

Survival of Indian Communities in Nineteenth-Century Bolivia: A Regional Comparison

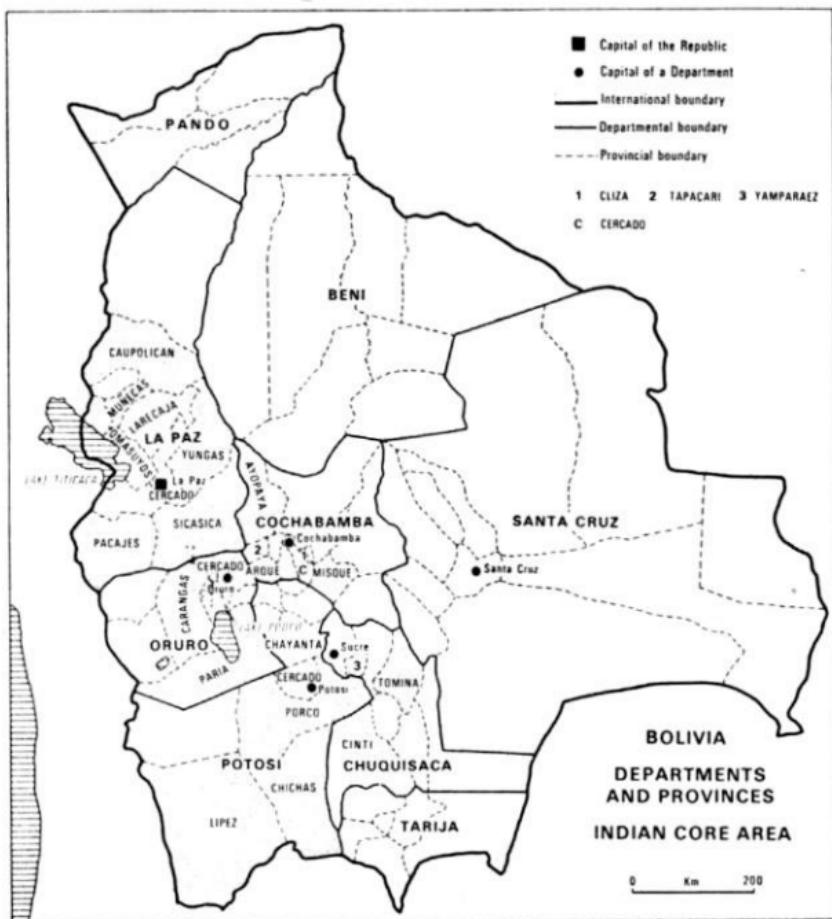
by ERWIN P. GRIESHABER

In describing the impact of haciendas on Indian communities of Meso-America and Andean America, historians generally have emphasized the hacendado's unrelenting appropriation of land and labor from native settlements, which were forced constantly to retreat in the face of this pressure. This view can be represented by James Lockhart's description of hacienda expansion. He saw the great estate as an 'essentially unitary social institution [that] maintained constant its function as intermediary between growing Spanish towns and receding Indian villages. It evolved along two simple lines – constant rise in legal ownership of land and change in the balance of the labor force, as permanent workers increased and temporary workers decreased.'¹ As the hacienda expanded outward from the cities, said Lockhart, it gradually engaged the Indians in acculturative processes that made the great estate 'the most powerful instrument of hispanicization in Spanish-American culture'.²

Despite hacienda expansion, for which there is ample evidence, Indian communities survived in many parts of highland South America. The purpose of this study is to determine precisely the extent of the survival of Indian communities in Bolivia and attempt to identify causal factors related to their perpetuation. Data from Bolivia's nineteenth-century Indian tribute censuses will be used to show that the survival or demise of Indian communities varied with regional demographic and ecological conditions and not with their relationship to haciendas. Both the Indian communities and the haciendas located in the altiplano provinces of the departments of La Paz, Oruro and Potosí exhibited remarkable signs of revival in the course of the nineteenth century, despite substantial population decline, while those of the valley of Cochabamba, which faced the same population crises, showed equally evident signs of deterioration. During the period of the study there was no evidence of hacienda expansion.

¹ James Lockhart, 'Encomienda and Hacienda: The Evolution of the Great Estate in the Spanish West Indies,' *HAHR*, Vol. 49 (August, 1969), p. 427.

² *Ibid.*, p. 425.



Bolivia's Indian tribute censuses (*padrones*) are particularly valuable for the study of the survival of Indian communities. They contain breakdowns of the numbers of Indians living in Indian communities and on haciendas and thus enable the researcher to determine the division of the labor force between the two institutions. Furthermore, *padrones* list each institution's population components, which were broken down into nine civil and age categories. The *tributario* was an adult male taxpayer between the age of eighteen and fifty. A *casada* was the wife of a *tributario*. A *proximo* was a young adult male between the age of thirteen and eighteen who was next in line to become a *tributario*. The *soltera*, or unmarried young woman, was the female counterpart of the *proximo*. *Niños* and *Niñas* were male and female children under twelve. *Viudas* were widows. *Reservados* were old and infirm.

males who were no longer required to pay tribute, and *ausentes* were absentee taxpayers who had been listed on the *padrones* but were found missing in subsequent counts. Knowing the demographic dynamics of these age groups enables the historian to determine the evolution of each institution's population base.

I gathered data primarily on the period 1838 to 1877. The *padrones* immediately prior to 1838 reported poor counts because of the chaotic effects of the independence wars. After 1877, tribute data collection ceased because the Bolivian government revised its tax system. Although somewhat limited, the period 1838–1877 is very important because its social characteristics represent the legacy of the colonial period. The political and economic effects of modernization occurred after 1880 and should be the subject of separate consideration.³ Prior to 1880, Bolivia's petty caudillos expended their energies fighting one another and lacked the power to alter drastically the social system derived from the colonial era. Essentially, I am studying some of the population characteristics of Bolivian society that resulted from a 300-year process of Spanish colonization.

The first question to be addressed is which institution, hacienda or Indian community controlled the majority of the labor force? Tables 1–3 show the absolute number and percentage of communal, hacienda, and town tributaries in the five major departments for the representative years of 1838, 1858, and 1877. Table 4 shows how the absolute number of communal tributaries (and percentage communal tributaries in the total tributary population) changed over the period 1838 to 1877. Table 5 does the same for hacienda tributaries. For the five departments as a group, Table 4 shows that Indian communities controlled 70 percent of total tributaries in 1838, 73 percent in 1858, and 75 per cent in 1877. Over the same period the percentage of tributaries living on haciendas decreased from 29 percent in 1838 to 26 percent in 1858, to 24 percent in 1877 (Table 5). Tributaries living in small towns (*pueblos*) outside Indian communities and haciendas amounted to less

³ Roberto Cortés Conde in *The First Stages of Modernization in Spanish America* (trans. from the Spanish by Toby Talbot) (New York, 1974) described modernization as a process whereby Latin American nations became increasingly integrated into the North American and European economies through the development of an export product. This integration, in turn, produced significant internal political and social changes. In the late 1870s, Bolivian silver miners, as a result of new discoveries, increased production greatly. The effects of this silver boom occurred after 1880 and included the construction of railways connecting Bolivia to the Pacific coast and the emergence of silver miners as a national political force. This new governing elite destroyed the local power of Bolivia's caudillos, and, at the same time, forged a program of national consolidation. See Herbert S. Klein, *Parties and Political Change in Bolivia* (Cambridge, Eng., 1969), pp. 16–30.

TABLE I

Number and Percentage of Communal, Hacienda and Town Tributaries, C.A. 1838

| Department | Padron | Year | Province | Total | Communal | Hacienda | Town | Pct. | Pct. | Pct. | |
|------------|-----------------------|------|-------------|---------|----------|----------|---------|----------|----------|-------|------|
| | | | | Trib. | Trib. | Trib. | Trib. | Communal | Hacienda | Trib. | |
| La Paz | Cercado | 38 | 5,801 | 2,847 | 2,778 | 176 | 49·08 | 47·89 | 3·03 | | |
| | Omasuyos | 38 | 15,667 | 8,790 | 6,877 | — | 56·11 | 43·89 | — | | |
| | Pacajes | 38 | 13,791 | 11,162 | 2,417 | 212 | 80·94 | 17·53 | 1·53 | | |
| | Yungas | 38 | 5,968 | 2,151 | 3,662 | 155 | 36·04 | 61·36 | 2·60 | | |
| | Sicasica | 42 | 10,864 | 7,648 | 3,216 | — | 70·40 | 29·60 | — | | |
| | Larecaja | 38 | 3,879 | 1,724 | 2,046 | 109 | 44·44 | 52·75 | 2·81 | | |
| | Caupolicán | (17) | 1,758 | (1,723) | (35) | (—) | (98·01) | (1·99) | — | | |
| | | (26) | 5,319 | (4,007) | (1,312) | (—) | (75·33) | 24·67 | — | | |
| | | | | Total | 63,047 | 40,052 | 22,343 | 652 | 63·53 | 35·44 | 1·03 |
| Cochabamba | Tapacari ^a | 28 | 3,846 | 3,217 | 629 | — | 83·65 | 16·35 | — | | |
| | Misque | 39 | 911 | 554 | 335 | 22 | 60·81 | 36·77 | 2·41 | | |
| | Ayopaya | 44 | 1,026 | — | 1,015 | 11 | — | 98·93 | 1·07 | | |
| | Arque | 34 | 3,086 | 3,012 | 11 | 63 | 97·60 | 0·36 | 2·04 | | |
| | Cliza | 31 | 1,566 | — | 1,566 | — | — | 100·00 | — | | |
| | Cercado | 35 | 728 | — | 728 | — | — | 100·00 | — | | |
| | | | Total | 11,163 | 6,783 | 4,284 | 96 | 60·76 | 38·38 | 0·86 | |
| Oruro | Carangas | 38 | 2,880 | 2,880 | — | — | 100·0 | — | — | | |
| | Cercado | 38 | 3,358 | — | 3,245 | 113 | — | 96·93 | 3·37 | | |
| | Paria | 38 | 7,979 | 7,568 | 411 | — | 94·85 | 5·15 | — | | |
| | | | Total | 14,217 | 10,448 | 3,656 | 113 | 73·49 | 25·72 | 0·79 | |
| Chuquisaca | Cinti | 33 | 1,321 | 1,321 | — | — | 100·00 | — | — | | |
| | Tomina | 32 | 1,652 | 1,290 | 305 | 57 | 78·09 | 18·46 | 3·45 | | |
| | Yamparapez | 33 | 2,110 | 768 | 1,212 | 130 | 36·40 | 57·44 | 6·16 | | |
| | | | Total | 5,083 | 3,379 | 1,517 | 187 | 66·48 | 29·84 | 3·68 | |
| | Chayanta | 37 | 13,610 | 11,681 | 1,879 | 50 | 85·83 | 13·81 | 0·36 | | |
| | Porco ^b | 45 | 9,873 | 9,264 | 189 | 420 | 93·83 | 1·91 | 4·25 | | |
| | Lipez | (40) | (1,156) | (1,156) | — | — | 100·00 | — | — | | |
| Potosí | Cercado | 37 | 2,373 | 693 | 1,464 | 216 | 29·20 | 61·69 | 9·10 | | |
| | Chichas | 41 | 3,790 | 3,647 | 143 | — | 96·23 | 3·77 | — | | |
| | | | Total | 30,802 | 26,441 | 3,675 | 686 | 85·84 | 11·93 | 2·23 | |
| | | | Grand Total | 124,312 | 87,103 | 35,475 | 1,734 | 70·07 | 28·54 | 1·39 | |

Sources: For the years not in parentheses data came from 'Padrones' (ca. 1838), Archivo Nacional de Bolivia (ANB), Sucre. The total number of tributaries for Caupolicán and Muñecas were taken from 'Plan general de la matrícula i padrón de contribuyentes de departamento de La Paz, según libros de tesorería correspondientes al año 1823' in *Gaceta del gobierno*, 28 de mayo de 1860, p. 1. This particular chart did not provide a breakdown of communal and hacienda tributaries. Since the ratio of communal tributaries to hacienda tributaries for Caupolicán (as also for Muñecas) remained almost the same in 1838 and 1877, I assumed that the same ratio held true for the earlier years. I used the 1838 percentages and applied them to the earlier data. To arrive at Lipez's total tributaries, I obtained the total amount of tribute (8,092 pesos) paid by them from 'Razón sobre el producto anual de la contribución de indígenas en las provincias de Bolivia' compiled on 30 de septiembre de 1840 but filed under 'Copiadores del ministerio de hacienda 1832-1837' tomo 77, no. 6, ANB. Since I knew from Lipez's other padrones that its tributaries were all of the same type (*forasteros*) and paid the same levy (seven pesos), I divided seven into the 8,092 and obtained 1,156 tributaries. Since no haciendas existed in Lipez, I knew they were all communal Indians.

^a The 1828 padron of Tapacari omitted two counties, which in 1851 contained 605 communal tributaries and thirty-two hacienda tributaries. I added these tributaries to the 1828 total to make it comparable to 1838 and 1877.

^b The 1845 Porco padron contained a category of Indian taxpayer labeled 'yanacona del estado.' The term 'yanacona' by itself referred to a hacienda tributary. In Porco, however, the term 'yanacona del estado' referred to another group of Indians living in communities, besides the originarios and agregados which normally peopled communal units. In 1845 the government ordered a reclassification of the *yanaconas del estado* of Porco as *originarios* and *agregados*. For the 1838 tabulation, I included the *yanaconas del estado* in the communal column to make it consistent with the 1838 and 1877 tabulations.

Note: Communal tributaries included three types: *Originarios* were Indians whose ancestors had maintained ties with the community for generations and who had access to the most valuable parcels of land. *Agregados* and *forasteros* were Indians who became attached to the community during different periods of the community's history and controlled less valuable parcels of land or no land at all. Hacienda tributaries included two types, *yanaconas* and *forasteros*. The historical origins of all these groups is a difficult historical problem that needs further research.

