lots in the normas minimas subdivisions tended to be approximately 25% smaller than those in the pirate subdivisions (92 m² as opposed to 125 m²). The total usable area for lots in normas minimas subdivisions was also smaller (57% as opposed to 71% for pirate subdivisions within the urban perimeter). However, the normas minimas subdivisions usually contained a greater amount of communal area and green space than the pirate subdivisions (22% as opposed to 10%), had more services, and generally were better located. ⁷

Tract Acquisition and Development Costs

The majority of both types of subdividers purchased their tracts by means of a single lump sum. Payment by means of a downpayment and installments was used primarily in the larger subdivisions. There were relatively few cases reported of interest charges as part of these purchase contracts. Interest charges in such cases ranged between 0.3% and 7.0% per year. The normas minimas subdividers, however, paid approximately 28% more per square meter for subdividable land than did the pirate subdividers. All the normas minimas subdividers made infrastructure investments, providing at a minimum, water and streets. Approximately 13% of the pirate subdividers had provided no infrastructure at all. It should be noted, of course, that in those pirate subdivisions with infrastructure it was not necessarily the subdivider who installed it. Rather it was often the community or the municipal government who undertook installation, with or without the aid of the

Residential Lots in Bogota (Washington, D.C.: The World Bank, Urban and Regional Report No. 79-12, April, 1980).

⁷ Carroll, op. cit., pp. 9-10
26.

developer. Carroll cautioned that comparisons with respect to expenditures and the amount of infrastructure reported were difficult because the survey questionnaire did not distinguish between completed and planned infrastructure investments. Interestingly, over three-fourths of both the pirate as well as the normas minimas subdividers waited a year or more after commencing lot sales before installing infrastructure.⁸ This latter point will receive further comment below. Carroll noted that although normas minimas subdividers reported higher costs per unit for sewer and street construction than did pirate subdividers, the latter reported costs two-thirds and three-quarters higher than the normas minimas subdividers for water pipes and electrical lines. Since it would be expected that normas minimas subdividers would have higher overall infrastructure costs than pirate subdividers who provide lesser quality of the same, Carroll concluded that the higher cost data reported by pirate subdividers cast doubt upon the validity of the infrastructure and cost data.⁹ The costs of professional services, publicity and administration ("overhead" were calculated on a per-lot basis. The results indicated that both kinds of subdividers had similar costs for publicity and administration; however, the pirate subdivider reported costs twice as high as the normas minimas developer for professional services. Again the results ran somewhat against expectations, since pirate developers avoid the considerable paperwork that is part of the conventional subdivision approval process. It was Carroll's conclusion that the pirate subdividers probably exaggerated their costs in all three categories of overhead costs.¹⁰

Terms of Purchase and Developer Profits

According to Carroll's analysis, the purchaser in a normas minimas subdivision in Bogota pays approximately one-third more for a lot than he would in the pirate market. The price he pays, however, usually purchases more services, more open space, a better location and the greater likelihood that his lot will be transferred with legal title.¹¹ The terms of purchase, however, are very similar to those in the pirate submarket. Carroll found that the average downpayment is close to 35%, compared to approximately 30% in the Bogota pirate market. The average installment schedule is 39 months compared to an average of 36 months in the pirate market.¹²

⁸ Ibid., pp. 33.

⁹ Ibid., p. 38.

¹⁰ Ibid., p. 7, 40-41.

¹¹ Ibid., p. 10.

Perhaps of most significance, the data indicated that normas minimas subdividers appear to earn a higher rate of profit on their transaction than do pirate subdividers. Carroll found that, depending upon the assumptions used, the median annual rate of return (unadjusted for inflation) for normas minimas subdividers ranged between 39% and 146% while that of pirate subdividers inside the urban perimeter ranged between 25% and 46% per year.¹³ He noted, the great degree of variation observed across subdivisions, the effect of inflation, and the favorable assumptions that underlay the estimations of profit, particularly, the assumption that there was no lateness or default in payments. Notwithstanding these qualifications, Carroll concluded that the figures did accurately indicate the order of magnitude of profit rates realizable in both kinds of subdivision development.¹⁴

Evaluation

The logical question that follows from Carroll's findings is why comparatively few normas minimas subdivisions have been developed in Bogota if normas minimas subdividers can make better returns than pirate subdividers. Carroll suggested four possible explanations. First, potential developers of normas minimas subdivisions may be deterred by lack of access to the necessary capital to install required infrastructure. It will be recalled that in almost all of the subdivisions examined in the Bogota study, including normas minimas developments, the subdivider sold lots before undertaking the installation of infrastructure. This development pattern, Carroll suggested, indicates that the income from lot sales is used to finance the subsequent infrastructure investment.¹⁵ It was noted in Chapter II that this same constraint on capital appeared to be one of the factors explaining the growth and persistence of pirate subdivisions in Medellin.

A second explanation suggested by Carroll is that the supply of land for normas minimas subdivisions may be limited, in part, by the impact of zoning laws. This explanation will be discussed with specific reference to Medellin in the analysis below. The third explanation put forth is that the "process" of subdivision approval

¹² Ibid., p. 11.

¹³ Ibid., p. 55-56.

¹⁴ Ibid.

¹⁵ Ibid., pp. 33-35, 62-63.

under the normas minimas program to date has been characterized by delays and uncertainty, leaving subdividers without the necessary permits for legal service connections. In this regard, it is instructive to note the dilemma of the conventional subdivider compared to the alternative of developing in pirate fashion. In March, 1975, a conventional subdivider published a letter of complaint in El Tiempo, one of the major newspapers in Bogota. After noting with approval the Special District government's "campaign" against pirate subdividers, particularly those who fraudulently sell land they did not own, the individual added:

But I want to explain that there are many subdivisions, organized by serious firms with solid economic backing, who are owners of properties and who have complied with all the requisites, but to whom the Planning Office of the District does not opportunely grant the licenses, delaying days, months and years . . . causing serious losses to the directors and owners of these subdivisions. Therefore, it is the (Special) District, through the Office of Planning, that is . . . sponsoring the pirate subdivisions, because if permits are not given despite the fulfillment of all the requisites, what can an urbanizer do who is at the mouth of bankruptcy?

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The tone and the words of the letter quoted above indicate the subdivider's concern with the "image" of his firm and other ostensibly legitimate developer firms; it is this community or social image problem of the subdivision business in general that Carroll suggests may be the fourth factor explaining the relatively small number of normas minimas subdivisions that have been developed in Bogota.

NORMAS MINIMAS SUBDIVISIONS AND THE PIRATE MARKET IN MEDELLIN

As noted in the introduction, as of 1979, only one subdivision had been designed and developed in Medellin under the normas minimas regulations established in 1973.¹⁷ From limited information obtained by this author in 1979 from the Municipal Planning Department, it appears that two additional subdivisions were in the process of receiving approval as normas minimas subdivisions. Apart from these, however, the only other subdivisions to which the normas minimas have been applied are pre-existing illegal subdivisions or settlements that are now either "legalized" or in the process of being legalized. (See, Figure 21.) Before considering the factors

¹⁶ El Tiempo, March 16, 1975.

¹⁷ El Alcalde de Medellin, Decreto No. 204 de 1973.

