THE UNIVERSITY OF CALGARY

REVISTA DE ACHAMBO
A DEMOGRAPHIC AND SOCIO-ECONOMIC ANALYSIS OF THE ENCOMIENDA DE CEPEDA 1602-03

by

Denise Anne LeClaire

A THESIS

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The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies for acceptance, a thesis entitled, "Revista de Achambo: A Demographic and Socio-Economic Analysis of the Encomienda de Cepeda, 1602-03" submitted by Denise Anne LeClaire in partial fulfillment of the requirements for the degree of Master of Arts.

Supervisor
Dr. Alfonso Gonzalez
Department of Geography

Dr. Richard Momsen, Jr.
Department of Geography

Dr. Merlin B. Brinkerhoff
Department of Sociology

April 15, 1985

ABSTRACT

This study analyzes a Colonial Spanish fiscal document, called a revista de tributo. A revista de tributo means a "review of tribute" in Spanish. From November 1602, to January 1603, a revista de tributo was conducted in the encomienda of Don Lorenzo de Cepeda in the audiencia of Quito (Colonial Ecuador). The encomienda would today be situated in the northeast corner of the Province of Chimborazo, Ecuador. The purpose of the revista was to enumerate all Indians of the encomienda in order to assess the amount of tribute it could yield. The Indians of the encomienda were listed by age, sex, place of residence, fiscal status, whether they were participating in the mita draft, whether they were ill or disabled, and other information which the enumerators deemed important. As such, the revista contains important geographic, demographic, and socio-economic information on an indigenous society in early 17th century Colonial Ecuador.

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Chapter 1

INTRODUCTION

The revista de Achambo was conducted between November, 1602, and January, 1603, in the encomienda de Cepeda[1]. Revista in Spanish means "review". During Spanish Colonial rule in the Americas, the term revista signified a review of tribute. Essentially, this was a census of all tribute-paying Amerindian (Indian) males within a specified area. The purpose of the census or revista was to determine whether the number of tributaries (i.e., adult Indian males liable for tribute) was sufficient to raise the amount of tribute assessed for the area.

The units of tribute assessment in Colonial Spanish America were the encomienda and corregimiento. An encomienda was a private concession of Indian communities granted by the Spanish Crown to conquistadores, important colonists, religious orders and, occasionally, to persons favoured by the king or Court in Spain. These grants were given in trust, that is, en encomienda, with the stipulation the recipient or encomendero undertake the Christianization of the Indians under his charge. In return, the encomendero was entitled to a yearly tax in

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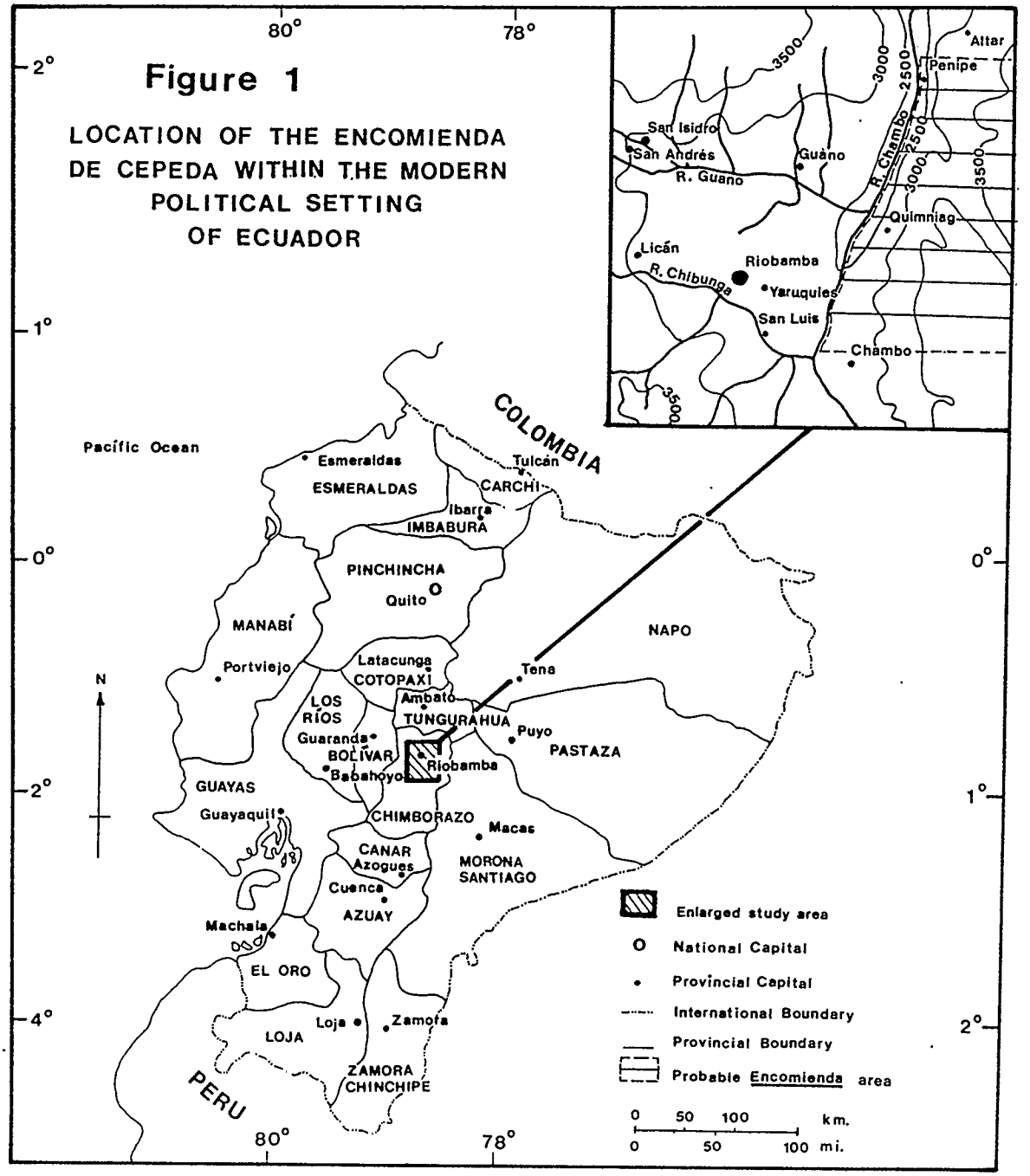
1 Revista de Achambo, Encomienda de Don Lorenzo de Cepeda, 1603 (Sevilla: Archivo General de Indias, escribanía de cámara, #919 [hereafter cited as AGI, escribanía de cámara 919]), fols. 1-443.

specie and goods from most able-bodied adult males within his district. The yearly tax was established by the fiscal (royal treasury official) of the audiencia (high court of appeal and the territory of its jurisdiction) within which the encomienda was located. One-third of the tribute collected went to the Spanish Crown.

As a result of the New Laws, which were promulgated in 1542, Indian communities could be held en encomienda only for the lifetime of the encomendero and one generation thereafter. After the death of the heir, the encomienda became part of the Spanish Crown's domain. A Crown-held encomienda was termed a corregimiento. An appointed official, called a corregidor, was responsible for the gathering of tribute within the corregimiento boundaries. All tribute collected from the corregimientos of Colonial Spanish America was sent to the royal treasury in Spain. A corregimiento also was a unit of government within the audiencia.

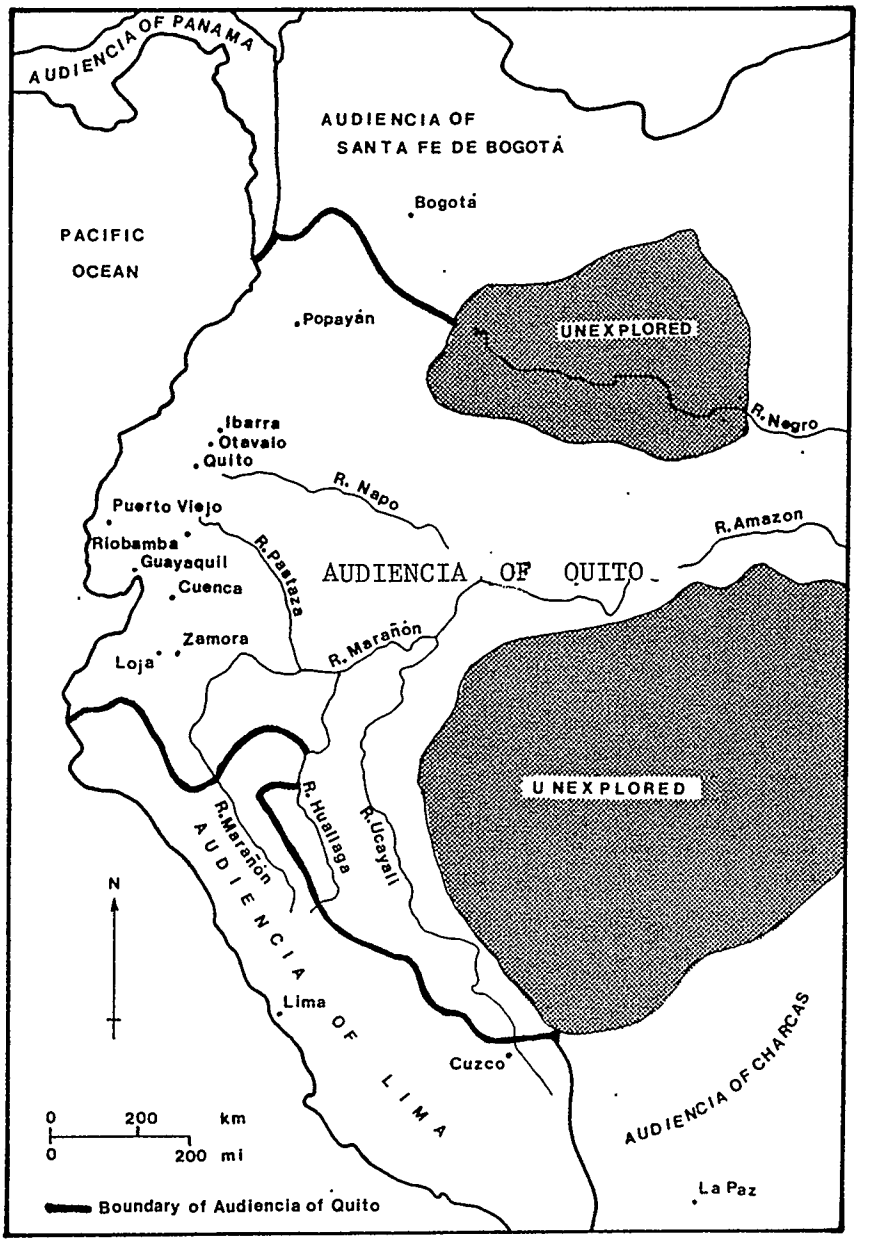
The revista de Achambo thus was a review of tribute within the encomienda de Cepeda. The encomienda was a grant of Indians held jointly in 1602-03 by Don Lorenzo de Cepeda and the heirs of Francisco Guárez de Figuesa. It was located in what is today the northeast corner of the Riobamba Basin in the province of Chimborazo, Ecuador (Figure 1 on page 3). In 1602-03, the encomienda lay within the corregimiento of Riobamba in the audiencia of Quito (Figure 2 on page 4). The Riobamba Basin is located within the Highlands, or Andean Region, of Ecuador.



Source: R. J. Bromley, Development and Planning in Ecuador (London: Latin American Publications Fund, 1977), Figure 2, p. 16.

FIGURE 2

The Audiencia of Quito in the Seventeenth Century



Source: John Leddy Phelan, The Kingdom of Quito in the Seventeenth Century (Madison, Milwaukee, London: The University of Wisconsin Press, 1967), p. 48.

In the early 17th century, the encomienda de Cepeda was comprised of the pueblos (towns) of Achambo, Molino de Achambo, Quimnia, and Penipe. These towns had been Puruhá Indian towns prior to their conquest by the Inca in the late 14th century. Today, only Quimnia (Químiag) and Penipe appear on basin maps. In the revista, the indigenous population is listed first by pueblo of residence. The Indians of the towns were further grouped according to the smaller territorial units of ayllus. The ayllu had been the basic social, political, and economic unit of pre-Conquest Inca society.

The revista was the result of an on-going legal battle between Cepeda and the heirs of Guárez de Figuesa about the amount of tribute the encomienda could yield. The battle had begun sometime in 1588, when Cepeda claimed the encomienda Indians could raise only 3,000 pesos in tribute. The heirs of Guárez de Figuesa disagreed with Cepeda's claim, and brought their case before the fiscal (crown attorney) of Riobamba. The fiscal ordered a revista de tributo in 1589, which showed there were 1,260 tributaries in the encomienda, each of whom was to pay four pesos in tribute. Cepeda thus lost the dispute because the encomienda was able to yield 5,108 pesos in tribute, 2,108 pesos above what Cepeda had argued was possible. Some time after 1589, the tribute assessment was lowered to 3,000 pesos, for a second revista had revealed only 600 tributaries in the encomienda. This second revista is undated.

The amount of tribute the encomienda's population could raise was again disputed before the fiscal in 1602, but this time by Cepeda. Cepeda argued the Indians of the encomienda could no longer collect the

3,000 pesos set by the fiscal after the second revista because the number of tributaries had declined even further. The fiscal thus ordered the revista de Achambo, which was carried out in 1602-03, and probably was named after the first of the encomienda towns to be enumerated, Achambo.

The revista de Achambo was a house-by-house count of all originarios (natives) of the ayllus of the encomienda. The count identified the head of each household, and placed the remaining members of the household in descending order by status and age. The status of each individual was determined by his or her relationship to the household head. Male household members also were listed with information as to whether they were participating in the various mita drafts (forced labour drafts), whether they were ill or handicapped and the nature of these disabilities, and other information which the enumerators deemed important. The households were grouped according to ayllu within each pueblo.

At the end of each ayllu enumeration, the revista gives a summary of the population of the ayllu according to fiscal status. The fiscal categories in the revista were as follows:

1. tributarios (able-bodied adult males between the ages of 17 and 54 liable for tribute and the mita draft),
2. reservados (adult males reserved from tribute),
3. ausentes que no pagan (adult males who had fled the encomienda, and whose whereabouts were unknown),

4. mujeres (all females aged over 14 years),
5. muchachos (all males aged 16 years and under), and
6. muchachas (all females aged 14 years and under).

The revista de Achambo thus provides some interesting geographic, demographic, social, and economic information on the indigenous population of the encomienda de Cepeda in 1602-03. For example, the revista listed each member of the encomienda by place of residence (i.e., by pueblo and ayllu). It may be possible to locate the Indians of the encomienda within the Riobamba Basin of Ecuador. Each encomienda member also was listed by age and sex, which will give a basis for an analysis of the demographic characteristics of its population. Second, as a house-by-house count, the revista should provide valuable insights into the household structure of the encomienda's Indian community during the early 17th century. Third, the fiscal categories are much like economic categories, the tributaries representing the male bread-winners, and the remaining categories, their dependents. The fiscal categories thus could shed light on the economic characteristics of the study area. Fourth, the counts preceding the revista de Achambo, and the revista itself, provide tributary totals covering a 13 year period between 1589 to 1602-03. These counts could be considered in terms of population trends within the encomienda in these years.

On the basis of the information provided in the revista, the purpose of this thesis is to determine:

1. the spatial distribution of the encomienda population in 1602-03,

2. the demographic characteristics of the indigenous population of the encomienda de Cepeda on that date,
3. the social and economic characteristics of the encomienda's Indian population, and
4. trends in the population of the encomienda between 1589 and 1602-03.

An additional question to be asked in the thesis is: What can we learn about early 17th century Highland Ecuador from the analysis of the demographic and socio-economic characteristics of the encomienda communities? Contemporary scholarship on Colonial Ecuador has suffered in relation to that of Colonial Mexico and Peru. Essentially, the interest engendered by the regions of Mexico and Peru has tended to delay research into other areas of the Spanish overseas empire. It was in Mexico and Peru that the pre-Conquest civilizations of the Aztec, Maya and Inca were centred. After the Spanish Conquest, the wealth of these two regions attracted the bulk of Spanish colonization in the New World. It is no wonder few contemporary studies deal specifically with the area of Colonial Ecuador, and none have analyzed a source document comparable to the revista (i.e., a house-by-house count of a specific indigenous community). The information in the revista thus offers a unique opportunity to add to our knowledge of Colonial Ecuador.

The research material is organized into chapters in this way:

- Chapter 2 presents a description of the contemporary physical geography of the study area and locates the Indians of the encomienda within this physical setting. The present inhabitants of the

encomienda territory are next described in terms of their economic, ethnic, and demographic characteristics.

- Chapter 3 places the encomienda within the framework of Colonial Ecuador. What has been published by contemporary scholars thus far on the historical demography of Ecuador is discussed, with the purpose of elaborating from the revista in later chapters on the demographic pattern of this region in the late 16th and early 17th centuries. Chapter 3 also introduces the institutions of Spanish colonization, which shaped indigenous society from 1534 to 1822. The major features of these institutions are discussed, along with how they may have affected the native populations. A later chapter explores how the institutions affected the encomienda's Indian community.

- Chapter 4 gives information on where the revista was obtained, the reason it was conducted, how it was organized and carried out, a description of the data contained within it, and a discussion regarding its statistical accuracy.

- Chapter 5 reconstructs the demographic pattern of the encomienda de Cepeda in 1602-03 using the age and sex data from the revista. Sections within the chapter deal with the age structure and sex composition of the encomienda population, its marital characteristics, fertility, and mortality.

- Chapter 6 examines the socio-economic characteristics of the encom-

ienda in 1602-03. The tribute system in the encomienda, its major features and how it affected the Indian community of the study area is examined, then an analysis of the institution of the mita and its affect on the encomienda population is made.

- Chapter 7 deals with the three counts of the tributary population from 1589 to 1602-03. These counts can tell us about the population trends of the encomienda population in the late 16th and early 17th centuries.

- Chapter 8 is the conclusion. It discusses the major findings of the analysis chapters, and, on the basis of these findings, draws conclusions concerning the demographic and socio-economic characteristics of Colonial Highland Ecuador.

Chapter 2

THE GEOGRAPHICAL SETTING

Introduction

The geographic area of the present study is that of the encomienda of Don Lorenzo de Cepeda. Cepeda's grant of Indians was located in the corregimiento of Riobamba in the audiencia of Quito, in 1602 and 1603, the date of the revista. In terms of present-day territory, the encomienda is located in the north-eastern part of the Riobamba Basin in the province of Chimborazo, Ecuador. This chapter first describes the physical geography of the Riobamba Basin: the physical geography is broken down into (1) physiography, (2) climate, (3) vegetation, (4) soils, and (5) animal life. Afterwards, the people of the encomienda are located within the modern physical setting. Their descendents are next described in terms of their economic activities, and ethnic and demographic characteristics.

Physiography

The Riobamba Basin is located between $78^{0}31'$W. and $78^{0}55'$W. Long. and $1^{0}30'$S. and $2^{0}12'$S. Lat. Approximately 3,635 square kilometers in area, it is the sixth largest of Ecuador's 15 basins (see Figure 3 on page 13).

The basins, which follow one another linearly from north to south (the exceptions being the basins of Ambato, Guaranda, and Zaruma), are bounded on two sides by the Cordilleras Occidental and Oriental--the west and east chains of the Andes. The series of basins and the two cordilleras, together comprise the Highlands, or Andean Region (see Figure 4 on page 14). This region is one of three physiographic regions in mainland Ecuador, along with the Pacific Lowlands, or Costa, and the Amazon Lowlands, or Oriente.[2]

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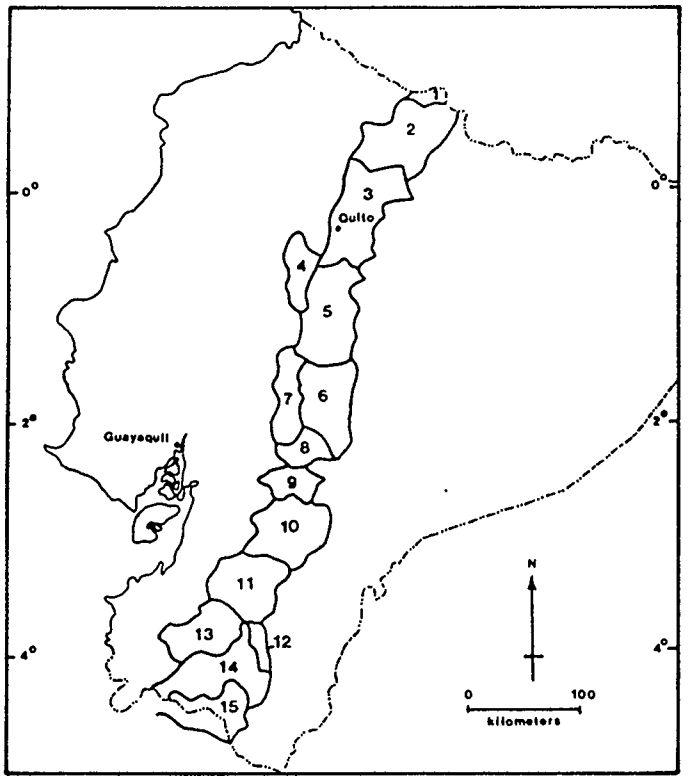
2 A fourth region of Ecuador is the Archipiélago de Galápagos, located approximately 1,000 kilometers west of the coastal mainland.

FIGURE 3

Names and Areas of the Highland Basins of Ecuador



Basin Name	Major River	Principal Town	Area Sq. Miles	Area Sq. Kilometers
1. Tulcán	Carchi	Tulcán	166	430
2. Ibarra	Chota-Mira	Ibarra	1,617	4,189
3. Quito	Guayllabamba	Quito	1,734	4,492
4. Ambato	Patate	Ambato	1,679	4,350
5. Toachi	Toachi	------	584	1,512
6. Riobamba	Chambo	Riobamba	1,403	3,635
7. Guaranda	Chimbo	Guaranda	805	2,086
8. Alausí	Chanchan	Alausí	475	1,232
9. Cañar	Cañar	Canar	446	1,155
10. Cuenca	Paute	Cuenca	1,518	3,933
11. Jubones	Jubones	------	1,390	3,600
12. Loja	Zamora	Loja	233	604
13. Zaruma	Puyango	Zaruma	1,059	2,744
14. Catamayo	Catamayo	------	1,505	3,899
15. Macará	Macará	------	603	1,562

Source: David G. Basile, Tillers of the Andes: Farmers and Farming in the Quito Basin (Chapel Hill: University of North Carolina, Studies in Geography, No. 8, 1974), Figure 6, Table 1, pp. 10 - 11.

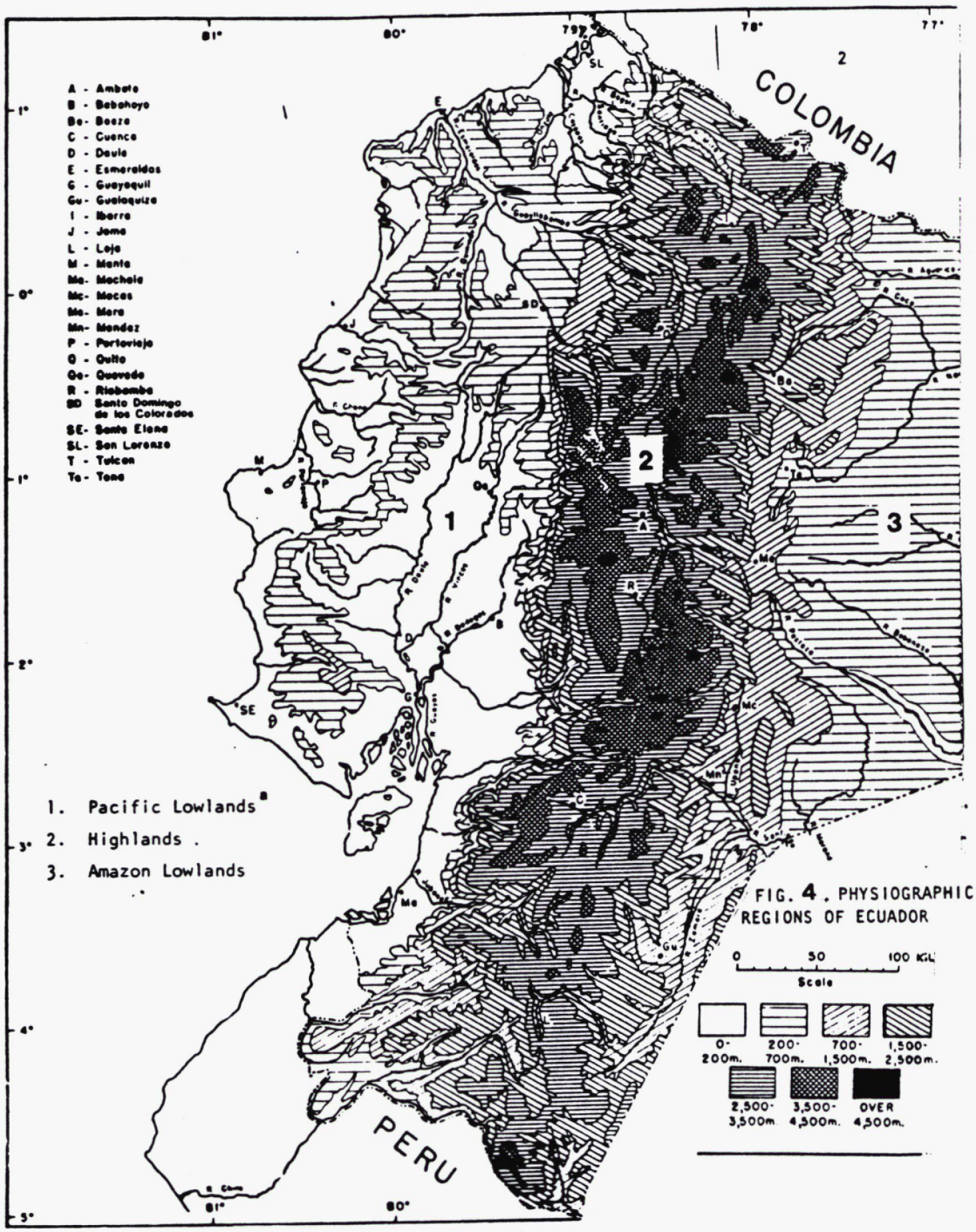


FIG. 4. PHYSIOGRAPHIC REGIONS OF ECUADOR

Source: Edwin N. Ferdon, Studies in Ecuadorian Geography (Santa Fe, New Mexico: School of American Research and University of Southern California, Monographs of the School of American Research, No. 15, 1950), Map 1, p. 8.

[a]Elevation of 1,000 meters marks the division between the Andean Highlands and the lowlands of the Pacific and Amazon.

The Andean ranges are bordered on the west and east by great fault zones (Oppenheim, 1950:533). The Cordillera Occidental is a block-faulted structure, while the Cordillera Oriental is of geosynclinal origin.[3] Between the two ranges are located the series of basins, which collectively form the Sierra. The Sierra is described by Basile (1974:6) as a huge graben, which is "an elongated fault depressed with reference to the blocks on either side" (Van Riper, 1971:674). According to Basile (1974:12), it averages 60 kilometers in width and 2,500 meters in elevation. The Riobamba Basin is the highest of the Sierra basins (Basile, 1974:8); its principle centers of Riobamba (2,749), Cajabamba (3,166), Guamote (3,045) and Palmira (3,238) all are located above the 2,500 meter contour. The approximate average width of the basin, using the 3,500 meter contour as its uppermost boundary, is 20 kilometers.

The Basin of Riobamba is separated from the basins to the north and south by transverse ridges, called knots, (nudos in Spanish), which join the Cordillera Occidental to the Cordillera Oriental. The knot of Sanancajas-Igualata (average elevation 3,600 meters) separates the Basin of Riobamba from its northern neighbour, the Basin of Ambato-Latacunga (see Figure 5 on page 17). The Basin of Alausí, to the south, is divided from the Riobamba Basin by the knot of Tiocajas (average elevation 3,485 meters) (Burgos, 1970:28).[4] These knots form effective, but not insurmountable, barriers between the Basin of Riobamba and the neighbouring basins.

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3 The Cordillera Oriental was formed by the folding and uplifting of inland seaway deposits (i.e., it is geosynclinal in origin).

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On a topographical map, the Riobamba Basin is easily distinguishable by the majestic array of snow-capped volcanoes which sit astride the two cordilleras (see Figure 5 on page 16). In the northwest corner of the basin is Carihuairazo (5,028), its peak just visible behind the highest of the Ecuadorian cones, Chimborazo (6,272). Both Carihuairazo and Chimborazo are extinct volcanoes. The volcanoes Tungurahua (5,033), El Altar (5,321), Sangay (5,320), and Sacraurcu (4,545) are located to the east of the basin, atop the Cordillera Oriental (see Figure 5 on page 16). Tungurahua and Sangay are active volcanoes. Five major eruptions of Tungurahua have been recorded since the Spanish Conquest in 1534: 1641, 1771, 1773, 1777, and 1886 (Wolf, 1933: 378-9; Bromley, 1979: 109). Sangay, one of the most active volcanoes in the world has been in constant eruption, with undiminished lava flows, throughout recorded history.

The greater volcanic activity of the Cordillera Oriental indicates that major tectonic forces are still at work shaping the structure of this range. Another indication is the frequency of earthquakes which have struck the region. Wolf reports that the town of Riobamba experienced three severe tremors, in 1645, 1698 and 1786, before being reduced to rubble by the earthquake of 1797. After the earthquake, in which 4,877 townspeople were reported to have died, the original townsite was abandoned and Riobamba was reconstructed on its present

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4 The knot of Sanancajas-Igualata was formed by the accumulation and coalescing of materials from the volcanoes Chimborazo and Carihuairazo, and the slopes of the Cordillera Occidental, atop a transverse fault. The knot of Tiocajas, on the other hand, may be the remains of several extinct, deeply eroded volcanoes.

site (Bromley, 1979: 109). Earthquakes next struck the basin in 1803 and 1840, and possibly in 1843 and 1856 as well (Wolf, 1933:396). In this century, the earthquakes of 1939, 1942, 1949 (Oppenheim, 1950:537), and 1979 caused significant destruction in the Riobamba area (The World Almanac and Book of Facts, 1984:698).

Vast quantities of volcanic materials, and some fluvio-lacustrine sediments from the adjacent highlands, have been poured into the Riobamba Basin over long periods of time. According to Wolf (1933:349), these volcanic strata of andesitic lavas, coarse-fine tuffs and ash measure hundreds of meters in thickness. A characteristic white or yellowish fine tuff, which covers the slopes and plains of the Riobamba Basin in a more or less heavy mantle, is cangagua. Cangagua resembles a fine flour when dry, but when wet it forms a tough, spongy substance almost impermeable to water. The thick covering of volcanic materials and cangagua give the basin's floor a smooth, undulating appearance.

The Cordillera Oriental forms an unbroken chain, with heights between 3,500 and 4,600 meters, along the east side of the Riobamba Basin to the foot of the volcano Tungurahua. Two passes, located at the lower elevation (3,500 meters)--the Cebadas River Valley Pass and the Tres Cruces Pass--give access today to the Oriente via mule and wagon trail. From the snow-covered peaks of Sangay, El Altar, and Tungurahua, the slopes of the Cordillera Oriental fall rapidly and sharply to the Chambo River, which cuts a deep gorge through the basin as it rushes to join the south flowing Pastaza River at Tungurahua's base.

The sand and dune-covered elevations of the knot of Tiocajas drop abruptly toward the Basin of Alausí. However, the slopes of the knot are less steep on the Riobamba side, where they descend relatively gently to end in the Guamote Valley (2,980 meters). The sides of the Cordillera Occidental continue their slow descent toward the Guamote and Cajabama-Columbe Valleys until encountering the symmetrical and steeply inclined flanks of Chimborazo.

The knot of Sanancajas-Igualata crosses the basin at a right angle from Chimborazo. On the basin-side, the slopes of the knot decline in a series of natural, uneven terraces to the city of Guano. The eastern tip of the knot, however, drops steeply toward the narrow valley of the Chambo River.

In the center of the basin is a sequence of irregular, relatively low hills which start at Lake Colta and swing to the south in the form of an arc. These are called the Cerros de Yaruquíes, the highest point of which is El Chuyuy at 3,759 meters (Burgos, 1970:29). The most western of these hills fall suddenly as precipices of 300 meters or more. These precipices and the slopes of the Cordillera Occidental form the sides of the narrow, elongated Cajabamba-Colombe Valley. Through the valley from Lake Colta, the Guamote River flows in a southeast direction then veers sharply to the northeast as it cuts a channel at the base of the southern-most tip of the Yaruquíes. At this point, the Yaruquíes descend toward the Guamote Valley in a jumbled mass of low hills and ravines (Burgos, 1970:29).

The largest plain of the basin is the sandy plain of Topi, which slopes gently from the foot of Chimborazo and the knot of Sanancajas-Igualata, to the banks of the Chibunga River. On this plain is located the basin's capital city Riobamba (2,754 meters), and the smaller centers of Calpi, Licán, Guano, Yaruquíes, and San Luis. The high, level floors of the Cajabamba-Columbe and Guamote Valleys form the only other plains of note. Smaller plains of a few square kilometers are found scattered along the banks of the Chambo River and in the interior of the Cerros de Yaruquíes (Burgos, 1970:31).

The basin is drained by the Chambo River, which originates as the Yasipang River on the humid slopes of the volcano Sacraurcu. The Chambo flows northward to form the Pastaza augmented by the flow from the Guamote, Chibunga, and Guano Rivers, all of which have their source on the basin's western rim, and numerous, smaller streams from the Cordillera Oriental. At various times in the past, the basin rivers were apparently rejuvenated, perhaps by the periodic, upward thrust of the basin floor (Basile, 1974:18). This upward movement caused the streams to begin rapid downcutting to re-establish their graded profiles. The result was the formation of new steep-sided valleys, and narrow terrace remnants such as the uneven terraces of Sanancajas-Igualata and the small plains along the Chambo River.

