To the Graduate Council:

I am submitting herewith a thesis written by Huston John Gibson entitled "Ayabaca, Peru: Migration and Land-Use Analysis 2001." I have examined the final paper copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science in Planning, with a major in Planning.

C. W. Minkel , Ph.D., Major Professor

We have read this thesis and recommend its acceptance:

Acceptance for the Council:

Vice Provost and Dean of Graduate Studies

Ayabaca, Peru:
Migration and Land-Use Analysis
2001

A Thesis Presented for the Master of Science in Planning
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Abstract

This thesis contains four sections: an urban land-use survey, an economic study, a population/migration analysis, and recommendations for future development for both the City and the Province of Ayabaca.

The land-use survey contains maps, graphs and descriptions of the facilities in urban Ayabaca. The City of Ayabaca had no previous land-use map, nor does it have a land-use plan.

The economic study took place in the urban area of the City of Ayabaca, as well as the Socchobamba Valley. The City of Ayabaca has only a very few small manufacturers, but is the center of industry for the province. The economic study contains maps and descriptions of current businesses and industries, interviews with them, and a perspective on potential economic growth and obstacles.

For the population/migration study some 288 interviews were held with heads of household in the District of Ayabaca, which includes the City of Ayabaca and surrounding communities. This area has a population of about 7,742 persons, and a confidence level of 95 percent, +/- 5.21, was achieved. The surveys covered only the heads of household, but the questions pertained to both themselves and their family members. Some interesting findings include: the number of unmarried heads of households and children born out of wedlock, the desire for higher education, the desire for quality employment, and the feeling of need to migrate even though they like Ayabaca.

The migration study is part of a larger project proposed to take place in all areas in the Frontier Region of northern Peru (Departments of Piura, Tumbes and northern Cajamarca), and southern Ecuador (Departments of Loja, El Oro and Zamora-Chinchipe).

Recommendations are given throughout the paper and, again, in the recommendations section. For reading convenience, all recommendations are in *Italics*.

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I. Introduction

Background of the Research

In October 1998 the border dispute between Peru and Ecuador came to an end, and a final boundary was drawn. The disputed area was and is a remote region and contains few inhabitants. There has been little development in the area, but there is potential. As a result of the dispute and lack of development, there has been high unemployment, poverty and out-migration. People of the area tend to migrate from the rural countryside to small towns within the region, and then to larger cities near the coast. This has caused both a problem for the frontier region of a lack of sustainable population and a problem for larger cities of rapid overpopulation (see figures 1,2 and 3 for maps of Peru and Piura). The infrastructure and facilities of cities in the region cannot keep up with the growth.[1]

Reasons for Population Growth in Latin America

> "Few parts of the earth have experienced change more rapidly in recent decades than has Latin America. This change has been mostly stimulated by striking improvements in the technical aspects of transportation and communication since World War II. As a result, millions of people in Latin America are joining in a demand for better living conditions and for an end to the inequities that have traditional characterized their society."[2]

One of the biggest changes in Latin America is the population growth due to the modernization of medicine, resulting in longer a lifespan. From 1940 to 1970 the population of Latin America more than doubled, from 126 million to 278 million.[2] Today, it has a population of over a half billion.[3] As a result of rapid population growth, there is a large young population and a trend of urbanization to satisfy the need for education and employment.[2]

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[1]Minkel, C.W., *Proposal In Support of Boundary Integration Between Ecuador and Peru*. Pan American Institute of Geography and History, 2000.
[2] James, Preston E. and Minkel, C.W., Latin America-fifth edition. John Wiley and Sons, New York, 1985.
[3] www.geohive.com

Figure 1. The Major Cities of Peru.

Department of Piura, Peru & its Provinces

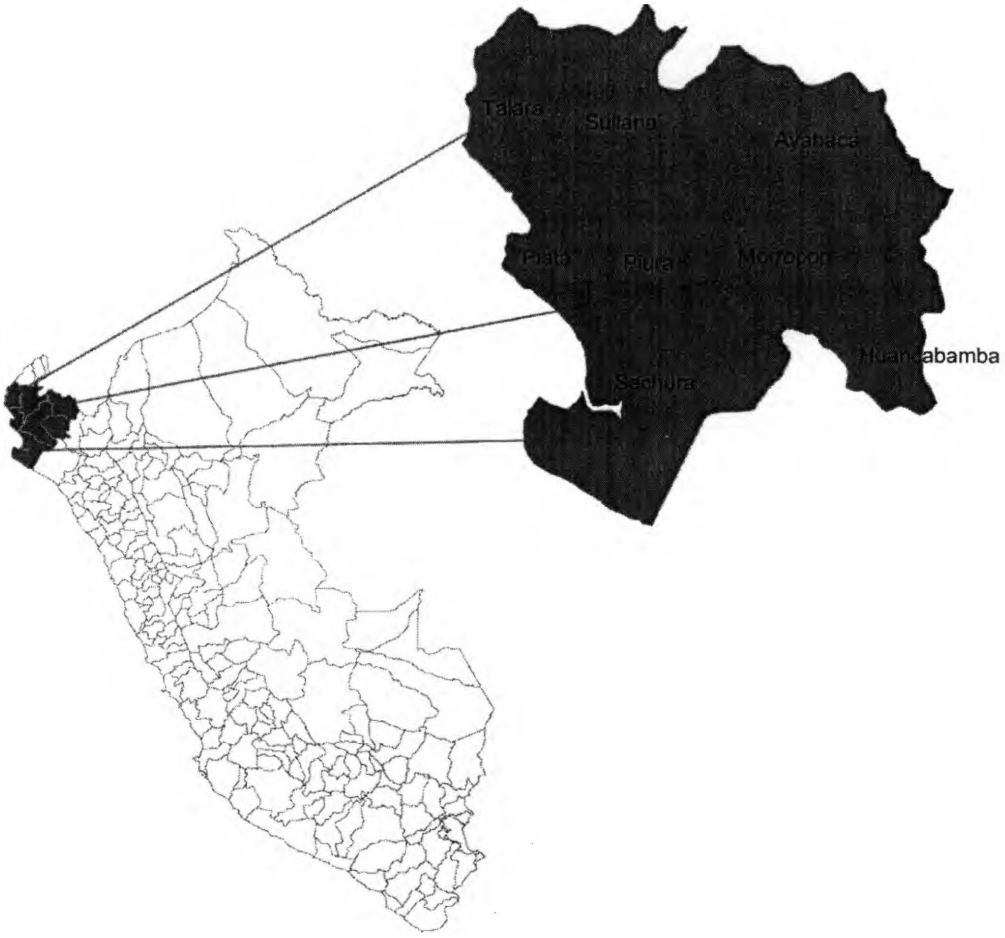

Figure 2. Province map.

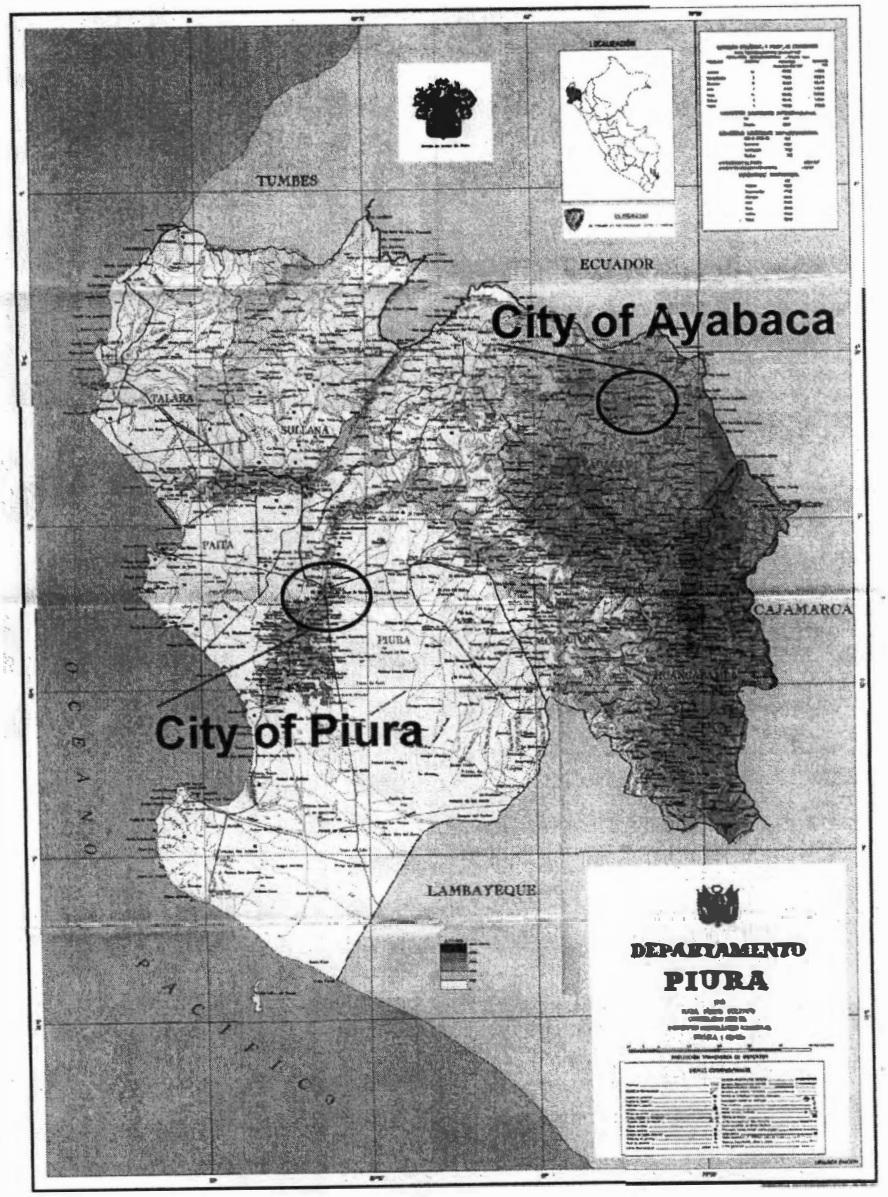

Figure 3. Terrain map.

Globalization

Another major cause for urban migration is globalization. Technology has made it possible to reach many people throughout the world with little lag time.[4] People in Ayabaca watch television in restaurants, bars and some homes, and when they do, they watch American shows and movies. Through these shows and commercials they see modern conveniences, and they want them. Ayabaca does not offer them, so they feel the desire to move. Secondary cities, such as Piura, offer these conveniences, so this is where they want to go. Unfortunately, they often are unable to afford these conveniences once they arrive.

Urbanization and Centralization in Peru

Peru is a large country with three distinct regions: desert flatland near the coast, mountainous terrain of the Andes, and the dense amazon forest region in the interior of Peru (these three regions, the costa, sierra and selva, are partially shown on the map on page 9). Most of the population of Peru lives in larger cities located in the coastal region, 73 percent of the population is urban, and urbanizing further at the rate of 3.21 percent annually.[5]

Urbanization in Peru began with the Spanish conquest and colonization the mid-1500's. Towns became a vehicle for the shipment of agricultural and mineral wealth to Europe. By 1580, Spaniards had established 225 populated cities in Latin America, and nearly every major urban center of Latin America was founded by 1600. By 1620, Lima had a population of 9,500.[6] It was the new capital and the center for gold shipments from the Cuzco region to Spain.

Today, Peru has a population of 28 million, with roughly 7.5 million (27%) living in Lima. There are several major secondary cities such as Trujillo, Arequipa, Chiclayo, Piura and Cuzco.[7]

The country is highly centralized, with most development focused on Lima. The secondary cities are capitals of their departments and participate in a secondary centralization. Today, Peru is making efforts

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[4] Ohmae, Kenichi (1989) Managing in a Borderless World. Harvard Business Review. May-June 1989.
[5] www.worldbank.com
[6] Volinsky, Nan (1998) Cities and Urbanization in Latin America. Update No. 78. University of Illinois.
[7] www.traficoperu.com

toward decentralization, but it is a slow process that must be done carefully and correctly so as not to threaten macroeconomic stability.[8]

> "A primary objective of decentralization is to maintain political stability in the face of pressures for localization. When a country finds itself deeply divided decentralization provides an intuitional mechanism for bringing opposition groups into a formal, rule-bound bargaining process." [2]

Peru has a major issue with people moving from the rural regions to urban areas. When these migrants get to the cities they have no place to live and end up "squatting" on vacant land, creating "*pueblos jovenes*" or "young towns" This is a development concern, and many people are searching for ways to decentralize and to slow this movement. Migrants tend to move first to small urban cities such as the city of Ayabaca, then to secondary cities, such as Piura, and then to the capital city of Lima. This process is known as stage migration and sometimes is a multigenerational process.[2]

The "*pueblos jovenes*" contain all sorts of health problems, from inefficient water and sewerage, and other problems such crime and violence are a common occurrence.[9]

Organizations Working in Ayabaca

Many organizations have considered how to develop Ayabaca and the frontier region, but little has been done. The desire is to promote the region as a place for both industrialization and tourism. Industrialization is necessary for the creation of new jobs, and tourism also is seen as a possibility for jobs creation.[1] Organizations currently working toward development of the region include, but are not limited to: CTAR-Piura, The Bi-National Plan of Development for the Frontier Region and CARE (Cooperative for Assistance and Relief Everywhere, Inc.).

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[8] (2000) *Decentralization:Rethinking Government.* World Development Report 1999/2000

[2] James, Preston E. and Minkel, C.W., Latin America-fifth edition. John Wiley and Sons, New York, 1985.

[9] Custers, Geert (2001) *Inner-city Rental Housing in Lima (a portrayal and an expansion).* Elservier Science Ltd. Cities Vol. 18 No. 4. London.

[1] Minkel, C.W., *Proposal In Support of Boundary Integration Between Ecuador and Peru.* Pan American Institute of Geography and History, 2000.

CTAR- Piura
CTAR-Piura is the regional development agency for the department, and does put money into the development of Ayabaca when it can. It has built roads (see figure 4) and implemented various other projects in recent years. Its objective is to improve the area, but it lacks the funding needed for all desired projects.

Bi-National Plan of Development for the Frontier Region
This organization is a joint venture of Peru and Ecuador to help develop the frontier region (see figure 5). After the border dispute ended in 1998, military forces pulled back, but development has been slow. Since 1998, this organization has been created to work directly with development issues of this region.[12]

CARE (Cooperative for Assistance and Relief Everywhere, Inc.)
CARE is an international organization that is also working in the area. It has spent time studying Ayabaca and has an economic development plan for the province.[13]

Outline of Research

This thesis contains four sections: an urban land-use survey, an economic study, a population/migration analysis, and recommendations for future development.

Land-Use Analysis

- Maps of current urban land use.
- Description of current features.

Economic Study

- Maps and description of current businesses and industries.
- Interviews of existing businesses and industries.
- Potential economic growth and obstacles.
- Potential for tourism.

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[12] La Sociedad Fronteriza Peruano Ecuatoriana y el Plan Binacional de Desarrollo 2001) *Plan Binacional de Desarrollo de la Región Fronteriza, Peru-Ecuador.* Agosto 1999-Diciembre 2000. Lima, Peru.
[13] CARE (2000) *Plan de Desarrollo Economía de Ayabaca 2000-2010.*

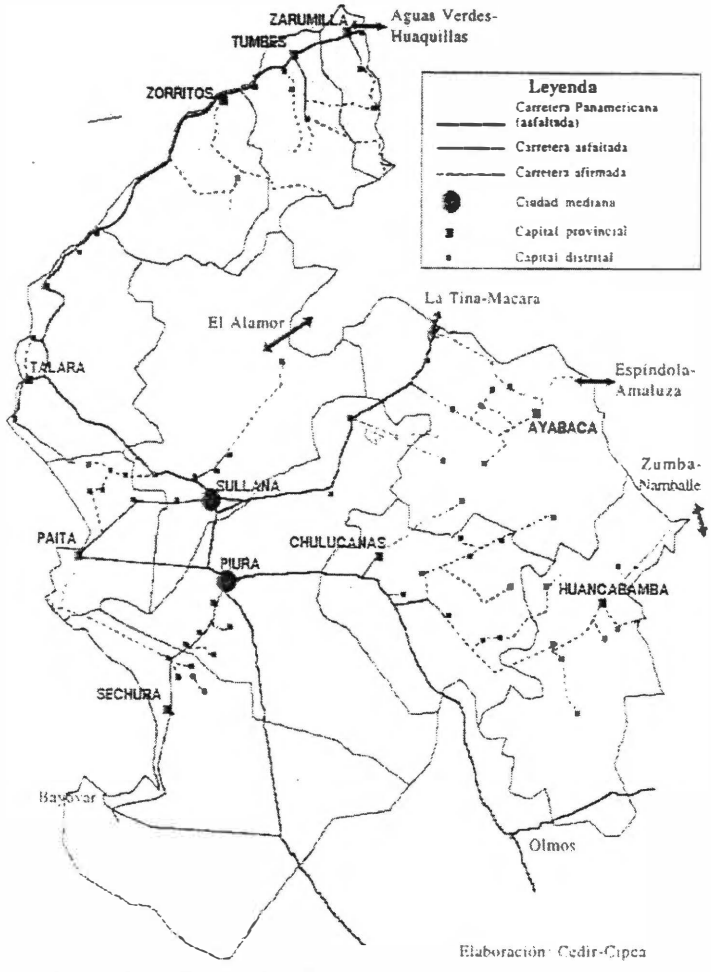

Figure 4. Roads of the Region[11]

[11] Olivo García, Julio C. (2001) *Ciudades Intermedias como Soporte de Competitividad (El Caso de la Región Piura, Perú)*. Revista Geográfica. Número 129, Enero-Junio. Instituto Panamericano de Geografía e Historia.

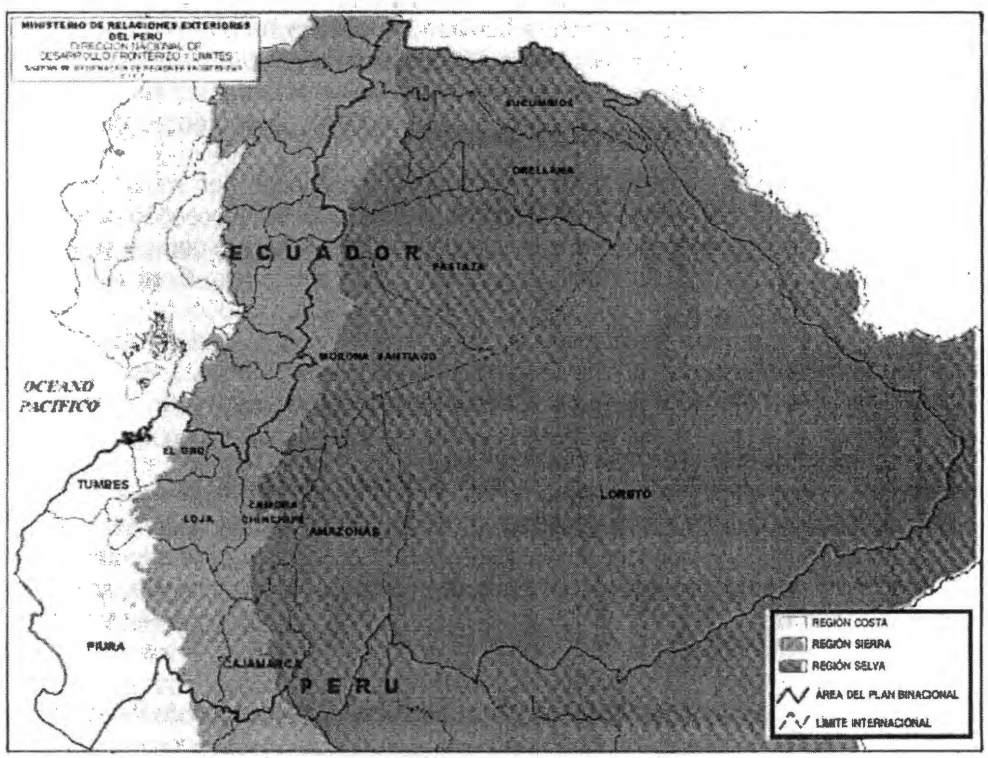

Figure 5. Frontier Region of the Bi-National Plan[12]

Population/Migration Study

- Data analysis of questionnaire given to a sample of heads of household living in Ayabaca, determining the demographic composition as well as past, current and likely future migration patterns.
- The migration study is part of a larger project proposed to take place in all areas in the Frontier Region of northern Peru (Departments of Piura, Tumbes and northern Cajamarca), and southern Ecuador (Departments of Loja, El Oro and Zamora-Chinchipe).