TABLE 2

Number and Percentage of Communal, Hacienda and Town Tributaries, CA. 1858

| Department | Padrón | Year | Province | Total | Communal | Hacienda | Town | Pct. | Pct. | Pct. | |
|------------|----------------------|------------|----------|--------|----------|----------|--------|----------|----------|---------|------|
| | | | | Trib. | Trib. | Trib. | Trib. | Communal | Hacienda | Trib. | |
| La Paz | 58 | Cercado | 5,486 | 2,991 | 2,401 | 94 | 54·52 | 43·77 | 1·71 | | |
| | (58) | Omasuyos | 19,356 | 11,447 | 7,909 | — | 59·13 | 40·86 | — | | |
| | 58 | Pacajes | 15,423 | 12,606 | 2,498 | 319 | 81·73 | 16·20 | 2·07 | | |
| | 52 | Yungas | 5,825 | 2,246 | 3,464 | 115 | 38·56 | 59·47 | 1·97 | | |
| | (58) | Sicasica | 12,215 | 8,772 | 3,443 | — | 71·81 | 28·19 | — | | |
| | 63 | Larecaja | 3,731 | 2,089 | 1,561 | 81 | 55·99 | 41·84 | 2·17 | | |
| | 58 | Caupolicán | 3,316 | 3,250 | 66 | — | 98·01 | 1·99 | — | | |
| | 58 | Muñecas | 5,789 | 4,361 | 1,428 | — | 75·33 | 24·67 | — | | |
| Cochabamba | Total | | | | 71,141 | 47,762 | 22,770 | 609 | 67·14 | 32·00 | 0·86 |
| | 51 | Tapacarí | 3,507 | 3,023 | 484 | — | 86·19 | 13·80 | — | | |
| | Misque ^a | | | | (752) | 529 | (199) | (24) | (70·35) | (37·62) | 3·19 |
| | 63 | Ayopaya | 951 | 45 | 906 | — | 4·73 | 95·27 | — | | |
| | 58 | Arque | 1,810 | 1,783 | 7 | 20 | 98·51 | 0·39 | 1·10 | | |
| | 50 | Cliza | 718 | — | 718 | — | — | 100·00 | — | | |
| | 50 | Cercado | 507 | — | 507 | — | — | 100·00 | — | | |
| | Total | | | | 8,245 | 5,380 | 2,821 | 44 | 65·25 | 34·21 | 0·54 |
| Oruro | 64 | Carangas | 4,364 | 4,364 | — | — | 100·00 | — | — | — | |
| Chuquisaca | 64 | Cercado | 3,870 | — | 3,721 | 149 | — | 96·15 | 3·85 | | |
| | 63 | Paria | 9,466 | 8,981 | 485 | — | 94·88 | 5·12 | — | | |
| | Total | | | | 17,700 | 13,345 | 4,206 | 149 | 75·40 | 23·76 | 0·84 |
| | Cinti ^a | | | | (1,339) | (1,339) | — | — | 100·00 | — | — |
| | 61 | Tomina | 2,232 | 1,919 | 226 | 87 | 85·98 | 10·13 | 0·31 | | |
| | 56 | Yamparaez | 2,065 | 871 | 1,058 | 136 | 42·18 | 51·23 | 6·59 | | |
| | Total | | | | 5,636 | 4,129 | 1,284 | 223 | 73·26 | 22·78 | 3·96 |
| | Chayanta | | | | 13,432 | 11,979 | 1,412 | 41 | 89·18 | 10·51 | 0·31 |
| Potosí | 62 | Porco | 10,412 | 9,737 | 437 | 238 | 93·52 | 4·20 | 2·29 | | |
| | 62 | Lipez | 1,411 | 1,411 | — | — | 100·00 | — | — | | |
| | 60 | Cercado | 2,221 | 873 | 1,221 | 127 | 39·31 | 54·77 | 5·72 | | |
| | Chichas ^a | | | | (3,707) | 3,573 | (134) | — | (96·39) | (3·61) | — |
| | Total | | | | 31,183 | 27,573 | 3,204 | 406 | 88·42 | 10·27 | 4·59 |
| | Grand Total | | | | 133,905 | 98,189 | 34,285 | 1,431 | 73·33 | 25·60 | 1·07 |

Sources: For the years not in parenthesis data came from 'Padrones' (ca. 1858), ANB. For the provinces of Omasuyos and Sicasica, data was taken from 'Plan jeneral de empadronamiento i población de la nueve provincias de año de 1858,' in *Gaceta del gobierno*, 28 de mayo de 1860, p. 1. On this chart, the compilers made a breakdown between hacienda and communal Indians.

^a Data was not available for Misque, Cinti and Chichas in 1858. In order to obtain 1858 estimates I averaged the data of 1838 and 1877 for each of the three provinces. Except for the decline in the number of hacienda tributaries in Misque, the data in these three provinces changed little when comparing 1838 to 1877. Thus the average of the two figures probably does not represent much of a distortion. Since Misque's hacienda tributaries declined from 325 in 1838 to 62 in 1877, the average of 199 in 1858 might include some distortion. But since Misque's hacienda tributaries make up less than 10 percent of Cochabamba's total hacienda tributaries, the 199 estimate would not greatly distort the departmental total.

TABLE 3
Number and Percentage of Communal, Hacienda and Town Tributaries, CA. 1778

| Department | Padrón | Year | Province | Total | Communal | Hacienda | Town | Pct. | Pct. | Pct. |
|------------|--------------------|------|----------|---------|----------|----------|--------|----------|----------|-------|
| | | | | Trib. | Trib. | Trib. | Trib. | Communal | Hacienda | Trib. |
| La Paz | Cercado | 77 | 4,832 | 2,784 | 1,939 | 109 | 57·62 | 40·12 | 2·26 | |
| | Omasuyos | (77) | 21,129 | 12,628 | 8,504 | — | 59·77 | 40·23 | — | |
| | Pacajes | 77 | 17,326 | 14,160 | 2,785 | 381 | 81·73 | 16·07 | 2·20 | |
| | Yungas | 77 | 4,800 | 2,019 | 2,737 | 44 | 42·06 | 57·02 | 0·92 | |
| | Sicasica | 77 | 13,182 | 9,290 | 3,892 | — | 70·47 | 29·53 | — | |
| | Larecaja | 77 | 3,816 | 2,087 | 1,574 | 155 | 54·69 | 41·25 | 4·06 | |
| | Caupolicán | (77) | 3,377 | 3,377 | — | — | 100·00 | — | — | |
| Cochabamba | Muñecas | 77 | 5,736 | 4,390 | 1,346 | — | 76·53 | 23·47 | — | |
| | Total | | 74,198 | 50,735 | 22,774 | 689 | 68·38 | 30·69 | 0·93 | |
| | Tapacarí | 67 | 2,815 | 2,460 | 309 | 46 | 87·39 | 10·98 | 1·63 | |
| | Misque | 71 | 591 | 504 | 62 | 25 | 85·28 | 10·49 | 4·23 | |
| | Ayopaya | 72 | 993 | 44 | 948 | 1 | 4·43 | 95·47 | 0·10 | |
| | Arque | 71 | 1,980 | 1,977 | 3 | — | 99·85 | 0·15 | — | |
| | Cliza | 67 | 340 | — | 340 | — | — | 100·00 | — | |
| Oruro | Cercado | 68 | 181 | — | 181 | — | — | 100·00 | — | |
| | Total | | 6,900 | 4,985 | 1,843 | 72 | 72·25 | 26·71 | 1·04 | |
| | Carangas | 71 | 5,071 | 5,071 | — | — | 100·00 | — | — | |
| | Cercado | 67 | 3,972 | — | 3,824 | 148 | — | 96·27 | 3·73 | |
| | Paria | 77 | 10,972 | 10,339 | 633 | — | 94·23 | 5·77 | — | |
| | Total | | 20,015 | 15,410 | 4,457 | 148 | 76·99 | 22·27 | 0·74 | |
| Chuquisaca | Cinti | 71 | 1,356 | 1,356 | — | — | 100·00 | — | — | |
| | Tomina | 72 | 2,352 | 2,100 | 156 | 96 | 89·29 | 6·63 | 4·08 | |
| | Yamparacez | 77 | 1,679 | 782 | 784 | 113 | 46·58 | 46·69 | 6·73 | |
| | Total | | 5,387 | 4,238 | 940 | 209 | 78·67 | 17·45 | 3·88 | |
| | Chayanta | 77 | 17,905 | 15,746 | 2,103 | 56 | 87·94 | 11·75 | 0·31 | |
| | Porco ^a | 72 | 11,053 | 10,455 | 381 | 217 | 94·58 | 3·45 | 1·96 | |
| | Lipez | 77 | 1,805 | 1,805 | — | — | 100·00 | — | — | |
| Potosí | Cercado | 74 | 2,595 | 1,011 | 1,487 | 97 | 38·96 | 57·30 | 3·74 | |
| | Chichas | 74 | 3,499 | 3,374 | 125 | — | 96·43 | 3·57 | — | |
| | Total | | 36,857 | 32,391 | 4,096 | 370 | 87·88 | 11·11 | 1·01 | |
| | Grand Total | | 143,357 | 107,759 | 34,110 | 1,488 | 75·17 | 23·79 | 1·04 | |

Sources: For the years not in parenthesis, data taken from 'Padrones' (ca. 1877), ANB. For the provinces of Omasuyos and Caupolicán, data was taken from 'Cuadro sinóptico . . . de 13 de febrero de 1880 que manifiesta el numero de contribuyentes según las últimas matriculas,' in *Memoria presentada a la convención nacional de 1880 por el secretario general del estado Doctor Ladislao Cabrera* (Sucre, 1880).

^a The 1872 padrón of Porco omitted one county, which in 1862 contained 651 communal tributaries and no hacienda tributaries. I added these tributaries to the 1872 total in order to make it comparable with 1838 and 1858.

TABLE 4.
Numbers and Percentage of Communal Tributaries, 1838-1877

| Department | Province | Absolute Number of Communal Tributaries | | Net Difference between 1838 and 1877 | Percentage Communal Tributaries of Total Tributaries | | |
|------------|-------------|---|---------|--------------------------------------|--|---------|----------|
| | | 1838 | 1858 | | 1838 | 1858 | 1877 |
| La Paz | Cercado | 2,847 | 2,991 | 2,784 | -63 | 49·08 | 54·52 |
| | Omasuyos | 8,790 | 11,447 | 12,628 | +3,838 | 56·11 | 59·13 |
| | Pacajes | 11,162 | 12,606 | 14,160 | +2,998 | 80·94 | 81·73 |
| | Yungas | 2,151 | 2,246 | 2,019 | -132 | 36·04 | 38·56 |
| | Sicasica | 7,648 | 8,772 | 9,290 | +1,642 | 70·40 | 71·81 |
| | Larecaja | 1,724 | 2,089 | 2,087 | +363 | 44·44 | 55·99 |
| | Caupolicán | (1,723) | 3,250 | 3,377 | +1,654 | (98·01) | 98·01 |
| | Muñecas | (4,007) | 4,361 | 4,390 | +383 | (75·33) | 76·53 |
| | Total | 40,952 | 47,762 | 50,735 | +10,683 | 63·53 | 67·14 |
| Cochabamba | Tapacari | 3,217 | 3,023 | 2,460 | -757 | 83·65 | 86·19 |
| | Misque | 554 | (529) | 504 | -50 | 60·81 | (70·35) |
| | Ayopaya | — | 45 | 44 | +44 | — | 4·73 |
| | Arque | 3,012 | 1,783 | 1,977 | -1,035 | 97·60 | 98·51 |
| | Total | 6,783 | 5,380 | 4,985 | -1,798 | 60·76 | 65·25 |
| Oruro | Carangas | 2,880 | 4,364 | 5,071 | +2,191 | 100·00 | 100·00 |
| | Cercado | — | — | — | — | — | — |
| | Total | 6,783 | 5,380 | 4,985 | -1,798 | 60·76 | 65·25 |
| | Paria | 7,568 | 8,981 | 10,339 | +2,771 | 94·85 | 94·88 |
| | Total | 10,448 | 13,345 | 15,410 | +4,962 | 73·49 | 75·40 |
| Chuquisaca | Cinti | 1,321 | (1,339) | 1,356 | +35 | 100·00 | (100·00) |
| | Tomina | 1,290 | 1,919 | 2,100 | +810 | 78·09 | 85·98 |
| | Yamparaez | 768 | 871 | 782 | +14 | 36·40 | 42·18 |
| | Total | 3,379 | 4,129 | 4,238 | +859 | 66·48 | 73·26 |
| Potosí | Chayanta | 11,681 | 11,979 | 15,746 | +4,065 | 85·83 | 89·18 |
| | Porco | 9,264 | 9,737 | 10,455 | +1,191 | 93·83 | 93·52 |
| | Lipez | 1,156 | 1,411 | 1,805 | +649 | 100·00 | 100·00 |
| | Cercado | 693 | 873 | 1,011 | +318 | 29·20 | 39·31 |
| | Chichas | 3,647 | (3,573) | 3,374 | -273 | 96·23 | (96·39) |
| | Total | 26,441 | 27,573 | 32,391 | +5,950 | 85·84 | 88·42 |
| | Grand Total | 87,103 | 98,189 | 107,759 | +20,656 | 70·07 | 73·33 |
| | | | | | | | 75·17 |

TABLE 5
Numbers and Percentage of Hacienda Tributaries, 1838-1877

| Department | Province | Absolute Number of Hacienda Tributaries | | Net Difference Between 1838 and 1877 | Percentage Hacienda Tributaries of Total Tributaries | | |
|------------|-------------|---|--------|--------------------------------------|--|---------|--------|
| | | 1838 | 1858 | | 1838 | 1858 | 1877 |
| La Paz | Cercado | 2,778 | 2,401 | -377 | 47·89 | 43·77 | 40·12 |
| | Omasuyos | 6,877 | 7,909 | +1,713 | 43·89 | 40·86 | 40·23 |
| | Pacajes | 2,417 | 2,498 | +368 | 17·53 | 16·20 | 16·07 |
| | Yungas | 3,662 | 3,464 | -925 | 61·36 | 59·47 | 57·02 |
| | Sicasica | 3,216 | 3,443 | +676 | 29·60 | 28·19 | 29·53 |
| | Larecaja | 2,046 | 1,561 | -472 | 52·75 | 41·84 | 41·25 |
| | Caupolicán | (35) | 66 | -35 | (1·99) | 1·99 | — |
| | Muñecas | 1,312 | 1,428 | +134 | (24·67) | 24·67 | 23·47 |
| Total | | 22,343 | 22,770 | +431 | 35·44 | 32·00 | 30·69 |
| Cochabamba | Tapacarí | 629 | 484 | -320 | 16·35 | 13·80 | 10·98 |
| | Misque | 335 | (199) | 62 | 36·77 | (37·62) | 10·49 |
| | Ayopaya | 1,015 | 906 | -98 | 98·93 | 95·27 | 95·47 |
| | Arque | 11 | 7 | -8 | 0·36 | 0·39 | 0·15 |
| | Cliza | 1,566 | 718 | -340 | -1,226 | 100·00 | 100·00 |
| | Cercado | 728 | 507 | -181 | -547 | 100·00 | 100·00 |
| | Total | 4,284 | 2,821 | 1,843 | -2,441 | 38·38 | 34·21 |
| | | | | | | | 26·71 |
| Oruro | Carangas | — | — | — | — | — | — |
| | Cercado | 3,245 | 3,721 | 3,824 | +579 | 96·93 | 96·15 |
| | Paria | 411 | 485 | 633 | +222 | 5·15 | 5·12 |
| | Total | 3,656 | 4,206 | 4,457 | +801 | 25·72 | 23·76 |
| | | | | | | | 22·27 |
| Chuquisaca | Cinti | — | (—) | — | — | (—) | — |
| | Tomina | 305 | 226 | 156 | -149 | 18·46 | 10·13 |
| | Yamparaez | 1,212 | 1,058 | 784 | -428 | 57·44 | 51·23 |
| | Total | 1,517 | 1,284 | 940 | -577 | 29·84 | 22·78 |
| | | | | | | | 17·45 |
| Potosí | Chayanta | 1,879 | 1,412 | 2,103 | +224 | 13·81 | 10·51 |
| | Porco | 189 | 437 | 381 | +192 | 1·91 | 4·20 |
| | Lipez | — | — | — | — | — | — |
| | Cercado | 1,464 | 1,221 | 1,487 | +23 | 61·69 | 54·77 |
| | Chichas | 143 | (134) | 125 | -18 | 3·77 | (3·61) |
| | Total | 3,675 | 3,204 | 4,096 | +421 | 11·93 | 10·27 |
| | Grand Total | 35,475 | 34,285 | 34,110 | -1,365 | 28·54 | 25·60 |
| | | | | | | | 23·79 |

Source: Tables 1-3

than two percent of total tributaries. Although some variation existed among the departments, all reported that Indian communities controlled well over half the Indian laborers throughout the period 1838 to 1877.