These deeply entrenched river channels, and the Yaruquíes hills, have had the effect of dividing the Riobamba Basin into a number of smaller "sub-basins". The sub-basins are the Cajabamba, Guamote, Licto, Riobamba, and Penipe--each centering on a town of the same name (Burgos,

1970:31)

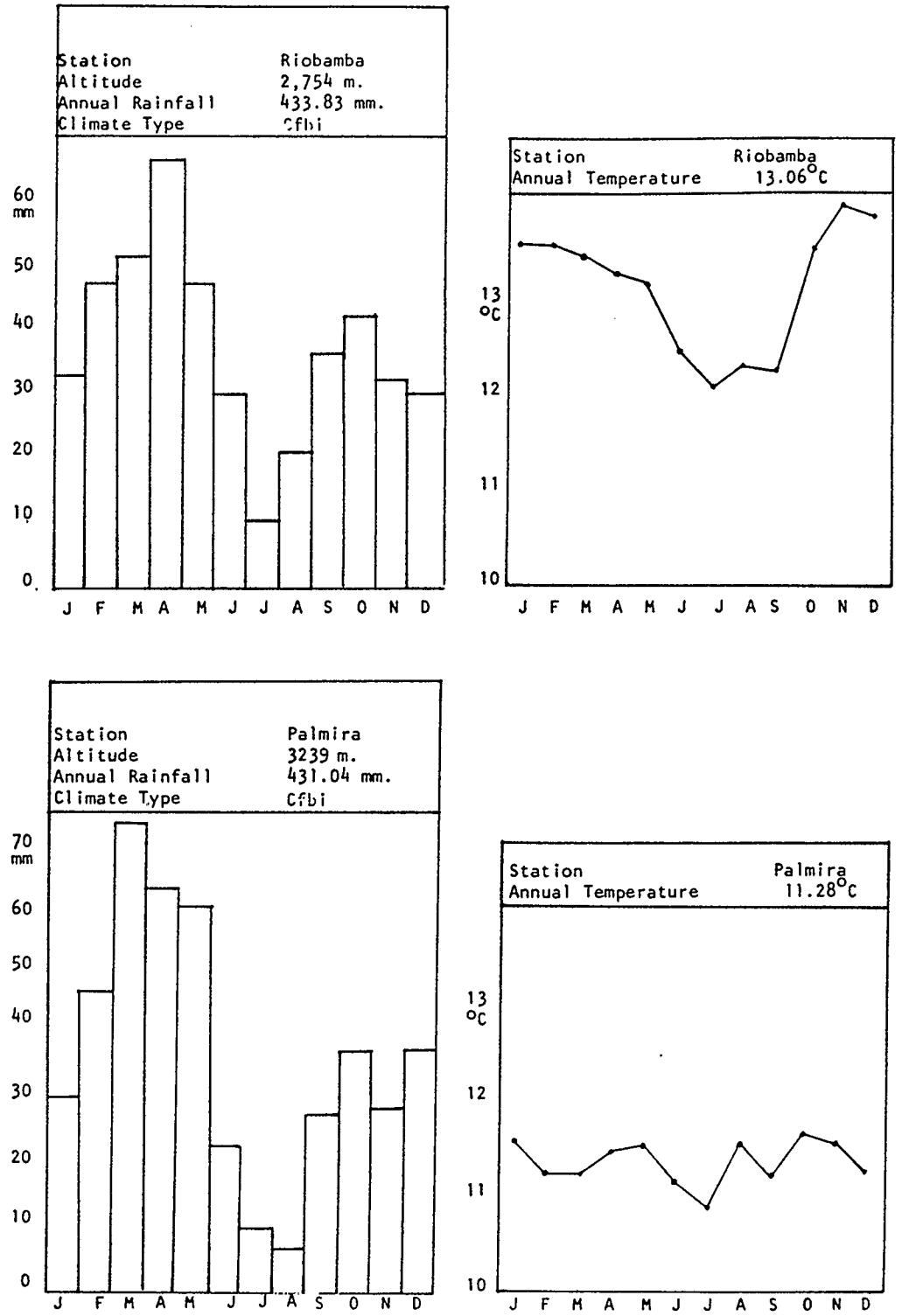
Climate

Figure 6 on page 22 gives average monthly rainfall and temperatures for the centers of Riobamba and Palmira in the Riobamba Basin--the only two localities in the basin for which meteorological data are available. The average annual rainfall for Riobamba is 434 mm, and for Palmira 431 mm. The two stations show mean annual temperatures of $13.1^{0}C$ and $11.3^{0}C$ respectively.

The seasonal temperatures of the two stations vary no more than $2^{0}C$ from their mean annual temperatures. Rainfall, on the other hand, fluctuates widely. For example, the driest month in Riobamba is July, when rainfall averages 8 mm; the wettest month is April at 66 mm.

FIGURE 6

Average Annual Temperature Precipitation for
Riobamba and Palmira



Source: República del Ecuador, Ministerie de Economía, Servicio Meteorológico de Ecuador, Boletín Meteorológico. Nos. 1-4 (1935-53) and manuscript of 1954-57; cited by Frederick L. Wernstadt, World Climatic Data: Latin America and the Caribbean (Pennsylvania: Pennsylvania State University, Department of Geography, c. 1961), pp. 39-40.

The seasons in the basin, therefore, are determined not by temperature but by rainfall. Verano, or summer, occurs during the driest months of June through August (see Figure 6 on page 22). There also is a minor dry season, called veranillo, or little summer, which occurs in late December and in January. The winter season, invierno, corresponds to the months with the most precipitation, which are from September through November and from February through March.

While annual temperature ranges are small in the basin, diurnal temperature ranges are large. For example, temperatures in Riobamba can rise from a low of 0^{0}C at 6:00 a.m. to a high of 18^{0}C or 19^{0}C at noon, after which temperatures begin to drop steadily. Temperatures also vary according to altitude, decreasing, of course, with increasing elevation. However, because the annual range of temperature is low, it is possible to predict the average temperature of a particular locality simply by knowing its elevation (Eidt, 1968:68).

Precipitation totals also change with elevation. Because of the great heights of the Andes, air masses moving across the Pacific and Amazon Lowlands are forced to rise into cooler air where moisture is condensed into cloud and rain. The air masses, and the physiographic make-up of the Andean ranges, have a dramatic effect on the Sierran climates, causing drenching on the windward slopes and leaving rain shadow conditions in the lee of the mountains. As these winds rise upslope, some overspilling of cloud and rain occurs in the upper elevations on the lee of the mountains. This produces a sight frequently seen in the Riobamba Basin--cloud and drizzle blanketing the

mountain peaks and high plateaus (páramos) located far above the valley floors. Since much of their moisture has been removed on the windward slopes and over the towering mountain ranges, the air masses bring increasingly drier conditions as they descend into the lower elevations of the Highland basins. While precipitation data are unavailable for other sites in the basin, Burgos (1970:36) indicates annual average rainfall in the páramo region (elevation between 3,350 - 4,600 meters) of the Cordillera Occidental is in excess of 500 mm. In the páramos of the Cordillera Oriental, rainfall averages over 800 mm. These totals can be compared with the precipitation totals for Riobamba (434 mm) at an elevation of 2,754 meters and Palmira (431 mm) at 3,239 meters.

The change in climate (i.e., temperature and precipitation) with altitude is, however, so predictable in the Sierra that its inhabitants have developed every-day terms to describe it--terms such as tierra caliente, tierra templada, tierra fria, and tierra helada.

According to the Koeppen classification system, the climates of Riobamba and Palmira are Moist Mesothermal (Cfbi). Precipitation in the six "winter" months, October through March, does not exceed 57 percent of the total annual rainfall for either station.[5]

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5 Edwin N Ferdon, ed., "The Climates of Ecuador," in Studies in Ecuadorean Geography (Sante Fe: School of America Research and University of Southern California, Monographs of the School of American Research, No.15, 1950), p. 64, identifies the region from Riobamba through the Guamote Valley to Palmira as BSkwi (Cold Steppe) climates. However, Koeppen's precise definition of the Dry/Humid boundary suggests that a precipitation level of 367 mm or less for Palmira and 401 mm or less for Riobamba is needed in order

However, the descriptions given by travellers leave a vivid impression of a barren, arid region. Lasso (1944:98), for example, makes mention of a small desert of sand dunes situated just north of the town of Palmira. In his description of the Topi Plain, the site of Riobamba, Wolf (1933:70) stated that it "belongs to the most barren and arid regions of the interandean country...the shifting sands, blown about by the winds, invade the fields and sometimes obscure the atmosphere" (Wolf, 1933:70).

The arid appearance of the region is probably the result of severe soil erosion. Intensively cultivated for centuries, most of the basin's natural vegetation cover has been destroyed. Without any vegetation cover, the topsoil has been exposed to the strong mountain winds. In fact, the topsoil is often so eroded on the slopes of the basin that cangahua is very close to the surface or exposed. Cangahua, where exposed, does not support plant life, and permits only the barest of cultivation when close to the surface (Crespi, 1968:135).

Meteorological data for other locations in the basin are lacking. Therefore, any attempt to describe the basin's various climatic types must be interpolated from the sparse, secondary sources (Wolf, 1933; Ferdon, 1950; Cevallos, 1968; Burgos, 1970; Basile, 1974). However, from the information provided in the sources, it appears that at least

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for these stations to be classified--as Ferdon has suggested--Semiarid (B) climates. Although Riobamba's precipitation total is close to the B boundary (434 mm), a desert actually exists near Palmira, even though its rainfall total puts the station clearly within a C climate region. The arid appearance of the basin may be due to severe soil erosion.

four broad climatic types are present within the study area.

Beginning at the extreme heights of the basin with the snow-capped peaks of the volcanoes Chimborazo, Carihuairazo, Tungurahua, Sacaurcu, and Sangay, Koeppen's EF (icecap) climates can be found. Below the mountain peaks to approximately the 3,350 meter contour are found Koeppen's ETi (periglacial) climates. This zone is the high plateau or páramo region of the Sierra. Temperatures in the páramo vary from below 0^0C in the early mornings to about 10^0C at noon (Burgos, 1970:35). Precipitation totals are higher than at the lower altitudes, over 500 mm on the slopes of the Cordillera Occidental, and in excess of 800 mm on the eastern sides of the basin (Burgos, 1970:36). This is a cold, humid area, generally overcast and hidden from view by mists and rain--except in the drier months of July and August--and frequently subject to frosts.

From the 3,350 meter contour to about 2,000 meters are found the Koeppen's Cfbi (Moist Mesothermal) climates, such as those of Riobamba and Palmira. However, it is possible that BShwi (semiarid) climates also occur on a small scale, particularly in the scattered valleys and ravines of the Yaruquies hills. According to Burgos (1970:33), average annual temperatures of this zone range from 10^0C to 15^0C, with mean yearly precipitation totals approaching 500 mm in the west of the basin, and increasing, as one travels eastward, to about 800 mm. The rainfall totals given by Burgos here seem high. A lower limit of 400 mm, based on the data for Riobamba and Palmira, is perhaps more realistic. The upper limit also is presumably lower, although it is difficult to

suggest what this limit might be on the basis of the available data. The eastern region's higher precipitation totals do suggest that the bulk of the moisture which falls in the Riobamba Basin comes from the Oriente--"the result of 'overspilling' of heavy convective cloud masses and showers into the high plateau" (Basile, 1974:22). This is supported by data provided in Burgos (1970:33), which gives predominant wind directions as from the northeast and east.

Vegetation

The vegetation of the Riobamba Basin, as with much of the Highland Region, is closely associated with shifts in altitude and climate. Table 1 gives four separate, vegetation classifications for the Sierra region. The classifications by Miller (1959:184) and Basile (1974:26) are the most detailed. However, neither is truly representative of the vegetation of the Riobamba Basin, rather some melding of the two, with the addition of an Alpine Tundra category, is perhaps most descriptive:

1. Alpine Tundra,
2. Páramo,
3. Humid Sierran Bush,
4. Temperate Forest (now replaced by cultivated fields and introduced trees), and
5. Sierran Xerophytes.

Table 1

NAMES OF VEGETATION ZONES IN HIGHLAND ECUADOR ACCORDING TO CLASSIFICATIONS BY WOLF, DIELS, MILLER, AND BASILE

Wolf[1]	Diels[2]	Miller[3]	Basile[4]
1. Andean Region (Páramos)	1. Páramos	1. Páramos Grasslands	1. Páramo
2. Subandean (The interandean region of cereals)	2. Interandean Cultivated Land	2. Humid Sierran Bush	2. Sotobosque
		3. Sierran Xerophytes	3. Temperate Forest (now replaced by cultivated fields and introduced trees)
		4. Andean Rainforest	4. Scattered Xerophytic

NOTES:

[1]Theodore Wolf, Geography and Geology of Ecuador, trans. by James W. Flanigan (Toronto: Grand & Toy, 1933), p.458.

[2]Ludwig Diels, Beitrage zur Kenntnis der Vegetation und Flora von Ecuador; cited by Eilif v. Miller "Agricultural Ecuador," Geographical Review 49 (April, 1959):184.

[3]Eilif v. Miller, "Agricultural Ecuador," Geographical Review 49 (April, 1959):184.

[4]David G. Basile, Tillers of the Andes (Chapel Hill, N. C.: University of North Carolina at Chapel Hill, 1974), p. 26.

Much of the natural vegetation of the basin, particularly in the intensively cultivated regions between about 2,000 - 3,350 meters and in the Chambo River Valley has been destroyed. Forests are completely absent, and tree cover has been re-introduced only gradually with the scattered plantings of the Australian eucalyptus (Eucalyptus rostrata) beginning late in the 19th century. However, natural vegetation can be found in areas not suited for cultivation, such as in the páramo, and in some of the inaccessible ravines of the other river valleys.

Páramo vegetation extends without interruption between approximately the 3,350 meter to 4,600 meter contours. The predominant vegetation is the Ishu grass (Stipa Ishu), a coarse bunchgrass which forms an upper story about one meter above the ground. The needle-like outer leaves of the Ishu grass remain on the plant after it dies, forming a protective covering for the new leaves growing in the centre. The blending of the brown and yellow colours of these dead leaves with the bright, blue-green of the new leaves, creates the dark, olive-green colouring characteristic of the páramo landscape (Wolf, 1933:467). Spiky, flat-leaved joint grasses (Paspalum) and several varieties of sedge (Andropogon) also are found in the páramo (Basile, 1974:27).

Sheltered between clumps of Ishu grass are smaller, broad-leaved plants. Many of these plants are mountain species of Compositae, the plant family which includes dandelions, thistles, sunflowers, asters, and ragweeds. The distinguishing feature of these plants is their low, compact shape. Their compactness minimizes their surface area, thus

reducing heat loss. By keeping close to the ground, they are also sheltered from the wind, "and to some extent from the cold, since temperatures fluctuate least at ground level" (Morrison, 1975;53).

Ground-hugging rosettes and a variety of woolly, herbaceous species also are among the plants growing in this zone of cold, wet grasslands (Basile, 1974:27). The rosette shape is particularly adapted to the páramo--the overlapping rosette arrangement allows as much of the plant as possible to catch the sun's rays, while shielding the vulnerable growth of new leaves. The Vaccinium, a shrub whose leaves and even, bright red flowers have a rosette arrangement, is an example of the type of plant which thrives in the páramo.

Another example is a variety of Espeletia which grows to heights of up to six meters. This is the Giant Espeletia, known commonly as frailejone (tall friar); it and the puya, are the largest plants to survive the harsh páramo (Morrison, 1975:52). The puya, reputedly the largest herb in the world, can reach heights of up to nine meters. It is thought to be a relict plant from an earlier geological period, surviving the uplifting of the Andes by adapting to, and keeping pace with, the climatic changes (Morrison, 1975:84).

As one approaches the upper regions of the páramo, the grass clumps become shorter and more widely spaced, and the flowers and shrubs give way to mosses and lichens. At still higher altitudes, only the mosses and lichens are found--gradually disappearing toward the snowline (4,600 meters). This is the Alpine Tundra region of the basin.

Immediately below the páramo, between 3,000 and 3,400 meters, is a narrow, fluctuating band of what Miller (1959:189) terms Humid Sierran Bush. It consists mainly of flowering shrubs, such as the red-flowered Thibaudia, the evergreen shrubs Gaultheria, Bejaria, the poisonous Leucothoe, and several species of Cavendishia, Conomorphia, Styrax, Symplocos, and Orthaea (Wolf, 1933:461-462; Macbride, 1959). Also growing in this region is the Pernettya genus, which is the tropical, mountain relative of the cranberry and huckleberry. The berries of the Pernettya are edible as well, but are intoxicating when eaten in excess (Macbride, 1959:135). Other shrubs found are of the genus Buddleia. These fragrantly scented shrubs were used by the Inca for building and firewood because of their durability and strength (Macbride, 1959:240). The zone is also home to a large assortment of herbs, such as Fuchsia, Gentiana, Halenia, Eupatorium, Baccharis, Ecallonia, Gynoxis, etc., as well as ferns (Wolf, 193:461-462; Macbride, 1959).

The zone below 3,000 meters, to about 2,000 meters, is comprised of pasture, cultivated fields, and a scattered assemblage of Australian eucalyptus, xerophytes, low bushes, and small trees. The cultivated fields are mainly of alfalfa (Medicago sativa), wheat (trigo) and barley (cebada)--all European-introduced plants. Of the food plants native to the Sierra, the most widely cultivated is the white potato (Solanum tuberosum). Maize is also cultivated, but in small plots of generally poor yields and quality (Crespi, 1966:264; Burgos, 1970: 260). Higher yielding indigenous plants are quinoa (Chenopodium quinua), oca (Oxalis crenata, O. tuberosa), melloco (Ullucus tuberosum), and mashua (Tropaeolum tuberosum). Ocas, mellocos, and mashuas are tubers. In

addition to these, lentil (Ervum lens), chick-pea (Cicer arietinum), habas or broad beans (Vicia favia), and various beans (frijoles) such as the kidney bean (Phaseolus vulgaris), Lima bean (P. limensis), and Sieva bean (P. lunatus) are cultivated (Wolf, 1933:463; Burgos, 1970:41).[6]

The Australian eucalyptus (especially Eucalyptus globulus) which was introduced into Ecuador in 1865, is the most common tree of this zone (Burgos, 1970:41). The eucalyptus can be found "planted in large, scattered blocks on higher slopes, clustered around farm buildings, or strung along roads and property lines" (Basile, 1974:27). Also found are small groves of a black cherry called capuli (Prunus serotina var. Salcifelia), which is cultivated in the fields and around the huts of the Quechuan-speaking farmers (Burgos, 1970:41). Willow (Salix humboldtiana), some birch (Betula acuminata), and a variety of walnut, nogal (Juglans neotropica)--all introduced species--can be seen scattered throughout the region (Wolf, 1933:359; Basile, 1974:27-8). Of more limited distribution are the apple, chirimoya (Annona cherimola), and quince (Cydonia oblonga). These trees are grown only on the small plains above the Chambo River near Penipe, where moister, warmer climatic conditions prevail (Burgos, 1970:40).

Xerophytic growth, in particular cacti and other succulents, also dot the basin's landscape--becoming more frequent with decreasing altitude. In the zone between 2,000 and 3,000 meters, one of the most common plants is the penco, a member of the Agave family of succulents, usually

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6 Lentil, chick-pea and broad beans are introduced plants.

found along roads and irrigation ditches or in rows separating fields and pastures. Another native of the Riobamba Basin is the "century plant" (Agave americana) or giant cabuya (Furcraea gigantea), which is one of the largest of the Agaves. The cabuya derives its name from the supposition that it blooms only once in a century, although it has been known to bloom in 20 years under favourable conditions (Scott, 1962:93). The genera of cacti common in the region are Opuntia, Espostoa, and Oreocereus.

Below the cultivated zone (i.e., less than approximately 2,000 meters), in the deep valley formed by the Chambo River, xerophytic growth dominates. However, this growth has been reduced significantly through overgrazing by goats, and the use of these plants for firewood (Basile, 1974:28).

Soils

The pattern of Ecuadorian Highland soils is one of distinct soil types occupying differing altitudinal levels. According to Miller (199:190), distinctive, zonal, soil patterns have resulted through the interaction of vegetation and climate with parent materials. The parent material of the Sierra is classified by Miller (1959:190) as recent volcanic ash. According to Miller (1959:194), four major soil types are found in the Ecuadorian Highlands corresponding to the broad belts of

climate and vegetation. They are:

1. Black Paramo soils,
2. Moist Sierran soils,
3. Soft Humic Forest soils, and
4. Dry Sierran soils.

All except the Soft Humic Forest soils are found in the Riobamba Basin.

Encircling the Riobamba Basin, between approximately 3,350 to 4,600 meters, is a band of Black Paramo soils. These soils are developed under the cool, damp climate, and the characteristic bunch grass and herbaceous vegetation, of the páramo. They are black, their colouring the result of large amounts of organic matter. Although high in organic content, the Black Paramo soils are infertile due to their acidity and high aluminum content (Basile, 1974:28).

Downslope from the Black Paramo soils, and developed from the shrub-brush and herbaceous cover of the Humid Sierran Bush land, are the Moist Sierran soils. Climatic conditions are somewhat warmer and less humid than in the páramo. These conditions, in conjunction with the vegetation cover, have created soils which are equally black like the Black Paramo soils, but are much more fertile (Basile, 1974:29).

The remainder of the basin is comprised of the Dry Sierran soils. These soils, which vary from light grey to almost black in colour, are "derived from volcanic ash and tuff under scattered grasses and low,

bushy vegetation" (Basile, 1974:29). They are somewhat alkaline, calcareous, and "rich in potassium and magnesium" (Basile, 1974:29). The A Horizon (i.e., topsoil) of the Dry Sierran soils varies in depth according to the slope of the land (Crespi, 1969:135). In the level lowlands of the basin, the A Horizon is thickest. On the basin's sides, below around 3,000 meters, intensive cultivation and primitive farming techniques have eroded the topsoil, frequently so severely that cangahua is either just beneath the surface or exposed, in almost vertical columns, on the surface.

Animal Life

The native animal life of the Ecuadorian Highlands, although similar in many ways to the mountain fauna of North America, is nevertheless unique--a result of the peculiar geologic history of the South American continent.[7] For example, the caviomorph rodents, named for the

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7 Geological and paleontological findings suggest South America was cut off from North America throughout the Tertiary. This marine barrier, which is believed to have extended from the Pacific to the Caribbean through present-day Colombia, could only be crossed by small animals. The ancestors of the present-day marsupials, anteaters, armadillos, and sloths are thought to have arrived at the South American continent sometime in the early Paleocene in this manner (i.e., island- hopping). Rodents (caviomorph rodents) and primates also are believed to have entered South America by island-hopping, although not until the Oligocene. The North American animal groups colonized in particular the marginal environments of South America--the Andes, the deserts, and the

well-known guinea pig (Cavia), are peculiar to South America. The domesticated guinea pig provides a food source and cash item for the inhabitants of the Ecuadorian Highlands. Rarely seen but also present throughout the Sierra, are several species of wild guinea pigs (Cavia porellaneous, c. cutleri). The viscacha, a caviomorph rodent closely related to the almost extinct chinchilla (Chinchilla laniger) of the Andes, also lives in the páramo (Bates, 1964:57). There is also the tuco-tuco--the Andean equivalent of the pocket gopher--which looks curiously like a spiky-haired rat.

Rodents, such as hamsters (Cricetus), field mice, and rats, arrived in this region during the Pleistocene. Familiar North American species of rabbits (Leporidae), squirrels (Sciuridae), and the Mustelids (i.e., skunks, weasels, otters, etc.) also abound. One Mustelid specie which has evolved in the Andes is the grison--a type of weasel which was domesticated by the Indians and trained to hunt chinchilla (Bates, 1964:12).

Perhaps the most interesting inhabitant of the Sierra is the mountain tapir (Tapirus pinchaque or T. roulini). Although the tapir, with its long snout, heavy body, woolly black pelt, and delicate legs and hoofs, looks like a relic of this continent's past, it is actually a relative

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colder, southern regions--during the Late Pliocene when a land-bridge arose between Central and South America. These environments also contain the more hardy of the older, faunal stock such as opposums (marsupial), armadillos, and caviomorph rodents. For further information, the reader is referred to E. J. Fittkau, et. al, ed., Biogeography and Ecology in South America. Vol. 1. (The Hague: Dr. W. Junk N. V. Publishers, 1968).

of the horse (Bates, 1964:84). The tapir is found above the cultivated lands and near water, in which it spends a great deal of time. Shy, gentle creatures, tapirs feed primarily on the grasses, Espeletia, and puya fruits of the páramo. Equally shy and gentle is the pudu (Pudella mephistophelis). Barely 30 centimeters tall, the pudu is the smallest deer in the world.

Among the mammals of the Ecuadorian páramo is the rare spectacled bear (Tremarctos ornatus), called ucumari by the Quechua Indians. Ucumari is the only Southern Hemisphere representative of the Ursidae (Dorst, 1967:187). This bear is black except for white rings around its eyes, giving it the appearance of wearing a pair of glasses. It feeds primarily on roots and fruits, although it has been known to raid the fields for maize and, occasionally, to kill young cattle for food (Dorst, 1967:187).

Several other carnivores are found in the páramo. According to Mann (1968:184-5), two species of small wild cats (Felis (Oreailurus) jacobita and F. (Leopardus) tigrina) and the familiar mountain lion or puma (Felis (Puma) concolor) inhabit the region. Cevallos (1968:65) also makes mention of wolves (lobos) and foxes (zorros).

Birds are relatively numerous in the Sierra. Vultures (Vultur; Cathartes), hawks (Buteo; Geranoaetus), caracaras and falcons (Phalcoboenus; Falco) are some of the birds seen in the region (Olrog, 1969:870). The largest of the vultures is the Andean Condor. Weighing close to 12 kilograms with a wing span of three meters, the condor is

one of the world's biggest flying birds (Bates, 1964:104).[8]

Among the larger domesticated animals of the Sierra are cattle, sheep, horses, donkeys or asses, mules, and swine, all of which were introduced by the Spanish during the 16th century. These livestock are descendants of many of the original Spanish breeds. Only in this century have new breeds, such as Holstein cattle, been introduced in any significant numbers. The larger animals generally are not used for food by the indigenous population. Oxen are utilized as draft animals, sheep for fertilizer and wool, and horses, donkeys or asses and mules for transportation. Swine are cash items, which are usually sold in the local marketplace after fattening (Crespi, 1968:253). Small animals such as guinea pigs and chickens are common-place in most households, but their consumption is primarily reserved for religious occasions. Vicuña and llamas are rare in Ecuador. There is archaeological evidence suggesting they were present in the region in pre-historical times, but their extensive use as livestock did not occur until after the Inca

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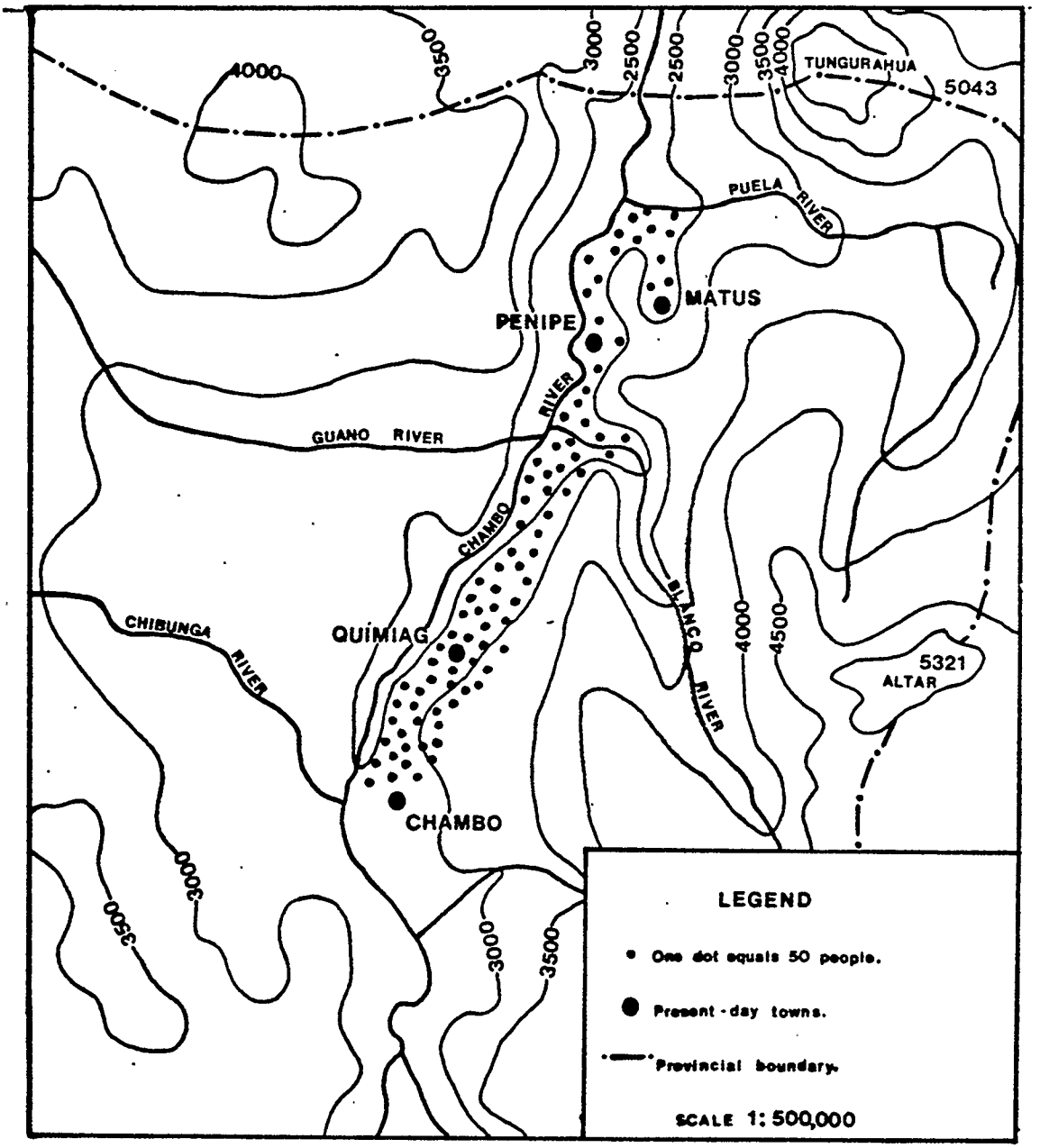
8 Among the other birds are several seed-snipe genera (Attagis; Thinocorus), which resemble grouse, a genus of ground-doves (Metriopelia), numerous ovenbirds (Geositta; Cinclodes; Upucerthia; Ochetorhynchus, etc.), and some tyrant fly-catchers (Agriornis; Muscisaxicola) and finches (Idiopsar; Phrygilus; Spinus; Sicalis). One species typical of the paramo is the mountain tinamou (Northoprocta pentlandii and ornata). The tinamou is a poor flier which resembles the partridge, but it is believed to be related to the flightless rheas of the pampas. A few hummingbirds also are typical of the paramo. In the area of the volcano Sangay, the hummingbird Metallura williami atrigularis builds its nest to hang precariously above the mountain torrents. Higher still, near the snowline of Mount Sangay, the female of the species Chalcostigma Stanleyi rears its young. See C. C. Olrog, "Birds of South America," in Bigeography and Ecology in South America, vol. 2, ed. by E. J. Fittkau, et. al (The Hague: Dr. W. Junk N. V. Publishers, 1968), pp. 849-78.

conquest of Highland Ecuador in the late 14th century. Llamas, in particular, were brought north by the Inca in large numbers, however, they were replaced by European livestock before they could take firm hold in the Sierra (Murra, 1946:792, 810).

The Encomienda Towns Today

The population of what was the encomienda de Cepeda in 1602-03 can be found in the towns of Químiag, Penipe, and Matus, and on the slopes of the Cordillera Oriental between 3,000 and 3,500 meters. In 1602-03, most of the inhabitants of the encomienda probably lived scattered among the ayllus between 2,500 and 3,000 meters. Figure 7 on page 40 gives a rough approximation of the distribution of the encomienda's population on the date of the revista.

Figure 7. Approximation of the Population Distribution of the Encomienda de Cepeda, 1602-03



Over the centuries, the native inhabitants of the region have been forced to move their farms into the higher and steeper terrains. The spread of the large Spanish estates into the valley bottom and south of the town of Penipe has been one cause for the shift in the locus of settlement in the region. A second reason has been extreme population pressure on the land in this century.

Químiag, Penipe,and Matus today are parish cabeceras (administrative centers of the parish). The parish (parroquia) is made up of smaller units, called anejos. The anejos are the lowest level of political organization in Ecuador, generally lacking representation to the higher units; which are the parish, canton, and province, respectively (Crespi, 1968:91).

Although administrative centers, these towns constitute quite small settlements. In 1962, Químiag had 538 inhabitants, Penipe 658, and Matus 96.[9]

I have not found more recent figures in the secondary sources covering units below that of the province. The latest national census of 1974 presumably gathered such information but, according to Preston (1979:2), only provincial-level data had been published by 1979. The

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9 These figures are from the 1962 Ecuadorian census, which I have obtained from Burgos (1970). Junta Nacional de Planificación Económica (JNPE), Censo 1962, Provincia de Chimborazo, Table 1, pp. 95, 266-7; cited by Hugo Burgos Guevara, Relaciones Interétnicas en Riobamba (Mexico: Instituto Indígenista Interamericano, Departmento de Antropología, ediciones especiales, no. 55, 1970), Table 1, p. 51.

1962 census thus is the most up-to-date information of the study region provided in the secondary sources.