Recommendations

- Recommendations are given throughout the thesis and, again, in the recommendations section. For reading convenience, all recommendations are in *Italics*.

History of Ayabaca

The Province of Ayabaca is located in the mountainous region of the Department of Piura, Región Grau, in northern Peru, bordering southern Ecuador. The city is 2,715 meters above sea level and close to an ancient Inca trail from Cuzco, from southern Peru to southern Ecuador. The Incas established a village here originally because of the cool climate, making it a healthy place to live. The history of the Incas is quite extensive and plays a significant role in development of the area. Today, people live by the Spanish framework established through colonization. In Ayabaca they speak mostly Spanish, except in a few villages where native Indian languages are spoken. Their religion is mostly Catholic, which was brought from Spain.[14]

The Spaniards arrived in the City of Piura in 1532, and it was the first Spanish settlement in present day Peru. They did not reach Ayabaca until 1627. Peru gained its independence from Spain on 28 July 1821, and Ayabaca became a province in 1861 (see figure 6).[14]

[14] Menriao, Miguel and Zavala, Herman Sr. (1933) Historía de Ayabaca.

Figure 6. Department of Piura & Province of Ayabaca[13]

[13] CARE (2000) *Plan de Desarrollo Económia de Ayabaca* 2000-2010.

Population Characteristics

Table one, two and three refer to the population of Peru, the Department of Piura (and provinces within) and the Province of Ayabaca (and districts within).

Area Resources

Ayabaca is mostly a farming area, but there are no large farms. The farms here produce mostly for consumption, not for export.

Crops

The area produces crops such as potatoes, yucca, sugarcane, bananas, orchids, pomegranates, cherimoya, tuna (fruit of cactus) and herbal medicine (see table 4).

Sugarcane is used to make two popular products, *bocadillo* and *canelazo*. *Bocadillo* is discussed in the industrial section (See page 47). *Canelazo* is a liquor made from sugarcane (local), fruit (local) and cinnamon (imported). One of the priests from Ayabaca commented on the excessive drunkenness in Ayabaca from *canelazo*. *The promotion of this product as an industry would seem unlikely to succeed because almost every area has its own form of liquor, and there is no need to import/export.*

Problems

The principal problem for the agricultural development in Ayabaca is the lack of communication. There is little communication and organization among the farmers in the region. Therefore, instead of working together to promote and grow, they work as small-scale self-sufficient farmers. Transportation is another major problem. At present, there are few means for farmers to transport goods to sell. They must transport by passenger trucks, and this is not efficient. Last but not least, the current poor economic situation of Peru restricts potential internal markets.

Table 1. Population: Urban and Rural - 1999 and 2000 data[13&15]

	Total	Urban	%	Rural	%
Peru	25 million	18 million	72%	7 million	28%
Piura (Department)	1.5 million	1 million	67%	500,000	33%
Ayabaca (Province)	138,000	13,000	10%	125,000	90%
Ayabaca (District)	40,000	4,000	10%	36,000	90%

Table 2. Population for Provinces, Department of Piura - 1999 & 2000 data[13&15]

Province	Population	Population Density (km^2)
PIURA	568,000	92
SULLANA	251,000	46
MORROPON	175,500	45
TALARA	140,000	50
AYABACA	138,000	26
HUANCABAMBA	124,000	29
PAITA	86,000	48
SECHURA	47,000	7
Department of Piura	1,526,500	43

Table 3. Population of Ayabaca Districts - 2000 data[13]

Ayabaca (Province)	138,000
Ayabaca (District)	40,000
Pacaipampa	25,000
Frias	21,000
Suyo	12,000
Sapillica	9,500
Montero	9,000
Paimas	9,000
Lagunas	6,000
Sicchez	3,500
Jililí	3,500

[13] CARE (2000) *Plan de Desarrollo Económia de Ayabaca* 2000-2010.
[15] CTAR Piura (1999) *Guia Tourística, Piura.* El Tiempo.

Table 4. Principal Resources of Ayabaca Province

District	Water	Cattle	Minerals	Coffee	Sugar	Corn	Wheat	Barley	Peas	Rice	Potatoes	Yucca
Suyo	x	x										
Jililí				x	x	x						
Sicchez				x	x							
Montero	x			x	x							
Ayabaca			x	x		x					x	
Paimas	x		x			x				x		x
Sapilica	x	x	x		x	x	x	x				
Lagunas						x	x	x				
Frias					x	x	x	x				
Pacaipampa						x	x	x	x			

Source 16 Encuesta "Taller de formulación del Plan de Desarrollo de Provincia de Ayabaca" CIPCA 1987.

Tourism

Just 49 kilometers from the City of Ayabaca lies the Inca Ruins of Ayapate, known as the "Macchu Picchu of the North".[17] The ruins are located on an ancient Inca trail connecting all the way from Cuzco, Peru to Quito, Ecuador.[5] They are very beautiful and a wonderful tourist destination, but extremely difficult to reach. There are guides, but they are not always available. *The ruins could be a valuable asset for Ayabaca with proper promotion and more efficient travel accommodations.*

Other tourist attractions include the hieroglyphic drawings of Samanga (45 km. from the City of Ayabaca), the Baths of Chicán (12 km.), the burial sites of the ancient gold towns of Olleros (20 km.) and Frias, Señor Cautivo, the thick orchid and butterfly-covered forests all around the city, and many lagoons (32 km. from the city).[17] All are very difficult to reach. Although in close proximity, the destinations outside the city can take a full day to reach and another to return.

Guides

Three local guides in Ayabaca were interviewed to learn about current tourism activity.

Lic. Mario Tabra Guerrero is a schoolteacher and director of the local museum. He grew up in the countryside of Ayabaca near the Inca ruins of Ayapate. As a child he became interested in the history of his people and went to Lima to study history during college. In addition, he guides local excursions.

1. He usually leads 10-15 excursions per year. His biggest month is July.

2. Ninety percent of the people he leads are from Peru. Ten percent are from other countries, such as Argentina, Finland, Spain and a few from the United States.

3. The average customer is between the ages of 20 and 30, either male or female, usually without children.

4. The average cost is U.S. $100 for two days.

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[17] Chero Silva, Jorge: Director (2001) *Encuentro, Revista Turistica e Informativa.* Año 1 No. 7.
[5] www.worldbank.com

5. The biggest problems he deals with are the lack of accessibility and publicity.

Celso Acuñacalle is an Ayabaca native who has spent much time traveling throughout the province. He is a professional guide who knows the area well. He can be reached through a community telephone, but could not remember the number. At the moment he is not working due to health problems.

1. He usually conducts 10-15 excursions per year, mainly June-September. He does not work during October.

2. Sixty percent of the people he takes out are from Peru.

3. Forty percent are from other countries, such as the United States, Belgium, the Netherlands and Italy.

4. The average customer is between 25 and 30 years of age, up to 50, either male or female, usually without children.

5. The most popular attractions are historical ruins, such as Ayapate.

6. The average cost for one or two days is U.S. $50 to $100.

Angel Seminario Santur is an orchid guide. The region surrounding the City of Ayabaca is known for its beautiful orchid flowers. I was lucky enough to go on a tour with Angel, an Ayabaca native.

1. He usually conducts 5 to 6 excursions per year, mostly August-October because this is orchid season.

2. All of the people he took out before me were from Peru.

3. The average customer is between the ages 20 and 30 years, either male or female, usually without children.

4. The average cost is U.S. $100 for two days.

5. Tours are generally not far from the city and are made with donkeys, since the terrain is rough.

It would be possible to export orchids from this area as a source of income, if facilities were adequate.

One interesting side note is that after I explored the orchid-rich forest with Angel, I was kindly invited by two local girls to see their garden. They were two of the students who had helped conduct the surveys. They must have overheard that I was interested in the flowers and came to my hotel to invite me. Luis and I went with them to their garden, which was beautiful. They had a courtyard full of trees containing the orchid vine. When I asked them where the flowers came from, they said that their mother had bought them in Loja, Ecuador. I asked why she bought them in Loja and they told me it was because they sell them in Loja. I then asked why she did not get them here (in Ayabaca). They matter of factly replied, "Because they do not sell them here." This stunned me. Here we were in an orchid-rich environment and not only did they purchase orchids, but they purchased them in Ecuador. *This is a missed opportunity if there ever was one. If Loja can package and sell orchids, so should Ayabaca. They could be sold in Piura, Lima, and most of Peru, because they do not grow outside this region.*

Señor Cautivo

The City of Ayabaca is known throughout the region as the home of Señor Cautivo. Señor Cautivo is located in the main Cathedral on the *Plaza de Armas* and is a statue of Christ that has turned black over the years. The statue is believed by many to have powers of healing and luck. It brings people from all around the region to pray in front of it and rub its cloak. They come year-around, but the Catholic Church of the region has designated October as the official month, and people come by the thousands. They set up camp in the main square (*Plaza de Armas*) and surrounding streets. Hotels raise their prices, restaurants open to serve the public, and vendors line the streets. Many restaurants in Ayabaca are open only during October.

The study took place during the months of June and July and the Cathedral was fairly quiet. There were still a few vendors on the front steps selling rosary beads and pictures of the statue, but few people were buying.

II. Land-Use Analysis

The City of Ayabaca had no land-use map before this one (see figure 7), nor does it have a land-use plan. As seen on the map, there is an abundance of commercial establishments. But, many individuals run their business from the home. These businesses are called *tiendas* and will be referred to as such throughout this report. *Tiendas* contribute to the overall economy but, for the most part, are not very productive for the owner. They sell drinks, candy and minor supplies, such as soap and thread. Most people could not afford to have a commercial store apart from their house. There are no major employers in the area, and it is necessary for citizens to be able to operate their own business. *Due to the lack of transportation, it is useful and convenient to have tiendas spread through out the neighborhoods to service local residents.*

It is important to keep this land-use map current, so as to track development of the community.

Transportation

The current roads that lead in and out of Ayabaca are dirt and make transportation difficult. *The roads in the area should be paved and widened for easier travel.*

Another possibility for improving import/export to/from Ayabaca is the construction of an airstrip in the Socchobamba Valley. This valley is at a lower elevation than the City of Ayabaca and with an improved road could be easily accessible.

Government Offices

Please see figure eight and corresponding table five.

1. **Welcome Station:** Unattended.

2. **Federal Police Check Point:** Two officers check all incoming and outgoing traffic.

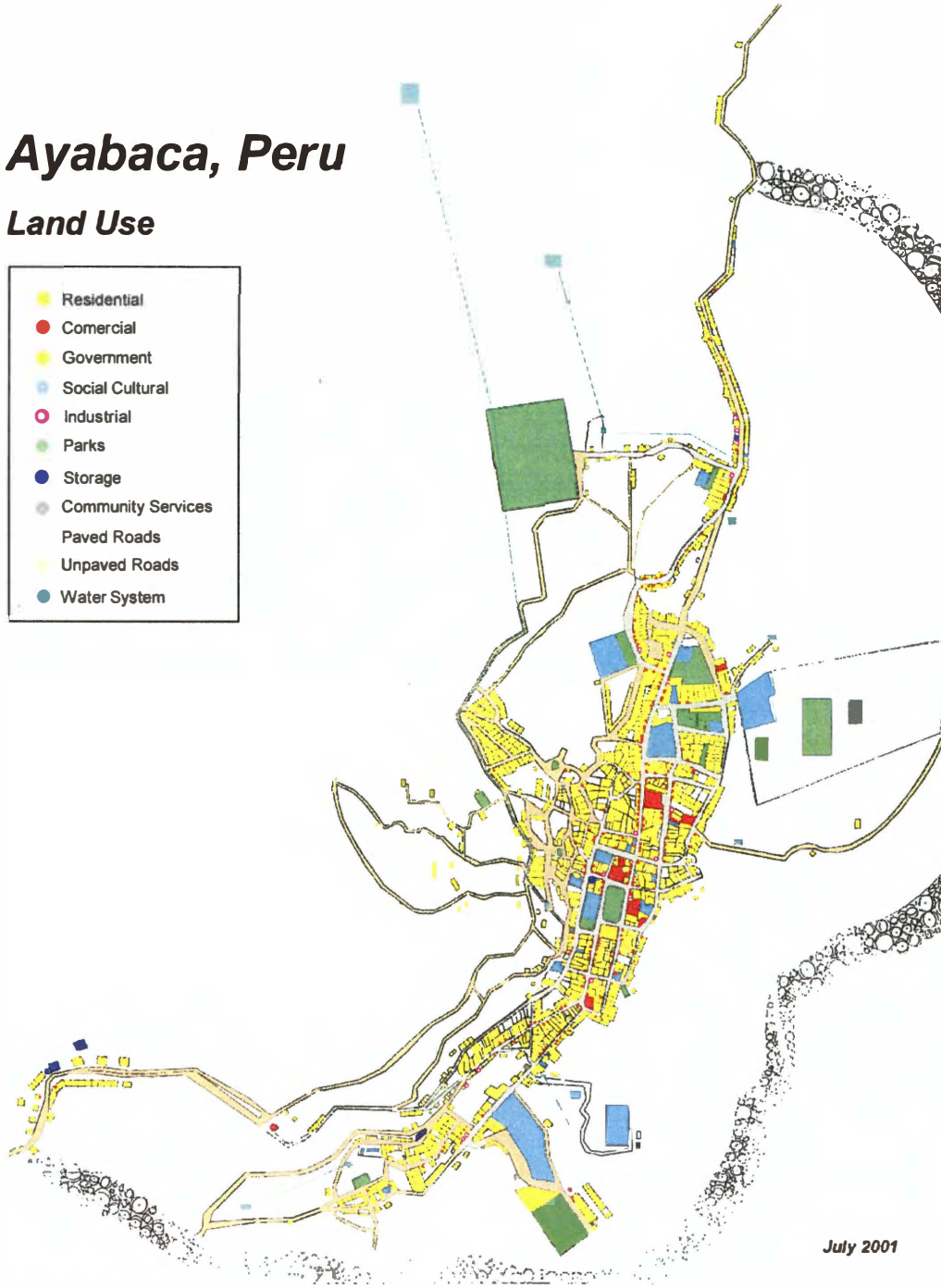

Figure 7. Urban land-use map.

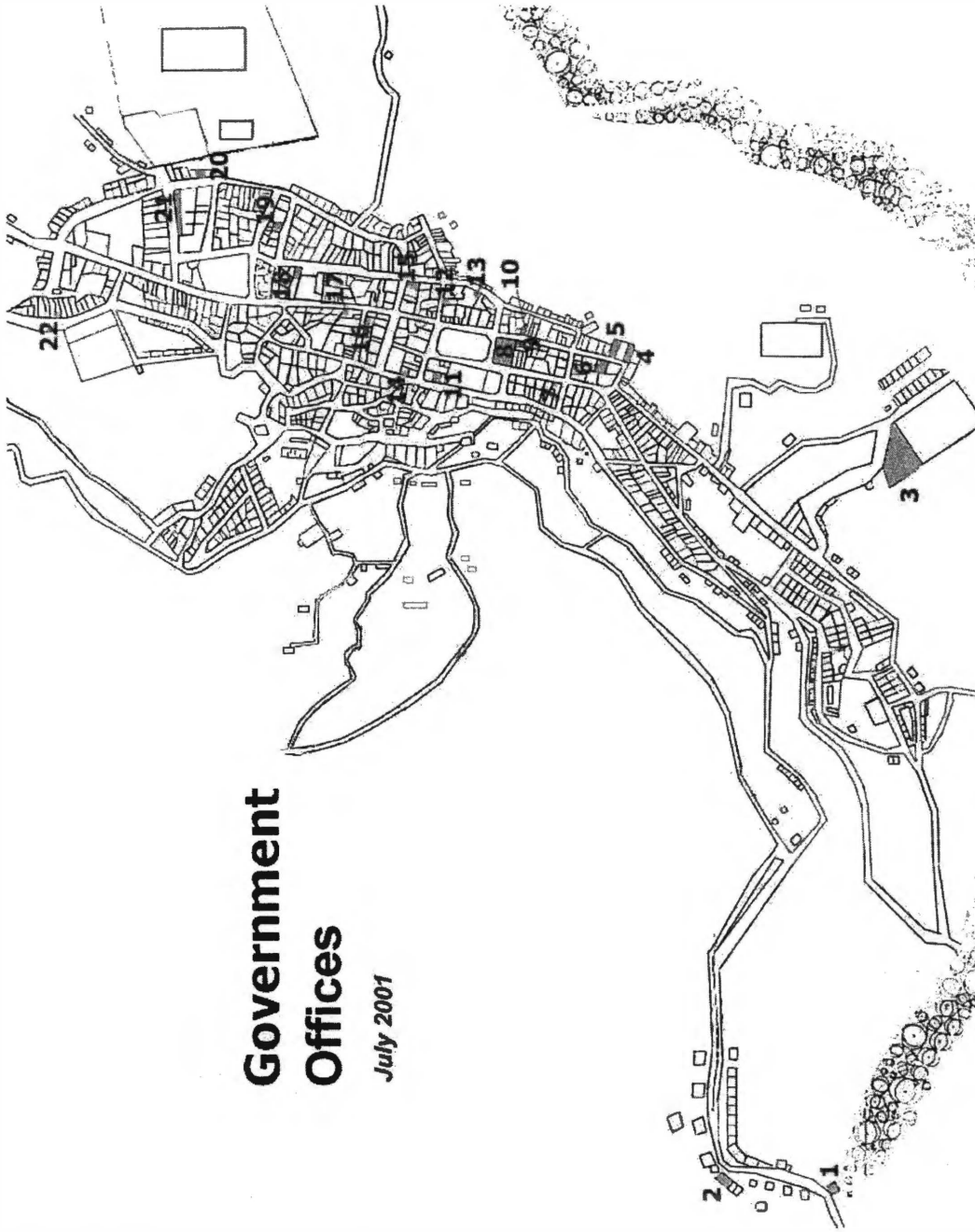

Figure 8. Government offices map.

Table 5. **Government Offices**	
1	Welcome Station
2	Federal Police Check Point
3	Military Base
4	Municipal Offices
5	Municipal Police Station
6	Agricultural Administration
7	Government Officials Office
8	Principal Municipal Building
9	Justice of the Peace
10	Election Office
11	Municipal Technical Services
12	Civil Council
13	Municipal Offices
14	Office of Health Administrator
15	Military Recruiting Office
16	Public Minister
17	Municipal Offices
18	Municipal Offices
19	Federal Police Department
20	Board of Education
21	Municipal Offices
22	Justice of the Peace

- An average of 3 buses enter and leave Ayabaca each day. In October, there is an average of 9.

- An average of 5 cargo trucks carrying people enter and leave Ayabaca each day; an average of 8 enter and leave without passengers. The numbers in October are the same.

- An average of 10 cars or personal trucks enter and leave Ayabaca each day; in October the average rises to around 20–30.

3. Military Base: Being vacated.

4. Municipal Offices: M

5. Municipal Police Station: Five officers.

6. Agricultural Administration: Divided into divisions of agricultural and technical support.

1) Agricultural: Employs 21 persons, 15 are from Ayabaca. This agency works in the most impoverished areas of the province. The staff assists with land conservation, reforestation, canal construction and crop/livestock production.

Among the most common crops are potatoes, yucca, sugarcane and bananas. Livestock consists of chickens, cows and pigs.

Sixty-seven percent of the agricultural land in Ayabaca is common property and the rest is with title.

2) Technical: Employs 8 persons; 5 are from Ayabaca. This department promotes industrial growth and assists with data collection, as well as with technical support. Combined, this agency has 13 micro-units assisting 2,800 families and works throughout the 5 districts in the Province of Ayabaca. The primary problem is communication.

7. Government Official Office: 12 people work in this office, the Official (from Truillijo) and 11 employees. This office assists with problems of various smaller communities in the province.

8. **Principal Municipal Building:** This building houses many departments of the local government, such as the mayor's office, a police station, the water board and the tax office.

