URBAN SETTLEMENT AND EVOLUTION IN XIXTH CENTURY ANTIOQUIA, COLOMBIA

by

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(1971)

SUBMITTED TO THE DEPARTMENT OF URBAN STUDIES AND PLANNING IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREES OF

MASTER OF SCIENCE IN ARCHITECTURE STUDIES
and
MASTER OF CITY PLANNING

DECEMBER 1986

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Submitted to the Department of Architecture
and the Department of Urban Studies and Planning
in December 1986, in partial fulfillment for the
degree of Master of Science in Architecture Studies
and Master of City Planning

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

ABSTRACT

XIXth Century urbanization of western Colombia determined a considerable portion of contemporary spatial structure of the country. Settlement patterns of Antioquia region are examined upon demographic, historical, economic, physical and social materials. Urbanization processes are considered through the analysis of multiplication of centers and growth of urban nuclei. Conclusions about urban and regional evolution patterns are drawn within the settlement context.

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PURPOSE OF THE STUDY

Antioquia region in Colombia acknowledged an extensive settlement process from the Colonial period (1540-1810) to the early XXth century. From an ample set of studies, Antioqueno society had been addressed in its roots and subsequent evolution. Regional analysis, though, had not concentrated on the spatial process of new settlements and its relationships to other historic sequences in the area. This work deals with the settlement process focusing on some major issues affecting Antioqueno's particular development.

Demographic materials are addressed to establish a framework of population characteristics across the period of colonization. Foundational data are considered to analyse settlement patterns. The role of mining as a basis for urbanization is analyzed through its contributions to social, economic, and physical conditions in the area. Land management evolution across the XIXth century settlement period provides a framework for colonization characteristics. The particular Church intervention in Antioqueno urbanization is studied to assess its overall influence in settlement origins. Town forms are studied across the region and period to establish relationships between settlement morphology, siting and foundational conditions. Regional evolution is then focused through changes in demographic indicators, and economic and governmental development upon statistical data. Physical and infrastructural changes at the town and regional level are analyzed from historical and statistical records to establish basic patterns of transformation.

Antioqueno's settlement process is compared to other Colombian regional developments in its foundational intensity, timing and overall

population distribution structure to assess its general characteristics. A primary periodization of the Antioqueno urbanization process is proposed to summarize its basic developmental stages.

CHAPTER ONE

A CONTEXT FOR ANTIOQUENO URBANIZATION

1.1 GEOGRAPHY

The Antioquia region, covering an area of 100,000 square kilometers, is located in northwestern Colombia within two major river valleys: Magdelena at the east edge and Atrato-San Juan at the west. The Cauca River crosses Antioquia along a south-north path, confined almost entirely within a canyon topography. Two mountain ranges, Central and Western, separate the three river paths, though their topographical and geological features differ importantly. The central range encompasses a wider and higher cross-section up to 4800 meters above sea level and 100 to 200 kilometers wide. Its flanks have received volcanic material in the southern and central sectors, thus originating rich soils. In its northern part, Central range is subdivided into a few valleys, an exceptional feature within a predominantly undulated profile. The western range, in contrast, covers a 50-kilometer east-west width, its highest altitudes reaching up to 2000 meters.

Climate is conditioned to altitude in the Colombian Andes. Warm weather is considered under 1000 meters above sea level, with average temperatures of 24 degrees, characteristic of the lower plains and valleys. Mild temperatures, ranging from 17 to 24 degrees centigrade, occur between 1000 and 2000 meters (Dane, 1984), conforming to the prevailing climate on the slopes. Between altitudes of 2000 to 3000 meters, temperatures from 12 to 17 degrees centigrade conform cold climates characteristic of the highlands. The abrupt variation of altitude within very short distances gives rise to a diverse pattern of

natural vegetation (Parsons, 1969). At the time of the Spanish conquest, the vast majority of the area was covered by forests, a landscape severely changed with the Antioqueno colonization process through four centuries.

1.2 HISTORY

Antioquia's northwesternmost corner on the Caribbean was the first area of Spanish settlements in continental America (1508) though due to several adverse factors it lasted only a few years. Later (1530's), expeditions of gold-seekers, from both Peru (south) and Cartagena de Indias (north), explored the mainland region and established the first Spanish colonial centers. The selected sites, in lower valleys, showed pre-Columbian gold mining and generally had important adjacent native populations.

Sixteenth-century settlements concentrated Spanish lords (encomenderos y vecinos) and colored serfs (indios de mina, esclavos) operating in a purely extractive economy. Depletion of native labor force and high cost of black slaves ended by annihilating most mining sites in early-XVIIth-century Antioquia.

A new type of mining emerged from 1620 onwards in the highlands. Dispersed groups of placer-river miners began to exploit several sites, primarily based on freemen work. A rather distant and poorly supplied mining frontier was established. A few Spanish immigrants settled in the Medellin valley by the mid-XVIIth century, amid a prime location due to its climatic, agricultural, and communication conditions.

Probably up to mid-XVIIIth century, total population remained low

and stable while an intense mestization process had substantially changed social ranks and spatial population patterns. The late XVIIIth century presented consolidation and growth. Mining first, and then trade, recovered under combined stimuli of larger populaiton, improved agricultural support and a determined late colonial policy framed within the Bourbon reform ideology (Graphic 1).

Independence period (1810-1820) disturbed the pace achieved. Antioqueno economic elite, though, by then based primarily on trade, encouraged the opening of new agricultural lands for a pressing population. An increasing wave of emigrants settled in several geographical directions, their effort being alternatively ignored, acknowledged, or supported by provincial and national policies. Town foundings and frontier advance were almost synonymous in XIXth century Antioquia (Graphic 2).

In a period of strong regional power (1856-1886), Independent State of Antioquia consolidated and extended governmental intervention in public education, communications, and fiscal organization. With railways and coffee, after 1875, a progressively more open economy rapidly grew. By the mid-XIXth century, new economical and social classes appeared with the development of trade, crafts, communications, and mining. New towns competed to develop local markets while larger centers pressed to monopolize inter-regional trade. While coffee cultivation extended thoroughly, changing traditional subsistence agricultural patterns, urban improvements and innovations occurred unevenly (1880-1930).

1.3 URBANIZATION

Settlement processes in Latin America had been generally characterized as divided into broad periods encompasing conquest, ruralisation, expansion and integration into international trade. Possibly most studied periods are XVIth and XXth centuries, emphasizing early settlement patterns and rapid urban growth. Antioqueno urbanization case represents a process of extended and maintained creation of urban centers, largely comprised between 1750 and 1900. Its development shows a variety of social responses and governmental interventions thus requiring analysis of its nature, evolution and meaning.

This thesis deals with Antioquia settlements in three stances. Chapter Two focuses on the process of settlement as traceable from historical records to discuss its overall dynamic, its social and economic motivations, its early demographical and physical patterns. The role of mining, Church actors, and land policies is analyzed to assess their influence in the process. Physical form patterns are synthesized in a comparative discussion of town plans and sites to study basic continuities or discontinuities in town form across the region and period.

Urban evolution is considered in Chapter Three through demographical, social and economic changes from censal and statistical materials. Development of service functions and physical transformations are studied upon historical data from regional and monographic level. Regional government, transportation evolution and social changes are discussed within the settlement content.

Chapter Four aims to generalize about the overall process. Urbanization stages are related to other historic processes. Emergence of urban networks is confronted with economic and infrastructural development. Aspects of intraregional dynamics are summarized through observations on competition among central places and regional urban structure. As a whole, Antioqueno urbanization is referred to other urban regional developments in Colombia to compare its general characteristics.

CHAPTER TWO

THE SETTLEMENT PROCESS

2.1 HISTORICAL BACKGROUND

Colonial history of New Granada (Colombia) is divided into three main political periods according to the rank of Spanish colonial authority. An initial occupation period started since the 1510's, and lasted until 1574 when the first colonial Presidente, Venero de Leiva, was promoted. New Kingdom of Granada lately achieved a viceroyal status in 1719, though its proper organization was established only since 1740. In 1577, the province of Antioquia acquired a governmental recognition. First governor Gaspar de Rodas epitomized a transitional phase from conquest to mining colony. He founded three towns, operated his own 'economienda,' and promulgated first mining ordinances. These early regulations (Rodas, 1584) revealed peculiar traits of the region's crucial economic activity. After the gold rush of 1580-1610, the first colonial 'visita' (1612-1614) by Oidor Herrera was focused to implement the newly-established policy of indian concentrations in 'reducciones' by assembling four 'pueblos de indios' (Herrera, 1614). New indian towns were established in 1682 and 1714 to supply labor force near existing Spanish sites or trails.

After the legal extinction of the encomienda system (1718) indian towns were incorporated as Crown areas until 1756 when a new spatial policy began to be applied in New Granada. Six new indian settlements were promoted by provincial government until 1776 according to the goal of establishing frontier colonies and reassembling 'resguardo' lands for a growing group of mestizos.

A new cycle of regional urban policy began in the 1780's. Under Governor Buelta (1776-1780) and Oidor Visitador Mon y Velarde (1785-1788), a different kind of settlements started to be promoted. Agricultural frontier colonies were established to support mining areas or trade routes to structure a dispersed population distribution and alleviate needy landless groups of coloured people. Antioquia town structure was described in 1788 by Mon y Velarde as composed by five cities (ciudades), one villa, twenty-four mestizo settlements (sitios de gente libre), seven indian towns, and six new colonies (Mon, 1788).

Since 1812 (Restrepo, 1812) Antioqueno's leading class expressed its vision of regional future. Still depending heavily on mining production, the province was to be directed towards agriculture by stimulating frontier nuclei. In independent Colombia (1819), national government started to promote foreign immigration and new settlements. From 1834 to 1905 a series of laws, decrees, and government actions supported colonization schemes. Their scope and impact upon Antioqueno settlements are discussed within the land policy evolution.

2.2 COLONIZATION AND FOUNDATIONS

Spanish American urbanization has been considered as almost completely established by the end of the XVIth century (Hardoy, 1960). Antioqueno urban development, though, shows a case of successive conquest, mining boom, ruralisation, and only lately, stabilization and growth (after 1750). Reasons for XVIth century foundations (Gakenheimer, 1964) were changed to different patterns afterwards. Settlements in Antioquia demonstrated peculiar bases in their origins,

conditioned to particular regional developments.

Motivations for Antioqueno colonization have been proposed by several authors (Morales, 1962; Tobon, 1981; Santa, 1961; Villegas, 1977; LeGrand, 1980) but no systematic analysis of the suggested reasons has been provided. A particular difficulty resides in the fact that only XIXth century settlements are focused, and even almost exclusively for southern Antioquia area. Demographic growth is generally alledged as an important propeller but no subregional studies had explored its dynamic and charcteristics as a migration source. Restricted economic conditions in XIXth century Antioquia had been pointed as determinant of settlement movements with scarce reference to the ongoing developments in several areas and economic sectors.

Land scarcity, probably the most commonly accepted motivator, had only recently been researched (Villegas, 1978; LeGrand, 1986). Land grants had been studied but a synthetic view of relationships between settlements and land occupation has not been offered. Our hypothesis is that colonization has not been a uniform process and that only historical analysis taking into account determinant elements within an appropriate context could provide a base to assess its role in conforming a more complex space and society.

2.3 SETTLEMENT PROCESS

Apart from a series of now disappeared foundations of the XVIth (six towns) and XVIIth (four towns) centuries, Antioqueno area settlement process showed a stable record. From regional historians (Uribe Angel, 1885; Restrepo Eusse, 1903; Robledo, 1916) and

monographical works (Zapata, 1978; Montoya, 1956; Torres, 1923; Quintana, 1939) we summarized chronological data of early settlements and their reported economic or ethnic character. The list includes 191 towns located in areas settled by Antioquenos from the 1540's up to the 1960's.

To compare the settlement sequence of Antioquia to other Colombian areas we tabulated data from 662 town foundations for the same period (DANE, 1975, 1979, 1982; Valle, 1984; Narino, 1944; Huila, 1982; Cundinamarca, 1954). Table 1 shows the number of town foundings by area each two decades and the proportion of Antioqueno settlements to total for each period. It is clear that after a very weak pattern (excepting the 1600-1620 lapses), Antioqueno area was considerably behind overall settlement dynamic of all other regions. Only after 1760 this trend changed, reaching peaks in 1780-1800, 1840-1860, and 1880-1900. These three periods can be interpreted as associated with specific circumstances. Bourbon fiscal and administrative reforms came to Antioquia in the 1770's but reached full implementation under Oidor Mon y Velarde whose measures provided a basis for a dynamic settlement onwards.

By the mid-XIXth century, a combination of factors led to an active foundational effort. High demographic growth in central Antioquia, governmental and entrepreneurial support of new settlements contributed to a rapid pace of settlement. From 1880 to 1900 new motivations appeared to be significant: civil unrest, town promotions.

A classification of town origins, in both ethnic and economic terms, is shown in Table 2. As many settlements combined different categories we organized data into eight major classes and their reported

combinations. Agriculture (mentioned in 135 cases) and mining (reported in 72 towns) were by far the prevailing economic origins. New places developed as a result of transportation (23 mentions) and tradeposts ('fondas,' 17 cases) were less important. It has been observed (Morse, 1974) how XIXth-century Brazil also acknowledged relay facilities evolving in five stages: pouso, rancho, venda, estalagem, hospedaria. Guacas or pre-Columbian gold cemeteries (17 cases), and cattle raising (8 cases) constituted a minority as foundational bases.

Ethnic base was specially significant in the early colonial period when the labor force of natives and black slaves was vital to gold mining. After 1776, though, policy of spatial segregation ended. Indians were mentioned in 26 cases and blacks in only four towns. It is evident that the vast majority of settlements corresponded to the creole and mulatto group. This fact contrasts severely with other Colombian areas where encomiendas and resguardos gave rise to numerous indian settlements (central and southern highlands) mostly concentrated in the late XVIth and early XVIIth centuries (Table 1).

Mining settlements (Table 3) demonstrate a transition from extractive economy to a more developed agricultural frontier.

To understand the character and timing of settlement processes we divided the overall area into 24 subregions presenting geographic, cultural, and historic unity. For each of these areas we tabulated characteristic dates of colonization, total number of town foundings and the dominant economic character of early settlements. Table 4 summarizes chronology, intensity, and economic base of these 24 colonization fronts from 1540 to 1936. We observed that while XVIIth century can be characterized as a period of exploration (six fronts

opened), the XVIIIth century can be pointed as a time of town foundings (four fronts opened). It was also evident that whereas earlier colonization fronts were mostly in mining areas (XVIth and XVIIth centuries), agricultural settlements prevailed since the mid-XVIIIth century. Towns based on trail openings appeared basically during the XVIIIth century, and 'quaqueria' towns were mostly found from 1840 onwards. Slave-based or indian settlements remained a feature of the late XVIth and early XVIIth century foundings, though indian towns were also established from 1660 to 1780 in new agricultural colonization fronts.

2.4 EARLY DEMOGRAPHY

In spite of profusion of different sources, Colonial demography of the area lacks continuity and uniformity from the mid XVIth to the late XVIIth centuries. Possibly the most complete early profile of Antioqueno population dates from 1580 (Lopez de Velasco, 1971). According to this report, a comparative analysis with 1630 data (Vasquez de Espinosa, 1959) had been established (Hardoy-Aranovich, 1969). Five towns counted 711 'vecinos' while overall New Granada reported 42 cities with 1907 'vecinos' by 1580. Antioqueno settlements, at the eve of their gold rush, had an average 142 'vecinos' while the country presented only 45 per settlement. Unfortunately, four of the initial five reported centers disappeared in the 1630 information. Four Antioqueno towns (1630) showed an average 110 vecinos while New Granada average rose to 253 per settlement.

As for native population, broad estimations have been proposed

(West, 1952) for the 1540 and 1580 decades. While since 1540, according to early chronists and reports, Antioquia counted about 195,000 natives (59% of New Granada) already by 1582 its population was severely reduced to 2,100 inhabitants (7% of total). Several reasons have been stated for the demographic catastrophe of the XVIth century. Forced labor, spatial displacement, European diseases, among others, had decimated population in a very short lapse so as to severely de-structure the institutions of encomienda and mita (Vasquez, 1985).

The black population was, in turn, also strongly constrained by labor conditions and a pronouncedly uneven sex structure (Meisel, 1982). A very high child mortality was also present among black workers (West, 1952).

The overall population seems to have reached its lowest level (Meisel, 1982) around 1700, probably recovering original pre-Spanish figures only after 1800, whereas ethnic and social structure suffered considerable variations during the colonial period. Crown's policy towards spatial segregation (Morner, 1970) had evolved from an uneven initial period (before 1580) to a rather structured program that lasted until Bourbon reforms (1730-1830) when regulations concerning residential separation among whites, coloured, indians, and slaves were finally cancelled.

2.4.1 POPULATION GROWTH

Demographic typologies suggested for colonial Brazil (Marzilio, 1979) stress relationships among social groups and population evolution. Plantation economies are described as combining very high mortality

rates with high fecundity to get low natural increase tendencies. Slave populations showed extremely high mortality, very low marriage and fertility rates, and uneven sex distribution, thus determining negative growth rates. Contrary to these two types, subsistence economy combined relatively high mortality (though dispersed settlement patterns acted as barriers to contagion), early marriage and high fecundity to obtain a 1% a year natural population growth.

A different interpretation of colonial demography is given for North America (Smith, 1979). A Malthusian behavior would result from low mortality, early marriage, high fertility, hgih net population growth, extremely low pace of urbanization, absence of economic growth and stability in the inequality of wealth.

For the Antioquia case, slave, subsistence, and even Malthusian demographic typologies were combined according to the available data. From mid-XVIIth century population estimations (c. 1650) (Lopez Toro, 1976) to the first viceroyal census (1778) we found a yearly 0.49% natural increase which could be assimilated to a spread population pattern within a subsistence economy context. Plantations were unknown to colonial Antioquia for its topography and isolation lacked structural bases for an extensive and export-oriented agricultural production. This slow growth pattern seems prolonged until 1787 (second viceroyal census) with a 0.56% a year increase. But abrupt changes in demographic patterns are revealed afterwards. An unpublished 1798 provincial census allowed us to establish very high intercensal rates for the 1787-1798 and 1798-1808 periods, 3.46% and 4.57% respectively. This substantial transition had been situated originally (Lopez Toro, 1976) circa 1780-1790, but 1798 data demonstrated a later peak.

2.4.2 ETHNIC PATTERNS

An equally fundamental trend is observed in ethnic structure by the end of the colonial age. Racial distribution in 1776/1778 and 1810 (Vergara, 1901) for Antioquia and Colombia (Table 5) showed consistent growth of mestizo group while three other categories (whites, indians, and slaves) reduced their share of total population. An important feature, though, is evident for Antioquia. Mestizo group increased its participation by 52% whereas slaves were reduced to almost one-third of their figures by the end of the period.

2.4.3 SETTLEMENT SIZES

It is difficult to establish an appropriate profile of Antioquian urban sizes in late colonial periods for censuses accumulated inhabitants, generally encompassing large areas. A categorization of urban places for colonial Venezuela circa 1800-1809 (Lombardi, 1975) defined cities as having more than 4000 people, towns ranging from 2000 up to 4000 inhabitants. Lower centers as villages (500 to 2000) and hamlets completed the structure. Parrish registers as used by demographic historians should be the basis for population studies of this period in Antioquia, instead of counting upon the colonial governmental categories for urban places.

To determine the proportions of population residing in urban centers, we have analyzed 1816 census of Antioquia. Established during a period of military occupation at the time of the Independence War, it recorded urban and rural houses and population, apart from other

agricultural and cattle statistics. From these data we observed that percentage of urban houses ranged from 28% to 38% with an average 30%. This result would indicate a rather uniform proportion of urban population across the province, and, certainly, a relatively high proportion of people residing in urban nuclei at that time. As for dwellers per house, figures were more varied. Average household size was 5.5 with values ranging from 3.0 to 11.6, though concentrated around the 4.0-6.6 range.

2.4.2 EARLY DEMOGRAPHY AT SPECIFIC TOWNS

To assess the scale of initial populations in the newly born frontier for the 1780-1914 period we consulted local monographical studies of fourteen selected towns. It can be observed (Table 6) that the number of family heads for early settlement phases ranged from 34 to 100, total populations from 200 to 3000 people being reported. For one case (Cabal, founded 1843) high population growth rates (19.3%) at the early years (1851-1859) were followed by lower increase, in more stable patterns (3.1% for 1859-1870). Family sizes from 1791 Don Matias (8.5 per family) and 1869 Argelia (4.3 per family) illustrate a transition in family structure across colonization developments. Antioqueno literature almost unanimously supports the idea that family size was exceptionally large in the XIXth (Parsons, 1979) and early XXth century. Some authors (Monsalve, 1928; Latorre, 1934), indicated that from 1775 Medellin (less than five children per family) to 1928 Antioquia (6.2 persons per household) average sizes were not that large.

From a land distribution record of 1887 Villahermosa (founded 1875)

we obtained an average of 4.29 children per couple. Very large families did exist in some wealthy and healthy areas like Envigado where 33 children per couple occurred (Pombo, 1853). But the common generalization (von Schenk, 1880) of travelogues during the XIXth century about Antioqueno fecundity and extended families appear to be exaggerated.

Demographic data from early settlements in XIXth century illustrate also an ongoing social evolution. A census from 1806 Abejorral (Calle, 1920) showed economic and social groups. Landowners (propietarios) (22%), landless settlers (30%), journeymen (jornaleros) (37%), and slaves (11%), demonstrate a stratification of distinctly rich colonists, stressed by the fact that practically a 100% of slaves were controled by landowners. It is evident that family sizes tended to show larger household scales at the wealthiest side: landowner families had 4.6 children per family whereas landless couples only 4.3 and journeymen 4.4.

2.5 MINING AND SETTLEMENTS

Antioqueno geology led to a characteristic gold mining and settlement pattern from the XVIth century onwards. Early colonial mining towns in Spanish America (Gakenheimer, 1973) had been considered as peculiar social environments that would facilitate interpretation of colonial urban features. Highly productive, Peruvian mining generated prematurely large urbanization, technological innovations, and social evolution. Whereas the fee to buy the post of Regidor for Potosi Cabildo (Marzahl, 1975) evolved from 8000 (1602) to 5000 (1664)

patacoons, the same position at Popayan, in New Granada, ranged from 550 (1609) to 400 (1636). River placer gold mining (West, 1952) generated a rather elementary settlement type, the 'asiento' or 'mineral' or 'real de minas.' Generally composed of temporary straw and palm huts, with a few buildings for lodging, management, ironworks, foodstuffs, and stables, only the largest ones acquired chapels, customarily when exceeding 150 people. Most of the sites had from 20 to 25 people and constituted humble and faraway camps.

With Governor Rodas ordinances (Rodas, 1584) gold mining in Antioquia was regulated in an attempt to settle a flooding group of small miners converging to northern areas. By that time, a structural division of mining activities already existed. Senores de cuadrilla or slave lords, and independent miners competed for alluvial deposits. Rodas fined games (ord. 2), regulated trade practices, foodstuff and cloth commerce (ord. 3), water-use controls (ord. 21) but, more importantly, determined a narrow limit to mining land grants. Squared sites of 80x80 yards were allotted for alluvial deposits and spaces of 60x60 yards for terraces, an early disposition allegedly crucial to limit territorial concentration in the province. Contrasting with Antioquia, President Borja (Borja, 1920) ordinances for silver mining Mariquita (1612) were structured around indian labor regulations, insisting upon policy of residential concentration (poblazon), keeping tribal and family groups in separated places (barrios).

Gold mining production (Colmenares, 1971) as observed for Antioquian towns for the 1550-1664 period showed a global peak between 1595 and 1604, to reach its extreme decadence by 1655-1664. Survival of Santa Fe de Antioquia, as compared to other four major towns, is

explained by the fact that its output recuperated by mid-XVIIth century while northern settlements (Zaragoza, Caceres, Guamoco, Remedios) came up to their practical disappearance. Several reasons are attributed for mining decay. Slave resale (Colmenares, 1983), interruption of slave trade in 1640, disastrous indian mortality, food scarcity, contributed to make gold mining an unfeasible economic activity by 1650. After a recession period circa 1640-1680, a new expansion cycle began but certainly under new structural conditions. In Antioquia, the group of independent miners started to increase their share from 1670 to 1807 (Twinam, 1982). While by 1670 'mazamorreros' (independent river placer miners) accounted for 47%, by 1799 had reached a 96% of regional registered production. Two intermediate dates (c. 1710 and c. 1750) show abrupt increases in independent mining, probably due to progressive exhaustion of lowland placers (mostly operated by slave owners) and a sustantial movement of free miners to new sites in the highlands (Table 7). At the eve of Independence (1809) (Botero, 1888) mining was estimated to contribute to 75% of regional economic production, whereas agriculture, cattle and salt completed the ouptut.

It has been stated (Colmenares, 1971) that the everlasting consequence of colonial mining economy in New Granada was the abandonment of demographically desolated areas and unarticulated regions. In Antioquia we can observe that if this description appears as valid for XVIth and XVIIth century settlements it is no longer applicable to independent mining patterns since 1620. On the contrary, the birth, development, and expansion of an important number of urban sites was almost exclusively based on mining from that date onwards as we have shown through settlement data.

2.6 CHURCH AND SETTLEMENTS

Antioqueno local monographies register most settlement cases associated with mining center chapels and even town foundings promoted by priests. The role of the Church as social and economic actor during Colonial and Independent times has not been systematically explored in Colombia. Development of Church authorities in Spanish America (van Oss, 1975) had suggested some relationships between secular Church activities and settlement patterns. For XVIth century cases, a correlation between the creation of dioceses and waves of settlement had been found. As for XVIIIth century eastern Colombia (Graff, 1976), faraway settlements exceeding 200 people applied before regional bishoprics to acquire parrish status. Beyond colonial civil power, bishoprics were able to recognize the desired rank to small nuclei (parroquia, viceparroquia), usually associated with urban living status. Two days, or about ten leagues of harsh trails, refrained these communities from regular religious services. Once economically organized around a subscription fund (cofradia, capellania), and adequately surveyed by religious authorities about their economic ability and demographics, parrish rank was granted to the settlements. Through this process, an important number of places agglomerated during the XVIIIth century Santander, mostly composed by mestizo populations in agricultural frontier locations.

For Antioquia we summarized a total of twenty town foundings in which chapels pre-existed in the sites (eleven in mining settlements). From XVIIIth century register of three cases, a peak of eleven was found during XVIIIth century, lowering to five and one cases in the next two

centuries.