The absolute number of communal tributaries increased 24 percent from 87,103 in 1838 to 107,759 in 1877. Only in the department of Cochabamba did communal tributaries decrease, dropping from 6,783 to 4,985. Contrary to the overall increase in communal tributaries, hacienda tributaries declined by 4 percent from 35,475 to 34,110. Only in the department of Oruro did they increase.

In general, then, the data show that haciendas lost resident Indian laborers during the 1838 to 1877 period. Conversely, Indian communities not only survived, but expanded their control over available laborers. Bolivia, then, at least following independence, does not fit the expected pattern. How can we explain this phenomenon?

In order to assess the relationship between haciendas and Indian communities, it is necessary to make regional breakdowns. What follows is a detailed review of the increase and decrease of hacienda and communal tributaries in each province of Bolivia over the period 1838 to 1877. The review is accompanied by a brief description of each province's climate, geography, type of agricultural production and its relationship to a market. The purpose of this description is to distinguish consistent patterns in the relationship of hacienda tributaries to communal tributaries. The final part of the article seeks to explain the meaning of these patterns and their significance to the evolution of Andean society.

In examining the data from the provinces of the department of La Paz, the province of Cercado, located in the precipitous high valleys (*cabecera de valle*) in the immediate environs of the city, and the province of Yungas, located northeast of the city in the semi-tropical coca-growing region, reported high percentages of hacienda tributaries. In 1838 Cercado contained 48 percent hacienda tributaries and Yungas, 61 percent. Taking advantage of the proximity of the urban market, private landowners early in the colonial period established food-producing haciendas close to cities.⁴ Most of the haciendas close to La Paz were located east of the city in a high valley area

* It was common for a *vecino* of a city to hold not only a large encomienda but also to own lands near the city which were cultivated by his encomienda Indians. For example, Gerónimo de Soria, *Alcalde Ordinario* of La Paz in 1550, held the encomienda of Machaca la Grande, located in the province of Pacajes far to the west of La Paz city. From this encomienda, Soria annually received in tribute 2,000 pesos in silver plus clothes, animals and food. The cacique of Machaca also sent Soria eighteen peones to cultivate his 'chacras' in La Paz. Alberto Crespo Rodas, *El corregimiento de La Paz, 1548-1600* (La Paz, 1972), pp. 66-7.

that was capable of producing vegetables, fruits, beans, potatoes, and barley. Although during the period 1846 to 1880 the city of La Paz grew from 42,842 to 53,605,⁵ the haciendas located close to the city showed no signs of expansion. Indeed, the number of hacienda laborers in Cercado de La Paz declined by 30 percent from 2,778 in 1838 to 1,939 in 1877. The absolute number of communal Indians of Cercado remained about the same, declining only slightly from 2,847 in 1838 to 2,784 in 1877. Thus, despite the increase in an urban market, Cercado's haciendas showed signs of decline rather than expansion.

Manuel Rigoberto Paredes, a late nineteenth-century (1871-1945) native of La Paz, attributed the gradual decline of Cercado de La Paz's haciendas to three causes. First of all, there was the steady stream of migration from rural properties to the city, where Indians found abundant, easy and lucrative work. They also migrated to escape malaria, prevalent in lower altitudes directly east of La Paz where most of the haciendas were located. Second, floods and erosion resulted in the destruction of much property. A flood in 1858 destroyed hundreds of fruit trees in the county of Mecapaca. These trees were never replaced because subsequent floods made new plantings too risky. And third, hacendados lacked fertilizers to upgrade their poor land. The lack of fertilizer, Paredes claimed, resulted from a decline in the animal population due to periodic epidemics.⁶

Paredes' explanation leaves some unanswered questions. How did the growing city of La Paz replace the food which had been supplied by these suburban haciendas? First, food wholesalers of La Paz tapped new sources of production. With the completion of a Peruvian railroad to the western shore of Lake Titicaca in 1874, La Paz received more imported food, especially rice, sugar and wheat.⁷ Second, the haciendas that retained their labor force, especially those located on the altiplano near La Paz, could easily expand production of traditional products, such as potatoes and llama products, without undue strain to the agricultural system. As much as 70 percent of the tillable land on altiplano haciendas remained under the control of resident peons, whose production the hacendado could have appropriated if he needed more food.⁸ Even taking into account the growth of the city during

⁵ For the population of La Paz in 1846, see José María Dalence, *Bosquejo estadístico de Bolivia* (Chuquisaca, 1854), p. 201 and in 1880, see Carlos Bravo, *La patria boliviana, estado geográfica* (La Paz, 1894), p. 121.

⁶ Manuel Rigoberto Paredes, *La Paz y la provincia de Cercado* (La Paz, 1955), pp. 122-32.

⁷ Bolivia, Comisión de Estadística, *Archivo estadística*, 7 de diciembre de 1874.

⁸ William E. Carter, *Aymara Communities and the Bolivian Agrarian Reform* (Gainesville, Fla., 1965), pp. 70-1.

the period 1846 to 1880, which was not substantial to begin with, the market for low-value native products never expanded greatly and was always easily supplied from traditional sources.⁹

In the outlying provinces of the department of La Paz, the semi-tropical Yungas contained the highest percentage of hacienda tributaries. Specializing in the production of coca, the Yungas was the cash crop zone of Bolivia. Andean Indians chewed coca leaves as a habit, and also used small amounts of it for ceremonial purposes.¹⁰ Communal Indians of the Yungas produced coca in small amounts during the sixteenth and seventeenth centuries. During this early colonial period, the province of Cuzco in Peru supplied most of the coca for the Andean region. It was not until the 1730s, possibly because of a decline in coca production from Cuzco, that Paceño citizens began purchasing land for coca plantations in the Yungas region.¹¹ By 1825 yearly commerce in coca was valued at 719,800 pesos and it was the leading cash crop in Bolivia. In second place was the wheat and corn trade, valued at 300,000 pesos.¹²

The Yungas was dominated by private landholders. In 1839, 61 percent of all tributaries lived on haciendas while only 36 percent were in communities. Tributaries living in small towns comprised the other three percent (Tables 4 and 5). Over the period 1838 to 1877, the percentage of communal tributaries increased slightly from 36 percent to 42 percent, although the absolute number of both groups declined. The number of hacienda tributaries declined from 3,662 in 1838 to 2,737 in 1877, a drop of 25 percent. The number of communal Indians decreased slightly from 2,151 to 2,019, a drop of 6 percent.

Besides the decline of Yugeño hacienda tributaries, the number of

⁹ Not even La Paz's population growth during the twentieth century (605,000 in 1973) affected the agricultural system of altiplano haciendas. Methods of cultivation remained dependent on ancient farming practices of resident peons. Since altiplano soil is only suitable for the cultivation of native products, hacienda owners retained the old system of cultivation as the cheapest method of producing for a limited market. See Frank Keller, 'Finca Ingravi - A Medical Survival on the Bolivian Altiplano' *Economic Geography*, No. 26 (1950), pp. 37-50. During the twentieth century, La Paz became dependent on foreign sources of food and the development of Bolivia's eastern lowlands. See Cornelius H. Zondag, *The Bolivian Economy 1952-65, The Revolution and its Aftermath* (New York, 1966), pp. 141-64.

¹⁰ David Forbes, *On the Aymara Indians of Bolivia and Peru* (London, 1870), p. 61.

¹¹ Herbert S. Klein, 'Hacienda and Free Community in Eighteenth Century Alto Peru: A Demographic Study of the Aymara Population of the Districts of Chulumani and Pacajes in 1786,' in *Journal of Latin American Studies*, Vol. 7 (November, 1975), p. 196.

¹² Joseph Barclay Pentland, 'Report on Bolivia, 1827,' edited by J. Valerie Fifer in *Camden Miscellany*, Vol. 35 (1974), p. 213.

hacienda units also declined, while the number of vacant haciendas increased (Table 6). Furthermore, the decline in hacienda tributaries was a general phenomenon throughout the province (see Table 7). Only one county, Chulumani, showed a slight increase. Such a widespread decline of hacienda tributaries and the large number of vacant haciendas probably indicates a general deterioration of the hacienda system in the Yungas, but I possess no

TABLE 6
Number of Agricultural Units in Department
of La Paz, 1838-1877

| Province | Communal Units ^a | | |
|------------|-----------------------------|-----------------|------|
| | 1838 | 1858 | 1877 |
| Cercado | 48 | 51 | 51 |
| Omasuyos | 112 | NA | NA |
| Pecajes | 125 | 121 | 119 |
| Yungas | 34 | 35 | 36 |
| Sicasica | 100 | 57 ^b | 101 |
| Larecaja | 58 | 60 | 59 |
| Caupolicán | NA | 31 | NA |
| Muñecas | NA | 116 | 116 |
| Province | Private Units ^c | | |
| | 1838 | 1858 | 1877 |
| Cercado | 123 | — | 119 |
| Omasuyos | 183 | — | NA |
| Pecajes | 76 | — | 84 |
| Yungas | 261 | 19 | 252 |
| Sicasica | 195 | — | 228 |
| Larecaja | 175 | 2 | 170 |
| Caupolicán | NA | NA | NA |
| Muñecas | NA | NA | 151 |

Source: 'Padrones de La Paz' (ca. 1838, 1858 and 1877), ANB.

NA = no information available

— = zero

* In La Paz, total communal units include *aylllos* plus *estancias*, which were outlying units attached to an *ayllu*.

^b The 1858 *padrón* of Sicasica omitted five of fourteen provinces.

^c Most private units were labelled haciendas. Estancias that listed their owners were also counted as private units.

TABLE 7

County Breakdown of the Number of Hacienda Tributaries and Units in the Province of Yungas, 1838-1877

| County | 1838 | | 1858 | | 1877 | | Net Difference 1838-1877 | Vacant Haciendas 1838 |
|------------|---------------|-------|---------------|-------|---------------|-------|-----------------------------|-----------------------------|
| | Hac. Trib. | Units | Hac. Trib. | Units | Hac. Trib. | Units | | |
| Lambate & | | | | | | | | |
| Taca | 229 | 16 | 216 | 14 | 141 | 18 | -88 | +2 |
| Coripata | 993 | 36 | 967 | 36 | 815 | 34 | -178 | -2 |
| Ocabaya | 36 | 7 | 30 | 5 | 23 | 9 | -13 | +2 |
| Chirca | 210 | 29 | 190 | 27 | 175 | 31 | -35 | +2 |
| Muruata | 127 | 8 | 130 | 10 | 121 | 9 | -6 | +1 |
| Pacallo | 285 | 22 | 217 | 22 | 115 | 17 | -170 | -5 |
| Coroico | 1,277 | 57 | 1,237 | 52 | 973 | 51 | -304 | -6 |
| Milluguaya | 72 | 3 | 84 | 3 | 44 | 2 | -28 | -1 |
| Chupe | 110 | 16 | 110 | 14 | 87 | 13 | -23 | -3 |
| Yanacachi | 37 | 5 | 27 | 3 | 21 | 1 | -16 | -4 |
| Losa | 54 | 17 | 36 | 7 | 22 | 15 | -32 | -2 |
| Irupana | 152 | 28 | 139 | 23 | 81 | 39 | -71 | +11 |
| Chulumani | 80 | 17 | 81 | 14 | 119 | 13 | +39 | -4 |
| Total | 3,662 | 261 | 3,464 | 230 | 2,737 | 252 | -925 | -9 |
| | | | | | | | 19 | 15 |
| | | | | | | | 38 | |

Sources: *Padrones de Yungas* (ca. 1838, 1858 and 1877), ANB.

data on a corresponding decline in coca production that might confirm that suspicion.

The *Apoderado Fiscal* of the Yungas in his 1877 report to treasury officials described the causes behind the 'lack of progress' in the Yungas:

Impassable roads, deadly climates and scarcity of laborers retard the progress of the Yungas....

Not only the lack of hygiene but also the different types of epidemics carry away hundreds of victims.... Priests... have admonished severely the inhuman act of exposing cadavers in the middle of forests so that they serve as fodder for beasts.... Pneumonia, polyps, intermittent fevers and bad springs (of water) are the things which threaten the Indians of this province.

The number of absentees... results, no doubt, from the migration of some to the valuable quinine fields where no one knows of their existence, or even if they still exist, and the frequent migration of others to provinces such as Muñecas and Caopolican where they are residents, and to this province (Yungas) they come intermittently as sayáneros or colonos, and work six or eight turns (mitas) on lands in communities or haciendas; from this it follows that there are not only deteriorating sayáñas, some totally abandoned, but also haciendas without people that have lost the value they had previously possessed.¹³

¹³ 'Padrón de Yungas de 1877,' *expedientes, sueltos*, ANB.