   M= The city employs 134 persons, such as economists, engineers, architects, accountants, politicians, police, lawyers, topographers and secretaries. These positions are housed throughout the city in municipal offices, indicated by the letter **M**.

9. **Justice of the Peace:** Two persons are employed, a Justice and an assistant, both from Ayabaca. The Justice is a designated person who has an office in the residential district, where people in the neighborhood can come with their problems.

10. **Election Office:** This is a national office where voting takes place and where votes are counted. This office is open on election days, only.

11. **Municipal Technical Services: M**

12. **Civil Council:** Five persons are employed. The Judge is from Piura; the others are from Ayabaca.

13. **Municipal Offices: M**

14. **Office of Health Administer: M**

15. **Military Recruitment Office:** Three persons are employed, one from Lima and two from Ayabaca.

16. **Public Minister:** Four persons are employed, one investigator and three employees. This is a federal department that investigates corruption.

17. **Municipal Offices: M**

18. **Municipal Offices: M**

19. Federal Police Department: There are 4 officers, including one from Lima.

There are a total of 17 policemen in Ayabaca. None are from Ayabaca.

4 Federal (#19)
4 Federal at the Check Point (#2)
5 Municipal in the Station (#5)
4 Municipal in the Municipal Building (#8)

This gives a ratio of one police officer to approximately 435 citizens. The police chief explained that this is an extremely low ratio.

20. Board of Education: The board has twelve employees; 10 from Ayabaca and two from Mancora. There are professors, technicians and statisticians.

21. Municipal Offices: M

22. Justice of the Peace: Two persons are employed, both from Ayabaca: a Justice and an assistant.

Comments

There is a total of 209 government employees, federal and municipal, thus making government the largest employer in the area. Government jobs seem to hold prestige, pay well with benefits, and the have access to the best facilities and services such as Internet, fax machines and telephones. Most representatives are easily accessible and friendly.

Public Services

Most of the public services are privately owned and operated. Overall, Ayabaca had good public services. Numbers on figure nine correspond with table six.

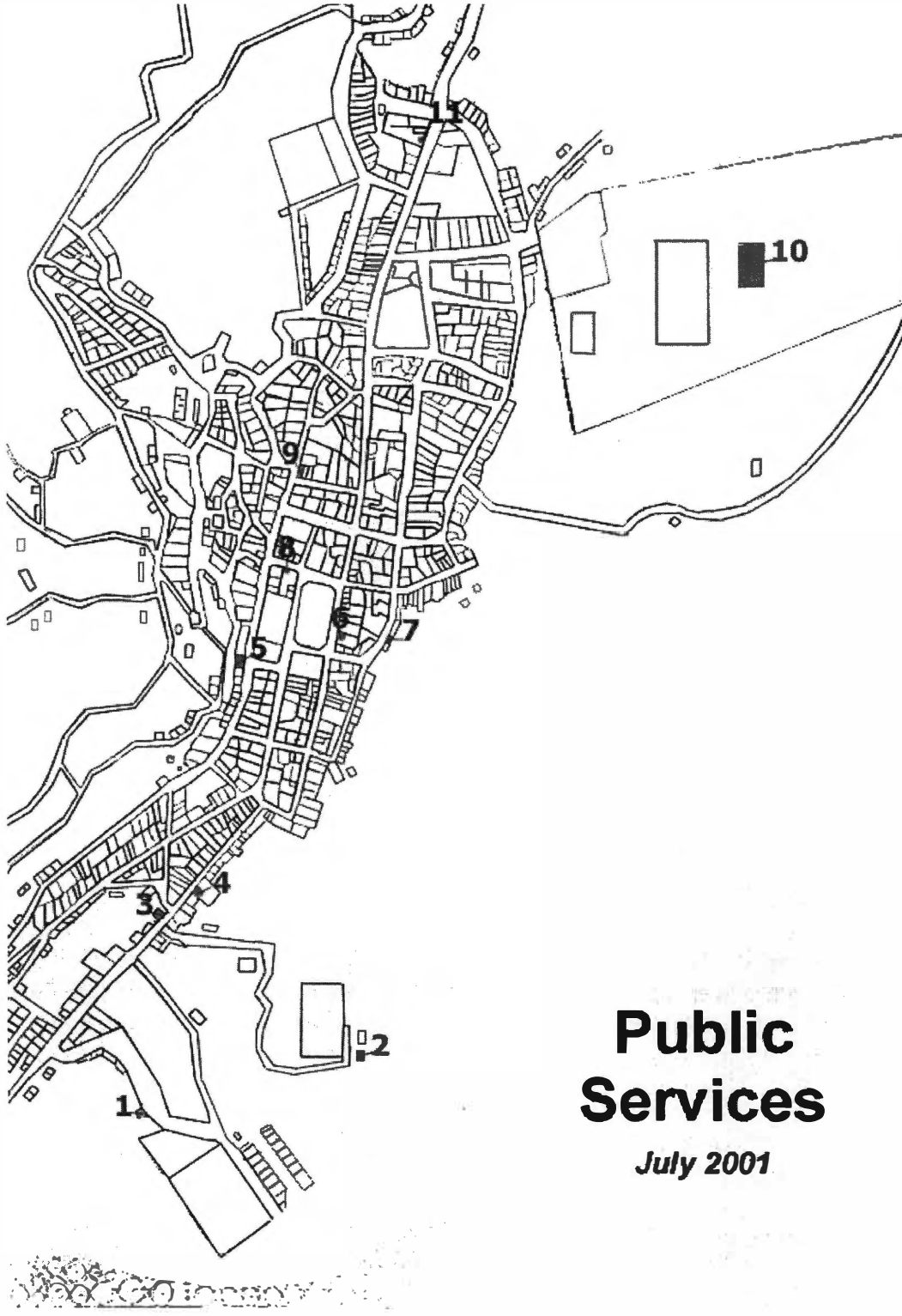

Figure 9. Public services map.

Table 6. **Public Services**	
1	Radio Station
2	Public Restrooms
3	Electricity Building
4	Office of Electricity
5	Telephone Office
6	Radio Station
7	Public Bathrooms
8	Radio Station
9	Mail and Telephone Service
10	Weather Station (closed)
11	Radio Station

Radio

Ayabaca has four radio stations that service both the city and the countryside. The radio stations are used to make public service announcements, as well as to call people. One day it was used to get in touch with a girl who had helped conduct the migration survey, the favorite radio station was used. Later that day her friend came by and said she had received the message.

Television

There is no cable television in Ayabaca, but this is not a crucial problem since most people do not have television sets. They do receive three stations by antenna. *One idea used in other Peruvian communities is a public television set in a gathering space. Most communities that do this are in warmer climates and hold the television watching in the Plaza de Armas. Ayabaca has colder conditions, but could use the gym for this. They could buy video movies and hold movie nights. This would be a fairly inexpensive way to provide entertainment, promote culture, and raise the quality of life. As of now, residents go to Piura to see movies.*

Public Restrooms

The public restrooms are in good condition and are a good idea, since many rural residents come to Ayabaca for the day. Also, they are an important facilities during the festivities in October.

Utilities

The utilities are privately owned and operated. (See page 37).

Weather Station

As indicated, the weather station is closed. It is owned by the Teachers College, but there are no records of its operation.

Parks and Recreation

Ayabaca has many parks and playgrounds for a city of its size. However, many are in poor condition. In fact, only two are in excellent condition and this is a generous rating. Ratings are on table seven, and the numbers correspond with the numbers on figure ten.

The *Plaza de Armas* (16) received a ranking of excellent, but compared with the those of other area localities, it is poor. This is the focal point of the city, and is the first thing one sees when entering Ayabaca. All bus stations are located in front of the park. *This is an area that must be improved.* There has been some painting in the park, but much remains to be done.

Also receiving the ranking of excellent is the gymnasium (7). This is a new building constructed by the municipal government. It has a basketball court, used by many groups, and houses offices of city employees (e.g. architects and engineers). It is used by local residents for gymnastics and public meetings. *This Gym is a great asset to the community.*

There are many areas used to play soccer, and they seem to be used intensively. The one used most frequently (5) is used daily for pickup soccer games.

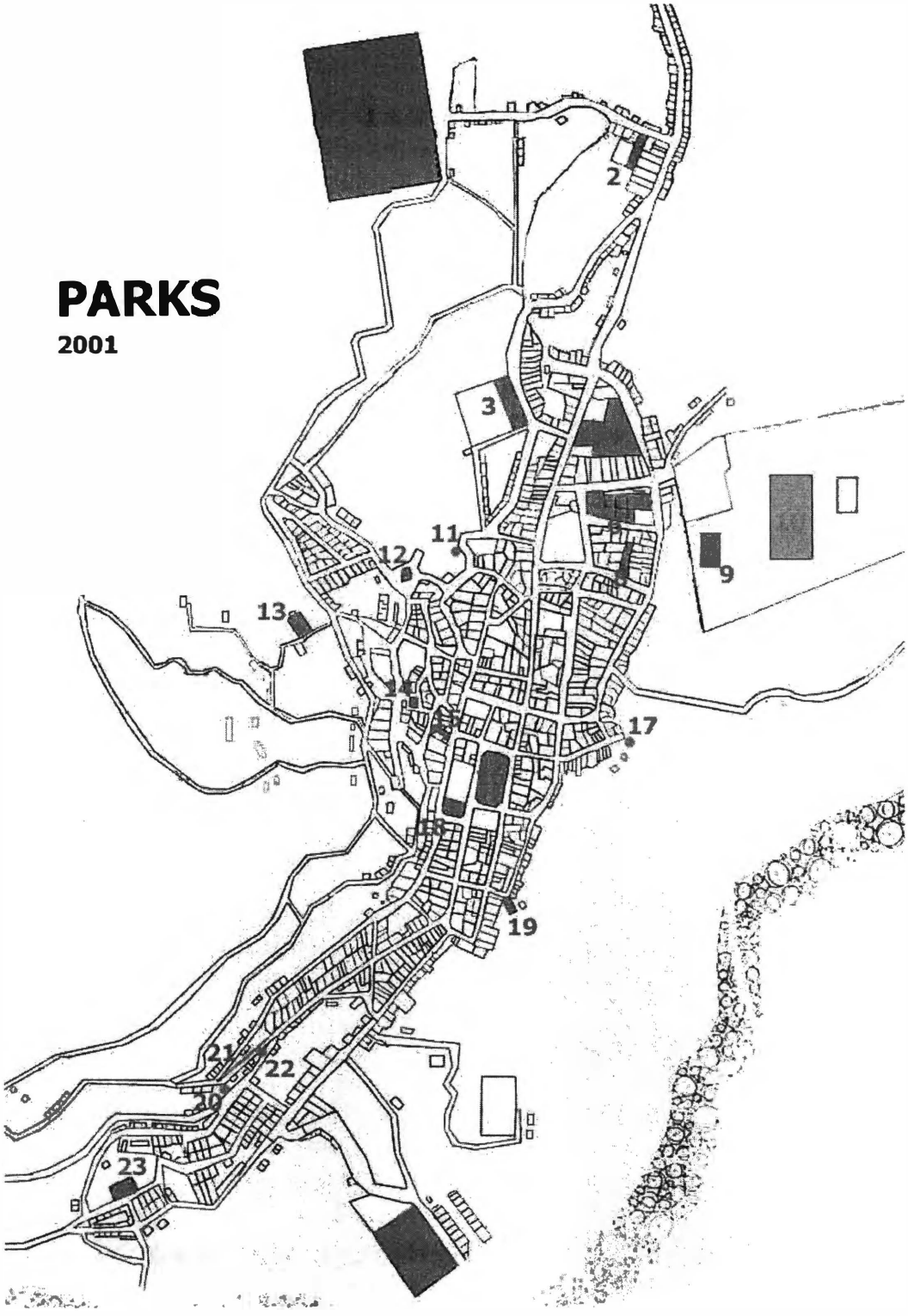

Figure 10. Parks map.

Table 7. **Parks and Playgrounds**

	Type	Use	Trees	Flowers	Grass	Benches	Lights	Water	Monuments	Equipment	Condition
1	Play	Soccer Stadium			x	x					Poor
2	Park	Colegio Inicial	x		x					x	O.K.
3	Park	Colegio	x		x					x	O.K.
4	Play	Field		x	x					x	O.K.
5	Play	Soccer Field				x				x	Good
6	Park	Plaza				x			x		O.K.
7	Play	Gymnasium				x	x			x	Excellent
8	Park	Plaza		x	x	x	x				Good
9	Play	Soccer Field	x								Good
10	Play	Soccer Field	x		x						O.K.
11	Park	Religious		x		x			x		Good
12	Play	Pool					x				Very Poor
13	Play	Soccer Field								x	Poor
14	Park	Plaza			x	x		x	x		O.K.
15	Park	Plaza			x	x					O.K.
16	Park	Plaza de Armas	x	x	x	x	x		x		Excellent
17	Park	Religious	x	x	x				x		Good
18	Park	Church		x			x	x			Poor
19	Play	Nursery	x		x	x	x			x	Good
20	Park	Religious							x		O.K.
21	Park	Mural					x			x	O.K.
22	Park	Religious	x	x		x			x		O.K.
23	Play	Soccer Field				x				x	Poor
24	Play	Soccer Field			x					x	Poor

In summary, the number of parks and playgrounds is good, but they are of marginal quality. Recreation facilities are an important community asset: places where people meet and interact. Playgrounds are where childhood friendships are made and relationships formed may last a lifetime. They also give people a positive outlet for energy, as opposed to drinking or causing trouble. Parks and playgrounds should be a focal point for improvement.

Socio-Cultural Facilities

Numbers on figure eleven correspond with table eight, and then are described below.

2. **Pre-School (Public):** This school has two part-time teachers. One is from Ayabaca, the other from Sullana. There are 27 students.

3. **Elementary School (Public):** This school has 17 teachers and 10 other employees. There are 416 students.

4. **Medical Center:** This clinic has two doctors and 20 other employees. Dr. Rodrigo Vegas was interviewed. He is from Ayabaca, but studied in Argentina. The other is from and studied in Piura. Both were assigned to Ayabaca on 15-year contracts with the government. Dr. Vegas explained that they work long hours seven days per week in the clinic, and make house calls at night.

   There are 20 smaller clinics throughout the Province of Ayabaca, but no other doctors, and no specialists of any kind. People in need of extensive care must travel to the hospital in Piura. The clinic has one truck and one ambulance, both of which are in poor condition. The tools and equipment are outdated and also in poor condition. The clinic has no e-mail or Internet connection and lacks funds to improve in any way.

   Dr. Vegas explained that the area's biggest health problems are respiratory disease, diarrhea, parasitosis and gastro-intestinal disease.

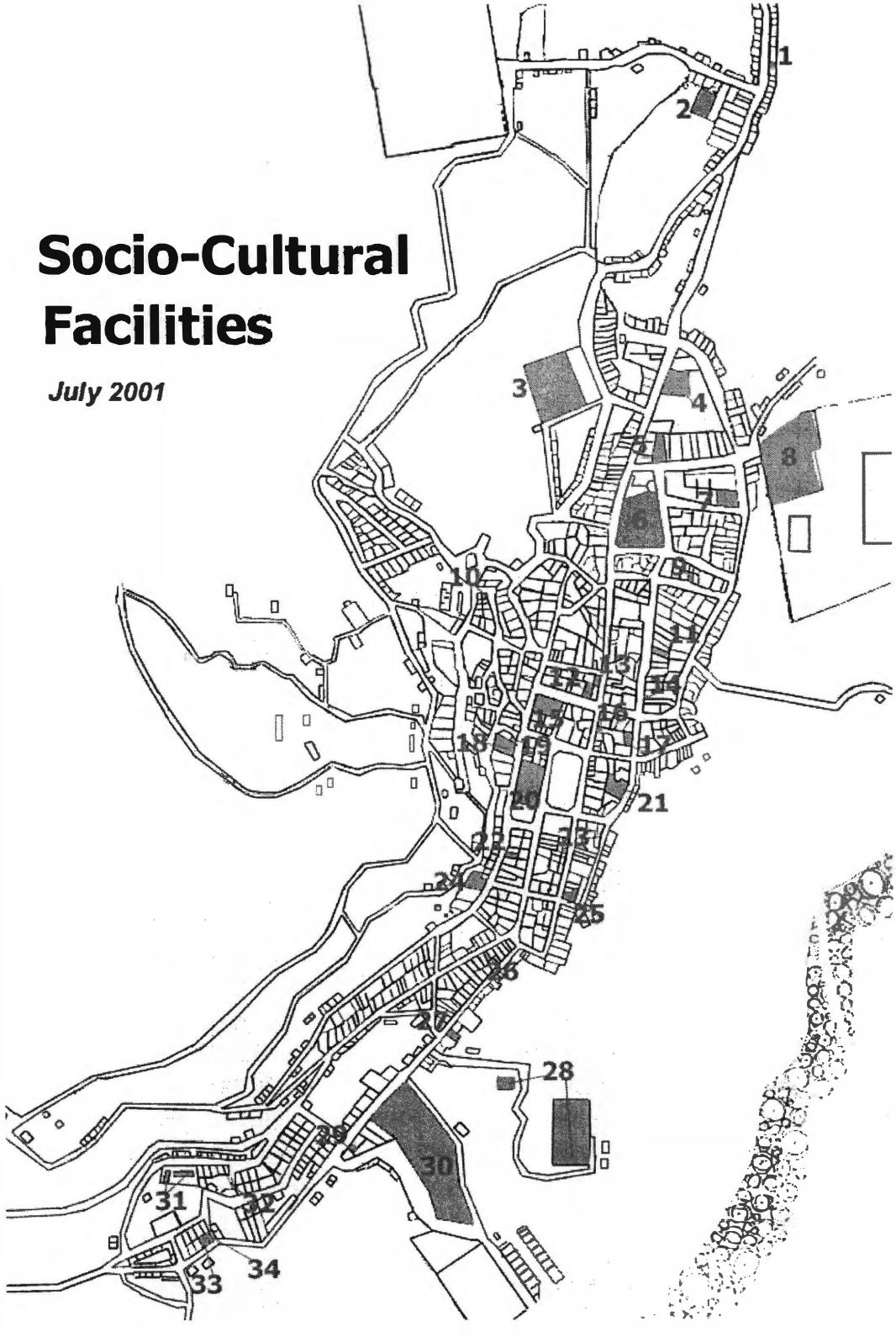

Figure 11. Socio-cultural map.

Table 8. **Socio-Cultural Facilities***	
1	Public Dining Room
2	Pre-School (Public)
3	Elementary School (Public)
4	Medical Center
5	Pre-School (Public)
6	Middle School (Public)
7	Cathedral
8	Middle & High School (Public)
9	Library
10	Public Organization
11	Agrarian Association
12	Church
13	Pre & Elementary School (Public)
14	Political Organization
15	Elementary School (Public)
16	Museum
17	Political Organization
18	Convent
19	Vocational School
20	Cathedral
21	Cock Fighting Ring
22	Church
23	Public Pharmacy
24	Pre-School (Public)
25	Infirmary
26	Agricultural Organization
27	Church
28	Voc-tech School
29	Public Dining Room
30	Public Organization
31	Pre & Elementary School (Public)
32	Church
33	Church
34	Church

*Highlighted sections are discussed on the following pages.

This facility is in desperate need of improvement. The health of the residents is at stake. This is a reason many move to areas with better facilities, such as Piura. The doctor seems very kind and knowledgeable, but is quite limited in resources to give his patients adequate care.

5. **Initial School (Public):** This school has three teachers and two other employees. Two of the teachers are from Ayabaca; the other is from Sullana. The employees are both from Ayabaca. There are 65 students.

6. **Secondary School (Public) Colegio Señor Cautivo:** This school is run by Rector Alejandro Namuche Chunga, who is from Tallara. This school has 16 teachers and nine other employees. Ten of the professors are from Ayabaca, two from Lima, two from Tallara and two from Piura. They studied in various locations around Peru. There are 390 students, all female.

7. **Cathedral:** This Cathedral is not currently in use. It was built by the main Cathedral congregation as a medical facility. When Ayabaca built its current medical Facility, this Cathedral closed.