Predominantly indian populated highlands of central and southern Colombia had chapels (capillas doctrineras) for religious indoctrination as a basis for urban centers by the early XVIIth century. Antioquia, in contrast, lacking such a demographic scale, had chapels for dispersed, coloured population centers.

Religious orders were almost unsignificant in Antioquia area. Excepting four indian settlements of mid seventeenth century, promoted by a Franciscan friar (Mesa, 1983) Church presence in Antioquia was centered around Antioquian born secular priests. Jesuits, decisive promoters of a vast developmental program in Colombian eastern plains (Rausch, 1984) (39 towns in Casanare region), came only by 1720 to Antioquia where acted as educators and active hacienda-owners (Colmenares, 1969) until their expulsion in 1767.

The role of the Church in Antioquia has been considered singular (Tobon, 1981) among other Colombian areas. It combined a very weak direct economic power with a rurally-based civic leadership (Palacios, 1983). Bishopric range for Antioquia was only granted in 1828 so that all applications for parrish foundings had to be addressed to distant Popayan. But still parrishes and municipalities (Tobon, 1981) were synomymous during the XIXth century. From censal material (Table 9) we observed that from 1808 up to 1870 male ecclesiastical population grew very closely to town foundings. This would suggest that Church activity in the area had at least the pace of new settlements.

XIXth-century Antioquia, in fact, shows, according to local historical records, an active role of priests as new town promoters. We have found that nineteen town foundings were either promoted, supported,

or personally achieved by secular priests. While this occurred rarely in XVIIth and XVIIIth centuries (one and two cases, respectively), XIXth century shows fourteen centers, nine of which from 1850 to 1900, and XXth century register two cases.

From early colonial stages, chapels were significant elements of every Spanish foundation. Vecinos from Zaragoza asked for a 25 pounds bell (AHNB, 1612) as enough for their condition of village (pueblo). This same identificaiton of settlement status and chapel condition is still perceived in XIXth century towns when specially arranged transport by mule-drivers (arrieros) is provided to move large imported bells to Jardin (founded in 1864) church (Ferro, 1985).

2.7 LAND

2.7.1 ROYAL ORDINANCES OF 1573

To understand some of Antioqueno settlement determinants we considered a colonial basic statute, the 1573 Ordinances. A framework for land grants was uniformized since 1573 for Spanish America through the Ordenanzas de Descubrimiento y Poblacion. It synthesized a view of the overall colonization process that stressed social ranks of the time and responded to the foreseeable economic structure of new settlements.

Ordinance 106 resumes both a social and economic program via the allotting of urban space, agricultural land and animals for the two major kinds of settlers. Gentlemen (caballeros) grant unit (caballeria) was five times larger than commoners' (peonia) in every of its three components (Table 10). An additional prescription (ordinance 104)

established limits to grant scales. Commoners were to receive from one to five peonias, whereas gentlemen were to obtain from five to fifteen peonias. Still at this early stage, patrimonial structure within white colonists was supposed to range fron one to fifteen.

Simultaneous grant of urban lots (solares), farming area (tierra de labor) and pasture (tierra de pasto) to an individual settler (poblador) expressed a rather ambitious goal of rural-urban balance. The mention of wheat and corn land measures gives an idea of a transitional settlement phase, not fully adapted yet to Spanish American environments. Fruit gardens complemented the agricultural project not only at the rural areas but also within the large urban allocations. Coming from a landlord society where cattle and sheep guilds were powerful (Solano, 1977), land was generously granted to private and communal animal uses, ordinance 129 establishing ejidos and ordinance 130 referring to dehesas. Communal lands had to serve for town expansion, public recreation (ejido) and to keep oxen, horses, and slaughtering cattle near urban nucleus.

Other lasting elements are stated in the Ordinances. Land allocation is defined in ordinance 91 so as to grant the founder (el questa obligado a hazer el dicho pueblo) with one-fourth of the total distributable land. The remnant had to be given to the first thirty settlers (pobladores) through lottery (suertes), the Crown keeping the rest for future colonists (ordinance 130). To live and work (morada y labor) for five years (ordinance 85) was required to grant full legal possession.

2.7.2 EVOLUTION OF LAND POLICIES SINCE 1754

With the regime of land assembly (composicion de tierras) (1754) (Solano, 1975) Colonial government intended to legitimize illegal indian land encroachments by whites or mestizos. As early as 1591, Colonial authorities aimed to generate fiscal resources through the same mechanism. Bourbon bureaucracy, as early expressed by one of its leading ideologists, Campomanes (Bustos, 1982) perceived land as an underutilized economic resource. Perfected in 1778-1780, a new public land policy emerged. Crown lands (realengos) were to be allotted to individuals for specific purposes like trail openings, clearing new lands and stabilizing settlements.

2.7.3 REFORM IN ANTIOQUIA

One century after its main settlement (1675), Medellin valley was already an unevenly occupied land. Otrabanda and San Cristobal areas (Twinam, 1982) showed 54% and 50% of their residents having less than the minimal subsistence plot area. Since 1776 Antioquia Governor Silvestre (Silvestre, 1919) reported the unprofitable condition of rudimentary and distant mining activities, severely restrained by lack of work force, foodstuffs and tools. Under new liquor and tobacco monopolies (1770-1780) popular unrest raised in New Granada. After Comunero insurgency (1781) the viceroyal government was compelled to act cautiously (Kuethe, 1978). One of the troublesome provinces was Antioquia, where small tobacco growers and slaves rebelled in 1781.

Viceroy Archbishop Caballero y Gongora designated a career public official, Oidor Mon y Velarde, to visit Antioquia. With an active experience in urban improvements in Guadalajara, Mexico, Mon had in Antioquia an ample field for reform. Bureaucratic venality, gold contraband, trade monopolies, land concentration, poor mining productivity, and a growing population, contributed to require drastic governmental measures.

Mon activity referred to basic critical issues. A monetary reform was established by replacing the gold-dust variable standard (Twinam, 1982) by silver coinage as currency. Merchants, already controlling regional economy through gold exports and imported goods, supplanted the mint as exchangers so as to generalize silver currency and stimulate internal trade. Itinerant merchants, supplying mines, multiplied thus lowering costs for mining production.

Acting against recent extensive land grants, Mon confiscated areas to establish new agricultural colonies. Three towns (1787-1788), nominally of 100 families each, were established near mining areas for poor settlers (Robledo, 1954). Mon instructions for these poblaciones referred explicitly to the Laws of Indies (Mon, 1788) guidelines, a rather unapplied set of regulations until that time in Antioquia. New towns, as mentioned by the Oidor, were a central instrument for regional development, strongly recommended in current colonial policy. Land distribution, though, was effected according land quality and family size. Four years of active settlement were required to obtain full legal titling.

Stimuli to agricultural improvements, public granaries, and minimum agricultural productivity standards were established (Gonzalez, 1979)

for cotton, sugarcane and cocoa. A provincial agricultural board was conceived to supervise regional improvements. New seeds, anise and fruit crops, and the use of the rather unknown plough were encouraged.

Urban trades were required to provide trading for youngsters. Trade guilds were appointed supervisors and regulated to have annual professional examinations.

Communal funds were established among indian communities (cajas de comunidad) to collect tributes and support elementary schools, needy groups, jail buildings, road and public building maintenance, and public disasters.

Urban improvements were unprecedented in Medellin (Cerezo, 1970). Hospital buildings, water drainage, aqueducts, street and house naming, slaughterhouses, city hall, public schools, and public market regulations, all were addressed.

Although Oidor Mon accomplishments in Antioquia have been recently interpreted more as a response than as an original initiative (Twinam, 1982) it is clear that at least his perception of priorities was acute. After his short tenure, most of these policies faded, though decisive governmental support for new settlements remained as fundamental stimulus for the expanding population through the following decades.

An early Antioqueno statesman, Restrepo (Restrepo, 1812) echoed in 1812 the previous policy for new settlements. His law for frontier colonies recalled not only Mon's land reform vision but also expressed how provincial commercial elite considered colonization as basic to alleviate social pressures and expand trade. Independence wars, though, were to interrupt these projects.

2.7.4 PUBLIC LANDS IN INDEPENDENT COLOMBIA

After the costly Independence wars (1810-1825), the Colombian government treasury was exhausted. Foreign credit was almost null so as to make public lands a very important element of fiscal and developmental policy onwards. Firstly conceived as a guarantee for external loans, and later managed as premium for transportation and settlement ventures, public lands were the object of a varied legislation in XIXth-century Colombia.

Recent research on public lands allocation had concentrated on conflict patterns (LeGrand, 1986; Villegas, 1975) or nationwide circumstances (Tirado, 1976). From land grant records (LeGrand, 1986; Villegas, 1975; Parsons, 1979) we have synthesized the basic evolution of public land allocation in the Antioqueno area. Three categories were considered: land grants to individuals, corporate grants to new towns (nuevas poblaciones), and grants to public works contractors (Table 1).

While land grants to individuals totaled 869,000 hectares, new towns received approximately 318,000 hectares, and contractors 174,000 hectares. It is evident that from 1827 to 1869 land grants to individuals and new towns had the same magnitude. Substantial ideological changes appear to have modified land laws and policies from 1870 onwards, stressing individual colonization rather than corporate concessions to nuevas poblaciones. As for individual land grants, a steady decrease in the average grant size is observed, showing a growing concern for land concentration. The original Antioqueno core presented a much higher average grant size if compared to its southern colonization frontiers (contemporary States of Caldas, Tolima, Valle).

Land grant beneficiaries clearly differed in their influence upon the Bogota government.

Land grants for new towns demonstrated also a substantial governmental support in frontier areas of Caldas and Tolima, sharply contrasting with private concessions concentrating in Antioquia core. Our analysis of grants to poblaciones showed 31 towns with an average of 10,254 hectares. Most frequent grant sizes were 5,760 (two cases) and 12,000 hectares, respectively. Land grant standards per family (Table 12) had been only slightly reduced from 1812 to 1866 (38.4 to 32.0 hectares per family plus additional area for each child).

Public works grants within the 1833-1888 period included six road projects in frontier locations (Nus valley, Quindio overpass, Dabeiba, Canasgordas, Manizales and Belalcazar) with an average 10,700 hectares. First railway (1873) concessionaries received 100,000 hectares plus exploitation privileges. Sopetran suspension bridge company (1888) received 10,000 hectares.

2.7.5 THE LARGER LAND CONCESSIONS

Prior to 1827, date of departure of public land grants statistics, four large grants to individuals already appropriated a substantial portion of Antioqueno frontier lands.

Villegas grant (1763) (Villegas, 1975) covered the area of three contemporary townships totalling 194.5 square kilometers. It was supposed to require the building of a new toll trail in southern Antioquia but, in fact, inaugurated a series of conflicts between poor settlers migrating southward and absenteist grant beneficiaries

alternating opposing occupation, and profiting from forest openings and land price increases. Sonson pobladores (1789-1800) succeeded finally in their land claims under viceroyal support (1808) opening a critical obstacle for migration displacements onwards.

On northern Antioquia, Barrientos and Misas grant (1780) covering 72.4 square kilometers was partially confiscated by mon (1787) to establish one of his new colonies (Robledo, 1954).

Again on the southern frontier, Aranzazu grant (1800) was only legally recognized by Colombian government in 1824. Its area of 176.4 square kilometers encompassed seven future new towns and gave rise to a crucial series of conflicts with pobladores since Salamina (1825) down to Villa Maria (c. 1860). Transformed into a land speculative venture, national government intervened in 1852 to grant area for five new settlements, each receiving 12,000 hectares (Valencia, 1893).

Burila grant, covering about 128 square kilometers of the fertile Quindio region, was originated in an alledged colonial grant of 1641. A land development corporation with influential shreholders was established in 1884 to parcel land for sale to colonists. Seven towns wer comprised within its area, though conflict this time was not centered on municipalities as in Aranzazu area but on individual settlers. Company opposed growing numbers of squatters during the late XIXth century, while planning a promotional new town of 256 hectares for 160 families (Ortiz, 1984).

Included in public grant records (Table 11) another extended grant was assembled in southwestern Antioquia in 1835. Caramanta grant resulted from a cheap land purchase though public bonds by a group of Medellin merchants. Strategically located aside Marmato mining area, it

covered an area of 102.7 square kilometers that eventually supported four new towns. Gabriel Echeverri, leading the promoting group, built a toll trail from Fredonia to Marmato, founded himself one of the colonies (Caramanta, 1838) and supported the area developments as provincial governor later on (Brew, 1974).

These five larger concessions totaled about 6470 square kilometers, a magnitude that dwarfs all other land grants to individuals, new towns or public works' empresarios, supporting a total of 22 settlements. This fact has been very poorly responded by historical research that would eventually show the settlement stages of an important portion of southern Antioquia frontier.

2.7.6 NEW TOWNS AND LAND

The planting of new settlements was supported by landowners in an important number of cases. Since the XVIIth century, records show a growing fequency in private land donations for town building. We summarized data (Zapata, 1978; Valencia, 1980; Uribe Angel, 1885; Montoya, 1956) from monographical sources to obtain a series of town foundings based upon such grants. A total of 32 towns received private land donations: 2, 5, 20 and 5 cases for each period from XVIIth to XXth century. Some only mention space for square and streets (three cases) whereas others relate also to overall urban area (five cases).

Land was also sold to colonists in the urban cores by private developers. From 1820 to 1933 we obtained a total of ten cases, four of which correspond to the early XXth century. Specially in Quindio area (seven out of ten cases) private individuals sponsored this type of

operation (1884-1933). Whereas, at the beginning, it was clear that sales were effected through a communal purchase, late cases suggested that direct transactions prevailed afterwards.

2.7.7 LAND ALLOCATION FOR POBLADORES

Already in 1622, the institution of land manager (juez poblador) was mentioned in New Granada mining settlements (Leon, 1985). Prerogatives conceded by Royal Ordinances to descubridores and pobladores very early established a tradition of privileges to first colonists in each town. They were exempted (ord. 80) froms sales tax for twenty years and granted a central location for their urban plots (ord. 127), amid other economic benefits. Social recognition as urban landowners (ord. 100) rewarded pobladores and their lineage.

Early municipal judges (la justicia del pueblo que de nuevo se poblara, ord. 110) were assigned to intervene in town origins (para que cumplan su asiento y poblacion) to implement settlement regulations. Analysis of monographical data showed that from 1780 to 1897 at least eighteen new Antioqueno towns recorded jueces pobladores. In one case (Granada, 1821) it is referred to as to founder, juez fundador.

Mon y Velarde (Mon, 1778) instructions to the juez poblador of the new colony of San Fernando de Borbon recalled the Royal Ordinances about square proportions, common lands, and requirements for legal titling.

Independent Colombia continued colonial tradition since 1812 (Restrepo, 1812) and even recognized an analogous function for new indian towns in 1826 (capitanes fundadores). Restrepo 1812 law for new towns charged juez poblador to site selection (art. 24), common land

allocation (art. 29), laying down of streets (art. 26), and plot distribution (art. 4). Needy landless families were to be granted firstly, while a civic organization (sociedad patriotica) had to develop communal crops to provide foodstuffs at the initial settlement phase (art. 30).

After 1835 (Concordia settlement, southwestern Antioquia), a transformation of the institution is found. From that date until 1924 we registered at least seventeen town foundings having not a single juez poblador but a plural junta agraria, junta agraria y pobladora (1884) or comision agraria (1870). These cases mostly corresponded to new settlements in the lately colonized Quindio and Valle areas (twelve mentions). Recognized since 1870 (Ley 14, 1870, art. 3), a national decree (Decreto 520, 1878, art. 5) regulated the activities of these agrarian commissions to manage land distribution for settlers in new towns. Its three members were to be resident farmers, either selected by city council or appointed by provincial government, with a two-year term to accomplish land distribution.

After 1824, official surveying was legally required to formalize land distributions. The role of topographers (agrimensor oficial, perito agrimensor) both as surveyors of agricultural land and as responsible for street lines in new settlements has not been studied. Some cases (Palacios, 1983) showed their partiality in land allocation under vested interests behind town councils.

Corporate land grants to poblaciones (1835-1876) counted on local town councils to distribute the area. Power groups articulated from town beginnings are claimed to have controlled the process to their benefit (Ocampo, 1972). Land distribution studies for particular towns

are rather scarce. Salento (founded 1861) only created the post of juez poblador in 1881 (Salento, 1881) and plots were still being distributed in 1908. Communal lands (ejidos) and urban plots were still underutilised by 1920, according to local town council records. Circasia (founded 1884), also in Quindio area, showed a very slow pattern of land distribution (Gutierrez, 1985) as late as by the 1910-1920 period. For Villahermosa (1887) we recorded 110 beneficiaries receiving agricultural areas from 14 to 124 hectares, the majority concentrating near an average 33 hectares plot, clost to 1870 land grant law.

It is clear that in central Amtioquia a very subdivided land structure since late XVIIIth century remained a basic factor for emigration to the colonization fronts. In 1847 (Brew, 1974) average property size was as low as 3.5 hectares in Rionegro and 1.4 hectares in Ceja del Tambo. A geographical survey from 1853 (Codazzi, 1958) (Table 13) showed that the most saturated areas were those in Rionegro, Sopetran, Amaga and Supia, while larger available proportions of unexpoloited lands were predominant in northeastern areas and Anserma region. Highest net population densities corresponded to central Antioquia (Medellin, Sopetran, Rionegro), from two to ten times larger than those of frontier sectors (Salamina, northeast).

A historical fact is that colonization facilitated land to many settlers in larger unit sizes than those of Antioqueno core. Diverse scales are mentioned: 11 hectares (Caramanta, 1838), 37 to 70 hectares (Pacora, 1832-1844), 32 to 57 hectares (Pereira, 1871-1873), 32 hectares for San Luis (1879-1885) and Yarumal (1880).

Antioqueno elite was conscious of the impact that alternative

colonization schemes had upon property distribution. In 1808 Restrepo argued that two-thirds of total families (Restrepo, 1808) were land owners though he implied that most lived austerely. In 1884 (Uribe Angel, 1885) some districts were considered to have even land distributional patterns whole others (Fredonia) had highly concentrated properties. A variety of mechanisms (LeGrand, 1980; Arocha, 1979) have been mentioned as common in certain areas and periods to divert legal restrictions on maximum individual rural property. For the Quindio area, the appearance of a kind of dispersed large property (Iatifundio disperso) contributed to a conflictive social environment.

The birth of a privileged class of first pobladores (Arango, 1981) from the alledged fact that only the earliest 150 to 200 families received land requires local studies to establish effective distributional patterns. From 1870 onwards, after the so-called liberal radical age, communal colonization ceased to be a priority in national policy. New guidelines rather stimulated individual grants to individuals or corporations so as to characterize the 1869-1900 period as one of extraordinary privatization of public lands for uses different than settlement. Homestead Act (1862) appeared to have influenced importantly various Latin American XIXth century land policies (Salazar, 1948) contributing to the current growing emphasis in self-colonization.

Colombian legal evolution shows that ideological transition very explicitly. Law 48 of 1882 (art. 12) provided land grants firstly for new towns (nuevas poblaciones), secondly for farmers (cultivadores) and finally to support transport infrastructure. Presidential decree 1113 of 1905 (art. 1) allocated land first for farmers, secondly for public work enterprises, and only thirdly for new towns. It also severely

centralized land grants under newly created Public Works Ministry, within a technochratical and entrepreneurial vision of the role of the State.

By that time, though, Antioqueno settlements were almost completely established, their land base resulting from an evolving political conception of new settlements, often times sponsored by donors, and generally self-managed through local mechanisms. A variety of cases reveal that even in spite of opportunistic winners, an extended range of private rural properties emerged across an extended space and period.

2.8 SETTLEMENT FORM

Antioqueno towns were established within a varied series of economic and geographical circumstances. Our analysis of monographical data indicates that unstability in town locations was not an exclusively colonial occurrence. Out of 36 town site translations registered for the 1560-1900 period, 4 corresponded to XVIth, 5 to XVIIIth and, interestingly, 27 cases to XIXth centuries. This would indicate that the settlement process continued to be unsteady for most areas and that the definition of town places often times had to adjust to changing trail patterns, local environmental constraints and a very scarce appropriate topography. Some of the earlier cases associated with mining, though, exhibited a more chaotic history. Four towns were displaced twice, one was moved thrice, and a later one was changed five times.

Antioqueno landscape had limited settlement sites to some preferred patterns since pre-Colombian times. Nineteenth century geographers

(Codazzi, 1958; Vergara y Velasco, 1901) observed that mountain ridges were the commonest location of indian dwellings. The complexity of Antioqueno undulated territory had been reflected in extreme specialization of local names for particular earth forms (Florez, 1952).

To analyse the pattern of Antioqueno town sitings we synthesized data from an 1853 regional survey (Codazzi, 1958) (Table 14) and related it to 54 town settlement dates to establish predominant characteristics. Valley (21 cases) and plain (14 mentions) are the most common sites during first three centuries. XVIIth and XVIIIth century sites showed a varied locational pattern with hill, hill edge, slope and foothill sitings. This topographical characterization corresponds to the evolution of the settlement frontier from low and middle valleys to hilly regions as placer mining and agricultural colonies sequentially expanded.

As a diverse subregional colonization took place (Table 2) we aimed to establish basic formal patterns of antioqueno towns across the settlement process. Spanish American urban historians (Chueca, 1981; Hardoy, 1975; Guarda, 1978) had generally agreed to establish a broad classification of colonial settlement forms: the orderly regular model of orthogonal grid and central square, agglomerations without defined scheme often referred so as to "traza libre', and an intermedicate, partically organized type of "ciudades semiregulares". As a particular town form, site-oriented hill edge structure (ladder) had been suggested for mountain area settlements (Raynaud, 1980).

From regional and town maps (IGAC, 1960; DANE, 1970), we have analyzed 159 cases of Antioqueno settlements. By relating these particular cases (Table 15) to the foundational periods we have

classified town forms according to the above mentioned categories. Considerably predominant (92 out of 159 cases), a regular pattern (Graphic 3) emerged in the XVIIth century centers and showed its maximum frequency after 1840. On the opposite extreme (Graphics 4 and 5) irregular forms were more frequent until 1800. The intermediate category (Graphic 6) occurred more evenly across time though its maximum frequency was higher by mid XVIIIth century. Mining settlements (Table 15) were mostly found among the semiregular class (33 out of 39 cases). The ladder, hill edge types, were a late form (1800-1920) (Graphic 7).

Another peculiarity appeared through town plan comparisons. Within the regular class 16 towns showed 2 or more squares (since 1852 and especially during the 1880-1920 period) (Graphic 8). Toledo (founded 1891) and San Roque (founded 1880) showed a central square encompassing two blocks. Jardin (founded 1864), Salgar (founded 1890), and Barbosa (founded 1795) had five or more streets reaching orthogonally the central square. Bolivar (established 1840) had rectangular 100 by 40 meter blocks. An exceptional formal origin is recorded at Riosucio (1819) (Calvo, 1963) where two parsons decided to assemble their separate towns within a two-squared semiregular pattern (Graphic 9), each group keeping its church and square.

Block subdivision maps (Graphic 10) exemplify diverse land subdivision patterns for 10 cases. Street layouts influenced considerably lot forms. Yarumal (established 1787 by Mon) exhibits a rectangular square and a protruded church platform (altozano), following Oidor's guidelines. Canasgordas (1775) shows a traza libre pattern, as most other indian towns did. A mining settlement, Santa Rose (1757)

departs from orthogonal grid. Jardin (1864) presents its church in an axial alignment with main street, as designed by its promotor father Gomez Angel. Two consulted historic maps, Manizales (1851) (Graphic 11) and Dabeiba (1868) (Graphic 12), showed alternative subdivisional patterns of square blocks at early dates.

A series of patterns are clear from map analysis (Table 15). As mining settlements were less frequent during the XIXth century than before, and as explicit formal guidelines were put into practice to regularize town layouts, new Antioqueno town forms became progressively more uniform and almost standardized by the late part of the colonization (especially in Quindio and Valle areas). Some XVIIth and XVIIIth century settlement forms were rectified across XIXth century though their original morphology is still apparent in contemporary plans.

A certain degree of imitation would have occurred from 1852 onwards (after Manizales) with multiple squares for different uses: civic, market place, recreation (Pereira, 1870; Armenia, 1889).

Evolution of urban physical standards (Table 16) in selected Antioqueno towns from 1580 to 1915 shows that by 1800 (Sonson) squares started to have equal sides. Lot sizes, no longer squared, began to have a predominant 20 by 40 varas module (Manizales, 1849). Square and block dimensions were regularized to 100 by 100 varas by the end of the settlement period.

There were very few cases of specially designed new towns. Amalfi (1840), Bolivar (1840), Dabeiba (1850), and San Roque (1872) were laid out according to grid plans elaborated by European mining engineers living in Antioquia, generally with wider streets, and eventually

rectangular blocks. Another group was rectified by foreigners: Urrao (1811, 1871), Pereira (1880), Manizales (1852), Riosucio (1825). Land surveyors acted on several cases: Chinchina (1857), Cabal (1870), Marulanda (1876) Filandia (1878), whereas local engineers only lately intervened as in San Luis (1878), Cajamarca (1889) and Quimbaya (1914). Puerto Berrio plan of 1875 (AHAM) had a grid of streets and avenues 60 feet wide and lots of 110 by 220 feet. Its Cuban-born founder, Francisco Javier Cisneros, was in charge of Antioquia first railway construction.

From the preceding discussion of Antioqueno town morphological evolution we can extract various conclusions. There was no one specific form but a historic variation. Preconceived paterns were very scarce. Sites conditioned town morphology mostly during XVIIIth century. A tendency toward uniformity prevailed so as to make last series of settlement forms a homogenous class.

CHAPTER THREE

URBAN AND REGIONAL EVOLUTION

3.1 DEMOGRAPHY

Antioqueno settlement area extended substantially during XIXth century though its demographical growth was comparatively larger. The ratio of total regional population to total number of town censal units was 7 times higher in 1918 than in 1788. Spatial urbanization (multiplication of settlements) was less dynamic than overall population growth for that period. It is also noticeable that while 1816 censal data suggested a 30% of population living in urban centers, the first registers of that kind for the XXth century (1928, 1938) indicated a 23% to 26% range. These informations would indicate that across 1788-1918 period a continuous spread of population occurred into rural areas which accommodated the larger proportion of an important demographic growth.