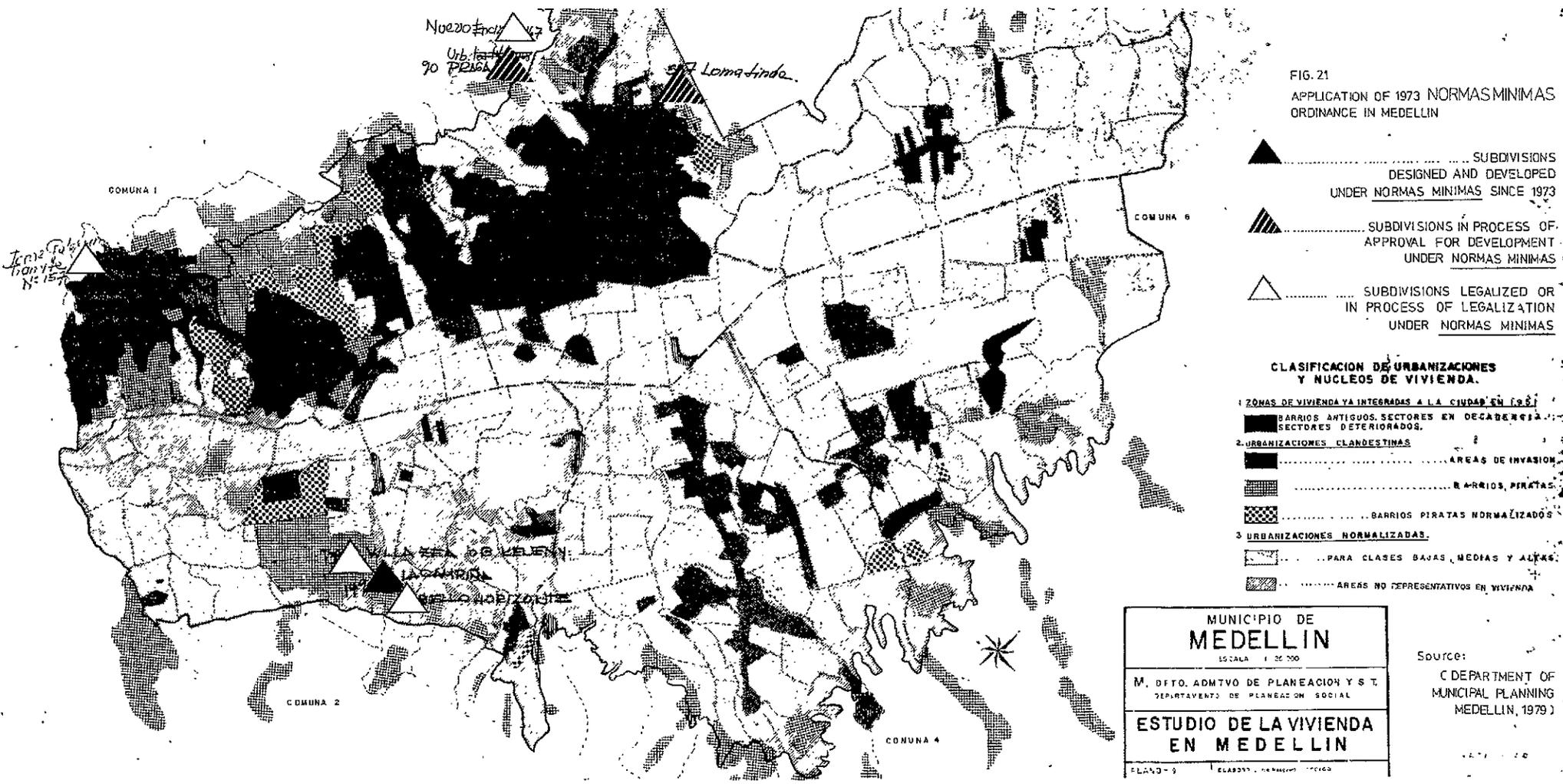


Figure 21. Application of 1973 Normas Minimas Ordinance in Medellín (Foldout Map)

that may explain the lack of normas minimas subdivision activity in Medellin, it is instructive to present the data that are available concerning the one completed normas minimas subdivision, and to consider its viability as an alternative to the subdivisions in the pirate market.

Case Data: Normas Minimias Subdivision

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Physical Characteristics of the Subdivision

The normas minimas subdivision in question is located in Comuna 2 (Robledo) approximately 5 kilometers (3 miles) from the center of Medellin, It has good access to bus services. The total subdivision area is 21,335 square meters, of which 8,999 M squared (42%) was subdivided into 78 lots that average approximately 115 M squared in size (frontage: 6.5 mts.). About 26% of the total area is devoted to green space (5,548 M squared) and street area comprises approximately 32% (6,788 M squared).

Tract Acquisition and Development Costs

The developer financed the purchase of the tract at an interest rate of 1.0% per month or 12.0% annually. In contrast to the majority of normas minimas developers in Bogota, the Medellin developer did install infrastructure prior to the sale of lots. The infrastructure consisted of sewerage, water and graded roads. Table 20 sets forth the development costs of the subdivision in terms of gross costs, the net area cost per square meter, and the per lot cost. The table indicates that on a per lot

basis, a little more than one half of the total cost (51%) consisted of the cost of the land itself. Infrastructure (including the cost of project designs) constituted close to one third (30%) of the cost, while administration as well as taxes and required legal steps amounted to the remaining 20%. Unfortunately, there is no comparable average data or case data for these cost categories of pirate subdivisions during the same time period in Medellin. Examining the cost data on a square meter basis in relation to the average data presented for normas minimas subdivisions by Carroll, it is interesting to note that the Medellin developer's

¹⁸ The data presented here were supplied to this author by the developer in April, 1979.

TABLE 20

DEVELOPMENT COSTS AND EXPECTED PROFIT OF NORMAS MINIMAS SUBDIVISION, MEDELLIN, 1975		
<u>Total Lot Price</u>	<u>\$36,000.00</u>	
<u>Costs</u>		
1. Tract cost per m2: \$50.00		
Cost of global tract	:	\$1,066,750.00
Net area (usable area)	:	
cost per m2	:	118.54
Cost per lot	:	\$13,676.00
2. Infrastructure(a)		
a. Bulldozing roads	:	90,000.00
b. Sewerage	:	220,000.00
c. Water	:	280,000.00
d. Project design costs	:	45,000.00
(b)	:	
Net area cost per m2	:	70.56
Cost per lot	:	8,141.00
3. Administration		
	:	260,000.00
Net area cost per m2	:	28.89
Cost per lot	:	3,333.00
4. Taxes and related costs (notarizations, registration of deeds, etc.)		
	:	30,000.00
Net area cost per m2	:	3.33
Cost per lot	:	384.00
5. National income tax		
	:	100,000.00
Net area cost per m2	:	11.11
Cost per lot	:	1,282.00
<u>Total Costs:</u>		
Total subdivision cost	:	\$2,091,750.00
Net area cost per m2	:	\$ 232.43
Total cost per lot	:	\$26,816.00
<u>PROFIT:</u>		<u>\$9,184.56</u>

Notes

(a) The installation of electricity is not governed by the normas minimas regulations. Empresas Publicas installs service and charges users under installment payment plan.

(b) Includes costs of subdivision design as well as design of roads, water, and sewerage.

infrastructure costs were somewhat higher than the average expenditure in the subdivisions in Bogota.¹⁹ The Medellín developer's net area cost per M squared (excluding professional

design costs) was approximately \$66.00. This figure is also higher than the average for all Bogota normas minimas subdivisions surveyed (\$57.00).²⁰

Terms of Purchase and Developer's Profit

Table 20 also indicates the selling price per lot in relation to costs. It indicates that the selling price of a lot in 1975 was \$36,000, meaning that on an investment of \$26,816.00 per lot, the developer's potential profit was \$9,184.56 or approximately 34%. The issue of the profitability of normas minimas subdivisions in Medellin will be considered in the evaluation below. The terms of purchase for buyers in the normas minimas subdivision were as follows:

Lot Sale Price:	\$36,000.
Downpayment:	\$10,000.
Downpayment:	\$10,000.
Monthly Installment Payments (30 months): . .	\$ 1,060.
Interest Charge: 1.5% per month on balance outstanding	

The developer indicated that at the time he began marketing the lots (late 1975), the average monthly income of those who purchased the lots was approximately \$5,000.

Evaluation

Unlike Carroll's analysis for Bogota, the inquiry here is not motivated by the finding that the Medellin developer realized a profit considerably higher than his counterpart in the pirate market. However, the developer's profit (34%) is certainly reasonable. The question remains, therefore, why only one normas minimas subdivision has been developed under the program since its official enactment in 1973. Before examining this question, however, it is important to look at the demand side of the housing market and to evaluate the solution offered by the normas minimas subdivision from the viewpoint of the potential pirate lot purchaser.

Table 21 presents the comparison of the normas minimas subdivision's characteristics with those of specific examples of pirate and government subdivisions previously discussed or mentioned in this study. The range of physical characteristics is presented primarily

¹⁹ The net area of the subdivision is 8,899m².

²⁰ Carrol, op. cit. p. 39.

for the reader's benefit since the previous analysis has suggested that the characteristic of singular importance to the pirate lot purchaser is the lot itself. In this respect, it is apparent that the normas minimas subdivision compares very favorably to the lot offerings in the pirate subdivisions indicated, and certainly compared to the I.C.T. offerings. For example, the lot size offered is only about 10% smaller than that in nearby El Diamante, while it is 60% to 90% larger than the lots in the two I.C.T. subdivisions. If we add to the factor of lot size, the previously noted importance of spatial flexibility, the only relevant comparison that remains is between the normas minimas subdivision and the pirate subdivision with respect to price, terms of purchase and services.²¹ The government alternatives as previously analyzed in Chapter III, are not competitive in these contexts.

In order to compare prices, terms of purchase and extent of services in the normas minimas subdivision and pirate subdivisions of Medellin, it is necessary to return to this author's own data for La Cascada as well as the sample data from three pirate barrios presented by Molina and Arias (1976). Table 22 presents the comparison of the two private market alternatives in 1975-1976 with respect to the aspects mentioned. An examination of the purchase terms for all five subdivisions indicates that the normas minimas subdivision offered terms in 1976 that were more favorable than those of the first two pirate subdivisions presented in the table (El Diamante and Miramar) and less favorable than the purchase terms of the other two subdivisions (La Esperanza No. 2 and La Cascada).

On the basis of this straight-forward comparison alone, it would be reasonable to conclude that the normas minimas subdivision can and does compete with at least some of the varied offerings in the pirate subdivision market. Not only does the normas minimas subdivision offer a better price and better terms of purchase it also includes essential urban services at the point of purchase. However, it is the variety of solutions observed in the pirate submarket, over time that requires certain qualifications to this conclusion. First, it should be noted that the normas minimas subdivision, El Diamante and also Miramar are all located in the same Comuna (Robledo) within relative proximity, and within the urban perimeter of Medellin. The significance of this fact becomes evident when combined with a second observation, namely, that both El Diamante and Miramar are pirate subdivisions whose principal growth (i.e., sale of lots) occurred in the mid and late 1960's. In

²¹ One additional issue, of course, is the comparison of the relative likelihood of purchasers obtaining legal tenure in the two types of subdivisions. However, the data and analysis presented in Chapter V would suggest that pirate barrio purchasers' confidence in the legal system and the ultimate transfer of title is such that differences between the probabilities of obtaining legal tenure would not be significant compared to the physical and cost differences observed between the subdivisions.