As described by the *Apoderado Fiscal*, disease and poor communications affected not only haciendas, but also Indian communities in the Yungas. Because of climatic factors affecting the entire province, the labor force declined, leading to the deterioration of both institutions. Thus, ecological determinants affected the Indians more than the supposed competition between haciendas and Indian communities.

In the semi-tropical provinces of Larecaja, northwest of La Paz city, hacendados produced coca, coffee, quinine, sugar, rice, and wheat. But neither coca nor any of the other products was produced in large quantities.¹⁴ For a time in the 1840s, quinine production was substantial, but that brief boom succumbed to Colombian competition.¹⁵ In Larecaja the hacienda system also deteriorated. In 1838 hacendados controlled 53 percent of total tributaries, which declined to 41 percent by 1877. In absolute numbers, hacienda tributaries declined from 2,046 in 1838 to 1,574 in 1877, a drop of 23 percent. But here the pattern was quite different from the Yungas. Contrary to the decline of hacienda tributaries, Larecaja's communal tributaries rose from 1,724 to 2,087, an increase of 21 percent. And, as a portion of the total, the percentage of communal tributaries increased from 44 percent to 55 percent. From this data, it is plausible to infer that hacienda tributaries abandoned their haciendas and moved into Indian communities. That might be the case, but again I lack supporting information that might confirm that hypothesis.

The province of Muñecas, directly north of La Paz city, contained both temperate and semi-tropical climates. It produced potatoes, corn, coca, and sugar cane. But production was meager, probably because of its distance from La Paz city and the difficulties of transportation.¹⁶ Muñecas contained about 75 percent communal tributaries in 1858 and 1877. Population remained virtually stable.

One Paceño province, Caupolicán, was located in the tropical jungle area far to the north in the Amazon basin. Caupolicán contained only four haciendas and sixty-six communities. Again, probably because of the large distance from La Paz city, haciendas failed to take root in Caupolicán, further evidence that ecological relationships – especially climate and access to the urban marketplace – were vital in determining the balance between hacienda and communities.

¹⁴ Oficina Nacional de Inmigración, Estadística, *Diccionario geográfico*, 1, *Departamento de La Paz* (La Paz, 1890), p. 66.

¹⁵ Luis Peñalosa, *Historia económica de Bolivia*, 2 vols. (La Paz, 1953–4), ii, 111–16.

¹⁶ Oficina Nacional de Inmigración, Estadística. *Diccionario geográfico*, 1, *Departamento de La Paz*, p. 70. Also see the description of Muñecas in Dalence, *Bosquejo estadístico*, pp. 165–6.

Three provinces, Pacajes, Omasuyos, and Sicasica, were located on the altiplano. Situated between two mountain ranges on a high plain about 13,000 feet above sea level, the altiplano produced mainly potatoes, barley, and quinoa. Extensive pastureland also provided grazing for llama and sheep.¹⁷ Some fertile sections of Omasuyos, located on the shore of Lake Titicaca, produced small quantities of corn.¹⁸ Also, the eastern counties of Sicasica, located off the eastern escarpment of the altiplano in semi-tropical steep valleys, produced corn, wheat, and fruits (mainly used for the production of aguardiente and wine). But production of these non-altiplano products was small, most of it being consumed within provincial boundaries.¹⁹

In each of these three altiplano provinces, communal tributaries were a majority of all Indian taxpayers. In 1838 Omasuyos contained 56 percent communal tributaries, Sicasica 70 percent, and Pacajes (situated wholly on the altiplano) 81 percent. By 1877, for all three provinces, the proportion of communal tributaries to total tributaries remained about the same as it had been in 1838. But although the proportions remained the same, absolute numbers of both hacienda and communal tributaries increased considerably. In Sicasica both groups increased by 21 percent. In Pacajes the number of communal tributaries rose by 27 percent and hacienda tributaries by 14 percent. And in Omasuyos communal tributaries rose by 46 per cent and hacienda tributaries by 24 percent.

Thus *padrón* data from the department of La Paz contradicted the assumptions about the constant expansion of haciendas. Rather than haciendas appropriating laborers from nearby Indian communities, the data suggest that Indian communities and haciendas grew or declined together, depending on the region in which they were located. The altiplano provinces of Pacajes, Sicasica, and Omasuyos gained hacienda and communal tributaries, while the urban vicinity of Cercado and the semi-tropical Yungas lost them. Only in the province of Larecaja did one institution seem to grow at the expense of the other – and here Indian communities gained laborers and haciendas lost them. Furthermore, according to the number of communal units (Table 6) and tributaries (Table 4), Indian communities survived in every province of

¹⁷ Manuel Rigoberto Paredes, *La altiplanice* (posthumous edition) (La Paz, 1965), pp. 46–57, 195–228.

¹⁸ Oficina Nacional de Inmigración, Estadística. *Diccionario geográfico*, 1, *Departamento de La Paz*, p. 82.

¹⁹ Dalence, *Bosquejo estadístico*, pp. 170–2, described the inhabitants of eastern Sicasica (which became the province of Inquisivi in 1842) as lazy farmers who paid little attention to their land and harvested only the small amount of corn, potatoes, fruits, and vegetables that grew spontaneously.

the department of La Paz, whether located on the altiplano or in a valley. In no province did haciendas destroy nearby Indian communities.

As a whole, the Cochabamba valley exhibited characteristics similar to the Yungas valley in that it was a cash-crop area and that its haciendas and Indian communities lost laborers. The extensive valley of Cochabamba was the grain-producing center of the Bolivian Andes. Early in the colonial period, as a response to the food demands of the expanding Potosí silver economy (1570–1650), Spaniards migrated to the fertile wheat and corn-producing Cochabamba valley.²⁰ There they established haciendas to supply the growing city of Potosí, which by 1611 contained 160,000 inhabitants.²¹ After 1650, however, silver production steadily declined and with it the population of the city.²² By 1787, Potosí numbered only 24,000 people.²³ During the independence wars of the early nineteenth century, three invasions of Potosí wreaked havoc, and by 1846 the town's population had shrunk to 16,711.²⁴

Despite the loss of the Potosí market, Cochabamba's hacendados still exported considerable quantities of wheat and corn to the markets of La Paz and Oruro. According to an 1825 report, the value of the combined Cochabamba-Chuquisaca grain trade amounted to about 300,000 pesos, which was second only to the Yungas coca trade.²⁵ But Cochabamba must have garnered the lion's share of that 300,000 pesos, since, compared to

²⁰ For a description of the settlement of Cochabamba and its economic ties to Potosí, see Antonio Vasquez de Espinoza, *Compendium and Description of the West Indies* (1628), edited and translated by Charles Upson Clark (Washington, 1942), pp. 618–9.

²¹ Bartolome Arzans de Orsua y Vela, *Historia de la villa imperial de Potosí* (3 vols.), eds. Lewis Hanke and Gunnar Mendoza (Providence, 1965), i, 286.

²² Data on the crown's declining annual income derived from Potosí silver mines from 1556 to 1789 can be found in Manuel Moreyra y Paz Soldan, *En torno dos valiosos documentos sobre Potosí; Los quintos reales y las pragmáticas secretas sobre la moneda* (Lima, 1953), pp. 36–46.

²³ D. Juan del Pino Manrique, 'Descripción de la villa Potosí y de los partidos sujetos a su intendencia,' in Pedro de Angelis, *Colección de obras y documentos relativos a la historia antigua y moderna de las provincias del Río de la Plata*, 6 vols. (Buenos Aires, 1836–37), ii, p. 7.

²⁴ For a review of the Independence wars in Bolivia, see Charles W. Arnade, *The Emergence of the Republic of Bolivia* (Gainsville, 1957) and for the destruction caused to the Potosí mines, see Edmond Temple, *Travel in Various Parts of Peru, Including a Year's Residence in Potosí*, 2 vols. (London, 1830), i, 308–10. Data from the Potosí mining bank showed that the bank's annual average silver purchase declined from 303,516 marcos in the period 1806 to 1810 to 162,952 marcos in the period 1826 to 1830. Ernesto O. Ruck, *Guía general* (Sucre, 1865), p. 169. Population of Potosí was derived from Valence, *Bosquejo estadístico*, p. 199.

²⁵ Pentland, 'Report on Bolivia,' *Camden Miscellany*, p. 213.

Chuquisaca, it produced three times the amount of wheat and twice the amount of corn.²⁶

Data from Cochabamba's provincial *padrones* reflect the dominance of the hacienda system in certain areas of the valley. In the province immediately surrounding the city (Cercado de Cochabamba), 100 percent of tributaries resided on haciendas. Also, in the province of Cliza, contiguous to Cercado on the east, and characterized by extensive production of grains, 100 percent of tributaries resided on haciendas. In the province of Ayopaya, far to the northwest of Cochabamba city, and linked more to the Yungas than Cochabamba city (Ayopaya supplied cattle to the Yungas), 95 percent of the tributaries resided on haciendas.²⁷

But the hacienda system did not dominate all of Cochabamba. To the west and southwest of the city, in the provinces of Tapacarí and Arque, Indian communities controlled over 80 percent of the Indian labor force. And in Misque, southeast of the city, 60 percent of total tributaries resided in Indian communities. Just like the provinces dominated by haciendas, these three provinces were located in temperate semi-tropical zones. Here communal Indians produced wheat, corn, and fruits in sufficient quantity to be sold for cash. In fact, Arque's grain market was famous throughout the southern Andean area. Indian grain dealers from La Paz and as far north as Puno (Peru) traveled regularly to Arque to purchase wheat and corn for resale in their respective areas.²⁸

In Cochabamba, whether a particular province contained a majority of hacienda tributaries or a majority of communal tributaries, it nevertheless lost them. For example, Cliza, throughout the period 1838 to 1877 contained 100 percent hacienda tributaries and the number of them declined from 1,566 in 1838 to 340 in 1877, a drop of 78 percent. Compared to Cliza, Arque contained over 95 percent communal tributaries and they declined from 3,012 in 1838 to 1,973 in 1878, a drop of 34 percent. For the department of Cochabamba as a whole, communal tributaries declined by 19.31 percent and hacienda tributaries by 56.66 percent.

As indicated by the percentage decline in Cochabamba's hacienda tributaries, the hacienda system suffered a relatively heavier loss of laborers than

²⁶ In 1846, Cochabamba produced 476,794 fanegas of corn and 189,136 fanegas of wheat, while Chuquisaca produced 242,266 fanegas of corn and 60,400 fanegas of wheat. Dalence, *Bosquejo estadístico*, p. 269.

²⁷ For a description of Cliza's and Ayopaya's agricultural economy, see Dalence, *Bosquejo estadístico*, pp. 114-17 and Oficina Nacional de Inmigración, Estadística, *Diccionario geográfico*, 2, *Departamento de Cochabamba*, pp. 12-13, 28-9.

²⁸ Oficina Nacional de Inmigración, Estadística, *Diccionario geográfico*, 2, *Departamento de Cochabamba*, pp. 9-10.

TABLE 8

Number of Agricultural Units in the
Department of Cochabamba, 1838-1877

| Province | Communal Units ^a | | |
|----------|-----------------------------|------|------|
| | 1838 | 1858 | 1877 |
| Tapacarí | 127 ^b | 146 | 157 |
| Ayopaya | — | 2 | 2 |
| Misque | 18 | NA | 19 |
| Arque | 274 | 251 | 266 |
| Cliza | — | — | — |
| Cercado | — | — | — |

| Province | Private Units | | | | | |
|----------|---------------|-------|------------------|-------|-----------------|-----|
| | 1838 | | 1858 | | 1877 | |
| Total | Vacant | Total | Vacant | Total | Vacant | |
| Tapacarí | 67 | — | 103 ^c | 3 | 94 | 6 |
| Ayopaya | 113 | — | 117 | — | 119 | — |
| Misque | 129 | — | NA | NA | 78 ^d | 45 |
| Arque | 1 | — | 1 | — | 1 | — |
| Cliza | 166 | 1 | 171 | 59 | 172 | 108 |
| Cercado | 100 | — | 99 | — | 93 | 4 |

Sources: 'Padrones de Cochabamba' (ca. 1838, 1858 and 1877), ANB.

- ^a In Tapacarí and Misque communal units consisted of *ayllus* plus estancias. In Arque all units were unlabelled place names, except one which was labelled a hacienda. I assumed that all the unlabelled place names were located outside of hacienda boundaries and I therefore counted them as communal units. Two counties out of nine registered *originarios* and *forasteros*. The other seven registered only *forasteros*.
- ^b Tapacarí's 1828 *padrón*, which was the closest Tapacarí *padrón* to the representative date of 1838, omitted two counties (Itapaya and Challa), which in 1858 contained twenty-two communal units and eight haciendas.
- ^c All Tapacarí's counties registered increases in the number of haciendas between 1838 and 1858. County of Quillacollo registered the largest increase, from 31 haciendas in 1828 to 46 in 1858. The county of Sipesipe registered the second largest increase from 10 haciendas in 1828 to 18 in 1858. The *padrón* gives no indication why the number of haciendas increased. It was probably the result of the redivision of land among heirs.
- ^d Between 1838 and 1877, the number of haciendas in Misque declined by 51. The county of Tintin registered the largest decrease, from 41 in 1838 to 25 in 1872, although all the other counties also registered decreases. The *padrón* gives no indication why the number of haciendas declined.

Indian communities. This deterioration of Cochabamba's hacienda system was also apparent in the growing number of vacant haciendas. In 1838 Cliza registered one vacant hacienda out of 166, by 1858 there were 59 out of 171, and by 1877 there were 108 out of 172 (Table 8). Thus the proportion of vacant haciendas increased from 0.6 percent in 1838 to 63 percent in 1877. In Misque the total number of haciendas declined from 129 (with no vacancies) in 1838 to seventy-eight (with forty-five vacancies) in 1877.

Only the province of Tapacarí registered an increase in the number of haciendas. Tapacarí contained about seventy-five haciendas in 1838 (if the eight haciendas from the two missing counties are included in the count). By 1877 Tapacarí contained ninety-four haciendas, including six vacancies. But, since the number of communal units remained the same and since the hacienda labor force actually declined despite the increase in units, I doubt that this increase came at the expense of Indian communities. Furthermore, the county of Quillacollo registered the largest increase in haciendas, from 31 in 1838 to 44 in 1877. But since Quillacolla contained no Indian communities, the increase must have been the result of subdividing existing properties or opening up new lands rather than the confiscation of Indian communal land.