As a whole, total population in Antioquia region grew more dynamically than national figures. Censal data for 1835, 1843, 1870, 1905 and 1912 show a sustained increase in Antioquia's share of Colombian total population from 10% to 22%.

Considering 23 population subareas from 1928 to 1918 (Table 17) we have found a series of population growth patterns that suggest different trends at subregional scale. Following the share that each of these areas (core and frontier sectors) had of total population for each censal year we observed basic demographic behaviours. Four central sectors (Antioquia city, Medellin, Rionegro, Santa Rosa) had a continual decay. Eight outer areas (corresponding to settlement frontiers initiated before XIXth century) (Rionegro, Zaragoza, Fredonia, Yarumal,

Guatape, Amalfi, Magdalena and Sonson) kept a stable share. Only two areas (distant western colonization fronts of Uraba and Urrao) presented slow growth while nine sectors (all of them southern settlement areas) (Salamina, Jerico, Manizales, Pereira, Quindio, Tolima, Pensilvania, Belalcazar, Valle) demonstrated a rapid growth pattern.

These subregional patterns showed a differential settlement dynamic across the province, related to each area sequential occupation. Whereas stable frontiers were those peripherally located around the decaying core, a most dynamic transition existed along a center-south direction, eventually conforming a corridor-like pattern.

Demographic growth of XIXth century Antioquia had been rarely discussed at spatial level. From 1828 to 1912 censal material, we calculated subregional population growth rates to contrast core and frontier demographics (Talbe 18). Whereas overall annual regional growth rate ranges from 2.4 to 3.9%, national figures (except for 1905-1912) extend from 1.0% to 1.9%. By ordering subregional population growth rates we saw that, once again, southern frontier areas exhibited the larger rates ranging from 3.2 to 9.0% a year.

The opening of colonization fronts was in most cases abruptly registered by very high rates as in 1843-1851 for Jerico (28%) or in 1851-1864 for Pereira (11%). However, after a first settlement period, subregional populations appeared to grow less rapidly, as for Salamina (after 1843-1851), Fredonia (1835-1843), Guatape (1835-1843), Sonson (1835-1843). It is important to observe that after a period of high population growth rates (1828-1851) overall growth dynamic slowed. Exlanations for this transition would probably have to consider several determinants such as the impact of civil wars, agricultural transition,

conditions in frontier locations, and changes in the structure of mining economy.

From 1825, 1828, 1884, 1888 and 1912 regional records (Botero, 1888; Lopez and Rodriguez, 1914) we can infer (Table 19) an overall demographic evolution of birth, mortality and natural increase rates. It is clear that from 1825 to 1912 the major contributor to natural growth was birth rate (54 to 39 per thousand). Analysis of birth rates data by subregions indicated very high figures for hot climate regions (Uraba, Frontino, Fredonia, with 75 to 66 per thousand) and very low indexes for mountain areas (Santa Rosa, Salamina, Sonson, with 11 to 7 per thousand).

High and early marriage rates have been considered one characteristic Antioqueno demographic trait to support a high provincial population growth rate. Data from 1835, 1843, 1851, and 1870 national and regional censuses indicated that while Antioquia moved from 29 to 26 per thousand, Colombia evolved from 28 to 22 per thousand. Nineteenth century European travelers (Hettner, 1976; von Schenk, 1953; Codazzi, 1958) consistently observed young married women (from 11 years on) and men (from 14 years on). Thus, Antioqueno familiar colonization pattern would have been highly conditioned by the resulting prevalent family structure. However, impact of colonization process itself upon familiar typology could indicate that while XVIIth century central core supported larger families, new settlement conditions constrained family sizes.

3.1.1 OCCUPATIONAL STRUCTURE

Occupational data for Antioquia were only registered in 1869 and 1883. Farmers (27 to 24%), artisans (5 to 9%), and miners (4 to 3%) configured the larger groups. Increasingly important were merchants (1 to 2%), muleteers or arrieros (0.4 to 0.8%) and cattle owners (0.1 to 0.2%). Unemployed augmented (0.1 to 0.8%) so as student population did (3.8 to 9.3%). For eleven sorted locations we analysed occupational patterns, including data from 1859 to 1883. Some of the recently established frontier towns (Manizales, Pereira, Cabal) showed a relatively large group of artisans (4 to 5%), muleteers were unsignificant, and mining populations were concentrated on a few places (Marmato, San Carlos). Merchants were noticeable in major subregional centers (Jerico, Santa Rosa, Riosucio, Sopetran with 1.1 to 1.3%).

3.1.2 AGE AND SEX STRUCTURE

Consistently with subregional migration dynamic, sex structure for 1869/1883 showed the lowest male populations (47 to 48%) within the core area. Under one year age, hot climate locations (Marmato, Amaga) had the larger population percentages (above 3%). Newly established frontier settlements presented the larger 7-21 years cohort proportions (Manizales, Pereira, Salento, from 36 to 39%). Correspondingly, the largest proportions of aged population (50-70 years old group) were those of old central core (Sopetran, Marinilla, Penol, Amaga, above 6%).

3.1.3 SPATIAL POPULATION DISTRIBUTION

To establish relative evolution of demographical spatial distribution we have computed (Table 20) three series of ratios for the 1828-1918 period. Relationship between the capital's population and the next ten largest centers showed a continued increase in Medellin primacy (10 to 24), though the relative weight of the capital to total regional population remained stable (5 to 6). Interestingly, eleven largest centers, including Medellin, reduced their share of provincial population (51 to 25).

Examination of population primacy lists for all available censuses through the period (1828, 1835, 1843, 1851, 1864, 1870, 1884, 1905, 1912, 1918) demonstrated that a high degree of change in population orderings occurred along the process. Out of ten largest centers in 1828, successively 8, 7, 5, 4, 3, and 2 remained in the top ten list for 1835, 1843, 1851, 1884, 1905, and 1912. Without doubt, older core centers ceded their demographic primacy to newer frontier towns in a substantial proportion.

3.2 ECONOMIC DEVELOPMENT

3.2.1 AGRICULTURE AND CATTLE RAISING

Later XVIIIth century agricultural patterns (Twinam, 1982) have been characterised as divided according to geographical subareas. Highlands supported some corn and bean crops, mostly limited to home consumption, with a minor cattle rising activity oriented towards gold

mining areas demand. Lowlands and tempered valleys complemented ubiquitous corn and bean agriculture with sweets, fruits, and staples.

Food scarcity, as a result of underdeveloped agriculture and demographic growth, required governmental interventions since 1775 when Medellin city council tried to control grain prices at the expense of farmers, favoring a trade and mining elite.

In spite of Mon efforts, it was not until the 1830's that the region began to transform its traditional rural production. With most land openings, though, as in the southwest (Caramanta grand area), extensive pastures occupied colonization spaces very rapidly.

By 1853 (Codazzi, 1958) a more evolved structure was apparent (Table 21). Core regions (Medellin, Rionegro, Marinilla, Amaga) participated with a larger variety of foodstuffs in the internal subregional trade, while frontier areas (Salaminan, northeast) still presented elementary product compositions.

Agricultural imports from outside Antioquia were mostly concentrated on cocoa (from Cauca), tobacco (from Mariquita), and anise (from Ocana). Cattle (from Cauca, Caribbean coast, Mariquita), lean pigs (from Cauca) and mules (from Cauca, Caribbean, Mariquite, and Bogota) were also demanded in Antioquia.

Whereas Colombian agriculture became sequentially involved in a series of agricultural export booms, Antioquia scarcely developed its commercial agricultural sector until the 1880's. Tobacco (1854-77), cotton (1862-70), indigo (1868-76) and cinchona bark (1869-82) short bonanzas were almost unknown to Antioquia regions. As observed by regional historians (Tirado, 1976) Antioquia still depended on itinerant miners and farmers by the mid XIXth century. Population growth, and

exhausted regional fiscal sources permitted, from 1840 onwards, gradual development of sugar cane crops mostly oriented to hard brown sugar and alcohol.

Coffee planting began to be promoted since 1856 by Antioqueno civic leaders through leaflets, though first technically established cultivations only dated from 1877 (Manizales). From 1880 on, stimulated by attractive prices and a prospected export railway, coffee extended rapidly all over Antioquia. From 1888 statistical yearbook we have established that at that time a high percentage of Antioqueno towns were already involved in coffee growing (78%), a proportion similar to 1928 data (82%) (Monsalve, 1929).

Partial record of Antioqueno coffee growth can be traced from railway freight series 1895-1928. We found a rather uneven evolutive pattern. Very dynamic periods were located at three moments: 1895-1900 (exports tripled), 1911-1914 (exports doubled) and 1918-1921 (exports grew by 81%). These instances showed rapid expansion cycles corresponding succesively to railroad opening, international economic prosperity and early post-war recovery.

While Colombian share of international market recorded 1, 3, 6, 10 and 12% figures for 1878, 1899, 1914, 1923, and 1938 (Beyer, 1948), Antioqueno production evolved as rapidly: 12, 100, 368, 1077, and 1438 export indexes for 1888, 1900, 1913, 1922, and 1932 (Palacios, 1983).

Though, originally, coffee plantations were concentrated on relatively large farms, Antioquia coffee agriculture developed into a spread set of small properties, most of which had resulted from the 1830-1880 colonization expansion. From coffee history works (Palacios, 1983), we can observe that the larger early Antioqueno plantations

averaged less than 500 hectares, while Cundinamarca area was characterized by an average 1100 hectares farm. By 1932, average coffee farms in Antioquia and Caldas had 2.2 and 2.0 hectares, not far from national 2.4 hectares average.

Coffee development implied a number of important transformations in the area. A commercial network from parcels to ports was progressively complex, including some intermediate processing stages. Most of subregional trade primacy since 1890 can be associated with the appearance of semi-industrial establishments and financial agents. Coffee became a crucial developmental item to integrate the region into export network for the 1890-1920 decades.

Innovations in pasturages (1830, 1850, 1906) (Chevalier, 1975) permitted substantial increases in grazing land prices up to six times higher than those of uncleared land (McGreevey, 1971) by 1850. Barbed wire introduction circa 1880 probably was not as determinant in Antioquia as it was in Caribbean estates to consolidate large cattle rising properties at the expense of seasonally trashumant droves.

A most active trade, as old as 1595 (West 1952) was lean pig imports to Antioquia. Pork meat consumption in mining districts was two times higher (Palacios, 1983; Robledo, 1916) than in agricultural settlements at per capita basis. The resulting concentrated demand, and an expanding mining sector from 1840 onwards, stimulated most southern frontier settlements towards pig fattening centered on corn-crop excedents in fresh cleared land. It was probably an able response to an isolated location, much needed of trade to expand, heavily constrained by lack of trails and mules for any other kind of commodity export (Restrepo, 1921).

Though cattle early attracted investments from merchants, changing economic cycle would have modified capital allocation by the 1860's. According to Antioqueno government (Berrio, 1968) an attractive initial 36% yield invited investments into cattle rising ventures, compared to 10% to 12% usual trade profits. Depression, probably associated to economic unrest and fiscal crises after 1860-1863 civil war, would have reduced trade margins to less than 5% so as to generate capital exports and even investments on the traditionally unwanted Antioqueno urban real estate, yielding a meager 3 to 5% a year.

From 1816 census, 1853 geographical survey and 1888 statistical yearbook, we established that the most important changes in the cattle, pig and mule stocks occurred from 1816 to 1853. Whereas per capita cattle figures moved from 0.34 to 0.48 (1816-1853) they remained similar by 1888 (0.50). Pig per capita stock doubled from 1816 to 1853 (0.19 to 0.39) to stay even by 1888 (0.39). Mules also jumped from 1916 to 1853 (0.03 to 0.06) keeping the same index (0.06) by 1888, and even as late as by 1916.

3.2.2 MINING

The register of new mining sites in Antioquia from 1740 up to 1910 (Lopez, 1914) (Table 8) showed a steady increase until 1820, corresponding to independent mining expansion. Two rushes during 1820-29 and 1850-59 had been explained (Poveda, 1981) as periods of foreign interest and local investments in gold lode mining.

With major managerial and technological innovations introduced since 1820, gold mining lodes, practically unexploited since XVIth

Century, began to increase their contribution to total regional production. Our analysis of figures from 1826 and 1888 mining sites (Botero, 1888) showed a drastic change in structure. While in 1826 twenty five mining districts existed, by 1888 fifty seven districts were registered, whereas lode production was practically null by 1826, it reached 61% of total output and 62% of total work force by 1888. From censal data (Poveda, 1981) it can be seen that the zenith of mining share out of total population occurred by 1869, descending importantly by the end of the century.

Though with foreign technology Antioqueno mining expanded its output and the region received an important series of innovations, the effect of XIXth Century mining patterns upon spatial development differed importantly from previous experience. Whereas (Brew, 1974) Colombian gold output grew slowly during XIXth century (a 6% from 1801 to 1900), Antioqueno mining production expanded importantly (38% of national by 1801, 82% of national by 1886). But free independent miners, counting upon elementary extractive techniques, ceased to be the backbone of the industry. Gold mining, from 1820 onwards, became progressively a capital intensive activity thus changing substantially the social and economic base of mining settlements. One could observe that gold placer mining was no longer the most attractive frontier occupation by mid XIXth century.

3.2.3 BEFORE INDUSTRY

Probably first crafts in Antioquia were oriented to serve mining demand. Ironworks (Cerezo, 1970) existed in 1676 Medellin, but only by

the end of XVIIIth century first preindustrial activities were recorded. A liquor factory (1784), a first cotton loom (1790), a gold smelting shop (1796), tannery (1798) and print (1812) can summarize most of what constituted colonial industrial achievement.

Colombia did an important effort from 1824 to 1836, under a wave of protectionism, to establish iron mills (1824), china (1834), paper (1836), and glass (1837) production in Bogota (Melo, 1980). But a series of social and political conflicts soon modified this program. With the political preponderance of a liberal trading group (1850) an era of free commerce rapidly dismantled most of the eastern Colombian cottage industry, to flood internal trade with European items, mostly British textiles. By 1853, our study of surveyed regional production indicated that Antioquia had specialized some craft activities. Sugar cane subproducts centered on tempered and hot core areas, jewelry, carpentry, and embroidery on Medellin. More developed was Rionegro region where tools, clay pottery, saddles, sacks and ropes were produced.

With provincial governments (1860-70) Arts and Crafts school, mint and iron mill were established in Antioquia. A slow industrial development was registered until the 1880's. Probably, in spite of governmental sponsorship, industrial ventures were not attractive enough to merchants due to a combination of restricted market, uncertain investment conditions and lack of technology (Ospina, 1979).

By 1888, a more extended industrial activity existed at a regional scale (Botero, 1888). Statistical yearbook registered 1035 sugar cane mills, 190 claytile factories, 53 distilleries, and 33 tanneries, covering a large number of settlements. Early concentrated around

Medellin, though, as expressed by the capital's share of the corresponding outputs (68%, 55%

3.2.4 FINANCIAL ACTIVITY

Finance in Antioquia was as old as mining. Slave traders operated upon short term credit and itinerant traders early developed a financial network in most districts. Colonial Antioquia lacked, though, any organized formal financial system. As a part of a most urged recovery plan for the province (ACHSC, 1979) in 1782, the establishment of self-help financial funds (montepio) was proposed to support needed subscriptors, miners and farmers. This kind of Spanish organization, much encouraged by Bourbon policy, had but none application in New Granada.

Antioqueno merchants, mostly rooted in Medellin, Rionegro, Marinilla and Santa Fe de Antioquia, developed competitive groups by 1770-1810. After Independence (1819) much of their interest went into mining, tobacco, and cattle rising ventures, even outside Antioquia, until the 1850's when first banking operations started in Medellin.

Rapid development of banking in Antioquia from 1870 onwards was not a unique phenomenon in Colombia (Zambrano, 1978). What appears to be singular is that, apart of the numerous Medellin based financial trusts initiated on that age, the period 1882-1914 showed the birth of 11 subregional banks rooted in frontier towns. The role of these organizations in local development constitutes, probably, a central research issue. More explored, Medellin banks (Echavarria, 1946) were involved in various sectors: trade operations, mining, real estate and,

lately, industrial ventures. The appearance of subregional banks could be an indicator of how economically strong some frontier areas felt facing Medellin primacy and how effective their efforts were to develop specific economic activities.

Our analysis of 1888 real estate statistics (Botero, 1888) indicated some economic patterns related to finance developments. For urban properties, the largest registered mortgages corresponded to Medellin, Titiribi and Manizales, three centers concentrating provincial trade, coffee plantations, and southern trade, respectively. The corresponding average real estate transactions indicated that mortgages reached very high proportions of these values, ranging from 86 to 112%, when provincial average reached a lower 63%.

Rural property registers accounted for a 71% of total movement, and had a much lower average mortgage to sale ration of 38%. Active rural property transactions appeared not only in the southern frontier (Salamina, Jerico, Abejorral) but also in mining areas (Amalfi, Santo Domingo, Yarumal). Most inactive were core subareas (Marinilla, Rionegro, Antioquia, Sopetran).

3.2.5 INDUSTRIAL BEGINNINGS

As observed by economic historians (Ospina, 1979) the 1880-1900 period was one of unusual entrepreneurial dynamic. Ceramics (1881), sulphuric acid (1886), textiles (1888), litography (1890), foundry (1896) and glass (1898) factories constituted a first stage. With banking support, and under the joint effect of a protectionist national tariff policy and an active coffee trade, Antioqueno entrepreneurs moved

to beer (1901), soft drinks (1904), larger textiles (1905), matches (1909), and cigarrettes (1919).

While Medellin showed an important transition in its industrial activity, other provincial centers had more slow developments. Sonson, second to Medellin, was mostly devoted to agriculture. Textile shops (1879), print (1891), monthly cattle market (1895), chocolate (1910), flour mill (1911), only reached modest scale (Botero, 1978). A similar pattern is observed for Jerico, after 1910, with textile and chocolate factories. Some minor towns like Circasia (Gutierrez, 1984) sponsored craftswomen schools (1911) for the then active Panama hat exports. This kind of municipally promoted artisan activity had precedents in Sonson (1866) and Abejorral (1880) where schools for weavers and hat makers were sponsored.

Larger centers in southern frontier had further development, probably upon their agricultural and trade subregional primacy. Annual cattle fair (1872), sugar cane mills and tanneries (1880), foundry (1900), coffee threshing (1904), textiles (1921) appeared in Manizales. Candles, soap and chocolate shops (1900), sugar cane mills (1913), glass textiles and beer productions (1926) were installed in Pereira (Jaramillo, 1963).

3.3 PUBLIC SERVICES

3.3.1 EDUCATION

Until Mon (1786) public education was unexistent in Antioquia. Private schools operated since 1680 and Jesuits established a first

college in 1722, but no effort for primary, male and female public education preceded the Oidor's activity. Short lived colleges existed in the 1810's and 1820's for classical and military training in Medellin (Zapata, 1984). After Independence, high school (1822), and Normal School (1842-51) were started in Medellin.

Initially based on the Lancasterian system, appropriate to the scarcity of teachers (1823), public schools in Antioquia were steadily extended. An analysis of the evolution of the Antioqueno public school system from the 1833, 1884, 1912 and 1928 data showed important quantitative and qualitative changes. An index for the number of towns served indicated an important increase, concentrated during 1833-1884: 100 in 1833, 185 in 1884, 218 in 1912, 240 in 1928. More drastical was the evolution of per capita enrollment: 100 in 1833, 177 in 1884, 463 in 1912, 414 in 1928.

Sex composition also changed considerably, especially during 1833-1884: 87% males in 1833, 50% in 1884, 50% in 1912, 40% in 1928. Rural schools increased their share from 34% in 1884 to 54% in 1928. Public schools kept their share of total enrollment from 86% in 1884 to 88% in 1912.

To analyze the range of per capita enrollment per regions, we computed two series of ratios. Maximum to minimum quotients per period showed that while a substantial unevenness occurred during 1833-1884, that ratio kept more even and stable afterwards: 3.04 in 1833, 16.35 in 1884, 3.74 in 1912, 3.62 in 1928. A second ratio, maximum per capita enrollment to general average enrollment evolved very steadily: 1.32 in 1833, 1.87 in 1884, 1.47 in 1912, 1.45 in 1928.

These indexes indicate that during the first period the public

school system extension increased substantially and, whereas some disproportion among extreme cases happened, the basic spatial distribution stayed. Maximum enrollment figures corresponded to Medellin and Rionegro, with minimum indexes in the northwestern, slowly settled frontier. Frontier areas, in general, had enrollments above global average.

Effort from provincial government to develop public education in Antioquia since 1823 situated the area as the leading region at national level in educational indicators (Chevalier, 1975). A second stage in educational institutions started in 1857. Chemistry and metallurgy courses (1857), Arts and Crafts School (1864), regional university (1872), and Mining School (1886) contributed to support early industrial developments, educational extension, and mining activities. Regional initiative generated all these achievements.

3.3.2 PUBLIC HEALTH AND ENVIRONMENT

Pathology in Antioqueno area had some permanent patterns since colonial times. Smallpox epidemics in 1546 (West, 1952), in 1588 (Chaves, 1977) and 1620, measles, typhoid and bronchitis in 1620, ravaged Spanish, Indian and Black populations in Santa Fe de Antioquia and Anserma. A new epidemic (1702) was reported at the provincial capital.

Mon justified his public water supply improvements by mentioning water-carried contagions in Medellin. Typhoid (1792) and measles (1795-96) reappeared by the time of the town's first hospital building (completed only by 1840). A general vaccination campaign (1804) covered

most Spanish American areas. By 1810, a first generation of Bogota-trained Antioqueno medical doctors came into service. Frontier towns like Santa Barbara (1819) supported plagues of mosquitoes and malaria.

Still in 1867 (Berrio, 1867) Medellin hospital depended on public subscription funds. As observed by European travelers (Hettner, 1976) anemia was generalized in hot climates and by 1880 (von Schenk, 1953) Antioqueno population was described as barefooted. Some improvements, though, can be appreciated from 1888 hospital records. Nineteen hospitals were distributed in eleven subregions. The larger serviced per capita areas were Medellin, Amalfi, and Manizales, male patients constituting 57% of the attended population, with a 37% of hospital budgets coming from public funds. Most frequent pathologies were fever, ulceration, chronic diarrhoea, syphilis, malaria, anemia, blennorhagia, dysentery, typhoid fever. Most extended geographically were fever, syphilis, dysentery and typhoid.

Colombia climates have had close association with some pathologies: yellow fever under altitudes of 1400 meters, malaria under 2000 meters. Endemic tropical anemia have been frequent in coffee, cocoa, and sugar plantations and mining areas (Cuervo, 1911).

For the southern colonization frontier, an analysis of the early XXth century basic health conditions (Robledo, 1916) provided data to consider environmental conditions. From these informations we summarized some extended retional patterns.

Poor water supply and sewage conditions were associated to dysentery, typhoid and helminthiasis at least in 8 major towns (Manizales, Pereira, Armenia, Salamina, Pensilvania, Neira, Palestina,

Belalcazer). Some cases corresponded to extremely inconvenient town sites (on hill edges impeding adequate water provision). Other were related to poor or nonexistent cesspools. Child mortality was reportedly reduced in Manizales after two epidemics of dysentery (1902, 1913) urged for a new aqueduct construction. Coffee processing plants contaminated drinkable water (Pereira) and water pumps contributed to spread contagions (Neira).

As extended as in 1888 statistics, syphilis was most common in several locations in 1912 Caldas area (at least 6 towns). Two places (Palestina, Belalcazar) were considered to have exceptionally high rates, while periodic fairs were the alledged cause for its frequency in the active Pereira area.

Malaria appeared as endemic at least in 2 locations (Marmato, Chinchina) corresponding to hot humid microclimates. Larger towns (Pereira, Armenia) were referred so as to severely affected by this pathology. Tuberculosis rates were commented as high in two overcrowded urban environments. Manizales and Armenia popular dwellings were considered as poorly constructed and extremely subdivided. Childbirth accidents were associated to absence of medical personnel in Quindio frontier (Calarca, Filandia). Unhealthy local climates due to high humidity (Aguadas, Aranzazu) or windy sites (Apia, Santuario) disqualified some colonization environments. A shorter list of healthy towns (Cabal, Circasia, Salento) completed the assessment.

3.4 REGIONAL GOVERNMENT

Since its establishment as a separate province (1570), Antioquia

had the Gobernacion status, a colonial administrative regime that allowed governors to intervene in civil and criminal justice and governmental matters. Its geographical isolation contributed to make two occasional governmental missions (visitas) in 1612-14 and 1785-88 crucial for settlement policy. A short lived free Antioquian State (1812-14) witnessed a political elite committed to reform. Abolition of slavery, promotion of new settlements, and change of colonial fiscal structure were stated. Restrepo (1812) proposed to exempt new towns of tithes, by that date taxing farmers with a 10%, miners with a 3% and merchants with a 2% rate upon their activities.

With national Independent Republic, direct taxation was shortly introduced (1823-26), and tobacco factories were established in several areas to generate public resources. However, national and provincial incomes, mostly counting on colonial fiscal sources as tobacco, salt, liquor and import taxes, remained largely insufficient for any state-centered development program. Fifths and tithes, colonial burdens upon mining and production, were so unproductive that, at the eve of their abolition (1848), only totalled a 13% of total national budget (Melo, 1980).

It was clear that republican government wanted to increse other easily manageable sources as tobacco and salt whose contribution raised from 31% (1836) to 50% (1848). Import taxes, though, and in spite of free trade interests, backed national budgets increasingly (29% in 1836 and 52% in 1860). Economic historians have explained how 1850 political and fiscal reforms aimed to dismantle all colonial governmental and economical restrictions under a "laissez-faire" vision. By dismounting fiscal income sources, liberal reforms contributed to weaken national

and provincial budgets severely. Provincial and municipal budgets, though, grew more rapidly than national for the 1834-1894 period (Melo, 1980). Evolution of national fiscal resources only showed important increases by the end of the century. Provincial resources expanded especially from 1829 to 1870, whereas municipal income appeared to grow principally during the 1850-1870 period.

Fiscal restrictions were, thus, central to public works policy. An 1832 decree (Campuzano, 1832) from Antioquia government echoed an 1825 national law that instituted compulsory labor service at road maintenance fronts. By 1829, a provincial monopoly on liquors was established. By 1888 it accounted for 56% of provincial budget, whereas import taxes (19%) and pork slaughtering fees (12%) completed the bulk of governmental income.