TABLE 21

COMPARISON OF PHYSICAL CHARACTERISTICS OF NORMAS MINIMAS SUBDIVISION WITH EXAMPLES OF PIRATE AND GOVERNMENT SUBDIVISIONS IN MEDELLIN										
Physical Characteristics	Normas Minimas Sub-division	%	El Diamante	%	Castilla Vieja(1)	%	I.C.T. Zea II	%	I.C.T. Doce de Octubre	%
Tract size	21,335 m ²		95,041 m ²		549,335 m ²		94,229 m ²		468,000 m ²	
No. of lots	78		380		2,241		464		6,500	
Area usable for lots (net area)	8,999 m ²	42	49,831 m ²	52	352,703 m ²	64	29,045 m ²	31	180,000 m ²	38
Average size of lots	115m ²		128m ²		90m ² 128m ² 256m ²		60m ²		72m ²	
Street area	6,798 m ²	32	21,453 m ²	23	196,632 m ²	36	33,757 m ²	36	unknown	?
Green area (zonas verdes)	5,548 m ²	26	23,757 m ²	25	--	0	31,427 m ²	33	121,680 m ²	26

Notes (1) Older pirate subdivision, now integrated into the city. See Appendix D.

other words, by 1976, most of the lots in the two subdivisions had been sold. The terms of purchase

that Molina and Arias reported in effect in 1976 in El Diamante and Miramar were markedly different from the earlier terms of purchase reported by the authors for the two subdivisions (and by this author for El Diamante in 1973).²² The much higher price and more stringent credit terms demanded would appear to reflect both the scarcity of remaining lots in the now serviced and built-up subdivisions, as well as the speculative behavior of the pirate developer. The latter, as previously noted, often holds some lots off the market until services are provided. Therefore, it may be that the best conclusion which can be made from the available data about the competitiveness of the normas minimas subdivision with pirate subdivisions in Medellin is that it competes successfully with price and purchase terms for the relatively few remaining lots in older pirate subdivisions.

²² See Molina and Arias, *op. cit.*, pp. 27-30.

TABLE 22

COMPARISON OF A NORMAS MINIMAS SUBDIVISION AND PIRATE SUBDIVISIONS IN MEDELLIN IN TERMS OF LOT PRICE, TERMS OF PURCHASE AND SERVICES PROVIDED IN THE YEARS 1975 AND 1976					
ITEM	Normas Minimas Subdivisions (a)	El Diamante (b)	Miramar (b)	La Esperanza No. 2 (b)	La Cascada 1975
	1975 & 1976	1976	1976	(b) 1976	1975
Average Lot Price	\$36,000 (115m ²)	\$45,000 (128m ²)	\$45,000 (117m ²)	\$4,000 (141m ²)	\$16,000 (147/160m ²)
Downpayment	\$10,000	\$30,000	\$30,000	no credit terms	\$2,000
Monthly Installments	\$1,060	\$1,250	\$1,250	no credit terms	\$100 minimum
Interest Charges	1.5% per month on balance	1.5% per month on balance	1.5% per month on balance	-----	none on monthly bal.; 1.5% on overdue bal.
Term	30 mos.	12 mos.	12 mos.	Full payment required	48 mos.
Services	Developer -water -sewerage -graded rds Empresas Publicas -electricity	Developer -\$400,000 -contri- -bution Empresas Publicas except for water (Housing in La Esperanza Habili- -tation Div.) -all services	All services provided through the Habilitation of Housing Div. Empresas Publicas (accion comun.)		sewerage ((accion comun.) water (nearby stream-La Iguala) electricity ((contraband))

Notes

- (a) Lot sales began in 1975 and continued into late 1976.
 (b) Molina and Arias, op. cit., p. 30.

This conclusion would seem reasonable if it is recalled that the pirate subdivision market has been a market that has flourished

primarily on the periphery of urban areas where land prices are cheaper and services are either prohibited or unlikely to be extended in the foreseeable future. For example, such subdivision areas as El Diamante and Castilla (see Table 20 and Appendix D) were once considered "peripheral" to the urban area of Medellin. The city's subsequent growth resulted in their normalization, servicing and incorporation, into the urban area of Medellin. Their land values appreciated accordingly. Now, however, because the extension of the urban area of Medellin has nearly reached its physical limits against the hillsides surrounding the city, peripheral activity of pirate subdividing appears to have extended into the semirural areas surrounding Medellin (see, Figure 3, Chapter II). The significance of the peripheral character of these new pirate subdivisions relative to the cost competitiveness of the *normas minimas* subdivision is evident in Table 2d. Both La Cascada and La Esperanza No. 2 are peripheral, semi-rural pirate subdivisions whose lot sales occurred primarily after 1970. ²³ In 1976, the lot prices, terms of purchase (as well as lot sizes) continued to reflect the cheaper cost of unserviced land on the periphery compared to lot prices and credit terms available within the urban perimeter of Medellin. ²⁴

Apart from the matter of legal tenure, the only aspect in which the *normas minimas* lots would appear to compete successfully with these most peripheral pirate subdivisions is in the provision of services. Clearly the legal provision of services is important to the pirate lot purchaser. However, very little information exists about the importance of services to such purchasers when balanced against the additional costs in lot price that usually results. From the limited data obtained in the La Cascada study, this author suggested that the purchasers principal objective is to obtain a lot at a low price irrespective of existing services as long as service needs can be met through temporary measures (i.e., natural sources and contraband), and there is the reasonable expectation that legal city services can eventually be obtained. It is not clear that the same purchaser in the pirate subdivision is willing to pay up front the additional cost for a serviced lot that is reflected in higher purchase price quoted and the higher downpayment and installments required. That is, it may be incorrect to hypothesize that there is a demand for serviced lots provided in the *normas minimas* type subdivision. For example, further statistical analysis by Carroll of the data presented in his preliminary study of the *normas minimas* and pirate subdivisions of Bogota, indicated that the only service infrastructure for which purchasers appeared to be willing to pay more for lots was sewerage. ²⁵ This qualified description of the

²³ Molina and Arias indicated that La Esperanza No. 2 originated in the years 1971-1972. *Ibid.*, p. 9.

²⁴ This point was illustrated graphically in the comparison of land values per square meter in El Diamante and La Cascada between 1966 and 1976. See Chapter III, Figure 16, *supra*.

demand for serviced lots corresponds more closely to the viewpoints expressed to this author by residents in La Cascada. However, even this finding needs to be examined in relation to the characteristics of purchasers in the normas minimas subdivisions, particularly in relation to their income levels and types of employment. It should be remembered that Carroll's study explicitly did not consider the characteristics of these purchasers. If the 1975 average monthly income of purchasers in the Medellin normas minimas subdivision (\$5,000) is any indication, it would suggest that the purchasers are a higher and presumably more stable income group within the working class. Therefore, to speak of demand for normas minimas-type serviced lots, or even sewerage alone, may mean that there is a demand and expectation on the part of those who are better able economically to afford the higher lot costs associated with the provision of services. ²⁶

None of the caveats expressed above about the true economic competitiveness of normas minimas subdivisions from the perspective of the pirate lot purchaser are intended to suggest the curtailment of such programs. Rather, they are intended to highlight the fact that the economic constraints of the present pirate lot purchaser (low income and limited or no access to credit) may make the normas minimas "serviced" lot offering inaccessible except perhaps to the highest income range of those who would otherwise seek lots in a pirate subdivision. In order to determine the real validity of this proposition, of course, the same sort of analysis that has been done by Vernez, Losada and Gomez and others of purchasers in pirate

²⁵ Notes of discussion with Alan Carroll, March 14, 1979.

²⁶ This argument is somewhat analogous to the so-called "creaming" effect observed in sites and services programs. In these programs it was observed that the better organized and better serviced (compared to squatter settlements) sites and services projects attracted the more established, higher income members of the work class, who left behind those with lower incomes whose livelihood had depended upon the sale of goods and services to their more established neighbors. See William A. Doebele and Lisa R. Peattie, "Some Second Thoughts on 'Sites and Services'" (unpublished manuscript, M.I.T., October, 1976). Within the normas minimas context, the question is whether the better organized development process and the serviced lots of such subdivisions attract primarily the higher income group of workers who have the necessary resources to afford the higher cost of securing a lot. In conversations with the developer of the old, well-known pirate subdivision in Medellin, La Castilla, the developer made some observations in the "pirate" subdivision context which suggests that the more established members of the working class might seek lots in the better developed and serviced normas minimas subdivisions. He indicated that approximately 500 masons (albaniles) were the first to buy lots in Castilla. After constructing houses and residing for 4-5 years, they then sold their homes for a considerable profit to a "somewhat

subdivisions must be done in normas minimas subdivisions. From a policy viewpoint, however, the interesting question is whether the more expensive normas minimas "market" solution could effectively serve potential pirate lot purchasers if the latter were simply given the access to credit that they heretofore have been denied. A recently devised national program to provide such access to credit is considered briefly in Chapter VII. At this point, however, in order to complete the analysis of the normas minimas program in Medellin, it is necessary to return to Carroll's supply question: Why have more subdivisions not been developed in Medellin?