The data given in the census on town size should be relatively representative of the size of Químiag, Penipe, and Matus today, since these towns probably have grown little in the past two decades. Essentially, any increase in the populations of the small towns and rural areas of the Riobamba Basin has been siphoned off by migration to the provincial capital of Riobamba, and to the cities of Quito and Guayaquil (Burgos, 1970:114; Bromley, 1977:30; Preston, 1979:23). Riobamba, for example, grew by 10.7 percent between 1962 and 1974 (from 52,411 to 58,000 inhabitants), some of this growth being attributable to in-migration (Preston, 1979:3). However, many migrants tended to leave the basin for the two cities of Quito and Guayaquil. According to Preston, the provinces containing these two cities, Guayas and Pichincha, accounted "for around two-thirds of the inter-provincial migration and over half of all migration..." in Ecuador in 1974 (Preston, 1979:23).

Quito (880,971 inhabitants), the nation's capital, and Guayaquil (1,278,908 inhabitants), its main port and commercial center, dominate the country. Between Quito and Guayaquil resides the bulk of Ecuador's wealth and power, and fully 33 percent of its population (total population was 6,521,710 in 1982) (Demographic Yearbook 1982, 1984:136, 248). The dominance of these two cities over the rest of the nation is staggering, and there is evidence that they are becoming more supreme with time.[10] According to Bromley, "if this tendency continues, all of

the areas of Ecuador outside the immediate localities of Quito and Guayaquil will gradually be converted into a vast 'national periphery'" (Bromley, 1977:34).

With the growing supremacy of Quito and Guayaquil over the remainder of the country, localities like the Riobamba Basin have had limited opportunites for change. Its population, for example, is predominantly rural. In 1962, 77 percent (152,525) lived within the countryside. Most (80 percent, or 87,022) lived in huts scattered on the steep, mountain slopes above the towns, from about 3,000 to 3,500 meters. These hillside communities formed the anejos of the basin. The rest of the population classified as rural (10 percent, or 14,638) in 1962, resided within parish cabaceras like Químiag, Penipe, and Matus.[11]

As with most Highland towns, Químiag, Penipe, and Matus can boast of a central plaza, school, church, post office, telephone office, jail, and an office for the parish administrator (Crespi, 1968:105-6). However, despite their roles as administrative centers, most of the residents of these cabeceras rely upon agriculture to supplement their incomes, which means the townspeople form part of the rural peasantry within the nation.

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10 As an example of their increasing supremacy, Quito and Guayaquil had 14.8 percent of the total national population in 1950, 18.6 percent in 1962, 21.2 percent in 1974, and an estimated 33 percent in 1982.

11 Junta Nacional de Planificación Económica (JNPE), Censo 1962, Provincia de Chimborazo, Table 1, pp. 95, 266-7; cited by Hugo Burgos Guevara, Relaciones Interétnicas en Riobamba (Mexico: Instituto Indígenista Interamericano, Departamento de Antropología, ediciones especiales, no. 55, 1970), Table 1, p. 51.

The economies of these towns are based primarily on supplying the needs of neighbouring haciendas and/or the inhabitants of the anejos. As such, the townspeople are employed in a wide variety of specified services, as tailors, hacienda employees, carpenters, shoemakers, bar-keepers, masons, leather tanners, etc. Few of the town dwellers can depend solely on the sale of their services, but must augment their incomes by cultivating one or more plots of land, generally on a share-cropping basis, and by raising livestock.

Pueblenos (residents of the towns) generally own some land, but their plots of several hundred square meters are too small to provide anything but limited sources of income (Crespi, 1968:110). The town dwellers thus are minifundistas. However, the minifundias, or minimally-sized plots of land that they cultivate, are unable to support them even at a subsistence level. Moreover, the townspeople are prevented from expanding the size of their plots by the extensive holdings of the large estates, and the general unavailability of land in the region.

Large estates are located in the parish of Químiag. According to information provided in Burgos (1970:109), residents of the town of Químiag and the surrounding anejos work as labourers on the haciendas, and some had been peones on these estates prior to 1964. In 1964, an agrarian reform law was passed which gave workers on estates title to the plots of land they worked in return for their labour on the estates, abolishing on paper what was known as the huasipungo system. Under the huasipungo system, the estate worker or huasipunguero had gained access to a plot of land on the hacienda known as a huasipungo, in exchange for

his labour and some wages. Although the huasipungueros have received usufruct rights to their plots of land, many of these plots are "too small to absorb the labour potential of the families they sustain...", with the result the haciendas still can draw upon the labour of the rural peasantry by paying "abnormally low wage rates..." (I. B. R. D., 1973:22).

The parish of Penipe, on the other hand, is comprised of "free communities", which Burgos describes as "centros donde existen indios libres y minifundistas no muy afectados por el sistema de hacienda" (Burgos, 1970:96). To elaborate, the residents of the town and parish have never been peones of the large landed estates of the region, but have held usufruct rights to their lands throughout the Colonial and modern periods.

Although the townspeople of Penipe and Matus are not limited in their expansion by the haciendas, (i.e., they may add to their holdings by purchasing title to the small plots of land owned by the anejo dwellers), they nevertheless are restricted in growth by severe competition for land. We can illustrate the restricted access to land in the region by using 1962 information contained in Burgos (1970). In 1962, there was an average of .5 hectares of cultivable land per person in the Riobamba Basin.[12] This average would have been much smaller had the less populated hacienda lands been excluded from the calculations.

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12 Junta Nacional de Planificación y Coordinación Económica, Segundo Censo de Población y Primer Censo de Vivienda (Quito: n. p., 1962); cited by Hugo Burgos Guevara, Relaciones Interétnicas en Riobamba

Another indication is the size of the individual land holdings. Table 2 gives ranges of farm size assessed by the Oficina de Catastros in the canton of Riobamba between 1951 and 1962. The canton boundaries are formed by the Guano and Chibunga Rivers until they meet the Chambo River. The canton boundaries then extend across the Chambo River toward the eastern edge of the province, including Quimiag but not Penipe and Matus. The landholdings in the canton in 1962 consisted mainly of plots of less than one hectare in size (51.2 percent were less than one hectare). Almost 90 percent (89.8 percent) were five hectares or less.[13] By contrast, only 0.8 percent of the land area was recorded as larger than 100 hectares. According to Burgos (1970:182), the larger holdings varied in size from 100 to 8,000 hectares.

The competition for land in the basin is probably even greater today, judging from national figures on land size. While the percentage of minifundias in the nation declined by 6.3 percent (from 74.3 percent to 68.0 percent between 1968 and 1974, there was a 12.2 percent increase in Ecuador's population (Martz, 1972:6-8; Bromley, 1979:23,35). Most of the increase occurred in the urban areas, and at the expense of the

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(Mexico: Instituto Indígenista Interamericano, Departmento de Antropología, ediciones especiales, no. 55, 1970), Table 6, p. 80.

13 The farm size in the Riobamba Basin in 1962 represents the size of landholdings prior to the Agrarian Law Reform in 1964. However, although many small farmers received usufruct rights to their lands as a result of the Law, the minifundista has actually lost in the competition for land since 1962. For example, while landholdings of under five hectares have decreased (from 74.3 percent in 1968 to 68.0 percent in 1974) and middle-size holdings increased (from 21.7 percent in 1968 to 27.0 percent in 1974), the drop in the former and rise in the latter was due mainly to land speculation and not to land redistribution (Bromley, 1979:62).

rural areas.[14] The growth in the urban sector was due to migration from the rural areas and to natural increase in the cities (Martz, 1972:10). According to Bromley (1979:30), overpopulation and increased pressure for land in the Highland basins, has been a major reason for the large movement of people toward the urban centers.

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[14] The 1968 and 1974 landholding information came from First Agricultural Census, 1954 and Encuesta Agropecuaria Nacional, 1968; cited by I.B.R.D. (International Bank for Reconstruction and Development), The Current Economic Position and Prospects of Ecuador (Washington, D.C.: John Hopkins University Press, 1973), Table 7.3, and OCN, III censo de poblacion y II de vivienda (Quito: n.p., 1974); cited by The World Bank, Ecuador: Development Problems and Prospects (Washington D.C.: The World Bank, Latin America and the Caribbean Regional Office, 1979), p. 1. The 1974 population material was derived from The World Bank, Ecuador: Development Problems and Prospects (Washington D.C.: The World Bank, Latin

Table 2

Distribution of Landholdings by Size
in the Canton of Riobamba (1951-62)

Size of Holdings (in Hectares)	Number of Holdings No.	%
Less than 1	2,180	51.2
1 to 4.9	1,643	38.6
5 to 9.9	190	4.7
10 to 19.9	99	2.3
20 to 99.9	104	2.4
100 to 199.9	14	0.3
200 to 499.9	5	0.2
500 or greater	16	0.3
TOTAL	4,251	100.0%

Source: Data from the Oficina de Catastros y Avalúos Municipales del Canton Riobamba, compiled by Hugo Burgos Guevara, Relaciones Interétnicas En Riobamba (Mexico: Instituto Indígenista Interamericano, Departamento de Antropología, ediciones especiales, no. 55, 1970), Table 11, p.183.

With such land pressures in the basin, pueblenos must gain access to scarce agricultural resources by entering into sharecropping arrangements with members of the anejos or by renting plots and pasture land on the haciendas. The sharecropping of the land of the anejo member generally takes place "within the context of the compadre, or ritual co-parenting relationship", although rental arrangements also occur (Crespi, 1969:113). The compadre relationship commonly begins with a couple's marriage. A puebleno will be asked to complete the necessary paperwork for the civil and religious ceremony. This task establishes a bond between himself and the couple, which generally lasts throughout their lifetimes, and "sets up reciprocal relationships of variable complexity and solemnity".[15] One of these relationships is the economic one of sharecropping the couple's land in exchange for the puebleno's knowledge, contacts, and comparative wealth, etc.

Ethnic Characteristics

America and the Caribbean Regional Office, 1979), p. 177 and OCN (Oficina de los Censos Nacionales), III censo de poblacion y II de vivienda: resultados provisionales (Quito: n.p.,1974); cited by R. J. Bromley, Development Planning in Ecuador (London: Latin American Publications Fund, 1977), Table 9, p. 35.

15 Eric R. Wolf and Sidney W. Mintz, "Haciendas and Plantations in Middle America and the Antilles," Social and Economic Studies 3 (1957):355; cited by Muriel K. Crespi "The Patrons and Peons of Pesillo: A Traditional Hacienda System in Highland Ecuador" (Ph. D. dissertation, University of Illinois, 1968), p. 113.

Closely associated with the pattern of minimally sized properties (minifundias) are those segments of the Ecuadorian population which occupy "the lowest rung[s] in the national socio-economic hierarchy" (Crespi, 1969:75). These segments comprise the Indian (indio), mestizo and cholo populations common in the Sierra and the Negroes (morenos), mulattos, and zambos on the coast (Whitten, 1965:144-147; Crespi, 1968:73).

In the study area, Indian and cholo are the two predominant ethnic groupings[16]. According to Burgos (1970:60, 66-7), cholos live in the towns, and in the hillside communities surrounding Penipe and Matus. The population surrounding the town of Químiag, he gives as Indian. He makes the distinction between the two ethnic groupings according to type of housing and dress, language spoken, and literacy rates. Although Indian and cholo were racial terms in the past, Burgos suggests they are now cultural designations, especially as racial mixing has occurred

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16 Norman E. Whitten, Jr. in An Analysis of Social Structure and Change: Profile of a Northwest Ecuadorian Town (Ph.D., dissertation, University of North Carolina, 1964), p.142, provides Ashley Montagu's, An Introduction to Physical Anthropology (Springfield, Illinois: Charles C. Thomas, 1960). pp. 698-9, definition of "ethnic group." The term ethnic group, according to Montagu,

> "may be applied to any group concerning which physical and cultural traits are so identified that it is given a certain distinctiveness which appears to separate it from other groups. The phrase may also be used as embracing the definition of race in the biological sense, and particularly groups which are less clearly defined, which may or may not be races in the absence of the necessary scientific demonstration. All that we say when we use the phrase 'ethnic group' is that here is a group of people who physically, and perhaps in other additional ways, may be regarded as a more or less distinct group."

since the Spanish Conquest (Burgos, 1970:59-60).

The Indian population around the town of Químiag dwells primarily in chozas, huts which have walls made of cangahua, thatched roofs, and hard-packed floors (Burgos, 1970:60). Cholos live in casas. These are constructed of adobe brick usually painted white, "and are roofed with bright red tiles" (Crespi, 1968:232; Burgos, 1970:60).

The Indian population is distinguished by its unique dress. The women wear several long woollen skirts. Their blouses are white and elaborately embroidered. Woollen or cotton shawls are worn over the blouses. The Indian men of the region are distinguished by their short white trousers, white shirts, and ponchos of wool (Burgos, 1970:64, 197). Both sexes wear felt hats, generally with "slouch"-type or hard rims, and sandals "having a strap around the ankle and a piece of cloth wound across the instep" (Crespi, 1968:95). The cholo women, on the other hand, wear knee-length skirts or dresses, and leather shoes or runners. The men wear long pants of wool or denim, and leather shoes or occasionally boots (Crespi, 1968:95; Burgos, 1970:180). Like the Indian population, the women wear shawls and the men ponchos, and both sexes sport felt hats.

According to Burgos (1970:60), illiteracy is extremely high among the Indian population. He reports rates of illiteracy of 98 percent for women and 90 percent for men in the basin (Burgos, 1970:60). Burgos (1970:331) indicates the cholo population has a higher literacy rate, although he does not give figures to substantiate this. However, he

does suggest that most cholos have had three or four years of schooling (Burgos, 1970:331).

Finally, Burgos (1960:60) indicates that, by and large, the Indian female population speaks only Quechua, while the Indian male population speaks both Quechua and Spanish. Both sexes of the cholo population are bilingual.

Demographic Characteristics

Little has been published on the demographic characteristics of the Riobamba Basin's population. All information in the secondary sources, other than that provided in Burgos (1970), is on the provincial level and very general. Therefore, Burgos's (1970) study will be relied upon to build a picture of the demographic pattern of the region.

Table 3 gives data on age and sex for the cantons of Riobamba and Guano derived from the 1962 census (Burgos, 1970: Table 2, 56). The towns of Penipe and Matus are located in the canton of Guano, and Quimiag in the canton of Riobamba. The data indicate that of the total population of the cantons of Riobamba and Guano in 1962 (146,558), 49.5 percent were male (76,508) and 50.6 percent were female (78,192). These figures represent a sex ratio of 97.9 for the area.[17] Such a balance

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[17] Sex ratio = male population/ female population x 100.

between the sexes suggests a relatively stable population, or at least one in which the out-migration of males from the region was primarily temporary. According to Burgos (1970:88), out-migration of males consisted of temporary employment on the coast. Although he mentions there are no statistics on the volume of this migrational stream, he does suggests that between 25-30,000 men traveled back and forth annually to work in the Costa. Migration to Quito and Guayaquil also was significant, but it had little effect on the sex ratio, since much of this migration consisted of the permanent move of whole families (Burgos, 1970:99).

Table 3

Distribution of the Population By Age and Sex
in the Cantons of Riobamba and Guano, 1962

CANTON	TOTAL	All Ages By Sex		Age Groups	
		Male	Female	0 - 14	15 & Over
Riobamba	119,345	59,058 (49.5%)	60,287 (50.5%)	48,072 (40.3%)	71,273 (59.7%)
Guano	35,413	17,508 (49.4%)	17,905 (50.6%)	13,582 (38.4%)	21,831 (61.6%)
Total	154,758	76,566 (49.5%)	78,192 (50.5%)	61,654 (39.8%)	93,104 (60.2%)

Source: Junta Nacional de Plancificación y Coordinación Económica (JNPE), III Censo de Población y I Censo de Vivienda, 1962; cited by Hugo Burgos Guevara, Relaciones Interétnicas En Riobamba (Mexico: Instituto Indígenista Interamericano, Departamento de Antropología, ediciones especiales, no. 55,1970), Table 2, p.56.

Table 3 also shows that, in 1962, 39.8 percent (61,654) of the population was under the age of 15. This can be compared with the national distribution of the population under the age of 15 of 53.4 percent in 1960 (I.B.R.D., 1968: Table 1.7). The smaller proportion of the population under the age of 15 in the Riobamba region was the result, in part, of a lower birth rate and higher mortality rate than the national average (see Table 4). In 1962, the crude birth rate for

the cantons of Riobamba and Guano combined was 38.8, and the crude death rate was 15.5. The annual rate of natural increase was thus 2.3 percent. On the national level, the rates were 44.2 and 13.5, respectively, representing a per annum growth rate of 3.1 percent in 1962, which was considerably higher than the rate of natural increase in the Riobamba Basin area. However, part of the explanation for the relatively small 15 and under cohort in the region might be found in the out-migration of young couples who had yet to have children, or who had just started their families. The migration of these young families to the larger centers could explain some of the higher birth rates of the urban areas.

Table 4

Mortality and Fertility in Ecuador and the Riobamba Basin in 1962

	Indian Community (Licto) 1962	Riobamba Basin (Cantons of Riobamba, Guano, and Colta) 1962	Ecuador 1962
Crude Birth Rate	43.2	38.8	44.2
Crude Death Rate	31.0	15.5	13.5

Source: Hugo Burgos Guevara, Relaciones interétnicas en Riobamba (Mexico: Instituto Indígenista Interamericano, Departmento de Antropología, ediciones especiales; no. 55, 1970), Table 5, p. 77.

While Saunders (1961:55) suggests the national figures suffer from being underreported, the differences between the study region and the nation are still notable. They are even more marked when only the indigenous community is considered. While the fertility rate among the Indians was roughly comparable to the national figure at 43.2 births annually per 1,000 population, their death rate of 31.0 was over double that of the nation's (see Table 4).

Improper nutrition, poor hygiene and sanitation, and a lack of medical facilities, are cited by Burgos (1970:79) as reasons for the higher death rate among the basin's indigenous population. However, a

possibly greater reliance on folk remedies, and the failure of the medical community to overcome the reluctance of the Indians to submit to innoculation, might account for some of the variation in death rates between the Indian community, the rest of the region, and the nation as a whole.

Chapter 3

THE HISTORICAL DIMENSION

Introduction

This chapter places the encomienda de Cepeda within the context of Spanish Colonial Ecuador (i.e., within the audiencia of Quito). The indigenous peoples of Ecuador were conquered first by the Inca in the late 1400s, and then by the Spaniards less than a century later (c. 1534). Although information on the Inca occupation is sparse, it is sufficient to indicate the successful rooting of the Inca imperial system in Ecuador. Several features of the Inca system, the mita (a draft labour system) and native administrative hierarchy, were utilized by the Spanish in their conquest and colonization of the country.

As we know, the Spanish Conquest dramatically affected the native cultures of the New World. Its most terrible consequence was the rapid decline of many of the Amerindian populations. Cook and Borah (Ibero-Americana 45, 1963:88), for example, estimate that the indigenous population of Central Mexico declined from 25.2 million on the eve of Conquest (c. 1519), to one million, less than a hundred years later (c.

1605). The primary causes of the demographic decline were the introduced diseases: smallpox, typhus, measles, influenza, diptheria, whooping cough, dysentry and bubonic plague, as well as cholera, malaria, and yellow fever in the tropics (Crosby, 1967:322; Phelan, 1969:46; Dobyns and Doughty, 1976:36). Did the population of Colonial Ecuador also experience a decrease in numbers in the first century of contact? What do modern scholars believe was the demographic pattern of this region in the early 17th century, when the revista was being carried out in the encomienda? What is known of the population trends of Colonial Ecuador after the time of the revista?

The Spanish Conquest also caused tremendous changes in the social and economic lives of the New World populations. In Colonial Ecuador, the primary socio-economic institutions of Spanish colonization were the encomienda, the corregimiento, the mita (a modified form of the Inca labour system), and the large Spanish estates. What were the major feature of these colonial institutions in the Sierra region of Colonial Ecuador? What do we know of their effect on the indigenous communities of the region? The latter question is asked with the purpose of assessing in what manner these institutions shaped the lives of the encomienda's Indian population. Finally, what happened to these institutions, and what were their effects on the natives of the Sierra, after the Colonial period ended?

Inca Conquest

The Sierra region of Ecuador was dominated by the Pasto, Cara, Panzaleo, Puruhá, and Cañari tribes until the late 15th and early 16th centuries, when they were supplanted by Quechua-speaking Inca invaders from the south. The Panzaleo, Puruhá, and Cañari, who inhabited the provinces south of modern Pichincha, were subdued after much resistance, and incorporated into the Inca Empire by 1471 (Crespi, 1968:31). The northern conquests were postponed, according to Murra because "resistance was so fierce in Cara country..." (Murra, 1946:808). It was not until about 1525 that the Inca were able to conquer the Cara and Pasto tribes, and bring all of Ecuador under their dominion (Steward and Faron, 1959:114).

The Puruhá inhabited the present-day territories of Chimborazo and Bolívar provinces. An anonymous 16th century Spanish observer listed the towns of Calpi, San Andres, Guano, Ilapo, Penipe, Quimnia, Achambo, El Molino, Pungalá, Licto, Punín, and Yaruquíes as Puruhá centers (Murra, 1946:797). The towns of Penipe, Quimnia, Achambo, and El Molino were to be granted en encomienda to Don Lorenzo de Cepeda and Francisco Guárez de Figuesa sometime after the Spanish Conquest.

Little is known of the Puruhá. They appear to have been organized under the leadership of one "king", who controlled a series of local chieftains. Their area was densely populated, and they were renowned

for their skill in weaving cotton and the hard fiber, giant cabuya (Furcraea gigantea). According to myth, the Puruhá were descendants of the two volcanoes Chimborazo, the male, and Tungurahua, the female. They worshipped the volcanoes and made human sacrifices to Chimborazo.

The Puruhá, along with the southern Cañari tribe and the northern Cara, gave the Inca invaders their stiffest opposition. After the conquest, many members of these native tribes were removed to other areas of the Empire, and replaced by mitimaes (settlers). The mitimaes also were conquered peoples, but they had long been under the aegis of the Inca, and could be counted on to settle peacefully into the new region. Oviedo, who had accompanied the Spanish conqueror Benalcázar, reported that "all inhabitants of Chimborazo were now either Quechua- or Aymara-speaking Indians from Bolivia, the Puruha having been deported south" (Murra, 1946:810). Murra believes Oviedo exaggerated the mitimae resettlement of Chimborazo, "as Puruhá was spoken locally as late as 1692...", but concludes that population displacement was nonetheless significant (Murra, 1946:810).

Inca domination of Highland Ecuador lasted only a short time. The northern area was not conquered until 1525. Seven years later, Pizarro landed in Peru, and in 1534, Quito was founded. The extent of the Inca's impact on Ecuador remains relatively unknown in the absence of substantive data. However, Murra suggests the Inca's brief occupation gave way in general to "tremendous movements of population, the raising of armies and the implicit collective action, the building of cities, fortresses, temples and roads, the facilitation of intertribal

communication, and...increased material well-being..." (Murra, 1946:811). It was not, he adds, "very throughgoing in such fields as sacred belief, where traditional attitudes and mythology survived ...[but]...it undoubtedly had a profound effect on such elements as subsistence, land tenure, and social organization" (Murra, 1946:812).

Land under the Inca was organized on the basis of the ayllu, which Rowe (1946:253-55) describes essentially as an endogamous kin group occupying a distinct territorial unit, and following certain common rules of crop rotation, under the leadership of a hereditary chieftain or cacique (also curaca). Rowe (1946:255) also writes that the ayllus were administrative and political units. This is supported by Murra, who defines the ayllu as "increasingly an imperial administrative division" (Murra, 1946:809). The members of the ayllus cultivated their own plots, but they also were required to till Inca state and temple lands and to participate in the mita, a general labour draft which included service in the army, mines, and to Inca nobles, and labour for public works. A native administrative hierarchy, each official responsible for a specific number of taxpayers, provided the apparatus for control and recruitment of the indigenous population.[18]

The ayllu, with a native official at its head, formed the basis of the political and social organization of the Indian communities of Cepeda's

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18 The Inca administrative hierarchy was based on increments of the unit 10 where, for example, officials called hunukurakas controlled 10,000 taxpayers; hurangas, 1,000 taxpayers; and, pachacas, 100 taxpayers.

encomienda. What will the revista be able to tell us about the ayllu unit and the chieftain class of caciques? That is, had the ayllu and cacique class retained their basic pre-conquest forms to 1602-03?

Spanish Conquest

Ecuador was incorporated into the Spanish Empire two years after Pizarro's conquest of Peru. The Spanish Conquest of Highland Ecuador was carried out in 1534 by Sebastián de Benalcázar, a lieutenant of Pizarro's. The death of the Inca heads of state, particularly Atahualpa, and the routing of the Inca army, had left the native population leaderless, and with the aid of the Cañari, who acted as guides and allies, the Spanish were able to rapidly quell local resistance and sever Inca political domination. The first Spanish settlement on Ecuadorian territory was Santiago de Quito, established near the present-day site of Riobamba. Soon afterward, San Francisco de Quito, the capital of modern Ecuador, was founded. It was the beginning of Spanish colonial rule which lasted until 1822.

Spanish Colonization

Both the natural and human resources of Highland Ecuador were conducive to Spanish settlement. They could be harnessed to meet certain basic conditions: "wealth for the Crown, sustenance and rewards for the Conquistadores' efforts in the Crown's service" (Crespi, 1968:33). The ecology of the Sierra favoured the cultivation of traditional Spanish food crops such as wheat and barley and the introduction of cattle, swine, sheep and chickens. The sedentary native population provided, according to early Spanish accounts and estimates of the later 16th and 17th centuries, a relatively large labour force for farming, mining, manufacturing, and personal service to the Spanish (Crespi,1968:33). In addition, the organizational structure implanted by the Inca adapted well to the existing Spanish colonial infrastructure and to the requirements of the conquerors. The native ruling class, the caciques, for example, were used not only to organize Indian labour, but to collect tribute as well. "Equivalent conditions and institutions that could facilitate colonization were absent on the coast" (Crespi, 1968:34).

The Colonial Ecuadorian Population

Interest in the historical demography of the New World has tended to focus on Colonial Mexico and Peru, with the result that little is known of the demography of Ecuador during the Spanish Colonial period. For example, native numbers in Ecuador at the time of the Conquest generally

have been given as one-quarter to one-third those of the entire Inca Empire (Phelan, 1969:44; Rosenblat, 1954). Estimates of the size of the pre-Conquest population for the area equivalent to modern Ecuador, Peru, and Bolivia range from Kroeber's (1939:166) 3,000,000 to Dobyns' (1966:415) 30,000,000.[19] Based on these estimates, the audiencia's indigenous population was anywhere from 750,000 to 10,000,000 at the time of the Spanish arrival.

In recent years, only Phelan (1967) has derived a pre-Conquest population size for Ecuador, based on research of the Colonial

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[19] John Howland Rowe, "Inca Culture at the Time of the Spanish Conquest," in Handbook of South American Indians, vol. 2: The Andean Civilizations ed. Julian Steward (Washington D.C.: Smithsonian Institution, Bureau of American Ethnology Bulletin 143, 1946), pp. 184-5, has derived the most frequently cited figure of 6,000,000 for the Inca empire by extending to the Viceroyalty divisions of Lima, Charcas, and Quito the average rate of depopulation of 4:1. This average ratio he calculated for five Central Andean provinces using Inca taxpayer statistics and information in the relaciones geográficas from 1525, and tributary figures contained in Viceroy Toledo's census of 1571. C. T. Smith, "Depopulation of the Central Andes in the 16th Century," Current Anthropology 11 (1970):459 obtained a figure of 12,100,000 by using the same taxpayer data as Rowe, as well as the 1566 visita (visit) de Chucuito. Smith adjusted slightly Rowe's depopulation ratios for the five Peruvian provinces, and added his own calculations for the provinces of Chucuito and Huamanga. But a pre-Conquest estimate two times that of Rowe's is the result of the application of a multiplier of nine to the totals of Inca taxpayers (Rowe used five), rather than to significant changes in the depopulation ratios. Another frequently cited estimate is by N. D. Cook, "The Indian Population of Peru 1570-1620" (Ph. D. dissertation, University of Colombia, 1973) p. 304, who calculated a population total of 2,738,000 for 1530 which, when extrapolated back to 1520, gave a pre-Conquest population of about 5,000,000. Nathan Watchel, Vision of the Vanquished: The Spanish Conquest of Peru Through Indian Eyes 1530-1570 (London: Redwood Burn Ltd., 1971), p. 90, also gives a high population estimate of 10 million for the Inca Empire in 1520. His estimate is based on a "rate of overall decline of 60 to 65 percent from 1530 to 1560."

Ecuadorian sources (specifically the relaciones of the audiencia). Phelan (1969:49) suggests the Indian population of the Sierra in 1600 was approximately 500,000, and native numbers for all of Ecuador around 750,000 - 1,000,000. This figure he projects back to 1534 on the basis of information in the relaciones. According to Phelan (1967:46), most of these 16th century Spanish accounts indicate no appreciable decline in the Indian population of the audiencia of Quito in the decades following Conquest.[20] He suggests that "local epidemics did occur from time to time, but the death toll was not large" (Phelan, 1967:46).

Without any significant population decline, Phelan (1967:44) believes the audiencia of Quito also contained about 500,000 to 750,000 Indians on the coast and in the Highlands at the time of Conquest, with an additional 200,000 in the Oriente; giving a total pre-Conquest population of between 750,000 - 1,000,000. Phelan is unable to offer any explanation as to why the Sierra Indians of Ecuador may have avoided the devastating epidemics which struck other regions of the New World. Burgos, who also agrees that "el despoblamiento de la Real Audiencia de Quito durante el primer siglo del dominio europeo no fue tan acelerado como en el resto de los Andes o Mexico" (Burgos, 1972:486), suggests the

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20 John Leddy Phelan, The Kingdom of Quito in the Seventeenth Century (Madison, Milwaukee, London: The University of Wisconsin Press, 1967), p. 46, does mention there was some population loss along the coast, and in the northern Highland province of Popayán. The Indians of the coast, he maintains, declined precipitously after the Spanish arrival, and in the area of Guayaquil they disappeared altogether. However, only Popayán province in the Sierra suffered significant population loss--the Indian population declining "by approximately one-half during the first century of Spanish rule" due to its wars against the European conquerors (Phelan, 1969:49).

slower pace of Spanish colonization in Ecuador may have delayed the spread of epidemic disease into the region (Burgos, 1972:183).

Sánchez-Albornoz suggests that the Spanish Conquest had a positive effect on Indian population size. He writes: "The case of Quito is exceptional, both on account of the extent of the disaster it experienced during the last years of Inca rule, and the beneficial results paradoxically brought about by the [Spanish] Conquest" (Sánchez-Albornoz, 1974:91).

The disaster to which Sánchez-Albornoz refers, was the death of the Inca emperor Huayna Capac and his heir in 1524, and the resulting Inca civil wars. Huayna Capac, while orchestrating the final move of his armies against the Cara Indians, fell sick and died. Speculation by some contemporary scholars (Crosby, 1967:331; C. T. Smith, 1970:458; Watchel, 1971:94) is that he succumbed to the Old World disease of smallpox, which began on the island of Hispaniola (modern Haiti and Dominican Republic) in 1519 and entered the Inca Empire in about 1524. The early chroniclers also write of the death of many of the emperor's near relatives, including his son and heir to the throne, Ninan Cuyoche (Watchel 1971:94). The death of the emperor and his heir opened the way to a bitter dynastic struggle between Huáscar and Atahualpa, fought mainly on northern Peruvian and Quitan soil, which lasted until Pizarro's arrival. As an indication of the extent of the disaster wrought by the Inca civil wars, we can go to C. T. Smith's (1970:455) analysis of a 1566 Spanish document, the visita of Chucuito. In the visita, Smith found four times as many women as men in the over 45 age

group, which the visita record explains was due to heavy male mortality during the Inca wars.

According to Sánchez-Albornoz (1974:91), the Spanish Conquest brought peace to Ecuador, and a corresponding increase in native numbers. He bases his argument on a report from the city and province of Cuenca, written in 1582. In the report, a reason is advanced for the expansion within the native community:

> Thus it appears that the ...[Indians] are increasing and not declining; for in the time of Atahualpa and Huáscar with the wars and rebellions that occurred in the province, all the Cañares [Cañari] died, for of the 50,000 that there had been, only 3,000 were left when the Spaniards arrived; since then they have increased to twelve thousand souls, for they are very contented and free and not so oppressed as they were in the time when the Inca was their lord and master (Sánchez-Albornoz, 1974:91).

The case of the Cañari may be exceptional. During the Inca civil wars they had supported the Cuzco claimant, Huáscar, which resulted in their wholesale slaughter by the armies of Atahualpa. When the Spanish arrived, the Cañari quickly turned their allegiance to the conquistadores, acting as guides and allies in the European conquest of the territory.

Although the situation of the Cañari may have been unique, an important contemporary Spanish source does corroborate the idea of

expanding native numbers in 16th century Colonial Ecuador. According to Fray Antonio Vásquez de Espinosa, who traveled throughout the American colonies between 1612 and 1622, it was in the audiencia of Quito where native numbers had increased "since their discovery and conquest in contradiction to all other provinces in the Indies" (Vásquez de Espinosa, trans. ed., 1968:365).

Whether the indigenous population of Colonial Ecuador experienced a very slight decline during the 16th century, as suggested by Phelan (1967) and Burgos (1972), or an increase in numbers after the Conquest, as argued by Sánchez-Albornoz (1974), is a question the revista may be able to answer. The two previous counts of the encomienda's tributary population, and the revista itself, should reveal trends in the population of the study area in the late 16th and early 17th centuries. A question which will later be raised, is whether the encomienda's demographic pattern corroborates that suggested by contemporary scholars for 16th century Highland Ecuador?