8. **Middle & High School (Public):** This is a teachers college. The Rector, Lic. Efranin Edilberto Rios Castillo, is from Ayabaca. There are ten professors and three other employees. Half of the teachers are from Ayabaca and half from other locations in Peru. There are currently 232 students. Ninety percent of the school's alumni remain in the Province of Ayabaca. The Rector explained that all teachers in Peru are on *concurso*, which is contract placement of teachers by the national government. He explained that the curriculum for all schools are also set by the national government of Peru.

9. **Library:** The library is small and contains few books. This is another facility that needs improvement.

Another critical problem for promoting future success of the area is the lack of Internet access. The public literally has no access. There is access for official use only in the municipal building. Many youths who do have an e-mail account must go to Piura to use it. The

library would be a good place for a public computer with Internet access.

12. **Church (The Assembly of God):** This is a small church with about 45 members. The Pastor is from Sullana, but was in Mexico during my visit. There was temporary person (not a pastor) running the church while he was away.

13. **Pre & Elementary School (Public):** There are nine teachers and three other employees, all from Ayabaca. The Rector studied in Lima. There are 48 students.

15. **Elementary School (Public):** There are 16 teachers and four other employees, all from Ayabaca. There are 410 students, all girls.

16. **Museum:** The Museum is run by a local historian, Mario Tabra Guerro, who grew up in the Ayabaca countryside and studied history in Lima. This man knows his local history. He is also a guide and a teacher at Colegio Señor Cautivo. The Museum is small but has many interesting artifacts from past indigenous cultures in the area. It is a local treasure and should be protected.

18. **Convent:** This facility was built by the Catholic Church to school monks and nuns. It is not currently open, due to low enrolement.

19. **Vocational School:** There are three teachers: one from Ayabaca and two from Sullana. The Catholic Church sponsors this school. It teaches students crafts, such as leatherwork. The Alumni are mostly local countryside teenagers who remain in Ayabaca upon graduation. This school is in a very small room with two tables and some shelves. It lacks funds and lacks access to modern equipment.

20. **Cathedral (main):** This is the main Cathedral in the city and is a busy place, with people coming from all over to visit Señor Cautivo. There are two priests, one from Ayabaca and the other from Huancabamba; both studied in Trujillo. They were in the countryside during the time of this research and not available for interviews. However, I was able to speak with the keeper of the Cathedral. He explained that Ayabaca is a very religious (Catholic) area. Many people attend the Cathedral to pray on Sundays, but also on other days of the week.

Every October, this is the site of a major religious pilgrimage celebrating Señor Cautivo. People come from all over to participate. October was chosen by the Catholic Church of the region. Many cities have festival months, and they are coordinated so as not to conflict with each other.

21. **Cock-Fighting Ring:** This is a city-owned facility where the public meets to fight cocks. This is a popular pastime throughout the area. Whether it is a positive one, is subject to opinion.

22. **Church (God is Love):** Started in June 2001, but has already closed due to low membership.

24. **Pre-School (Public):** Headed by Rector Patiño Mariño, who is from Ayabaca and studied in Piura. There are four teachers, and one other employee. All are from Ayabaca, except for one teacher who is from Piura. There are 416 students currently enrolled.

27. **Church (Evangelist Apostle of the Name Jesus):** The pastor lives in the countryside and comes in on occasion. There are 10 members of the church, and they meet on Wednesdays to pray. They have been doing this for four years.

28. **Voc-tech School (Technical Institute of Ayabaca):** Has been in operation since 1987. There are 18 professors, two from Ayabaca and the rest from other areas in the Department of Piura. The three other employees are all from Ayabaca. This is a three-year institute that teaches construction, agricultural technology and nursing. There are 162 students. They come from around the province, and 80 to 90 percent stay in the area after graduation.

31. **Pre and Elementary School (Public):** There are three teachers and one other employee, all from Ayabaca. There are 58 students in the elementary school and 19 in the pre-school.

33. **Church (Evangelist Light of the World):** The pastor lives in the countryside but comes in on Sundays to hold prayer. There are generally around 15 to 20 people who attend.

34. **Church (House of Gold, God is Love):** This pastor also lives in the countryside, and also comes in on Sundays to hold prayer. There are between 10 to 15 people who attend this church.

Utilities

Water/Sewer System

The water/sewer system of Ayabaca is old and the city does not have records of the distribution. However, one of the engineers drew a map for the water (see figure 12). The squares on the map represent holding tanks. The water is distributed from there through the city in an underground pipe system. It is not treated in any form or fashion. Not all residences are connected to water, but most of the central city is. There is no service of any kind outside the urban area.

It is recommended that the city connect all possible structures to the distribution system with sanitary pipes, as well as build a water treatment facility. Although in the past rainwater from the top of the mountains in the sierra of Ayabaca might have been as clean as it gets, today there are new problems to worry about. For example, acid rain and run off of pesticides used by farmers. Because it was not possible to explore the holding tanks, nor the pipe system, It is not known what condition they are in. They could be contaminated.

Sewage is discharged into pipes and flows down to the city's edge, falling off the mountain. Because of the lack of records on the pipe system, It is not known if sewage is mixed in with water used by people. *An inventory should be taken to record the entire pipe system. This would be a major task, since apparently no one has any idea where the pipes are located. The local engineers explained the reason for this is that many of the pipes are older than anyone still alive. Since there are no written records, no one knows. Also, the sewage that falls off the mountain should be traced to see if it is affecting streams and the water supply of people living in the lower valley. The sewage could be channeled and used to fertilize lower farmland.*

Electricity

The electricity is distributed by a private company. We were unable to obtain a map. However, the city engineers explained that most of the urban area shown on the land-use map has electricity, but very few people outside of the urban area are served. *Rural electrification would improve the quality of life and agricultural productivity.*

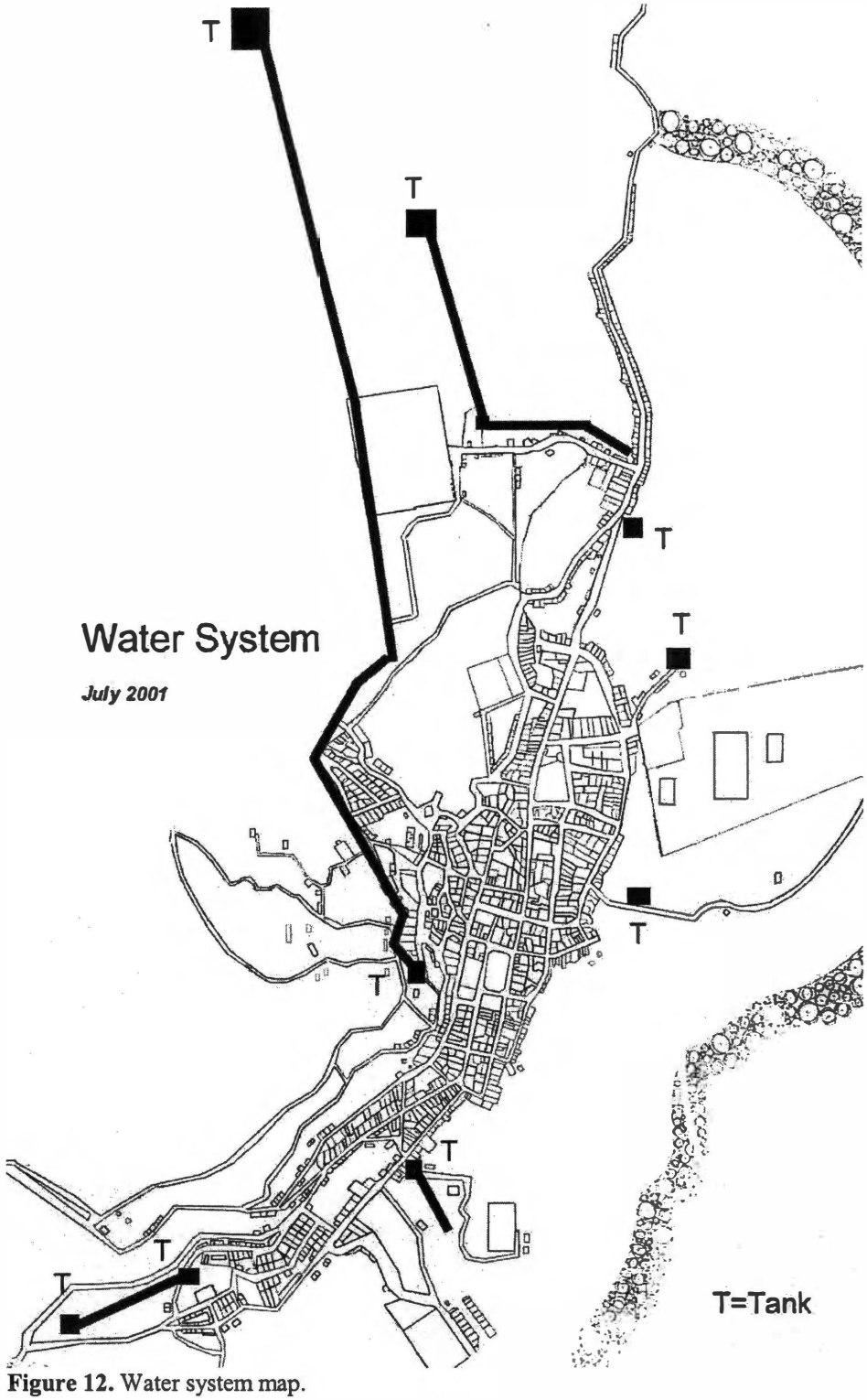

Figure 12. Water system map.

Telephone

Few people have telephones. Most use communal phones or a pay phone. The only fax/internet access is in the Municipal building, but service is not open to the public. It is very difficult to reach anyone living in Ayabaca. This limits the potential for any outside business, such as tourism or the purchase of manufactured goods. Because the local government does not operate the telephone company, it would be difficult to expand the lines. *However, an alternative would be to set up an answering service. For instance, there are a number of tourist guides in Ayabaca, but none has a telephone. You cannot reach them until you are already in Ayabaca, and then they may or may not be available. If there were a municipal answering service, they could be contacted in advance. This is just one example, but this service could make all kinds of businesses easier to conduct, such as the export of local crafts, agricultural products, or manufactured products such as bocadillo.*

III. Economic Study

This study took place in the urban area of the City of Ayabaca, as well as the Socchobamba Valley. The Socchobamba Valley is located approximately 5 kilometers northeast of the City of Ayabaca. It is both close in proximity and easily accessible from the City of Ayabaca. Being such as small city, Ayabaca has a wide variety of businesses (see table 9).

Central Business District

A = Agricultural Supply
B = Bar
C = Photography Studio
E = Electronics
F = Pharmacy
H = Hotel
M = Market
N = Accountant
P = Photocopier/Computer Lab
R = Restaurant
S = Small Convenience Store
T = Bus Station
X = Clothes
Q = Chicken Market
Z = Furniture
$ = Bank

Letters above correspond with letters on figure thirteen.

Comments

The Central Business District is the heart of the City of Ayabaca. Most businesses and offices are located in the Central Business District around the *Plaza de Armas* or just north of the CBD in the Market District. There are a variety of different business types. *However, an important service that is absent from this list is Internet access. Many of the younger people in the city have e-mail and know the power of the Internet, but they go to Piura to use it. This is a needed business for the future of Ayabaca getting local people, businesses, farmers and manufacturers connected with the rest of the world.*

Table 9. **Types of Businesses**

Ayabaca

Establishments	Number of Establishments
Perishables	Market
Real Estate	1
Mechanic	4
Pharmacy	5
Bank	2
Accountant	1
Repair of Home Products	4
Library	1
Bar	2
Electronic Sales	2
Restaurants	16
Hotels / Hostels	7
Agricultural Supplies	1
Bus Stations	3
Photo Studio	1
Music Studio	1
Gas Station / Storage	4
Hair Salon	1
Garage	3
Shaman (Herbal Doctor)	2
Coffin Sales	1
Meat Processing	1
Photocopies (1 has computers)	5
Small Convenience Stores (*Tiendas*)	174
Total	**242**

Ayabaca

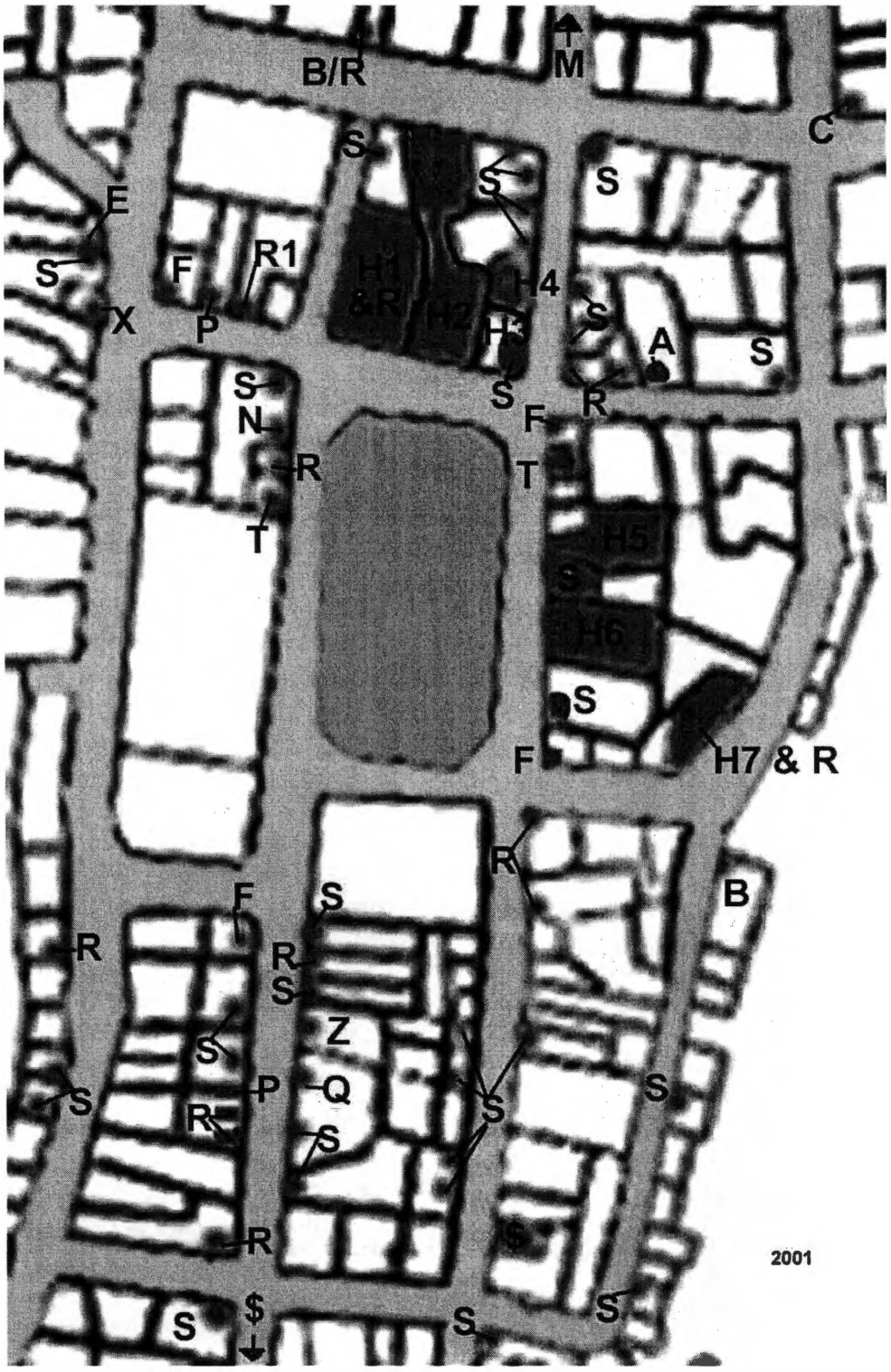

Figure 13. Central business district.

Hotels

There are seven hotels in Ayabaca. The classification of conditions was made in comparison with each other and is based mainly on cleaniness.

H1	= *Hotel Samanga*	Good condition – 28 rooms

This hotel is owned and operated by the City of Ayabaca, and is also the nicest hotel in the city.

H2	= *Hostel Alex*	Fair condition – 20 rooms
H3	= *Hostel Plaza*	Bad condition – 7 rooms
H4	= *Hostel Charaton*	Bad condition – 18 rooms
H5	= *Hostel Mi Ensueño*	Bad condition – 10 rooms
H6	= *Hostel San Martín*	Bad condition – 10 rooms
H7	= *Hostel Turísta Oro Verde*	Fair condition – 12 rooms

The Market

The market consists mainly of small stores selling supplies such as clothes, foods, crafts, toys, jewelry and electronics. Most items are poor quality goods that that have been shipped from Asia or the United States. There are very few locally-made goods, except food.

Restaurants

There are many small restaurants in Ayabaca.

Industry Analysis

Numbers on figure fourteen correspond with table ten.

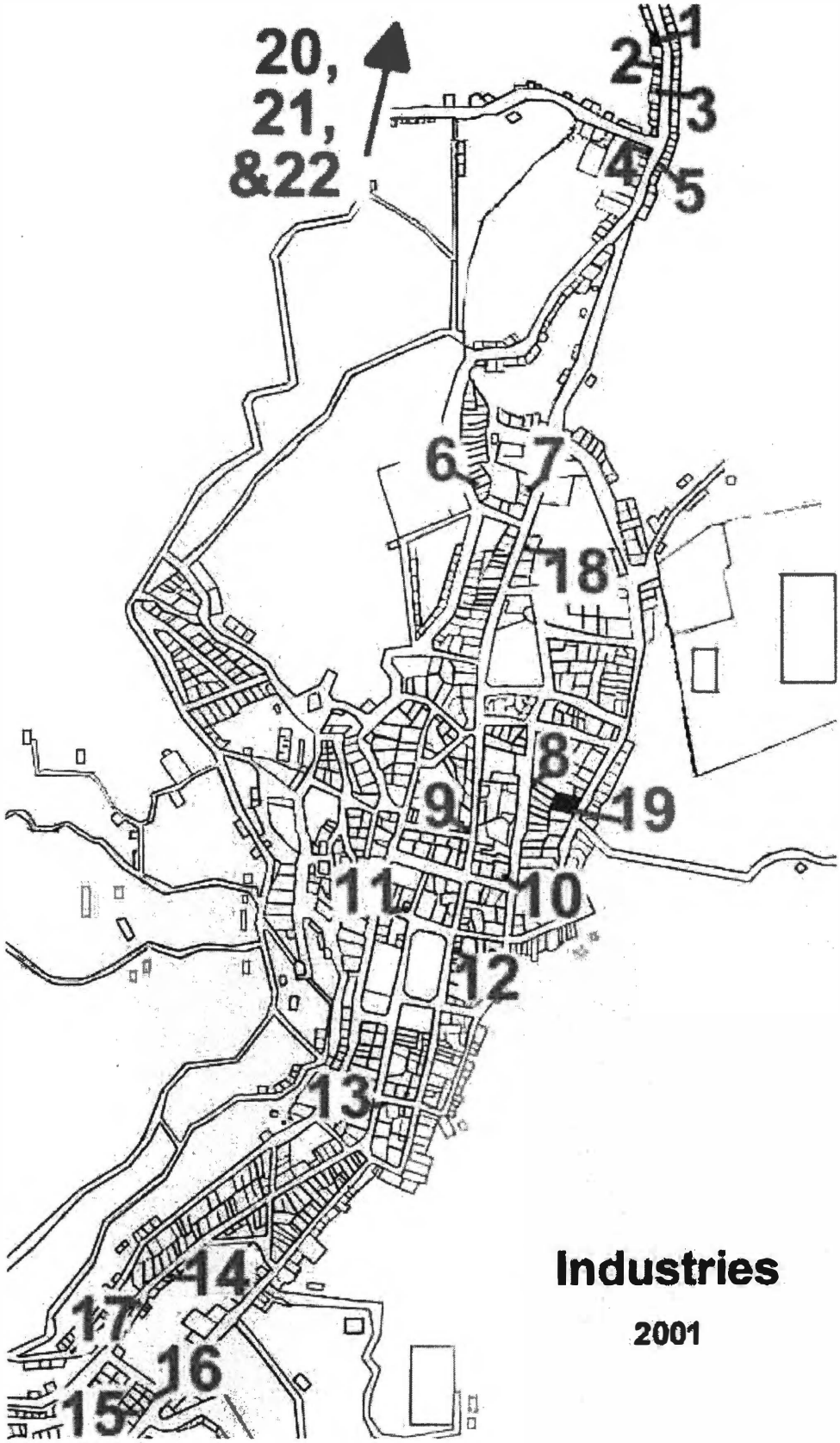

Figure 14. Industries map.