The factors that would seem to explain the lack of significant normas minimas subdivision development in Medellin are suggested with the caution that further analysis is needed. The first factor, perhaps of most importance, is that the supply of land in Medellin available for such types of subdivision is extremely limited. The scarcity of land suitable for residential use was previously noted. In addition, however, unlike the Bogota ordinance, the normas minimas ordinance in Medellin restricts the development of such subdivisions to one residential zoning classification (R-3).²⁷ This classification covers primarily the more peripheral northeastern and northwestern areas of the city. Apart from the social and spatial segregation that this zoning restriction implies, it clearly further reduces the supply of land that might be used by developers for such subdivisions. Moreover, since the more peripherally located land tends to be more steeply sloped, potential normas minimas developers might be deterred by the concern that the costs of land preparation and service installations would make the venture only marginally profitable. It would seem advisable for Medellin's planning officials to consider Bogota's approach to normas minimas, which permits locational flexibility provided the Special District Planning Department's standards and procedures for normas minimas are met.

A second factor inhibiting the development of normas minimas subdivisions is the official subdivision process required by the Municipal Planning Department. The developer of the one normas minimas subdivision in Medellin echoed some of the same criticism of the approval process as those of the Bogota developer quoted above. It appears that the same approval process governs conventional as well as normas minimas subdivisions; the delays and requirements are not only expensive for the developer but also discourage potential

wealthier" obrero group, improving their own economic position and further developing the barrio. Interview with Dr. Augusto Cock Alvear of Cock Alvear Hermanos y Cia Ltda (Medellin: June 12, 1975).

²⁷ El Alcalde de Medellin, Decreto No. 334 de 1975, art. 2. Article 3 of the regulations, however, does authorize the Board of Directors of the Department of Municipal Planning to exercise some discretion in this regard.

buyers who are informed of the delays. ²⁸ (See Appendix E for a list of steps and documents required in the approval process.)

A third factor may possibly be the limitations upon the developers' access to capital necessary to provide required infrastructure. The limited data available suggest that this constraint appears to operate in the pirate subdivision market. The question, however, is whether those developers who would undertake a normas minimas subdivision are the same as those in the pirate market. It would seem unlikely. Those who would subdivide under normas minimas are probably better organized and have greater access to capital. However, if the normas minimas program is not intended to "compete" with pirate subdividers but rather to draw them into the conventional subdivision process, then mechanisms should be devised to enable these developers to finance the necessary infrastructure. A final factor that may explain the lack of normas minimas development in Medellin is that the program may not have been promoted sufficiently to make developers aware of the profits that could be realized in such developing subdivisions. It is reasonable to argue that the developer of the normas minimas subdivision in Medellin could have charged a higher installment payment over a somewhat longer term and still have sold all the lots in the subdivision. If it is remembered that one of the principal concerns of the lower income family is the timing of costs, then it could be expected that such families might be willing to pay more over time for the opportunity to obtain ownership of a lot and build in accordance with their needs. This conclusion, of course, is most plausible if the restraint on credit access for such families is removed.

In conclusion, it would seem that the normas minimas subdivision program in Medellin could provide an alternative to present purchasers in the pirate submarket provided they are given access to credit necessary to purchase the more expensive "serviced" lots. If the present restraint on lower income families' access to credit is not changed, then the limited data suggest that the lower income purchaser presently found in the pirate market will continue to opt for the less expensive, more peripherally located lots that are available through that market. On the supply side, it seems reasonable to suggest that the limited amount of normas minimas subdivision development in Medellin is due to limited land supply compounded by zoning restrictions as well as of developers' limited access to capital and their ignorance of the potential profitability of the program.

²⁸ Notes of author's correspondence with developer, September, 1976.

CHAPTER VII. CONCLUSIONS AND RECOMMENDATIONS

SUMMARY OF PRECEDING ANALYSIS

The preceding analysis has traced the historical development of the phenomenon of pirate subdivisions in Medellin and suggested a number of structural factors underlying the growth and persistence of the pirate submarket. These factors were identified as the city's rapid rate of urbanization, particularly by lower income families during the decades of 1950 and 1960. This rapid urbanization created a strong demand for housing in a market governed by municipal policies and standards unrelated to the needs of low income families. The city's rigid urban perimeter policy and high technical standards for land classification, subdivision and the provision of services increased the cost of land drastically within the urban perimeter and helped foster the market behavior of pirate subdividers. The latter responded to the demand for cheaper land by selling unserviced lots to lower income families on the urban periphery.

By comparison to the present rate in Bogota, the rate of pirate subdividing in Medellin is relatively low. The reason for this difference appears to be because of the limited supply of land remaining in Medellin and the relatively effective control exercised by the Superintendency of Banks within the more limited geographical area of Medellin. Nevertheless, it is argued in this study that pirate subdividing continues into the semirural peripheral areas surrounding Medellin. The phenomenon continues, it is suggested because of the inability of the Superintendency to effectively police the more distant and less visible "pockets" of pirate subdivisions, and most importantly, because alternative housing submarkets, from the viewpoint of the lower income purchaser, cannot compete with the housing solution offered by the pirate submarket. It is argued that lower income purchasers in the pirate submarket understand the common sense proposition that ownership of a plot of land provides access to an asset that appreciates over time as well as the opportunity to construct a home in incremental stages in conformance with their needs and economic constraints. It is suggested that the lower income purchaser seeks primarily spatial flexibility and financial feasibility (i.e., amount and timing of payments) in his purchase of a lot; that the solutions offered by alternative housing submarkets in Medellin have violated one or both of these criteria. Government (I.C.T.) sponsored housing programs, in particular, have generally offered pre-built solutions of limited size and little flexibility for expansion or alteration, at prices that require high downpayments and high monthly installments. Theoretically, an I.C.T.-sponsored "lot with services" program in

Medellin would appear to be able to offer lots at prices competitive with the unserviced pirate lots, because of I.C.T.'s ownership of a large portion of the remaining land supply and its ability to coordinate with Empresas Publicas. However, zoning restrictions upon I.C.T. land and the limited supply would probably lead the I.C.T. to decide against such a program. The proper arena to determine the viability of the "lots with services" program in competition with the pirate submarket may be in the other rapidly growing smaller cities in the Department of Antioquia. It is submitted, however, that in such a large arena it is unlikely that the I.C.T. could assemble land quickly and efficiently enough to compete with the many actors (subdividers) in the pirate submarket or provide lots sizes and prices sufficient to meet the diverse economic circumstances of lower income families.

This study suggests therefore that the "market" solution offered lower income families through pirate subdividing could potentially satisfy public policy concerns, particularly with respect to infrastructure costs, provided adjustments are made in the legal-institutional framework that governs the land subdivision process. Moreover, from the perspective of lower income families, survey data suggest that they not only strongly desire legitimacy within the existing legal-institutional system but have sufficient confidence in that system to support modifications designed to respond to their needs. Less information is available on the views and potential market behavior of pirate and non-pirate subdividers in response to legal-institutional modifications designed to encourage their development of "serviced" lower income subdivisions for lower income families. What data do exist are from the so-called normas minimas or minimum subdivision standards programs in Medellin and in Bogota. Comparatively few developers have opted to develop subdivisions under these programs whose modified standards are designed to facilitate their provision of service infrastructure. Although further research is needed, the limited data from both cities suggest that the explanation may be found in such factors as limited developer access to necessary capital, the restrictive effect of zoning laws on land supply and a slow, and therefore costly, subdivision approval process. Data on normas minimas subdivisions in Bogota suggest that developers of such subdivisions can nevertheless earn profits that are larger than those reported by pirate subdividers. The limited case data from Medellin indicate that the normas minimas subdivider in that city could also earn a reasonably high profit. However, the Medellin case data also raise the question of whether the more expensive "serviced" lots offered in the normas minimas subdivision are presently accessible to only the more economically stable (higher income) families within the working class. Research needs to be done on the socio-economic characteristics of purchasers in normas minimas subdivisions. The lack of such information, however, should not delay the promotion of normas minimas subdivisions as a lower income housing solution in the market. Lower income families in general would be able to afford the more expensive "serviced" lots in such subdivisions provided they had access to a source of credit

that heretofore has been unavailable to them. The remainder of this chapter will briefly consider a recently established credit mechanism for lower income families as well as other proposed modifications in the legal-institutional framework that affects lower income families' access to land and housing.