All three scholars agree that the population of the Sierra was increasing in the early 17th century, and Burgos (1972) and Sánchez-Albornoz (1974) believe that this increase probably had begun by the latter decades of the 16th century. According to Phelan, the audiencia repeatedly reported an increase in the Sierra Indian population in the early 17th century. These reports, he believes, should not "be treated lightly...[as]...the audiencia members were responsible and well informed officials who had access to more demographic information than we do" (Phelan, 1967:46).

Burgos (1972) has found a contemporary Spanish account which supports the notion of increasing indigenous numbers in the late 16th, as well as early 17th centuries. According to Vásquez de Acuña, who for 20 years worked as a census-taker for the audiencia, the indigenous population in the areas of " Popayán y Pasto, Corregimiento de Otavalo, Ciudad de San Francisco de Quito, Corregimiento de Latacunga y Riobamba, ciudades de Cuenca, Loxa [Loja], Bracamaros, Guayaquil y Macas ..." in the years 1566, 1598 and 1630 was as shown in Table 5.

Vásquez de Acuña's figures give a 31 percent increase in overall native numbers between 1566 and 1598, and an 81 percent increase in the tributary population over the same time period. Between 1598 and 1630, he presents figures which give an astonishing 305 percent increase in the total population, and a 193 percent increase in the number of tributaries. However, Burgos (1972:484) does indicate there were some islands of population loss. He writes: "Así tenemos que entre 1600 y 1620, la regiones de Otavalo estaba muy despoblada de indígenas...[y]...Miguel de Ibarra [el virrey] informaba en 1603 que se han 'acabado los indios de Quixos y Yaguarzongo'" (i.e., provinces of the Oriente) (Burgos, 1972:482). Burgos does not give an explanation for these losses in population.

Based on Vásquez de Acuña's population totals, Burgos (1972:484) has estimated that the size of the indigenous community in all regions of the audiencia in 1600 was between 800,000 - 1,000,000 people. His estimate is very close to Phelan's (1967) for that date (i.e., about 750,000 - 1,000,000).

Table 5

Indigenous Population of the Audiencia of Quito Between 1566-1630, As Recorded by Vázquez de Acuña

Indigenous Population	1566	1598	1630	% Change 1566-1598	% Change 1598-1630
Total	80,000	105,000	425,000	+31%	+305%
Tributaries	16,000	29,000	85,000	+81%	+195%

Source: Hugo Burgos Guevara, "La población del Ecuador en la encrucijada de los siglos xvi y xvii," Atti del Congresso Internazionale degli Americanisti 2 (Rome-Genoa, 1972): 484.

Little is known of the demographic pattern of the audiencia's indigenous community after the early 17th century. Phelan suggests earthquakes occurring in "Riobamba in 1645 and 1698, Chimbo in 1674, and Latacunga and Ambato in 1698...followed by cycles of floods and droughts...may have caused a slight but real drop in the population by 1700" (Phelan, 1967:49).

Native numbers in the Sierra experienced slight declines in the late 18th century, but higher losses during the early 19th century. The reason for the decline was a severe economic depression caused by the collapse of Ecuador's sheep and textile industries, followed by a measles epidemic in 1785-6. According to Bromley, the measles epidemic gave rise to "unusually heavy mortality in certain areas and contributed to the population stagnation and decline of the period" (Bromley, 1979:107). Eruptions of Tungurahua in 1771, 1773, and 1777 also caused

a small loss of lives in the Riobamba and Ambato regions. More significant, however, was the earthquake of 1797, in which over 12,000 persons were reported to have died in the areas of Riobamba, Latacunga, and Ambato (Bromley, 1979:107).

In the early 19th century (1809 - 1822) the Independence War took a significant toll of lives, both criollo and Indian. In the Riobamba Basin, for example, the population in the rural parishes declined by 9 percent (between 1814 - 1825) (Bromley, 1979:95).

A census conducted in 1822 gave the total population of Ecuador at about 500,000 (see Table 6). Between 1600 and 1822 then, it appears the population of Colonial Ecuador had been reduced by at least one-quarter to one-half--more if Spanish numbers are added to the 1600 estimates by Phelan (1967) and Burgos (1972). After Independence, however, the population of Ecuador shows dramatic recovery, and continuous, substantial gains into the present century.

The Spanish Colonial Institutions

The labour of, and tribute from, the Indians was extracted within the framework of the three Spanish colonial institutions of encomienda, corregimiento, and mita. The encomienda and corregimiento were for a time vying politico-economic systems, while the mita was a labour draft which operated alongside these systems during part of the Colonial

Table 6

Estimated Population of Ecuador From the Time of Independence to the Time of the Nation's First Census

Year	Population
1600	750,000-1,000,000
1822	500,000
1850	816,000
1900	1,400,000
1930	2,160,000
1950	3,202,757

Sources: John Leddy Phelan, The Kingdom of Quito in the Seventeenth Century (Madison, Milwaukee, London: The University of Wisconsin Press, 1967), p. 44, 49; R. Barón Castro, "La población hispanoamericana a partir de la Independencia," Estudios demográficos: 185-245; cited by Nicolás Sánchez-Albornoz, The Population of Latin America: A History (Berkeley, Los Angeles, London: University of California Press, 1974), p. 169; Hugo Burgos Guevara, "La población del Ecuador en la encrucijada de los siglos xvi y xvii," Atti del Congresso Internazionale degli Americanisti 2 (Rome-Genoa, 1972): 484.

period.

These systems grew in response to the Spanish Crown's need to control the human and material resources of its far-flung empire. Separated from its American territories by the Atlantic Ocean, and faced with the growing aspirations of a criollo class (colony-born whites), the Castilian Crown created a number of political and economic systems to extend its influence in the colonies. The Crown's influence pervaded in both the secular and religious domains. As the heads of state, the Spanish kings "sought imperial domination, prestige, and revenue..." (Hanke, 1965:173); as leaders of the Church, they were compelled to

achieve the indoctrination of the Indians into the Catholic faith--on the one hand, conquest and war, on the other hand, the precepts of Christianity which included peace. The Spanish Crown's role in the colonization of the New World thus was contradictory, as Hanke, in his work The Spanish Struggle for Justice in the Conquest of America, so aptly expresses.[21] The ultimate effect of the Crown-created institutions, however, was to restrict the economic, social and physical mobility of the Indian in the New World, and to place government officials from Spain at the top of the colonial hierarchy.

Colonial society in Ecuador was shaped on the basis of ethnic status. At its apex were the Spanish-born whites, or Peninsular Spaniards (Mörner, 1967:41). Second-class white status was awarded to the criollos. Below these two groups, power and prestige diminished in a series of castas or racial categories, each category being based on the degree of white ancestry of its members. The castas were: mestizo, the progeny of white and Indian mating; cholo, the offspring of mestizo and Indian; mulatto, the offspring of white and Negro; and zambo, offspring of Negro and Indian (Cevallos, vol. vi, 1889:82-3; Mörner, 1967:43).[22]

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21 Lewis Hanke, The Spanish Struggle for Justice in the Conquest of America (n.p.: The American Historical Association, 1949; reprint ed., Boston: Little, Brown and Company, 1965).

22 Pedro Fermin Cevallos, Resumen de la Historia de Ecuador desde su Origen Hasta 1845, vol. vi (Guayaquil: La Nación, 1889), pp. 82-3; cited by Muriel K. Crespi, "The Patrons and Peons of Pesillo: A Traditional Hacienda System in Highland Ecuador" (Ph. D. dissertation, University of Illinois, 1968), p. 35.

Encomienda

The first pervasive institution of Spanish colonization was the encomienda. The encomienda was a private concession of Indian communities granted by the Crown to conquistadores, important colonists, religious orders and, occasionally, to persons favoured by the king or Court in Spain. Often the grant represented a reward for service. Conquistadores received encomiendas in recognition of their conquests, while bureaucratic officials received them in recognition of their years of service. These grants were given in trust, that is, en encomienda, with the stipulation that the recipient or encomendero undertake the Christianization of the Indians under his charge (Villamarin and Villamarin, 1975:14). Encomiendas could be distributed to two or more individuals, as was the case with the encomienda de Cepeda, held jointly by Cepeda and Guárez de Figuesa in the Riobamba Basin, Ecuador.

The first encomiendas were granted to the Spanish settlers on Hispaniola in 1509 (Villamarin and Villamarin, 1975:12). When discovery and conquest shifted to the continent, the encomienda was also transferred, but with local and regional modifications. In Peru, Bolivia, and Ecuador, the encomienda was adapted to the existing organizational framework of the Inca Empire.

According to Phelan (1967:59), the initial encomiendas granted by the Crown in Highland Ecuador entitled the encomendero to a yearly tax collected in the form of labour, goods, and specie from most able-bodied

males between the ages of 18 and 50 within a specified native district. Tributary ages within the encomienda de Cepeda, as we shall see, were not from 18 to 50 years; this suggests the ages might have varied throughout Colonial Ecuador from those cited by contemporary scholars (Murra, 1946:815-16; Phelan, 1967:59; Burgos, 1972:484).

In the initial years after Conquest, there was no set tribute levy, and the encomendero was free to demand whatever tribute he saw fit (Rowe, 1956:159). One-third of the tribute, however, went to the Spanish Crown (Phelan, 1967:59).

The collection of tribute and recruitment of labour was entrusted to the hereditary chieftains of the ayllus, the former cacique class or administrative officials of the Inca Empire. The encomienda-tribute system functioned solely with the collaboration of these local chiefs, who not only collected tribute and recruited mitayos (mita workers) for the labour draft, but also held civil and legal jurisdiction over their subjects under the supervision of the Spanish (Kubler, 1946:366; Phelan, 1967:58). The caciques and their eldest sons were exempt from both tribute and labour, their livelihood being supplied by the dues raised from the Indian communities. Phelan (1967:59) estimates the caciques and their heirs comprised nearly one-sixth of all males of tributary age in Highland Ecuador. A question which will be answered in the analysis chapters is whether this proportion was equivalent in the encomienda de Cepeda.

The encomienda in Ecuador retained this basic form until 1563, when

the audiencia of Quito was created and the New Laws were enforced within the region (Phelan, 1967:59; Villamarin and Villamarin, 1975:13). The New Laws, which were promulgated in 1542, established the encomienda on a tribute-only basis, limited inheritance to the lifetime of the encomendero and one generation thereafter, and restricted the residence of the encomendero to the capital city of the province where he held the grant of Indians (Villamarin and Villamarin, 1975:13). The new audiencia also fixed the rate of tribute. For example, the annual tasación (tax) established "at three pesos and two tomines per tributary for the provinces of Quito [all areas north of the province of Cuenca to the southern border of the audiencia of Santa Fe de Bogotá] and Loja and five pesos for Cuenca, one-half payable in gold and the other half in the abundant products of the locality" (Underlining mine) (Phelan, 1967:59).[23] The original tribute levies were periodically revised by the oidores (audiencia judges) or fiscal of the audiencia (treasury official), if, for some reason, they proved too onerous.

During the viceregal term of Francisco de Toledo (1569-81), the encomienda was again the subject of reform. Toledo's major achievement

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23 John Leddy Phelan, The Kingdom of Quito in the Seventeenth Century (Madison, Milwaukee, London: The University of Wisconsin Press, 1967), p.341, indicates that "the basic unit of Spanish currency was the maravedí". A ducat or excelente de Granada was 23.75 carats of fine gold, worth 375 maravedís. The most commonly used unit of currency in Colonial Spanish America was the peso. A peso was equivalent to 450 maravedís or 1.2 ducats. There were two kinds of pesos, the peso de oro and the peso de plata, the latter being the most common. The silver peso was divided into eight or nine reales. According to Arturo Castillo Flores, Historia de la Moneda de Honduras (Honduras: Banco Central de Honduras, conmemorativa de CLIII aniversario de la independencia, 1974), p.15, a tomín was the equivalent of a real de plata.

was to close the loophole of tribute in the form of personal service by introducing the mita, a draft labour system which gave the encomenderos and other Spanish colonists access to Indian labour on a quota basis (Villamarin and Villamarin, 1975:75). Toledo also attempted to minimize the number of Indians evading tribute by congregating the indigenous population into nucleated settlements or reducciones--a task which fell to the Catholic clergy (Rowe, 1957:156; Crespi, 1968:37). Forasteros (outsiders), Indians who had broken ties with their native communities, and who had moved beyond the jurisdiction of the encomienda, were brought back into the system through this measure. In addition, Toledo placed at the head of each new settlement an Indian official known as an alcalde, who operated as a go-between for native caciques and the Spanish community (Villamarin and Villamarin, 1975:75).

According to Phelan, the reforms contained in the New Laws and the Toledo measures of the 1570s, succeeded in "taming" the encomienda into a "not-too-onerous head tax on the Indians..." (Phelan, 1967:60). For example, the estimated 570 encomenderos in Highland Ecuador in the late 1500s received an annual income of between 1,000 to 5,000 pesos. The majority yielded closer to 1,000 pesos "with the result that a Spaniard could not live well exclusively from the income of his encomienda" (Phelan, 1967:60). A question we will later ask is whether the tribute of the encomienda de Cepeda also represented a "not-too-onerous head tax" on the Indian community.

These same laws were to ultimately mark the end of the encomienda. As the original recipients and their heirs died, the grants reverted to

the Crown. The Crown-held encomiendas, called corregimientos, were placed under the supervision of a minor government official, known as a corregidor, who had the responsibility of protecting the Indians within his jurisdiction, and collecting tribute and labour for the Crown. Because the Crown had stopped the granting of private concessions, the number of encomiendas dropped markedly in the late 16th and early 17th centuries (Villamarin and Villamarin, 1975:75). However, inheritance was occasionally extended to include a third, and even fourth generation, with the result that the system persisted alongside the corregimiento until the early 18th century (Phelan,1967:109; Crespi, 1968:37).

Corregimiento

At the pinnacle of the Spanish colonial bureaucracy was the Crown, embodied in the person of the King. Second in command to the King were the appointed members of the Council of the Indies. This body had administrative and judicial authority over all Spanish possessions. Beneath the Council came the unit of the Viceroyalty. The Viceroyalty, in turn, was divided into the smaller unit of the audiencia. For example, the audiencia of Quito (1563) was part of the larger bureaucracy of the Viceroyalty of Peru, which also included the "superior" audiencias of Panamá (1535), Bogotá (1537) and Lima (1542), and the "inferior" audiencia of Charcas (1559) (Phelan, 1967:120).

Both superior and inferior audiencias were governed through the office of president. Presidents were Peninsular Spaniards who were appointed by the Crown for indefinite terms of office (Phelan, 1967:126). The president of a superior audiencia "exercised supreme military command in his capacity as captain general...[and]...enjoyed by right a considerable measure of autonomous military and political authority" (Phelan, 1967:120). The president of a lesser audiencia had considerably fewer rights, and less power, and was firmly under the control of the Viceroy of Peru.

Subordinate to the audiencia president were two senior and two junior oidores (judges) (Phelan, 1967:127). They were the highest judicial and administrative officials of the audiencia, apart from the president. The most influential member of the audiencia, however, was the fiscal--the royal treasury official--through whom came all tribute destined for Spain. The audiencia bureaucracy was comprised of two other officials; the alguacil mayor, who was responsible for court orders and arrests, and the escribano de cámara or the chief clerk.

Beneath the audiencia officials were the lesser officials, who filled positions in the three gobiernos (Popayán, Quijos and Yaguarzongo), four corregimientos de españoles (Quito, Cuenca, Loja y Zamora, and Guayaquil) and the five corregimientos de indios (Chimbo, Latacunga, Otavalo, Riobamba, and Los Yumbos) of the region. The governors and corregidores de españoles were salaried employees appointed by the King and Council. The governors' salaries ranged between 2,000 and 4,000 pesos during the 17th century, while the corregidores de espanoles

received salaries of 800 to 2,000 pesos (Phelan, 1967:167). The corregidores de indios were appointed by the viceroy of Peru, receiving stipends between 100 to 500 pesos. Both the corregidores de españoles and corregidores de indios exercised jurisdiction over the Indians in their territory. However, a basic difference between the two corregimientos was that "in the Spanish ones there was a usually significant population of Spaniards and mestizos whereas in the Indian corregimientos the non-Indian population was sparse" (Underlining mine) (Phelan, 1967:166).

The corregimiento de indios was the most durable of the Spanish colonial institutions, and the one which had the most impact on the indigenous community over the centuries. The corregidores de indios were responsible for the judicial and political administration of the Indian population within their jurisdictions. The corregidores were additionally charged with the supervision of the native-owned textile shops and Crown properties, the collection of tribute from the Indians, and the filling of the mita, or draft labour, quota.

The corregimiento de indio was one of the reform measures instituted by Viceroy Toledo in the 1570s. Toledo's intent was to establish "a governmental institution on the provincial level effective enough to protect the Indians against the rapaciousness of both the encomenderos and their own caciques" (Underlining mine) (Phelan,1967:167). Although the corregidores may have been effective for a time, by the early 17th century they were being called "cogedores, i.e., 'collectors [of graft]'" (Phelan, 1967:167).

According to both Rowe (1957:162) and Phelan (1967:167), the corregidores resorted to graft to augment their meager incomes. The primary source of their wealth were the very same Indians they were hired to protect. An apparently ubiquitous practise was the sale of goods to their charges for prices far in excess of the market value. The corregidores also purchased products from the Indians at low prices and sold them at considerable profits (Phelan, 1967:170). Rowe also cites examples within the Viceroyalty of Peru where corregidores auctioned off the royal tribute, buying "it at half its market value up to the amount due for tribute, and then resold it at the going rate" (Rowe, 1957:163).

Two mechanisms were developed by the Spanish monarchy to stymy the corregidores' exploitation of the indigenous population: the residencia and visita de la tierra. Neither were to prove wholly successful. The residencia was a review of the conduct of a corregidor immediately after he left office. Unfortunately, it was conducted by his successor with the result the corregidor was generally subject to only a token fine (Phelan, 1967:170). The visita de la tierra (visit of the land) was carried out by the oidores of the audiencia. Their purpose was to expose the illegal exaction of money, produce, and labour service from the Indians by the corregidores, caciques, and the clergy. According to Phelan, "while the circuit judges [oidores] piously denounced the commercial dealings of the corregidores [my italics], there is little evidence that they did anything effective to curb these abuses" (Phelan, 1967:171).

The Crown did not alter the form of the corregimiento system until 1759-88, when the Bourbon King, Charles III, began replacing the corregidores with a new officer called a gobernador intendente. Allocated a salary of between 5,000 and 8,000 pesos, the intendant position attracted generally competent and qualified individuals (Phelan, 1967:174). The new intendancy system, however, was short-lived. The French revolution and Ecuador's declaration of Independence in 1822 brought about the disruption, and then dissolution, of Spanish rule in Ecuador.

One major benefit which did come out of the corregimiento system was that it helped to keep Indian community lands relatively intact. Under Spanish Law, Crown properties could not be alienated, (i.e., they could not be sold by the Indians to pay their various debts). The corregimiento system, while exploiting the Indians on the one hand, also ensured the continued survival of indigenous society.

Mita

In the first years after Conquest, the mita, (occasionally referred to as repartimiento) served the Spaniards much as it had the Inca. As under the Inca, Indian labourers were recruited by the caciques for work on specific projects and without recompense in either kind or cash. The demands placed on the manpower of the indigenous communities soon

increased, however, and after the reform and decline of the encomienda, the mita became the basic institution for mobilizing Indian labour.

The use of draft labour (i.e., mita labour) was legalized by Viceroy Toledo during the 1570s (Rowe, 1957:172-3). In his legislation, the mita draft was limited to one-seventh of all tribute-paying Indians (i.e., Indians approximately between the ages of 18 and 50). This proportion soon rose to include one-fifth of the tributary population in the audiencia of Quito. Each indigenous settlement had to meet this quota, and each labourer had to be paid a wage for his service. The tours of duty of the mitayos, and their pay rates, were set by the Toledo ordenanza (order) of 1577 (Kubler, 1946:371). However, both the length of tour, and stipends paid, varied according to the type of labour. Table 7 gives an indication of the extent of variation between two major mitas of the Colonial period: the textile (obraje) and agricultural mitas.

Besides service in the obrajes (textile shops) and the herding of cattle, sheep, and swine, the tributary population was also liable for personal service to the Church and the Spanish vecinos (property owners), duty in the tambos (post houses) of the audiencia, and labour on the coca plantations of the Oriente. Unlike the Indians of Peru, the natives of Highland Ecuador were only occasionally required to fill quotas in the mining mita. The only two mining areas were those of Loja and Zamora, where gold was extracted. However, production in these mines had slowed to a mere trickle by 1600. While serving in the mita, the Indians were still obligated to pay tribute.

Table 7

Tour of Duty and Pay Rate for the Obraje and Agricultural Mitas

Mita	Pay Rate[1]	Tour of Duty
Obraje		
-shearers, spinners, weavers, carders, washers	18 pesos	1 yr.
-dyers	24-30 pesos	1 yr.
-alguacils	40 pesos	1 yr.
-caciques	100 pesos	1 yr.
Agriculture		
-cattleherders	2 pesos	3 mo.
-swineherders	1 peso, 2 tomines	3 mo.
-shepherds	1 peso, 2 tomines	3 mo.

Sources: Javier Ortiz de la Tabla Ducasse, "El Obraje Colonial Ecuatoriano," Revista de Indias 139-142 (January-December, 1975):493-5; and John Leddy Phelan, The Kingdom of Quito in the Seventeenth Century (Madison, Milwaukee, London: The University of Wisconsin Press, 1967), p. 61.

[1]Ortiz has given the obraje salaries in patacones. A patacón was worth nine reales or one peso de plata. I have converted Ortiz's values from patacones into their peso equivalents.

Growth of the Spanish Estates

The "true" latifundia, the sprawling, under-utilized Latin American estate characterized by a reciprocal socio-economic relationship between the patrón or estate owner, and the peones, or estate workers, came into being in Ecuador during the 17th and 18th centuries (Vargas, 1957:96). As a result of studies by Zavala (1935) and Chevalier (1952), it is widely accepted that the latifundia did not grow out of the encomienda.[24] Rather, the aggrandizement of the Spanish landed estates

resulted from the piecemeal absorption of Indian lands.

The demands of tribute forced the sale, and sometimes confiscation, of native properties. The dual demands of tribute and mita were sufficiently onerous, in fact, to cause many Indians to flee their native communities. Under Spanish law, tribute and mita could only be assessed on the original inhabitants (originarios) of a given area; forasteros "were not subjected to these obligations until 1732" (Rowe, 1956:180). The land abandoned by an Indian who had fled reverted to the community, "which might be tempted to sell it as surplus land or lose it outright if a Spaniard with money and influence claimed it was in the public domain and offered to buy it from the king" (Rowe, 1956:180). Property left vacant through death also fell into the community demesne and could be disposed of, or purchased, in the same manner as abandoned lands. Payments made to affirm title to unoccupied Indian lands were common throughout the 17th century, as the cash-poor kings of Spain sought ways to increase their revenue (Chevalier, 1963:262-77). The actual burden of tribute, and of the mita, and the extent of the forastero population, will be discussed in greater depth within the context of the Indian community of the encomienda de Cepeda.

At the same time that indigenous lands were being added to the landed

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24 Silvio Zavala, La encomienda indiana (Madrid: Imprenta Helenica, 1935) and Francois Chevalier, La formation des grands domaines au Mexique, Terre et Societe aux xvi - xvii siecles (Paris: Institut d'Ethnologie, 1952); cited by John Leddy Phelan, The Kingdom of Quito in the Seventeeth Century (Madison, Milwaukee, London: The University of Wisconsin Press, 1967), p. 60.

estates, the mita was gradually giving way to debt peonage as the source of native labour. The precise dates of this transformation in Ecuador are unclear. Phelan (1967:63-65) suggests the mita continued in Ecuador far later than in Mexico and Peru, not falling into disuse until sometime after 1704--the year the obraje mita was abolished. The reason Phelan gives for the much slower progression from mita to debt peonage in Ecuador is its larger native population relative to Mexico or Peru. According to Phelan, the demographic situation was considerably less critical in Ecuador with the result that mita labour was "economically efficient and dependable" (Phelan, 1967:63). By contrast, population loss in the other two regions, particularly in Mexico, made it impossible to fill labour quotas, with the result that colonists resorted to debt peonage to gain access to Indian labour.

All compulsory, rotational labour ended in Mexico (i.e., Viceroyalty of New Spain) by royal decree in 1633, except for service in the mines. According to Rowe (1957:170-183) and the Villamarins (1975:76,78), most forms of mita (i.e., mita de tambo, mita de minas, mita de obraje, and mita de plaza for agriculture, general services and construction) survived in Peru alongside debt peonage or, as it was termed, yanaconaje, until independence. Contrary to Phelan's assertion, the shift from quota labour to debt peonage appears to have occurred earlier in Ecuador than, at least, in Peru. This suggests that population loss perhaps was more acute in the northern audiencia and/or significantly different socio-economic factors were in play. The distinctive demographic and socio-economic characteristics of the audiencia of Quito will be explored more fully in later Chapters.

Debt peonage first replaced the repartimiento [mita] in agricultural labour (Phelan, 1967:63). The agricultural mitayo received a cash stipend and the use of a small plot of hacienda land, known as a huasipungo. Advances in food and clothing by the landowner were required to sustain the mitayo until the huasipungo crops matured. Wage advances also covered various needs, including tribute demands. However, as Crespi writes:

> The mitayo could return the numerous advances only in promised labor. He thereby credited the patrón with an assured future labor force resident on the hacienda. Theoretically, the "tour of duty" of the agricultural mitayo was somewhat less than a year, or one agricultural cycle. In practice, residence on the hacienda tended to be perpetuated by debt peonage. The institution suited the cash-poor and labor-intensive estate (in Pérez, 1948:108,119,120) and this landowner-mitayo relationship became the common mode of affiliation (Underlining mine) (Crespi, 1968:44).

The growing forastero population also gravitated toward the Spanish estates, exchanging its labour for a plot of land and protection from tribute demands and the mita (Rowe, 1957:181).

After Independence

With the overthrow of Spanish rule in 1822 and, later, the withdrawal of Ecuador from the Union of Gran Colombia in 1830, independence was achieved. The republican period produced another form of debt peonage known as the concierto system. The concierto system according to Crespi, was no different from the colonial system, except that it was "now...supported by the labour requirements of an independent Republic rather than Crown policies" (Crespi, 1968:47). Under the concierto system, Indian peons exchanged their labour for a small cash wage and the use of a subsistence plot. Such an arrangement was reminiscent of the Colonial agricutural mita. What did set the republican period apart was the abolition of tribute to the government. Tribute continued to be paid to the Church, however, until 1895 (Crespi, 1968:50).

As the estate owners of the Sierra continued to rely on debt labour and archaic agricultural practices, the coast was beginning to emerge as a new force within the nation. Crespi writes that:

> New agricultural techniques were increasing production in sugar and cacao. Rubber plantations were developed and rubber became a principal coastal export...The later opening of the Panama Canal permitted increased exports of coastal plantation products, stimulated a greater dependency on the world market and brought the country into closer communication with the remainder of the

> world. At about the turn of the century, too, a uniform currency [was] established, the Quito-Guayaquil railroad was nearing completion..., and other internal transportation systems had been improved and expanded (Crespi, 1968:49).

However, some reform to the Sierra land system was to be initiated by the Ecuadorian government shortly after the turn of the century. In 1908 ecclesiastical properties began to be nationalized. It was not until 1938, though, that legislated minimum salaries and maximum working days for estate workers were introduced (Crespi, 1968:66). This legislation brought an end to the concierto system, which was more "closely identified with debt peonage" (Crespi, 1968:66), and a beginning to the huasipungo system. As noted in Chapter 2, the huasipungo system continued until it was abolished by the Agrarian Reform Law of 1964.

Chapter 4

REVISTA DE ACHAMBO

Introduction

The revista de Achambo was held under the direction of the fiscal of the corregimiento of Riobamba between November, 1602 and January, 1603. The purpose of the revista was to determine the amount of tribute the Indian community of the encomienda of Don Lorenzo de Cepeda could yield. This chapter elaborates on where the revista was obtained, the reason it was conducted, how it was organized and carried out, the information contained within it, and its statistical accuracy. A major intent of this chapter, thus, is to establish the revista's value as a demographic and socio-economic document.

Location of the Revista de Achambo

The revista de Achambo is housed in the Escribanía de Cámara section of

the Archivo General de Indios (AGI) in Sevilla, Spain. Today, the AGI is the primary depository of the Spanish colonial documents. The information in the revista was transcribed by Dr. Brian M. Evans of the Department of Geography at the University of Winnipeg in Canada. I am indebted to Dr. Evans for providing me with his transcribed copy of the enumeration.

Purpose and Organization

The revista was a house-by-house count of all Indians of the encomienda of Don Lorenzo de Cepeda and the heirs of Francisco Guárez de Figuesa. [25] According to Ortiz (1975:511), Don Lorenzo de Cepeda was a member of the Avila family, wich was one of the most prominent families in the audiencia. He held the encomienda in the corregimiento of Riobamba jointly with the heirs of Guárez de Figuesa. The revista does not indicate when the the encomienda was granted to Cepeda and Guárez de Figuesa, when Guárez de Figuesa died, or whether the tribute gathered from the Indian communities of the grant was equitably split between the encomenderos.

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25 Revista de Achambo, Encomienda de Don Lorenzo de Cepeda, 1603 (Sevilla: AGI, escribanía de cámara 919), fols. 1-443.

The revista was ordered by the fiscal of Riobamba in 1602 specifically because the two parties involved could not come to an agreement over the amount of tribute the encomienda could yield. However, the revista formed only part of a long, drawn-out legal battle which had begun in 1588 between Cepeda and the heirs of Guarez de Figuesa. In 1588, Cepeda had claimed the Indians of the encomienda could pay only 3,000 pesos in tribute. The heirs of Guarez de Figuesa argued the encomienda could yield more. To support their claim, the heirs of Guarez de Figuesa brought their suit before the fiscal (crown attorney) of Riobamba. The fiscal's responsibility as crown attorney was to settle disputes between the Spanish vecinos (property holders) of the region.

To resolve the dispute between Cepeda and the heirs of Guárez de Figuesa the fiscal ordered a revista de tributo in 1589. The count revealed there were 1,260 tributaries, each of whom was to pay four pesos for a total of 5,108 pesos.[26] The initial judgement of the fiscal was thus in favour of the heirs of Guárez, since the number of tribute-paying males in the encomienda made it possible to raise 2,108 pesos more than Cepeda had claimed.

At some point between 1589 and 1602, the assessment from 1589 was lowered, for at the time of the revista in 1602-03 the Indians were

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26 The total of 5,108 pesos was provided in the revista. Although 1,260 tributaries each paying 4 pesos does not sum to 5,108, but to 5,040, I have retained the original figures. It is possible, for instance, the tributary figure and/or amount of payment per tributary was rounded off.

paying the following tribute:

1200 pesos of gold,
1200 pesos of silver,
300 fanegas (15,810 kgs.) of maize, [27]
600 mantas (blankets) of wool and cotton,
40 fanegas (2,108 kgs.) of potatoes, and
40 pigs.

There was also a supplementary tribute as follows from the Indian mitayos, who were officially listed as 48 in number:

90 pesos, [28]
48 mantas,
40 fanegas (2,108 kgs.) of maize,
96 hens,
3 pigs, and
3 fanegas (158 kgs.) of potatoes.

The mitayos were tributary Indians drafted for a tour of duty in the encomienda, possibly as labourers in the obraje de communidad--the

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27 One fanega was equal to 58 litres or 52.7 kilograms. See John Leddy Phelan, The Kingdom of Quito in the Seventeenth Century (Madison, Milwaukee, London: The University of Wisconsin Press, 1967), p. 342.

28 There is no mention made as to whether the Indian mitayos paid their tribute in pesos de oro or pesos de plata.

community textile shop located in Chambo.

The tribute being paid in 1602-03 was based on the results of a second revista made after 1589. This second revista is not dated by the 1602-03 document, and all that we know is that it was held between 1589 and the later date, and that it showed there were 600 tributaries in the encomienda who could pay a total of 3,000 pesos in tribute (AGI, escribanía de cámara 919, fol. 1). By 1602, Cepeda was claiming the 3,000 pesos could no longer be collected "for the population had diminished" (AGI, escribanía de cámara 919, fols. 194-204). The case was again brought before the fiscal, and a new revista was ordered.

On November 7, 1602, Capitán Juan de Munoa Ronquillo was sworn in as juez de comisión by the fiscal, and directed to enumerate all Indians of the encomienda within 60 days. [29] Munoa de Ronquillo was to receive four pesos de oro each day for the duration of the count, to be taken from the value of the encomienda tribute. On November 14, 1602, Munoa de Ronquillo summoned before him the corregidor of Riobamba and all the caciques of the encomienda. Addressing them in both Spanish and Quechua, he told them to conduct a house-by-house enumeration in which all ages and relationships were to be given. The time frame of the revista was extended by 30 days because of the "complexity of the task and the travel involved" (AGI, escribanía de cámara 919, fols. 194-202), with the result the census was not completed until the month of January,

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29 A juez de comisión was a temporary judge appointed to conduct a specific investigation.

1603.

Content of the Revista

All Indians of the encomienda were listed by (a) age, (b) household affiliation, and (c) place of residence.

Age

Members of the encomienda were generally listed with their ages. The exceptions were six adults and all newborn babies and suckling infants, who were reported just as stated (i.e., newborn and suckling). I have taken sucklings to be one year of age and under, since children over a year old were reported by age.

Household Affiliation

It appears the corregidor and the caciques made every effort to identify the head of each household, and to place the remaining members of the household in descending order by age and status. The members of the primary family unit (i.e, the family unit including the household head), and their relationship to the household head, were listed first: such as "wife of", "son of", and "daughter of". These individuals were followed by the single members of the household, such as "bachelor

brother of", "spinster sister of", and the husband's illegitimate children. Secondary family units were listed next. They most often consisted of younger brother(s) and their families, although cousins and uncles, with their wives and children, also could reside in the household. Individuals of whose household affiliation the corregidor and caciques were unsure, were recorded at the end of each ayllu enumeration.