Table 10. Industries	
Number	Type
1	Carpentry
2	Bakery
3	Bakery
4	Welding
5	Mechanic
6	Glass
7	Textiles
8	Leather
9	Bakery
10	Textiles
11	Bakery
12	Bakery
13	Bakery
14	Bakery
15	Bakery
16	Bakery
17	Carpentry
18	Bakery
19	Butcher
20	*Bocadillo*
21	*Bocadillo*
22	*Bocadillo*

The Interview Process

Every industry in the City of Ayabaca was interviewed, as well as three *bocadillo* manufacturers in Socchobamba. The interviews seemed to be fairly repetitive, and information was gained from the people interviewed that the other manufacturers in the area function the same way.

There were two types of questionnaires, one for small industries and one for industries with 10 or more employees. Because every industry in the city employs fewer than 10 persons, only the small-industry questionnaire was used. The city interviews were conducted on 8-9 June 2001. The Socchobamba interviews were done on 25 June. All interviews were completed personally with the business owner by Luis Cruz Michelot and myself. A copy of the industrial survey and the interviews are in the appendices.

Comments

Ayabaca is not an industrial city. There are only 19 industries in total, plus three *bocadillo* manufacturers in Socchobamba (see table 11). The most common industry, by far, is baking (see figure 15). Most industries in Ayabaca are small, averaging two persons and operated out of a residence. The largest has only five employees (see figure 16).

Fifty percent of the industry owners are from the City of Ayabaca; the others are all from the Ayabaca countryside (see table 12 and figure 17). There is a total of 45 persons, (33 male and 12 female) working in industry (see table 13 and figure 18).

The time of operation varies from as recent as two years to 40+. The average is 15 years (see table 14).

Bocadillo

Bocadillo is a local treat made in the Ayabaca region, it is a mixture of sugarcane, honey and nuts. It is served in the form of a candy bar and is very chewy.

Table 11.
Industry Types

	Number	Percent	Number of Employees	Percent
Bakery	10	45	24	53
Bocadillo	3	14	9	20
Carpentry	2	9	3	6
Textiles	2	9	2	5
Butcher	1	-5	2	5
Welding	1	-5	2	5
Mechanic	1	-5	1	2
Glass	1	-5	1	2
Leather	1	-5	1	2
Total	22	100	45	100

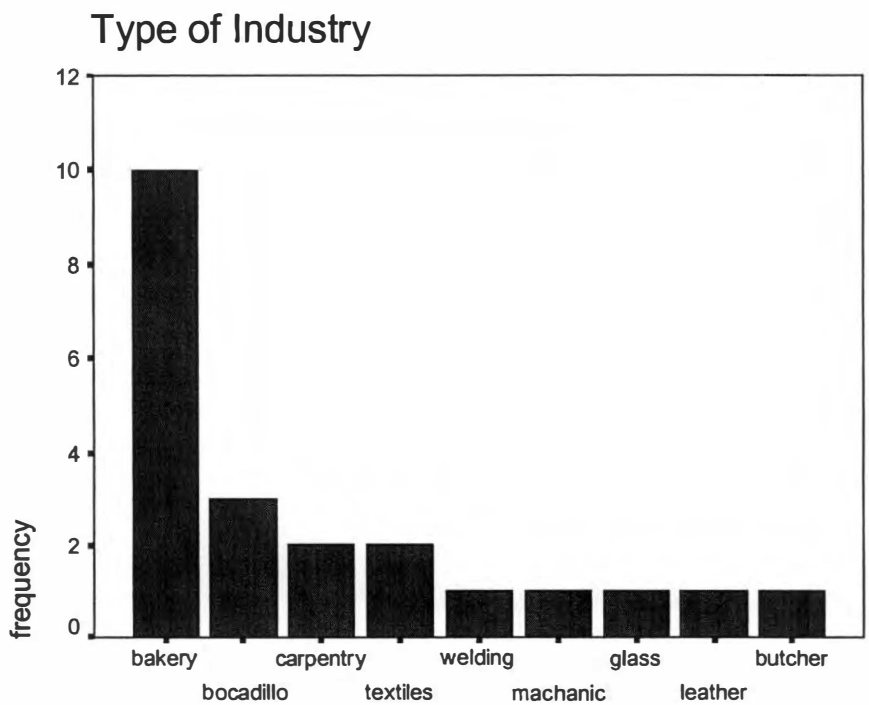

Figure 15. Type of Industry

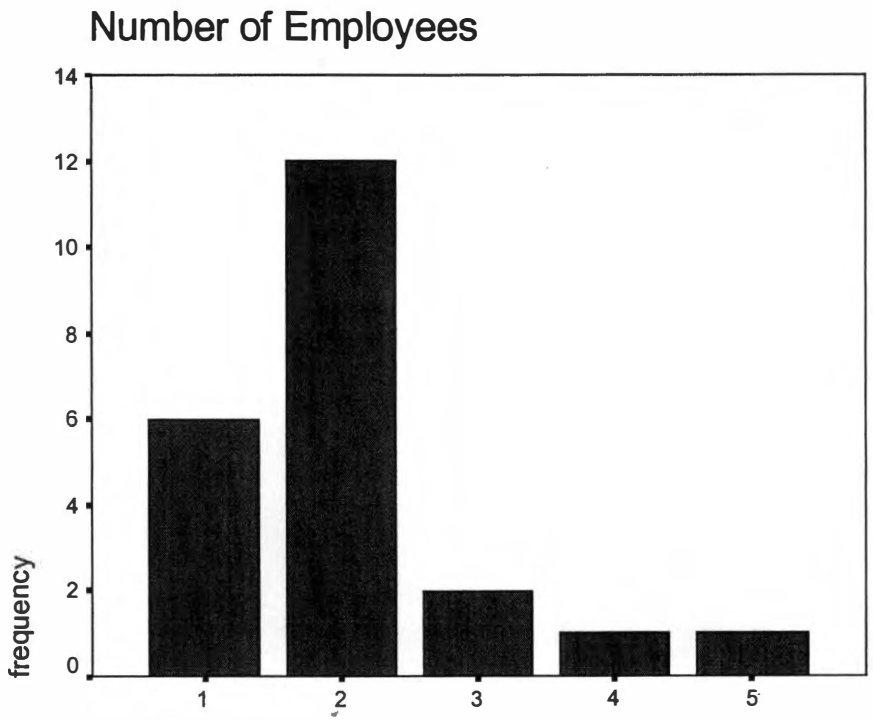

Figure 16. Number of Employees

Table 12. Origin of Business Owners		
	Frequency	Percent
City of Ayabaca	11	50
Socchobamba, Aya.	2	9
Joras, Aya.	1	-5
Culuguero, Aya.	1	-5
Aragoto, Aya.	1	-5
Chocán, Aya.	1	-5
Cujaca, Aya.	1	-5
Macas-Suyupampa, Aya.	1	-5
Arraipite Pingola, Aya.	1	-5
Montero, Aya.	1	-5
Ania, Aya.	1	-5
Total	22	100

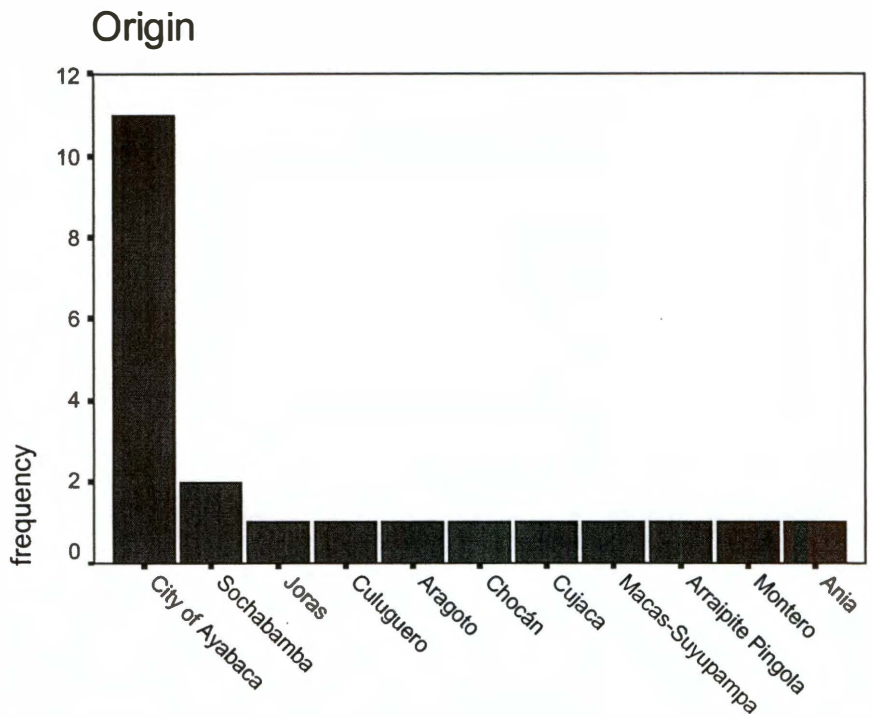

Figure 17. Origin

Table 13.
Type of Business by Gender

Type	Gender			
	Male	Female	Joint	Total
Carpentry	2			2
Bakery	5	1	4	10
Welding	1			1
Mechanic	1			1
Glass	1			1
Textiles	1	1		2
Leather	1			1
Butcher	1			1
Bocadillo			3	3
Total	13	2	7	22

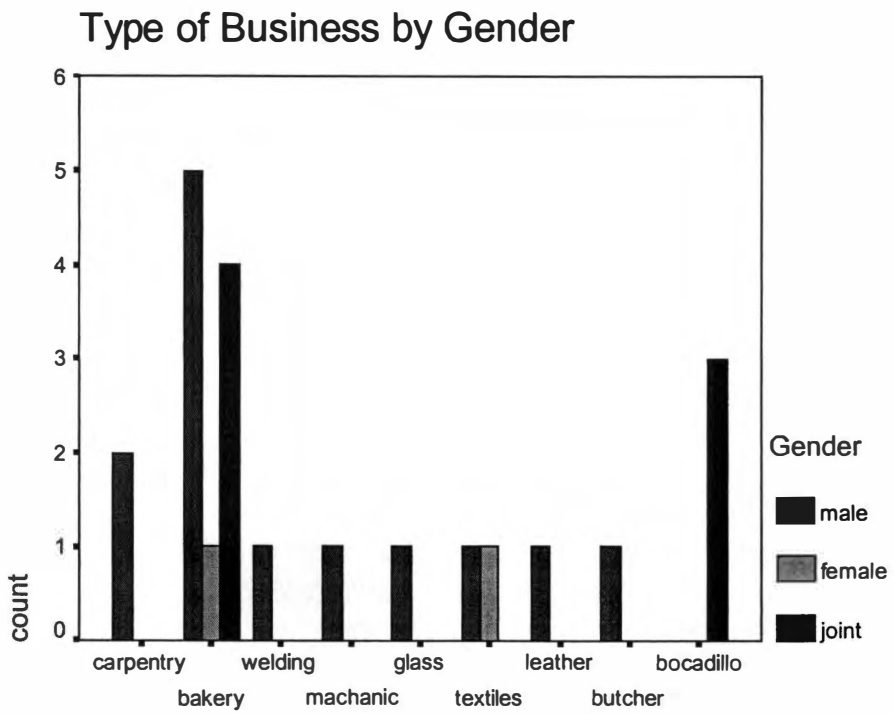

Figure 18. Type of Business by Gender

Table 14.
Time of Operation

Years	Frequency
40+	3
30+	2
20+	1
15+	2
14	1
12	1
11	2
10	2
8	1
6	2
5	1
4	1
3	1
2	2
Total	22

The City of Socchobamba is best known for its *bocadillo*. It is a small village located just outside of Ayabaca. The valley of Socchobamba is ideal for growing sugarcane. Almost every family in the valley raises it and participates in the manufacturing of *bocadillo* in some form.

The sugarcane is processed in two ways, by machine or bulls. The town collectively owns a machine that is shared by a group of families. During June-July 2001, the machine was broken and they were all producing it by hand.

Recommendation

It appears that both sugarcane and the bocadillo manufacturing industry could be a valuable resource for the region. The region is already known for the delicious bocadillo, but there is need to expand the market. This could be done through better promotion, transportation and communication facilities, all of which are possible with organization.

Interviews 20-22 in the appendices were with Socchobamba *bocadillo* manufacturers.

Businesses and Industries

Although the City of Ayabaca has only a very few small manufacturers, it is the center of industry for the Province of Ayabaca. Most sell directly to the general public and offer little room for expansion.

Problems for Industries

Problems for industries include first and foremost, a poor economy. This is a problem for all of Peru, not just Ayabaca. One problem in particular is with meat processing, ranchers travel to nearby Ecuador to sell their cattle because they are paid more for their livestock.

Other problems in the area include the lack of publicity, communication, transportation, credit, capital, supplies and variety. If a plan were developed to improve these areas, there would be potential for Ayabaca's business and industry to grow.

Recommendations

It would be helpful to organize seminars for business owners in the area, teaching them how to run a successful business. Some industries are successful, but many appear to lack the needed management skills. This could be addressed by an adult education course offered at a local school (see interview three in appendices, page 103).

IV. Population/Migration Survey

Methodology

Some 288 interviews were held with heads of household in the District of Ayabaca, which includes the City of Ayabaca and surrounding communities. This area has a population of about 7,742 persons. The average household size was estimated to be five persons (the survey later showed this number to be closer to six, including four children), from which there were an estimated 1,548 heads of household. The 288 interviews provided a 19 percent sample of the heads of house, and a confidence level of 95 percent +/- 5.21. (See appendices for exact numbers and copy of survey). However, not every interview resulted in every question answered, hence the charts and graphs differ slightly in total number.

Statistical calculations were originally done by the Universidad Nacional de Piura, then checked and double checked by the Statistics Department of the University of Tennessee and the confidence level calculated by "The Survey System by Creative Resources" at www.surveysystem.com.

The interviews were conducted on 23 June, by students from Lizardo Montero C.S.M. (teachers college) and the Technical Institute of Ayabaca. (See page 120 for list of names). Luis Cruz Michelot and I provided supervision.

The surveys covered only the heads of household, but the questions pertained to both themselves and their family members.

Unfortunately, neither the time nor resources were available to conduct interviews throughout the entire province. However, from conducting the survey in the city, it was discovered that many people currently living in the District of Ayabaca are from other districts throughout the province. So, there was an opportunity to learn why they moved.

Characteristics of the Heads of Household

Gender and Age

The majority are male (70%), and the minority is female (30%) (see figure 19).

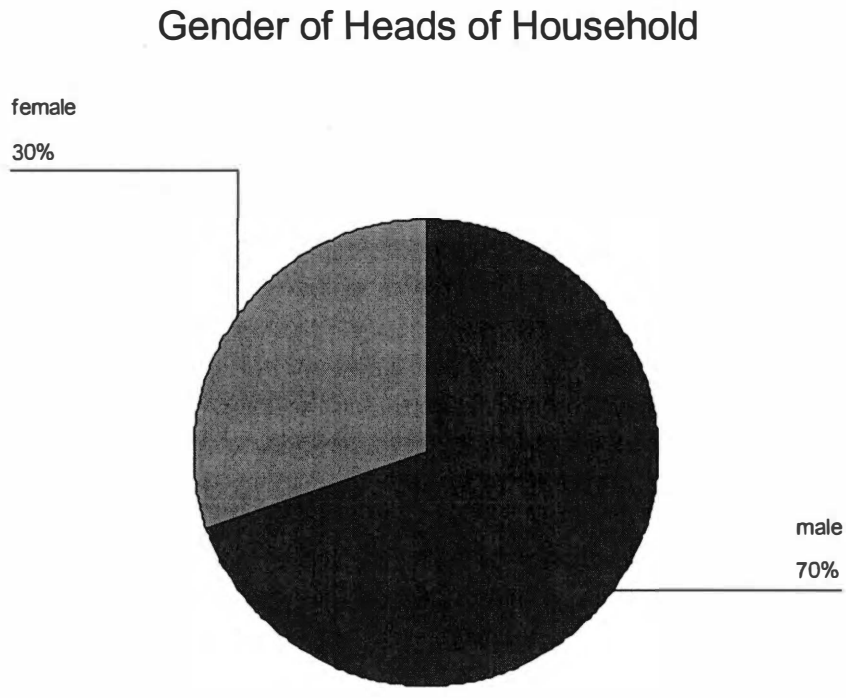

Figure 19. Gender of Heads of Household

The average age of heads of household in Ayabaca is 46 years, but ranges from 20 to 90. Figure 20 and table 15 were calculated with a total count of 287.

Civil Status

Marriage is the norm for an Ayabaca head of household (see figure 21), and there is a very low divorce rate (only one person interviewed was divorced). Ayabaca is predominately Catholic, and the Catholic Church condemns divorce, more so than co-habitation with a member of the opposite sex without marriage, which is why that rate is so high. This helps to explain the fact that under the age of 35, fewer than half of the heads of households are married, and 28 percent co-habitat (see figure 22). Some 89 percent of the heads of household reported having at least one child. When compared with heads of household 35 and older, well over half (67%) are married, and only 14 percent co-habitat (see figure 23). Thus, it appears that the traditional family structure is breaking down in Ayabaca, but more research on the subject is needed.

Education

Most heads of household have some formal education, but the extent is limited, with very few (8%) having any education at the university level (see figure 24 and table 16).

Employment

Some 35 percent of the heads of household in Ayabaca have professional training (see table 17), and only 8 percent report being unemployed (see table 18). Unfortunately, only 35 percent have permanent employment. Also, of the 93 people who reported having professional training, only 58 (62%) are actually employed in their field. The most common type of employment is a merchant, followed closely by professional (including all types), and farmer (see figure 25).

Of the 208 heads of household who responded as having jobs, the permanent/temporary split was fairly equal with 51 percent being temporary and 49 percent being permanent (see figure 26). These figures do not suggest a high level of job security.