PROPOSED MODIFICATIONS IN THE LEGAL-INSTITUTIONAL FRAMEWORK THAT GOVERNS ACCESS TO LAND AND HOUSING

Credit Programs

The Central Guarantee Foundation (Fundacion Central de Garantias)

1

Within the last two years a program has been developed at the national level to respond to two of the previously described factors that have hindered lower income families in the housing market: limited economic resources and the requirements imposed by conventional financing institutions for the extension of credit. The program was founded upon the concept of providing institutional help and support to lower income families who organize themselves into community associations which, once formed, will be recognized as legal personalities for the receipt of loans as a community for the purchase of land and the incremental construction of housing. Once a community is legally constituted, various organizations such as the National Apprenticeship Service (Servicio Nacional de Aprendizaje -- SENA) and the Colombian Institute for Family Welfare (Instituto Colombiano de Bienestar Familiar -- ICBF) will instruct community members concerning such matters as construction, accounting, bookkeeping and other aspects necessary to know for the planned self-help effort. During the same period that community instruction is being carried out, the community will be advised in its search for a tract of land, the design of the subdivision as well as the

¹ The source for the presentation here is a report by the Fundacion Central de Garantias entitled "Financiacion a La Construccion de Vivienda Por Autogestien Comunitaria: La ayuda Institucional a los Sectores Marginados," (Mexico: Contribucion de la Fundacion Central de Garantias y el Banco Central Hipotecario de Colombia a la Reunion de Expertos sobre Financiacion y Administracion de los Asentamientos Humanos, Noviembre 27 - Diciembre 1, 1978).

houses, and the identification of possible community industries for the production of necessary materials for construction.

At the point that these outlined tasks have been accomplished, the newly created Central Guarantee Foundation (Fundacion Central de Garantias -- FCG) will step in to represent and guarantee the community before the National Housing Bank (Banco Central Hipotecaria -- BCH) for the previously mentioned loans for land purchase and construction that will be granted by the National Housing Bank to the community as a whole. The Central Guarantee Foundation's initial equity of \$30,000,000 pesos is provided by the National Housing Bank. The Foundation is authorized to guarantee loans to communities up to ten times its own capital authorization in order to encourage multiplier effects.

The so-called "associative line of credit" between the National Housing Bank and the community will permit successive loans for the following purposes:

1. Acquisition of land.
2. Subdivision and preparation of the land.
3. Acquisition of tools and equipment necessary for construction.
4. Manufacture of necessary materials by labor intensive means.
5. Acquisition of other building materials.
6. Contracts for designs, studies, and technical assistance.
7. Construction of the actual houses.
8. Payment of fees necessary to purchase and register land.
9. Securement of building permits and infrastructure connections.
10. Payment of insurance costs: life, fire, etc.

The maximum effective loan per family through this community loan program is approximately \$180,000 pesos (U.S. \$4,500) at the lowest existing term and interest (15 years at 18% per year or 1.5% monthly). Monthly loan repayments are made collectively. There is no initial downpayment. The program also requires the community form a so-called "Solidarity Fund" (Fondo de Solidaridad) or savings account to which all families must contribute during the period of housing construction in order to cover the payments of those families who may experience temporary financial difficulties.

As described, the community credit program established through the National Housing Bank and the Central Guarantee Foundation will provide a significant structural change in the legal-institutional framework. Some of the principal questions that such a program

raises are the following. First, the pirate submarket described in the preceding chapters reflects in one respect the high degree of individualism in Colombian society. The program as structured requires a high degree of cooperativism. The question, therefore, is whether the necessary degree of cooperativism can be both created and sustained over the period of time necessary to learn requisite skills, identify land for purchase, and design the subdivision -- perhaps 18 months to 2 years. Related to this issue is the question of community confidence in its leaders. One concern that exists in such a program is whether family monthly payments made toward the community's collective payment as well as the actual loan funds received, will be misused by community leaders.² Even in the author's own conversations with residents of the La Cascada subdivision some views were expressed that designated community leaders had misspent funds collected among the families for various community purposes.

The credit program raises an additional question from the viewpoint of transaction costs. The program contemplates that the community association will first organize itself and then with the help and advice of various institutions perform the tasks of identifying land for purchase, subdividing it, and contracting out designs, studies and technical assistance. This process means that a large degree of coordination must be achieved between a collective group of families and a considerable number of institutions in order to produce the final housing solution. It would seem that the transaction costs could significantly raise the ultimate price of that housing solution. The formulation of the program seems to have ignored the entrepreneurial element observed in the operation of the pirate submarket that successfully performed the task of land assembly and sometimes the task of land subdivision. From this perspective, therefore, the question is whether the community cohesiveness necessary for loan programs to operate could be achieved at less cost by structuring the credit mechanism to allow private subdividers to perform the land assembly and subdivision tasks. Thus, for example, the credit program might permit families who wish to purchase lots in an existing *normas minimas* type subdivision to organize themselves into an association that could apply for the credit necessary to purchase lots from the subdivider.

The other collective requirements of the loan program for housing construction and monthly payments, etc., would be retained. Allowing families individually or in smaller groups to first identify lots that they wished to purchase, and then to use the existing prepared subdivision as the incentive for acting collectively to finance and construct their homes would eliminate the amount of community and institutional involvement in tasks that the market already performs relatively well. Notwithstanding the questions raised by the

² Notes of William A. Doebele from interview with Dr. Luis Ricardo Paredes, former Chief of the Superintendency of Banks (Cambridge, Massachusetts: August, 1978).

program, it represents a major institutional change that should be implemented and carefully monitored.

Severance Fund Mortgages

It was observed in the analysis of resources relied upon by pirate lot purchasers that the severance fund or cesantias was used by many to finance both the downpayment and the cost of construction. The National Housing Bank has proposed a program by which a worker with three years of continuous employment could mortgage his cesantias to finance either a downpayment or monthly payments.³ As applied, for example, to monthly payments, the yearly severance payment would go to the Bank directly rather than to the individual worker. It would seem that such a program could potentially constitute a significant source of credit for lower income families. It would have the advantage of using an institutional structure with which lower income families are already familiar and rely upon.

Legal Instruments Governing Land Transfer

The general objective of reform with respect to the purchase and sale contract should be to improve the lower income purchaser's leverage in the land transaction with the subdivider by providing him with additional remedies should the subdivider fail to fulfill his obligation to provide a written purchase and sale contract and promised services. Such remedies might include permitting the purchaser to stop payments until those obligations are met.

Relations Governing the Subdivision Business

The institution responsible for regulating the business of land subdivision is the National Superintendency of Banks. It is important to note that the National Law No. 66 (1968) that the Superintendency has applied to control pirate subdivisions originated in response to fraudulent middle-class housing schemes.⁴ As a consequence, the detailed financial accounting and subdivision permit requirements under the Law were designed for

³ Ibid.

⁴ The most well-known example was that of Casa Club.

business operations far more sophisticated and organized than those of subdividers in the pirate market. Such requirements also apply to subdividers who wish to develop lower income subdivisions under the normas minimas program. This uniform application of detailed regulations to a program intended to provide housing to lower income families is counterproductive since it only increases the costs of subdividing. Legislation should be introduced either to eliminate existing reporting requirements for normas minimas subdivision projects (allowing the Planning Department to supervise the process), or to simplify their requirements.

The Subdivision Approval Process

Similar to the mismatch observed between the Superintendency's regulations and the objectives of the normas minimas program, there also appears to be a conflict between the Municipal Planning Department's subdivision approval process and the purposes of that program. The requirements and delays that characterize the subdivision approval process increase costs and discourage subdividers from submitting plans under the program. The Planning Department should consider establishing a separate and more stream-lined approval process for those subdividers who choose to develop with normas minimas. The normas minimas that the program could be more successful in Medellin, if it were promoted by the city and given the cost benefit of simplified subdivision approval procedures.

This chapter has summarized the principal conclusions of this study of the pirate submarket in Medellin. In addition, it has presented possible modifications in the legal-institutional framework that could resolve many of the public policy concerns with respect to the operation of that housing submarket. It is hoped that the data and analysis presented in this study will aid the city's planning officials, and Colombians in general, in evaluating and implementing legal and institutional modifications designed to improve the access of lower income families to land and housing in Colombia.

APPENDIX A: EXTENT OF PIRATE SETTLEMENTS IN MEDELLIN 1975

The following is a list of pirate settlements identified by the Department of Municipal Planning in its study by Gilma Mosquera and William Hinestrosa, Diagnostico General sobre el Problema de la Vivienda en Medellin: (Medellin: Departamento Administrativo de Planeacion y S.T., 1976) pp. 173-80, This author's calculations of area and population for each settlement are derived from the Anuario Estadistico de Medellin de 1975. Pirate settlements not indicated in the Anuario by name as indicated by the Planning Department's study were not included in the calculations presented in Chapter II, Table 2. Those settlements excluded from the calculation in most cases represent areas and populations within official barrios. Accurate data estimates for sub-areas were not available. It is reasonable to conclude, therefore, that the estimates presented in Table 2 of the text conservatively represent the extent of pirate subdivisions in Medellin. Blanks in columns indicate data was unavailable.