The house listings in the revista provide information on the household structure of the encomienda's indigenous community in 1602-03. However, the major problem with the household data is that they represent how the Spanish viewed the composition of each household, and not necessarily how the household was organized. In addition, we have to assume the Spanish officials defined a household much as we do today--as that of all persons occupying a particular housing unit.[30] Implicit in this definition, however, is not only shared location, but also shared "kinship and activity..." (Laslett and Wall, 1972:28).

It is possible to classify households on the basis of kin relations of members within the housing unit or premise. The household classification developed by Laslett and Wall (1972:31) for use with English records was adapted to meet the characteristics of the revista data. The household typologies, and the percentage of housing units

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30 U.S. Census of Population: 1960, vol. 1, Characteristics of the Population, Part 1, United States Summary, p. LV; cited by Henry S. Shryock, Jacob S. Siegal, and Associates, The Methods and Materials of Demography, rev. ed. (Washington, D. C.: Government Printing Office, 1973), p. 170.

within each category, are presented in Table 8.

As indicated in Table 8 there were 929 housing units in the encomienda in 1602-03.[31] A total of 10.2 percent (n=95) of the households were solitary households; that is, housing units in which one person was residing. Of these, 45 (47.4 percent) housed widowed persons and 50 (56.4 percent) single persons, or persons of unknown marital status.

Only 2.2 percent (n=20) of all households in the encomienda were comprised of two or more adults who were not related conjugally. These did not form family units, which are defined as at least one parent and his/her offspring. These households consisted of brothers and sisters residing together (n=9), relatives other than siblings living together (n=10), and unrelated persons dwelling on the same premise (n=1).

The largest group of household units in the encomienda were simple family households (i.e., nuclear family households) (Laslett and Wall, 1972:29). They consisted of a married couple, or a married couple with children. Widowers or widows with offspring also formed simple family households. There were a total of 398 simple family households formed by originarios (persons native to the ayllus) of the encomienda in 1602-03. These 398 represented 42.8 percent of all household types found in the community. The most common form of simple family household

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31 This figure includes the households of originarios (natives of the encomienda) residing in Quito.

Table 8

Structures of Households within the Encomienda de Cepeda, Audiencia of Quito, 1602-03[1]

TYPE	n	%
1. Solitaries	95	10.2
a. Widowed	45	4.8
b. Single, or of unknown marital status	50	5.4
2. No family	20	2.2
a. Coresident siblings	9	1.0
b. Coresident relatives of other kinds	10	1.1
c. Persons not evidently related	1	0.1
3. Simple Family Households	398	42.8
a. Married couples alone	110	11.8
b. Married couples with child(ren)	240	25.8
c. Widowers with child(ren)	18	1.9
d. Widows with child(ren)	30	3.2
4. Extended Family Households	390	42.0
5. Other	4	0.4
6. Indeterminate	22	2.4
	929	100.0%

Notes:

[1]The household typologies were adapted from Peter Laslett and Richard Wall, Household and Family in Past Time (Cambridge: Cambridge University Press, 1972), p. 31.

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was one which consisted in its entirety of man, wife and children, that is, the nuclear family (n=240, or 25.8 percent). The next most frequent were households of married couples without children (n=110, or 11.8 percent). A few simple family households comprised widowers (n=18, or 1.9 percent) or widows (n=30, or 3.2 percent) with children, but these

were among the rarest of the household types of the encomienda.

The extended family household formed the next largest group of household types. An extended family household is defined herein as a nuclear family unit with the addition of one or more relatives other than offspring (Laslett and Wall, 1976:29). There were 390 extended family households, which constituted 42.0 percent of all households of the encomienda in 1602-03.

The household affliations of 22 (2.4 percent) individuals could not be determined. Of the four households in the "other" category (0.4 percent) two were comprised of single women with children, and two consisted of persons unrelated to the household head or his wife.

Table 9 provides the distribution of households by size for the encomienda in 1602-03. The average household was made up of approximately five individuals ($\bar{x}$=4.94); but household size ranged from one individual to 34 individuals living on one premise. Interestingly, all households of extreme size (i.e., 17 persons or over) in the encomienda belonged to the caciques. The caciques were the chieftains of the Indian ayllus, whose livelihoods were derived from the tribute raised by the other members of these communities. The dues supplied the caciques obviously were such that the ayllu leaders could support households significantly larger than the average household in the encomienda.

Table 9

Distribution of Households by Size for the
Encomienda de Cepeda, Audiencia of Quito
1602-03

Size	Households[1]	Persons
1	110	110
2	134	268
3	141	423
4	141	564
5	107	535
6	77	462
7	65	455
8	41	328
9	30	270
10	19	190
11	11	121
12	13	156
13+	40	703
TOTAL	929	4585

Mean Household Size = 4.94
Range of Household Sizes = 1-34

Notes:
[1]Households include the 22 "indeterminate" households, comprised of 49 individuals.

Place of Residence

The population of the encomienda present at the time of the revista also was registered by pueblo (town). Each individual was carefully reported as to whether he/she belonged to the town of Achambo, Molino de Achambo, Quimnia, or Penipe. The members of the encomienda community were further identified by their ayllu affiliation. In 1602-03, the four pueblos were comprised of the following ayllus:

Achambo	Molino de Achambo	Quimnia	Penipe
Cuctus	Name not given[32]	Baicalsi	Nabujo
Hajatus	Ymango	Pucullpala	Matus
Picollan	Zizibus	Guntus	Calssi
Llucut		Jaguan	Putguajo
			Gnassi

Only the towns of Quimnia (present-day Quimiag) and Penipe and the ayllu of Matus appear today on Basin maps (see Figure 5 on page 16). Achambo and Molino de Achambo no longer exist as settlements, and it is likely they were absorbed by the town of Chambo sometime after 1603.

Achambo and Molino de Achambo were likely located in the south of the encomienda, near Chambo. Chambo, although situated outside the encomienda boundaries in 1602-03, housed the community textile factory (obraje de communidad), where most of the men of the encomienda worked. As the Chambo obraje continued to draw heavily upon the Indian labour of the encomienda, it is possible the populations of Achambo and Molino de Achambo were located nearer this center, and eventually absorbed by it. Alternatively, the populations of the two encomienda towns could have been forced to move, most likely to Chambo, once the encomienda reverted to the Spanish Crown.

The census also made provisions to enumerate:

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[32] The name of this ayllu does not appear in the transcribed copy of the revista, which I obtained from Dr. Brian M. Evans of the University of Winnipeg, Geography Department, and which constitutes the raw data of this study.

1. individuals native to each ayllu (i.e., originarios), but who were temporarily absent,
2. originarios who were absent, and whose whereabouts were known, but who were not expected to return,
3. originarios whose whereabouts were not known,
4. originarios who had been discovered in hiding, and who had been brought back to the encomienda,
5. originarios who lived elsewhere, but still paid their tribute to Cepeda, and
6. individuals not native to the ayllus, but who were paying tribute there, and who were mitayos (i.e. labour draftees).

The provisions for enumerating the originarios who were absent must have been quite detailed. Most absentees were registered along with the reason why they were absent and, occasionally, the date of their departure. For example, the revista contains frequent references to individuals who were "absent in Riobamba in Cepeda's service...", who had "fled with whereabouts unknown...", who were "now living on a Spanish estancia [my italics]...", who had "fled 12 years ago to Popayán...", and so on.

At the end of each ayllu enumeration, the caciques listed all individuals of the ayllu according to fiscal status. These fiscal categories were given in the revista as follows:

a. reservados (adult male Indians exempt from tribute and the mita draft),

b. ausentes que no pagan (males of tributary age who had fled the encomienda, and whose whereabouts were unknown),

c. tributarios (all adult Indian males between the ages of 17 and 54, who were liable for tribute and the forced labour drafts),

d. muchachos (all boys 16 years of age and under),

e. mujeres (all women over the age of 14 years), and

f. muchachas (all girls 14 years of age and under).

Reservados

Reservados were male Indians exempt from tribute. In the encomienda, they included a number of able resident men: the caciques and their eldest sons, natives who filled the positions of alcalde (native magistrate), alguacil (native constable), mayordomo (native overseer), and several who had helped find Indians in hiding. One individual was exempt because he was descended from a conquistador. However, he is the only mixed blood identified as living within the encomienda. Sacristanes (sextons of the Church), and church singers also may have been included in the reservado category, although I am uncertain as to this point. The Villamarins (1981:57) did not find church job-holders on the reserved rolls of the censuses of the Sabana de Bogotá (Colombia) until 1636-40, when sacristanes were added. Although sacristanes and church singers were specially noted in the revista, they may not have been reserved from tribute until after 1602-03.

Men over the age of 54 and men who were sick or physically or mentally handicapped, also did not pay tribute. An individual could be

classified as reservado for a temporary illness as well. Opportunely, the caciques give a description of the nature of the illness or disability of each reservado.

Ausentes que no pagan

Only absentee adult males of tributary age who had fled the encomienda and whose whereabouts were unknown, were listed in the fiscal summaries as ausentes que no pagan. In the actual enumeration, however, all Indians regardless of age and sex who were absent at the time of the count, and whose imminent return was not expected, were designated as ausentes.

Tributarios

Tributarios (tributaries) were listed in the revista as all married and unmarried, able-bodied males from the ages of 17 to 54, who had to pay tribute in money and goods, and who were liable for service in the mita draft.

Mujeres and Muchachos/Muchachas

Mujeres, or women, were reserved from tribute, although they helped to provide tribute, and may even have paid in the absence of their husbands. Muchachos (boys under the age of 17) and muchachas (girls under the age of 15) also were exempt from payment.

Accuracy of the Revista

The population total given by the caciques in the fiscal summaries of the ayllus is compared in Table 10 with the house-by-house count of the ayllus' inhabitants. The caciques recorded a total of 4,657 people in their fiscal group summaries. The house-by-house enumeration revealed 4,585 people in the encomienda in 1602-03. There appears to be close enough correspondence between the summary total (n=4,657), and the household-count total (n=4,585), to suggest the latter represents a relatively complete inventory of families and individuals of the encomienda's indigenous community. That is, individuals were not left out of the house listing and simply included at the end of each ayllu enumeration in the fiscal summaries.

The comprehensiveness of the houselists differs between pueblos, and between the ayllus within the pueblos. Houselist totals for the pueblos of Achambo, Molino de Achambo, and Quimnia give fewer people than the fiscal summaries compiled by the caciques. The house-by-house count, however, shows more people in Penipe than were recorded in the fiscal summaries of the pueblo.

Why the fiscal summaries of the three pueblos contain more individuals than the house-by- house counts, and why this difference is larger in some pueblos than in others, is hard to determine. The following attempt to provide some explanations:

Table 10

Comparison of Fiscal Group Summaries and the House-by-House Count by Pueblo and Ayllu in the Encomienda De Cepeda, 1602-03

Pueblo & Ayllu	Fiscal Group Summary Total	House-by-House Count Total	Differences in Number of People Between Fiscal Summary and House-by-House Count
Achambo	1,568	1,514	-54
Cuctus	476	476	+0
Hajatus	500	466	-34
Picollan	242	233	-9
Llucut	350	339	-11
Molino de Achambo	695	686	-9
?	317	314	-3
Ymango	169	169	+0
Zizibus	209	203	-6
Quimnia	1,083	1,062	-21
Baicalsi	210	206	-4
Pucullpala	205	203	-2
Guntus	358	343	-15
Jaguan	310	310	+0
Penipe	1,311	1,323	+12
Nabujo	151	152	+1
Matus	294	307	+13
Calssi	140	139	-1
Putguajo	211	214	+3
Gnassi	515	511	-4
TOTAL	4,657	4,585	-72

Source: Revista de Achambo, Encomienda de Don Lorenzo de Cepeda, 1602-03 (Sevilla: AGI, escribanía de cámara 919), fols. 1-443.

1. It appears the caciques relied heavily upon informants in the pueblos in order to include in the count individuals who were absent temporarily or who had left the encomienda for good. The ages and/or family associations of some of these individuals might not have been known, which could have excluded them from the houselists, but not from the fiscal summaries.

2. Another explanation, and one which could have operated in conjunction with the previous one, is that some of the caciques were careless in enumerating household members other than the tributaries, since these individuals were of secondary importance to Spanish officials.

3. It also is possible that the caciques did not include some individuals in the household count, in order to keep their age and fiscal status hidden from the Spanish. For example, in the ayllu of Picollan in the pueblo of Achambo, 19 Indians had not appeared in the previous revista (i.e., the revista held between 1589 and 1602-03), because the cacique had "hidden" them (AGI, escribanía de cámara 919, fol. 40). While such deceptions undoubtedly were less frequent in the 1602-03 count, based on the number of "hiding Indians" which the cacique of Guntus produced after being threatened by Munoa de Ronquillo with "severe penalties," it is likely some individuals were missed from the survey in this way (AGI, escribanía de cámara 919, fols. 332-58).

Why three of Penipe's ayllus show more people in the house-by-house count than in the fiscal summary is not explained by the preceding

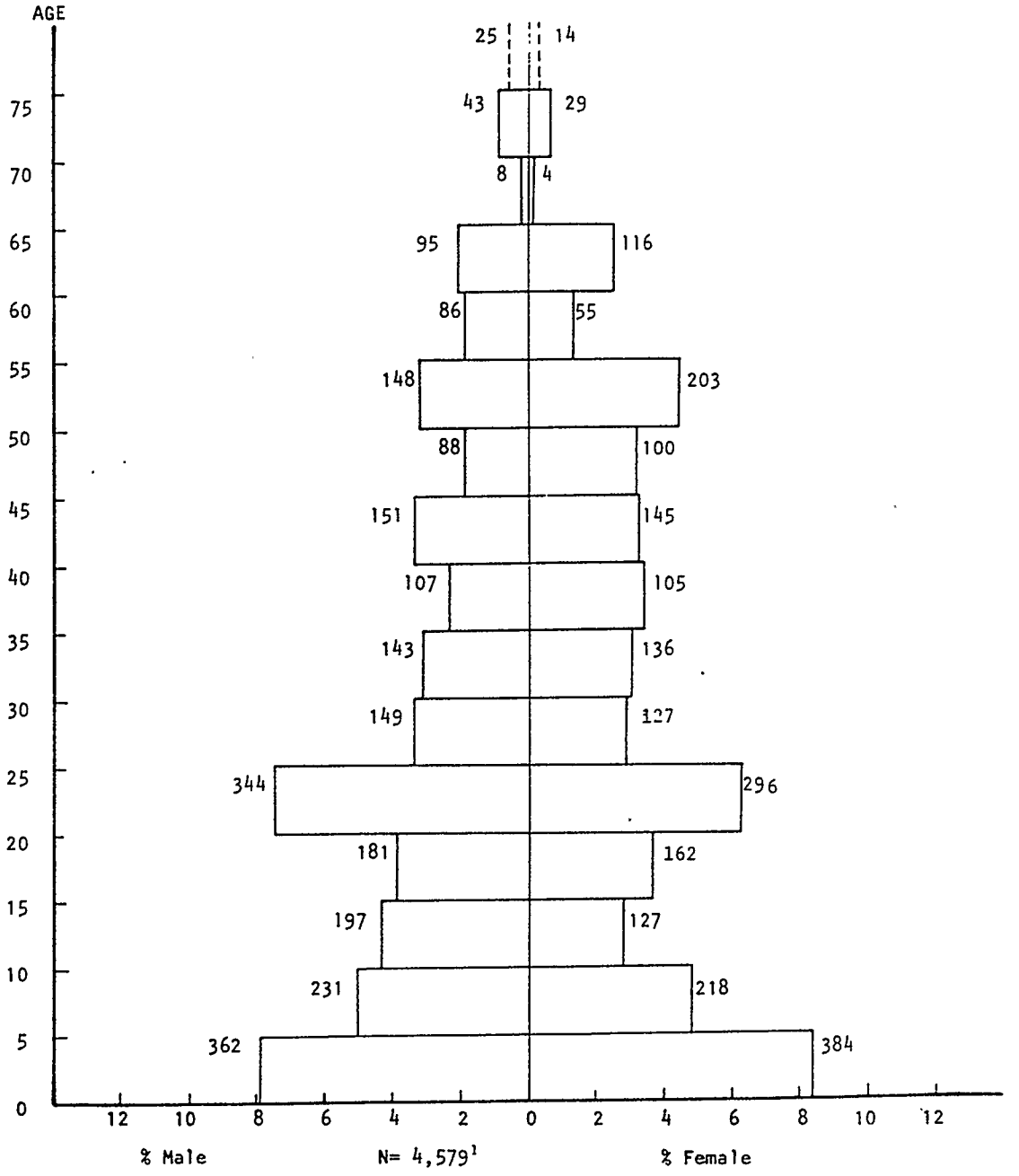
reasons. Since the over-registration does not show a sex bias, the likely conclusions are that the caciques were careless in their counting, they enumerated some individuals more than once, and/or forasteros (outsiders or persons not native to the encomienda ayllus) were included by mistake. The first two reasons appear most plausible, based on information revealed by the age-sex pyramid for the encomienda population.

Age-Sex Structure of the Encomienda Population

The population pyramid for the encomienda recorded in 1602-03 is shown in Figure 8 on page 110. It is a composite of the age enumerations for the four pueblos, and, as such, the local variations should be smoothed out sufficiently to enable us to make some generalizations about the accuracy of age-reporting, and the extent to which the corregidor and caciques under- or over-registered the population.

FIGURE 8

Age-Sex Distribution of the Encomienda De Cepeda, 1602/03



[1] The population total excludes six individuals, whose ages were not given in the revista de Achambo.

1. The ages recorded by the caciques, and/or volunteered by the inhabitants, appear to be approximations. This is revealed by the "heaping" of the ages at the 10-year intervals. Of 81 possible ages (i.e., less than one year to 80 years) 29 percent (n=1,326) of the population were recorded as 10, 20, 30, 40, 50, 60, 70 or 80. The rest of the population (71 percent) were recorded as one of the remaining 73 ages.

A simple calculation, known as Whipple's index indicates the extent of the rounding (Shryock and Siegal, 1973:116). The index is calculated by summing the number of individuals for each sex at ages 30, 40, 50, and 60, dividing the result by 10 percent of the sum of the number of individuals at ages 23 to 62 inclusive, and multiplying by 100. The index varies from 100, which indicates there has been no bias toward ages ending in zero, to 500, representing absolute preference for zero-year digits. The calculations are provided in Table 11.

From the figures in Table 11, the index of 4,579 persons who were enumerated with their ages was 351.3 for males and 459.9 for females. The figure for females shows an almost total preference for ages ending in zero. While the figure is less for men, the predominant tendency of the corregidor, the caciques, and the individuals being enumerated was to round ages to zero.

The preference index for zero- and five-year digits also was calculated (see Table 11). It is computed by comparing the sum of

Table 11

Calculation of Preference Indexes for Zero-Year Digits and Zero- and Five-Year Digits, Using Whipple's Index, for the Encomienda de Cepeda, 1602-03.

A. Preference for "0"-year digits by sex[1]

Males				Females			
$\frac{378}{1/10\ (1{,}076)}$	x	100 =	$\frac{351.3}{\ }$	$\frac{493}{1/10\ (1{,}072)}$	x	100 =	$\frac{459.9}{\ }$

B. Preference for "0"- and "5"-year digits by sex[2]

Males				Females			
$\frac{564}{1/5\ (1{,}076)}$	x	100 =	$\frac{262.1}{\ }$	$\frac{691}{1/5\ (1{,}072)}$	x	100 =	$\frac{322.3}{\ }$

Notes:

[1] Whipple's Index (zero-digits) =

$$\frac{(P^{30} + P^{40} + P^{50} + P^{60})}{1/10\ (P^{23} + P^{24} + P^{25} + \ldots + P^{60} + P^{61} + P^{62})} \times 100$$

[2] Whipple's Index (zero- and five-digits) =

$$\frac{(P^{25} + P^{30} + \ldots + P^{55} + P^{60})}{1/5\ (P^{23} + P^{24} + P^{25} + \ldots + P^{60} + P^{61} + P^{62})} \times 100$$

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the population in the range of 23 to 62 at ages ending in zero and five, with one-fifth of the sum of the total population in this

range. This index was calculated in order to compare indexes calculated from age data in two other historical censuses, one carried out in Reims, France in 1422 and the other in York, England in 1851. As can be seen in Table 11, there was much less bias in the revista toward five-year digits than 10, judging by the significant drop in the size of the index (from 351.3 to 262.1 for the male age distribution and from 459.9 to 322.3 for the female one).

The 1422 census of the French city Reims, when analyzed by Deportes (1966), yielded Whipple indexes of 239.9 for males and 254.3 for females.[33] Armstrong's (1974:9) analysis of the 1851 census of the city of York, England revealed indexes of 120.4 for male heads of household and 129.0 for their wives. Both studies show that the bias toward zero- and five-year ages was significantly more pronounced in the encomienda of Cepeda during the 17th century than in either 15th century Reims or 19th century York. Additionally, while the ages of females were more apt to be recorded inaccurately in both the Reims and York censuses, such age mis-statement was much less than in the encomienda.

2. The pronounced see-saw appearance of the pyramid above age 50 suggests little care was taken to obtain the correct ages of the

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33 Pierre Desportes, "La population de Reims au XVe siecle." Le Moyen Age 72, 3-4 (1966):463-509; cited by J. D. Willigan and K. A. Lynch, Sources and Methods of Historical Demography: Studies in Social Discontinuity (New York: Academic Press, 1982), p. 84.

elderly. One would have expected the age 50-54 group to have been enumerated accurately, especially the males, since they represented tribute for the Spanish. However, it appears the caciques lowered the ages of some of the men over age 54, in order to keep them within the tributary group.

3. The age 10-19 group appears to have been seriously under-represented in the revista. Again, one would have thought the males in this age group would have been of primary importance to the Spanish, particularly as they approached tributary age. Under-registration, therefore, would seem improbable at first glance.

The age pyramid for the Indian population of Chucuito, Peru in 1566 (C. T. Smith, 1970:457); an aggregate of the age-sex distribution of 26 towns in Peru in 1683/84 (Evans, 1981:40); the population pyramid for Jujuy, Argentina, in 1778 (Rasini, 1965); and, one for Buenos Aires in 1778 (Moreno, 1965) all show prominent indentations in roughly the same age group.[34] C. T. Smith felt "the deficiency of population of ages 11-16 in 1566..." in Chucuito, most likely was "associated with a low birth rate following the epidemic of 1546 in the Andean region..." (C. T. Smith, 1970:458). Rasini (1965) and Moreno (1965) attributed the gaps in the age profiles

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34 B. Rasini, "Estructura demográfica de Jujuy. Siglo XVIII." AIIH 8 (1965):119-50, and I. L. Moreno, "La estructura social y demográfica de la ciudad de Buenos Aires en el año 1778." AIIH 8 (1965):151-70; cited by Nicolás Sánchez-Albornoz, The Population of Latin America: A History (Berkeley, Los Angeles, London: University of California Press, 1974), p. 114.

from ages 10-19 for Jujuy and Buenos Aires to high child mortality. Evans (1981:40), on the other hand, suggested the disproportion reflected possible under-registration of the 10-19 age group by the Spanish.

It is possible that the deficit in the 10-19 age group in the encomienda was due to a lowering in the fertility rate starting about 13-15 years prior to the census, severe under-registration, or both. The reasons are as follows:

a. First, there is no evidence to date to suggest peak infant mortality 10-19 years prior to the revista de Achambo. Dobyns (1963:502-3) has found evidence that two epidemics struck the audiencia of Quito between 1587-90. The first epidemic was smallpox, which started in Cuzco and reached Quito in about 1587. The second epidemic Dobyns (1963:505) believes was typhus, which may have entered the region from the north in 1589. It is possible these epidemics also entered the encomienda. However, if so, they would have caused as much destruction in the adult ages as in the infant and childhood groups.[35] Where the epidemics would have had an effect was in the lowering of the fertility rate for several years in their wake. Such a lowering in the fertility rate would have affected the size of the 10-14 group, and possibly the 5-9 group as well. Such a possibility will be explored more fully in Chapter 7.

b. Second, the Spanish appear to have consistently underenumerated

the 10-19 age group. For example, although C. T. Smith ascribed the dearth of population between ages 11-16 to epidemic disease, he also noted that under-registration of this group was "a continuing feature of Peruvian registration books in the early 19th century" (C. T. Smith, 1970:457). Moreover, the appearance of the same population indentation across varying times and geographic areas, means age-specific pandemics would have to have struck the Indian population every decade. Since such a phenomenon seems unlikely, it is probable the Spanish consistently under-enumerated young males and females between ages 10-19. Therefore, some of the deficit in the encomienda's 10-19 cohort may be due to under-reporting of this age group.

4. The age 20-24 group is disproportionately large. Why this group contains a considerable excess of population could be related, in part, to why the 10-19 age group does not. That is, males not quite of tributary age might have been placed in the older category (i.e., 20-24 group) in order to bump up the numbers of tribute payers and mita labourers. In addition, if a young male and female were co-habiting, or were married, there may have been a tendency to put their ages closer to the European age at first marriage, which Wrigley (1969:90) suggests was approximately in the mid-twenties

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35 Given a population with no or little immunities, smallpox would have equally affected all age groups. Typhus is somewhat more of an age specific disease, but strikes young adults more than the other age groups. This information was provided to me by Dr. G. G. Richmond, Clinical Assistant Professor, Department of Family Medicine, The University of Calgary.

during the 17th century. Finally, it is possible the officials overestimated the ages of youngsters who had reached puberty.

5. There is a pronounced deficit from ages 25 to 40 years. Some of this deficit may be due to the effects of the typhus epidemic 13 years earlier. The disease typhus strikes young adults more than the other age groups (Dr. G. Richmond, in an interview). This age group would have been from 12 to 27 years at the time of the typhus epidemic.

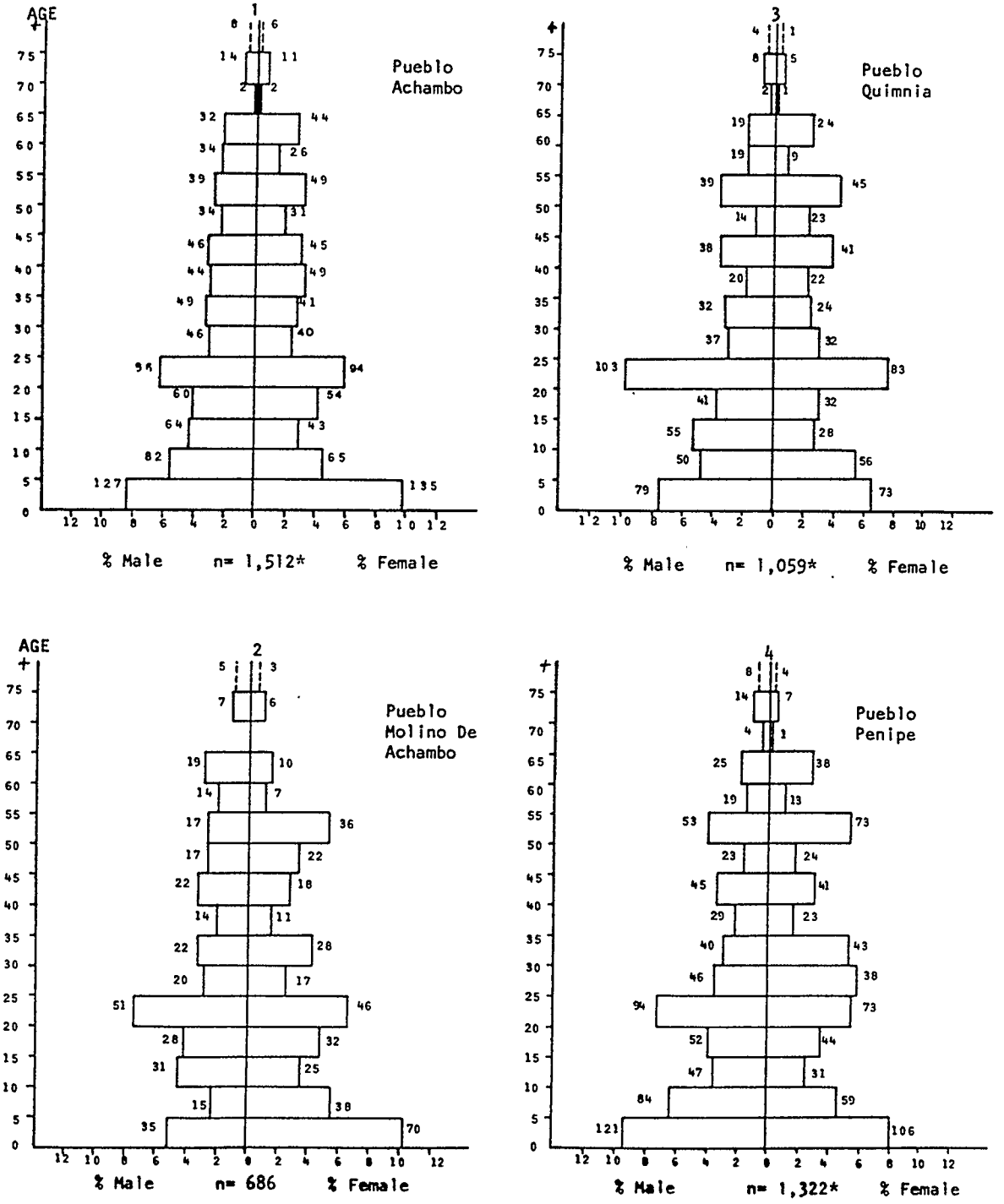
6. Another feature of the encomienda's age pyramid is the relatively large percentage of men and women between the ages of 50-54. It is possible the caciques lowered the ages of some men, so they might continue to pay tribute and work in the mita draft. Why this age group also is inflated in its number of women may be related to an apparent tendency of the corregidor and caciques to record the age of the woman as that of her husband's or co-partner's. This latter feature appears to apply to all the adult age groups.

Figure 9 on page 119 gives the population pyramids for the four pueblos. They do not tell us much more than did the composite age-sex pyramid. Essentially, their major feature is that the inaccuracies indentified in the overall age-sex distribution for the encomienda appear more extreme at the local level. However, one anomaly does occur. Boys under the age of 10 seem to have been severely under-enumerated by the cacique of Molino de Achambo (see Figure 9 on page 119). Why male children were approximately half the number of the

female children in the *pueblo* (boys = 51 versus girls = 108), may have been due to the *cacique*'s or Indians' deliberate manipulation of the census, in order to keep young boys from the future notice of the Spanish.

FIGURE 9

Age-Sex Distribution of the Encomienda De Cepeda by Pueblo, 1602/03



Conclusion

In conclusion, the revista de Achambo reveals there had been two previous counts of the encomienda's tributary population prior to 1602-03: a census in 1589 which gave 1,260 tributaries, and another survey at sometime between 1589 and 1602-03, which found 600 tributaries present in the encomienda. These counts will be utilized in Chapter 7 to determine the trends in the encomienda's adult male population over the 13 year period (i.e., 1589 to 1602-03).

The revista also showed that the predominant household structure in the encomienda was the simple family household (42.8 percent), and that the mean size of household was five. Such a mean size suggests families may have been relatively small in the encomienda, at least in families other than those of the caciques and in terms of the fertility level we might expect in such a society. Family size will be analyzed in Chapter 5. The caciques supported the largest households in the community, ranging in size from 17 to 35 members. Thus, it appears the caciques were able to fare well on the tribute dues they received, and much better than the rest of the encomienda's indigenous population.

Given the analysis of the age structure of the encomienda, it appears the value of the revista as a demographic document is limited. The conception of age, as reported by the Spanish officials and Indian community, seems to have been extremely partial, and may be considered unreliable. Not only was there a marked preference for zero-digit ages,

particularly for women, but there also is a strong indication that the caciques manipulated ages, either to swell the tributary ranks or hide individuals from Spanish attention. However, Munoa de Ronquillo seems to have made every effort to include "hiding Indians", which suggests the major problem with the revista is the over-registration of men of tributary age (i.e., ages 17 to 54). Since a woman's age seems to have paralleled the age of her husband's or partner's, it is probable females between the ages of 17 and 54 also were over-registered.

The unreliability of the age data should not detract from the social and economic value of the revista. The houselist data also permit the calculation of family size and family structure. The houselists, with their careful breakdown of living units, possibly could yield useful information on marriage arrangements as well. The fiscal data also can tell us much about labour in the encomienda, mobility through the ausente population, the general well-being of the community, and the conditions of life of the population.

Chapter 5

DEMOGRAPHIC CHARACTERISTICS OF THE ENCOMIENDA, 1602-03

Introduction

In this chapter, the demographic pattern of the encomienda de Cepeda in 1602-03 is reconstructed from data on age and sex contained within the revista. The age structure is analyzed in greater detail, expanding on this section from Chapter 4. Subsequent sections deal with the sex composition, marital characteristics, fertility, and mortality of the encomienda population in 1602-03.

Age Structure

Table 13 gives the distribution by age and sex of the indigenous population of the encomienda de Cepeda in 1602-03. As shown, there were 4,585 individuals registered by the corregidor and caciques as present in the encomienda during the count, or whom informants claimed were

originarios of the encomienda's ayllus.

Of the 4,585 inhabitants of the encomienda in 1602-03, 33.2 percent (n=1,519) were under the age of 15 years, 64.0 percent (n=2,937) were between 15 and 64 years, and 2.8 percent (n=129) were aged 65 or older (see Table 13). When compared with the age distribution of Ecuador today, that of the encomienda's shows relatively smaller youth (under 15 years) and old age (over 65 years) cohorts (33.2 percent versus 44.9 percent and 2.7 percent versus 3.4 percent).