Thus, Cochabamba, a cash-crop, semi-tropical zone, exhibited characteristics similar to the cash-crop, semi-tropical Yungas of La Paz. In both cases, Indian communities and haciendas lost laborers, with haciendas losing the relatively greater number. They were also characterized by an increase of vacant haciendas, indicating again the deterioration of that institution.

It must be emphasized that Indians constituted only 16 percent of Cochabamba's departmental population in 1846. Almost from the beginning of colonization, Cochabamba's non-Indian inhabitants, mostly Spaniards and a few blacks, formed a high proportion of the total population since relatively few Indians (mainly colonists from altiplano population centers) lived in Cochabamba prior to the conquest. The high ratio of Spaniard to Indian resulted in the emergence of a mestizo social group, who, by the nineteenth century, constituted the majority of the population.²⁹ The dominance of mestizos in Cochabamba, and also in the other valley department of Chuquisaca, contrasts sharply with the racial composition of the altiplano departments of La Paz, Oruro and Potosí. According to an 1846 census, La Paz contained 72 percent Indians, Oruro 91 percent, and Potosí 68 percent, while Cochabamba contained 16 percent and Chuquisaca 22 percent.³⁰

²⁹ For a more complete explanation of the process of *mestizaje* see below.

³⁰ Dalence, *Bosquejo estadístico*, p. 202, 222.

The demographic and ecological conditions that led to the formation of a dominant mestizo social group in Cochabamba are also the long-range causes which led to the eventual demise of Indian communities in Cochabamba. These long-range causes will be discussed later in the article. At this point, I am still concerned with the more immediate causes that reduced the number of tributaries on both the haciendas and Indian communities of rural Cochabamba.

Secondly, it must be emphasized that the number of haciendas (576 in 1838 and 577 in 1877) included on Cochabamba's *padrones* amounted to about 5 percent of total private units. According to the *Diccionario geográfico*, Cochabamba contained 10,699 private units in 1901.³¹ Since whites and mestizos comprised 86 percent of Cochabamba's total population, they must have owned most of these small units. During the eighteenth and nineteenth centuries, the fractionalization of land in Cochabamba had been tremendous. By 1900, the large, commercially-oriented haciendas, which had characterized Cochabamba in the early seventeenth century, were gone. The owners had divided and subdivided them among their heirs. Subsequently, owners sold parcels to individual *colonos*. By the middle of the twentieth century, 50 percent of Cochabamba's rural families were owners.³²

Although only 5 percent of total private units were registered on Cochabamba's *padrones*, the tax lists nevertheless included the largest hacienda, Cliza. The deterioration of Cliza is representative of what occurred to the entire department. In 1715 when Cliza's owner, Francisco Vargas, died, he left it to the Santa Clara convent. During the next two centuries, Santa Clara's nuns, who lived in Cochabamba city, leased the hacienda to various landowners for five-year terms. Although various sales probably occurred during the eighteenth and nineteenth centuries, Cliza in 1900 still comprised about 2,400 hectares or 5,928 acres.³³

During the nineteenth century, hacienda Cliza lost 69 percent of its labor force. Resident Indian laborers declined from 133 in 1831 to 83 in 1850 to 41 in 1871. Loss of laborers on hacienda Cliza was not an isolated phenomenon. The province as a whole lost 78 percent of its Indian laborers, declining from 1,566 in 1838 to 340 in 1877. (No communal Indians existed in Cliza.)³⁴ The causes of such a tremendous decline are difficult to determine.

³¹ Oficina Nacional de Inmigración, Estadística, *Diccionario geográfico*, 2, *Departamento de Cochabamba*, pp. 1-43.

³² Olen E. Leonard, *Bolivia: Land, People and Institutions* (Washington, D.C., 1952), pp. 119-20.

³³ Jorge Erwin Dandler-Hanhart, *El sindicalismo campesino en Bolivia, los cambios estructurales en Ucureña* (Mexico City, 1969), p. 45.

³⁴ 'Padrones de Cliza' (1831-1871), ANB.

But one cause was the hacendado's forced migration of workers to areas infested with endemic diseases, especially malaria.

Cliza's *Apoderado Fiscal* of 1844 reported a loss of tributaries because of forced labor migrations to the vineyards of Misque in eastern Cochabamba and to the coca fields of Espíritu Santo in the northern sector of the department. Espíritu Santo was an especially deadly place because it was infested with malaria:

Malaria, from whose death-dealing grip no one escapes, is the cause of the continuous and terrible death of Indians and other castes who enter the Montaña del Espíritu Santo. It is also the cause of the decline in tributaries and will probably cause the death of those who will be enlisted in successive censuses. It is well known that the inhabitants of the county of Sacaba and the province of Cliza are the principal victims of this calamity. It is also known that they cannot abandon their work in the montaña. Some stay because of necessity and others for profit. The colonos stay because their patrons compel them.³⁵

The province of Misque was also very unhealthy. Visiting Misque in 1830, French naturalist D'Orbigny claimed that in times past Misque had been:

one of the most flourishing provinces of Upper Peru because of the variety of its cultivations, and although at one time very populated, it has become so unhealthy that today it is almost deserted, particularly in the valleys where the infection is centered. The [fevers] have spread to the mountainous areas making them unhealthy also, so that of the seven inhabited localities Misque, Tintin, Ayquile, Pasorapa, Chaluani, Pocona, and Totora, only the last two are exempt from the calamity.³⁶

Western Cochabamba, which contained most of Cochabamba's Indian communities, also suffered from semi-tropical disease. The province of Arque, which contained Indian communities at Arque and Capinota, was a disease-infested area. As described by geographer José María Dalence in 1846, 'because of the warm, even hot, climate in the county of Capinota there is a great deal of malaria in the river Ouchi which flows through it.'³⁷

Besides endemic disease in local areas, Cochabamba's inhabitants also suffered two devastating epidemics – the 'fiebre' of 1856 and the drought-famine-pestilence of 1877–78. These natural calamities caused severe population decline. From 1838 to 1877, the department's Indian population declined from 47,780 to 29,780.³⁸ The epidemics also affected the city of

³⁵ 'Padrón de Cliza de 1844,' *expedientes*, f. 38, ANB.

³⁶ Alcides D'Orbigny, *Viaje a la América meridional*, 4 vols., trans. Alfredo Cepeda (Buenos Aires, 1945), iii, 167.

³⁷ Dalence, *Bosquejo estadístico*, p. 116.

³⁸ See Appendix I.

Cochabamba whose population declined from 30,396 in 1846 to 19,507 in 1880.³⁹

Furthermore, Cochabamba's economic difficulties hastened urban decline. During the eighteenth century, Cochabamba city produced substantial quantities of textiles for export to other provinces. In 1788 it exported 300,000 yards of cotton cloth (*tocuyo*) to the region of the River Plate and the provinces of lower Peru.⁴⁰ After independence, the introduction of cotton cloth from Europe ruined this industry. José María Dalence, one of the few men in early nineteenth-century Bolivia who gathered social and economic data, claimed that in 1846, the 'production [of *tocuyo*] now does not constitute one-thousandth of what used to be fabricated.'⁴¹ Because of the prevalence of disease (endemic and epidemic) and because of economic decay, all sectors of Cochabamba's population suffered, including the Indian populations of both haciendas and Indian communities.

The agricultural production of the department of Oruro, situated wholly on the altiplano, consisted mainly of potatoes, quinoa, barley, and llama products. The department also contained large herds of sheep, which provided wool, meat, and milk that was turned into cheese, known all over Bolivia as *quesos de Paria*. The Indians of Carangas, the most western province of Oruro, engaged in trade with the Pacific coast of Peru. They sold llamas (as beasts of burden), dried llama meat (*charque*) and pig-lard. In return, they brought back aguardiente, wine and olives. Indians also traded salt from Carangas for the grains of Bolivia's eastern departments. But because the inhabitants did not engage in the more lucrative production and trade of coca, corn, and wheat, Oruro was not considered a cash-crop zone. Most production was consumed within the department.⁴²

Analysis of Oruro's Indian labor force shows that the department followed the altiplano pattern (Pacajes, Sicasica, Omasuyos) as opposed to the cash-crop, semi-tropical valley pattern (Cochabamba, Yungas). In Oruro, whether the province contained a majority of hacienda tributaries or communal tributaries, the total number of them increased. During the period 1838 to 1877, communal tributaries in all of Oruro increased by 47 percent and hacienda tributaries by 22 percent. Furthermore, over 70 percent of total tributaries resided in Indian communities throughout the 1838 to 1877 period. Table 9 shows that the number of communal and hacienda units

³⁹ For the population of Cochabamba in 1846 see Dalence, *Bosquejo*, p. 201 and for 1880, see Bravo, *La patria*, p. 121.

⁴⁰ Oficina Nacional de Inmigración, Estadística, *Diccionario geográfico*, 2, *Departamento de Cochabamba*, p. 27.

⁴¹ Dalence, *Bosquejo estadístico*, p. 316.

⁴² *Ibid.*, pp. 171-82.

TABLE 9

Number of Agricultural Units in the Department of Oruro

| Province | Communal Units ^a | | |
|----------|-----------------------------|------|------|
| | 1838 | 1858 | 1877 |
| Carangas | 78 | 84 | 83 |
| Cercado | — | — | — |
| Pária | 80 | 80 | 82 |

| Province | Private Units ^b | | | | | |
|----------|----------------------------|--------|-------|--------|-------|--------|
| | 1828 | | 1858 | | 1877 | |
| | Total | Vacant | Total | Vacant | Total | Vacant |
| Carangas | — | — | — | — | — | — |
| Cercado | 82 | — | 80 | — | 78 | — |
| Pária | 7 | — | 7 | — | 10 | — |

Source: 'Padrones de Oruro' (ca. 1838, 1858 and 1877), ANB.

^a In Oruro, communal units include both *ayllus* and estancias.

^b Private units include all units labelled 'hacienda' plus estancias with private owners.

remained the same. In short, little change occurred, except for the increase in tributaries.

The analysis of La Paz, Cochabamba and Oruro has indicated a fairly clear-cut trend. Altiplano areas such as Pacajes, Omasuyos, Sicasica, and all of Oruro, characterized by the production of low-value products, gained both hacienda tributaries and communal tributaries. Semi-tropical, cash-crop areas, such as the Yungas and Cochabamba, lost both communal tributaries and hacienda tributaries, especially the latter.

These trends generally hold for Potosí and Chuquisaca, but with some qualifications. The department of Potosí, which consists mostly of altiplano terrain, gained both hacienda tributaries and communal tributaries, as was the case in the other altiplano areas. In 1838, Potosí registered 26,441 communal tributaries which increased to 32,391 by 1877, a 22.5 percent gain. During the same period, hacienda tributaries who formed only 11 percent of the total tributary population of Potosí increased slightly from 3,675 in 1838 to 4,096 in 1877.

On Potosino province (Chayanta) was unique, however. Chayanta's topo-

graphy included not only altiplano terrain but also temperate valley lands off the eastern escarpment of the Andes, which produced considerable quantities of wheat.⁴³ Despite its commercial potential, Chayanta did not become dominated by hacendados. The province registered consistently more than 85 percent communal tributaries, whose absolute numbers increased from 11,681 in 1838 to 15,746 in 1877. Furthermore, these Indians controlled both altiplano land and valley wheat land and regularly migrated from one area to another according to each zone's growing season. The communal Indians of Chayanta also engaged in the commercialization of wheat, selling it in the markets of La Paz, Oruro and the Yungas.⁴⁴ The inability of hacendados to acquire this land during the colonial era is a difficult historical problem. Its resolution requires a local analysis of pre- and post-conquest settlement patterns, the adoption by the Indians of wheat cultivation, and the Indian's partial integration into the Spanish economy – topics at the moment unresearched but which would illuminate the ability of communal Indians living in a cash-drop zone to adjust to Spanish colonization without losing their communal cohesiveness.

The *padrón* data of Chuquisaca have limited value because they cover only a few agricultural units. This is especially true of haciendas. For example, the province of Tomina registered only six haciendas in 1838 and two in 1877. Meanwhile, the province's hacienda tributaries declined from 305 in 1838 to 226 in 1877. The province of Cinti's *padrones* registered no haciendas, despite its cash-crop characteristics as a wine-producing area. Actually many haciendas existed in Tomina and Cinti, but they were not registered on the *padrones* because they lacked Indian tributaries. Similar to the situation in Cochabamba, mestizos and whites resided on these haciendas. According to data gathered at the turn of the century, Cinti contained 1,440 haciendas and Tomina 400. Since both provinces included more than 70 percent non-Indians in their total populations, poor whites and mestizos probably owned a great number of these small farms and worked them without the aid of Indian tributaries.⁴⁵

⁴³ In 1846 the department of Potosí (most of Potosí's wheat production came from Chayanta) produced more wheat (192,354 fanegas) than the department of Cochabamba (189,136 fanegas). See Dalence, *Bosquejo estadístico*, p. 269.

⁴⁴ For a description of Indian farming practices in Chayanta see 'Gobernado de Chayanta al Sr. General Presidente del Departamento de Potosí Agosto de 1825,' Archivo de Angel Justiniano Carranza, legajo 7-3-5, Archivo General de la Nación (Buenos Aires). (Hereinafter cited AGN.)

⁴⁵ For the data on the number of haciendas in Tomina and Cinti, see Oficina Nacional de Inmigración, Estadística, *Diccionario geográfico*, 3, *Departamento de Chuquisaca*, pp. 61-338. In the 1830s D'Orbigny described the inhabitants of Tomina's eastern counties as 'algunas familias indígenas y mulatos' (a few families

The overall trend for Chuquisaca, as indicated in the *padrón* data, was that a few Indian communities survived from the colonial era and that during the period 1838 to 1877 numbers of communal tributaries increased slightly. In Tomina the number of communal tributaries increased from 1,290 in 1838 to 2,100 in 1877. In Cinti they rose from 1,321 to 1,356. And, in the province of Yamparaez, which surrounded the city of Sucre, communal tributaries increased from 768 to 782, while the number of hacienda tributaries dropped from 1,202 to 784. The salient feature of the department's demographic evolution was a large increase in communal tributaries in the outlying subsistence area of Tomina and a large loss of hacienda tributaries in the urban vicinity of Yamparaez.