I. PIRATE SETTLEMENTS STILL IN STAGES OF DEVELOPMENT AND INTERGETION INTO THE URBAN SYSTEM OF MEDELLIN

Comuna / Code	Pirate Barrio or Settlement	Area (Hect.)	Population 1975
<u>Comuna 1 (Oriental)</u>			
<u>Within Urban Perimeter</u>			
1107	Villa Guadalupe	25.6	8,155
1201	La Salle (parte alta)	31.8	10,257
1209	Barrios Unidos (Las Granjas)		
1103	Andalucia	25.0	5,065
1102	La Francia	34.1	5,685
1303	Versalles No. 1	25.3	7,208
7104	Granizal	17.9	4,012
1209	Las Granjas	42.7	9,654
1207	Las Esmeraldas (sector norte)	21.2	6,705
1302	Las Nieves (parte alta)		

1306	Santa Ines (parte alta)	28.3	8,123
	<u>Outside Urban Perimeter</u>		
7106	San Pablo	24.7	4,998
1302	El Raizal (parte alta)	41.7	10,729
7108	Versalles No. 2	32.5	697
7105	La Esperanza	46.5	1,278
7107	San Jose - La Cima	73.7	6,393

Comuna 2 (Robledo)

Within Urban Perimeter

2205	La Esperanza (parte alta)	40.4	
2304	El Diamante	36.4	6,189
2103	Belalcazar	46.5	3,562
2110	Castillita		
2207	Kennedy	48.2	15,473
2310	Palenque No. 1	29.4	1,776
2207	Miramar		
2206	San Martin de Porres	40.5	7,509
6305	San Francisco		
2308	Bello Horizonte (parte)	36.7	1,174

Outside Urban Perimeter

8202	El Picacho		
7202	Aures	38.5	1,220
7203	Palenque No. 2	49.2	408
7204	La Pola	20.5	424
7205	El Cucaracho	29.5	484
8205	Pajarito (San Cristobal-Rural)		

Comuna 3 (La Candelaria)

3206	Villa Lilliam (Las Estancias)		
3206	Las Estancias	52.9	6,418
3207	El Pinar	41.6	2,959
3305	Avila (La Milagrosa)		
3404	La Esmerelda (Asomadera)		
3402	Loreto (parte alta)		
3302	El Vergel (Miraflores)		
3506	San Antonio (Barrio Colon)		
3203	Villa Tina	67.8	9,154
3401	El Hormiguero (El Salvador)		
	<u>Outside Urban Perimeter</u>		
	7301 Los Mangos		
7301	Llanaditas	43.1	2,033

Comuna 4 (La America)

	<u>Within Urban Perimeter</u>		
4307	El Socorro (San Javier No. 2)		
4314	Veinte de Julio	46.7	4,855
4303	La Soledad (El Coco)		
4303	El Coco	26.9	1,637
4306	Juan XXIII (La Pradera)		
	<u>Outside Urban Perimeter</u>		
7401	Blanquizal	60.9	429
8205	La Cuchilla (San Cristobal Rural)		
7403	El Salado	52.4	3,081
8402	San Pedro (San Vicente Ferrer-Rural)		

7402	La Quiebra	73.2	697
5205	Las Vegas (Santa Maria de Los Angeles)		
4307	Antonio Narino (San Javier No. 2)		
8401	San Vicente Ferrer (La Loma)		
7403	Eduardo Santos (Guadarrama)		
(El Salado)			
7404	El Corazon	81.8	1,284

Comuna 5 (El Poblado)

Within Urban Perimeter

5207	Loma de Los Parras (Los Naranjos)		
5210	Loma de Los Gonzalez (Alejandria)		
5207	Loma de Los Garabatos (Los Naranjos)		
5209	Loma de Los Mangos		

Outside Urban Perimeter

9501	La Chacona (Las Palmas)		
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Comuna 6 (Belen)

Within Urban Perimeter

6208	Buenavista (Altavista)		
7601	Sucre (Zafra)		
6207	Las Violetas	60.0	4,621
6305	El Rincon	115.7	6,879
7404	Betania (Careperro) (El Corazon)		
6303	San Rafael (La Colina)		

Outside Urban Perimeter

7601	Zafra	33.6	1,802
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7106	San Pablo	24.7	4,998
8403/04	Aguas Frias		
6208	Altavista	34.4	5,996
8605	La Capilla (San Antonio de Prado)		
8605	El Manzanillo (San Antonio de Prado)		

II. PIRATE SETTLEMENTS NORMALIZED AND INTEGRATED WITHIN URBAN SYSTEM
OF MEDELLIN

Comuna / Code	Pirate Barrio or Settlement	Area (Hect.)	Population 1975
1301/1401	Campo Valdes	39-7	39,989
1202	Berlin	27.9	10,840
1408	Brasilia	32.5	13,633
1108	La Rosa	16.3	5,420
1106	Santa Cruz	23.9	8,043
1306	Santa Ines (sector occidental)	28.3	8,123
1207	Las Esmeraldas	21.2	6,705
1302	Las Nieves (sector occidental)		
<u>Comuna 2 (Robledo)</u>			
2202	Castilla	54.6	
2205	La Esperanza (parte baja)	40.4	
<u>Comuna 3</u>			
(La Candelaria)	3402		Nacional
(Loreto)	32.5		7,597
<u>Comuna 4</u>			
<u>(La America)</u>			
4211	Las Mercedes	72.9	5,813
4306	La Pradera	26.8	8,269
<u>Comuna 6 (Belen)</u>			
6104	Apolo (Cristo Rey)	66.9	
6210	Las Margaritas (Las Playas)	34.1	10,083
6205	La Gloria	45.0	4,219

APPENDIX B: DESCRIPTION OF RESEARCH METHODOLOGY

The data presented in this thesis was obtained by means of document research in municipal offices, structured interviews of planning and administrative officials, and the author's written survey of residents of the pirate subdivision, La Cascada.

DOCUMENT RESEARCH AND INTERVIEWS

The principal sources for the document research were the offices of the Municipal Planning Department, the Superintendencia Bancaria, the Instituto de Credito Territorial, Casitas de la Providencia, and Empresas Publicas (Division de Habilitacion de Barrios). Written interviews for the directors and departmental heads of the entities indicated above, as well as for other present and former municipal officials, were structured from issues identified prior to beginning the research and from the information obtained in the document research itself. Follow-up interviews were also conducted where necessary.

THE SURVEY

Choice of Subdivision for Survey

The author's objective was to identify and survey a pirate subdivision of recent origin in order to understand the development process of such a subdivision. La Cascada was selected for the survey through the aid of a staff member of the Planning Department who was familiar with the community efforts of the subdivision to obtain services. La Cascada was believed to be the most recent of the relatively few new private subdivisions that had been identified at the time. The subdivision was relatively small, consisting of 27 lots with homes already constructed or in the process of being constructed, and an estimated four additional lots reported to have been sold. Three-quarters of the lots had been sold between 1970 and 1975. The small size of La Cascada made it suitable for the author's one-person survey. The author was introduced to the residents of the subdivision by the Planning Department staff person and another community person at a meeting organized to consider sewerage and water problems. The author explained his purpose to the residents

and received their permission to interview them by means of a written questionnaire. The author administered the questionnaire to 23 of the 27 households on successive weekends in April and May of 1975.

Structure of the Questionnaire

The questionnaire consisted of 72 written questions which were asked in "open-ended" form and required approximately one hour to administer to a family household head. By necessity, the questionnaire was pretested among three families in the subdivision itself for internal consistency. It was found that only small modifications in the wording and ordering of a few questions were necessary. Follow-up interviews of these three families were conducted at the end of the survey period. The questionnaire was structured according to the following general categories; the total number of questions is also indicated:

1. Family income and employment (10).
2. Terms of purchase and resources used to finance purchase (5).
3. Housing construction: amount of investment, financial resources, and future plans (4).
4. Prior residence, choice of subdivision and evaluation of choice (11).
5. Residents' knowledge of alternative housing solutions offered by the government (municipal and national) and nonprofit organizations (5).
6. Residents' relations with subdivider re: documents of title, services and installment payment policy, and perceptions of the best way to resolve difficulties with subdivider as to those issues (11).
7. Residents' perceptions of proper public authorities to whom to complain about subdivider and of the effect of enforcement of the subdivider's promises (6).
8. Perception of lots as means for speculation (2).
9. Documents of title received, and perceived legal significance (5).
10. Perceived rights of succession with documents possessed (in case of death of purchaser) (3).
11. Perception of status with regard to the property tax (1).

12. Perception of value of registered title (4).
13. Perception of rights in case of lot expropriation by public authorities (2).
14. Physical dimensions of lot and time of purchase (3).

The majority of the questions concerning residents' views and understandings of the legal-administrative system and of the legal significance of their documents of purchase was taken from the survey instrument used in the Bogota study of William A. Doebele, Professor of Advanced Environmental Studies, Harvard University (see Bibliography.)⁵ The questions were used in order to provide a comparative basis for analysis of the results obtained in Medellin. The results from the survey were calculated in terms of frequencies of responses for each question only. The sample size was considered too small to run cross-tabulations of any useful significance for the analysis presented.

Limitations of the Survey

The most obvious limitation in the survey is that the author himself, a Spanish-speaking but non-native researcher, conducted the interviews. Under such circumstances, it would be reasonable to expect that lower income residents' responses to a Northamerican would be less than candid, and possibly tailored to meet the presumed expectations of a foreign interviewer. The author sought to minimize this potential limitation by receiving an introduction to the subdivision community through individuals who were trusted by the residents. In addition, prior to beginning the survey, the author spent considerable time with residents in informal conversations in order to make clear his purpose and to assure the residents of the confidentiality of the information which would be asked

of them. Whatever bias may have been introduced by the interviewer's status is difficult to measure. However, the results which the author obtained were internally consistent and did show a normal range of responses among the individual questionnaires administered. Another limitation of the survey is the sample size of La Cascada (n=23). Such a small number is normally not considered statistically large enough to be more than illustrative only. This qualification, therefore, must attach to that portion of the analysis in the thesis

⁵ Permission to use the questions was granted to the author by Professor Doebele in correspondence dated October 22, 1974.

which is presented using data derived from the survey; however, it should be noted that the findings of the survey were generally consistent with the results obtained from the larger, statistically significant survey samples used in the Medellin and Bogota studies discussed in the text. It is this author's view, therefore, that within the context of other research on the same subject, the La Cascada findings have stronger statistical value and may be regarded more as representative rather than merely illustrative of the pirate submarket phenomenon.