The relative deficit in the younger ages in 1602-03 might be indicative of:

1. a lowering in the level of fertility after the 1587-90 epidemics,

2. peak infant and child mortality from age-specific diseases like measles and whooping cough, and/or

3. the corregidor's and caciques' inflation of the ages of individuals having reached puberty or tributary age, and of young married couples.

The first and third reasons are most likely, since no mention is made of higher than normal infant/child mortality due to disease in the known historical sources of this period. The factor of adult in-migration, which also would have produced a relatively small youth cohort, I believe can be discounted, since forasteros were excluded from the

Table 12

Percent Distribution by Age and Sex of the Population of the Encomienda de Cepeda, Audiencia de Quito, 1602-1603

AGE GROUP	MALES N[1]	MALES %[2]	MALES CUM%[3]	FEMALES N	FEMALES %	FEMALES CUM%	TOTAL N	TOTAL %	TOTAL CUM%
0-4	362	15.4	15.4	384	17.2	17.2	746	16.3	16.3
5-9	231	9.8	25.2	218	9.8	27.0	449	9.8	26.1
10-14	197	8.4	33.6	127	5.7	32.7	324	7.1	33.2
15-19	181	7.7	41.3	162	7.3	40.0	343	7.5	40.7
20-24	344	14.6	55.9	296	13.3	53.3	640	14.0	54.7
25-29	149	6.3	62.2	127	5.7	59.0	276	6.0	60.7
30-34	143	6.1	68.3	136	6.1	65.1	279	6.1	66.8
35-39	107	4.5	72.8	105	4.7	69.8	212	4.6	71.4
40-44	151	6.4	79.8	145	6.5	76.3	296	6.4	77.8
45-49	88	3.7	82.9	100	4.5	80.8	188	4.1	81.9
50-54	148	6.3	89.2	203	9.1	89.9	351	7.6	89.5
55-59	86	3.6	92.8	55	2.5	92.4	141	3.1	92.6
60-64	95	4.0	96.8	116	5.2	97.6	211	4.6	97.2
65-69	8	0.3	97.1	4	0.2	97.8	12	0.3	97.5
70-74	43	1.8	98.9	29	1.3	99.1	72	1.6	99.1
75+	25	1.1	100.0	14	0.6	99.7	39	0.8	99.9
Unknown	0	0.0	100.0	6	0.3	100.0	6	0.1	100.0
Total	2,358	51.4		2,227	48.6		4,585	100.0	

Source: Revista de Achambo, Encomienda de Don Lorenzo de Cepeda, 1603 (Sevilla: AGI, escribanía de cámara 919), fol.1-443.

[1]Absolute number in five-year age group.

[2]Percentage of population in each five-year age group.

[3]Cumulative percentage.

count.

The smaller old age group suggests a lower expectation of life in the encomienda than in Ecuador today.

Table 13

Comparison of the Age Distributions of the Encomienda de Cepeda in 1602-03 and Modern Ecuador in 1982

Age Group (years)	Encomienda de Cepeda 1602-03[1]	Ecuador 1982
0-14	33.2%	44.9%
15-64	64.0%	51.7%
65+	2.7%	3.4%

Notes: [1]The percentages for the encomienda will not add up to 100 percent because the ages of six individuals were not given in the revista, and hence, were excluded from the calculations.

Table 14 gives the percentage distributions in the three ages by pueblo. The figures indicate little difference in the age distributions of the encomienda towns. This finding suggests that the causes of the relative deficit in the youth group occurred in all pueblos of the encomienda at the same time. A lowering in the level of fertility after the devastating epidemics of 1587-90 and the consistent inflation of teenage ages by the enumerators could have produced this ubiquitous feature of the encomienda's age distribution.

Table 15 gives the median age and dependency ratio of the observed and modern distributions. The median age of the encomienda's population was 23.3 years. Ecuador's median age in 1982 was lower at 22.4 years. In a pre-industrial, non-European community, with generally high birth and death rates, the central age of the encomienda population should have been lower than the modern one, and probably less than 20 years. This may indicate that the corregidor and caciques inflated the ages of

Table 14

Comparison of the Age Distributions of the Encomienda de Cepeda in 1602-03 by Pueblo

	Age Group (Years)		
Pueblo	0-14	15-64	65+
Achambo	34.1%	62.9%	3.0%
Molino de Achambo	31.2%	65.7%	3.1%
Quimnia	32.2%	65.7%	2.1%
Penipe	33.9%	63.2%	2.9%

teenagers in the count.

The dependency ratio also is a measure of age composition, reflecting "the burden of dependency which the productive population must bear" (Shryock and Siegel, 1973:132). Its magnitude also is more dependent on the proportion of the population under age 15 than the proportion of the population 65 and over, which means it is influenced primarily by rates of fertility and/or higher infant and child mortality (Shryock and Siegel, 1973:134-5). In Table 15, the encomienda population exhibits a dependency ratio of 559, which is characteristic of some of the most developed countries of today (e.g., Japan, 557; Italy, 520; Sweden, 510) (Shryock and Siegel, 1973:134). Such a ratio thus depicts an extremely low fertility rate and/or past peak infant/child mortality. As mentioned, the in-migration of adults, which also would have the effect of lowering the dependency ratio, can be discounted: the revista did not record persons other than originarios of the ayllus.

Table 15

Comparison of the Median Ages and Dependency Ratios of the Encomienda Population, 1602-03, and the Population of Modern Ecuador, 1982

	Encomienda 1602-03	Ecuador 1982
Median Age[1]	23.3	22.4
Dependency Ratio[2]	559	934

Notes:

[1] $Md = lmd_i + ((N/2 - fx_i) / fmd_i)) * i$

[2] Dependency ratio = $(14P(0) + P(65+)) / 64P(15) * 1000$

Sex Composition

Of the 4,585 inhabitants of the encomienda in 1602-03, 51.4 percent (n=2,358) were males and 48.6 percent (n=2,227) were females (see Table 12). These percentages produce a sex ratio of 105.88 (i.e., 105.88 men per 100.00 women) (see Table 16). A sex ratio of this order suggests female mortality was slightly higher than the male rate, perhaps due to death during childbirth, and/or women were under-registered to some degree in the revista. It does not imply anything but a normal balance between the sexes. This finding is at odds with figures for Peru and Mexico at this time which tell of much higher survival rates for women

than for men (Evans, 1981:42). Work in the mercury mines of Huancavelica, the silver mines of Potosí, and flight of the men to avoid tribute and the mita, produced some Peruvian populations with double the number of women (Watchel, 1970:91).

The number of men relative to the number of women differed amongst the encomienda's pueblos, and by age (see Table 16 and Table 17). At Molino de Achambo, for example, there were significantly more women than men. However, men exceeded women in the pueblos of Achambo, Quimnia, and Penipe. The sex imbalance at Molino must have been real, since it is unlikely the cacique of this pueblo was able to prevent a large number of men from being enumerated in the revista. What are we to attribute to this imbalance? An analysis of the ausente data reveals the proportion of males fleeing or migrating from the encomienda did not differ greatly between pueblos. The large difference for Molino, therefore, is difficult to explain, although it is possible the mita draft had a greater effect on the tributary population of this town because of its small male population. That is, since the mita rotated between the pueblos, any loss in Molino's already small male population would have placed an added burden on the existing tributary population to participate in the draft, surviving tributaries possibly being required to fill back-to-back quotas. The demands of mita labour, to be discussed in the following chapter, could have had this kind of negative effect on the survival rate of Molino's male population.

Studying the figures in Table 17, we see men were more numerous than women in the three age groups. In modern populations, the opposite is

Table 16

Sex Ratios by Pueblo for the Encomienda de Cepeda, Audiencia de Quito, 1602-03

Pueblo	Sex Ratio
Achambo	105.43
Molino de Achambo	85.90
Quimnia	111.55
Penipe	113.73
Total for Encomienda	105.88

Notes:
Sex Ratio = Pm / Pf X 100, where Pm = number of males
Pf = number of females

generally true from about 15 years of age and over. Moreover, one would think that forced labour would have contributed to an excess of females over males; although it is possible the type of labour drafts in the encomienda did not lead to excessive male mortality. The death of mothers during childbirth was high and this may have accounted for a portion of the excess of males in the older ages. Much more likely is that the predominance of males was due to an under-registration of females.

Marital Characteristics

Three categories of marital status were recognized in the revista. These were (a) soltero/soltera (single male/single female), (b)

Table 17

Age-Sex Ratios of the Population of the Encomienda de Cepeda, Audiencia de Quito, 1602-03

Age (years)	Sex Ratio
0-14	108.4
15-54	102.9
55+	117.9

Notes:
Sex Ratio = Pm / Pf X 100, where Pm = number of males
Pf = number of females

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casado/casada (married male/married female), and (c) viudo/viuda (widower/widow). If many of the encomienda's marriages were extra-legal (i.e., consensual or common-law unions), they were not recorded as such by the Spanish officials. In addition, although polygamous marriages are not apparent in the encomienda, the fact that these unions were strongly opposed by the Church may have led to the caciques not registering other wives, or altering the relationship of secondary wives to the household head (i.e., secondary wives were shown as sisters). It will be assumed, however, that polygamy was not practised in the encomienda by 1602-03, as a result of the Spanish clergy's success in eradicating non-monogamous unions.

Table 18 outlines the percentage of the encomienda population falling within each of the recognized civil categories. As indicated, almost half (48.4 percent) of the total population was married, and a slightly higher percentage of women were married than men (49.8 percent versus 47.0 percent). A total of 6.7 percent were widowed, but there were

Table 18

Percent Distribution by Marital Status for All Ages of the Encomienda de Cepeda, Audiencia of Quito, 1602-03

Marital Status	Males	Females	Total
Single	47.4% (n=1,118)	42.3% (n=943)	45.0% (n=2,061)
Married	47.0% (n=1,109)	49.8% (n=1,109)	48.4% (n=2,218)
Widowed	5.6% (n=131)	7.9% (n=175)	6.7% (n=306)
Total	100.0% (n=2,358)	100.0% (n=2,227)	100.0% (n=4,585)

more widows than widowers. The higher percentage of widows (7.9 percent) compared to widowers (5.6 percent) suggests a lower survival rate for men in old age, although men may have been more apt to remarry than women. Slightly more males (47.4 percent) than females (42.3 percent) were not married. Many of the solteros and solteras, however, were boys under the age of 17 (i.e., muchachos) and girls under 14 years (i.e., muchachas).

Marital status by age and sex is presented in Table 19. No one beneath the age of 15 was registered as married or widowed in the encomienda. Over that age men were more apt to be single than females (20.9 percent versus 13.9 percent). However, women were more likely to remain single throughout their lifetimes than men, as shown by the percentage single in the various age groups. This unmarried component of the female population was negligible from age 30 and over, suggesting

Table 19

Population By Marital Status, Age, and Sex, for the Encomienda de Cepeda, Audiencia de Quito, 1602-03

	M A L E S							
	Population		Single		Married		Widowed	
AGE GROUP	N	%	N	%	N	%	N	%
15-19	181	100.0	140	77.8	41	22.7	-	0.0
20-24	344	100.0	103	29.9	238	69.2	3	0.9
25-29	149	100.0	28	18.8	115	77.2	6	4.0
30-34	143	100.0	19	13.3	116	81.1	8	5.6
35-39	107	100.0	10	9.4	89	83.2	8	7.5
40-44	151	100.0	14	9.3	116	76.8	21	13.9
45-49	88	100.0	4	4.5	77	87.5	7	8.0
50-54	148	100.0	2	1.4	124	83.8	22	14.9
55-59	86	100.0	6	7.0	69	80.2	11	12.8
60-64	95	100.0	-	0.0	78	82.1	17	17.9
65-69	8	100.0	-	0.0	6	75.0	2	25.0
70-74	43	100.0	1	2.3	28	65.1	14	32.6
75-79	1	100.0	-	0.0	1	100.0	-	0.0
80-84	17	100.0	1	0.0	7	47.1	9	52.9
85+	7	100.0	-	0.0	4	57.1	3	42.9
Unknown	-	100.0	-	0.0	-	0.0	-	0.0
Total	1,568	100.0%	328	20.9%	1,106	70.7%	131	8.4%

marriage was well nigh universal for both sexes in the older ages. Thus, although 79.1 percent of the male population and 86.1 percent of the female population was married or had been married (i.e., widowed) at the time of the count, this percentage varied by age group, with marital rates increasing as the population aged. For example, 22.7 percent of all males and 32.1 percent of all females were either married or widowed in the 15-19 age group. At age 30-34, this proportion had increased to 86.7 percent for men and 97.1 percent for women, and by age 50-54, fully 98.7 percent of all males and 98.0 percent of all females were married or had been married. When analyzing marital rates by age, it must be

Table 19-Continued

AGE GROUP	F E M A L E S Population N	%	Single N	%	Married N	%	Widowed N	%
15-19	162	100.0	110	67.9	51	31.5	1	0.6
20-24	296	100.0	44	14.9	247	83.4	5	1.7
25-29	127	100.0	20	15.7	106	83.5	1	0.8
30-34	136	100.0	4	2.9	122	89.7	10	7.4
35-39	105	100.0	7	6.7	95	90.5	3	2.9
40-44	145	100.0	3	2.0	130	89.7	12	8.3
45-49	100	100.0	1	1.0	83	83.0	16	16.0
50-54	203	100.0	4	2.0	138	68.0	61	30.0
55-59	55	100.0	1	1.8	38	69.1	16	29.1
60-64	116	100.0	10	8.6	68	58.6	38	32.8
65-69	4	100.0	1	25.0	2	50.0	1	25.0
70-74	29	100.0	2	6.9	22	75.9	5	17.2
75-79	1	100.0	-	0.0	1	100.0	0	0.0
80-84	9	100.0	1	11.1	4	44.4	4	44.4
85+	4	100.0	2	50.0	1	25.0	1	25.0
Unknown	6	100.0	4	66.7	1	16.7	1	16.7
Total	1,493	100.0%	208	13.9%	1,109	74.1%	175	12.0%

remembered that the Spanish officials likely inflated the ages of the teenage cohort, particularly the ages of the females of this group. Universal marriage, therefore, probably occurred before age 30 and, based on 17th century marital statistics for Peru compiled by Evans (1981:42), probably around age 20.

Marital status over 15 years of age by pueblo is presented in Table 20. The percentage of the population falling in each of the marriage categories exhibits only a small difference between pueblos. The inhabitants of Molino and Penipe, for example, were slightly more apt to be single than the inhabitants of Achambo and Quimnia. These two pueblos also contained a higher percentage of widows (14.8 percent in

Table 20

Population 15 Years of Age and Over by Marital Status for the Pueblos of Achambo, Pueblo Molino de Achambo, Quimnia, and Penipe in the Encomienda de Cepeda, 1602-03

	Single		Married		Widowed	
Pueblo	Males	Females	Males	Females	Males	Females
Achambo	19.4%[1] (n=98)	14.6% (n=72)	73.6% (n=371)	75.4% (n=371)	6.9% (n=35)	9.5% (n=47)
Molino de Achambo	22.5% (n=53)	16.5% (n=39)	68.6% (n=162)	68.6% (n=162)	8.9% (n=21)	14.8% (n=35)
Quimnia	18.3% (n=69)	11.3% (n=39)	73.1% (n=275)	80.4% (n=275)	8.5% (n=32)	9.0% (n=31)
Penipe	23.9% (n=108)	14.4% (n=61)	66.6% (n=301)	71.2% (n=301)	9.5% (n=43)	14.7% (n=62)

Notes: [1]Proportion of pueblo population 15 years of age and over.

Molino and 14.7 percent in Penipe versus 9.5 percent in Achambo and 9.0 percent in Quimnia). This finding is interesting. The higher percentage of widows in these two towns may be due to the fact the men of Molino and Penipe were likely just ending their duty tours in the mita draft. Therefore, it appears that the survival rate of men was lower than for women in the encomienda due to forced labour.

Table 21 gives the estimated average or mean age at first marriage for men as 22.3 years, and for women, as 20.1 years. These figures do not suggest a young age at first marriage, which one would expect in

Table 21

Calculation of Estimates of Mean Age of First Marriage by Indirect Methods, Encomienda de Cepeda, Audiencia de Quito, 1602-03

Age	% Males Single	% Females Single
15-19	77.8	67.9
20-24	29.9	14.9
25-29	18.8	15.7
30-34	13.3	2.9
35-39	9.4	6.7
40-44	9.3	2.0
45-49	4.5	1.0
Sum	163.0	111.0
50-54	1.4	2.0

	Males	Females
(1) Sum percentages single through age group 45-49 and multiply sum by 5	163.0 X 5 = 815.0	111.1 X 5 = 555.5
(2) Add 1,500	+1500.0	+1500.0
	2315.0	2055.5
(3) Average the percentages for 45-49 and 50-54	(4.5 + 1.4) / 2 = 2.95	(1.0 + 2.0) / 2 = 1.50
(4) Multiply result (3) by 50	x 50	x 50
	147.5	75.0
(5) Subtract (4) from (2)	2315.0 -147.5	2055.0 -75.0
	2617.5	1980.5
(6) Subtract (3) from 100	100.00 -2.95	100.00 -1.50
	97.05	98.50
(7) Divide (5) by (6)	2617.50 / 97.05 = 22.33	1980.50 / 98.5 = 20.10

Source: Henry S. Shryock, Jacob S. Siegal, and Associates, The Methods and Materials of Demography, rev. ed. (Washington, D. C.: Government Printing Office, 1973), p.167.

such a society. Again, the inflation of the ages of the 10-19 age group first marriage probably occurred in the 15-19 year group for both sexes.

The mean age at first marriage in the four pueblos is presented in Table 22. There are slight differences between the towns, and, again, the actual age at first marriage was likely obscured by the enumerators' inflation of the ages of the teenage group.

Table 22

Estimates of Mean Age of First Marriage
by Indirect Methods, by Pueblo

Pueblo	Males	Females
Achambo	23.2	20.6
Molino de Achambo	23.7	20.5
Quimnia	22.3	18.7
Penipe	22.6	20.3

Fertility

The universality of marriage amongst the indigenous population of the encomienda de Cepeda suggests fertility would be very high. However, the revista lists only 135 newborn (recién nacido), which corresponds to a crude birth rate of 29.6 per 1,000 population (see Table 23). By modern standards, the birth rate was exceptionally low: 38.8 infants were born for every 1,000 persons in the Riobamba Basin in 1962, and 43.2 babies per 1,000 were born to the Indian community, also in 1962 (Burgos, 1970:77) (see Table 23). It must be remembered though that the recién nacidos represented infants who had survived at childbirth.

Therefore, the birth rate is really measuring the survival rate: its small size may be indicative of a high infant mortality rate rather than low fertility.

There may be several other reasons for such a low birth rate in the encomienda. One reason is that the corregidor and caciques likely failed to enumerate all infants, since the primary aim of the revista was to establish the number of male taxpayers currently in the encomienda. A second reason is that the birth rate may actually have been low in the encomienda in 1602-03. There was the possibility, for example, that Amerindian communities restricted their births and/or practised infanticide to avoid bringing children into the world. Watchel cites a government paper from Peru written in 1582 which tells of native women killing "their babies at birth 'to free them from the torments they suffer'" (Watchel, 1970:94). A low birth rate also could have been caused by the fact that many of the men were away from the encomienda serving their tours of duty in the mita draft. Only in the herding mita did wives accompany their husbands. For the duration of the tour, therefore, married couples did not cohabitate.

The crude birth rate, really crude survival rate, varied from pueblo to pueblo (see Table 24). Achambo and Quimnia had the lowest rates (24.4 and 24.5 respectively), and Molino and Penipe the highest (30.6

Table 23

Crude Birth Rate, Encomienda de Cepeda in 1602-03, Indian Community of Licto in 1962, and Riobamba Basin, 1962

Encomienda de Cepeda 1602-03	Indian Community (Licto) 1962	Riobamba Basin 1962
29.6	43.2	38.8

Notes:
Crude Birth Rate = Births Annually / Population X 1,000

and 38.5). Significantly, as we will see in Chapter 6, mita labour was being drawn most heavily from Achambo and Quimnia. Therefore, it appears that the birth rate in the encomienda was influenced primarily by the absence of men from the encomienda in the mita draft.

Another fertility measure is the child-woman ratio. This is the ratio of children under five years to 1,000 women of childbearing age (i.e., age 15 to 49 years). The 15-49 age category was used in order to provide a comparison with modern ratios. The child-woman ratio may be considered a measure of "effective fertility, which takes into account child mortality" (i.e., it is essentially a survival measure) (Shryock and Siegel, 1973:298). It often is used in place of the crude birth rate when under-enumeration is suspected, since children under five generally are more likely to be registered compared to infants (under one year old). Its major weakness is that it always understates recent fertility, since mortality, which affects both women and children, is invariably lower for women. The child-woman ratio for the encomienda in

Table 24

Crude Birth Rate and Child-Woman Ratio by Pueblo, for the Encomienda de Cepeda, Audiencia de Quito, 1602-03

Pueblo	Crude Birth Rate	Child-Woman Rate [1]
Achambo	24.4	740.1
Molino de Achambo	30.6	603.4
Quimnia	24.5	591.4
Penipe	38.5	793.7
Total	29.6	696.5

Notes: [1] Child-Woman Ratio = $(P^{0-4}) / (Pf^{15-49}) \times 1{,}000$

1602-03 was 696.5 (see Table 24). This can be compared with ratios for modern Ecuador (831.8) and the United States (284.8) in 1982. Fertility was thus moderate in the encomienda in 1602-03 when compared to fertility in modern Ecuador. It must be remembered, though, that infant/child mortality must have been greater in the encomienda.

The child-woman ratios show fertility varied between the four pueblos (see Table 24). Penipe exhibits the highest ratio (793.7), as it did the highest birth rate (38.5). Achambo's fertility (740.1) is substantially greater than indicated by the crude rate (24.4), which suggests the men of this pueblo were just beginning their tours of service in the mita. Quimnia, however, has both a low birth rate (24.5) and fertility ratio (591.4) (i.e., child-woman ratio). The likely explanation is that Quimnia's men were nearing the end of their mita tours, having been away from the encomienda for some time.

The child-woman ratios suggest the encomienda was enioying a period of growth in 1602-03. Figures presented in Table 25, indicate whether this finding can be supported by statistics on family size. A family is defined herein as a married couple with or without children, or one parent with one or more single children 15 years of age or younger. As shown in Table 25, 28.2 percent of all families in the encomienda had no children, 28.7 percent had one, 23.9 percent had two, 14.5 percent had three, 3.6 percent had four, and 1.1 percent five. Such family sizes do not imply high fertility. In fact, families in the encomienda had only 1.40 children on average. This average, of course, does not take into account families whose children had grown up or died.

The figures on family size can be compared with those obtained from two censuses taken in 1602 and 1623 for Pamplona, Colombia, which Colmenares (1969:45) uses to illustrate the near extinction, and then slight recovery, of the Pamplona Indians.[36] In 1602, 43 percent of the families had no children, 27 percent had one, and 19 percent had two. Over 20 years later (c. 1623) only 30 percent had no children, 27 percent one, and 22 percent two.

Family size in the encomienda was similar to family size in Pamplona in 1623, when its Indian population was beginning to recover from the demographic devastation of the 16th century. It appears the encomienda population too was increasing in 1602-03, although the gain could not

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36 G. Colemenares, Encomienda y Población en la Provincia de Pamplona (1549-1650) (Bogotá: Universidad de Los Andes, Facultad de Artes y Ciencias, Departamento de Historia, 1969), p. 45, uses the age of 16 to separate the adult and childhood ages. I have used 15 years.

Table 25

Number of Families, and Percent Distribution by Number of Children of Specified Age Per Family, for the Encomienda de Cepeda, Audiencia of Quito, 1602-03

Number of children per family	Achambo: children under 16	Molina de Achambo: children under 16	Quimnia: children under 16	Penipe: children under 16	Total: children under 16
All families	352 100.0%	151 100.0%	288 100.0%	334 100.0%	1,125 100.0%
No children	27.8% (n=98)	31.1% (n=47)	30.2% (n=87)	25.4% (n=85)	28.2% (n=317)
1 child	20.5% (n=72)	30.5% (n=46)	32.3% (n=93)	33.5% (n=112)	28.7% (n=323)
2 children	25.6% (n=90)	21.9% (n=33)	22.6% (n=65)	24.3% (n=81)	23.9% (n=269)
3 children	17.0% (n=60)	13.2% (n=20)	11.8% (n=34)	14.7% (n=49)	14.5% (n=163)
4 children	7.4% (n=26)	3.3% (n=5)	2.8% (n=8)	0.6% (n=2)	3.6% (n=41)
5 children	1.7% (n=6)	0.0% (n=0)	0.3% (n=1)	1.5% (n=5)	1.1% (n=12)
All children	566	239	362	452	1,574
Children per family	1.61	1.58	1.26	1.35	1.40
Children per family with children	2.23	2.30	1.80	1.82	1.95

have been substantial, judging by the fact that well over half (56.9 percent) of all families were childless or had only one offspring. Moreover, the revista reveals only the caciques, who were supported by the indigenous community, and who were not liable for the mita draft, had families of five children in size.

The conclusion which might be drawn from the analyses of fertility and family size is that fertility was influenced primarily by the fact males were required to spend long periods of time away from the encomienda in the forced labour drafts. However, infant and childhood mortality also was high. In other words, while the birth rate was extremely high in the periods between the mita tours, many of the children born would die.

Mortality

The revista is silent on deaths in the encomienda. What can be determined about the mortality of its population, therefore, must be gleaned from the encomienda's age structure, and information from other demographic studies. The revista indicates that just over seven percent of the population survived past age 60. This percentage may be high, depending on the extent to which the corregidor and caciques inflated the older ages. However, it is comparable to the percentage of the Peruvian Indian community in 1683 who survived beyond 60 years (five

percent) (Evans, 1981:42). The life expectancy of the Peruvian population in 1683 also gives a good indication of what mortality might have been like in the encomienda 80 years earlier. According to Evans, "evidence from seventeenth century parish registers from Alto Peru ... tell the ... story [that] ... nearly half of those born did not survive infancy and childhood, and had died before their tenth year" (Evans, 1981:42). In addition, he states that "life expectancy judged from both the 'Numeración' and the parish registers was about 25 years or less" (Evans, 1981:42).

Conclusion

The analysis of the age structure of the encomienda showed there was a deficit in the 15 and under age groups, caused, in part, by a possible lowering of fertility after the 1587-90 epidemics. Some of the deficit, however, was due to the inflation of the ages of the teenage group. The aging of the teen cohort was evident when the median age and age at first marriage were examined. The median age of the encomienda's population was 23 years, and the average age at first marriage was an estimated 22 years for men and 20 years for women. In such a society, the median age was probably less than 20 years, particularly when we consider the expectation of life at birth was only about 25 years. Age at first marriage also likely occurred before age 20, as marriage was universal in the region.

The sex ratio showed there were slightly more men than women of all ages in the encomienda. However, the larger number of men probably was not due to a higher male survival rate. Forced labour took its toll of male lives, as illustrated by the larger percentage of widows in the two towns from which mita labour was drawn prior to 1602-03. Therefore, the excess of men over women in the encomienda was perhaps the result of the underenumeration of females in the census.

Fertility in the encomienda was influenced primarily by whether men were away in the mita draft. That is, fertility would have been extremely high had males not been forced to spend extended periods of time away from home. As it was, the fertility rate was probably moderate in the encomienda.

Infant and child mortality was high though. It is possible, as Evans (1981:42) has found for Peru, that nearly half of all children born failed to survive to their tenth year. The moderate fertility in the encomienda, combined with the high infant/child mortality, resulted in small family sizes. The average number of children per family was only 1.4, and well over half (56.9 percent) of the families were without children or had only one offspring. Although family size was small, enough children survived to suggest the encomienda's population was increasing at a slow rate in the early 17th century.

Chapter 6

TRIBUTE AND MITA IN THE ENCOMIENDA DE CEPEDA, 1602-03

Introduction

The foci of this chapter are the institutions of encomienda and mita, and their effects upon the Indian population of the study region. First examined is the system of tribute. The role of the caciques within this system is explored, and then the tribute or fiscal categories of tributario, reservado and ausente are analyzed. A discussion of the relation of the tributaries to the male and total population follows. Next, an examination of mita labour within the encomienda is made.

The Tribute System in the Encomienda de Cepeda

Tributario (tributary) was a Spanish fiscal-administrative concept, which was employed in connection with the gathering of money and goods from the male Indian population of the New World, and of the

distribution of its labour. As indicated previously, the unit of taxation in the first century of Spanish rule was the encomienda. Indian labour was controlled through the mita after the 1570s. To collect taxes and harness Indian labour, the Spanish utilized the former curaca class (i.e., the caciques) of the Inca empire.

The Caciques of the Encomienda

A cacique was listed in the revista as the cabeza (head) of each ayllu of the encomienda. Several references in the revista support the notion that the caciques obtained their positions by inheriting them, as they had under the Inca. In the ayllu of Putquajo in the pueblo of Penipe, for example, the cacique's 20-year old son was designated as his heir (AGI, escribanía de cámara 919, fol. 412). The cacique of the ayllu of Matus, on the other hand, did not have a legitimate son, and, thus, had named his younger brother heir (AGI, escribanía de cámara 919, fol. 387).

The revista makes no mention of the appointment of caciques by the Spanish, although some may have gained their positions in this way. Kubler (1963:376), for example, wrote of many encomenderos' interference in the selection of caciques in early Colonial Peru. In fact, in several situations where two or three encomenderos had shared the same encomienda, Kubler found evidence that each had appointed his own

cacique "with the result the number of officials, or madones, was multiplied by the number of participant encomenderos, and the previous genuine curaca was displaced..." (Underlining mine) (Kubler, 1963:377).

One cacique also ruled all others in each of the pueblos of the encomienda. For example, each cacique in the pueblo of Penipe was "subjecto al dicho Cacique Don Diego Patahalo", who also was "cacique y cabeza" of the ayllu of Matus (AGI, escribanía de cámara 919, fols. 387-443). The revista makes no mention of whether Don Diego had inherited his position or had been appointed to it, or whether he, in turn, was subordinate to a cacique who controlled all native officials, and all Indians, of the encomienda.

Under the Spanish, the ayllu replaced the Inca decimal system as the unit of taxation and control.[37] However, as its role altered after the Conquest, it appears so did its form, at least in the encomienda de Cepeda. As mentioned in Chapter 3, the ayllu under the Inca was an endogamous kinship group, with descent in the male line (Rowe, 1963:254). There is evidence in the revista to suggest the ayllu had retained its nature as a kin group. For example, all individuals of the ayllu in which Don Miguel Conde was cacique were related (AGI, escribanía de cámara 919, fols. 278-293). However, adult daughters were curiously absent from the count, suggesting the restriction on inter-ayllu

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37 As indicated in Chapter 3, the Inca administrative hierarchy was based on increments of the unit 10 where, for example, officials called hunukurakas controlled 10,000 taxpayers; hurangas, 1,000 taxpayers; and pachacas, 100 taxpayers.

marriage had perhaps relaxed by 1602-03. Marriage beyond the encomienda boundaries appears to have been rare though. Only two orginarios of the encomienda are mentioned in the revista as having married persons from outside the boundaries of the grant. Finally, the presence of unmarried and married adult sons in the households of their fathers, indicates descent and inheritance had remained partrilineal.

Fiscal Categories

In the revista de Achambo, the Indian population of the encomienda de Cepeda was reported in six different fiscal categories: (1) tributarios, (2) ausentes que no pagan, (3) reservados, (4) muchachos, (5) mujeres, and (6) muchachas.

A. Tributarios

The cacique of each ayllu was responsible for the collection of tribute, and the supplying of men to the mitas. The fiscal summaries compiled by the caciques for the ayllus show there were a total of 998 men liable for tribute and the mita draft in the encomienda in 1602-03 (see Table 26). These men represented most able-bodied male Indians of

the encomienda from ages 17 to 54.

The population from which tributaries were drawn in the encomienda differed from the tributary populations of Mexico and Peru (Cook and Borah, vol. 1, 1971:22; Evans, 1981:36). In Mexico and Peru, tribute-paying men were from ages 18 to 50. The tributary classification of the audiencia of Santa Fe de Bogotá (i.e., Colonial Colombia), however, "included married and unmarried adult males between the ages of seventeen and fifty-four..." (Villamarin and Villamarin, 1981:52). Thus, despite Quito's position as a lesser audiencia of the Viceroyalty of Peru, it appears to have shared a system of tribute assessment with the area to the north of its boundaries.

It seems the tributaries of the encomienda de Cepeda each were required to pay four pesos in tribute in 1602-03. The estimated value of tribute per tributary is provided in Table 27. As can be seen, if all tributaries (n=998) were paying tribute in 1602-03 each was contributing two pesos and four tomines in gold and silver and one peso and five tomines in maize, blankets, potatoes, and swine. The total tribute was approximately 3,800 pesos.

The entire issue of how much the encomienda could yield in income becomes interesting in light of the information supplied in Table 27. If the reader will recall from Chapter 4, the tributaries of the encomienda were obligated to raise only 3,000 pesos, after being "reviewed" sometime between 1589 and 1602-03. But the data in Table 27 suggest the encomienda was yielding closer to 4,000 pesos in tribute.