At municipal level, 1888 data showed that a rather unefficient fiscal structure existed. Import taxes (23%), cattle slaughtering rights (16%), pork slaughtering (12%), direct taxes (10%) and tobacco (8%) accumulated 69% of total Antioqueno town budget. More than forty additional taxes completed their income.

Circasia, a newly born frontier town, only accounted (Gutierrez, 1985) an 8% for education and a 9% for public works by 1907. Comparison of 1888 and 1912 municipal per capita budgets showed a substantial subregional unevenness. While by 1888 only three out of 14 areas (Medellin, Puerto Berrio, Cacercs) surpassed provincial average, a similar situation occurred in 1912 when 4 sectors (Medellin, Puerto Berrio, Caceres and Amalfi) exceeded the average. It is important to observe, though, that while by 1880 the ratio between extreme regional values was of 3.5, by 1912 it had increased to 5.6, suggesting

increasing differences in regional development.

Under the status of federal state from 1856 to 1885, Antioquia governments acted more freely upon fiscal resources and public expenditure. Railway construction increased public debt as high as 75% of annual 1888 budget, showing government credit and committment to developmental ventures. Education grew from 20% (1888) to 32% (1912) of total expenditures, whereas public works accounted for 16% (1888) and 15% (1912).

3.5 TRANSPORTATION

Colonial transportation registered a policy of private concessions to public works entrepreneurs. As early as 1556 (West, 1952) Quindio overpass was open to traffic by using this system. The use of Indians as carriers delayed road and animal transportation evolution in New Granada. Encomenderos had by 1623 Indians, canoes, and river port operations under a regime of governmental concession. Antioquian river ports (Caceres, Zaragoza, Espiritu Santo, Nare) were by 1652 privately operated by contractors. A series of towns emerged from load carrying populations: Sabanalarga (1614), Penol (1664), Guatape (1811). Wheeled carts were introduced only in the 1840's. Gold dust exports made mule transportation a rather underdeveloped activity at least until 1830. Trail maintenance was a form of Indian tribute, and a special tribal group (anaconas) already by 1687 was specially valued to assist public works (Colmenares, 1968).

Though some late colonial governments were interested in trail improvements, the state of communication networks was expremely poor.

Governor Baraya established the Palagua-Rionegro route by the 1790's to facilitate trade links with Magdalena river transport. The founding of Yarumal and San Carlos (1787) by Mon aimed to support road improvements in frontier areas.

During the Spanish military occupation of 1815-16, a first road plan included improvements in Quindio overpass and Sonson trail by using forced labor. Accomplished in a short time, it reduced travel times to one third. From 1823 onwards, independent Colombia utilized private concessions to develop communications. Magdalena steamboat navigation (1823) inaugurated a series of contracts for privileged public works that lasted until the 1910's (Pardo, 1972).

Public works were labor intensive so as to make road settlements an important goal. Pobladores del camino, or road settlers, were to receive plots along the projected trails. As in Caramanta concession, colonists were attracted by small properties (11 hectares) in exchange for labor. During the 1830's Antioquia began to use not only private concessions but also compulsory work to develop new trails and maintenance of district roads. Interestingly, some communities developed a lasting tradition of voluntary communal work for rural tasks and infrastructural improvements, so as to make these events (convites) a socially valued institution. Convict labor was also used since the 1830's but a low effectiveness and high sustenance costs diminished its use after the 1860's.

A specific personal tax for road improvements or "contribucion de caminos" would have contributed to important provincial public works. Based on this resource, by 1888 (Botero, 1888) Antioquia had a more differentiated trail inventory with three road classes. Only seven (1%

of total) trails were privately operated. Out of the 411 reported bridges, a 2% were under private concessions. Masonry structures accounted only for a 28% of bridges.

Still by 1892 (AHAM, 1892), privileged roads were considered adequate for frontier developments. Murri toll trail concession was granted for 30 years, its contractors required to build way stations each 20 kilometers. Various toll bridges in key locations were built from 1875 onwards across Cauca river. From 165 to 956 feet span, five suspension structures constituted a basic communication improvement to link western Antioquia frontier areas to provincial center. Some of the ventures had Antioquia government as shareholder, and traffic growth rates around a 6% a year made bridge construction a profitable investment.

By the time of railway construction (1872 onwards) mule transportation already had developed in various areas. As we have seen, per capita mule stock remained stable from 1853 to 1916. In most areas, like Manizales, oxen were more important due to the extremely poor state of the trails. Some arrieros (Arango, 1981) were truly transportation entrepreneurs having 800 animals each and acting also as road, railway and cableway contractors. Some towns like Barbosa, Caldas and Campamento had specialized by 1880 as muleteering sieges. Another group like Sabanalarga and Urrao (Uribe Angel, 1884) continued to have Indian carriers.

Arriero population grew a 3.4% a year from 1869 to 1888. Some studies (Poveda, 1975) suggest that mule transportation would have reached its maximum scale by 1900, just before railway primacy. Antioqueno high valuation of this activity certainly honors its

contribution to provincial economic development but probably exaggerate its local role. Arrieria was considerably extended in other Andean areas since colonial days (Bolivia, Peru, Ecuador) and generated most settlements in the Sao Paulo area during XIXth century Brazil (Maia, 1981).

Antioquia railway constituted, with coffee, the major innovation of the late XIXth century (Horna, 1970). Though a cart road was started in 1869 from Medellin to the Magdelena river, railway, feverishly supported in Colombia after 1870, displaced road projects. An 1871 early criticism (Molina, 1970) contrasted the alternative communication projects. With 10 million pesos, 166 leagues of railway, or 325 leagues of cartroads, or 1250 leagues of mountain trails could be built.

Antioqueno governoment strongly supported the project even though a rather insignificant cargo existed by that time. A 55 year concession, it was a 33% state owned venture at its start. By 1885, operation begain in a first stretch with an 80% of total cargo constituted by imports, according to our analysis of yearbook figures (Botero, 1888). Three items grew substantially from 1895 to 1913, imported machinery augmented by five times, cattle increased by 260 times, and coffee expanded by 8 times.

In southern frontier, Manizales also wanted to access coffee markets massively. Its 71 kilometers ropeway was initiated in 1910 and operated in 1922. That year, 76% of its export cargo was coffee. A short ropeway fever acknowledged at least three additional lines in the region. But the opening of the Panama Canal (1914) and the building of Colombian Pacific Railway diverted coffee cargo towards the Pacific route from the southern Antioquian settlements. By 1928 onwards, motor

roads steadily replaced railway and modified subregional economic patterns in important ways (Rodriguez, 1979; Forero, 1982).

Still, by 1928 (Monsalve, 1929) Antioquia depended substantially on its 10,000 kilometer long mule trail network, counting only 460 kilometers of modern roads.

An instituted mechanism since the Royal Ordinances (Cortes, 1967) 'repartimiento' or 'derrama' provided public contribution from beneficiaries of public works to pay for infrastructural improvements according to the perceived benefits. Mon intervened to limit abuses in 'derrama' cases by 1787. But still the principle seems to have been rarely applied until the 1930's Medellin reinvention of the mechanism under the 'valorizacion' perfected procedures.

3.6 PHYSICAL TRANSFORMATIONS

Antioqueno settlements evolved slowly in their physical aspect during colonial time. Records for seven centers in the Medellin area in 1798 and 1808 show building stock conditions. Total housing inventory grew at an impressive 5.2% a year, within a general mining, trade and population expansion. Two story houses (casas de balcon), though, remained almost equal for the period. A provincial profile for 1808 demonstrates that clay tile roof houses existed only in 15 out of 32 settlements, while the ten larger towns concentrated a 78% of total clay tile roof dwellings and a 70% of total housing stock. In the Medellin area, thatched roofs were only a 26% of total, whereas in frontier locations like Penol, Sonson, Santo Domingo, Urrao, Canasgordas, constituted a 100% of dwelling types. According to Antioqueno

statisticians (Botero, 1888) clay tiles only appeared in XVIIth century and brick masonry during the XVIIIth century. Wood roofings were used in some late XIXth century buildings as in 1895 Sonson (Angel, 1970). Cobblestone street paving existed in 1825 Medellin (Gosselman, 1981). Wood carpentry was reportedly expensive due to its short life cycle because of termites. By 1853 (Pombo, 1914) urban paving was still rare. Abejorral had some cobblestone streets and open water conduits like Ceja del Tambo. Aguadas showed isolated dwelling units amid large blocks. Manizales was described as beautiful 'caserio' with well built church, school, and cemetery. An 1860 traveler (Saffray, 1860) observed a combination of woodens structures and mud in family houses. With lime covered walls, houses lacked any interior wooden doors. Still, two story buildings were scarce in Medellin. Manizales (founded in 1849) had its first clay tile roofed, mudwall house only in 1856. Its slope topography and seismic environment provoked building improvements. By 1884, two storied houses began to have lighter wooden frames in the upper floor. Excavation techniques used water jets to cut soft soils for street openings and buildings (Fabo, 1926). From the Salamina area, a bamboo frame type extended southward to Quindio, adapted to multistoried buildings in steep frontier town sites. By 1864, out of 27 Medellin urban bridges (Cerezo, 1970) nine were masonry structures. The first modern brick plant was established by State government to provide material for the railway structures.

Phaysical growth appeared to be slow in most frontier towns. Our analysis of an 1867 map of Sonson showed an extended area and a low urban density. Out of 104 blocks, nine were still totally vacant. An 172 scattered buildings and only 13 continuous structures were

registered. Ten block fronts were completely built. A church, a chapel, and suburban cemetery were depicted also. No communal ejido land but a neighborhood composed of prominent landowners surrounded the town.

A minor settlemnt, Salento showed in its 1870 map very scarce building activity. Fourteen out of 24 blocks lacked any kind of buildings. Only 24 scattered structures, including chapel, town house, priesthouse and school were recorded. The town promotor's suburban property occupied most of the outer area.

As late as 1880 (von Schenk, 1953) frontier San Francisco (founded 1857) and Cabal (founded 1843) had only 80 and 120 thatched dwellings. A similar pattern was found in Urrao (founded 1780) and Filadelfia (founded 1873).

A 1916 traveler (Gutierrez, 1920) recorded a transitional pattern, though. By analysing 33 town cases, we synthesized some new characteristics. A 51% and a 27% of total, respectively, had weekly markets and monthly cattle fairs. Public water fountains (67%), metallic pipe aqueducts (6%), home water service (21%) and sewage (6%) were reported. A 55% had electric lighting, with 50% of cases from private plants. Most towns appeared to be committed to four- to ten-year loans to develop power services. Hospitals (64%) were still very weakly supported by public funds (a 42% of total cases). Two storied houses (42%), street stone paving (21%) and even some macadam (3%) were reported. An average 20 blocks scale and only a low proportion of thatched roofs (18%) were described. Public squares had clocks (48%) and some trees (17%).

Among 1916 report, a few cases had exceptional dynamic. Yarumal

(7%) and Copacabana (6%) annual physical growth rates since 1890 confirmed a generally active economic period. Building densities, though, were still low. Compact building patterns (21%) and fair density cases (15%) were a minority.

Manizales case illustrates density evolution. While its population indexes grew rapidly in the 1850-1905 period, its urban area only expanded importantly from 1905 to 1920 (Cid, 1970). Manizales had densified continually during the first period whereas coffee expansion after 1905 promoted a very fast physical expansion. Its core area, though, was densely built by 1918. Two story and three story houses accounted for a 52% of total stock (Gaviria, 1924).

Urban improvements were important by the term of the century. Medellin had its first horse-cars in 1887, buses by 1913, and electric tramway by 1919. A covered public market (1894), and an industrial slaughterhouse were privately promoted. Civic groups pressured for metallic aqueduct (1907). Private enrepreneurs initiated power (1897) and telephone services (1914). Holding stock on public improvement ventures, Municipal goverment gradually incorporated basic services: telephone (1917), power (1918), electric tramway (1919), slaughterhouse (1918) (Cerezo, 1970). Medellin plans of 1889 and 1913 (Restrepo, 1978) showed a pattern of fast physical growth as observed in some larger subregional centers.

To establish a regional pattern of infrastructural innovations we have summarized municipal data from monographical sources (Zapata, 1978). For the 1860-1970 lapse (Table 22), telegraph services appeared first and by 1900 already covered an important proportion of towns. Railway arrived mostly during 1910-1920, electric power extension

occurred basically between 1910 and 1930 with active subperiods in 1915-1920 and 1925-1930. Finally, roads only came significantly after 1930.

3.7 SOCIAL CHANGES

Spanish colonial society had a rather structured ranking (Gakenheimer, 1964). Gentlemen, merchants, lawyers, peasants, were basic categories. By 1670 (Latorre, 1934) Medellin presented some craftsmen: smith, tailor, carpenter, shoemaker, plough maker. Around 1850, Antioquia had some other specialties: cabinet-makers, harness-makers, embroiderers, soapmakers. Journeymen already existed in 1808 frontier Abejorral.

Occuapational structure from 1869 and 1884 censuses showed that five activity groups increased their importance during the period. Compared to farmers, artisans grew by 7%, merchants by 23%, proprietors by 37%, arrieros by 44%, graziers by 52%. Manufacturers surpassed all other dynamics, growing by 682% compared to farmers.

Social differentiation was registered across towns (Uribe Angel, 1884). Three kinds of economic environments were presented. Wealthy (ricos y acomodados) towns like Andes, Bolivar, Fredonia and Retiro were based on agriculture. Doubling this frequency, poor towns combined indian settlemetns like Estrella, Ebejico, Sabanalarga, Sucre, decaying mining towns like Concepcion and frontier hamlets like Nare and Filadelfia. Medellin population in 1884 was described as divided into five social classes. Rich people were involved in foreign and provincial trade, mining, cattle, banking, and agricultural ventures. A

lower rich stratum (clase acomodada) was described as having the same economic means though in lower proportions. A third group, artisans, included cabinet-makers, silversmiths, shoemakers, and masons. A poor class of destitutes lived out of public charity.

By the turn of the century, Antioqueno towns registered a more specialized economy and occupational structure. From an 1898 national professional directory (Palau, 1898) we summarized transitional patterns for 44 towns. Nine economic activity groups (Table 23) showed the emergence of brokers (comisionistas, agentes de negocios, negociantes) as an intermediate trade activity. Farmers, artisans, merchants, and graziers conformed the more frequent occupations, among the total 3123 mentions. The spatial distribution of these activities demonstrated that 66% of total towns had six or more registered activity groups.

Educated, professional groups, had also appeared in 1898 Antioquian towns. A total 132 professionals were medical doctors, lawyers, pharmacists, dentists, and engineers, in decreasing frequency. A 71% of towns had three or more of these professional groups (Table 24).

With economic transition, corporate groups appeared in the larger centers. Medellin registered social club (1894), civic society (1899), academy of history (1903), chamber of commerce (1904), agricultural society (1914), during a period of intense development. Sonson 1903 guild of artisans pioneered mutual organizations, though unionization did not appear until the 1920's. A 1916 workforce census of Medellin (Arango, 1981) showed a 41% of industrial jobs attained by women, mostly occupied in coffee processsing and cigarette factories. Among six male job categories, masons and carpenters were the most numerous. By 1931 (Jaramillo, 1963) Pereira had its first strike, a movement among female coffee processing workers.

CHAPTER FOUR

THE PROCESS IN PERSPECTIVE

4.1 URBANIZATION

Urbanization, understood as a process of growth and multiplication of population centers, appears to have evolved very steadily for the 1851-1912 period in Antioquia. Analysis of population distribution by centers showed that a 7% of the centers kept a 21% share of total population in 1835, 1851, 1870 and 1912 censuses. An 18% of the centers conserved a 39% of total population across the same statistics. A 63% of centers registered an 83% of total population for the mentioned dates. This stability could indicate an overall gradual accommodation across a period of frontier expansion so as to maintain a similar global population structure, even though important changes in subregional primacy occurred.

For two national censuses, 1851 and 1870, we obtained similar results. While an 8% of the centers kept a 22% of total population, an 18% of centers showed a 39%, and a 63% of centers accounted for an 82% of total population.

We could conclude that XIXth century urbanization in Antioquia and Colombia evolved along structurally comparable patterns and that, before 1912, Antioquia urban network had not acknowledged any substantial change. Certainly, a gradual evolution of new settlements provided in Antioquia a more diverse town typology. From early frontier settlements serving as rural villages, an evolution through villages services, market district towns and intermediate centers occurred, as observed in Chapter Three about early agriculture, crafts,

trade and industrial patterns.

From subsistence agriculture and mining we registered a gradual transition into gateway towns, commercial and innovative clusters, before the outcome of the railway. As in the cases of Medellin and Manizales. Town functions were elementary during most of the XIXth century whereas after 1880 a multiplication in their service activities was registered. An itinerant mining, agriculture and trade tradition, as described in Chapter Two, was gradually replaced by settlement in consolidation during a period of active migration but slow economic development, according to the analyses of Chapter Three.

4.2 SPATIAL INTEGRATION

Settlements followed mining resources initially and accommodated to available agricultural secondly, as sobserved for the XVIth to XVIIth and XIXth to XXth centuries. Frontier economy based on gold and subsistence agriculture developed very slowly its communication networks. Cattle raising developed at a late stage not influencing importantly settlement patterns. With the advent of the railway, though, important changes in the overall regional structure occurred. Antioquia case showed a gradual transformation of its transport network following defined developmental stages. Very few main linkages connected Antioquia to the outer areas from 1540 to 1873. Some slight feeder development happened along these trails in the XVIIth and XIXth centuries, whereas interconnection between major regional centers took a longer period to improve.

By the 1890's the appearance of town periodical markets signaled

an increasing economic activity and trade competition at subregional scale. With coffee economy, transport became crucial and demanded progressive developments.

4.3 URBANIZATION STAGES

Latin American urbanization hitory has been subdivided into several alternative periodisation schemes (Morse, 1975). Colonial age has been seen as a sequence of foundations (1492-1540), stabilisation of colonial institutions (1570-1650), ruralisation (1610-1690), and general economic recovery (1730-1810).

Colonial land and indian policy had suggested a sequence of legal definitions (1500-1573), spatial separation of population (1573-1754) and dismantlement of spatial constraints (1754-1830). For more recent periods, another series of time subdivisions had been proposed. From Bourbon to laissez-faire (1750-1845), slow modernization (1850-70), coffee urbanization (1880-1930), exemplify some of the categorizations suggested. If these stages could indicate general characteristics of Latin American urban history, our analysis for the Antioquia case indicates that the region had a peculiar urbanization sequence. First conquest centers (1540-1580), were followed by forced labor mining settlements (1580-1630). Dispersed (1630-1780) free mining centers preceded a first agricultural frontier (1780-1810). After independence, a period of collective colonization (1820-1880) preceded a phase of individual colonization, consolidation, and growth (1880-1930).

4.4 SETTLEMENT PATTERNS

From the late XVIIIth century onwards, colonization was basically generated by high demographic growth, scarcity of agricultural land and weakening of traditional mining. Informally organized, colonization had, though, some traditions about land subdivision procedures, centered around a group of first settlers. Public land appropriation occurred massively through several mechanisms. Governmental support for new settlements, important before 1870, ceded to individual colonization afterwards. Demographic patterns in frontier and core areas showed different dynamics for distinct colonization fronts and development periods. Formal characteristics of Antioqueno towns evolved form irregular types towards homogeneous settlement layouts. There was no innovation in town form and physical transformations were very slow until the outcome of infrastructure improvements by the end of the period.

4.5 URBAN LIFE

Antioqueno towns, predominantly mining centers until 1780, were mostly agricultural nuclei in the XIXth century frontier. Though the public school system and development of crafts introduced some dynamic by mid-XIXth century, major transformations occurred in the 1890's within a frame of intraregional trade and the outcome of export agriculture. Larger centers developed slowly across the period. With railway and coffee, industrialization concentrated on few cities.

Environmental conditions changed very scarcely. Public health was

always behind education and public works as governmental priority. Economic welfare was unknown until the end of the period. Social differentiation accelerated with urban and economic growth.

4.6 GROWTH AND STAGNATION

Antioqueno urban history showed continual competition for primacy. Provincial capital since 1816, Medellin had a slow evolution until the 1880's. Frontier settlements like Sonson (1850-1900), Salamina (1850-1880), Jerico (1890-1920) had temporary subregional primacy. Only far southern Manizales (afer 1880), Pereira (after 1910) and Armenia (after 1920) gained economic momentum to become contemporary intermediate cities.

Changes at subregional level primacy were most important during the 1880-1910 period with periodic markets, commercial agriculture and consolidation of cattle trade patterns.

Stagnated areas prevailed at old agricultural and mining cores, and at some static frontiers. Confused legal land status, adverse environments and lack of trade opportunities contributed to slow settlement pace in these areas. Occasional mining bonanzas or trail improvements helped some towns to grow rapidly in a few cases.

As a whole, frontier settlements extended rapidly but grew only slowly. Consolidation phase was very short for a few exceptionally located places. A colonization process effected without important financial support, it was largely shaped by the migrants initiative. Among these, an important group of enrepreneurs emerged.

4.7 ANTIOQUIA IN COLOMBIA

Though most of the analyzed historical processes were common to Antioquia and the nation, the colonization process had some unique characteristics. Its overall dimension had no other comparable regional settlement evolution in Colombia. Predominantly originated and managed by rural agricultural settlers, it generated a peculiar social and land structure in the area.

Relying on mutual help from town origins ownards, most communities developed a civic behavior that enabled them to accomplish collectively further developmental stages.

A process of extensive land occupation, colonization did not generate pronounced intra-regional unbalances and evolved steadily until a new developmental stage reached the province and the country.

4.8 ADDITIONAL CONCLUSIONS

Population patterns served to demonstrate an uneven migration process to new settlements while vital indicators remained relatively stable. The impact of colonization upon family structure appeared to be an open research field. Health conditions did not change importantly so as to affect demographic profiles.

Mining proved to be a fundamental basis for land occupation and urban development through its impact upon new settlements was progressively reduced as other sections grew.

Church activity showed an explicit involvement of Church members in town promotion during considerable period. Private support to new

towns occurred under diverse patterns of patronage, generally stimulating new settlements through land donations. Government involvement in new foundations was mostly incidental, for it acted after basic settlement trands were defined by spontaneous colonization. Governmental recognition of new towns' status was crucial, though, to consolidate the process.

Land management witnessed scarce variations across the period as observed in grant standards. Information procedures for land distribution were used until instituted mechanisms were developed by the late XIXth century.

Town forms expressed a clear relationship between mining origins, site selection and initial layouts. Later developments demonstrated an increasingly ordered pattern though formal planning existed only in a few cities.

Changes in built form environment (3.6) were minor for new settlements generally showed elementary evolution. By the end of the period (1880-1920) a more dynamic activity was registered with urban improvements and building. Economic development registered a very slow transition from colonial patterns though important structural changes occurred in mining. Primary agricultural centers, most XIXth-century towns acknowledged scarce growth as registered by subsistence crops and transportation constraints. With an export-oriented production, regional economy grew rapidly with coffee and industrial beginnings concentrated in internal consumption goods for the regional market.

Government activity was severely restricted by fiscal resources so as to make public investments unimportant for regional development until the end of the period. A substantial extension of the school

system, though, demonstrated an increasing activity at the local level.

Social structure witnessed changes in occupational categories corresponding to economic traditions. Social differentiation, initially slight, was followed by progressive definition of new social groups.