APPENDIX C: EXAMPLE OF A PROMESA DE COMPRAVENTA

Example of Promesa de Compraventa
used in La Cascada

Entre los suscritos, a saber: () de una parte, que en adelante se llamara el Promitente Vendedor y de otra () que en adelante se llamara el Promitente Comprador todas mayores de edad y vecinos de este Municipio se ha celebrado el Contrato de venta que se define por las siguientes estipulaciones;

PRIMERA - El promitente Vendedor se obliga a vender al Promitente Comprador y este se obliga a comprar a aquel, otorgando y aceptado respectivamente el correspondiente instrumento publico sobre la transferencia del dominio de una parcela de terreno en la parcelacion "La Cascada" de este municipio, en la Manzana "II" distinguida con el numero () en el plano levantado por los siguientes linderos: por el Norte con la parcela numero ; por Oriente con la parcela numero () por el Sur con la calle en el proyecto Cacique Nutibara y por el Occidente con la parcela numero () todas propiedad del promitente vendedor prometidas a venta a otras personas. SEGUNDA - El precio de esta venta es la suma de DIEZ Y SIETE MIL PESOS (17.000-00) m/1. Colombiana, que el Promitente Comprador se obliga a pagar al Promitente Vendedor o a su representante legal en esta Ciudad y en la forma siguiente: DOS MIL PESOS (2.000-00) cuota inicial-arras del negocio en que el Promitente Vendedor declara tener recibidos a su entera satisfaccion de manos del Promitente Comprador a su entera satisfaccion en esta fecha y el resto lo sean QUINCE MIL PESOS (15.000-00) m/1 Colombiana en el termino de cuatro (4) anos contados a partir de la fecha del presente contrato en adelante, siendo obligacion del Promitente Comprador la de abonar una cuota no menor de CIEN PESOS (100-00) el Proada mes hasta la completa solucion del pago. De cada pago expedira el Promitente Vendedor un recibo especial y dichos recibos seran los unicos que este reconocera y los pagos solo se acreditaran con la presentacion de todos y cada uno de los recibos correspondientes, sin que sea aplicable el Art. 1.628 del Codigo Civil. Durante los anos señalados como plazo del presente contrato, no habra interes alguno, salvo la demora en las cuotas en cuyo caso el Promitente Comprador pagara un interes de recargo o mora de DIEZ Y OCHO por ciento (18%) anual sobre las cuotas atrasadas, sin perjuicio de que el Promitente Vendedor haga uso del derecho o derechos de que mas adelante se hablara. Si cumplido el plazo señalado por la presente obligacion, el Promitente Comprador no hubiere pagado la totalidad del saldo a deber, reconocera y pagara al Promitente Vendedor el mismo interes del diez y ocho por ciento anual sobre las cantidades cubiertas. TERCERA - La superficie de esta parcela es de ocho metros o sean diez varas de frente por veintres varas o sean diez y ocho metros con cuarenta centimetros de centro (10 X 23 igual a metros 8 X 18,40 o sean

147,20 mts cdos.) las varas son de ochenta centímetros c u. la parcela prometida en venta hace parte integrante de la finca adquirida en mayor extensión por el Prominente Comprador por compra hecha a la Sra. Judith Acosta yda de Upegui y a Alfonso Upegui Acosta, conforme a la escritura pública #314 del 1 de Febrero de 1.966 de la Notaria 4a de Medellín. CUARTA - Una vez que el prominente Comprador termine de pagar la totalidad del precio estipulado el Prominente Vendedor procedera a otorgarle la correspondiente escritura de venta, pero podrá otorgarla antes si el Promitente Comprador hubiera pagado por lo menos la cuota inicial y garantiza con hipoteca sobre el mismo lote o parcela el resto de la Deuda. QUINTA - La entrega material de la parcela se hace desde esta misma fecha a título de TENENCIA PRECARIA, aunque el Promitente Comprador queda autorizado a poner mejoras desde esta misma fecha. EL PROMINENTE VENDEDOR queda con el derecho a robar la parcela, con las mejoras establecidas por el Promitente Comprador, si este dejare de pagar tres cuotas (3) mensuales y no tendrá que reconocer el valor de dichas mejoras, ni devolver lo que hubiere recibido a cuenta del precio de la parcela, pues dichos valores quedaran a favor del Promitente Vendedor, por concepto de perjuicios, compensación del uso y demérito del inmueble. La referida mora de lugar a lanzamiento de acuerdo con el Art. 1.115 de Código Judicial. SEXTA - Si la mejora que establezca el Promitente Comprador es una casa o local, debera hacerla con suficientes estéticos y debe hacerla con suficientes estéticos y debe cercar la parcela por todos los lados, a su costa para impedir el acceso a ella de personas o animales y a costear la escritura de hipoteca, su cancelación y la venta cuando llegue el caso. SEPTIMA - El Promitente Vendedor se compromete únicamente a hacer el traspaso del dominio de la parcela, materia de este contrato en la forma y condiciones adquiridas y se compromete a hacer dicho traspaso, dando el inmueble libre de censo, embargo Judicial Hipoteca, Registro Civil por demanda, pleito pendiente y condiciones resolutorias. Por tanto, corresponde al Promitente Comprador llenar los requisitos que pidan las autoridades en General. OCTAVA - Este contrato de promesa de venta ni el que lo legalice, incluye derecho sobre aguas de ninguna clase y por lo tanto el Promitente Vendedor se reserva todo el dominio sobre las aguas que atraviesan o alinderan el inmueble en general, pudiendo cambiar su curso cuando y como lo tenga a bien el Promitente Comprador no podrá hacer obras de captación en subterráneas de igual. NOVENA - Si el Promitente Comprador paga la totalidad del precio estipulado en el presente contrato dentro del primer año de su vigencia tendrá derecho a una rebaja del Diez por ciento (10%) sobre los saldos no vencidos y ya pagados. DECIMA - El Promitente Comprador no podrá transferir los derechos y obligaciones que adquiere por medio del presente Contrato sino cuando haya cubierto la totalidad del precio estipulado o con el consentimiento del Promitente Vendedor. DECIMA PRIMERA - El Promitente Comprador no podrá tomar materiales de construcción como arena, piedra etc. sino dentro de los linderos de la parcela prometida en venta y en ningún caso del resto de la finca del Promitente Vendedor o de otros compradores de parcelas, respondiendo por los perjuicios que puede ocasionar en terceros. En caso de incumplimiento de cualesquiera de

las partes, se estipula como clausula penal una suma igual al precio estipulado por la parcela, Se repite, que cualesquiera desposicion o gravamen que impongan las Autoridades obligan unicamente al Promitente Comprador.

Para Constancia se firma el presente Contrato en original y copia para el Promitente Comprador el dia Veintitras (23) de Septiembre de mil novecientos setenta y cuatro (1974) ante testigos.

EL Promitente Vendedor Cedula # de Medellin

Testigo de Vendedor Cedula # de Medellin

El Promitente Comprador Cedula # de Medellin

Testigo del Comprador Cedula # de Medellin

APPENDIX D: PIRATE BARRIO: CASTILLA VIEJA

One of the older and perhaps most well-known pirate subdivisions in Medellin is "Castilla" which was developed by the Cock family on land purchased in the northwestern part of the city. A brief description is presented here in order to highlight the barrio's present-day image among some planners in Medellin as a sort of "model" of some of the positive aspects of the pirate subdivision process.

Lots were sold in the area of Castilla as early as 1930. However, not until 1945 did it start to become known as "Castilla." The subdivision by that date consisted of approximately 30 houses¹ Eventually, 2,241 lots were subdivided and sold in a tract area of 549,335 square meters. The lots varied in size, but the predominant size was 128 m², subdivided either as 6.4 mts. by 20 mts. or 4 mts. by 32 mts. The smallest size was 6.4 mts. by 12.8 mts. or approximately 82 m². The Cock family also sold 256 square meter lots (twice the size of the 128 m² lot) but purchasers usually found the size too large and sold half the lot.