Table 26

Fiscal Summary By Ayllu in the Revista de Achambo, for the Encomienda de Cepeda, Audiencia de Quito, 1602-03

Ayllu	Reservados	Ausentes	Tributarios	Muchachos	Mujeres	Muchachas	Total
Achambo	140	7	328	308	544	241	1,568
Cuctus	44	-	99	106	147	80	476
Hajatus	46	4	94	91	199	66	500
Picollan	23	1	58	41	88	31	242
Llucut	27	2	77	70	110	64	350
Molino de Achambo	72	3	145	101	241	133	695
? (unnamed)	26	3	71	42	109	66	317
Ymango	24	-	36	17	65	27	169
Zizibus	22	-	38	42	67	40	209
Quimnia	106	5	261	203	347	161	1,083
Baicalsi	21	1	52	37	68	31	210
Pucullpala	20	1	48	38	71	27	205
Guntus	36	2	86	69	114	51	358
Jaguan	29	1	75	59	94	52	310
Penipe	146	7	264	276	417	417	1,311
Nabujo	14	-	37	22	49	29	151
Matus	30	1	58	62	101	42	294
Calssi	14	1	29	25	46	25	140
Putguajo	26	1	41	51	64	28	211
Gnassi	62	4	99	116	157	77	515
TOTAL	464	22	998	888	1,549	736	4,657

Source: Revista de Achambo, Encomienda de Don Lorenzo de Cepeda, 1603 (Sevilla: AGI, escribanía de cámara 919), fol. 227,248, 261, 277, 293, 301, 314, 329, 338, 358, 373, 386, 403, 411, 422.

Table 27

Estimated Value of Tribute Per Tributary, for the Encomienda de Cepeda, 1602-03

Tribute Item	Estimated Value Per Item (p.)	Estimated Total Value (p.)	Estimated Value Per Trib. (p.)
1,200 pesos of gold	1 p.	1,200	1 p. 2 tomines
1,200 pesos of silver	1 p.	1,200	1 p. 2 tomines
300 fanegas of maize[1]	1 p. 1 tomín[2]	338	3 tomines
300 mantas[3]	3 ps.	900	1 p. 1 tomín
40 fanegas of potatoes	1/2 p.	20	-
40 swine	1 p. 1 tomines	120	1 tomín
		@ 3,778 p.	@ 4 p. 1 tomín

Notes:

[1]The value of a fanega of maize and potatoes, and of one swine, was obtained from Antonio Vázquez de Espinosa, Description of the Indies (1628-1629), tr. by Charles Upson Clark (New York: Smithsonian Institute, 1968), p. 535. Vázquez de Espinosa gives the price of one swine as one peso four tomines, one fanega of maize as one peso one tomín, and one fanega of potatoes as one-half peso, in the Province of Chocorvos of the audiencia of Lima in 1610. I have assumed the Ecuadorian prices were similar to the Peruvian ones.

[2]As indicated by Arturo Castillo Flores, Historia de la Moneda de Honduras (Honduras: Banco Central de Honduras, conmemorativa del CLIII aniversario de la independencia, 1974), p.15, one tomín was equivalent to one real de plata during the Spanish Colonial period.

[3]According to Javier Ortiz de la Tabla Ducasse in "El Obraje Colonial Ecuatoriano, Aproximación a Su Estudio," Revista de Indias 139-142 (January-December, 1975): 505, the price of one vara de paño was 24 reales or three pesos between 1604-38. I am assuming a vara and manta were one and the same.

Of course, the value per item in the table is approximate, based as it is on the price of cloth between 1604-38, and the price of maize, potatoes, and swine in the Peruvian province of Chocorvos in 1610.[38]

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[38] I have not come across price listings for these specific commodities for Ecuador in the secondary sources.

However, it seems four pesos was a standard assessment for the encomienda. The fiscal had set tribute at four pesos per tributary in 1589; which suggests the values in Table 27 are reasonably accurate.

If the encomienda was yielding 4,000 pesos, it is possible Cepeda was misled (perhaps by the caciques or corregidor, or both) about the amount being raised, or he was keeping the tribute collected above 3,000 pesos for himself, and from the heirs of Guárez de Figuesa.

In the first instance, the law forbade encomenderos to live within their encomiendas, which meant Cepeda probably relied on the corregidor of Riobamba, or the caciques, or both, for his information and tribute. Either could have claimed fewer tributaries in the encomienda than in actuality. Based on data in the revista, it appears more likely the caciques were the culprits. The revista "discovered" 312 Indians who were "in hiding", and who had been "missing" from the second revista held between 1589 and 1602-03. Of these, 100 (32.1 percent) were tributaries, 68 were boys (21.8 percent), women numbered 66 (21.2 percent) and girls 74 (23.7 percent), and reservados were four (1.3 percent) in all (see Table 28). The severe penalties promised the caciques by Munoa de Ronquillo for hiding Indians, probably produced the extra 312 individuals for the 1602-03 count. This finding suggests the caciques were hiding Indians in order to keep the tribute for themselves.[39] Such an assumption seems quite probable, based on the size

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[39] The caciques did not receive a portion of the tribute, but were supported by dues raised by the Indian community above and beyond their tribute assessment. However, since the Indian chieftains collected the tribute, they often were accused by both the Indians under their charge and the Spaniards of keeping some of the tribute for themselves.

Table 28

Percent "Discovered" Indians by Fiscal Status, for the Encomienda de Cepeda, Audiencia de Quito, 1602-03

Fiscal Status	No. Discovered	% Discovered
Tributarios	100	32.1
Muchachos	68	21.8
Mujeres	66	21.2
Muchachas	74	23.7
Reservados	4	1.3
Total	312	100.1%

of households these hereditary chieftains were able to support.

Cepeda, on the other hand, could have coerced the caciques into hiding tributaries, so as to boost his share of the earnings from the encomienda. The fiscal's investigation in 1589, for example, turned up 2,108 pesos in tribute more than Cepeda had claimed could be raised. At four pesos per tributary, this was the equivalent of approximately 527 additional taxpayers. The second revista revealed only 600 tributaries in the encomienda, having failed to include a number of men of tributary age who were later "discovered" in 1602-03. This intermediate count (i.e., the second revista held between 1589 and 1602-03) may have been hastily contrived or slanted in favour of Cepeda. Whatever occurred, there were more tributaries from the encomienda than had been reported.

The estimated four pesos of tribute paid by each tributary seems to

have been a moderate assessment by the standards of the day. Vázquez de Espinosa (tr. ed., 1968:535), for example, wrote in 1610 of the tributaries of the encomienda of Don Juan Fernández de Cordoba in Peru, who were required to remit eight pesos of tribute in cloth, hogs, sheep, corn and potatoes. By contrast, the tribute assessments for the audiencias of Mexico and Nueva Galicia were standardized in 1627 at approximately two pesos.[40]

B. Ausentes

Although the encomienda was providing about 4,000 pesos in income at the time of the revista, this amount was being raised by fewer than 998 tributaries. The revista reveals there was a total of 575 Indians (12.4 percent of the population reported in the revista summaries) absent at the time of the count, and whose return was not expected. Of these, 276 (48.0 percent) were tributaries, 37 (6.4 percent) were reserved from

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40 According to Sherburne F. Cook and Woodrow Borah, Essays in Population History, vol. 1: Mexico and the Caribbean (Berkeley, Los Angeles: University of California Press, 1971), pp. 19-20, the tribute quota of the audiencia of Mexico was "a silver peso and one-half fanega of maize for the Crown or encomendero, and a payment of one and one-half or two silver reales for the Indian community." In the audiencia of Nueva Galicia, the standard was set at "six silver reales, a fanega of maize, and a chicken per full tributary for the Crown or encomendero and either one and one-half or two silver reales for the Indian community." The value of one fanega of maize was established at nine silver reales in 1627, remaining that price for the duration of the Colonial period.

tribute, 95 (16.5 percent) were boys under 17 years, 124 (21.6 percent) were women, and girls under 15 numbered 43 (7.5 percent) (see Table 29).

Special attention was given by the enumerators to tracing the whereabouts of these individuals. Table 29 shows most of those absent in 1602-03 (48.2 percent) were living in Quito. The rest of the absentees either were located on Spanish estancias (13.7 percent) or they had fled from their homes (38.1 percent) in the years preceding the count.

Men of tributary age comprised the largest group of absentees, numbering 276 in all. How many of them were paying tribute? Those tributaries residing permanently in Quito (n=108) probably met their tribute obligations, as their place of residence was known to the Spanish, and they, and their families, were registered in some detail in the revista. It is doubtful, however, whether the men living on the Spanish estates continued to pay. As mentioned in Chapter 3, the Spanish estates increasingly were to become the destinations of men escaping tribute and the mita draft during the Colonial period: men living on the estates were not liable for tribute and forced labour. Thus, the 136 men who had fled the encomienda and the 32 living on the Spanish estates--together comprising 16.8 percent of the tributary population-- probably did not pay tribute in 1602-03. From all of this, it would seem the caciques had been drawing tribute from 830 men, rather than 998.[41] Only 22 men, however, were listed in the revista as ausentes "que no pagan" (see Table 26). Presumably, the burden of tribute fell to the families of all runaways, and only these 22 individuals were

Table 29

Breakdown of Ausentes by Fiscal Category, for the Encomienda de Cepeda, Audiencia de Quito, 1602-03

Fiscal Category	Total Ausentes	Resident in Quito	Living on Spanish Estancias	Indians Who had Fled[1]
Tributarios	276[2]	108[4]	32	136
	(48.0%)[2]	(39.1%)[4]	(11.6%)	(49.3%)
	(27.7%)[3]	(10.8%)[5]	(3.2%)	(13.6%)
Reservados	37	15	4	18
	(6.4%)	(40.5%)	(10.8%)	(48.6%)
	(8.0%)	(3.2%)	(0.9%)	(3.9%)
Muchachos	95	36	12	47
	(16.5%)	(37.9%)	(12.6%)	(48.5%)
	(10.7%)	(4.1%)	(1.4%)	(5.3%)
Mujeres	124	86	24	14
	(21.6%)	(69.4%)	(19.4%)	(11.3%)
	(8.0%)	(5.6%)	(1.5%)	(0.9%)
Muchachos	43	32	7	4
	(7.5%)	(74.4%)	(16.3%)	(9.3%)
	(5.6%)	(4.4%)	(1.0%)	(0.5%)
Total	575	277	79	219
	(100.0%)	(48.2%)	(13.7%)	(38.1%)
	(12.3%)	(5.9%)	(1.7%)	(4.7%)

Notes:

[1]Latter includes some Indians whose whereabouts had been discovered, and who were to be brought back to the encomienda by Spanish authorities.

[2]Percentage of ausentes.

[3]Percentage of fiscal category.

[4]Percentage of ausentes in fiscal category.

[5]Percentage of fiscal category.

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without able-bodied relatives who could pay the absentees' share of the

tribute and their own.

Also from the data in Table 29, it is apparent females were less likely to flee the encomienda than males. Most women who were absent in 1602-03 (69.4 percent of the mujeres and 74.4 percent of the muchachas) had accompanied their husbands or fathers to Quito. The finding which emerges from this, is that wives in general did not follow their husbands into hiding, but moved with their children into the homes of their parents, brother, or other male relative. On the other hand, men were more apt to flee than to migrate from the encomienda with the knowledge of the encomenderos and caciques (49.3 percent of the tributaries, 48.6 percent of the reservados, and 48.5 percent of the boys had fled, versus 39.1 percent, 40.5 percent, and 37.9 percent, respectively, who had moved to Quito).

C. Reservados

There were a number of adult males in the encomienda who did not pay tribute. The revista lists 464 in all (see Table 30). Some of these were able-bodied adult males whose occupations made them exempt as taxpayers. In the encomienda, the caciques were excused from the

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41 A total of 168 men (136 + 32 = 168) listed as tributaries had fled the encomienda or were living on Spanish estancias. Thus, only 830 (998 - 168 = 830) probably paid tribute.

tribute lists. There is no indication in the revista that the caciques' heirs--usually eldest sons--were exempt as well, but I have placed them in the exemption category on the basis of Phelan's findings from the relaciones of the audiencia.[42] The community chieftains and their sons made up 7.3 (n = 34) percent of the reserved list. The other Indian officers--alcaldes, alguacils, and mayordomos--comprised 1.7 percent (n = 8) of the reservado category. I do not know if sacristanes or church singers had come to be included by 1602-03. They certainly were singled out in the revista as special jobs and, thus, may have gained exempt status by the early 17th century.

Most adult males (n = 348) in the encomienda had come to be excluded from the tributary rolls because they had passed their fifty-fourth birthday (n = 260, or 56.0 percent) or they were sick (n = 88, or 19.0 percent) (see Table 30). However, the large 50-54 age group suggests that not all men were exempt from tribute due to age. The ability to work, or the payment of tribute in place of a runaway son, etc., may have kept some men in the tributary classification longer than was legal. Others were classified as reservado for a temporary illness or permanent disability. For example, one man was reserved from paying because he was "ill with heart", another was lame, one man lay sick in Cepeda's obraje in Riobamba and a 24 year old did not pay because he was lame and a deaf mute.

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42 John Leddy Phelan, The Kingdom of Quito in the Seventeenth Century (Madison, Milwaukee, London: The University of Wisconsin Press, 1967), p.59, states that among men exempt from tribute in the audiencia of Quito were the caciques and their eldest sons.

Table 30

Breakdown of Reservados in the Encomienda de Cepeda, Audiencia de Quito, 1602-03

Reservados	Number	Percent
Caciques and eldest sons/heirs	34	7.3%
Indian officers[1]	8	1.7%
Ill or handicapped	88	19.0%
Age 55 or above	260	56.0%
Other[2]	74	16.0%
Total	464	100.0%

Notes:

[1]Indian officers include *alcaldes* (n=1), *alguacils* (n=6), and *mayordomos* (n=1).

[2]The "other" category is comprised of men who were not specifically listed as *reservados* in the *revista*, but whose occupation, etc., may have excluded them from tribute, such as *sacristanes*, church singers, descendants of conquistadores, and Indians who helped discover others in hiding.

A portion (16.0 percent) of the men of tributary age were classified as *reservado* for other reasons. One man was "reservado de mita y tributo porque es hijo de Conquistador" (AGI, escribanía de cámara 919: fol. 41). At least three did not pay because they had "helped discover Indians." Another was "reserved from tribute as [he] helps [his] father" (AGI, escribanía de cámara 919: fol. 396).

Thus, a total of 204 men from ages 17 to 54 escaped classification as tributaries. They represented 16.7 percent of all males of tributary age in the *encomienda*.[43] Exemption due to illness (n = 88, or 43.1 percent) was most frequent among this age group, followed by job-related

exemptions (n = 42, or 20.6 percent).

D. Tributaries in Relation to Total Population

The ratio of the total population to tributaries in the encomienda de Cepeda in 1602-03 was 4.7 : 1: [44]

Total Population	Tributaries	Ratio
4,657	998	4.7 : 1

This ratio, or tributary ratio as it is generally called, is equivalent to a dependency ratio. That is, for every able-bodied adult male liable for tribute in the encomienda in 1602-03, there was an average of 4.7 people dependent upon him for their sustenance. Most of the dependents were women (42.3 percent) and children (44.4 percent): there were 1,549 females aged 14 and over, 888 boys 16 years and under, and 736 girls under 14 years old recorded in the fiscal summaries of the caciques (see Table 26). The remaining dependents (464, or 12.7 percent) were reservados.

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43 There were 1,224 men from ages 17 to 54 listed in the fiscal summaries of the revista, of which 204 (16.7 percent) were reservados.

The tributary ratio of the encomienda is compared in Table 31 to ratios for Peru in 1600 and 1620. I have calculated the Peruvian ratios from data compiled by N. D. Cook on the indigenous population of the audiencia of Lima in 1600, and presented by Sánchez-Albornoz in his work The Population of Latin America: A History.[45]

The Peruvian ratios range between 3.9 and 5.5 in 1600. The coastal areas show the smallest ratios which indicates fertility was lower on the coast than in the Sierra, or death rates were higher, or both. However, the Peruvian population was in the throes of decline in 1600. As Cook's study progresses to 1620, we see the tributary ratios decline for all regions: from 4.3 in 1600 on the North Coast to 3.9 in 1620; Central Coast, from 4.7 to 4.1; South Coast, from 3.9 to 3.1; Northern Sierra, from 5.6 to 5.5; Central Sierra, from 5.4 to 4.5; and Southern Sierra, from 4.8 to 4.3 (see Table 31). This decline has been attributed to disease, overwork, and the conscious limitation of family size among the natives.

Since the tributary ratio of the encomienda closely resembled ratios for Peru three years prior, it is possible the increase shown in the population of the encomienda in 1602-03 might not have lasted. However, without a subsequent count, this remains mere speculation.

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44 Total population is from the fiscal summaries of the caciques, and not from the house-by-house count.

45 N. D. Cook, "The Indian Population of Peru, 1570-1620." Ms. 1970; cited by Nicolás Sánchez-Albornoz, The Population of Latin America: A History (Berkeley, Los Angeles, London: University of California Press, 1974), p. 44.

Table 31

Comparison of the Tributary Ratio of the Encomienda de Cepeda in 1602-03 with Tributary Ratios for Colombia in 1592-95 and Peru in 1600

	Total Population	Tributaries	Ratio	
Encomienda de Cepeda 1602-03	4,657	998	4.7	
Regions of Peru 1600[1]			1600	1620
North Coast	9,160	39,062	4.3	3.9
Central Coast	14,331	67,710	4.7	4.1
South Coast	3,935	15,394	3.9	3.1
Northern Sierra	26,002	146,274	5.6	5.5
Central Sierra	29,731	159,082	5.4	4.5
Southern Sierra	84,599	406,266	4.8	4.3

Sources:
[1]Nicolás Sánchez-Albornoz, The Population of Latin America: A History (Berkeley, Los Angeles, London: University of California Press, 1974), p. 44; citing N. David Cook (1970).

Mita Labour

The tribute payments for the encomienda were approximately four pesos per tributary in 1602-03, about half of which was payment in coinage, and, the other half, payment in maize, potatoes, swine, and blankets. Each tributary therefore was obligated to raise not only his portion of the cash tribute, but to grow, and manufacture, sufficient items to meet the demands of both tribute and his dependents. Many goods and foodstuffs were obtained through barter, as money was not used by the Indians with the exception of tribute (Watchel, 1971:119-22). How were the tributaries then able to obtain money? According to the

Villamarins, wages paid to Indians during their tours in the mita draft "served mainly to help meet tribute payments..."(Villamarin and Villamain, 1981:81). At the time of the revista, slightly over one-quarter (n=254) of the tributary population of the encomienda was engaged in some form of forced labour. This proportion was higher than the one-fifth set by law, although not all of the men may have been serving in the mita. Some may have "voluntarily" entered into service, while others may have been tied to their work through debt.

Table 32 gives the nature of the mitas which the men of the encomienda filled in 1602-03, as well as the number of mitayos allocated to each of the labour drafts. As shown, the majority (63.8 percent) were serving their tours in the obraje (i.e., textile) mita. About one-fifth (19.3 percent) were serving in the agricultural mita (i.e., herding), while the remainder (9.1 percent) were variously divided amongst service to the Spanish vecinos (property owners) and the Church, and duty tours in the provincial tambos (post houses).

The filling of the mita quotas appears to have rotated amongst the ayllus. At the time of the revista, for example, mita labour was being drawn most heavily from the pueblos of Achambo and Quimnia, and from the ayllus of Llucut and Baicalsi within their jurisdictional boundaries (see Table 33). Over half (52.9 percent) of all the able-bodied men in the ayllu of Llucut were on a tour of duty during the revista. In the pueblo of Quimnia, the ayllu of Baicalsi was supplying proportionately the most tributaries (42.3 percent), but it was followed closely by the other ayllus of the pueblo: Pucullpala (39.6 percent), Guntus (37.2

Table 32

Mita Labour in the Encomienda de Cepeda, Audiencia de Quito, 1602-03

Type of Mita	Number of Mitayos	Proportion of Mitayos by Type of Mita	Proportion of Tributaries
Obrajes	162	63.8%	16.2%
Herding	49	19.3%	4.9%
Personal Service	6	2.4%	0.6%
Church Service	13	5.1%	1.3%
Tambo Service	4	1.6%	0.4%
Coca Plantation	1	0.4%	0.1%
Not Specified	19	7.5%	1.9%
Total	254	100.1%	25.4%

percent), and Jaguan (28.0 percent) (see Table 33).

The obraje mita was the largest forced labour draft in the audiencia during the 17th century, and this fact certainly is borne out by the proportion of tributaries from the encomienda who were working in the textile shops. Of the 162 tributaries employed in the obrajes in 1602-03, 90.1 percent (n=146) were working in the obraje de communidad located in the pueblo of Chambo, 8.6 percent (n=14) worked for the encomendero Cepeda in his obraje in Riobamba, and 1.2 percent (n=2) were serving their tours in several small textile shops in the region (see Table 34).

Table 33

Breakdown of Mitayos by Pueblo for the Encomienda de Cepeda, Audiencia de Quito, 1602-03

Pueblo	No. of Mitayos	% Mitayos	% Tributaries
Achamba	97	38.2%	29.6%
Cuctus	14	5.5%	14.1%
Hajatus	25	9.8%	26.7%
Picollan	18	7.1%	31.0%
Llucut	40	15.7%	52.9%
Molino de Achambo	23	9.1%	15.9%
?	9	3.5%	12.7%
Ymango	3	1.2%	8.3%
Zizibus	11	4.3%	28.9%
Quimnia	94	37.0%	36.0%
Baicalsi	22	8.7%	42.3%
Pucullpala	19	7.5%	39.6%
Guntus	32	12.6%	37.2%
Jaguan	21	8.3%	28.0%
Penipe	40	15.7%	15.1%
Nabujo	1	0.4%	2.7%
Matus	11	4.3%	19.0%
Calssi	2	0.8%	6.9%
Putguajo	8	3.1%	19.5%
Ganssi	18	7.1%	18.2%
TOTAL	254	100.0%	25.4%

The obrajes de communidad originally were founded by the Indians as a means of paying their tribute obligations. By the 17th century, however, most of the community textile shops were being operated by appointed Spanish administrators, the corregidores, or leased to individual Spaniards (Ortiz, 1975:512-3). According to Ortiz (1975:522), two community obrajes were located in Chambo. One was operated by the encomendero Lorenzo de Cepeda, who had obtained his

Table 34

Breakdown of Mita Labour by Type of Obraje, for the Encomienda de Cepeda, Audiencia de Quito, 1602-03

Type of Obraje	No. of Mitayos	% Mitayos
Obraje de Communidad	146	90.1%
Cepeda's Obraje in Riobamba	14	8.6%
Other	2	1.2%
TOTAL	162	99.9%

license to use mitayo labour in the obraje from the Viceroy (Ortiz, 1975:511). The second textile shop was operated by Francisco de Arellano, who was encomendero of the encomienda of Chambo, which lay immediately to the south of Cepeda's grant of Indians (Ortiz, 1975:311). The latter obraje was apparently expropriated from the Indians by Arellano, and operated by him as an illegal textile factory until licensed in 1610 (Ortiz, 1975:512, 522).

The Cepeda obraje in Chambo was one of only 12 private obrajes receiving assigned quotas of mitayo labour in the audiencia (Phelan, 1967:69). I do not know if Cepeda's Riobamba factory was licensed, or whether the Indians from the encomienda he had working for him were drafted in the mita or "volunteered" for their jobs (i.e., were forced to work in the textile shop to repay debts owing to Cepeda).

Mitayo Indians were assigned to the obraje for one year. They were recruited by the caciques on order from the corregidor (Phelan, 1967:70). An alguacil (native constable) from the encomienda also had

accompanied the labourers to the obraje in 1602-03, perhaps in the role of preventing and punishing escapees. The majority of mitayos (30.9 percent) were employed as spinners in the obraje de communidad. For this task, they received 18 pesos during their entire tour of duty there. The second largest group in the obraje were the carders, who also received 18 pesos a year. The community factory also used the Indians as weavers (n=1), nappers (n=8), dyers (n=3), blacksmiths (n=1), shop stewards (n=10), carpenters (n=2), and muleteers (n=2) (see Table 35).

According to Phelan (1967:71), mitayo Indians were required by law to work for 26 days a month, and for nine hours a day. They were released from work for three weeks in October, two weeks in February, and another week, generally at the end of their tour of duty, so they might plant and harvest their own crops. The law also sanctioned the employment of young boys between the ages of nine and 17 in the obrajes (Ortiz, 1975:487). However, only one boy, aged 14, was registered in the revista as working in Cepeda's obraje in Riobamba.

The next largest mita in the encomienda was the herding mita. The 49 labourers drafted as shepherds, swine herders, and cowboys received considerably lower pay than the obrajeros (obraje workers), but their tours of duty were much shorter. According to Phelan (1967:61), cattleherders received stipends of two pesos for a tour of duty of three months. Swineherders and shepherds also were drafted for three months, but their pay rate was less at one peso two tomines per tour.

Table 35

Breakdown of Mita Labour in the Obrajes of the Encomienda Cepeda, Audiencia de Quito, 1602-03

Mita Labour	No. of Mitayos	% Mita Labour
Spinners	50	30.9%
Carders	30	18.5%
Other[1]	29	17.9%
Not Specified	53	32.7%
TOTAL	162	100.0%

Notes:
Other category includes weavers (n=1), nappers (n=8), dyers (n=3), alguacil (n=1), blacksmiths (n=1), muleteers (n=2), shop stewards (n=10), and carpenters (n=2).

Conclusion

The natives of the encomienda were organized on the basis of the ayllu. The ayllu was a kin group as it had been under the Inca. At the head of each ayllu was a hereditary chieftain or cacique, who was responsible for the collection of tribute and the filling of the draft labour quotas.

Tribute was exacted from most able-bodied males between the ages of 17 and 54. Each tributary paid an estimated four pesos in tribute, half of which was in gold and silver and half in the products of the region. Tribute does not appear to have been excessive, although the tributaries of the encomienda were paying more than had been set by the second revista held after 1589. None of the excess tribute was going to the

heirs of Guárez de Figuesa, but likely was being kept by Cepeda and/or the caciques.

While tribute does not seem to have been onerous, flight and migration from the encomienda suggests the burden of the tributaries was not light. A total of 27.7 percent of the men of tributary age had migrated (14.0 percent) or had fled (13.6 percent) the encomienda. Women migrated with their husbands or fathers, but few followed them into hiding. The tributaries who remained in the encomienda took up the burden of those who had left. Tribute was being drawn from only 830 tributaries, rather than the 998 enumerated in the count, which means each tributary was probably paying closer to four and one-half pesos in tribute.

It was from the smaller population that mita labour was likely drawn. Slightly over one-quarter (25.4 percent) of the enumerated tributary population was participating in the mita draft in 1602-03. This percentage was likely higher at 30.6 percent, if we assume those who had fled or who were living on the Spanish estancias were not participating. Both percentages, however, were over the legal limit (20 percent) set by the audiencia. Most mitayos (63.8 percent) were filling labour quotas in the obraje mita, the vast majority (90.1 percent) of whom were employed in the community obraje in Chambo. The obraje de communidad was owned by the encomendero Cepeda, who was licensed to draw mitayo labour from the encomienda.

Chapter 7

CHANGES IN THE ENCOMIENDA POPULATION 1589-1602-03

Introduction

The present chapter deals with the three tributary counts of the encomienda de Cepeda made between 1589 and 1602-03, and mentioned in Chapter 4. These counts are considered in terms of the population trends of the encomienda from 1589 to 1602-03.

Population Gain or Population Loss?

As indicated in Chapter 4, the revista reveals there had been two counts of the encomienda population prior to the 1602-03 one: a census in 1589 which gave 1,260 tributaries, and another survey sometime between 1589 and 1602-03, which found 600 tributaries.

It would appear the encomienda's tributary population was more than

halved between 1589 and the date of the second revista. After the second revista, some recovery in the tributary population is evident, tributary numbers increasing from 600 at the intermediate date to 998 as reported in the revista de Achambo in 1602-03.

The corresponding depopulation ratios for the two periods (i.e., 1589 to the second revista and from the second revista to 1602-03) were 2.1 and .6, respectively.[46] The depopulation ratios indicate that the rate of population change in the encomienda from 1589 to 1602-03 was not constant. Indeed, they depict a marked reversal in the demographic trend, from population loss to population gain within the 13 short years between the earliest (c. 1589) and latest counts (c. 1602-03).

An expression which effectively measures the magnitude of population change through time, and permits a comparative analysis to be made with other regions, is **w**, or the **coefficient of population movement**, developed by Cook and Borah (vol. 1, 1970:90). The expression, **w**, is calculated as follows:

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46 The depopulation ratio is the ratio of the population at year 2 to the population at year 1. It equates the population at the later date to unity. Thus, for the first period, 1589 to the second revista, the depopulation ratio was 1,260:600 or 2.1:1. The depopulation ratio for the second period, the second revista to 1602-03, was 600:998 or .6:1.

$$w = \frac{\frac{p_2 - p_1}{t_2 - t_1} \times 100}{\sqrt{p_1 p_2}}$$

where p1 = population at time1,

p2 = population at time2,

t1 = time1, and

t2 = time2.

In order to determine the relative magnitude of demographic change in the encomienda's tributary population using the above formula, an estimate of the date of the second revista is needed. We know the first census was held in 1589 in order to resolve a dispute between Cepeda and the heirs of Guárez de Figuesa about the number of tributaries in the encomienda. The second revista showed the tributary population had declined by over half (from 1,260 to 600) between 1589 and the date it was conducted. When could the decline have occurred, and what could have caused it?

Dobyns has found evidence of "an episode of epidemic 'high fevers, smallpox and measles' which assaulted the population of Quito (modern Ecuador)" (Dobyns, 1963:502). However, he writes:

> Just when Ecuador suffered this catastrophe is not easily determined. Historians differ markedly. José T. Palo claimed that Marcos Jiménez de la Espada dated the Quito episode from July 1587 to March 1588. Juan B. Lastres wrote: "Jiménez de la Espada thinks that the epidemic began in Quito in 1588 and lasted until the end of 1589." An ecclesiastical historian placed this peak mortality in 1586. At the other extreme, Velasco asserted that an epidemic dated at the end of December of 1589 was the first epidemic there. He also claimed a mortality of 30,000 persons in Quito alone (Dobyns, 1963:502).

Dobyns (1963:503) suggests confusion over the date of the epidemic stemmed from the fact that two epidemics struck the audiencia at about the same time. The first was smallpox, which started in Cuzco in 1585, and spread north to Quito. The second, Dobyns (1963:505) believes, was a "southward-moving typhus" epidemic, which reached the audiencia sometime in 1589.

It appears feasible that the 1589 count was conducted in response to the fall in the number of tributaries from the smallpox epidemic. It also is my belief that the second revista was carried out shortly afterward, probably in the wake of the typhus epidemic. Death from epidemic diseases, and flight from the encomienda at the height of their onslaught, are the most likely explanations for such a huge reduction in tributary lives during this period, as the historical record makes no mention of catastrophes--either natural or of human origin--soon after 1589. Therefore, the second revista was probably conducted as a result

of a further loss in tributary lives when typhus struck the Highland region. I thus have dated the second revista at 1590.

Much of the reduction in tributaries between 1589 and the second revista may have been caused by the flight of the encomienda population to escape the second wave of epidemic disease (i.e., the typhus epidemic). A total of 119 men, who had been alive in 1589, were reported in the revista de Achambo as having been missed from the second enumeration (i.e., the one held between 1589 and 1602-03). These men were discovered in hiding by Munoa de Ronquillo in 1602-03. Of these 119 men, 56 were of tributary age when the typhus epidemic struck (c. 1589). Therefore, a minimum of 656 men of tributary age would have been recorded in the second revista had not some of them fled the encomienda. This number represents a minimum, since it is probable that more than 56 tributaries had fled the typhus epidemic in 1589, but some had died after that date or had not been discovered in hiding by the Achambo revista.

There were thus three separate counts of the tributary population between 1589 and 1602-03. The dates of the revistas, and the number of tributaries they revealed, were as follows:

	Date of Revistas	Number of Tributaries
First Revista	1589	1,260
Second Revista	1590?	656
Revista de Achambo	1602-03	998

Assuming the second revista was carried out in 1590, and there were then 656 men of tributary age, the values of **w** for the two successive time periods, 1589-90 and 1590-1602, were as follows:[47]

Period	**w**
1589-1590	-66.44
1590-1602/03	+ 2.93

The value of **w** is similar to the value of **r** (i.e., intercensal growth rate), and may be interpreted in much the same way (Cook and Borah 1971:90).[48] Thus, the figures above tell of the encomienda's tributary population declining by two-thirds (66.44 percent) in one year from 1589-90. How much of the decline was due to death from epidemic diseases, or flight to escape tribute, I do not know. In the second period, tributary numbers are seen to increase substantially, averaging approximately three percent per annum. However, much of the expansion may have been due to the return of tributaries to the encomienda once

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[47] The values of **w** for the periods 1589-1590 and 1590-1602 were calculated as follows:

$$\mathbf{W}(1589 - 1590) = \frac{((656 - 1260) / (1590 - 1589) \times 100)}{\sqrt{(656 \times 1260)}} = -66.44$$

$$\mathbf{W}(1590 - 1602) = \frac{((998 - 656) / (1603 - 1590) \times 100)}{\sqrt{(998 \times 656)}} = +2.93$$

the epidemics had run their course.

Population Change in Colonial Highland Ecuador

The evidence of catastrophic decline in the encomienda in 1589 is corroberated by Velasco, who indicated 30,000 persons died in Quito alone from an epidemic which began in December of that year (Dobyns, 1963: 502). The revista record and Velasco's account suggest the audiencia of Quito did not escape the worst consequences of the Conquest--namely, the epidemics. Far from being unique, therefore, the revista provides evidence that the audiencia of Quito may have experienced significant loss of life during the 16th century from the same diseases which devastated other regions of the empire.

What may be unique, however, is the apparent growth in the

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48 The values of **r** for the two periods, using the exponential rate of change, are -65.4 percent and +3.2 percent, respectively. An exponential series is similar to the geometric series, with one major difference. Henry S. Shryock, Jacob S. Siegal, and Associates, The Methods and Materials of Demography, rev. ed. (New York, San Francisco, London: Academic Press, 1976), pp. 213-4, state:

> "Geometric change is a compounding interest type of change in which the compounding takes place at certain constant intervals such as a year. [With exponential change] ..., the compounding takes place continuously, i.e., a constant rate of change is applied at every infinitesimal time."

encomienda's population, and perhaps that of the audiencia's, after 1589.