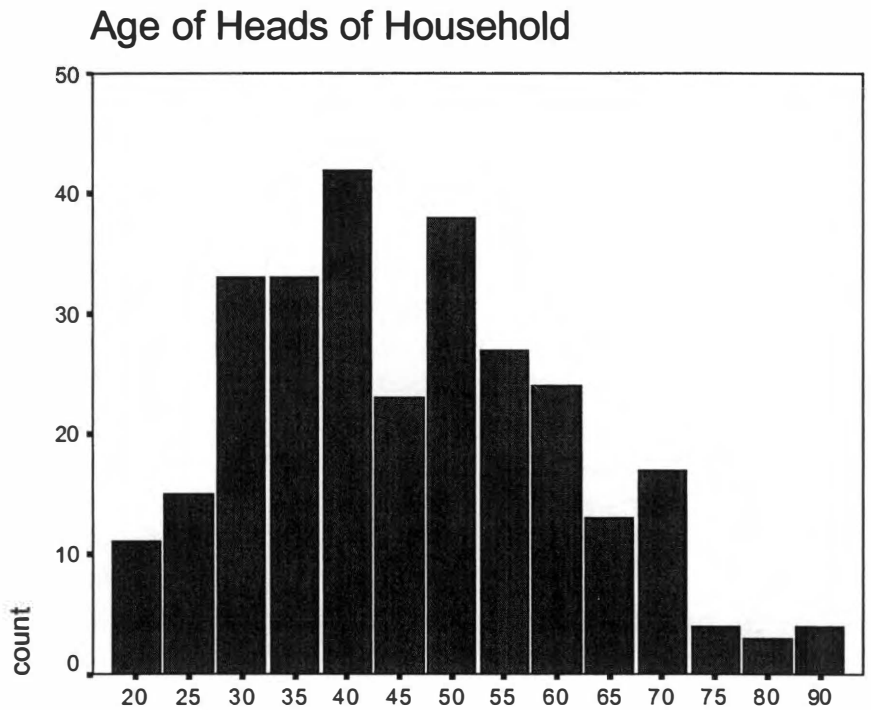

Figure 20. Age of Heads of Household

Table 15.
Age of Head of Household

	Number	Percent
20	11	4
25	15	5
30	33	11
35	33	11
40	42	15
45	23	8
50	38	13
55	27	9
60	24	8
65	13	5
70	17	6
75	4	1
80	3	1
90	4	1
Total	287	100

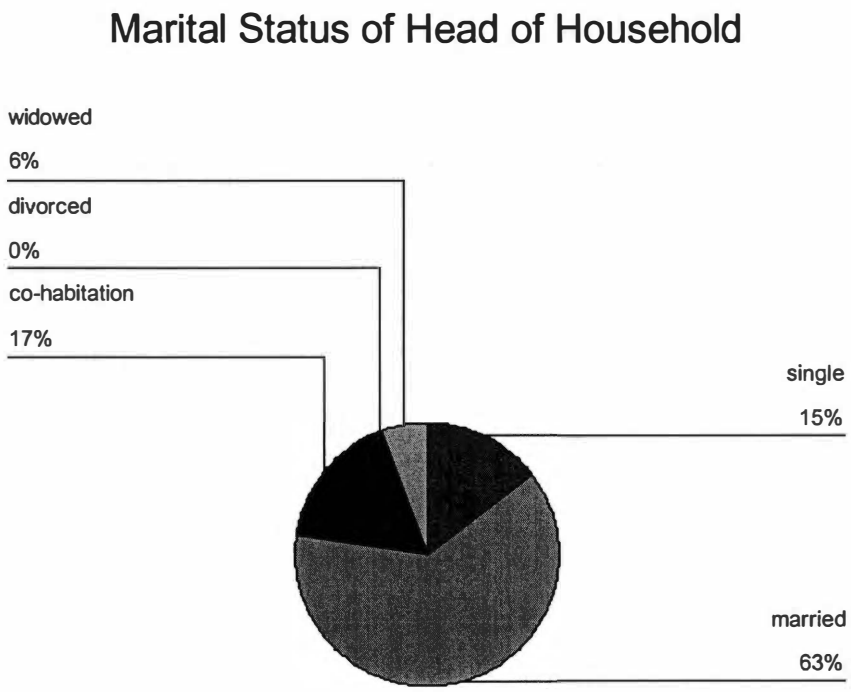

Figure 21. Marital Status of Head of Household

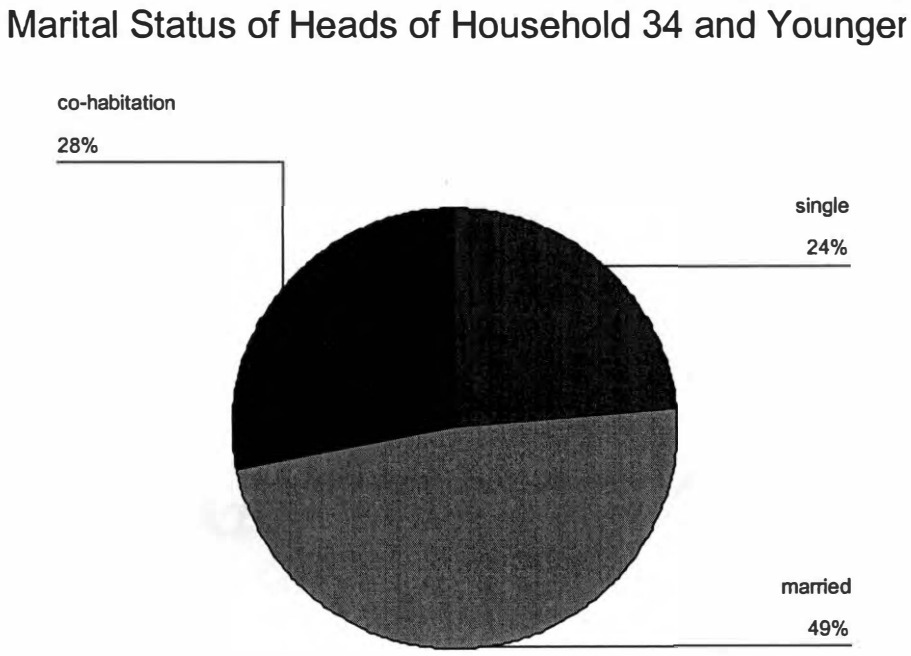

Figure 22. Marital Status of Heads of Household 34 and Younger

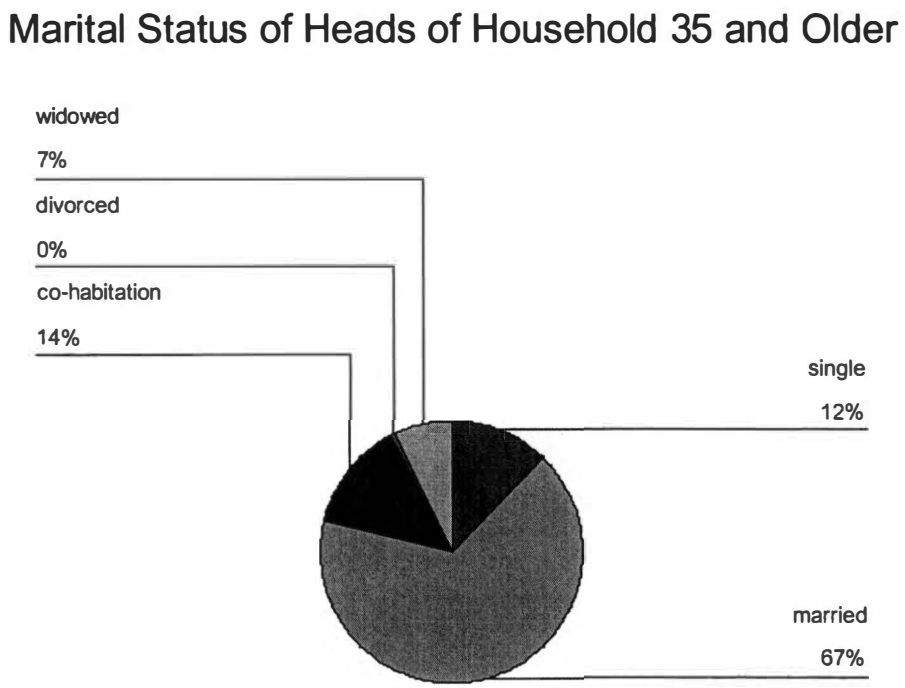

Figure 23. Marital Status of Heads of Household 35 and Older

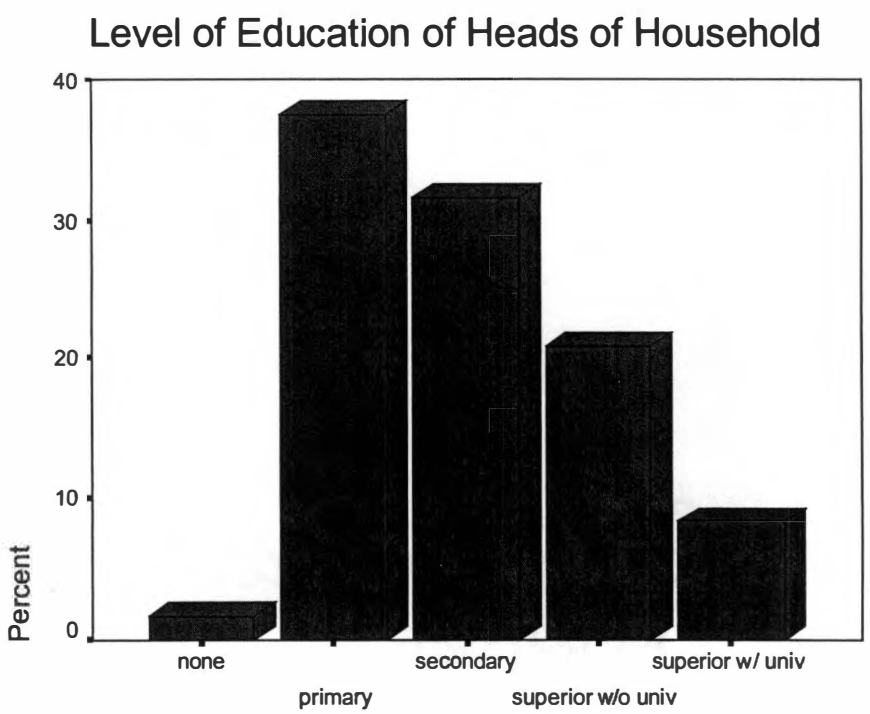

Figure 24. Level of Education of Heads of Household

Table 16.
Education Level of Heads of Household

	Frequency	Percent
None	4	1
Primary	108	38
Secondary	91	32
Superior w/o Univ.	60	21
Superior w/ Univ.	24	8
Total	287	100

Table 17.
Profession

	Frequency	Percent
None	187	67
Professor	35	13
Engineer	18	7
Government	4	1
Agriculture	5	2
Medical	6	2
Accountant	3	1
Administrator	8	3
Skilled	14	4
Total	280	100

Table 18.
Type of Employment

	Frequency	Percent
Merchant	63	23
Professional	51	19
Agriculture	51	19
Employed, not specified	25	9
Skilled Worker	23	9
None	22	8
Housewife	12	4
Service	10	4
Student	6	2
Retired	6	2
Total	269	100

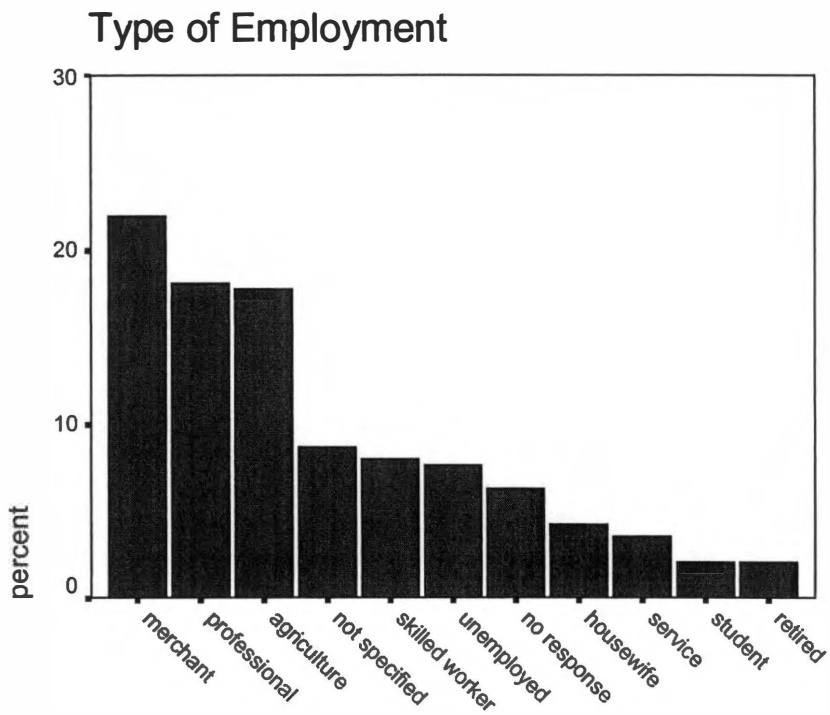

Figure 25. Type of Employment

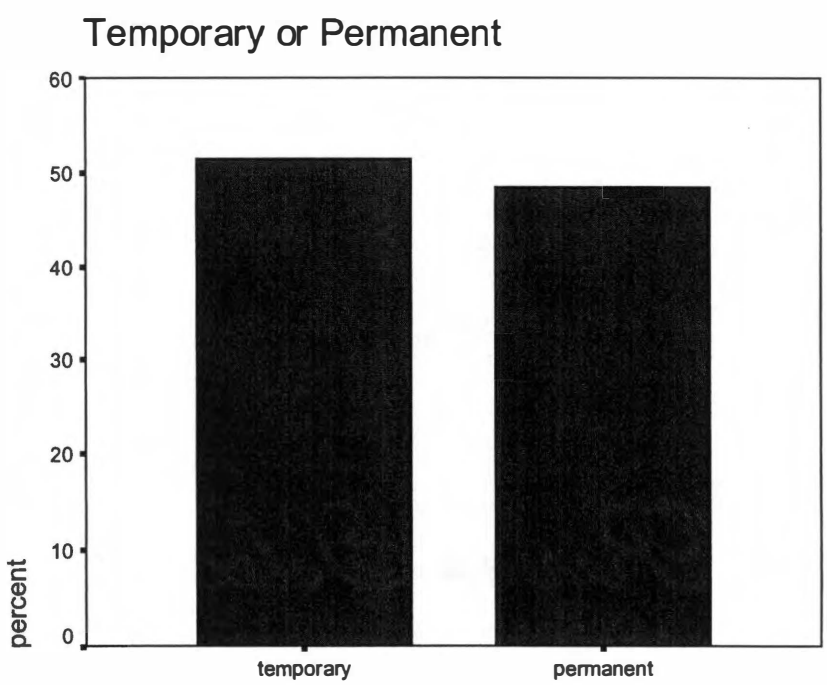

Figure 26. Temporary or Permanent

In-Migration

All heads of household interviewed are from Peru, but they are not all from Ayabaca (see table 19). Just over half are from the City of Ayabaca. This suggests a great deal of in-migration, mostly from the Ayabaca countryside. Within the Province of Ayabaca, people come from small towns and all around the countryside (see A-1 on page 94 and figure 27).

Migration to the City of Ayabaca peeks around 20 years of age and then slowly decreases to 75 years of age, with an average of 26 (see figure 28). On average just over one-half moved with their parents; just over half where married and brought their spouse; on average they brought two or three children with them.

Few migrants were employed prior to moving to the City of Ayabaca (see table 20), and their level of education was quite low (see table 21). Although, higher education is more prevalent for migrants who moved here from outside the province, this is due to the fact that many of these migrants are here on assignments as teachers, national police or medical doctors.

Work and education are by far the most common reasons that people migrate to the City of Ayabaca (see figure 29). Most reasons are self-explanatory, except for quality of life. We take this to mean all or a combination of factors.

Although work was the primary answer, only 16 percent had work waiting for them when the arrived, 50 percent of the migrants said that they knew where they were going to live when they reached Ayabaca, 44 percent said it was to be with family.

Comparison Between Heads of Households born in Ayabaca and Migrants

The only significant difference between heads of households born in the City of Ayabaca and those born in the rural area of Ayabaca Province is educational level (see table 22). Other demographic categories (age, gender and marital status) are quite similar, and have no relevant difference.

The total numbers are not the same, but show that people born in the City of Ayabaca tend to obtain a higher level of education.

Table 19. Place of Birth		
	Frequency	Percent
City of Ayabaca	146	51
Rural Ayabaca	125	43
City of Piura	6	2
City of Sullana	3	1
City of Chulucanas (Morropón)	2	1
Rural Huancabamba	1	<1
Rural Morropón	1	<1
City of Chiclayo	1	<1
City of Trujillo	1	<1
City of Tumbes	1	<1
City of Lima	1	<1
Total	288	100

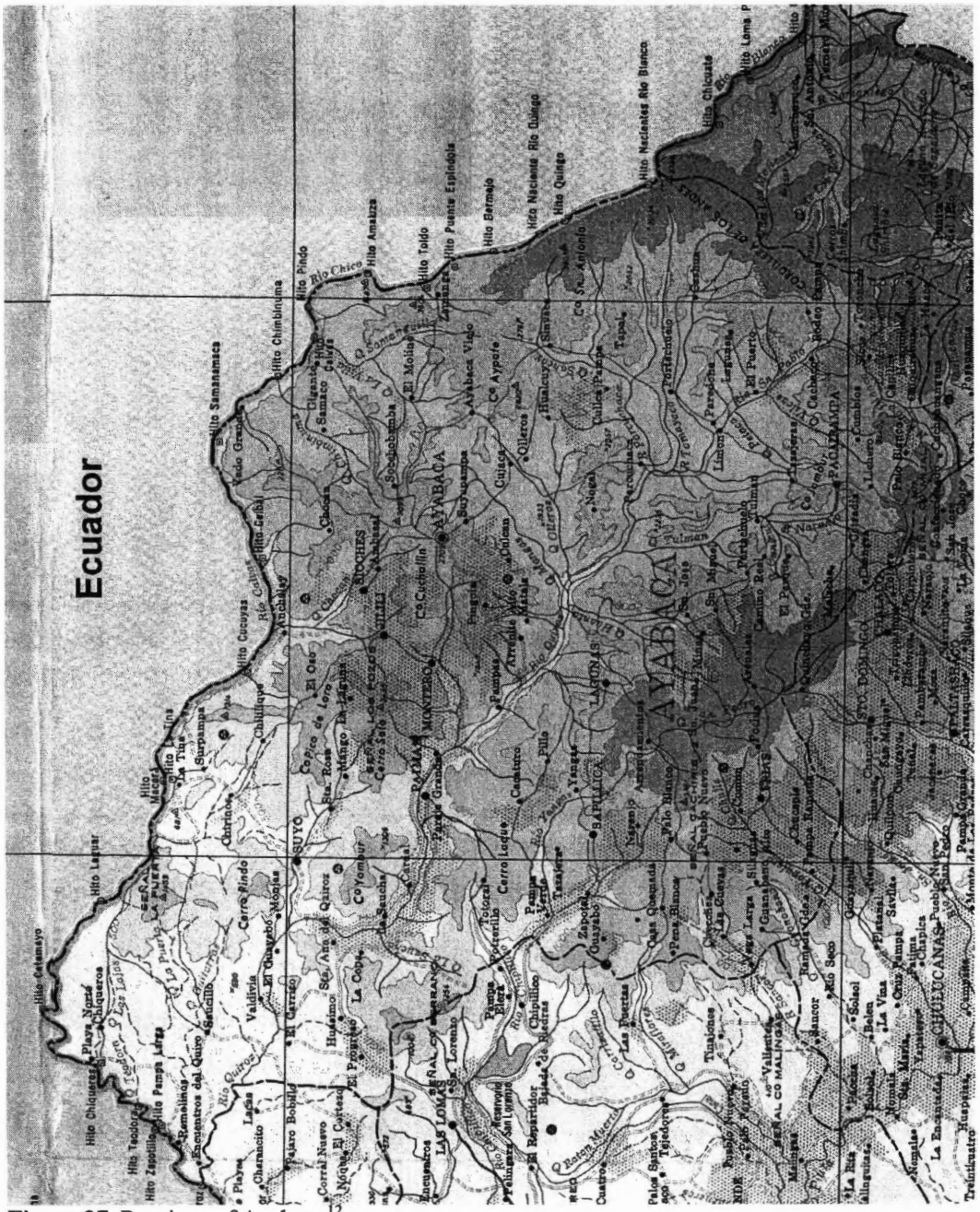

Figure 27. Province of Ayabaca[12]

[12] Instituto Geográfico Nacional, Perú 2000.

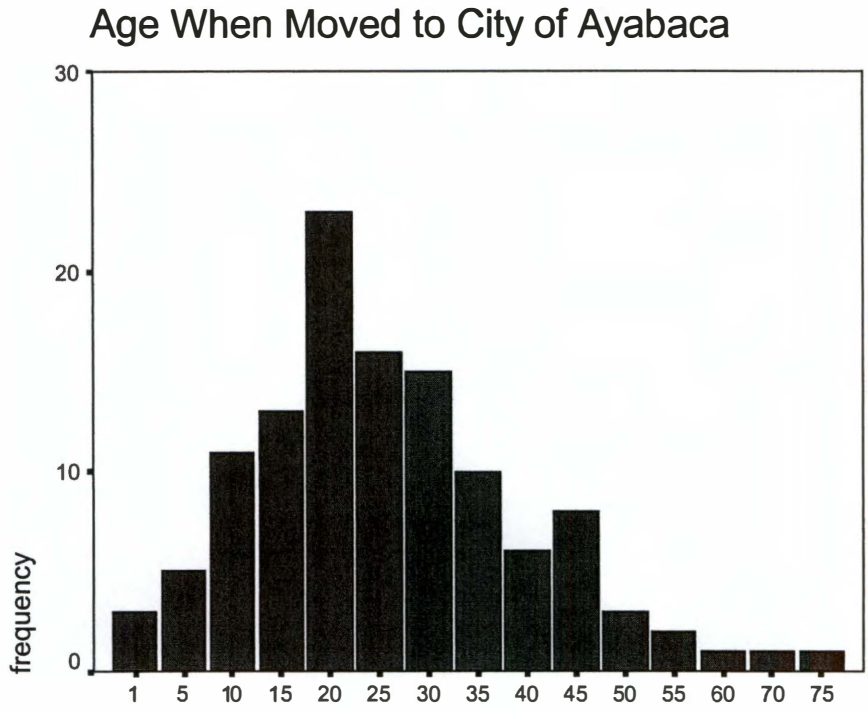

Figure 28. Age When Moved to City of Ayabaca

Table 20.