According to the Cock family, approximately 500 albaniles or masons were among the first to buy lots in Castilla. After constructing houses and residing in them for a period of 4 or 5 years, the masons purchased lots further up in the subdivision and sold their original homes to a somewhat wealthier worker (obrero) group of families. These masons apparently repeated the process of purchasing, building and eventually selling, and thus acted as a sort of "vanguard" in developing the barrio.²

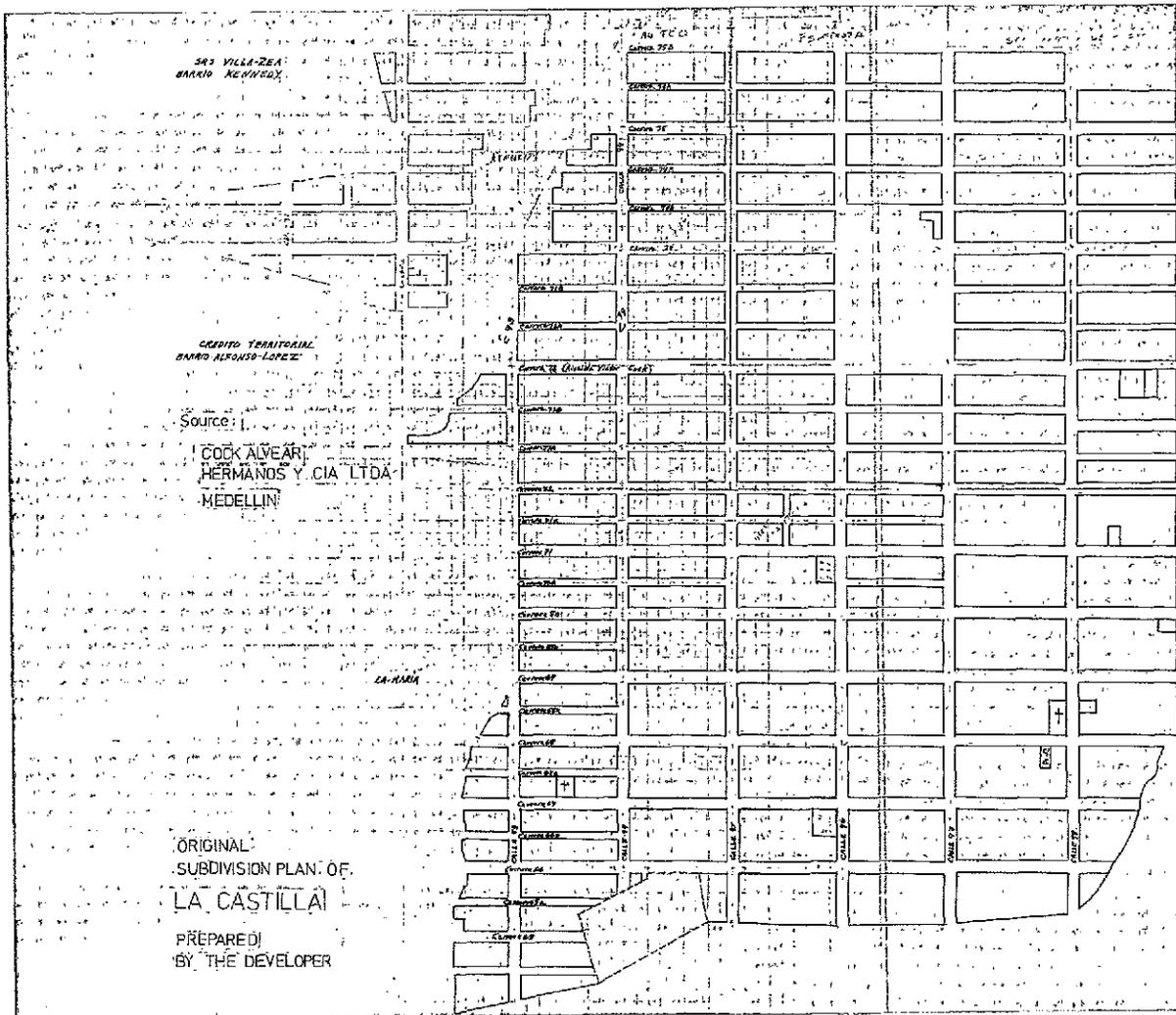
The positive aspects seen in the barrio by some Medellin planners (especially in contrast to such I.C.T. projects as Doce de Octubre), are that the subdivision is generally well-laid out, (see map) although lacking open space, and that the residents had the flexibility to expand their construction to two or three stories and rent the additional space. The density is high in Castilla (more than 500 persons per hectare) because of the use of space in this manner. This aspect has been criticized. However, the scarcity of land remaining in Medellin for single family housing has led the Department of Municipal Planning recently to propose multi-family housing through second story additions as a solution for lower income families.³ It is likely, therefore, that the second and

¹ Departamento Administrativo de Planeacion y S.T., "Estudio Socio Economico, Barrio Castilla" (Medellin: 1965).

² Interview with Dr. Augusto Cock Alvear (Medellin, June 12, 1975).

³ Mosquera and Hinstrosa op. cit., p. 242.

third story construction process that occurred in Castilla will receive renewed attention from policy makers seeking to devise ways to encourage home owners to build additional floors for rental purposes and thereby expand the housing supply.



Subdivision Plan of La Castilla
 and 1955 Regulatory Map Foldouts



MEDELLIN
1955

ESCALA



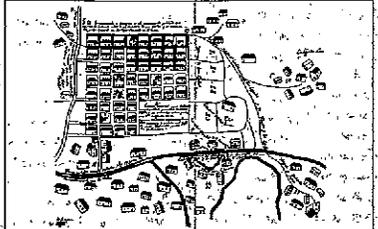
Alcalde Mayor

J. Mesa
Secretario de CO. PP. MM.

IPILL

Esc. del Plano Regulador

PLANO DE MEDELLIN - 1770



1955 MAP OF
THE REGULATORY
PLAN SHOWING THE
'PERIPHERAL' LOCATION OF
THE 'PIRATE' SUBDIVISION
LA CASTILLA
(CIRCLE)

LATITUD 6° 14' 15" 01 N - LONGITUD 75° 24' 48" 30 01 O 04 8

APPENDIX E: PLANNING STEPS FOR SUBDIVISION APPROVAL IN MEDELLIN

Planning Steps for Subdivision Approval
(as published by the Department of Municipal Planning
El Colombiano, April 9, 1975)

LA NUEVA REGLAMENTACION PARA TRAMITES EN PLANEACION MUNICIPAL

A. De acuerdo con la nueva reglamentacion para su tramitacion en planeacion Municipal, debe cumplirse lo siguiente:

1. Presentar la solicitud en papel sellado firmada por el propietario del lote y radicada en el archivo del Departamento Administrativo de Planeacion y S.T..

2. Escritura publica registrada o copia de ella.

3. Ultima cuenta de impuesto predial cancelada.

4. Certificado de avaluo catastral emitido por el Departamento de Catastro Municipal.

5. Cuatro copias heliograficas que muestren amarre geodesico horizontal y vertical en escala 1:1,000. Poligonal de amarre en escala 1:5.000 a 1:10.000, segun la longitud de la poligonal. Cuadro de Coordenadas. Hoja de los calculos respectivas que incluya el V.B. previo por parte del ingeniero de levantamiento planimetricos del Departamento de Proyectos Viales de Planeacion.

B. V.B. Provisional de Vias y Loteo

1. Presentar la solicitud en papel sellado radicada en el archivo del Departamento Administrativo de Planeacion y S.T..

2. Cuatro copias heliograficas que contengan: Loteo propuesto en escala 1:1.000. Cuadro general de areas, asi: area total del lote. Area destinada a vias. Area dedicada a zonas verdes y servicios comunales para ceder al municipio de Medellin mediante escritura publica, indicando el porcentaje que representa respecto al area total del lote.

Perfil figurado y ejes de vias a proyectarse, previo el V.B. el Jefe del Departamento de proyectos viales de Planeacion.

Cumplidos estos requisitos, pasara la solicitud a estudio del Comité de Proyectos Especificos y su posterior ratificacion por parte de la H. Junta de Planeacion y S.T..

Una vez obtenida dicha aprobacion, el interesado procedere a localizar nivelar y hacer proyectos definitivos de rasantes, el cual

sera revisado por el Departamento de Proyectos Viales de Planeacion. Esto servira de base para proyectar las redes de servicio de aguas lluvias, aguas negras, acueducto energia y si fuere posible de telefonos, cinesdose a las normas tecnicas exigidas por las Empresas Publicas de Medellin.

C. Aprobacion Definitiva de Una Urbanizacion

1. Presentar la solicitud en papel sellado radicada en el archivo del Departamento Administrativo de Planeacion S.T..

2. Tres copias helograficas, en escala 1:1.000, debidamente selladas por Empresas Publicas de Medellin cada uno de los planos de redes de: aguas negras, aguas lluvias, acueducto, energia y, si hubiera sido posible de telefonos.

3. Una copia maestra y cinco heliograficas del plano aprobado de vias y loteo, en escala 1:1.000 con reducciones dentro del mismo plano en escala 1:10.000.

4. Cinco copias heliograficas aprobadas del plano de perfiles y rasantes.

Asi pasa a estudio del comite de proyectos especificos y luego a ratificacion por parte de la H. Junta de Planeacion y S.T..

Con la aprobacion anterior, Planeacion elabora la minuta para cesion de fajas al municipio de Medellin, para lo cual el interesado debe adjuntar tres copias del plano aprobado de vias y loteo en escala de 1:1.000.

Para obtener el acta de recibo de la urbanizacion por parte de este Departamento Administrativo, el urbanizador debera presentar:

Actas de recibo de redes por parte de Empresas Publicas de Medellin. Actas de recibo de pavimentos, andenes y cordones y zonas verdes por parte de la Secretaria de Obras Publicas y D. C.. Escritura Publica registrada de la cesion de fajas al municipio de Medellin.

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