The audiencia officials' repeated reports of indigenous population growth during the early 17th century, and indications that this growth had began in the late 16th century, appear substantiated by the revista data. For example, the **w** values delineate a three percent increase in the encomienda's tributary numbers each year between 1590 and 1602-03. Although much of the increase was perhaps caused by tributaries returning to the encomienda after flight from the epidemics, some of the increase was probably natural. The encomienda population, for instance, seems to have been growing in 1602-03. If there was growth in the Highland region of Ecuador, as suggested by the revista and relaciones of the audiencia, its demographic pattern certainly differed from the Mexican and Peruvian demographic experiences of that period.

Table 36 presents **w** values for areas of Mexico and Peru for the three decades after 1580, a period roughly corresponding to the dates in the revista. The data on Mexico and Peru show population decline in all regions and time periods. The magnitude of the decline varied between regions, with the heaviest losses occurring in the coastal areas (i.e., Banderas Valley, Mexico, and the North, Central and South Coasts of Peru).

The foremost causes of demographic decline in Mexico and Peru were epidemic diseases. The **w** values in Table 36, however, do not accurately reflect the havoc wreaked by the European-introduced

diseases, since they represent averages over several time periods. Nevertheless, it is evident that the populations of Mexico and Peru did not recover at any time between 1580 and 1610; overwork, flight, hunger, and possibly infanticide, abortion and suicide, prevented any sustained growth after bouts of disease in the two areas.

How then could the encomienda's population recover after the catastrophe of the 1580s when Mexico's and Peru's, for example, exhibited such sustained losses, even in the highland regions?

Components of Population Change

A primary reason why the the Indians of the encomienda perhaps were able to recover after the epidemics of 1589-90 is that they were not liable to service in the mines. Peru, for example, was the principle mining center of the Spanish American empire. Vásquez de Espinosa (tr. ed., 1968: 604), for example, writes that over 13,000 Indians were drafted every four months to serve in the mines of Potosí. By contrast, the gold mines in the Quitan provinces of Zamora and Loja were all but played out by 1700, with the result very few Indians of the audiencia were drafted to the mining mita.

The significance of the mining mita on the indigenous population of the New World can not be overstated. Juan Friede, for example, outlines

Table 36

Values of **w** for Regions of Mexico and Peru
Between 1580 and 1610

A. Mexico[1]

	Central Mexican Plateau	Banderas Valley	Mixteca Alta
1580-1590	-2.59	-6.38	-2.88
1590-1600	-2.14	-5.58	-2.23
1600-1610	-2.21	-4.56	-2.17

B. Peru[2]

	North Coast	Central Coast	South Coast	Northern Sierra	Central Sierra	Southern Sierra
1580-1590	-2.67	-1.86	-2.61	-1.34	-1.13	-1.04
1590-1600	-2.50	-1.76	-2.27	-1.51	-1.05	-1.00
1600-1610	-2.34	-1.66	-2.10	-1.50	-0.88	-0.95

Notes:

[1]Sherburne F. Cook and Woodrow Borah, Essays in Population History, vol. 1: Mexico and the Caribbean (Berkeley, Los Angeles, London: Univeristy of California Press, 1971), pp. 101, 106, 107.

[2]N. D. Cook, "The Indian Population of Peru, 1570-1620." Ms., 1970; cited Nicolás Sánchez-Albornoz, The Population of Latin America: A History (Berkeley, Los Angeles, London: University of California Press, 1974), p. 44.

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the horrors of forced labour in the emerald mines of Muzo, Colombia:

> Mining had these consequences: A need for providing a food surplus for the agriculturally nonproductive mining crews, entailing an intensive exploitation of the other encomienda Indians; breakdown of the family as a result of the forcible

> removal of adults for work in the mines; enforced and arduous portage of supplies over mountain trails on the backs of [mitayos]--men and women alike; high death rate of children and old people because of neglect; physical decay of the entire population though under-nourishment and overwork...Even more revealing is a study of the composition of Indian mining crews in Muzo. In these, the tributary ratio...[was]...two adults for barely 0.43 other Indians.... It is no longer a question of a declining community, but rather of one that is actively disintegrating. There are no children or old people in the mining families" (Underlining mine) (Friede, 1967:342-43).

A second reason why the encomienda Indians increased in number after the epidemics is that their tribute dues do not appear to have been overly burdensome. The revista provides no information on how the encomienda Indians raised their dues, or whether they found it difficult to meet them. The document does say that Cepeda believed they were unable to honour their tribute obligations. However, as mentioned in Chapter 6, there is reason to suspect Cepeda and/or the caciques were demanding tribute beyond what was legally required. It was in his, or the caciques', best interest to argue there were fewer tributaries in the encomienda than in actuality, in order to keep the excess in dues. Each tributary, however, was still paying approximately four to four and one-half pesos in tribute. Such an assessment does not appear to have been too high, specifically when compared to the eight pesos paid by the natives of Cordoba's encomienda in Peru (see Chapter 6).

In regions where tribute was excessive, it had the effect of limiting the Indians' access to their lands and of reducing food production. Pérez (1948:34-5, 117-18), for example, indicates that Indians in Colonial Highland Ecuador were sometimes forced to sell their lands and animals to meet tribute obligations. He also provides evidence that native properties and animals were occasionally seized in "lieu of payment." Indians of the study area probably were not unduly faced with the sale of their lands and animals, or with their expropriation, in order to raise their tribute dues. For example, the area around the towns of Penipe and Matus today is owned by the Indians, which suggests they had kept usufruct rights to their lands throughout the Colonial period.

Perhaps a third reason the encomienda Indians were able to expand in numbers after 1589-90 is that they did not have to supply many European products for tribute, products such as wheat, barley, sheep, cattle, tallow, and harness fittings. Tribute exacted in such products often resulted in the pre-emption of Indian communal lands for the grazing of Spanish livestock and the cultivation of introduced foodstuffs (Phelan, 1967:45; Watchel, 1971:117). The pre-emption of lands for tribute caused decreases in food production, and often a crippling of the native population through hunger and malnutrition. When epidemics did strike these regions, few survived. While the encomienda Indians did not have to allocate their fields to wheat and barley and their pasturelands to sheep or cattle, they did have to supply maize. Maize is not grown widely in the region today because of its poor yields. It is possible maize was imported from outside the basin by the encomienda Indians in

1602-03. Rowe (1957:155-99), for example, describes cases in Peru where the Indians were forced to import maize from the coast through the corregidor and caciques, who ended up selling it to back to them at inflated prices. It is possible the Indians of the encomienda also were faced with having to import maize for tribute.

While the natives of the encomienda did not have to work in anything like the mines of Potosí, Huancavelica, or Muzo, nor bear too excessive tribute demands, their burden was by no means light. Forced labour in the obrajes, for example, may have exacted its own toll. Phelan writes:

> That many Indians were brutally overworked can be amply documented. In place of the nine-hour day set by law, they often worked from dawn until dusk, sometimes chained to the weaving and spinning looms in buildings that were dimly lit. Sanitary conditions were primitive even by seventeenth-century standards (Phelan, 1967:71).

Rowe (1957:178-9) describes imprisonment in the obrajes for small debts, excessive production quotas and punishment if the quotas were not met, payment in cloth instead of cash, and the hiring of men to track down escapees. To reinforce what he believes was the ill-treatment of the Indians in the obrajes of the Viceroyalty of Peru, Rowe gives the following examples:

> Two incidents may be cited which throw much light on the way in which obraje labour was regarded by Spaniards and natives. One is that 89 persons implicated in the abortive Inca rebellion of 1737 [in Peru] were condemned to work in the obrajes as punishment. The other is that the Indians of Chinchaicocha [Peru] offered in 1623 to serve in the dreaded mita of Huancavelica if they could be excused from obraje service (Rowe, 1957:179) (Underlining mine).

While there is no evidence in the revista to suggest that these abuses also occurred in Cepeda's Chambo obraje, the percentage of tributaries (13.6 percent) who had fled the encomienda by 1602-03 suggests conditions in the obraje were not dissimilar to those in other factories.

Wool production for the obrajes also affected the lives of the natives. In the Latacunga and Riobamba Basins, for example, there were as many as 600,000 sheep by 1585 (Phelan, 1967:67). The vast herds of wool-producing sheep, in addition to the herds of horses, cattle, and mules, took up valuable land for grazing, and occasionally trampled Indian crops. The Indians of the region were forced to move their plots to higher and less fertile terrains, where yields were lower, as the herds expanded in size and grazing area. Labour in the obrajes also had the effect of diverting able-bodied males from food production, placing the burden of cultivation on women, the old, and children.

Conclusion

The two tributary counts which preceded the revista de Achambo show that the adult male population of the encomienda declined precipitously between the first (1589) and second counts (undated). Assuming the second revista was held in 1590, after the second wave of epidemic disease struck the encomienda, the tributary population fell by 66 percent in a one year period (1589-90). A significant proportion of the decrease, however, was probably due to tributaries having fled the encomienda to escape epidemic disease.

One indication that flight was responsible for some of the decline in tributary numbers between 1589-90 is the substantial growth in this segment of the encomienda population subsequent to these dates. It is unlikely that the tributary population could have experienced increases of about three percent per annum, unless some of the increase was the result of men of tributary age returning to the encomienda after having fled.

The decline in the encomienda's population strongly suggests that the Indians of Highland Ecuador also dwindled in numbers during the 16th century as the result of epidemic diseases. However, increases in the number of tributaries in the encomienda after 1589-90 indicate the indigenous population of the Ecuadorian Sierra may have undergone a period of growth in the late 16th and early 17th centuries.

Chapter 8

CONCLUSION

The purpose of this thesis was to provide answers to the following questions:

1. What was the spatial distribution of the population of the encomienda of Don Lorenzo de Cepeda in 1602-03?

2. What could the revista de Achambo tell us about the demographic characteristics of the Indian population of the encomienda de Cepeda in 1602-03?

3. What could it reveal in terms of the encomienda's social and economic characteristics on that date?

4. What were the trends of the encomienda's population between 1589 and 1602-03?

5. What could we learn about early 17th century Highland Ecuador based on the analysis of the demographic and socio-economic characteristics of the encomienda de Cepeda in 1602-03?

In relation to the first question, the revista does not provide specific site information. However, the distribution of the encomienda population in 1602-03 was approximated by assuming the following:

1. the ayllus were recorded linearly from the most southerly to the most northerly,

2. the bulk of the population was located on the plains above the Chambo River between 2,500 and 3,000 meters, and

3. the three towns which appear on contemporary basin maps, Químiag, Penipe and Matus, have not changed their locations since 1602-03.

In relation to the second question, the revista de Achambo really has limited value as a demographic document. Basically, the ages reported in the document are unreliable. Not only was there a marked preference for zero-digit ages, particularly for women, but there is a strong indication that some ages were inflated and others underenumerated.

Inflation of ages specifically occurred in the teenage groups, which produced an extremely large 20-24 age category particularly for males. The finding which emerges is that, while there may have been a general tendency to up the ages of both males and females who had reached puberty or who were married in the teenage years, there also was obvious manipulation of the male ages in order to swell the tributary ranks. Inflation of ages by the enumerators probably occurred in the middle adult ages as well, causing an overly large 50-54 age group for both

males and females. Some of the swelling in the size of the male 50-54 cohort probably was due to misreporting of the ages of able-bodied males over age 54 in order to keep them in the tributary group.

Inflation of ages was particularly evident when the median age of the encomienda population in 1602-03, and the age at first marriage, were examined. The median age was calculated as 20 years for both men and women. The age of first marriage was an estimated 22 for men and 20 for women. Both the calculated median age and mean age at first marriage were high for a pre-industrial, non-European society. The median age of the population was high when we consider the expectation of life at birth was probably around 25 years. A median age of under 20 is more realistic. So too was the mean age at first marriage high, particularly since marriage in the encomienda was well nigh universal. The mean age at first marriage probably occurred before age 20.

Thus, since the ages in the revista were approximate at best, and certain age groups underenumerated and others overenumerated, it was not possible to manipulate the data as we would data from a modern census. Therefore, the analysis of the revista data was by necessity simple and general. On the basis of the analysis, however, some generalizations can be made about the demographic characteristics of the encomienda population in 1602-03; these are:

1. Not all of the deficit in the childhood (5-9), teenage (10-19), and middle-aged (25-40) groups can be attributed to inaccuracies in the revista. There is good reason to believe the dearth in the 10-19

age group was due, in part, to a lowering in the fertility rate for several years after the smallpox and typhus epidemics of 1587-90. Such a lowering in fertility could have affected the size of the 5-9 group as well. Also, the typhus epidemic was likely responsible for the deaths of many young adults in 1589-90, which would explain the deficit in the middle-age groups of the encomienda.

2. There was no great imbalance between the sexes, although men were more numerous than women in all age groups (i.e., youth, adult, and old age). The latter finding was probably more of a reflection of the underenumeration of women than a higher female death rate.

3. Marriage was universal in the encomienda, with a mean age at first marriage of below probably 20 years for both males and females. Women did marry at an earlier age than men, but the difference was small.

4. Widows were more numerous than widowers. This indicates a somewhat higher death rate for men, although men also may have been more apt to remarry than women.

5. Overall fertility was not high in the encomienda. The reason for the relatively moderate fertility rate was the fact that males spent extended periods of time away from the encomienda as mitayos in the labour draft. It also is possible that overwork in the obrajes led to debilitating sicknesses, and a lowering in the rate of procreation as a result.

6. Fertility varied from pueblo to pueblo on the basis of the proportion of males participating in the mita draft. The pueblos from which mitayos were being drawn in 1602-03 had significantly lower crude birth rates. The pueblos not participating in the draft in 1602-03 had fertility rates approaching modern ones.

7. Family size was small, a function both of low fertility and high infant/child mortality. There was an average of 1.4 children per family in 1602-03. Almost 57 percent (56.9 percent) of the families were without children (28.2 percent) or had only one child (28.7 percent).

8. Infant mortality must have been high. This assumption is based on the high infant mortality rate of the region today, as well as research by Evans (1981), which showed that almost half the children born in Peru in the seventeenth century died before their tenth year.

9. Although infant and child mortality was probably high, enough children appear to have been surviving to suggest the encomienda was experiencing slow growth by 1602-03.

In relation to the third question, the revista appears to have had more value as a social and economic document than either a geographic or demographic one. The information it provides on household structure and ayllu composition made it possible to reconstruct the social organization of the encomienda's indigenous community, or at least what

the Spanish perceived was its social structure. The fiscal or economic data it contained provided valuable insights into the tribute and mita systems of the encomienda in the early 17th century.

The major social characteristics of the encomienda's indigenous population in 1602-03, as revealed by the revista, were as follows:

1. The natives of the encomienda were organized on the basis of ayllus, which were kin groups. At the head of each ayllu was a hereditary chieftain or cacique.

2. Within the ayllus, the native population lived primarily in simple family households. Mean household size was five, although household sizes ranged from one person to 34 persons.

3. The population of the encomienda was further grouped into pueblos, which formed the basic unit of colonial administration and control.

Following is a summary of the major economic characteristics of the encomienda in 1602-03:

1. Tribute was exacted from most able-bodied males between the ages of 17 and 54 in the encomienda.

2. Each tributary paid approximately four pesos of tribute, which represented a "not-too-onerous" head tax. However, there is evidence to suggest the encomienda community was paying more tribute

than required, and that the extra tribute was going to the caciques or to Cepeda.

3. Flight and migration from the encomienda was significant in 1602-03. Slightly over 12 percent of the population had fled or migrated. Most who had fled were men, and most of the men were tributaries. Women seldom left the encomienda on their own accord, but would migrate with their husbands or fathers.

4. A total of 16.6 percent of all men of tributary age were reserved from tribute. Most were reserved due to illness or physical disabilities.

5. The ratio of tributaries to the total population in the encomienda in 1602-03 was 1:4.7.

6. Slightly over one-quarter (25.4 percent) of the tributary population was participating in the mita draft in 1602-03, which was higher than the proportion prescribed by law (20 percent in the audiencia of Quito). Most (63.8 percent) were filling mita quotas in the obrajes of the region, the vast majority (90.1 percent) being employed in the community obraje located in Chambo. Most of the mita labour was being drawn from the pueblos of Achambo (38.2 percent) and Quimnia (37.0 percent).

The fourth purpose of the thesis was to determine the trends in the encomienda's population as revealed by the revista de Achambo and the

two previous counts--one held in 1589 and the other sometime after 1589. In order to provide some basis for the magnitude of depopulation and growth in the encomienda, it was necessary to date the second count (held between 1589 and 1602-3). I believe the second count was held shortly after the smallpox and typhus epidemics in 1587-90, and in response to significant population loss in, and flight from, the encomienda. Given the dating of the second count in 1590, decline in the tributary population was 66 percent over the one year period. How much of the decline was attributable to death from disease, or to flight to escape devastation of the epidemics, I do not know. After the second count, the encomienda population increased by an average of three percent per annum. Again, much of the increase could have been due to tributaries returning to the encomienda after the epidemics had run their course.

The analysis of the demographic and socio-economic characteristics of the encomienda's population in 1602-03, and its pattern of population loss and gain from 1589 to the 1602-03, offers valuable insights into these characteristics of Colonial Highland Ecuador during the late 16th and early 17th centuries. While it may be erroneous to imply that the characteristics of one specific locale would apply to all of the Sierra region, in the absence of any other substantive data, the following generalizations can be made:

1. The balanced sex ratio implies a higher survival rate for Ecuadorian males vis-à-vis the survival rate of males in Mexico and Peru. The primary reason for the higher survival rate in Ecuador appears to

have been the absence of the mining mita.

2. Tributary ages may have been from 17 to 54 years rather than from 18 to 50 years.

3. While the tributaries of the audiencia were not subject to the mining mita, conditions of life were nevertheless harsh. This conclusion is based on the number of men who were listed as having fled the encomienda in 1602-03.

4. Migration was significant in the audiencia in the early 17th century, and most migration was directed toward Quito.

5. The population of the audiencia was probably increasing in the early 17th century. This confirms the reports of the audiencia officials. It is possible other regions were increasing at a faster pace than the encomienda's population, particularly in areas where the textile industry was less established.

6. Contrary to what has been written thus far on the subject, the audiencia appears to have experienced significant population decline in the late 16th century as the result of epidemic disease.

In conclusion, the revista de Achambo represents the first house-by-house count to have been analyzed for Colonial Highland Ecuador. As such, it provided a unique opportunity to reconstruct some aspects of an indigenous community of the region during the late 16th

and early 17th centuries. However, I believe this analysis to have applications beyond that of the encomienda de Cepeda. That is, until comparable documents are analyzed for different areas of Colonial Ecuador, the findings of this study may be considered representative of the Highland region as a whole. Given this, the findings suggest that while Colonial Ecuador was unique in certain aspects from other Spanish American possessions, such as the population from which its tributaries were drawn, the percentage of tributaries who were liable for the mita draft, the fact its native population was expanding as early as the late 1600s, etc., it did not, "in contradiction to all other provinces in the Indies", escape the consequences of European-introduced diseases. Such a finding upholds the notion of catastrophic and ubiquitous decline in the native populations of the New World in the first century after contact.

The cataclysmic decline of the Amerindian population during the 16th century, and the destructuration of its way of life, have often been cited as major reasons for the problems existing within 20th century native society. The collapse of the Amerindian empires and the virtual wiping out of whole generations from introduced diseases is believed to have left a deep wound in the native consciousness. The prevalence of alcoholism among the indigenous peoples today, also noted by the Colonial administrators, has been linked to a societal feeling of hopelessness which first appears documented in the early post-Conquest Spanish and Amerindian writings.

Indeed, much of how the descendants of the Highland Ecuadorian

Indians live today is rooted in the Colonial period. For example, now, as then, the Indian and cholo populations occupy the lowest rungs of Sierran society. Still without political rights, and participating in the nation's economy only at a subsistence level, the Ecuadorian native lives largely on the fringe of society, disenfranchised, impoverished, and illiterate. While many Colonial policies had sought to protect and extend the rights of the indigenous peoples, the fact that lip service was paid many laws, and the Indian was viewed as "un niño" incapable of rational thought or decision-making, permitted their exploitation and alienation from the rest of Spanish Colonial society. Time has seen the erasure of tribute, forced labour and debt peonage, but not of the general poverty and isolation of Ecuador's, and of Latin America's, native populations.

GLOSSARY

alcalde An executive and judicial magistrate elected annually by the aldermen of a city council.

alguacil A native constable.

alguacil mayor Official of the audiencia responsible for court orders, arrests and the maintenance of public order.

audiencia The highest tribunal of justice in a Spanish-American kingdom, acting also as a general administrative board.

ausente Literally "absent ones". Tributaries absent at the time of the revista but still paying tribute.

ausentes que no pagan Tributaries absent from their ayllus with their whereabouts unknown.

aymara Indian tribes native to Bolivia and the Lake Titicaca region of Peru who speak Aymara as distinguished from Quechua.

ayllu The basic social, political, and economic unit of pre-Conquest Inca society, retained with modifications during the Spanish regime.

cabecera A principal village with several villages subordinated to it.

cacique Spanish term for native chieftain. These chieftains were part of the curaca class in the Inca Empire.

canton Modern administrative sub-division of a province.

cangahua A yellowish, fine volcanic tuff.

casa House or household.

casados Usually married men; the term may be applied to all married people.

castas Colonial term for racial categories defined by social status.

cholo Colonial designation for the offspring of an Indian and mestizo mating.

corregidor The governor of a corregimiento.

corregimiento A unit of Spanish Colonial administration.

criollo A person of European descent born in America.

curaca Administrative official of the Inca Empire. The curacas were lower nobility whose rankings were determined by the number of taxpayers they controlled.

ducat A ducat was worth 23.75 carats of fine gold.

encomienda Grant of Indians by the Crown to an individual who was entrusted with their Christianization and protection in return for tribute.

encomendero Holder of an encomienda.

escribano de cámara The head of the notorial office of an audiencia.

escudo Unit of currency in colonial Spanish America, worth 400 maravedís.

fanega A unit of measure, approximately equal to 1.60 bushels, or 52.7 kilograms.

fiscal A crown attorney serving as one of the superior magistrates of an audiencia and overseeing the royal treasury.

forastero Literally "outsider". Indian in Colonial period who had left original community, and settled elsewhere.

gobierno A governorship.

hacienda Large, landed estate.

hacendado Owner of an hacienda.

huasipungo Small parcel of land (Quechua).

huasipunguero One who held a huasipungo on an estate. Usually, there also was a labour committment to the estate.

juez de comisión A temporary judge appointed to make a specific investigation.

maravedí Basic unit of Spanish currency. The value of 375 maravedís was the equivalent to 23.75 carats of fine gold or one ducat.

mashua Indigenous tuber (Tropaeolum tuberosum).

mayordomo Native overseer.

melloco Indigenous tuber (Ullucus tuberosum). Ulluco, olluco in English. An Andean plant of the family Basellaceae having a creeping stem that roots wherever it touches the ground and tuberous roots which are used in place of potatoes.

mestizo Colonial term for offspring of Indian and white mating.

mitimaes Thoroughly acculturated, conquered peoples of the Inca Empire who were settled in provinces other than their own in order to consolidate the empire.

mita Colonial labor draft.

mitayo An Indian drafted for mita labor; usually also a tributary.

moreno Negro.

muchachos Boys. All males 16 years and under in the encomienda de Cepeda.

mujeres Girls. All females 17 years and under in the encomienda de Cepeda.

mulatto Offspring of Negro and white mating.

obraje A textile shop in which Indians provided the manual labor.

obrajeros Obraje workers.

oca Indigenous tuber (Oxalis crenata and O. tube rosa). Oka, oca in English. Either of two South American wood sorrels cultivated for their edible tubers.

oidor A judge of the audiencia.

ordenanza Ordinance, order.

originario A person native to a particular ayllu.

páramo Quechua term for the high plateaus of the Ecuadorian Andes.

partido District.

peso Basic unit of currency in Spanish America. A peso was the equivalent of 450 maravedis or 1.2 ducats. There were two kinds of pesos: the peso de oro and peso de plata.

pueblo Town.

puebleño Resident of the pueblo.

real cédula Royal decree.

real(es) Unit of currency in Colonial Spanish America worth 1/8 or 1/9 of a peso de plata, or one ounce of silver.

reducción(es) Resettlement of Indians in nucleated villages; also the settlement itself.

relación Administrative report in Colonial period sent to Spanish Crown.

repartimiento
i. Especially in early period of Conquest, award of group of Indians in trust to Conquistadores.
ii. System of compulsory labor in which Indians were assigned to specific works, on a compulsory basis.
iii. Forced sale of merchandise by corregidor to Indians.

reservado A male over the age of 17 in the encomienda de Cepeda, who was reserved from paying tribute and the mita.

residencia Judicial review of an official's conduct, immediately after he left office.

revista de tributo Reassignment of tribute in an encomienda or corregimiento ordered by fiscal authorities in Colonial period.

servicio personal Encomendero's employment of encomienda Indians without payment.

solteros Unmarried males; in a wider usage, all unmarried people of both sexes.

sacristan Sexton of the Church.

tambo A way-station or inn on an isolated road.

tributarios All able-bodied males between 17 - 54 required to pay tribute in the encomienda de Cepeda.

tomín A unit of currency in Colonial Spanish America valued at one real de plata.

vecino A freeholder; property owner.

visita de la tierra A periodic tour of a province by an oidor.

viudos, viudas Widowers or widows.

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APPENDIX

Table 1

Age-Sex Distribution of the Encomienda de Cepeda by Pueblo, 1602-1603

AGE GROUP	ACHAMBO M	ACHAMBO F	MOLINO DE ACHAMBO M	MOLINO DE ACHAMBO F	QUIMNIA M	QUIMNIA F	PENIPE M	PENIPE F	TOTAL M	TOTAL F
0	22	15	8	13	15	11	32	19	77	58
1-4	105	120	27	57	64	62	89	87	285	326
5-9	82	65	15	38	50	56	84	59	231	218
10-14	64	43	31	25	55	28	47	31	197	127
15-19	60	54	28	32	41	32	52	44	181	162
20-24	96	94	51	46	103	83	94	73	344	296
25-29	46	40	20	17	37	32	46	38	149	127
30-34	49	41	22	28	32	24	40	43	143	136
35-39	44	49	14	11	20	22	29	23	107	105
40-44	46	45	22	18	38	41	45	41	151	145
45-49	34	31	17	22	14	23	23	24	88	100
50-54	39	49	17	36	39	45	53	73	148	203
55-59	34	26	14	7	19	9	19	13	86	55
60-64	32	44	19	10	19	24	25	38	95	116
65-69	2	2	0	0	2	1	4	1	8	4
70-74	14	11	7	6	8	5	14	7	43	29
75-79	0	0	1	1	0	0	0	0	1	1
80-84	6	4	2	2	3	0	6	3	17	9
85+	2	2	2	0	1	1	2	1	7	4
No Age Given	-	2	-	-	-	3	-	1	-	6
Total	777	737	317	369	560	502	704	619	2358	2227

Source: Revista de Achambo Encomienda de Don Lorenzo de Cepeda, 1603 (Sevilla: AGI, escribanía de cámara 919), ff.1-443.

Table 2

Age-Sex Distribution of the Pueblo of Penipe by Ayllu, 1602-1603

AGE GROUP	NABUJO M	NABUJO F	MATUS M	MATUS F	CALSSI M	CALSSI F	PUTGUAJO M	PUTGUAJO F	GANSSI M	GANSSI F	TOTAL M	TOTAL F
0	2	3	11	3	2	2	6	1	11	10	32	19
1-4	9	10	18	25	8	11	19	10	35	31	89	87
5-9	6	11	16	13	8	5	17	11	37	19	84	59
10-14	7	4	9	4	5	4	6	5	20	14	47	31
15-19	5	4	15	13	5	6	5	4	22	17	52	44
20-24	9	8	25	23	7	7	18	13	35	22	94	73
25-29	3	5	12	11	5	2	10	7	16	13	46	38
30-34	5	7	7	9	5	3	7	4	16	20	40	43
35-39	4	1	4	5	5	5	5	5	11	7	29	23
40-44	10	8	8	7	6	7	7	7	14	12	45	41
45-49	2	2	7	3	4	4	1	3	9	12	23	24
50-54	2	9	12	17	2	8	8	15	29	24	53	73
55-59	0	1	3	2	1	1	8	2	7	7	19	13
60-64	7	4	4	9	2	1	4	5	8	19	25	38
65-69	1	0	1	0	1	0	0	0	1	1	4	1
70-74	2	0	4	3	3	2	1	0	4	2	14	7
75-79	0	0	0	0	0	0	0	0	0	0	0	0
80-84	1	0	1	0	1	0	0	0	3	3	6	3
85+	0	0	1	1	1	0	0	0	0	0	2	1
No Age Given	-	-	-	1	-	-	-	-	-	-	-	1
Total	75	77	158	149	71	68	122	92	278	233	704	619

Source: Revista de Achambo Encomienda de Don Lorenzo de Cepeda, 1603 (Sevilla: AGI, escribanía de cámara 919), ff.359-443.

Table 3

Age-Sex Distribution of the Pueblo of Quimnia by Ayllu, 1602-1603

AGE GROUP	BAICALSI M	BAICALSI F	PUCULL-PALA M	PUCULL-PALA F	GUNTUS M	GUNTUS F	JAGUAN M	JAGUAN F	TOTAL M	TOTAL F
0	2	3	3	2	4	3	6	3	15	11
1-4	11	11	7	15	26	18	20	18	64	62
5-9	10	10	16	5	15	17	9	24	50	56
10-14	9	5	10	5	17	11	19	7	55	28
15-19	7	3	7	9	13	7	14	13	41	32
20-24	17	12	21	21	41	34	24	16	103	83
25-29	12	8	5	5	7	7	13	12	37	32
30-34	5	3	8	5	9	8	10	8	32	24
35-39	3	4	4	2	5	9	8	7	20	22
40-44	11	8	6	6	11	14	10	13	38	41
45-49	3	6	1	2	6	6	4	9	14	23
50-54	10	10	6	11	14	16	9	8	39	45
55-59	3	2	5	2	3	0	8	5	19	9
60-64	5	8	6	5	4	9	4	2	19	24
65-69	0	0	0	0	2	1	0	0	2	1
70-74	2	0	2	1	2	3	2	1	8	5
75-79	0	0	0	0	0	0	0	0	0	0
80-84	0	0	0	0	0	0	3	0	3	0
85+	1	0	0	0	0	1	0	0	1	1
No Age Given	-	2	-	-	-	-	-	1	-	3
Total	111	95	107	96	179	164	163	147	560	502

Source: Revista de Achambo Encomienda de Don Lorenzo de Cepeda, 1603 (Sevilla: AGI, escribanía de cámara 919), ff.314-358.

Table 4

Age-Sex Distribution of the Pueblo of Achambo by Ayllu, 1602-1603

AGE GROUP	CUCTUS M	CUCTUS F	HAJATUS M	HAJATUS F	PICOLLAN M	PICOLLAN F	LLUCUT M	LLUCUT F	TOTAL M	TOTAL F
0	6	7	10	0	3	5	3	3	22	15
1-4	37	40	31	34	16	16	21	30	105	120
5-9	34	22	19	17	9	8	20	18	82	65
10-14	21	12	20	12	5	7	18	12	64	43
15-19	16	15	21	16	11	8	12	15	60	54
20-24	31	34	20	24	21	17	24	19	96	94
25-29	12	11	15	16	9	7	10	6	46	40
30-34	17	13	18	14	8	8	6	6	49	41
35-39	8	12	22	20	7	8	7	9	44	49
40-44	13	14	11	12	8	9	14	10	46	45
45-49	15	9	3	5	6	6	10	11	34	31
50-54	12	15	10	15	7	6	10	13	39	49
55-59	12	7	19	13	2	4	1	2	34	26
60-64	10	12	11	19	3	6	8	7	32	44
65-69	0	0	2	1	0	1	0	0	2	2
70-74	4	2	7	4	0	1	3	4	14	11
75-79	0	0	0	0	0	0	0	0	0	0
80-84	2	1	1	1	0	0	3	2	6	4
85+	0	0	1	1	0	0	1	1	2	2
No Age Given	-	2	-	-	-	-	-	1	-	3
Total	250	226	241	225	115	118	171	168	777	737

Source: Revista de Achambo Encomienda de Don Lorenzo de Cepeda, 1603 (Sevilla: AGI, escribanía de cámara 919), ff.202-227.

Table 5

Age-Sex Distribution of the Pueblo of Molino de Achambo by Ayllu, 1602-1603

AGE GROUP	?		YMANGO		ZIZIBUS		TOTAL	
	M	F	M	F	M	F	M	F
0	3	4	2	4	3	5	8	13
1-4	10	29	1	15	16	13	27	57
5-9	4	19	2	6	9	13	15	38
10-14	14	14	8	4	9	7	31	25
15-19	15	18	7	8	6	6	28	32
20-24	24	22	12	12	15	12	51	46
25-29	7	7	6	5	7	5	20	17
30-34	10	12	5	7	7	9	22	28
35-39	6	7	4	2	4	2	14	11
40-44	12	7	2	5	8	6	22	18
45-49	11	12	5	6	1	4	17	22
50-54	8	16	5	6	4	14	17	36
55-59	3	2	7	2	4	3	14	7
60-64	8	4	5	5	6	1	19	10
65-69	0	0	0	0	0	0	0	0
70-74	2	1	3	3	2	2	7	6
75-79	0	0	1	1	0	0	1	1
80-84	1	1	1	1	0	0	2	2
85+	1	0	1	0	0	0	2	0
No Age Given	-	-	-	-	-	-	-	-
Total	139	175	77	92	101	102	317	369

Source: Revista de Achambo Encomienda de Don Lorenzo de Cepeda, 1603 (Sevilla: AGI, escribanía de cámara 919), ff.278-314.