Employed Prior to Moving

	Yes	No	Percent Employed	Total
From Rural Ayabaca Province	16	91	15%	107
From Outside Ayabaca Province	5	8	38%	13
Total	21	99	18%	120

Table 21.

Prior Education

	None	Primary	Secondary	Superior w/o Univ.	Superior w/ Univ.	Total
From Rural Ayabaca	3	69	23	9	4	108
From Outside Ayabaca Province	1	6	1	2	4	14
Total	4	75	24	11	8	122

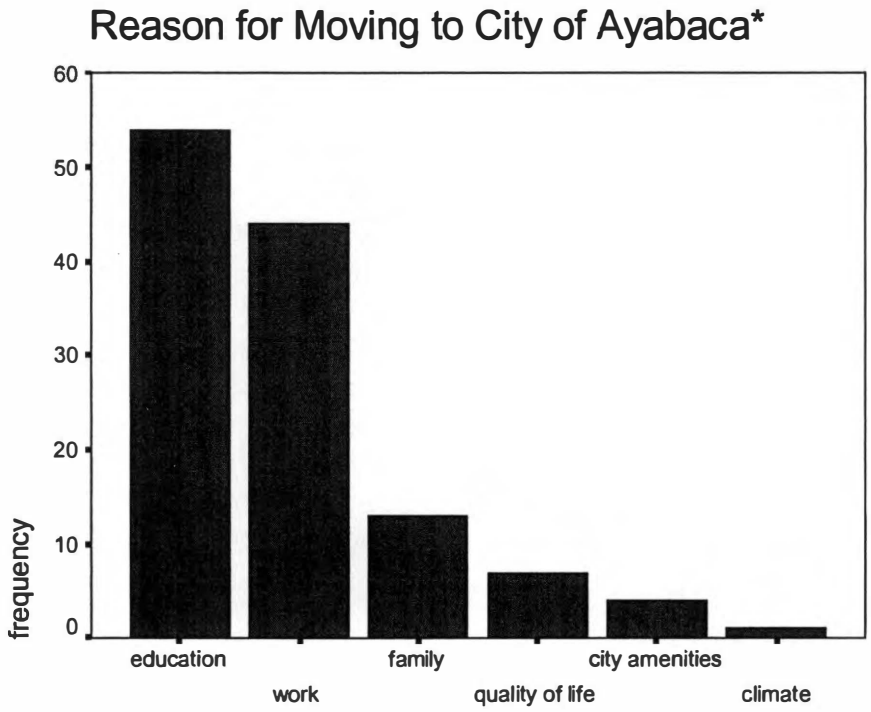

Figure 29. Reasons for Moving to City of Ayabaca
*Based on number of times an answer was given, not people. Some people gave multiple answers.

Table 22.
City versus Rural Ayabaca Education Cross-Tabulation

		Education					Total
		None	Primary	Secondary	Superior w/o Univ.	Superior w/ Univ.	
Place of Birth	City of Ayabaca	2	41	51	38	14	146
	Rural Ayabaca	1	62	35	20	6	124
Total		3	103	86	58	20	270

Out-Migration

Ayabaca has a large amount of out-migration and one of the many goals of the study was to find out why. When heads of households were asked if they would prefer to live somewhere else, 279 responded to this question (nine were unanswered or not sure), and 55 percent (153) indicated that they would prefer to live in another location, rather than Ayabaca. In reality, this number might be higher, because the question is personal and many people refrained from answering.

Of the 153 heads of household who reported that they would prefer to move from the City of Ayabaca (figure 30), 151 people gave a reason. Figure 30 represents the number of times a response was given, not number of people, because some heads of household gave more than one response. When asked if they like Ayabaca, 87 percent said yes (figure 31), but 55 percent want to move. The obvious question is why they would consider moving.

Since many residents like Ayabaca, logically they don't want to move. But, they feel that it is best for them to do so. This gives hope to stopping the outward flood of migration. Some 250 who say they like Ayabaca, gave multiple reasons. The table 23 and figure 32 are based on the number of times a reason was given.

Table 24 and figure 33 show the reasons the 38 people who said they do not like Ayabaca gave.

Table 25 and figure 34 show clearly that finances are the prevailing factor for both why current residents dislike Ayabaca and why they want to move. *Therefore, if jobs could be created, it is likely that out-migration would slow.*

Quality education goes hand in hand with good jobs. Although education is second on the list, it is a critical factor. It is recommended that a college and an adult learning center be established in Ayabaca.

Some 149 heads of households gave insight as to where they might wish to move, but most people (93%) want to stay within Peru. Five percent want to leave the country (see table 26), of whom two percent do not have a particular place in mind.

Within Peru there are multiple locations where people want to move, but most would move to Piura (see table 27, figure 35 and 36).

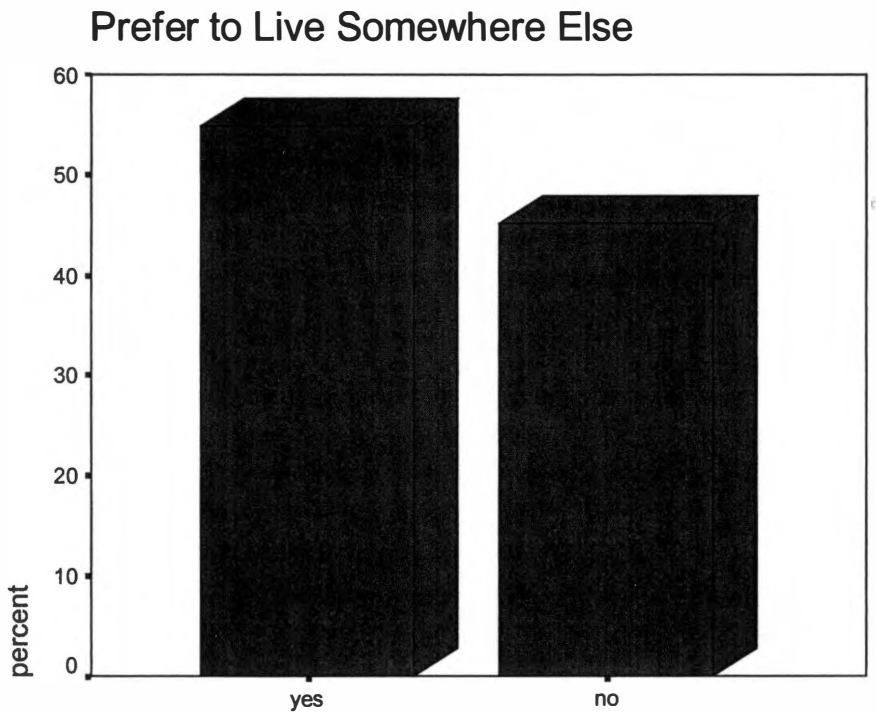

Figure 30. Prefer to Live Somewhere Else

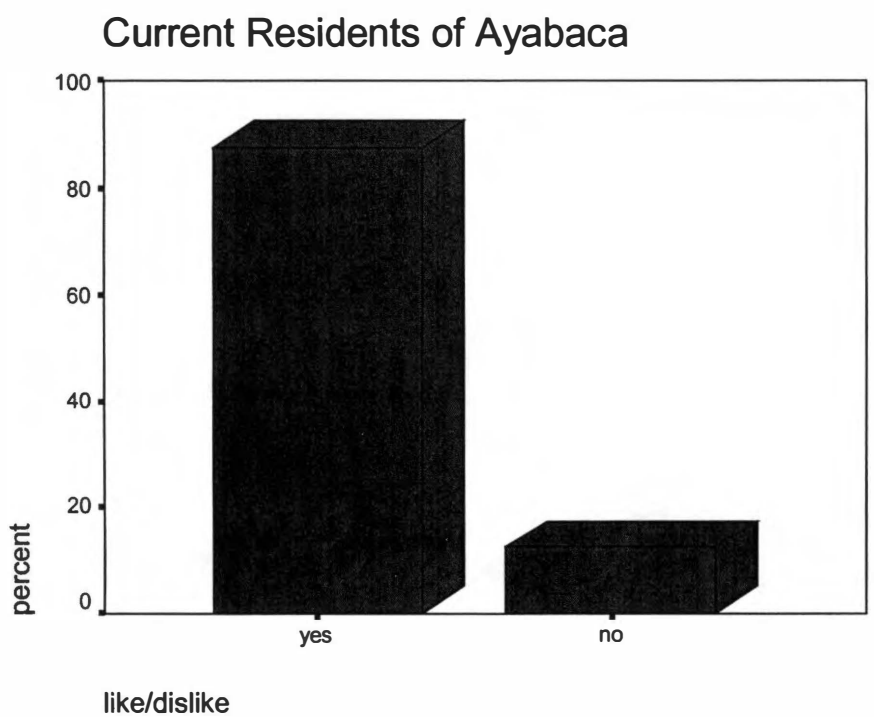

Figure 31. Current Residents of Ayabaca

Table 23. Why They Like Ayabaca		
	Frequency	Percent
Tranquil	99	37
Home	56	21
Climate	45	17
Work	35	13
Beautiful	19	7
Education	5	2
Culture	2	1
Low Cost of Living	1	0
Other	3	1
Total	265	100

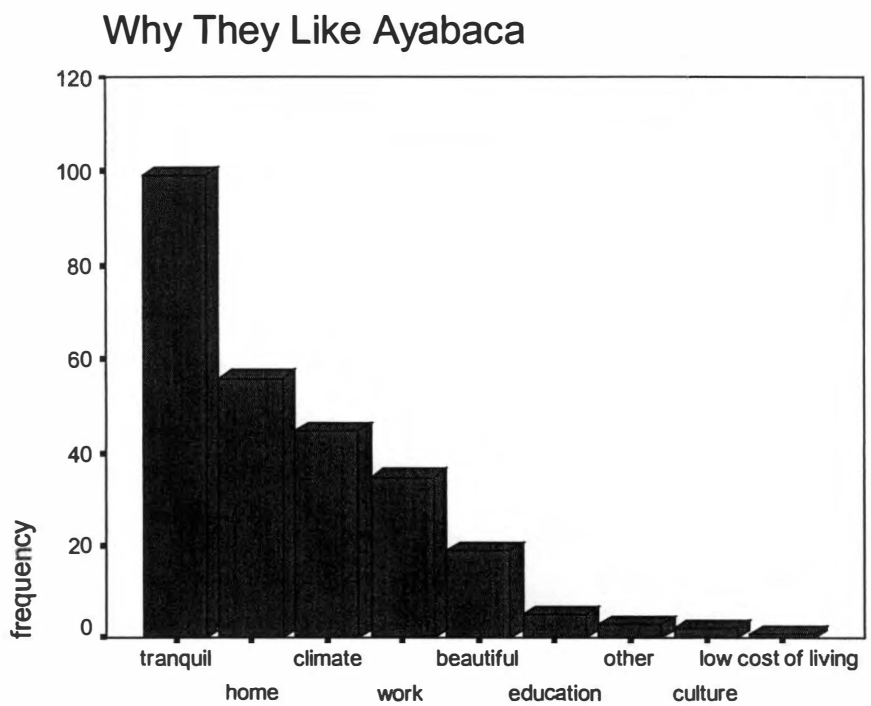

Figure 32. Why They Like Ayabaca

Table 24. Why They Dislike		
	Frequency	Percent
Economy	21	75
Climate	3	11
Medical / Health	1	4
Education	1	4
Atmosphere	1	4
Other	1	4
Total	28	100

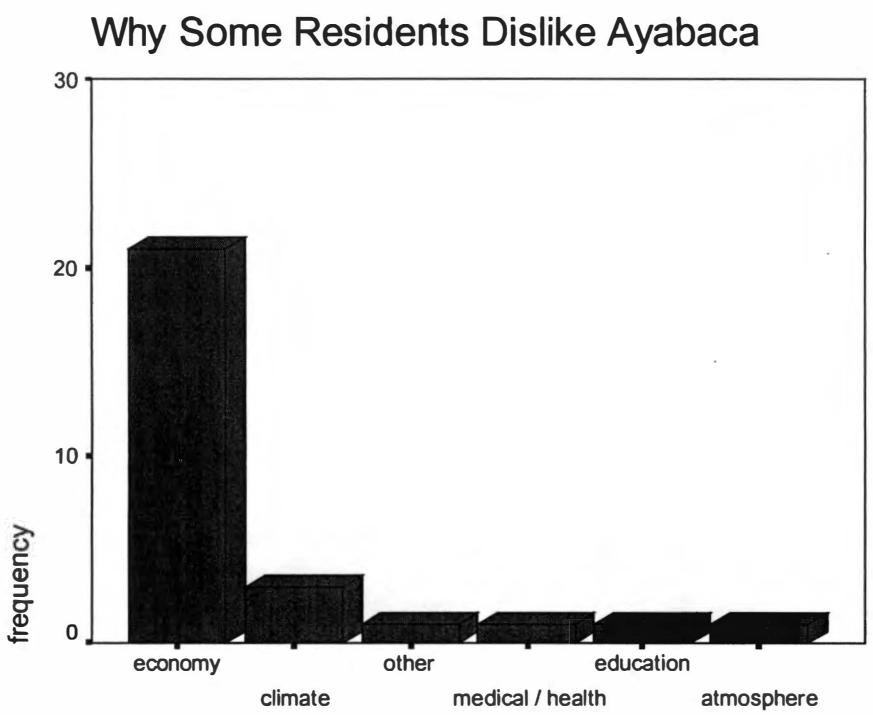

Figure 33. Why Some Residents Dislike Ayabaca

Table 25.
Why Residents Want to Move from Ayabaca

	Frequency	Percent
Work	77	46
Education	35	21
Quality of Life	25	15
Family	13	8
Climate	7	4
Atmosphere	3	2
For a Change	2	1
Home	1	1
Medical / Health	1	1
Other	2	1
Total	166	100

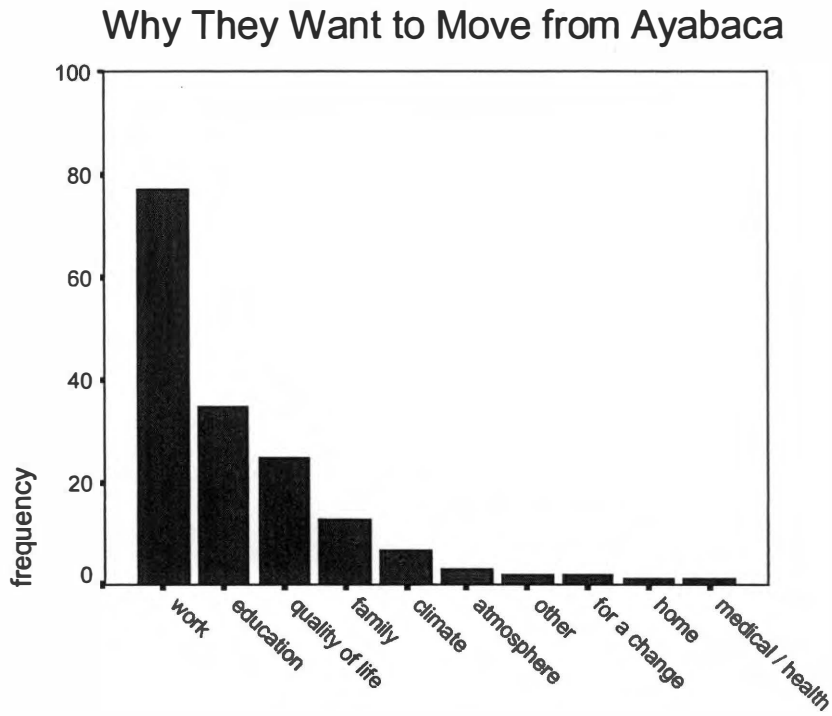

Figure 34. Why They Want to Move from Ayabaca

Table 26. Other Countries	
	Frequency
Ecuador	5
Italy	1
USA	1
France or England	1
Total	8

Table 27. Potential Destinations		
	Frequency	Percent
Piura (city)	84	61
Ciclayo	13	9
Trujillo	10	7
Sullana	6	4
Cajamarca	5	4
Lima	4	3
Lareto, Tarpoto	2	1
Tumbes	2	1
Arequipa	2	1
Talara	2	1
San Ignacio	2	1
San Marcos	1	1
Paita	1	1
Ica	1	1
Huamango	1	1
Samanga	1	1
Las Lomas	1	1
Total	138	100

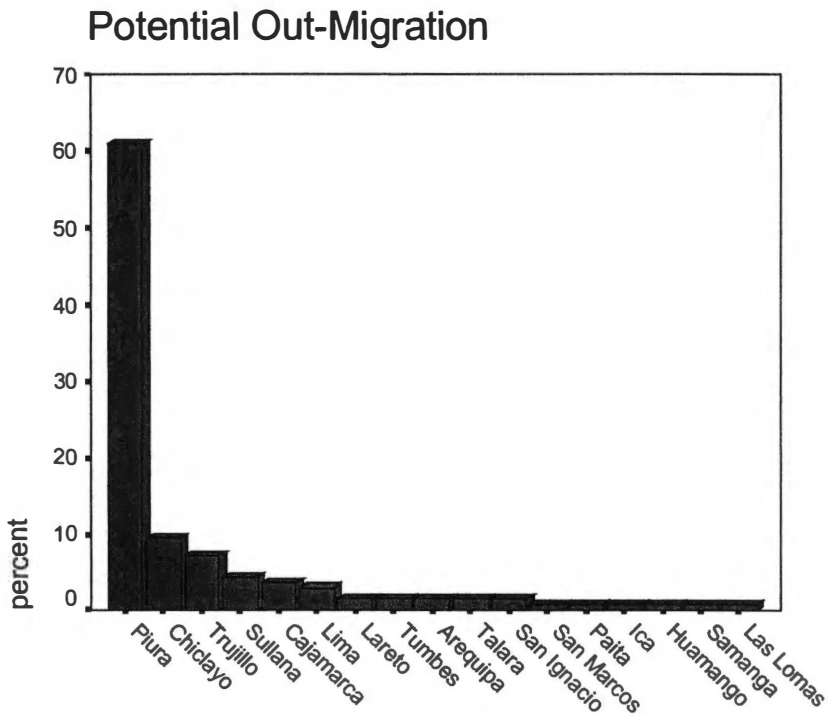

Figure 35. Potential Out-Migration

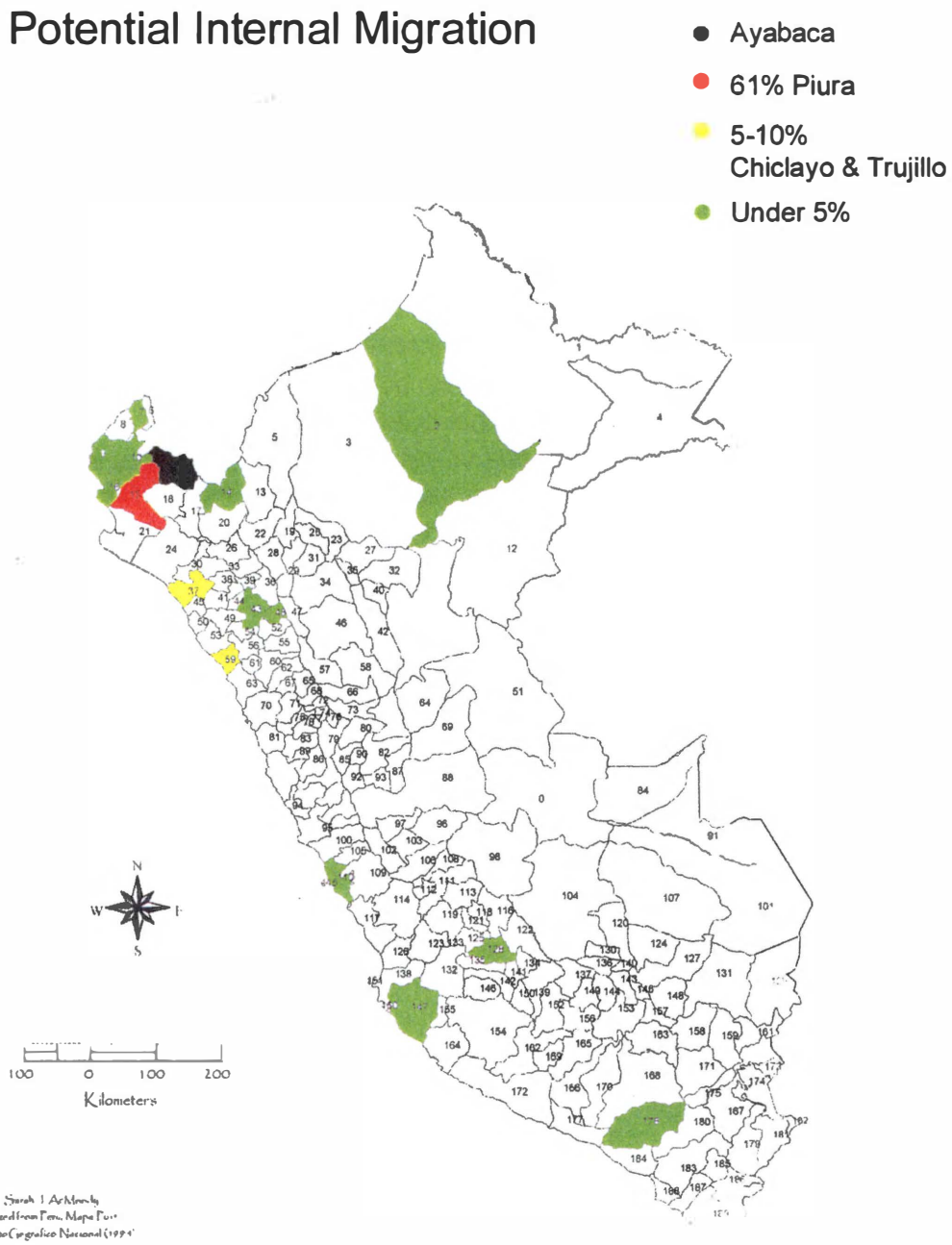

Figure 36. Map of Potential Internal Migration.
Percentages on map refer to number of heads of household who want to move to these areas.
Numbers on the map correspond to the table on page 96.