In analyzing the *padrón* data, one dominant feature emerges. During the period 1838 to 1877, the growth or decline of the adult male labor force (tributaries) varied according to ecological region. In the semi-tropical, cash-crop areas, such as the Yungas of La Paz and Cochabamba, communal and hacienda tributaries declined, the latter group declining the most. On the altiplano, Indian communities and haciendas gained laborers. This was especially true in the Paceño provinces of Pacajes, Sicasica, and Omasuyos, all the provinces of Oruro, and the Potosino provinces of Chayanta, Porco and Lipez. Furthermore, highland Indian communities gained many more tributaries than highland haciendas. The province of Chayanta was somewhat of an anomaly since it extended into valley lands and was a cash-crop wheat zone. Nevertheless, communal Indians spatially occupied both altiplano and valley portions of Chayanta and both communal and hacienda Indians increased.

But how does one interpret this increase in tributaries? First of all, it did not mean an increase in the altiplano Indian population. In fact, over the period 1838 to 1877, the Indian population of Bolivia's five major departments (altiplano and valleys) declined by 17 percent from 490,116 to 406,466. Furthermore, two out of the three altiplano departments registered a substantial decline in Indian population. La Paz's Indian population declined from 247,611 in 1838 to 188,642 in 1877 and Potosí's declined from 109,230 to 97,440. Only the department of Oruro showed an increase, from 65,525 in 1838 to 74,629 in 1877. The cause of the overall decline was high mortality resulting from epidemic diseases, drought and famine.

of Indians and mulatoes) who lived in 'cabañas de Cerillo' (thatched hovels). D'Orbigny, *Viaje*, iv, 1473. In 1854, Cinti's population amounted to 43,477 and included only 12,322 Indians, and Tomina's population amounted to 47,748 and included only 14,216 Indians. República Boliviana, *Censo de 1854*.

For example, the precipitous decline between 1852 and 1858 was caused by the epidemic of 1856.⁴⁶

Although all the descriptive accounts of the epidemic of 1856 agreed that the disease was a fever, they disagreed on the type of fever. According to the various reports, it was either typhoid, typhus, or yellow fever. Whatever the cause of the epidemic, it was very destructive. Doctor Manuel Cornejo, who attended the Indians in the northern sections of the department of La Paz, claimed that 20,000 Indians died in the provinces of Omasuyos, Muñecas, and Larecaja. Cornejo also claimed that Bolivia's 1856 epidemic was actually part of an Andean-wide epidemic that began on the Peruvian coast and moved inland, victimizing more than 350,000 people in five years.⁴⁷

Two government reports on local areas attempted to assess the damage. For the departments of La Paz, the area most affected by the epidemic, a special government commission (*Comisión de visita del norte*) evaluated the impact of the disease. The commission's report, published in *Gaceta de Gobierno* on May 28, 1860, showed that the Indian population of the department of La Paz declined by 14.28 percent, falling from 229,818 in 1853 to 197,036 in 1858.⁴⁸ A special report on Chayanta province in Potosí claimed that 8,927 Indians died during the epidemic. Since Chayanta contained about 43,990 Indians in 1852, according to this official estimate the epidemic killed about 20 percent of the total Indian population.⁴⁹

Using my calculations for the five major departments, I also attempted to assess the destructiveness of the 1856 epidemic. According to Appendix I, the Indian population of the five major departments declined by 12.51 percent from 481,285 in 1852 to 421,058 in 1858. Some regions were more affected than others. Between 1852 and 1858, the populations of all the departments declined, but those of Cochabamba, La Paz, and Potosí declined the most. The provinces of Cercado de La Paz, Pacajes, Arque, Cinti, Chayanta, and Cercado de Potosí all registered more than 20 percent decline.

Although the 1856 epidemic was the most destructive, other outbreaks of disease constantly menaced Bolivia's population during the nineteenth century. Appendix I provides a list of local epidemics that occurred during the period 1830 to 1878. Compared to the 1856 epidemic, the next most destructive natural calamity was the drought-famine-pestilence of 1877-78, which severely depleted the populations of Cochabamba and Chuquisaca.

⁴⁶ See Appendix I.

⁴⁷ For a description of the epidemic of 1856 and an analysis of its possible disease agents, see Juan Manual Balcazar, *Historia de Medicina en Bolivia* (La Paz, 1956), pp. 265-74.

⁴⁸ 'Comisión de visita del norte,' *Gaceta del gobierno*, 28 de mayo de 1860, pp. 2-3.

⁴⁹ 'Padrón de Chayanta de 1859,' *expedientes*, ANB.

Indeed, the severity of that famine-pestilence, among other causes, made later commentators wonder whether the Indian population would gradually disappear.

It is necessary to point out a phenomenon which has been in operation for a long time: the slow and gradual disappearance of the Indian race.

Since 1878 this race has been mortally wounded. In that year drought and famine brought with them a disease which wreaked havoc on the Indian population. Also the Indian's inclination toward alcoholism decimates their number so much that births do not cover deaths.⁵⁰

During this period of population decline, the proportion of tributaries (defined officially as male taxpayers between the ages of eighteen and fifty) in the total population increased, especially on the altiplano. Table 10 shows that the percentage of tributaries in the total Indian population of La Paz increased from 25.82 percent in 1838 to 37.46 percent in 1877. In Potosí it increased from 27.09 to 37.07 and in Oruro from 21.41 to 27.29. In Chuquisaca the percentage of tributaries increased in the outlying provinces of Tomina and Cinti but decreased in the urban-vicinity of Yamparaez. For the department of Cochabamba (as a whole), the percentage of tributaries remained about the same — although at a low 20 percent of the total. Here, as in Chuquisaca, the percentage in the urban-vicinity (Cercado de Cochabamba) declined precipitously (21.32 to 8.33), while in the outlying province of Misque the percentage increased (25.25 to 35.52).

TABLE 10

Percentage of Tributaries in the Total Indian Population 1838-1877

| Province | <i>La Paz</i> | | | | |
|------------|---------------|-------|-------|-------|-------|
| | 1838 | 1852 | 1858 | 1871 | 1877 |
| Cercado | 24.54 | 26.86 | 33.09 | 29.74 | 27.43 |
| Omasuyos | 25.08 | 29.65 | 31.95 | 43.80 | 47.08 |
| Pacajes | 25.68 | 29.41 | 37.68 | 34.63 | 42.15 |
| Yungas | 31.65 | 34.79 | 36.99 | 37.54 | 44.98 |
| Sicasica | 29.58 | 29.65 | 39.93 | 35.61 | 36.26 |
| Larecaja | 18.36 | 32.65 | 31.01 | 30.81 | 31.42 |
| Caupolicán | NA | 26.43 | 24.60 | 35.94 | NA |
| Muñecas | NA | 39.00 | 41.37 | 34.58 | 32.89 |
| Mean | 25.82 | 31.06 | 34.58 | 35.33 | 37.46 |

⁵⁰ *Censo de 1900*, 2: 35-6.

Cochabamba

| | | | | | |
|----------|-------|-------|-------|-------|-------|
| Tapacari | NA | 20·82 | 24·16 | 26·21 | 26·59 |
| Misque | 25·25 | 22·39 | 23·10 | 28·73 | 35·52 |
| Ayopaya | 19·81 | 20·64 | 18·34 | 19·15 | 19·94 |
| Arque | 23·40 | 21·31 | 22·67 | 20·53 | NA |
| Cliza | 12·66 | 8·71 | 10·60 | 7·38 | 11·73 |
| Cercado | 21·32 | 15·97 | 14·13 | 8·72 | 8·33 |
| Mean | 20·49 | 18·31 | 18·83 | 29·12 | 20·42 |

Oruro

| | | | | | |
|----------|-------|-------|-------|-------|-------|
| Carangas | 19·29 | 20·81 | 24·76 | 27·03 | 27·37 |
| Cercado | 22·63 | 27·38 | 23·18 | 23·77 | NA |
| Paria | 22·31 | NA | 24·33 | 26·72 | 27·20 |
| Mean | 21·41 | 25·00 | 24·09 | 25·84 | 27·29 |

Chuquisaca

| | | | | | |
|-----------|-------|-------|-------|-------|-------|
| Cinti | NA | NA | 25·86 | 37·05 | NA |
| Tomina | 24·31 | 23·38 | 27·75 | 36·93 | NA |
| Yamparaez | 27·17 | 22·49 | 20·86 | 19·49 | 22·47 |
| Mean | 25·74 | 22·94 | 24·82 | 31·16 | 22·47 |

Potosí

| | | | | | |
|----------|-------|-------|-------|-------|-------|
| Chayanta | 30·38 | NA | 39·69 | 37·05 | NA |
| Porco | 31·78 | 44·28 | 45·45 | 39·21 | 40·30 |
| Lipez | NA | 20·61 | 20·28 | 21·65 | 24·64 |
| Cercado | 27·19 | 30·24 | 20·40 | 34·30 | 30·24 |
| Chichas | 19·02 | 21·91 | 21·12 | 33·88 | 31·18 |
| Mean | 27·09 | 29·01 | 31·19 | 36·28 | 35·77 |

Source: 'Padrones 1838-1877,' ANB.

The resolution of the problem of increasing percentage of tributaries in a declining population consists in analyzing the term tributary. Legally it meant an adult male between the ages of eighteen and fifty. But, according to Indian land inheritance customs, a son, even though he had not reached the age of eighteen, could still inherit his deceased father's land. And if the male taxpayer had no son, his wife or daughter inherited the land. When tax officials encountered minors and adult women controlling land, they abandoned legal prescriptions and included them in the tributary classification.

Reports from the province of Chayanta provide the most detailed evidence of this custom. Chayanta's 1859 *padrón* listed 1,306 women and minors as tributaries.⁵¹ They amounted to 9.4 percent of the total tributary population of 13,843. These figures also showed that of the 1,306 women and minors, 874 (66.92 percent) were males under the age of eighteen. Widows numbered 356 (27.26 percent) and females under eighteen numbered only 74 (5.82 percent). Thus, according to this source, young males were tremendously favored over widows and young females in inheriting land. Four years later, the compilers of Chapanta's 1863 *padrón* registered 1,404 women and minors among 15,098 tributaries.⁵² Thus in 1863, seven years after the epidemic, women and minors still formed 9.3 percent of Chayanta's total taxpayers.

Furthermore, Chayanta's *Apoderado Fiscal* in 1863 reported that the enlistment of women and minors had existed long before the 1857 epidemic. He also stated that the inheritance of land by women and children was the mechanism by which Indian landowners prevented their land from falling into the hands of strangers outside the family. As much as their resources would allow, Indians who owned land (*originarios*) kept it in the immediate family and prevented it from being divided equitably among all Indians. In Chayanta, then, despite long-term population decline, the Indians maintained their hierarchical social structure by upholding traditional land inheritance customs and replacing adult male landowners with women and minors who succeeded to their husband's or father's land. And, according to Chayanta's *Apoderado Fiscal*, the government sanctioned this practice which had been going on since time immemorial.

It is certain that on the tax list of 1863, I matriculated boys, girls, widows, and single women, who possessed land because they had been matriculated on two previous tax listings.... But they were not... the only tax lists on which minors, widows, and single women were enrolled, they had been registered on old tax lists and it was found that this practice came from time immemorial: it has been practiced throughout the province of Chayanta and will continue I have no doubt, since the lands have never been divided nor measured nor distributed by an authorized Reviewer of the lands with strict equality and justice.

The lands belonging to the *originarios* in the province which I reviewed, are excessive for the most part, and that is why minors, widows, and single women solicit them avidly, preventing them from passing into the hands of strangers. The test is that in order to maintain a right which they (Indians) believe they have over a piece of land which appears vacant, they make expenditures and sacrifices of all kinds, pursuing costly and prolonged litigations which cause their ruin.

Recognizing the positive advantage which the Indians obtain from the lands they possess, and the use of which I found in practice, I respected this custom

⁵¹ 'Padrón de Chayanta de 1859,' *expedientes*, ANB.

⁵² 'Padrón de Chayanta de 1863,' ANB.

which the Indian caste of this province also respects and recognizes as an invariable law.⁵³

The practice of enrolling women and minors as tributaries was not confined to the province of Chayanta nor to the department of Potosí. In reports accompanying the 1867 *padrón* of Carangas (department of Oruro), the *Apoderado Fiscal* claimed that 'alcohol' had killed many adult males, who consequently left an 'infinity' of widows and orphans as taxpayers.⁵⁴ Describing the *originarios* enlisted on the 1867 *padrón* of Cercado de La Paz, the *Apoderado Fiscal* also stated that an 'infinity' of widows paid tribute for their dead fathers and brothers.⁵⁵ And in the provinces of Sicasica and Yungas (department of La Paz), as a result of the local epidemics during the period 1875 to 1877, provincial tax officials reported enlisting young males and females as substitutes for adult male taxpayers.⁵⁶

Since tax officials included women and minors as substitutes for adult male taxpayers, the ranks of the tributaries were replenished constantly even as the population declined. It must be emphasized that the government did not force this substitution process on the Indians, although the government used it to maintain a high number of taxpayers. Rather, the Indians followed long-established customs to protect their communities and their social institutions. Lands were not abandoned, but passed on to the rightful heir. Despite population decline, social discipline was maintained and the government legitimized the process. In essence, the increase in tributaries on the altiplano reflected the Indians' ability to cope with epidemic disease and retain their communal organization.

On the other hand, the loss of tributaries in Cochabamba (because of disease and economic decay) reflected the progressive disintegration of the few Indian communities that had survived in the valleys. During the period 1838 to 1877, the province of Tapacarí maintained a level of about 85 percent communal tributaries but its total number of communal tributaries declined by 24 percent from 3,217 in 1838 to 2,460 in 1877. The province of Arque maintained a level of 98 percent communal Indians but its total number of communal tributaries declined by 34 percent from 3,012 in 1838 to 1,977 in 1877. The loss of tributaries was accompanied by other population changes that indicated a progressive deterioration of valley Indian society. First, the sex ratio became unbalanced. In Arque, the percentage of women

⁵³ *Ibid.*, *expedientes*, f. 16.

⁵⁴ 'Padrón de Carangas de 1867,' *expedientes*, f. 197, ANB.

⁵⁵ 'Padrón de Cercado de La Paz de 1867,' *expedientes*, f. 2, ANB.

⁵⁶ 'Padrón de Sicasica de 1877,' *expedientes*, f. 2; and 'Padrón de Yungas de 1877,' *expedientes sueltos*, ANB.