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TABLE 1
SETTLEMENT SEQUENCE IN ANTIOQUIA AND OTHER FIVE COLOMBIAN REGIONS 1520-1960

PERIOD	%TA	TOTAL NUMBER OF SETTLEMENTS/REGIONS R1	R2	R3	R4	R5	R6	TOTAL #
1520-40	5	2	19	5	9	1	5	41
1540-60	4	2	31	8	3	4	3	51
1560-80	7	3	5	6	0	3	3	20
1580-1600	5	1	11	1	1	0	0	14
1600-20	46	11	7	1	3	2	0	24
1620-40	25	6	11	2	2	1	2	24
1640-60	13	3	11	1	1	5	2	23
1660-80	23	3	3	2	2	2	1	13
1680-1700	21	3	6	2	0	3	0	14
1700-20	13	3	5	7	5	3	0	23
1720-40	5	1	6	8	2	2	1	20
1740-60	21	7	9	12	0	6	0	34
1760-80	13	6	19	13	2	6	1	47
1780-1800	37	13	7	5	0	7	3	35
1800-20	17	7	16	11	2	6	0	42
1820-40	29	12	15	4	5	3	3	42
1840-60	54	28	9	7	5	3	0	52
1860-80	47	24	10	8	5	2	1	50
1880-1900	73	28	4	1	2	4	0	39
1900-20	53	18	7	3	1	3	2	34
1920-40	50	6	2	2	0	2	0	12
1940-1960	50	4	3	0	0	1	0	8
TOTAL # SETTLEMENTS		191	216	109	50	69	27	662
% OF TOTAL		29	33	16	8	10	4	

%TA : PERCENTAGE OF TOTAL IN ANTIOQUIA
REGION 1: ANTIOQUIA COLONIZATION AREAS
REGION 2: STATES OF CUNDINAMARCA AND BOYACA
REGION 3: STATES OF SANTANDER AND NORTE DE SANTANDER
REGION 4: STATE OF NARINO
REGION 5: STATES OF TOLIMA AND HUILA
REGION 6: STATE OF VALLE DEL CAUCA

Sources: Zapata (1978), DANE (1982), DANE (1975), DANE (1979), CUNDINAMARCA (1954), HUILA (1982), VALLE (1984), NARINO (1944), Montoya (1956), Torres (1923), Uribe Angel (1885), Quintana (1939), Valencia (1980)

TABLE 2
TOWN ORIGINS IN ANTIOQUIA REGION, XVI-XXTH CENTURIES

B1	B2	B3	B4	B5	B6	B7	B8	TOTAL # TOWNS
			x					71
x			x					7
		x	x					8
	x		x					1
			x	x				24
		x	x	x				7
	x		x	x				1
		x		x				5
	x			x				2
				x				22
		x		x	x			1
				x	x			1
			x	x	x			3
			x		x			4
					x			9
					x	x		1
				x	x	x		1
			x		x	x		1
x			x			x		1
			x			x		3
				x		x		2
						x		4
						x	x	4
				x			x	1
			x	x			x	1
			x	x	x		x	1
			x		x		x	1
			x				x	1
							x	3
				TOTAL # SETTLEMENTS				191

B1: CATTLE
B2: BLACK POPULATION
B3: INDIAN POPULATION
B4: AGRICULTURE
B5: GOLD MINING
B6: TRANSPORTATION
B7: FONDA, TRADEPOSTS
B7: GUACAS, PRECOLUMBIAN GOLD CEMETERIES

Sources: quoted in Table 1

TABLE 3

MINING SETTLEMENTS IN ANTIOQUENO AREA, XVI-XXTH CENTURIES

PERIOD	TOTAL # OF MINING SETTLEMENTS	TOTAL # OF SETTLEMENTS	% OF MINING SETTLEMENTS
XVI th	8	8	100
XVII th	21	26	81
XVIIIth	20	30	67
XIX th	20	99	20
XX th	3	28	11
TOTALS	72	191	

Sources: quoted in Table 1

TABLE 4

SETTLEMENT SUBAREAS IN ANTIOQUIA, 1530-1940

SUBREGION	# OF TOWNS	PERIOD OF SETTLEMENT	DOMINANT ECONOMIC OR ETHNIC BASE
1 Riosucio	7	1530-1880	Mines, slaves, indians
2 Antioquia City	10	1540-1850	Mines, agriculture, indians
3 Medellin	10	1570-1860	Mines, agriculture, indians
4 Zaragoza	6	1570-1960	Mines, slaves
5 Fredonia	9	1610-1890	Mines, agriculture
6 Rionegro	10	1610-1800	Mines, agriculture
7 Sta. Rosa Osos	9	1620-1850	Mines
8 Yarumal	9	1620-1890	Mines, agriculture
9 Guatape	8	1660-1830	Mines, agriculture, indians
10 Amalfi	8	1680-1850	Mines
11 Magdalena	5	1700-1950	Transportation
12 Uraba	13	1750-1950	Transportation, agriculture
13 Urrao	3	1780-1870	Agriculture, indians
14 Sonson	4	1780-1870	Agriculture
15 Salamina	6	1800-1840	Agriculture
16 Jerico	12	1820-1910	Agriculture
17 Manizales	5	1840-1860	Agriculture
18 Pereira	3	1840-1870	Agriculture
19 Quindio	12	1840-1930	Guacas, agriculture
20 Northwest Tolima	10	1850-1930	Agriculture
21 Pensilvania	7	1860-1890	Agriculture
22 Belalcazar	10	1880-1920	Agriculture
23 East Choco	2	1880-1890	Agriculture
24 North Valle	13	1890-1940	Agriculture
TOTAL	191		

Sources: quoted in Table 1

TABLE 5

ETHNIC GROUPS, ANTIOQUIA AND COLOMBIA 1776/78 - 1810

CENSAL BASE		% WHITES	%INDIAN	%MESTIZO	% SLAVES
National	1778	25.7	20.3	46.8	7.2
National	1810	21.1	15.7	56.6	6.6
Antioquia	1776	14.5	6.4	48.1	31.0
Antioquia	1810	11.8	3.5	72.9	11.8

Sources: Vergara (1901), Chavez (1977)

TABLE 6

SELECTED EARLY DEMOGRAPHIC DATA FROM ANTIOQUENO SETTLEMENTS 1780-1914

PLACE	YEAR	FOUNDED	POPULATION INFORMATION
Urrao	1780	1780	34 families
Yarumal	1787	1787	56 pobladores
Amaga	1790	1788	450 people, 40 houses
Don Matias	1791	1787	679 people, 80 families
Urrao	1796	1780	410 people, 72% white, 23% coloured, 5% slaves
Amaga	1801	1788	1323 people, 6% white, 92% coloured, 2% slaves; 10.3% yr growth rate 1790-1801
Carmen	1807	1800	1063 people, 8% slaves
Aguadas	1813	1808	200 people
Campamento	1814	1810	600 people
Aguadas	1815	1808	83 pobladores
Cabal	1851	1843	671 people, 7 persons / family
	1859		2761 people; 19.3% yr growth rate 1851-59
	1870		3872 people; 3.1% yr growth rate 1859-70
Argelia	1869	1868	484 people, 4.35 per family
Filadelfia	1873	1873	40 pobladores
Betania	1893	1888	100 families in hamlet out of 3000 people
Peque	1914	1868	4.35 children per family

Sources: Calle (1920), Zapata (1978), Zapata (1976), Parsons (1979), Duque (1976), Gallego (1918), Valencia (1984), Valencia (1983)

TABLE 7

GOLD PRODUCTION IN ANTIOQUIA 1670 - 1807 BY MINER GROUPS

PERIOD Decade	% OF PRODUCTION FROM SLAVE MINE OWNERS (MINEROS)	% OF PRODUCTION FROM INDEPENDENT MINERS (MAZAMORREROS)
1670	46.9	53.1
1680	24.1	75.9
1690	27.4	72.6
1700	10.9	89.1
1710	40.3	59.7
1720	19.4	80.6
1730	20.6	79.4
1740	14.5	85.5
1750	31.6	68.4
1760	3.0	97.0
1770	0.5	99.5
1780	5.7	94.3
1790	4.2	95.8
1800	10.2	89.8

SOURCE: Twinam (1982)
Calculations by the author

TABLE 8

ANTIOQUIA:
REGISTER OF NEW GOLD MINES
1740 - 1910

DECADE	TOTAL NUMBER
1740	40
1750	44
1760	62
1770	65
1780	113
1790	235
1800	128
1810	145
1820	1008
1830	42
1840	183
1850	1275
1860	895
1870	893
1880	2673
1890	2324
1900	1310

SOURCE: Lopez (1914)

TABLE 9

CHURCH POPULATION AND TOWN FOUNDATIONS IN ANTIOQUIA, 1808 - 1870

CENSAL DATE	TOTAL # OF PRIESTS	INDEX	TOTAL # OF TOWNS	INDEX
1808	73	100	48	100
1825	83	114	58	121
1835	104	142	66	138
1843	116	159	72	150
1870	150	205	95	198

Sources: provincial censuses

TABLE 10

GRANT UNITS FOR POBLADORES IN ORDENANZAS DE DESCUBRIMIENTO Y NUEVA POBLACION, 1573

NAME OF GRANT TYPE	URBAN PLOT SIZES	FARM AREA ALLOTTED FOR CROP TYPES	AMIMAL STOCK
COMMONNERS' PEONIA	50' x 100' 5000 sq.ft.	100 hanegas wheat 10 hanegas corn 2 huebras fruits	10 porks 20 cows 5 horses 100 sheep 20 goats
GENTLEMEN' CABALLERIA	100' x 200' 20000 sq.ft.	500 hanegas wheat 50 hanegas corn 10 huebras fruits	50 porks 100 cows 20 horses 500 sheep 100 goats

SOURCE: ORDENANZAS DE DESCUBRIMIENTO Y NUEVA POBLACION, 1573
Ordinance 106

TABLE 11

PUBLIC LAND GRANTS TO INDIVIDUALS, ANTIOQUIA 1827 - 1931

Total area, thousand hectares per period (first column)
Average unit area per grant, thousand hectares (second column)

SUBAREA	1827-1869		1869-1900		1900-1917		1917-1931		1827-1931	
Antioquia	232.2	6.6	239.0	0.8	69.5	0.7	64.1	0.5	604.8	1.1
Caldas	3.0	1.0	73.7	0.8	83.3	0.1	23.9	0.03	183.9	0.1
Valle	10.0	10.0	-	-	-	-	2.3	0.04	12.3	0.2
Tolima	5.0	2.5	41.5	0.6	12.2	0.2	9.3	0.4	68.0	0.4
TOTALS	250.2	6.1	354.2	0.8	165.0	0.2	99.6		869.0	0.3

Sources: LeGrand (1986), LeGrand (1980)
Calculations by the author

PUBLIC LAND GRANTS TO NEW TOWNS (NUEVAS POBLACIONES), ANTIOQUIA 1827 - 1931
Thousand hectares

SUBAREA	1827-1869	1869-1900	1900-1917	1917-1931	1827-1931
Antioquia	44.0	-	-	-	44.0
Caldas	151.5	12.0	-	-	163.5
Valle	-	-	-	-	-
Tolima	23.7	68.7	18.0	-	110.4
TOTALS	219.2	80.7	18.0	-	317.9

Sources: LeGrand (1986), Parsons (1979), Villegas (1975)
Calculations by the author

PUBLIC LAND GRANTS TO PUBLIC WORKS CONTRACTORS, ANTIOQUIA 1827 - 1931

TOTALS	49.3	125.0	-	-	174.3

SOURCES: LeGrand (1986), LeGrand (1980), Villegas (1975), Parsons (1979)
Calculations by the Author

TABLE 12

PUBLIC LAND GRANTS STANDARDS PER FAMILY, COLOMBIA 1812 - 1866

DATE	LAND GRANT SIZE RANGE	AREA/PURPOSE
1812	38.4 - 96.0 hectares	Antioquia, new towns
1822	128.0 hectares	Colombia, promotion of foreign immigration
1829	38.4 hectares	Salamina, southern Antioquia
1834	38.4 hectares	National law, new towns
1844	64.0 hectares	Casanare cattle farmers, eastern plains
1849	32.0 hectares	Tolima State, Mariquita settlers
1866	32.0 hectares farmland, 5.0 addtional hectares per son; 800 sq. mt. urban plots	National Law

Sources: Salazar (1948), Villegas (1978), Duque (1974), Restrepo (1812)

TABLE 13

NET POPULATION DENSITIES AND PUBLIC LANDS (BALDIOS), ANTIOQUIA 1853
Densities in persons per square league

SUBAREA	POPULATION NET DENSITIES	PUBLIC LANDS/TOTAL SUBAREA
Supia	843	0.01
Medellin	460	0.22
Sopetran	444	0.17
Rionegro	422	0.06
Amaga	305	0.14
Salamina	209	0.20
Marinilla	174	0.42
Anserma	162	0.72
Sta Rosa Osos	102	0.29
Antioquia City	97	0.44
Northeast	30	0.57

SOURCE: Codazzi Survey (1853)

TABLE 14

ANTIOQUENO TOWN SITE CLASSIFICATION IN 1853

FOUNDATION PERIOD	S1	S2	S3	S4	S5	S6	S7	S8	S9	TOTAL
XVI th	-	2	1	-	2	-	-	-	-	5
XVII th	8	2	-	-	1	1	-	-	-	12
XVIIIth	10	6	3	3	2	2	1	2	2	31
XIX th	3	4	6	3	1	2	4	2	1	26
TOTALS/ SITE TYPE	21	14	10	6	6	5	5	4	3	74

S1: valley
S2: plain
S3: esplanade
S4: river shore, meadow
S5: hill
S6: hill edge
S7: gorge
S8: slope
S9: foothill

Source: Codazzi survey (1853)
Tabulation and computations by the author

TABLE 15

A BASIC CLASSIFICATION OF ANTIOQUENO TOWN FORMS,
XVIth to XXth CENTURIES
TOTAL SETTLEMENTS PER PERIOD AND BASIC FORM CLASS

SETTLEMENT PERIOD	REGULAR	SEMIREGULAR	IRREGULAR	HILLEDGE	TOTAL/ PERIOD
1540-1660	-	6	2	-	8
1660-1760	2	9	2	-	13
1760-1800	9	4	5	-	18
1800-1840	16	5	-	1	22
1840-1880	34	7	2	3	46
1880-1920	28	7	4	9	48
1920-	3	1	-	-	4
TOTALS	92 (1)	39 (2)	15 (3)	13 (4)	159

(1) Includes 23 mining towns
(2) Includes 33 mining towns
(3) Includes 9 mining towns
(4) Includes 1 mining town

SOURCE: Map analysis of 159 town forms
Map sources: DANE (1970), IGAC (1960)
Chronological data as indicated in Table 1

TABLE 16

EVOLUTION OF URBAN PHYSICAL STANDARDS, ANTIOQUIA 1573 - 1915
DIMENSIONS ACCORDING TO LOCAL SOURCES

DATE	PLACE	LOT SIZE	STREET WIDTHS	SQUARE SIZE	BLOCK SIZE
1573	Royal Ordinances (ord. 106)	50x100'	-	200x300' 100x200'	
c1580	Antioquia City	42x42 mt. 30x30 mt.	9.5 mt.	300x400'	
1675	Medellin		30/25'		300x300'
1774	Sahagun (1)	20x40 v.			
1787	Yarumal (2)	50x50 v.	8 v.	200x300'	
1800	Sonson			116x116 v.	
1805	Urrao	50x50 v.	10 v.		
1840	Bolivar (3)				40x100 mt.
1849	Manizales	20x40 v.	8 v.	64x64 mt.	
1850	Dabeiba (4)	20x40 mt.	20/16 mt.		
1856	Filadelfia		8 v.		100x100 mt.
1866	Libano (5)	800 sq.mt.			
1871	Pereira (6)				100x100 v.
1875	Pto Berrio (7)	110x220 '	60', 20'	220x220 '	
1886	Calarca		10 mt.	100x100 v.	80x80 v.
1889	Armenia	20x40 v.	8/12 mt.		80x80 v.
1890	Salgar				40x80 mt.
1903	Circasia (8)	18 v.x1/2b 22.5 v.x1/2b			
1911	Quimbaya (9)				
1915	Tebaida (10)	20x40 v.	10 mt.	100x100 v.	

(1) Founded with another 42 towns by Capt. Latorre, Atlantic Coast (Martinez, 1972)
(2) One of Oidor Mon's colonies. Urban lots had to have huertas or space for fruit trees and vegetables.
(3) Designed by Moore, British mining engineer.
(4) Designed by White, British civil engineer, 12 lots per block refer to Dabeiba town map from 1868 (Graphic 12)
(5) Urban area for 500 lots.
(6) Measure unit "vara terrera" equivalent to 0.85 mt.
(7) From 1875 town map, at Archivo Historico de Antioquia, T2541
(8) Urban area for 150 lots. Lot depths of one half block size.
(9) Lots had to be distributed by lottery.
(10) Urban area for 130 lots. Measure unit "vara" equivalent to 0.85 mt.

NOTE: v stands for vara. Original castilian yard standard "vara castellana" was equivalent to 3'. Other equivalents were used during XIXth century, between 0.90 and 0.80 mt.

TABLE 17

SUBREGIONAL DEMOGRAPHICAL DYNAMIC, ANTIOQUIA, 1825-1918
SUBREGIONAL SHARE OF TOTAL REGIONAL POPULATION BY CENSAL DATES
Figures expressed in percentage of total regional per census

SUBREGION	1828	1835	1843	1851	1870	1905	1912	1918	Demographic pattern
Riosucio	-	-	5.5	4.0	3.7	4.3	4.4	4.3	STABLE
Antioquia City	16.0	16.8	14.8	13.2	10.3	5.6	5.3	4.7	DECAY
Medellin	23.7	19.8	18.2	17.9	15.3	10.9	10.5	10.0	DECAY
Zaragoza	0.6	1.2	1.0	0.8	0.7	0.9	0.6	0.6	STABLE
Fredonia	6.9	9.8	9.1	8.2	7.9	6.8	6.6	6.4	STABLE
Rionegro	20.5	18.5	15.9	14.2	11.7	7.0	6.5	6.0	DECAY
Sta. Rosa	10.2	8.1	8.1	7.7	6.5	4.4	4.2	4.0	DECAY
Yarumal	5.9	5.5	5.2	5.4	6.7	6.0	5.6	5.1	STABLE
Guatape	3.2	4.0	3.8	3.9	3.3	3.4	3.0	2.8	STABLE
Amalfi	3.1	2.6	3.0	2.9	4.4	5.4	4.7	4.5	STABLE
Magdalena	0.2	0.1	0.5	0.4	0.1	0.4	0.4	0.5	STABLE
Uraba	0.7	0.8	1.0	2.2	1.7	3.5	3.0	3.1	SLOW GROWTH
Urrao	0.9	1.1	1.0	1.1	1.0	1.8	1.9	1.9	SLOW GROWTH
Sonson	5.8	7.8	6.5	6.5	4.9	4.5	4.2	3.7	STABLE
Salamina	2.3	3.9	6.0	6.6	6.6	5.3	6.0	5.9	RAPID GROWTH
Jerico	-	-	0.4	2.0	6.6	9.5	8.9	9.4	RAPID GROWTH
Manizales	-	-	-	2.5	5.7	5.2	5.7	6.0	RAPID GROWTH
Pereira	-	-	-	0.3	1.1	4.2	3.8	4.2	RAPID GROWTH
Quindio	-	-	-	0.2	0.5	3.2	4.5	5.1	RAPID GROWTH
Tolima	-	-	-	-	0.9	3.4	3.9	4.4	RAPID GROWTH
Pensilvania	-	-	-	-	0.4	2.6	3.3	3.5	RAPID GROWTH
Belalcazar	-	-	-	-	-	1.7	2.6	3.5	RAPID GROWTH
Valle	-	-	-	-	-	-	0.4	0.4	RAPID GROWTH

SOURCES: Colombian National Censuses.
Subregional tabulation and calculations by the author.

TABLE 18

SUBREGIONAL POPULATION GROWTH RATES, ANTIOQUIA 1828 - 1912
Annual geometrical population growth rates by periods
Regions numbered from 1 to 24

R	1828	1828	1835	1843	1851	1864	1870	1884	1905
1	1.35	4.68	1.45	1.51	0.19	3.00	0.05	1.08	1.93
2	1.30	2.40	1.08	1.62	0.55	3.08	0.50	1.22	1.82
3	1.70	0.96	1.90	2.86	0.63	3.43	1.40	1.40	2.34
4	1.72	0.26	4.59	2.51	0.37	3.63	1.51	1.19	1.93
5	2.20	----	----	(1.04)	----2.00--		----2.86--		3.24
6	2.29	8.46	0.78	2.83	0.23	2.37	0.84	3.05	1.86
7	2.61	2.73	2.24	3.66	3.48	3.63	1.52	2.49	1.83
8	2.64	7.58	2.04	3.54	0.85	2.96	1.21	3.32	1.39
9	2.64	9.36	2.06	1.68	1.05	4.63	1.44	2.40	2.33
10	2.69	13.58	(1.16)	0.23	3.33	(1.43)	0.13	5.42	0.20
11	2.69	3.93	2.99	3.04	----2.37---		----2.43--		2.87
12	3.20	1.22	4.95	2.65	4.55	4.75	4.20	2.24	0.96
13	3.63	7.58	2.09	3.84	0.39	4.63	6.34	2.94	3.24
14	3.86	----	----	----	----6.87---		---2.16---		4.40
15	3.85	(0.86)	23.42	1.07	1.73	(12.03)	8.86	4.79	2.84
16	3.85	11.83	8.67	4.29	2.11	2.92	1.76	1.83	4.68
17	4.47	6.91	5.47	12.85	----0.86----		3.82	5.17	0.99
18	6.16	----	----	----	----------		----6.45---		4.71
19	7.03	----	----	----	---10.54----		----6.34---		1.29
20	7.49	----	----	27.94	12.42	2.57	4.04	3.12	1.99
21	8.06	----	----	----	----	----	8.41	8.49	6.10
22	8.28	----	----	----	----8.34--		----8.31---		8.00
23	8.96	----	----	----	----	----	----	----	8.96
24	(1)		1.87	1.73	----1.38---		----1.00---		3.11

(1) There was no national census in 1828

CONVENTIONS FOR REGIONS, R : 1, Antioquia City; 2, Rionegro; 3, Medellin;4, Sta. Rosa; 5, Riosucio; 6, Sonson; 7, Yarumal; 8, Guatape; 9, Fredonia; 10, Caceres; 11, Total Regional for Antioquia; 12, Amalfi; 13, Urrao; 14, Manizales; 15, Puerto Berrio; 16, Salamina; 17, Frontino; 18, Libano; 19, Pereira; 20, Jerico; 21, Pensilvania; 22, Quindio; 23, Risaralda; 24, Total Colombian population.

SOURCES: Regional censuses
Calculations by the author

TABLE 19

SELECTED BIRTH,MORTALITY AND NATURAL POPULATION GROWTH RATES , ANTIOQUIA 1825 - 1912
Figures express annual rates per thousand inhabitants

Censal Date	Birth Rate	Death Rate	Natural Growth
1825	53.91	16.23	37.68
1828	49.14	18.30	30.84
1884	42.90	15.30	27.60
1888	44.76	17.27	27.49
1912	38.50	14.60	23.90

SOURCES: For 1825, 1884 and 1888 Botero (1888)
For 1912, Lopez (1914)
Calculations for 1828, by the author, from 1828 provincial census in Botero (1888)

TABLE 20

INDEXES FOR SPATIAL POPULATION DISTRIBUTION, ANTIOQUIA 1828-1918

INDEX 1 : Medellin / Total of next 10 larger centers per censal date
INDEX 2 : Medellin / Total Antioqueno area per censal date
INDEX 3 : Total of 11 larger centers, including Medellin / Total Antioqueno area per censal date

DATE	INDEX 1	INDEX 2	INDEX 3
1828	10.0	5.1	51.0
1835	12.5	5.3	41.9
1843	13.5	4.5	33.6
1851	16.7	5.4	32.2
1864 (1)	20.8	---	----
1870	24.1	7.5	30.9
1884 (2)	25.9	---	----
1905	21.7	5.8	26.9
1912	24.3	6.3	25.7
1918	24.3	6.1	25.2

(1) and (2) : Correspond to provincial census dates. For these two years, no national censuses were registered. Some subareas fell by these dates in censal sector out of Antioquia provincial political boundaries.

SOURCES: Provincial censuses
Tabulations and computations by the author

TABLE 21

SUBREGIONAL PATTERNS OF FOODSTUFF TRADE, ANTIOQUIA 1853
Number of foodstuff classes exported/imported among subregions

# of items imported from / to	R1	R2	R3	R4	R5	R6 (1)	R7	R8	R9
R1		8	4			1	4	5	6
R2	8		5				5	5	8
R3		5				8		1	
R4	1	2	5			6			
R5	3	3		2					
R6			1	2					
R7	2	2							
R8	1	1							
R9	1	1							

Conventions for regions: R1, Medellin; R2, Rionegro; R3, Antioquia City; R4, Santa Rosa; R5, Northeast; R6, Sopetran; R7, Amaga; R8, Salamina; R9, Marinilla.

Source: Codazzi provincial survey (1853)
Tabulation by the author
(1) Information for northeast area not included in 1853 survey

TABLE 22

INFRASTRUCTURE INNOVATIONS IN ANTIOQUIA TOWNS, 1860 - 1970
Number of towns per decade

DECADE	TELEGRAPH	RAILWAY	ELECTRICITY	ROADS
1860	2			
1870	21	1		5
1880	10			
1890	14	1	1	2
1900	6	1	2	
1910	10	9	38 (1)	1
1920	7	3 (2)	27 (3)	2
1930	3		15 (4)	13
1940	1		5	13
1950			2	3
1960				1

(1) 13 during 1910-1915, 25 during 1915-1920.
(2) 2 additional towns had a subregional gasoline railway.
(3) 9 during 1920-1925, 18 during 1925-1930.
(4) 5 during 1930-1935, 10 during 1935-1940.

SOURCE: Antioqueno towns' monographies, Zapata (1978).
Compilation and tabulation by the author.

TABLE 23

ECONOMIC ACTIVITY GROUPS IN 44 ANTIOQUENO TOWNS, year 1898
Groups of towns having registered economic activity groups

	A1	A2	A3	A4	A5	A6	A7	A8	A9	PPC	PT	NT	NC
G1	x	x	x	x	x	x	x	x	x	40	30	13	9
G2	x	x	x	x	x	x	x	x		7	7	3	8
G3	x	x	x	x	x	x	x			15	18	8	7
G4	x	x	x	x	x	x				7	11	5	6
G5	x	x	x	x	x					4	5	2	5
G6	x	x	x	x						7	7	3	4
G7	x	x	x							10	9	4	3
G8	x	x								9	11	5	2
G9	x									1	2	1	1
									Total # towns			44	

CONVENTIONS:

1) G1, G2, G3, G4, G5, G6, G7, G8, G9, stand for 9 groups of towns, having 9, 8, 7, 6, 5, 4, 3, 2 or 1 economic activity classes, respectively.
2) A1 to A9 stand for 9 different economic activity groups.
3) PPC stands for % of total population (44 towns) in each town group.
4) PT stands for % of total number of towns (44) in each town group.
5) NT stands for total number of towns in each town group.
6) NC stands for total number of trades in each town group.

Total figures of registered economic activity groups

Farmers	agricultores	1202
Artisans	artesanos	545
Merchants	comerciantes	411
Hacienda owners	hacendados	341
Businessmen	negociantes	291
Cargo agents	fletadores	156
Business agents	agentes de negocios	72
Brokers	comisionistas	54
Manufacturers	fabricantes	51

Source: Directorio del vecindario principal de las poblaciones de la Republica de Colombia, dividido en gremios profesionales, industriales y comerciales, Palau (1898). Tabulations by the author.

TABLE 24

PROFESSIONAL GROUPS REGISTERED IN 43 ANTIOQUENO TOWNS, year 1898

	P1	P2	P3	P4	P5	PPC	PT	NT	NC
G1	x	x	x	x	x	40	24	10	5
G2	x	x	x	x		24	26	11	4
G3	x	x	x			14	21	9	3
G4	x	x				21	27	12	2
G5	x					1	2	1	1
						Total # of towns			43

CONVENTIONS:

1) G1 to G5 stand for 5 different town groups each having 5, 4, 3, 2, or 1 professional groups registered.
2) P1 to P5 stand for 5 different professional groups
3) PPC stands for % of total population (43 towns) in each town group.
4) PT stands for % of total towns (43) in each town group.
5) NT stands for total number of towns in each town group.
6) NC stands for total number of different professional categories.

Total figures of professional registered population for sampled towns:

Engineers	: 13
Dentists	: 18
Pharmacists	: 28
Lawyers	: 36
Medical doctors	: 37

Source: Palau (1898) Directory.
Tabulations by the author.