(Table 11) in the total population increased from 49 percent in 1838 to 55 percent in 1871. (Since the sex ratio should have favored males [because the substitution process was putting females into the male categories], the actual percentage of women in Arque was probably even higher than 55 percent.) Second, Arque's percentage of adult male 'absentees' (Table 12) increased from 3 percent in 1838 to 12 percent in 1858 (probably as a result of the 1856 epidemic) and then declined to 5 percent in 1871. Thus the men in valley Indian communities either died or migrated, and they were not replaced. Since 'communal' agriculture was primarily a family enterprise, the progressive loss of adult males undermined valley Indian society.

TABLE 11
Percentage of Females in the Total Indian Population 1838-1877

| <i>Province</i> | <i>1838</i> | <i>1852</i> | <i>1858</i> | <i>1871</i> | <i>1877</i> |
|-------------------|-------------|-------------|-------------|-------------|-------------|
| Cercado | 46·16 | 44·47 | 43·04 | 47·87 | 49·64 |
| Omasuyos | 44·49 | 46·45 | 49·37 | NA | NA |
| Pacajes | 45·59 | 46·81 | 39·26 | 44·34 | 41·46 |
| Yungas | 43·50 | 39·75 | 34·72 | 39·72 | 33·54 |
| Sicasica | 44·74 | 44·81 | 40·05 | 46·34 | 46·66 |
| Larecaja | 48·72 | 41·09 | 44·76 | 43·10 | 42·81 |
| Caupolicán | NA | 46·23 | 50·55 | NA | NA |
| Muñecas | NA | 49·33 | 45·41 | NA | 48·24 |
| Mean | 45·53 | 44·87 | 43·40 | 44·27 | 43·73 |
| <i>Cochabamba</i> | | | | | |
| Tapacarí | NA | 51·56 | NA | NA | NA |
| Misque | 47·87 | 48·99 | NA | 42·60 | NA |
| Ayopaya | 50·85 | NA | 56·12 | 55·85 | NA |
| Arque | 49·35 | 48·92 | 52·96 | 55·36 | NA |
| Cliza | NA | 54·66 | NA | 52·30 | 53·71 |
| Cercado | 47·34 | 51·01 | NA | 66·89 | NA |
| Mean | 48·85 | 51·01 | 54·54 | 54·60 | 53·71 |
| <i>Oruro</i> | | | | | |
| Carangas | 49·90 | 49·04 | 51·61 | 47·60 | NA |
| Cercado | 47·06 | 45·90 | 47·21 | 48·52 | NA |
| Paria | 50·38 | NA | 48·78 | 47·20 | 47·48 |
| Mean | 49·11 | 47·47 | 49·20 | 47·77 | 47·48 |

Chuquisaca

| | | | | | |
|-----------|-------|-------|-------|-------|-------|
| Cinti | NA | NA | NA | NA | NA |
| Tomina | 46·29 | 50·93 | 47·95 | 42·35 | NA |
| Yamparaez | 49·09 | 52·22 | 51·27 | 54·98 | 51·72 |
| Mean | 47·69 | 51·56 | 49·61 | 48·67 | 51·72 |

Potosí

| | | | | | |
|----------|-------|-------|-------|-------|-------|
| Chayanta | 47·69 | NA | 47·01 | 41·12 | 40·89 |
| Porco | 45·18 | 41·62 | 38·45 | 43·47 | 43·14 |
| Lipez | NA | NA | 48·20 | 48·29 | 48·20 |
| Cercado | 44·69 | 42·32 | 38·56 | NA | 41·95 |
| Chichas | 48·31 | NA | NA | NA | NA |
| Mean | 46·47 | 41·97 | 43·06 | 44·29 | 43·55 |

Source: Same as Table X.

TABLE 12

Percentage of Absentees^a in the Total Indian Population 1838-1877

| La Paz | | | | | |
|------------|------|------|------|------|------|
| Province | 1838 | 1852 | 1858 | 1871 | 1877 |
| Cercado | 1·24 | 4·69 | 2·61 | 2·64 | 3·42 |
| Omasuyos | 0·81 | 1·60 | 1·64 | NA | NA |
| Pacajes | 0·85 | 1·58 | 0·88 | 1·97 | 1·05 |
| Yungas | 0·29 | 4·44 | 8·45 | 2·85 | 2·43 |
| Sicasica | 0·99 | 2·01 | 1·43 | 1·74 | 2·31 |
| Larecaja | 1·89 | 1·75 | 2·18 | 2·32 | 4·14 |
| Caupolicán | NA | 1·11 | 2·09 | NA | NA |
| Muñecas | NA | 0·33 | 4·82 | NA | 6·23 |
| Mean | 1·01 | 2·19 | 3·01 | 2·30 | 3·27 |

Cochabamba

| | | | | | |
|----------|------|-------|-------|-------|-------|
| Tapacarí | NA | 1·51 | NA | NA | NA |
| Misque | 9·56 | 9·47 | NA | 8·19 | NA |
| Ayopaya | 1·14 | NA | 5·75 | 3·75 | NA |
| Arque | 3·49 | 8·37 | 11·64 | 4·73 | NA |
| Cliza | NA | 19·01 | NA | 20·30 | 23·73 |
| Cercado | 9·67 | 8·79 | NA | 8·24 | NA |
| Mean | 5·97 | 9·43 | 8·70 | 8·99 | 23·73 |

TABLE 12—cont.

| | <i>Oruro</i> | | | | |
|-----------|-------------------|------|------|------|------|
| Carangas | 4.64 | 5.05 | 2.31 | 6.13 | NA |
| Cercado | 1.47 | 0.73 | 3.27 | 4.45 | NA |
| Paria | 1.14 | NA | 3.05 | 3.51 | 5.51 |
| Mean | 2.42 | 2.89 | 2.88 | 4.70 | 5.51 |
| | <i>Chuquisaca</i> | | | | |
| Cinti | NA | NA | NA | NA | NA |
| Tomina | 2.81 | 2.84 | 3.91 | 3.78 | NA |
| Yamparaez | 3.55 | 3.27 | 3.56 | 2.45 | 2.82 |
| Mean | 3.18 | 3.06 | 3.74 | 3.12 | 2.82 |
| | <i>Potosí</i> | | | | |
| Chayanta | 1.51 | NA | 1.11 | 0.49 | 0.76 |
| Porco | 0.01 | 0.89 | 1.12 | 0.43 | 1.19 |
| Lipez | NA | NA | 2.50 | 3.76 | 4.19 |
| Cercado | 0.69 | 0.57 | 0.93 | NA | 0.59 |
| Chichas | 1.01 | NA | NA | NA | NA |
| Mean | 0.81 | 0.73 | 1.42 | 1.56 | 1.68 |

Sources: Same as Table X.

* Absentees or '*ausentes*' were adult males who were present for one count but then turned up missing on subsequent counts. They were not considered dead because their names did not appear on the priest's list of deaths which had to be presented at every new count. The *expedientes* of the 'Padrón de Pacajes de 1852' f. 17 described *ausentes* as Indians who left the community because they had no land. The *expedientes* of 'Padrón de Sicasica de 1871,' fs. 40-42 reported that many *ausentes* died on trips to the Yungas and thus the local priest in Sicasica could not count them. 'Padrón de Pacajes de 1852' and 'Padrón de Sicasica de 1871,' ANB.

This demographic analysis has implications for our understanding of the way in which society evolved in the Andean area. My conclusion is that the divergent demographic trends (increase of tributaries on the altiplano and decrease in Cochabamba) were the direct result of the differential impact of Spanish colonization on each area from the beginning of Spanish rule. Regional demographic and ecological factors influenced significantly the pace of Spanish cultural penetration and its destructive impact on Indian society. At the beginning of the conquest, Cochabamba contained few Indians com-

pared to the altiplano.⁵⁷ During the next 100 years the valley attracted many Spanish settlers because of its commercial potential as fertile agricultural area (wheat and corn land) situated close to a large market outlet at Potosí.⁵⁸ Spanish hacendados uprooted Indians from their traditional settlements and compelled them to work on Spanish farms.⁵⁹ Once permanently removed from their homes, the Indians more easily abandoned traditional practices, learned Spanish techniques of farming and came into increasing contact with Spaniards themselves. These conditions encouraged the growth of a large number of mestizos, who, after the mines declined during the late seventeenth and throughout the eighteenth century, re-entered Indian communities, occupied lands, and eventually destroyed communal cohesiveness.⁶⁰ The demographic crises in the nineteenth century accelerated the long-term decline of Indian society which had been going on since the late sixteenth century.

Demographic and ecological conditions on the altiplano were the reverse of those in Cochabamba and, as a result, the impact of Spanish colonization was considerably different. The altiplano areas of La Paz, Oruro and Posotí contained more than 80 percent of Bolivia's Indian population from 1591 to 1900.⁶¹ Furthermore, in most portions of the altiplano, only low-value

⁵⁷ Prior to the Spanish conquest, Cochabamba was a frontier zone of the Inca empire to which Incan lords sent colonists (*mitimae*) to cultivate corn for shipment back to the altiplano population centers. For a description of the Aymara's ability to control different ecological zones see John V. Murra, 'An Aymara Kingdom in 1567,' *Ethnohistory*, Vol. 15 (Spring 1968), pp. 121-2.

⁵⁸ For a description of Cochabamba's economic connections to Potosí, see Antonio Vasquez de Espinoza, *Compendium and Description of the West Indies* (1628), trans. Charles Upson Clark (Washington, D.C., 1942), pp. 618-19.

⁵⁹ For a description of the migration of Indian laborers out of their communities and on to Spanish haciendas, see Franklin Pease, 'Una visita al obispado de Charcas' [1950] *Humanidades*, No. 3, (1969), p. 102.

⁶⁰ In 1793 the population of the department of Cochabamba amounted to 144,398 inhabitants, only 45 percent of whom were Indian. Mestizos formed 33 percent, whites 16 percent, mulattoes 5 percent, and blacks 1 percent. For this population data and for a description of the mestizo occupation of communal lands in Cochabamba see Francisco de Viedma, *Descripción geográfica y estadística de la provincia de Santa Cruz de la sierra* (3rd ed.), prologue by Hector Cossío Salinas, (Cochabamba, 1969).

⁶¹ For colonial compilations of population data on Bolivia see 'Relación de los indios tributarios...fecha en el pardo a 1º de noviembre de 1591', in D. Luis Torres de Mendoza (ed.), *Colección de documentos inéditos relativos al descubrimiento, conquista y organización de las antiguas posesiones españolas de América y Oceanía*, 42 vols. (Madrid, 1866), vi, 41-63 and for 1628, see Vasquez de Espinoza, *Compendium*, pp. 694-720. For 1846, see Dalence, *Bosquejo*, pp. 202, 222 and, for 1900, see Oficina Nacional de Inmigración, Estadística y Propaganda Geográfica, *Censo general de la población de la república de Bolivia según el empadronamiento de 1º septiembre de 1900*. 2 vols. (La Paz, 1901-4).

products, such as potatoes, quinoa, and barley could be grown. Because of its low agricultural potential, Spaniards stayed away from the altiplano countryside and concentrated in commercial cities and mining centers. Since the Indians were already organized in permanent agricultural settlements and regularly supplied stipulated amounts of tribute to Inca lords, Spaniards obtained what altiplano products they needed through indigenous forms of exploitation.⁶² In essence, they left the native settlements alone. Since contact between Spaniard and Indian was minimal, Indians retained their social organization and traditions. When confronted with the epidemics of the nineteenth century, altiplano Indians relied on traditional forms of inheritance to replenish their most important constituent group, the tributaries — which were the men, women, and children who legitimately had access to land and resources within the community. Given the survival of altiplano Indian communities, Spanish colonization of Potosí, La Paz and Oruro produced a society with dual cultural sectors, Spanish in the city and Indian in the countryside. In Cochabamba, on the other hand, Spanish colonization produced a hybrid, mestizo culture. Divisions within this society were based less on cultural distinctiveness than on wealth and social class. Thus, the effectiveness of the hacienda as an instrument of Spanish cultural penetration and of capitalist expansion has to be understood in terms of local conditions. These would include the area's type of agricultural production, its available work-force, and its proximity to a market. Also, our conception of the unequal struggle between haciendas and Indian communities must be modified to include the preservation of Indian communities at least through the nineteenth century in areas of Andean America where ecological conditions were propitious. Further regional studies in Peru, Ecuador and Colombia will see if this interpretation is correct.

⁶² For the best description of the early exploitation of altiplano Indians, see Garcí Diez de San Miguel, *Visita hecha a la provincia de Chucuito en el año 1567* (palaeography by Waldemar Espinoza Soriano) (Lima, 1964.)

APPENDIX I

Indian Population Decline, 1838-1877

| <i>Department</i> | <i>Province</i> | <i>1838</i> | <i>1852</i> | <i>1858</i> | <i>1871</i> | <i>1877</i> | <i>Difference Between 1838-77</i> | <i>Percentage Difference</i> |
|-----------------------|-----------------|-----------------------|-------------|-------------|-------------|-------------|-----------------------------------|------------------------------|
| La Paz | Cercado | 23,639 | 21,410 | 16,579 | 17,149 | 17,618 | -6,021 | -25.5 |
| | Omasuyos | 62,477 | 64,313 | 60,590 | 46,367 | 44,602 | -17,875 | -28.6 |
| | Pacajes | 53,706 | 54,416 | 40,927 | 49,030 | 41,102 | -12,604 | -23.5 |
| | Yungas | 18,857 | 16,718 | 15,947 | 12,652 | 10,671 | -8,186 | -43.4 |
| | Sicasica | 36,722 | 35,244 | 30,678 | 35,143 | 36,353 | -369 | -1.0 |
| | Larecaja | 21,131 | 12,767 | 11,663 | 11,199 | 12,144 | -8,987 | -42.5 |
| | Caupolicán | (12,725) ^a | 11,086 | 12,665 | 9,001 | 8,713 | -4,012 | -31.5 |
| | Muñecas | (18,354) | 15,989 | 13,994 | 16,588 | 17,439 | -915 | -5.0 |
| Total | | 247,611 | 231,943 | 203,043 | 197,129 | 188,642 | -58,969 | -23.8 |
| Cochabamba | Tapacarí | (15,830) | 16,847 | 10,716 | 10,873 | 10,696 | -5,134 | -32.4 |
| | Misque | 3,608 | 3,483 | 3,022 | 1,526 | 625 | -2,983 | -82.7 |
| | Ayopaya | 5,180 | 6,014 | 5,182 | 5,153 | 4,870 | -310 | -6.0 |
| | Arque | 12,733 | 13,010 | 7,983 | 9,645 | 7,452 | -5,281 | -41.5 |
| | Cliza | 7,554 | 8,242 | 5,953 | 4,607 | 3,999 | -3,555 | -47.1 |
| | Cercado | 2,875 | 3,174 | 2,598 | 2,075 | 2,138 | -737 | -25.6 |
| | Total | 47,780 | 50,770 | 35,454 | 33,879 | 29,780 | -18,000 | -37.7 |
| Oruro | Carangas | 14,927 | 17,252 | 17,343 | 18,762 | 17,629 | +2,702 | +18.1 |
| | Cercado | 14,840 | 14,881 | 14,961 | 16,712 | 16,567 | +1,727 | +11.6 |
| | Paria | 35,758 | (38,398) | 37,091 | 38,543 | 40,433 | +4,675 | +13.1 |
| | Total | 65,525 | 70,531 | 69,395 | 74,017 | 74,629 | +9,104 | +13.9 |
| Chuquisaca | Cinti | (5,775) | (7,635) | 6,091 | 3,646 | (3,072) | -2,703 | -46.8 |
| | Tomina | 7,017 | 9,600 | 8,055 | 6,368 | (5,365) | -1,652 | -23.5 |
| | Yamparaez | 7,178 | 9,181 | 9,659 | 8,816 | 7,428 | +250 | +3.5 |
| | Total | 19,970 | 26,416 | 23,805 | 18,830 | 15,865 | -4,105 | -20.6 |
| Potosí | Chayanta | 44,793 | (43,990) | 33,726 | 32,781 | 34,103 | -10,690 | -23.9 |
| | Porco | 28,966 | 23,272 | 22,893 | 28,291 | 29,007 | +41 | +0.1 |
| | Lipez | (6,819) | 6,697 | 6,957 | 7,505 | 7,325 | +506 | +7.4 |
| | Cercado | 8,727 | 9,600 | 7,541 | 7,598 | 8,580 | -147 | -1.7 |
| | Chichas | 19,925 | 22,115 | 22,393 | 16,447 | 18,535 | -1,390 | -7.0 |
| | Total | 109,230 | 105,674 | 93,510 | 92,622 | 97,550 | -11,680 | -10.7 |
| Five Department Total | | 490,116 | 485,334 | 425,207 | 416,477 | 406,466 | -83,650 | -17.1 |

Sources: 'Padrones' (ca. 1838, 1858 and 1877), ANB. Other compilations of *padrón* data were also used. The 1852 data for Omasuyos, Yungas, Sicasica, Caupolicán and Muñecas plus the 1858 data for Omasuyos and Sicasica came from 'Materiales y padrones de contribuyentes,' *Gaceta del gobierno*, 28 de mayo de 1860. The 1852 data for Ayopaya, Lipez and Chichas; the 1858 data for Tapacarí, Misque, Cliza, Cercado de Cochabamba, Cercado de Oruro, Paria, Cinti and Chichas; the 1871 data for Omasuyos, Caupolicán, Muñecas, Tapacarí, Cinti, Cercado de Potosí and Chichas and the 1877 data for Omasuyos, Tapacarí, Misque, Ayopaya, Cercado de Cochabamba, Cliza, Carangas, and Chichas came from 'Cuadros estadísticos de las revistas indigenales de la república desde el año 1850 a 1877,' *Boletín de la oficina nacional de inmigración, estadística y propaganda geográfica*, No. 1 (July, 1901), pp. 541-523.

^a Figures in parenthesis are estimates. To fill in the 'missing data' for these provinces, I used the principle of the stability of ratios. I made two lists, each at a different date, say 1838 and 1852, of all the provincial populations in a department, including the provinces with missing data. For the provinces with known populations at both dates, I calculated the ratio of the population at one date with the other date. I then calculated the mean ratio and applied that figure to a known provincial population at only one date and then calculated the estimate for the second date. The assumption is that the population of the province with missing data changed in the same way as the average change of the other provinces with known populations at both dates. For a complete description of this principle, see Sherburne Cook and Woodrow Borah, *Essays in Population History, Mexico and the Caribbean*, 2 vols. (Berkeley: 1971-1974), I (1971), pp. 75-79.

FIGURES TO APPENDIX I

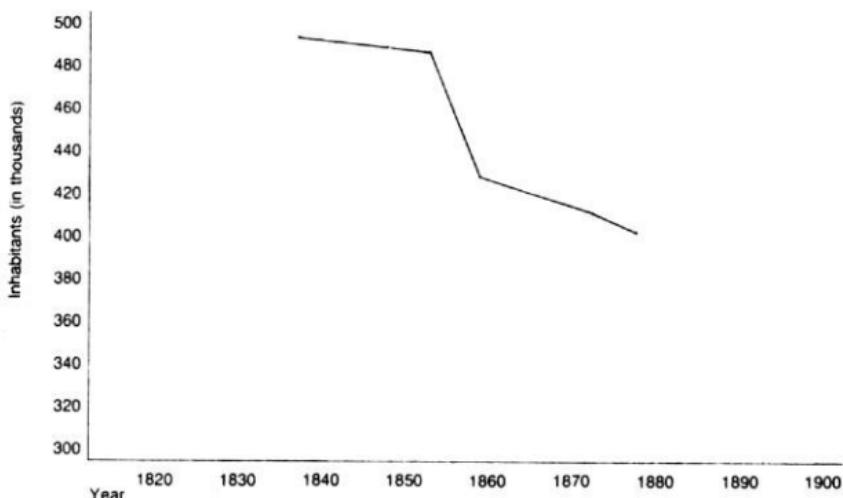


FIGURE 1.

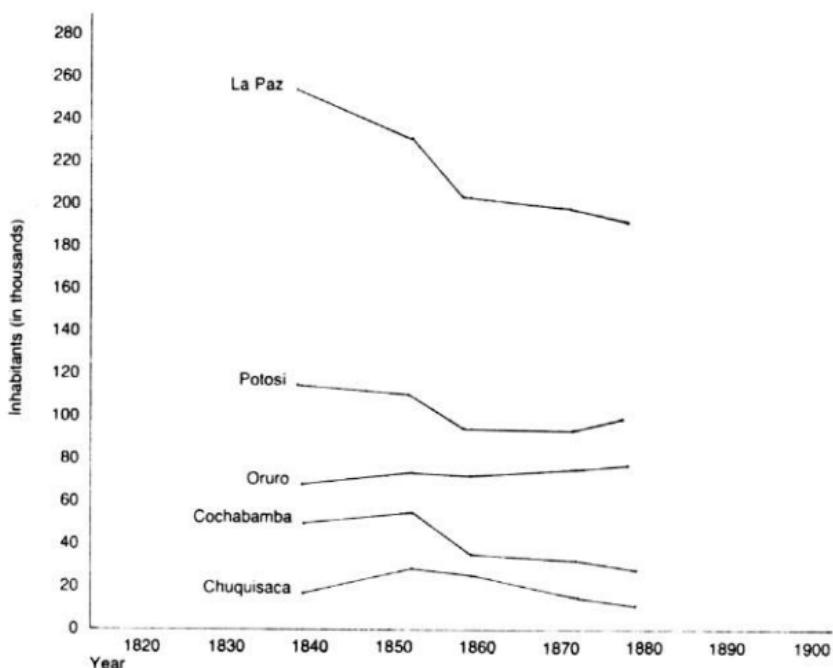


FIGURE 2.

APPENDIX IA

Decline in the Number of Indian Children^a 1838-1877^b

| <i>Department</i> | <i>Province</i> | 1838 | 1852 | 1858 | 1871 | 1877 | <i>Difference Between</i> 1838-77 | <i>Percentage Difference</i> |
|-------------------|-----------------|--------|--------|--------|--------|-------|--------------------------------------|------------------------------|
| La Paz | Cercado | 9,002 | 6,076 | 4,125 | 4,052 | 4,544 | -4,458 | -49·5 |
| | Omasuyos | 23,266 | 18,695 | 17,134 | NA | NA | — | — |
| | Pacajes | 19,667 | 13,909 | 11,308 | 12,130 | 6,330 | -13,337 | -67·8 |
| | Yungas | 6,607 | 4,898 | 3,886 | 3,243 | 1,923 | -4,684 | -70·9 |
| | Sicasica | 12,705 | 9,431 | 7,221 | 7,608 | 7,161 | -5,544 | -43·6 |
| | Larecaja | 8,362 | 4,102 | 3,150 | 4,175 | 3,423 | -4,939 | -59·1 |
| | Caupolicán | NA | 4,191 | 4,524 | NA | NA | — | — |
| | Muñecas | NA | 3,518 | 1,870 | NA | 2,726 | — | — |
| Cochabamba | Tapacari | NA | 4,330 | NA | NA | NA | — | — |
| | Misque | 1,010 | 549 | NA | 265 | NA | — | — |
| | Ayopaya | 1,566 | NA | 839 | 728 | NA | — | — |
| | Arque | 3,237 | 2,324 | 1,219 | 2,083 | NA | — | — |
| | Cliza | NA | 968 | NA | 572 | 238 | — | — |
| | Cercado | 861 | 914 | NA | 385 | NA | — | — |
| Oruro | Carangas | 4,203 | 4,734 | 4,259 | 4,456 | NA | — | — |
| | Cercado | 4,753 | 4,179 | 4,621 | 4,638 | NA | — | — |
| | Paria | 10,577 | NA | 9,948 | 10,218 | 9,724 | -853 | -8·1 |
| Chuquisaca | Cinti | NA | NA | NA | NA | NA | — | — |
| | Tomina | 1,994 | 2,110 | 1,595 | 1,109 | NA | — | — |
| | Yamparaez | 1,221 | 1,649 | 2,350 | 1,720 | 1,154 | -67 | -5·5 |
| Potosí | Chayanta | 11,364 | NA | 6,104 | 993 | 1,187 | -10,177 | -89·6 |
| | Potco | 8,464 | 3,591 | 3,841 | 5,528 | 5,401 | -3,063 | -36·2 |
| | Lipez | NA | NA | 2,075 | 2,119 | 1,859 | — | — |
| | Cercado | 3,098 | 3,120 | 2,781 | NA | 2,430 | -668 | -21·6 |
| | Chichas | 7,804 | NA | NA | NA | NA | — | — |

Sources: Same as Table X.^a Children refer to the sum of the *nios* and *ninas* categories on the *padrones*.^b The group within the Indian population that declined the most was children, as is indicated by comparing this table on the decline of Indian children to the first table of Appendix I on the decline of the total Indian population. For the Department of La Paz, which contains the major share of Indian population and for which we have the most complete information on children, the percentage decline in children amounted to an average of 58 percent over the period 1838-77 while the total population declined by 24 percent. Information is not as complete for other departments and provinces, but what data there are shows a fairly steep decline in the number of children. This precipitous decline is the result of several factors, some relating to a child's susceptibility to disease and others relating to enumeration procedures.

Children tend to die more readily during epidemics because they have no immunities. Also, once sick, children are less likely to take simple precautionary actions to prevent death, such as drinking water during periods of dehydration. During all times of famine, disease and death, children suffer the most because they are the weakest.

The decline of children is also the result of enumeration procedures. Since *padrón* data was collected for tax purposes, the primary focus of census takers centered on taxpayers, who were mostly adult males. If the census takers failed to count people, they would have been children. Further, census takers placed children who had inherited land from their deceased fathers, into the tax-paying category and omitted them from the *nios* and *ninas* categories. Certainly, underenumeration must have been a partial cause of the 90 percent decline of children in the province of Chayanta. But to what extent underenumeration is the cause of the general decline in the data is impossible to determine. The 17 percent over-all decline in the Indian population should be perhaps revised downward a few percentage points. Despite the flaws in the data, however, the Indian population did decline precipitously primarily as a result of famine and disease.

APPENDIX IB

Reports of Diseases 1830-1879

| Year | Descriptive Titles | Type of Disease | Province | Department | Source |
|---------|-------------------------------|-----------------------------------|---------------------|------------|--|
| 1830 | | smallpox | Sucre City | Chuquisaca | Balcazar, <i>Historia de la medicina</i> , p. 251. |
| 1832 | | smallpox | La Paz City | La Paz | Balcazar, <i>Historia de la medicina</i> , p. 256. |
| 1843 | epidemia | anjina | Yamparaez | Chuquisaca | 'Padrón de Yamparaez de 1843,' <i>expedientes</i> , f. 1. |
| 1844 | mortandad | ? | Cliza | Cochabamba | 'Padrón de Cliza de 1844,' <i>expedientes</i> , f. 38. |
| 1849-51 | epidemia | ? | Larecaja | La Paz | 'Padrón de Larecaja de 1852,' <i>expedientes</i> , f. 89. |
| 1849-52 | epidemia | ? | Carangas | Oruro | 'Padrón de Carangas de 1852,' <i>expedientes</i> , f. 215. |
| 1850 | epidemia | ? | Cercado | La Paz | 'Padrón de Cercado de La Paz de 1852,' <i>expedientes</i> , f. 74. |
| 1856 | epidemia (fiebre) | typhoid typhus or yellow fever | Omasuyos Muñecas | La Paz | Balcazar, <i>Historia de la medicina</i> , p. 265. |
| 1867 | fiebre | ? | Cercado | La Paz | 'Padrón de Cercado de La Paz de 1867,' <i>expedientes</i> , f. 27. |
| 1871-74 | epidemia (mortandad) (fiebre) | ? | Sicasica | La Paz | 'Padrón de Sicasica de 1871,' <i>expedientes</i> , f. 19. |
| 1877 | epidemia (fiebre) | ? | Yungas | La Paz | 'Padrón de Yungas de 1877.' |
| 1877 | mortandad (fiebra) | typhoid | Yamparaez | Chuquisaca | 'Padrón de Yamparaez de 1877,' <i>expedientes</i> , f. 1. |
| 1877 | epidemia | ? | Pacajes | La Paz | 'Padrón de Pacajes de 1877,' <i>expedientes</i> , f. 6. |

| | | | | | |
|------|--------------------|---------|---|------------|---|
| 1878 | fiebre y hambre | malaria | — | Cochabamba | Consejo Municipal de Cochabamba, <i>La ley del maximum</i> <i>o la fijación de</i> <i>precios</i> (Cochabamba, 1878), p. I. |
| 1879 | fiebre y hambre | typhus | — | Cochabamba | Rück, <i>Miscelánea estadística</i> , f. 27. |
| 1879 | peste y hambre | ? | — | Potosí | <i>Informe leido por el presidente de la sociedad humanitaria de San Juan de Dios</i> , (Potosí, 1879). |