LIST OF GRAPHIC MATERIALS

GRAPHIC 1 COLONIAL SETTLEMENTS IN ANTIOQUIA
Source: Chavez (1977)

GRAPHIC 2 MAP OF NEW GRANADA (COLOMBIA) 1830-1851
Source: Pardo (1972)

GRAPHIC 3 REGULAR TOWN FORMS IN ANTIOQUIA (2 PAGES)
Source: DANE and IGAC maps

GRAPHIC 4 IRREGULAR TOWN FORMS IN ANTIOQUIA (1 PAGE)
Source: DANE and IGAC maps

GRAPHIC 5 IRREGULAR TOWN FORMS IN ANTIOQUIA,
A SAMPLE OF TOWN CENTERS
Source: DANE maps

GRAPHIC 6 SEMIREGULAR TOWN FORMS IN ANTIOQUIA (2 PAGES)
Source: DANE and IGAC maps

GRAPHIC 7 HILL EDGE TOWN FORMS IN ANTIOQUIA
Source: DANE and IGAC maps

GRAPHIC 8 TWO SQUARES IN ANTIOQUENO TOWNS
Source: DANE and IGAC maps

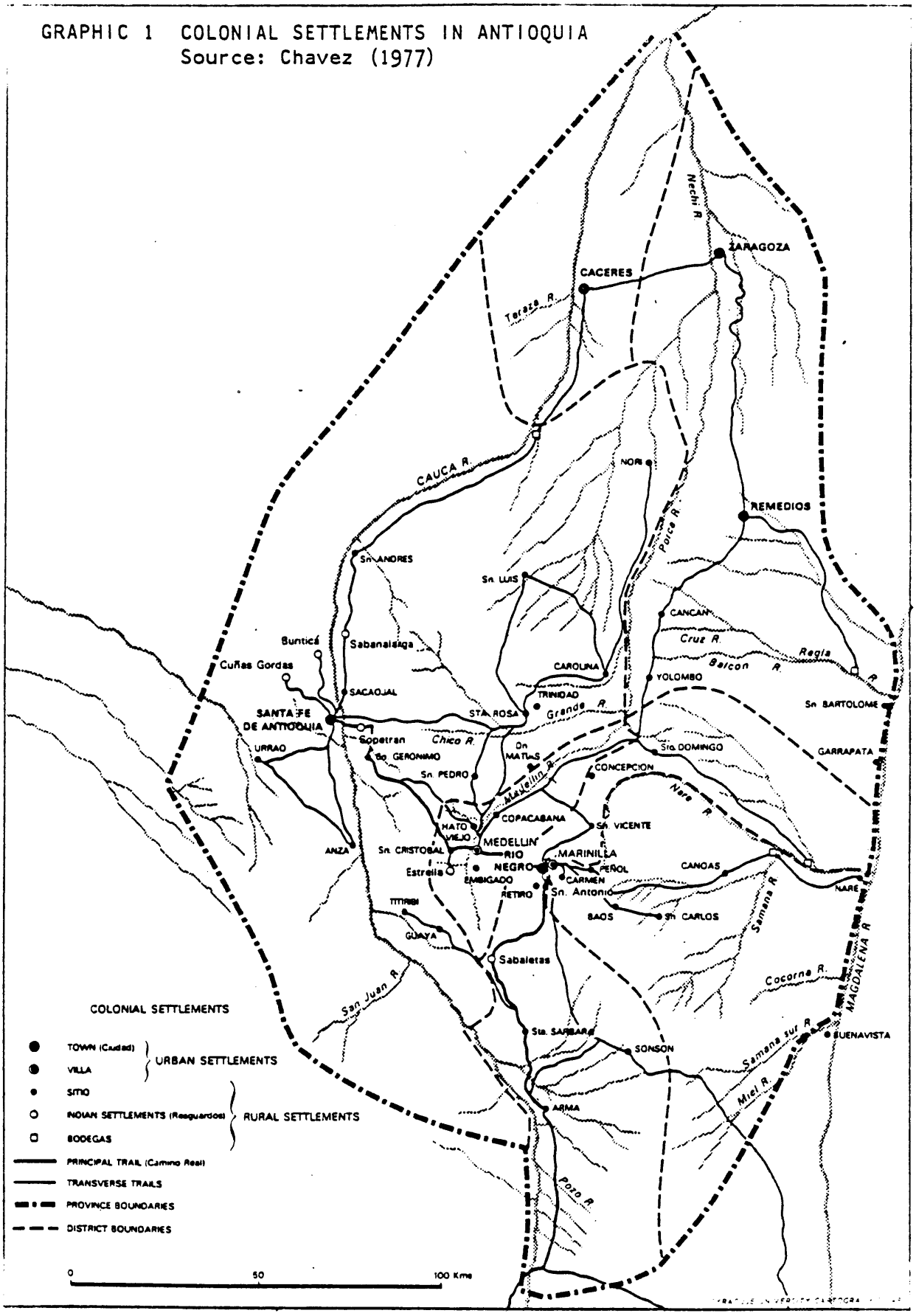
GRAPHIC 9 SPECIAL CASES IN REGULAR TOWN FORMS
Source: DANE and IGAC maps

GRAPHIC 10 BLOCK SUBDIVISIONS
IN ANTIOQUENO TOWNS (2 PAGES)
Source: DANE maps

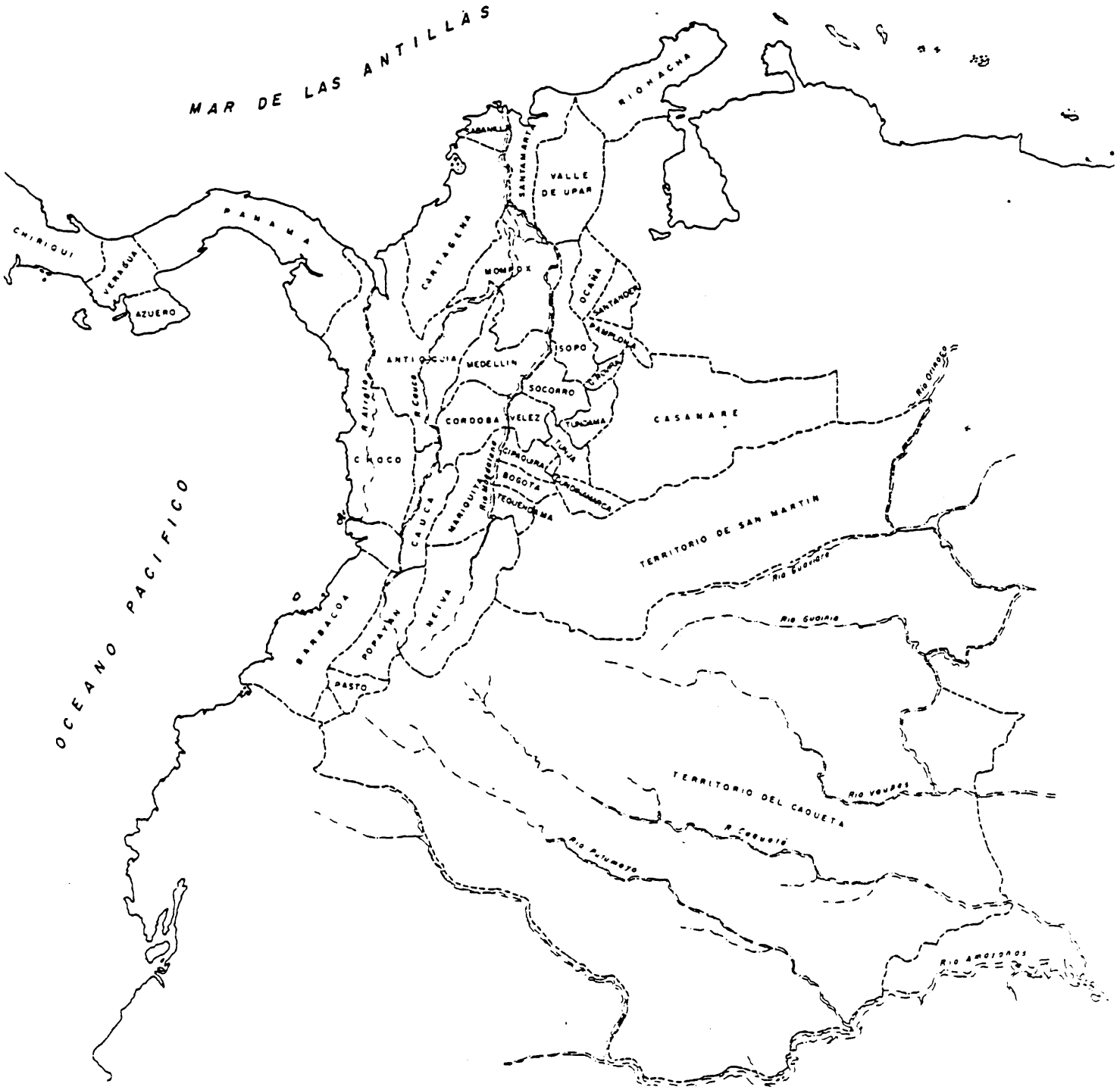
GRAPHIC 11 MAP OF 1851 MANIZALES
Source: DANE, 1985

GRAPHIC 12 MAP OF 1868 DABEIBA
Source: AHAM, Baldios, T2541

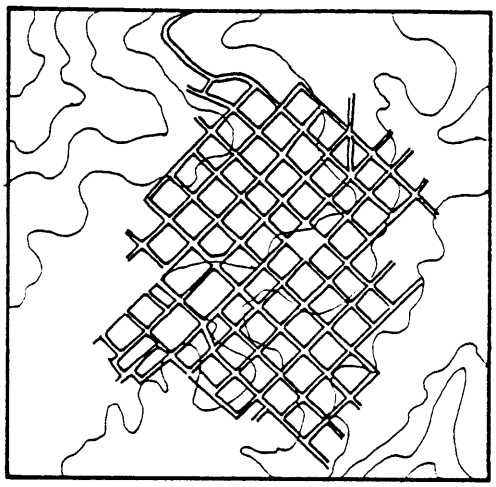
GRAPHIC 1 COLONIAL SETTLEMENTS IN ANTIOQUIA
Source: Chavez (1977)



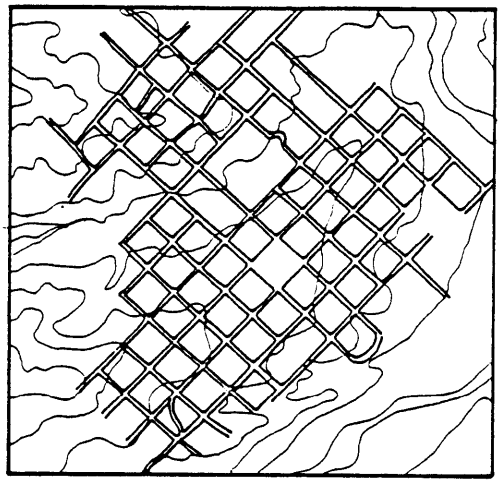
GRAPHIC 2 MAP OF NEW GRANADA (COLOMBIA) 1830 - 1851
Source: Pardo (1972)



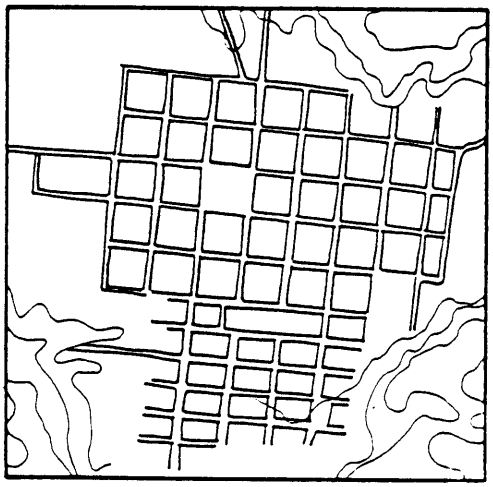
GRAPHIC 3 REGULAR TOWN FORMS IN ANTIOQUIA
Source: IGAC maps



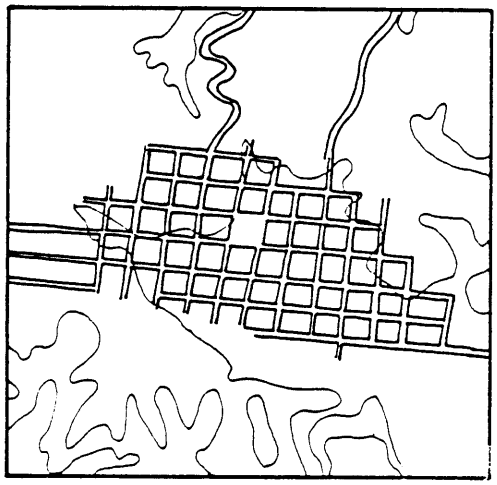
VILLAMARIA (1850)



BELEN UMBRIA (1890)

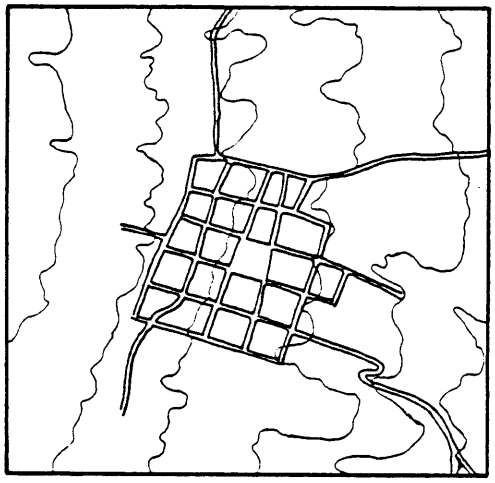


LIBANO (1860)

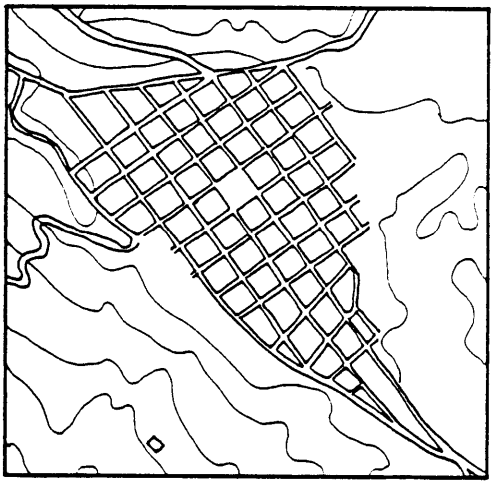


AMALFI (1840)

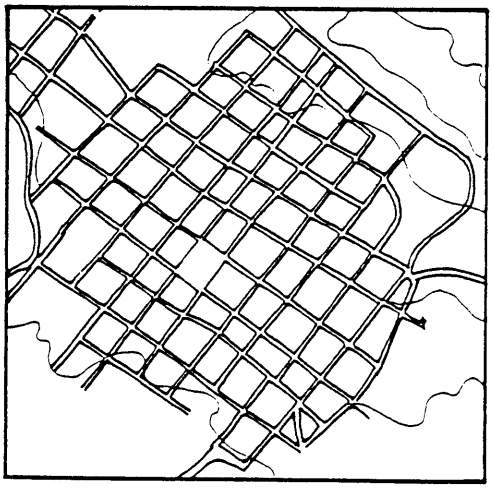
GRAPHIC 3 REGULAR TOWN FORMS IN ANTIOQUIA
Source: IGAC maps



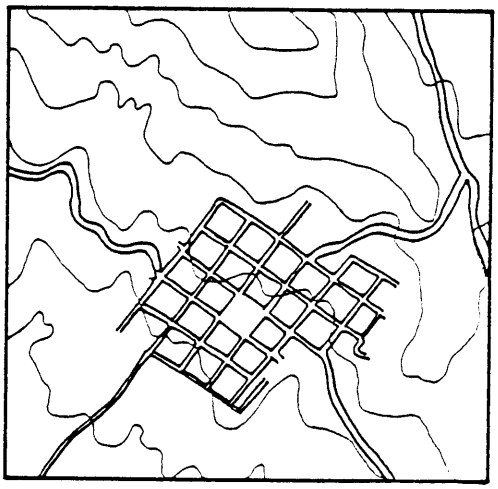
LA ESTRELLA (1685)



AGUADAS (1808)

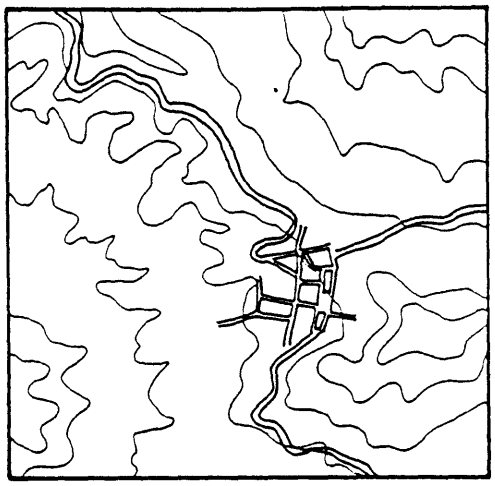


YARUMAL (1787)

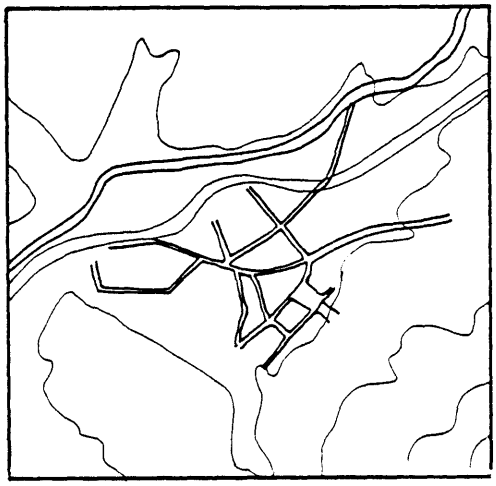


CONCORDIA (1830)

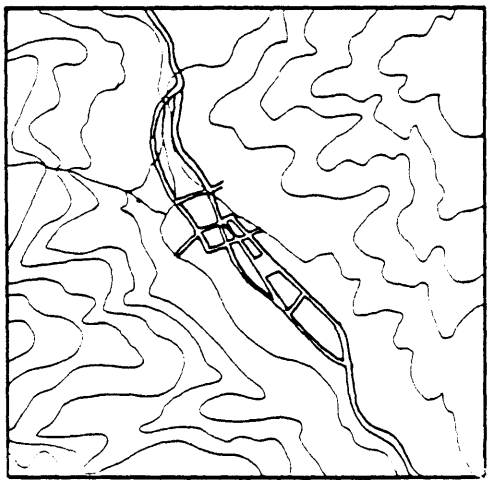
GRAPHIC 4 IRREGULAR TOWN FORMS IN ANTIOQUIA
Source: IGAC maps



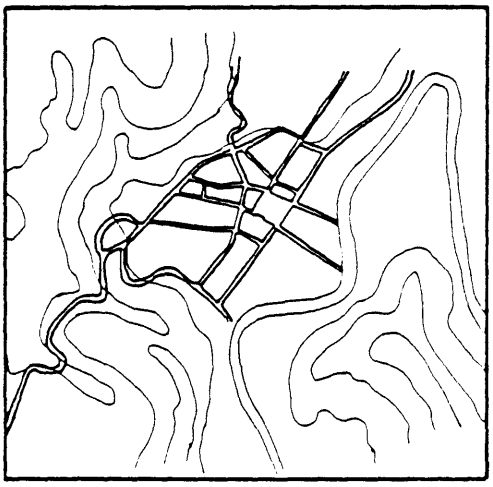
MONTEBELLO (1876)



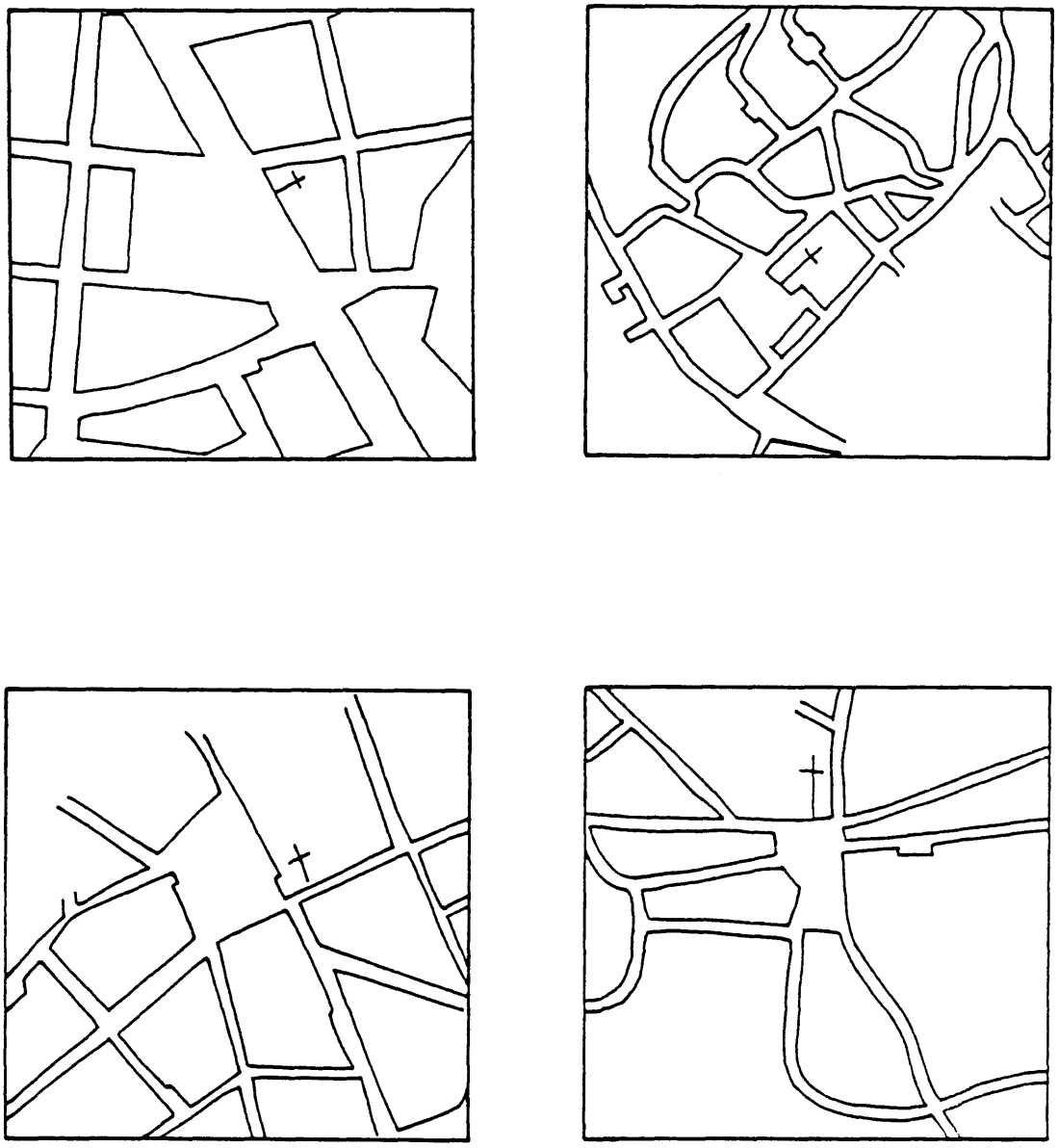
CONCEPCION (1777)



CANASGORDAS (1775)

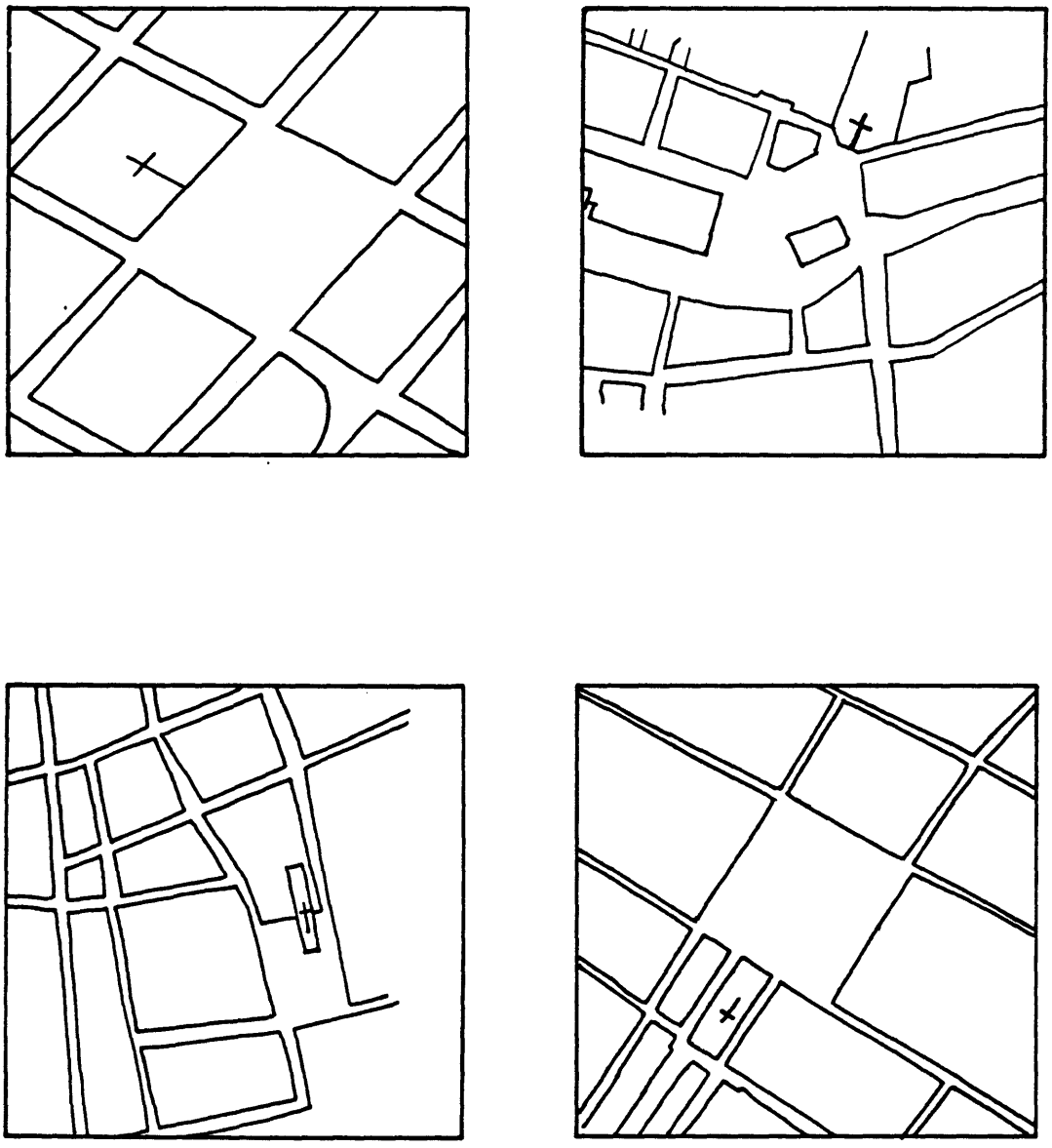


PENOL (1714)

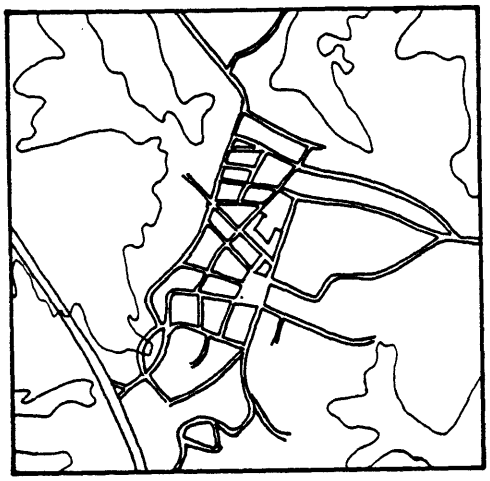


GRAPHIC 5 IRREGULAR TOWN FORMS IN ANTIOQUIA
A SAMPLE OF TOWN CENTERS
Source: DANE maps

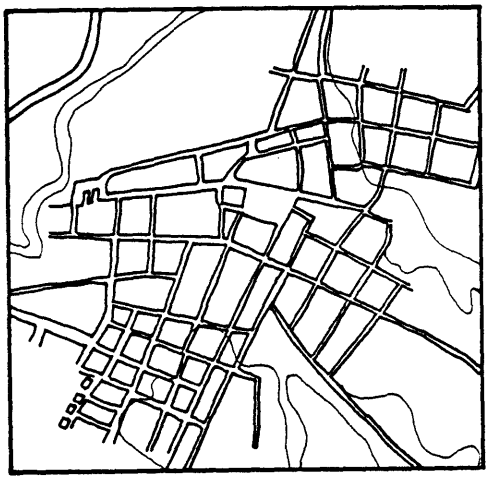
GRAPHIC 5 IRREGULAR TOWN FORMS IN ANTIOQUIA
A SAMPLE OF TOWN CENTERS
Source: DANE maps



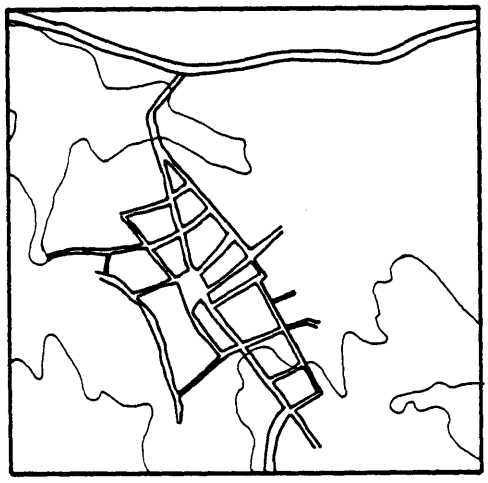
GRAPHIC 6 SEMIREGULAR TOWN FORMS IN ANTIOQUIA
Source: IGAC and DANE maps



STA ROSA OSOS (1757)



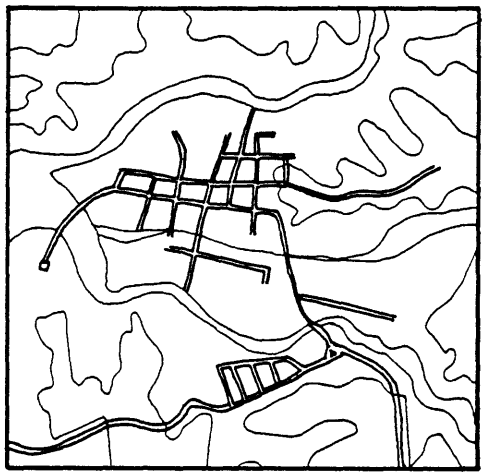
RIONEGRO (1659)



SAN JERONIMO (1757)

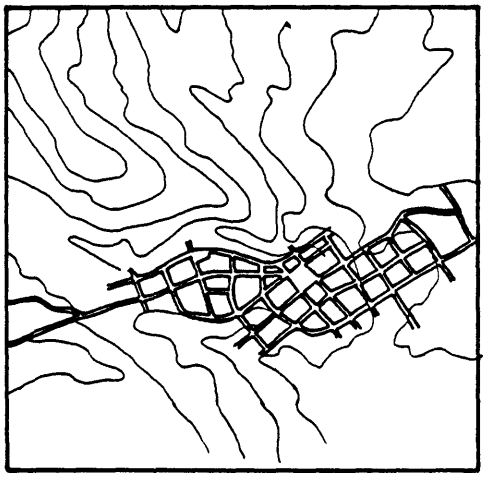
COPACABANA (1615)

GRAPHIC 6 SEMIREGULAR TOWN FORMS IN ANTIOQUIA
Source: IGAC and DANE maps

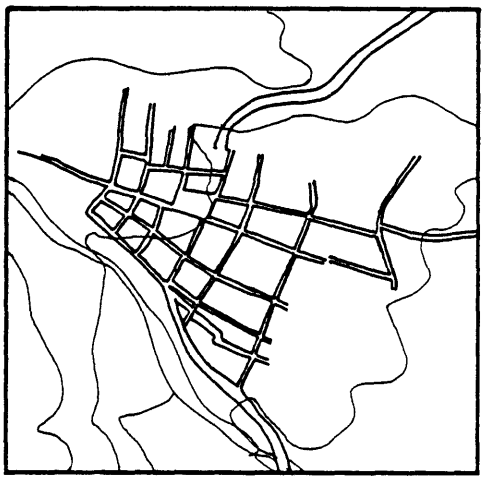


CAROLINA (1782)

ZARAGOZA (1770)

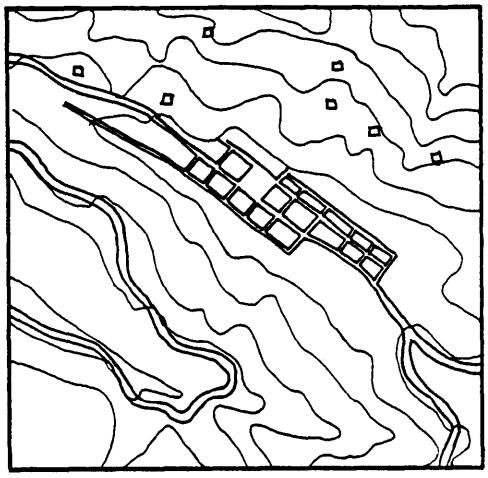


GUATICA (1781)

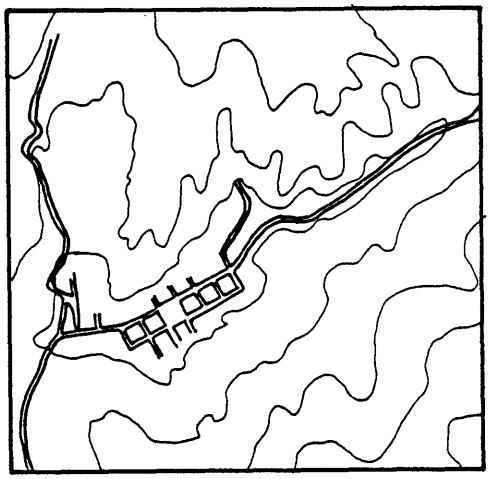


SOPETRAN (1757)

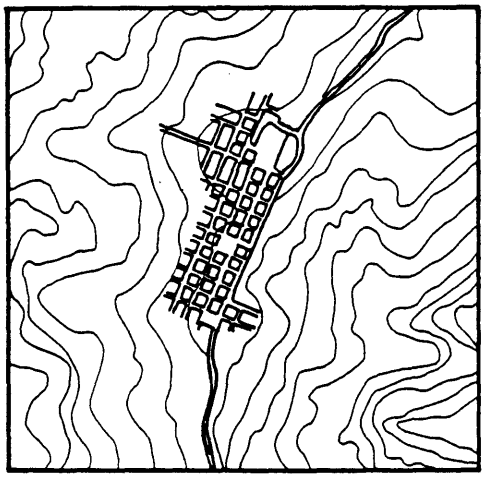
GRAPHIC 7 HILL EDGE TOWN FORMS IN ANTIOQUIA
Source: IGAC and DANE maps



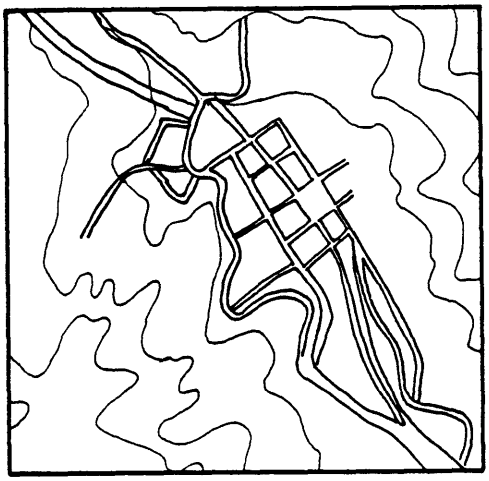
BETANIA (1889)



PALESTINA (1875)

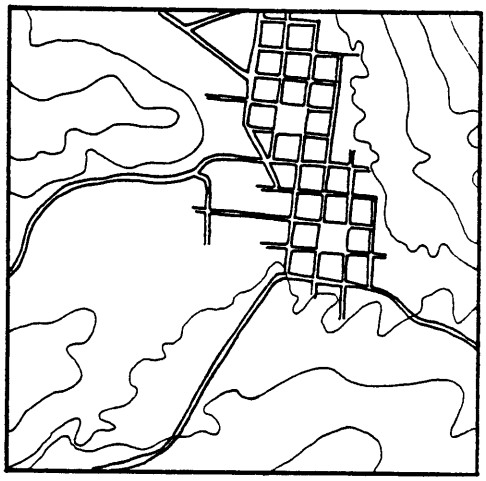


BELALCAZAR (1888)

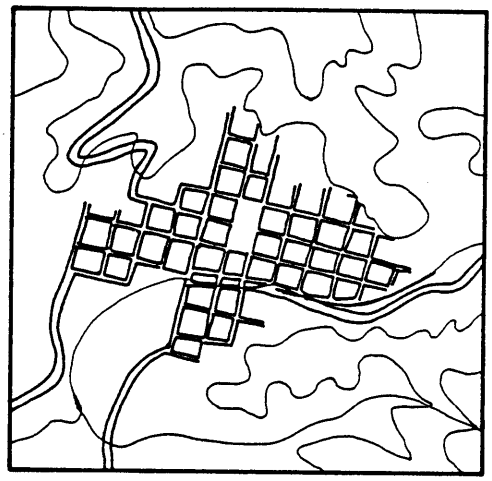


STA BARBARA (1816)

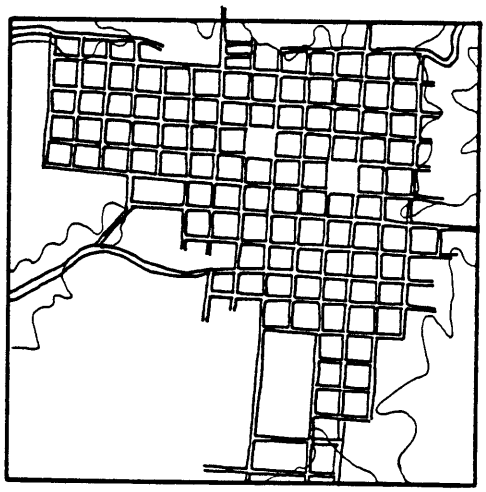
GRAPHIC 8 TWO SQUARES IN ANTIOQUENO TOWNS
Source: DANE and IGAC maps



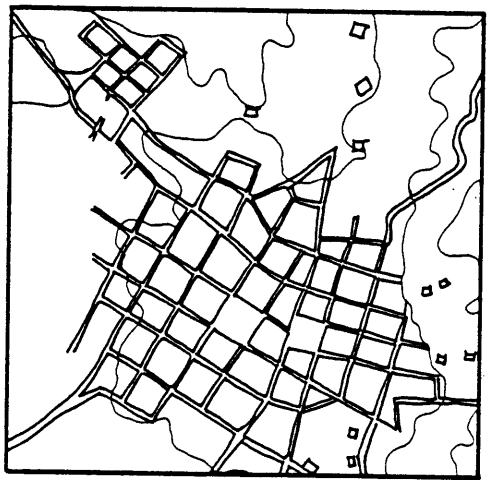
EL DOVIO (1936)



SAN ROQUE (1880)

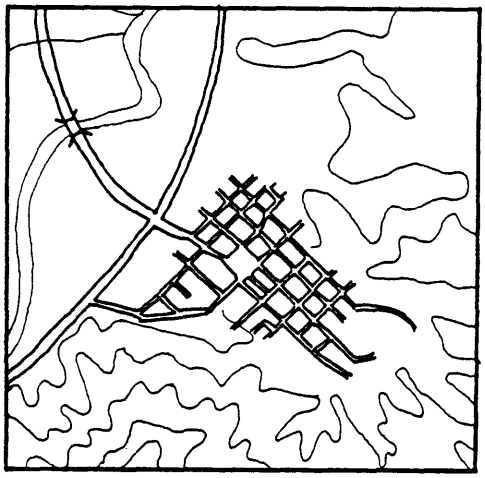


SEVILLA (1903)

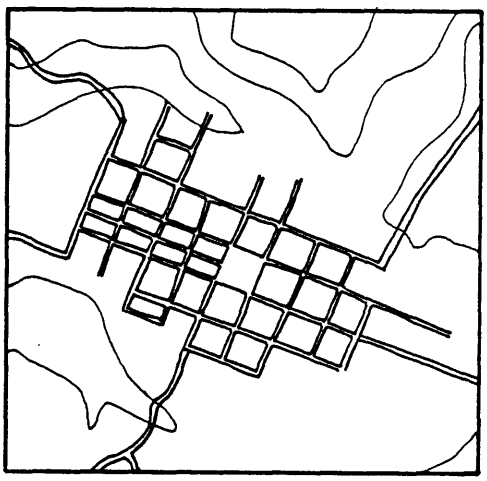


RIOSUCIO (1819)

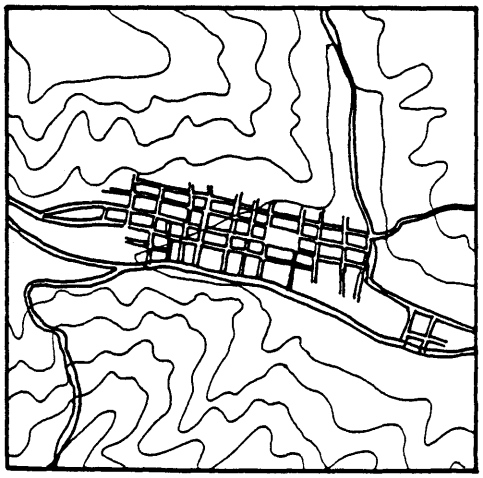
GRAPHIC 9 SPECIAL CASES IN REGULAR TOWN FORMS
Source: DANE and IGAC maps



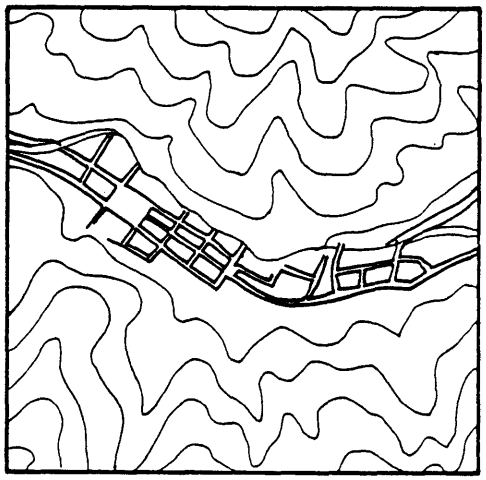
BARBOSA (1795)



JARDIN (1864)



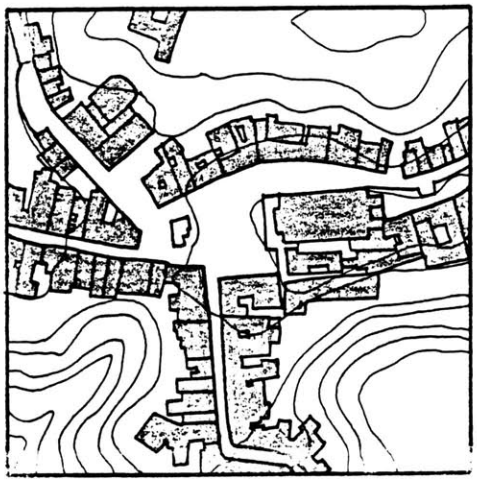
BOLIVAR (1840)



SALGAR (1890)

GRAPHIC 10 BLOCK SUBDIVISIONS
IN ANTIOQUENO TOWNS
Source: DANE maps

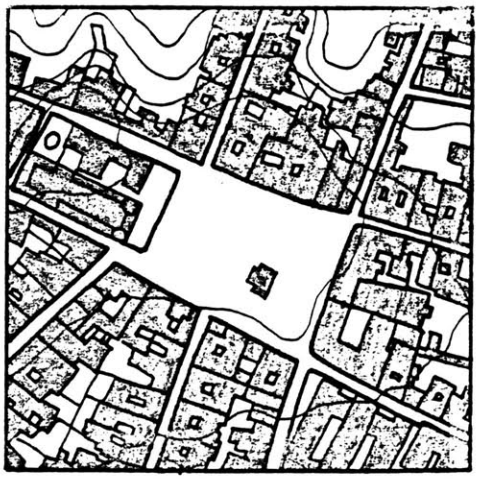
COPACABANA (1615)



YOLOMBO (1760)

YARUMAL (1787)

SALGAR (1890)



STA ROSA OSOS (1757)

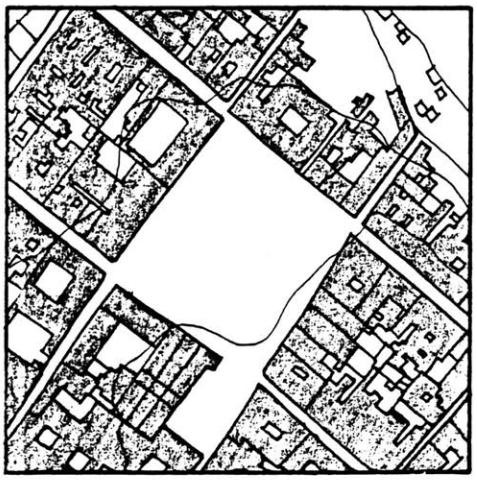
CANASGORDAS (1775)

GRAPHIC 10 BLOCK SUBDIVISIONS
IN ANTIOQUENO TOWNS
Source: DANE maps

STA BARBARA (1816)

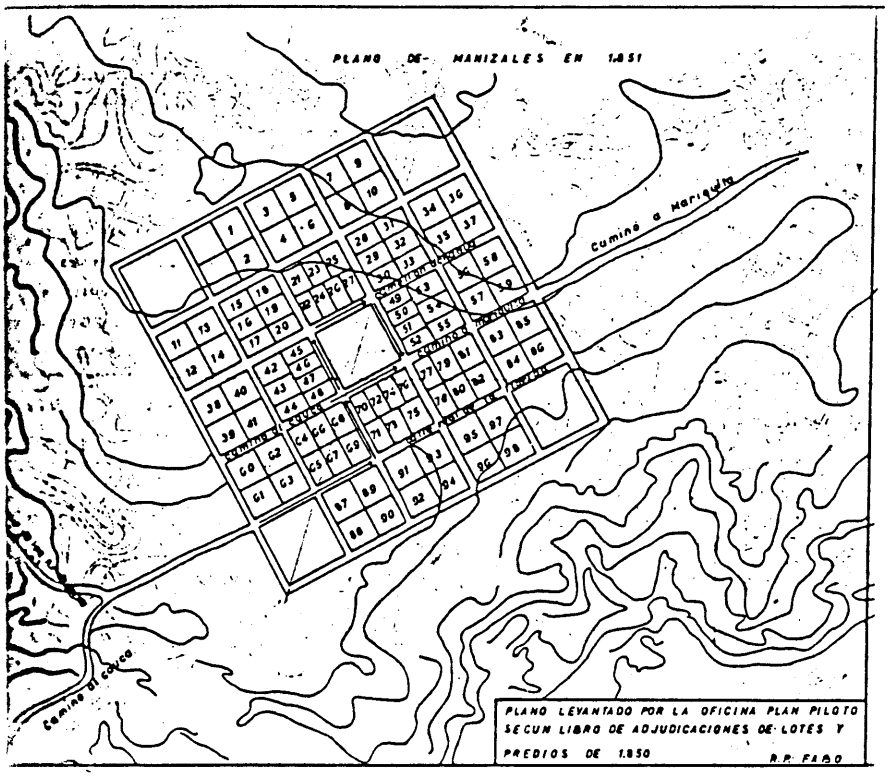
MARINILLA (1690)

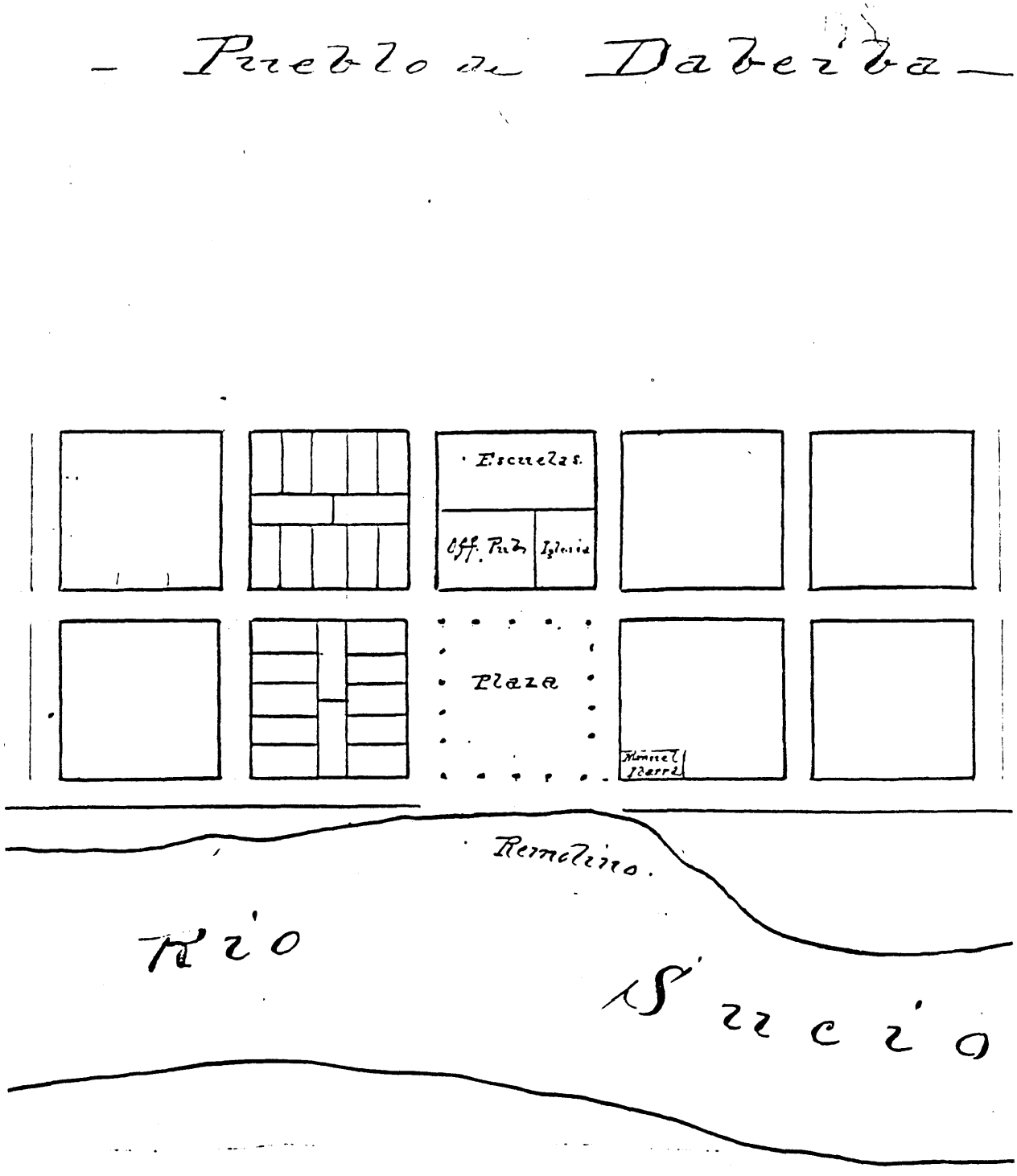
JARDIN (1864)



ANTIOQUIA (c.1580)

GRAPHIC 11 MAP OF 1851 MANIZALES
Source: DANE, 1985





GRAPHIC 12 MAP OF 1868 DABEIBA
Source: AHAM, Baldios, T2541

CONSULTED CENSAL MATERIAL

DATE	SUBJECT	SOURCE
1778	Antioquia	AHNB
1789	Antioquia	Chavez (1977)
1798	Antioquia	AHNB
1808	Antioquia	Botero (1888)
1816	Antioquia	AHNB
1825	Antioquia, Colombia	AHNB
1828	Antioquia	Botero (1888)
1834	Antioquia, Colombia	Botero (1888)
1843	Antioquia, Colombia	AHNB
1851	Antioquia, Colombia	AHNB
1864	Antioquia	Imp. Isaza (1865), Medellin
1870	Antioquia, Colombia	Imp. Rivas (1875) Bogota
1884	Antioquia	Botero (1888)
1905	Antioquia, Colombia	Diario Oficial (1917) Bogota
1912	Antioquia, Colombia	Imprenta Nacional Bogota, 1912
1918	Antioquia, Colombia	Imprenta Nacional, 1923

LOCAL CENSUSES CONSULTED AT AHNB (Bogota)

1858	Pacora, Aranzazu
1859	Neira, Salamina, Manizales, Sopetran, Amaga, Ceja del Tambo, Concepcion, Marinilla, Santuario, Penol, San Carlos, Guatape, Nare
1870	Villa de Maria, Pereira, Nueva Salento, Santa Rosa de Cabal, Palestina, San Francisco, Ansermaviejo, San Juan de Marmato, Riosucio
1884	Jerico (available at Jerico town archives)

B I B L I O G R A P H Y

AHNB (ARCHIVO HISTORICO NACIONAL, BOGOTA)
1612 MEMORIAL DE LOS VECINOS DE ZARAGOZA (1612)
in VISITAS DE ANTIOQUIA, I
Bogota, AHNB

AHAM (ARCHIVO HISTORICO DE ANTIOQUIA, MEDELLIN)
1890 CONTRATO DE PRIVILEGIO DEL CAMINO DE MURRI (1890)
in BALDIOS, T2554
Medellin. AHAM

ACHSC (ANUARIO COLOMBIANO DE HISTORIA SOCIAL
1782 Y DE LA CULTURA)
PLAN FISCAL Y ECONOMICO
PARA LA PROVINCIA DE ANTIOQUIA in ACHSC
Bogota, Universidad Nacional, 1979

Angel, Antonio
1980 APUNTES HISTORICOS DE SONSON
Sonson, Centro de Historia, 1980

Arango, Mariano
1981 CAFE E INDUSTRIA 1850-1930
Bogota, Carlos Valencia, 1981

Arocha, Jaime
1979 LA VIOLENCIA EN EL QUINDIO
Bogota, Tercer Mundo, 1979

Berrio, Pedro Justo
1867 MEMORIA DEL PRESIDENTE DEL ESTADO
A LA LEGISLATURA DE 1867
Medellin, Imprenta de Isaza, 1867

Berrio, Pedro Justo
1869 MEMORIA DEL PRESIDENTE DEL ESTADO
A LA LEGISLATURA DE 1869
Medellin, Imprenta del Estado, 1869

Beyer, Robert C
1947 THE COLOMBIAN COFFEE INDUSTRY:
ORIGIN AND MAJOR TRENDS, 1740-1940
Ph. D. diss., University of Minnesota, 1947

Borja, Juan de
1612 ORDENANZAS DE MINERIA (1612) in
BOLETIN DE HISTORIA Y ANTIGUEDADES, XIII, #46,
Bogota, April 1920

Botero G, Camilo
1888 ANUARIO ESTADISTICO DE ANTIOQUIA
Medellin, Imprenta Departamental, 1888

Botero, Juan
1978 SONSON EN EL SIGLO XX
Medellin, Difusion, 1978

Brew, Roger
1974 EL DESARROLLO ECONOMICO DE ANTIOQUIA
DESDE LA INDEPENDENCIA HASTA 1920
Bogota, Banco de la Republica, 1974

Bustos, Manuel
1982 EL PENSAMIENTO SOCIOECONOMICO DE CAMPOMANES
Oviedo, Instituto de Estudios Asturianos, 1982

Calle, Manuel
1920 EL FUNDADOR DE ABEJORRAL in
ARCHIVO HISTORIAL #23, October 1920
Manizales, 1920

Calvo de Vanegas, Purificacion
1963 RIOSUCIO
Manizales, Imprenta Departamental, 1963

Campuzano, Francisco Luis
1832 DECRETO DEL GOBERNADOR DE ANTIOQUIA
Medellin, February 1, 1832

Cerezo, Henrique
1970 CRONOLOGIA DE MEDELLIN
Medellin, UPB, 1970

Chavez, Edda S de
1977 CUMANA AND ANTIOQUIA:
A COMPARATIVE STUDY OF URBAN DEVELOPMENT
IN SPANISH AMERICA
Ph.D. diss, University College, London, June 1977

Chevalier, Francois
1975 ORIGENES DE UN POLO DE DESARROLO INDUSTRIAL.
PARA UN ESTUDIO GLOBAL DEL CASO DE MEDELLIN in
ESTUDIOS SOBRE LA CIUDAD IBEROAMERICANA,
Solano, Francisco de (ed.),
Madrid, Instituto Fernandez de Oviedo, 1975

Chueca G, Fernando and
Leopoldo Torres Balbas
1981 PLANOS DE CIUDADES IBEROAMERICANAS Y FILIPINAS
EXISTENTES EN EL ARCHIVO DE INDIAS
Madrid, Farejo, 1981

CID
1970 PLAN DE ORDENAMIENTO URBANO DE MANIZALES,
Bogota, Centro de Investigaciones
para el Desarrollo, UN, 1970

Codazzi, Agustin
1853 JEOGRAFIA FISICA I POLITICA
DE LAS PROVINCIAS DE LA NUEVA GRANADA
Bogota, Banco de la Republica, 1958

Colmenares, German
1980 LA ECONOMIA Y LA SOCIEDAD COLONIALES 1550-1800 in
MANUAL DE HISTORIA DE COLOMBIA
Bogota, Colcultura, 1980

Colmenares, German
1971 PROBLEMAS DE LA ESTRUCTURA MINERA
EN LA NUEVA GRANADA 1550-1700 in
Anuario Colombiano de Historia Social
y de la Cultura, 5-7,
Bogota, 1971-72

Colmenares, German
1983 HISTORIA SOCIAL Y ECONOMICA DE COLOMBIA 1537-1719
Bogota, Tercer Mundo, 1983

Colmenares, German
1968 FUENTES COLONIALES PARA LA HISTORIA
DEL TRABAJO EN COLOMBIA
Bogota, Uniandes, 1968

Colmenares, German
1969 HACIENDAS DE LOS JESUITAS
EN EL NUEVO REINO DE GRANADA, SIGLO XVIIII
Bogota, Universidad Nacional, 1969

Cortes, Vicenta
1967 CATALOGO DE MAPAS DE COLOMBIA
Madrid, Ed. Cultura Hispanica, 1967

Cuervo M, Luis
1915 GEOGRAFIA MEDICA Y PATOLOGICA DE COLOMBIA
New York, The Trow Press, 1915

CUNDINAMARCA
1954 HECHOS Y CIFRAS DE CUNDINAMARCA
Bogota, Contraloria Departamental, 1954

D.A.N.E.
1982 ANUARIO ESTADISTICO DEL TOLIMA,
Bogota, DANE, 1982

D.A.N.E.
1975 ANUARIO ESTADISTICO DE SANTANDER
Bogota, DANE, 1975

D.A.N.E.
1979 BOYACA EN CIFRAS
Bogota, DANE, 1979

D.A.N.E.
1985 COLOMBIA ESTADISTICA
Bogota, DANE, 1985

D.A.N.E.
1970 TOWN MAPS, ANTIOQUIA REGION,
Scales 1:2000, 1:2500, 1:5000
Bogota, DANE, 1970-1980

Duque, Guillermo
1974 HISTORIA DE SALAMINA
Manizales, Imprenta Departamental, 1974

Echavarria, Enrique
1946 CRONICAS DE LA INDUSTRIA BANCARIA DE ANTIOQUIA
Medellin, Bedout, 1946

Fabo de Maria, P
1926 HISTORIA DE LA CIUDAD DE MANIZALES
Manizales, Editores Ltda, 1926

Ferro Medina, German
1985 EL ARRIERO: UNA IDENTIDAD Y UN ESLABON
EN EL DESARROLLO ECONOMICO NACIONAL
Thesis, Anthropology Department,
Bogota, Uniandes, 1985

Florez, Luis
1952 EL ESPANOL HABLADO EN SEGOVIA Y REMEDIOS
Bogota, Caro y Cuervo, 1952

Forero, Edgar
1982 ECONOMIA CAFETERA Y SISTEMA URBANO
EN EL ANTIGUO CALDAS
Bogota, CIDER-Uniandes, June 1982

Gakenheimer, Ralph A
1964 DETERMINANTS OF PHYSICAL STRUCTURE
IN THE PERUVIAN TOWN
OF THE SIXTEENTH CENTURY
Ph.D. diss, University of Pennsylvania, 1964

Gakenheimer, Ralph A
1973 THE EARLY COLONIAL MINING TOWN:
SOME SPECIAL OPPORTUNITIES FOR THE
STUDY OF URBAN STRUCTURE in
Boletin CIHE, 15,
Caracas, Universidad Central de Venezuela, 1973

Gallego, Rafael
1918 RESENA HISTORICA SOBRE LA FUNDACION Y DESARROLLO
DEL DISTRITO DE FILADELFIA in
Archivo Historial, 3
Manizales, October 1918

Gaviria T, Jose
1924 MONOGRAFIA DE MANIZALES
Manizales, Camargo, 1924

Gonzalez, Margarita
1979 EL RESGUARDO MINERO EN ANTIOQUIA in
ACHSC, 9,
Bogota, 1979

Gosselman, Karl August
1826 VIAJE POR COLOMBIA (1825-1826)
Bogota, Banco de la Republica, 1981

Graff, Gary W.
1976 SPANISH PARISHES IN COLONIAL NEW GRANADA:
THEIR ROLE IN TOWN BUILDING
ON THE SPANISH-AMERICAN FRONTIER in
THE AMERICAS : 33, 336, 1976-1977

Guarda, Gabriel
1978 HISTORIA URBANA DEL REINO DE CHILE
Santiago, Editorial Andres Bello, 1978

Gutierrez, Rufino
1920 MONOGRAFIAS
Bogota, Imprenta Nacional, 1920

Gutierrez, Piedad
1985 CIRCASIA EN LA HISTORIA
Armenia, Uniquindio, 1985

Hardoy, Jorge and
Carmen Aranovich
1969 URBANIZACION EN AMERICA HISPANA
ENTRE 1580 Y 1630, in
Boletin CIHE, 11,
Caracas, 1969

Hardoy, Jorge
1975 LA FORMA DE LAS CIUDADES COLONIALES
EN LA AMERICA ESPANOLA in
ESTUDIOS SOBRE LA CIUDAD IBEROAMERICANA,
Solano, Francisco de (ed.),
Madrid, Instituto Fernandez de Oviedo, 1975

Herrera, Francisco de
1614 LA FORMA QUE SE HA DE TENER
EN LA SITUACION DE LOS PUEBLOS
DONDE SE HAN DE AGREGAR LOS INDIOS, in
AHNB, Colonia, Visitas de Antioquia, I

Hettner, Alfred
1884 VIAJE POR LOS ANDES COLOMBIANOS (1882-1884)
Bogota, Banco de la Republica, 1976

Horna, Hernan
1970 FRANCISCO JAVIER CISNEROS:
A PIONEER IN TRANSPORTATION DEVELOPMENT IN COLOMBIA
Ph.D. diss, Vanderbilt University, 1970

HUILA
1982 ANUARIO ESTADISTICO
Neiva, Oficina Planeacion Departamental, 1982

I.G.A.C.
1960 Subregional and District maps of Antioquia,
Scale 1:25000
Bogota, IGAC, 1960-1970

Jaramillo, Jaime and
Luis Duque G. and
Juan Friede
1963 HISTORIA DE PEREIRA
Pereira, Club Rotario, 1963

Kuethe, Allan J
1978 MILITARY REFORM AND SOCIETY
IN NEW GRANADA, 1773-1808
Gainsville, University of Florida Press, 1978

Latorre Mendoza, Luis
1934 HISTORIA E HISTORIAS DE MEDELLIN:
SIGLOS XVII, XVIII, XIX
Medellin, Imprenta Departamental, 1934

Legrand, Catherine
1980 FROM PUBLIC LANDS INTO PRIVATE PROPERTY:
LANDHOLDING AND RURAL CONFLICT
IN COLOMBIA 1870-1936
Ph. D. diss, Stanford University, 1980

Legrand, Catherine
1986 FRONTIER EXPANSION AND PEASANT PROTEST
IN COLOMBIA 1850-1936
Albuquerque, University of New Mexico Press, 1986

Leon, Libardo
1985 BUCARAMANGA EN VISPERAS DE DOS SIGLOS
Bucaramanga, Contraloria General, 1985

Lombardi, John
1976 PEOPLE AND PLACES IN COLONIAL VENEZUELA
Bloomington, Indiana University Press, 1976

Lopez, Alejandro and
Jorge Rodriguez
1914 ESTADISTICAS DE ANTIOQUIA
Medellin, Imprenta Departamental, 1914

Lopez T, Alvaro
1976 MIGRACION Y CAMBIO SOCIAL EN ANTIOQUIA
DURANTE EL SIGLO XIX
Bogota, CEDE, 1976

Lopez de Velasco, Juan
1576 GEOGRAFIA Y DESCRIPCION
UNIVERSAL DE LAS INDIAS
Madrid, Atlas, 1971

Macias, Valentin
1927 ALDEA DE NUEVA SALENTO in
BOLETIN DE HISTORIA Y ANTIGUEDADES, XVI, 182,
Bogota, 1927

Maia, Tom
1981 O FOLCLORE DAS TROPAS, TROPEIROS
E CARGUEIROS NO VALE DO PARAIBA
Rio de Janeiro, Fundacao Nacional de Arte, 1981

Martinez, Carlos
1972 DON ANTONIO DE LA TORRE MIRANDA,
URBANISTA EMINENTE 1736-1804 in
PROA, 225,
Bogota, January 1972

Marzahl, Peter
1975 TOWN IN EMPIRE: GOVERNMENT, POLITICS AND SOCIETY
IN XVIITH CENTURY POPAYAN
Austin, University of Texas Press, 1975

Marzilio, Maria Luiza
1980 URBAN AND RURAL VARIANTS
OF PREINDUSTRIAL DEMOGRAPHIC REGIMES IN
XIXTH CENTURY BRAZIL, in URBANIZATION IN THE AMERICAS,
Proceedings of the VII International
Congress of Americanists
Ottawa, Museum of Man, 1980

McGreevey, William P
1965 THE ECONOMIC DEVELOPMENT OF COLOMBIA 1845-1930
Ph.D. diss, MIT, 1965

Meisel, Adolfo
1982 ESCLAVITUD, MESTIZAJE Y HACIENDA
EN LA PROVINCIA DE CARTAGENA 1533-1851 in
ECONOMIA Y SOCIEDAD, CEDE, 3,
Bogota, 1982

Melo, Jorge O
1980 LA EVOLUCION ECONOMICA DE COLOMBIA 1830-1900 in
MANUAL DE HISTORIA DE COLOMBIA
Bogota, Colcultura, 1980

Mesa, Carlos E
1983 LA IGLESIA Y ANTIOQUIA:
DERROTERO HISTORICO Y PANORAMA ACTUAL
Medellin, Imprenta Departamental, 1983

Molina, Gerardo
1970 LAS IDEAS LIBERALES EN COLOMBIA 1849-1914
Bogota, UN, 1970

Mon, Juan Antonio
1788 SUCINTA RELACION DE LA VISITA DE ANTIOQUIA (1788), in
Anales de Instruccion Publica, XVI,
Bogota, 1890

Mon, Juan Antonio
1788 REGLAS QUE HA DE OBSERVAR EL JUEZ POBLADOR
DE LA COLONIA DE SAN FERNANDO DE BORBON in
AHAM, T 1356

Monsalve, Diego
1929 MONOGRAFIA ESTADISTICA DEL DEPARTAMENTO DE ANTIOQUIA
Medellin,Imprenta Oficial, 1929

Montoya Velasquez, Jorge
1956 CATECISMO HISTORICO Y GEOGRAFICO DE CALDAS
Medellin, Gloria, 1956

Morales, Otto
1962 TESTIMONIO DE UN PUEBLO:
INTERPRETACION ECONOMICO SOCIAL
DE LA COLONIZACION DE ANTIOQUIA EN CALDAS
Bogota, Banco de la Republica, 1962

Morner, Magnus
1970 LA CORONA ESPANOLA Y LOS FORANEOS
EN LOS PUEBLOS DE INDIOS DE AMERICA
INSTITUTO DE ESTUDIOS IBEROAMERICANOS
SERIES A, MONOGRAPH 1
Stockholm, 1970

Morse, Richard M
1975 A FRAMEWORK FOR LATIN AMERICAN URBAN HISTORY in
URBANIZATION IN LATIN AMERICA :
APPROACHES AND ISSUES
Garden City, N.Y., Anchor Books, 1975

Morse, Richard M
1974 BRAZIL'S URBAN DEVELOPMENT in
JOURNAL OF URBAN HISTORY, vol 1, # 1, November 1974

NARINO
1944 ANUARIO ESTADISTICO
Pasto, Imprenta Departamental, 1944

Ocampo, Jose F
1972 DOMINIO DE CLASE EN LA CIUDAD COLOMBIANA
Bogota, Oveja Negra, 1972

Ordenanzas
1573 ORDENANZAS DE DESCUBRIMIENTO Y NUEVA POBLACION (1573)

Ortiz, Carlos
1984 FUNDADORES Y NEGOCIANTES
EN LA COLONIZACION DEL QUINDIO in
LECTURAS DE ECONOMIA, January-April 1984,
Medellin, 1984

Ospina V, Luis
1979 INDUSTRIA Y PROTECCION EN COLOMBIA 1810-1930
Medellin, FAES, 1979

Palacios, Marco
1983 EL CAFE EN COLOMBIA, 1850-1970
UNA HISTORIA ECONOMICA, SOCIAL Y POLITICA
Bogota and Mexico, Colegio de Mexico, El Ancora, 1983

Palau, Lisimaco
1898 DIRECTORIO GENERAL DE COLOMBIA. COMERCIAL,
GEOGRAFICO, ADMINISTRATIVO Y ESTADISTICO
PARTE IV: DIRECTORIO DE LAS POBLACIONES DE LA
REPUBLICA DE COLOMBIA, DIVIDIDO EN GREMIOS
PROFESIONALES, INDUSTRIALES Y COMERCIALES.
Bogota, Imprenta Nacional, 1898.

Pardo P, Alberto
1972 GEOGRAFIA ECONOMICA Y HUMANA DE COLOMBIA
Bogota, Tercer Mundo, 1972

Parsons, James J
1979 LA COLONIZACION ANTIOQUENA
EN EL OCCIDENTE DE COLOMBIA
Bogota, Carlos Valencia, 1979

Pombo, Manuel
1853 DE MEDELLIN A BOGOTA in
OBRAS INEDITAS
Bogota, Libreria Colombiana, 1914

Poveda, Gabriel
1975 ANTIOQUIA Y EL FERROCARRIL DE ANTIOQUIA
Medellin, EDA, 1975

Poveda, Gabriel
1981 MINAS Y MINEROS DE ANTIOQUIA
Medellin, Banco de la Republica, 1981

Quintana, Manuel J
1939 NUEVO COMPENDIO DE GEOGRAFIA
DEL DEPARTAMENTO DEL VALLE DEL CAUCA
Cali, Libreria Quintana, 1939.

Rausch, Jane M
1984 A TROPICAL PLAINS FRONTIER:
THE LLANOS OF COLOMBIA 1531-1831
Albuquerque, N.M., University of New Mexico Press, 1984

Raynaud, Pierre Louis
1980 THE ROLE OF DESIGN IN CITY FORM:
ORGANIC AND PLANNED TOWNS
M.Arch.S. thesis, MIT, 1980

Restrepo E, Alvaro
1903 HISTORIA DE ANTIOQUIA (DEPARTAMENTO DE COLOMBIA)
DESDE LA CONQUISTA HASTA EL ANO 1900
Medellin, Imprenta Oficial, 1903

Restrepo, Jorge
1978 DESARROLLO URBANO DE MEDELLIN
Medellin, Bedout, 1978

Restrepo, Jose Manuel
1808 ENSAYO SOBRE LA GEOGRAFIA, PRODUCCIONES,
INDUSTRIA Y POBLACION DE LA PROVINCIA DE
ANTIOQUIA EN EL NUEVO REINO DE GRANADA in
SEMANARIO DEL NUEVO REINO DE GRANADA
Bogota, Imprenta Nacional, 1943

Restrepo, Jose Manuel
1812 PROYECTO DE LEY SOBRE REALENGOS,
PROPIEDAD Y VINCULACION in
AHAM, T 2536

Restrepo, Roberto
1921 EL QUINDIO Y SU COLONIZACION in
ARCHIVO HISTORIAL #33,
Manizales, July 1921

Robledo, Emilio
1916 GEOGRAFIA MEDICA Y NOSOLOGICA
DEL DEPARTAMENTO DE CALDAS
Manizales, Imprenta Departamental, 1916

Robledo, Emilio
1954 BOSQUEJO BIOGRAFICO DEL SENOR OIDOR
JUAN ANTONIO MON Y VELARDE
VISITADOR DE ANTIOQUIA 1785-1788
BOGOTA, Banco de la Republica, 1954

Rodas, Gaspar de
1584 ORDENANZAS PARA EL BUEN GOBIERNO
Y LABOR DE MINAS DE LA
GOBERNACION DE ANTIOQUIA Y CIMITI in
AHNB, Minas de Antioquia, 3

Rodriguez B, Manuel
1979 EL EMPRESARIO INDUSTRIAL DEL VIEJO CALDAS
Bogota, Uniandes, 1979

Saffray, Charles
1860 LA PROVINCIA DE ANTIOQUIA EN 1860, in
Viajeros extranjeros en Colombia,
Cali, Carvajal, 1970

Salazar, Mardonio
1948 PROCESO HISTORICO DE LA PROPIEDAD EN COLOMBIA
Bogota, ABC, 1948

SALENTO
1881 ACUERDO 8 DE 1881 CREANDO DESTINO DE JUEZ POBLADOR, in
SALENTO CITY COUNCIL ARCHIVES
Salento, 1881

SALENTO
1870 PLANO TOPOGRAFICO DE 15360 HECTAREAS
DE TERRENOS BALDIOS CONCEDIDOS
A LA VILLA DE NUEVA SALENTO
LEVANTADOS POR NICOLAS CAICEDO D'ELHUYAR
Salento, 1870

Santa, Eduardo
1961 ARRIEROS Y FUNDADORES :
ASPECTOS DE LA COLONIZACION ANTIOQUENA
Bogota, Cromos, 1961

Schenk, Friedrich von
1880 VIAJES POR ANTIOQUIA EN EL ANO DE 1880
Bogota, Banco de la Republica, 1953

Silvestre, Francisco
1776 RELACION DEL ESTADO DE LA PROVINCIA DE ANTIOQUIA in
ARCHIVO HISTORIAL, pp. 569-605, July 1919
Manizales, 1919

Smith, J.P
1980 A MALTHUSIAN FRONTIER INTERPRETATION
OF UNITED STATES DEMOGRAPHIC HISTORY
BEFORE c. 1815 in URBANIZATION IN THE AMERICAS
Proceedings of the VII International
Congress of Americanists
Ottawa, Museum of Man, 1980

Solano, Francisco de (ed)
1975 ESTUDIOS SOBRE LA CIUDAD IBEROAMERICANA
Madrid, Instituto Fernandez de Oviedo, 1975

Solano, Francisco de
1977 POLITICA DE CONCENTRACION
DE LA POBLACION INDIGENA (1500-1800):
OBJETIVOS, PROCESO, PROBLEMAS Y RESULTADOS, in
ASENTAMIENTOS URBANOS Y ORGANIZACION SOCIOPRODUCTIVA
EN LA HISTORIA DE AMERICA LATINA
Buenos Aires, Ediciones SIAP, 1977,
Hardoy, Jorge E and Richard P. Schaedel (eds)

SONSON
1867 PLANO TOPOGRAFICO DEL POBLADO DE SONSON,
LEVANTADO POR NICOLAS CAICEDO D'ELHUYAR
QUIEN LO DEDICA A LA MUNICIPALIDAD,
Sonson, 1867

Tirado M, Alvaro
1976 LA TIERRA DURANTE LA REPUBLICA in
INTRODUCCION A LA HISTORIA ECONOMICA DE COLOMBIA
Medellin, La Carreta, 1976

Torres, Eduardo
1923 GEOGRAFIA DEL DEPARTAMENTO DEL TOLIMA
Ibague, Imprenta Departamental, 1923

Twinam, Ann
1982 MINERS MERCHANTS AND FARMERS :
THE ROOTS OF THE ENTREPRENEURSHIP
IN ANTIOQUIA: 1763-1810
Austin, University of Texas Press, 1982

Uribe Angel, Manuel
1885 GEOGRAFIA GENERAL Y COMPENDIO HISTORICO
DEL ESTADO DE ANTIOQUIA EN COLOMBIA
Paris, Goupy et Jourdan, 1885

Valencia, Albeiro
1983 LA ESTRUCTURA AGRARIA
EN LA COLONIZACION ANTIOQUENA
DEL NORTE DE CALDAS
in REVISTA UNIVERSIDAD DE CALDAS, 4,1,
Manizales, 1983

Valencia Z, Alonso
1980 QUINDIO HISTORICO
Armenia, Quingraficas, 1980

Valencia, Anibal
1983 AGUADAS 1808-1983
Manizales, Imprenta Departamental, 1983

Valencia, L.E
1984 HISTORIA DE SANTA ROSA DE CABAL
Manizales, Imprenta Departamental, 1984

VALLE
1984 ANUARIO ESTADISTICO DEL VALLE
Cali, Consejo Departamental de Estadistica, 1984

van Oss, A.C.
1975 COLONIAL BISHOPRICS IN SPANISH LATIN AMERICA, in
Boletin de Estudios Latinoamericanos y del Caribe, 18,
The Hague, June 1975

Vasquez de Espinosa, Fray Antonio
1621 COMPENDIO Y DESCRIPCION
DE LAS INDIAS OCCIDENTALES
Madrid, Atlas, 1959

Vasquez R, Hernan
1985 EL PROCESO DE URBANIZACION
EN LA HISTORIA DE COLOMBIA
Bogota, Externado de Colombia, 1985

Vergara y Velasco, Francisco J
1901 NUEVA GEOGRAFIA DE COLOMBIA
Bogota, Banco de la Republica, 1954

VILLAHERMOSA
1887 LISTA DE POBLADORES DE SANTO DOMINGO
Y VILLAHERMOSA, DEPARTAMENTO DEL TOLIMA in
AHNB, Tierras Baldias, 1887

Villegas, Jorge
1978 BALDIOS
Medellin, CIE, 1978

Villegas, Jorge
1977 COLONIZACION DE VERTIENTE EN EL SIGLO XIX
Medellin, CIE, 1977

West, Robert C
1952 COLONIAL PLACER MINING IN COLOMBIA
Baton Rouge, Louisiana State University Press, 1952

Zambrano, Fabio
1978 NOTAS SOBRE ALGUNOS ASPECTOS ECONOMICOS DEL SIGLO XIX
Medellin, CIE, 1978

Zapata C, Heriberto
1978 MONOGRAFIAS DE ANTIOQUIA
Medellin, Copiyepes, 1978

Zapata C, Heriberto
1976 MONOGRAFIA DE ARGELIA
Argelia, Perez, 1976

Zapata, Vladimir
1984 EL PODER DE LA ESCUELA DE ANTIOQUIA, 1880-1950
Medellin, Universidad de Antioquia, 1984