Of 279 responses, 126 (45%) indicated that the heads of households would prefer not to move from the City of Ayabaca. Of these, 78 people gave a reason. Table 28 and figure 37 indicate the number of times a response was given, not number of people, because some heads of households gave more than one response.

The most common reason not to move, by far, is that home is in Ayabaca, followed by secure work. Most people who want to move hope to find work, and many people who do not want to move, have work. Work is obviously a very important issue in the decision whether to migrate.

Although 55 percent of heads of household would prefer to live somewhere else, fewer think they are actually likely to move. Of 276 heads of households answering this question, 48 percent think that they actually will move in the next ten years (see figure 38). This is a large number. Most people do not move alone; they move with families. This sample suggests that almost half of the City of Ayabaca's population might move within the next ten years, unless they see reasons not to do so.

Of the people who think they will move within the next ten years, 52 percent feel that they will be moving to the City of Piura (see table 29 and figure 39). Piura is already experiencing exponential growth so this is not good news for either Ayabaca or Piura.

When asked if immediate family members have moved from Ayabaca, one-half (50.3%) indicated yes and half, (49.7%) said no (see figure 40).

Of the 288 heads of household's families, an average of one member per family has moved away. The heads reported family members moving away from 1965 to the present, although migration undoubtedly occurred before. Of the reported migrant family members, 75 percent have moved since 1990.

The family members have moved all over Peru (see figure 41), and six percent have migrated to other countries (see table 30). This is surprising, because Ayabaca is very remote and poor, so traveling to Europe or the United States is difficult.

Some 94 percent of the family members who migrated from Ayabaca stayed in Peru, and 40 percent migrated to the City of Piura (see table 31).

Table 28. Reasons Not to Move		
	Frequency	Percent
Home	36	44
Secure Work	13	16
Economics	11	14
Tranquil	8	10
Too Old	4	5
No Need	3	4
Climate	3	4
Beautiful	2	2
Education	1	1
Total	81	100

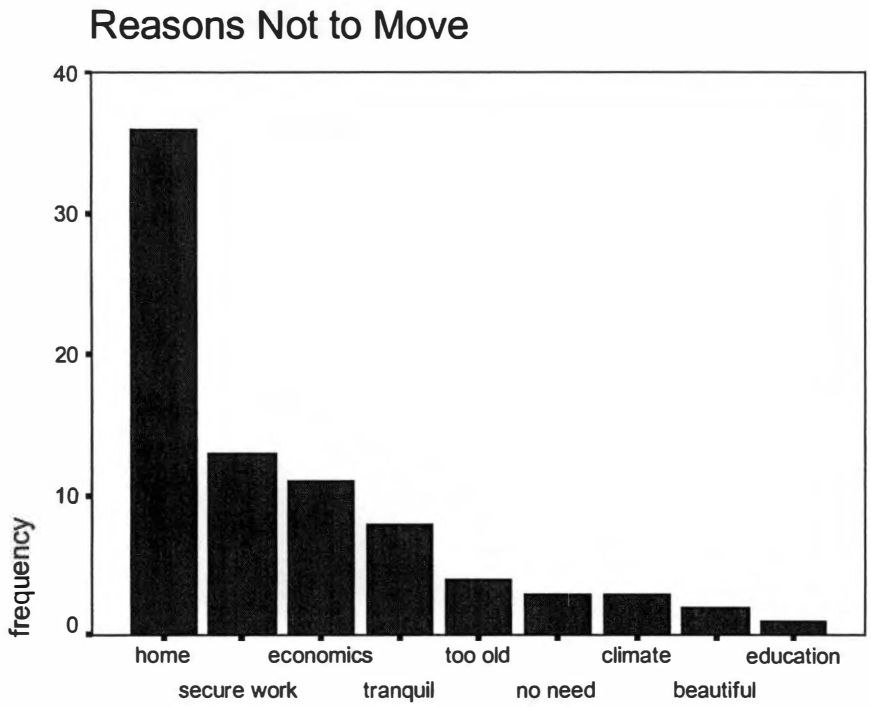

Figure 37. Reasons Not to Move

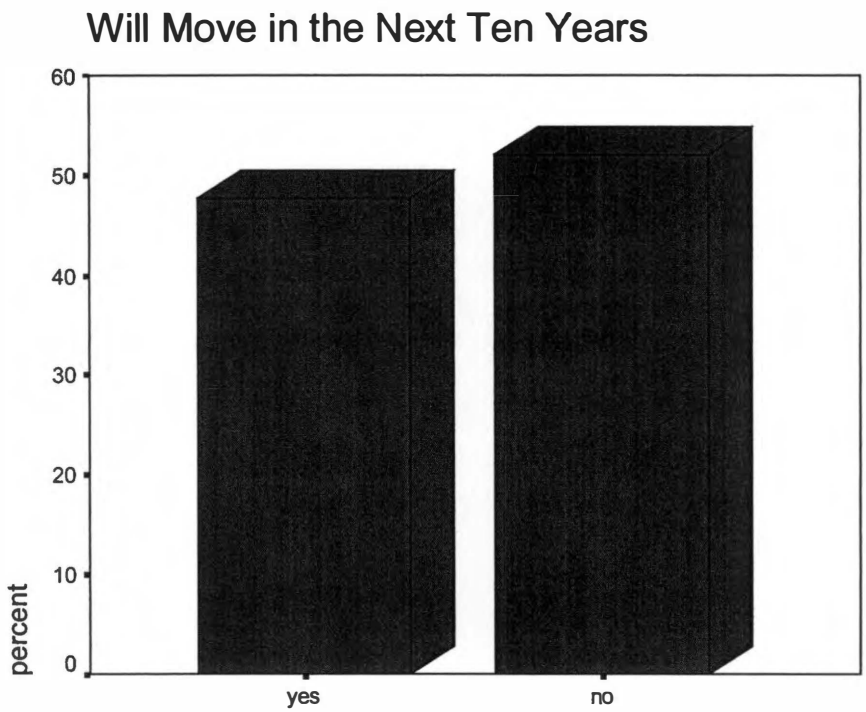

Figure 38. Will Move in the Next Ten Years

Table 29.
Migration Destinations in Ten Years

	Frequency	Percent
Piura (city)	66	52
Trujillo	12	9
Chiclayo	11	9
Sullana	7	6
Ecuador	6	5
Lima	5	4
Talara	3	2
Europe	3	2
San Ignacio	2	2
USA	2	2
Chile	1	1
Cajamara	1	1
Paita	1	1
Loreto	1	1
No Special Place	1	1
Tumbes	1	1
Chimbote	1	1
Gigante	1	1
Las Lomas	1	1
Chulucanas	1	1
Total	127	100

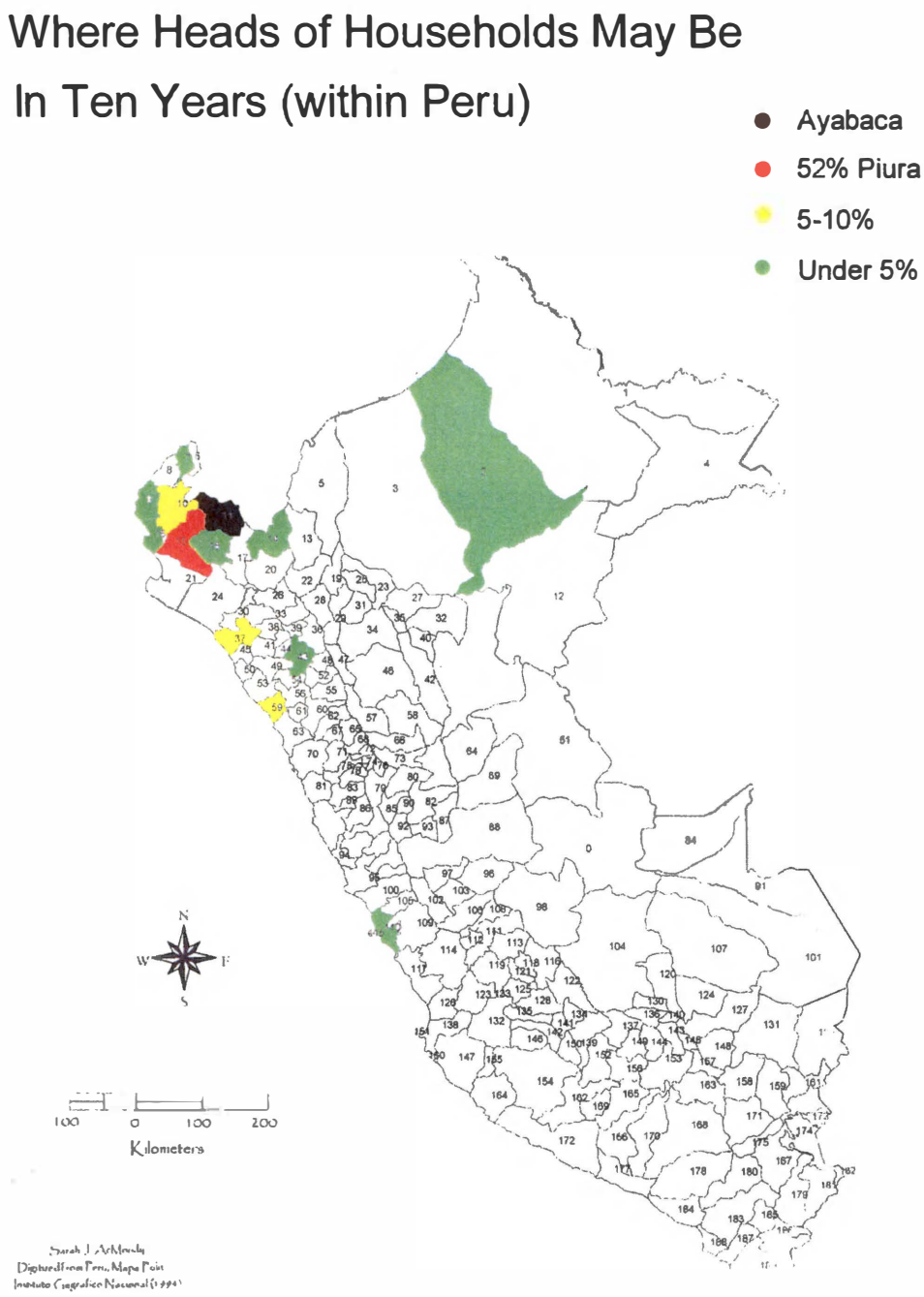

Figure 39. Map of Ten-Year Destinations.
Percentages refer to number of heads of households who may to move to these areas within ten years. Numbers on the map correspond with the table on page 96.

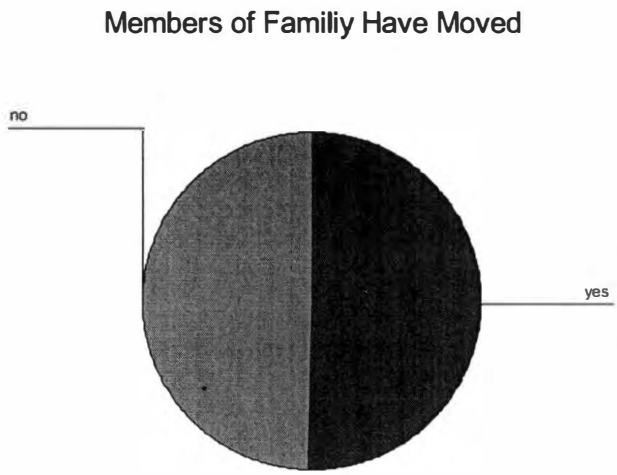

Figure 40. Members of Family Have Moved

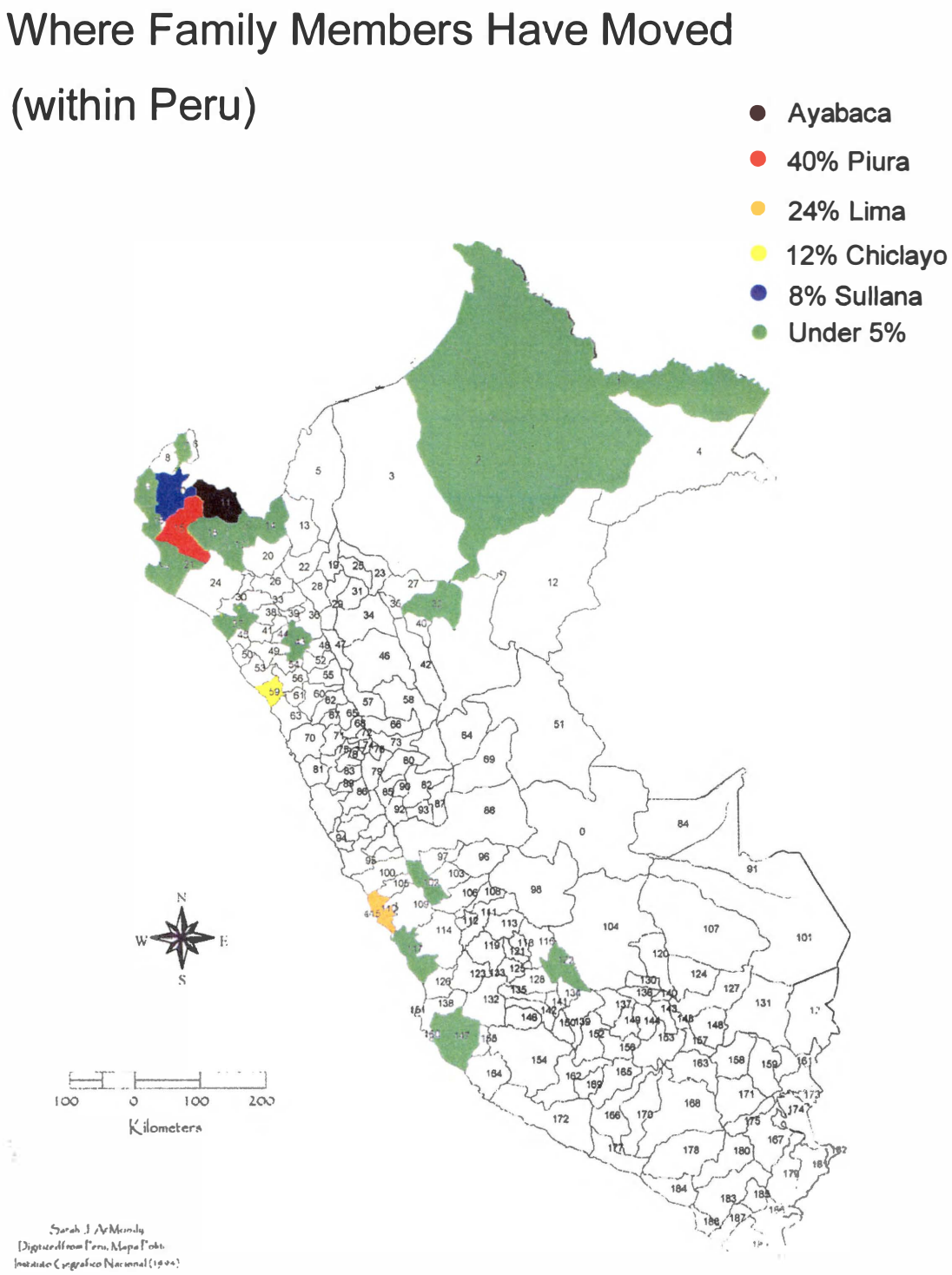

Figure 41. Map of Migration by Family Members.
Percentages refer to number of family members of Ayabaca residents who have moved to these areas. Numbers on the map correspond with the table on page 96.

Table 30.
Countries Where Family Members Have Migrated

Ecuador	5
USA	4
Belgium	3
Argentina	1
Europe (not specified)	1
Italy	1
Canada	1
Spain	1
Total	18

Table 31.
Where Family Members Have Moved Within Peru

	Frequency	Percent
Piura (city)	115	40
Lima	69	24
Chiclayo	35	12
Sullana	23	8
Tumbes	6	2
Paita	6	2
Trujillo	5	2
Talara	3	1
San Martín	3	1
Sechura	2	-1
Chimbote	2	-1
Iquitos	2	-1
Ica	1	-1
Cajamarca	1	-1
Suyupampa	1	-1
Loreto	1	-1
Chulucanas	1	-1
San Ignacio	1	-1
La Oroya	1	-1
Oxohuay	1	-1
Amazonas	1	-1
Paimas	1	-1
Huanuco	1	-1
Huancabamba	1	-1
Ayacucho	1	-1
Total	284	100

The final two questions were to learn about the residents' travels. 58 percent reported having visited Ecuador at least once, with the average being about three times. However, 23 heads of households reported traveling to Ecuador ten times or more, with the most being 25 times (see table 32).

The primary reason for visiting Ecuador was vacation, even among those who went ten times or more; second was work/trade. The following table is based on the number of times a response was given, not on number of respondents, because many people gave more than one response (see table 33).

The most common places that people went to were Loja and Machala, but many other locations had been visited, as well.

Only 12 heads of household, or 4 percent, had visited countries other than Ecuador. These countries include Chile, the United States, Colombia, Venezuela and Argentina. The reasons for the visits include vacation, family, work and medical/health.

Summary

Demographics

There are many single or unmarried heads of household. Many children are born out of wedlock. This is most likely for reasons that pertain to the Catholic religion. First, the Catholic Church condemns divorce. When a woman divorces she can no longer be a member of the church, regardless of fault. However, if a woman has a child out of wedlock, she is allowed to remain a member of the Church, thus making it safer for a religious woman to never marry. Second, the Church does not condone modern birth control, and this results in a high birth rate. *There is some family planning in Peru, but it is not practiced widely. This is a subject that needs to be addressed throughout a person's lifetime, and an area that should to be further evaluated.*

Education

We see that among Ayabaca heads of household the level of education is low, but they want more, especially for their children.

Table 32.
Number of Trips to Ecuador Per Person

Trips	Frequency	Percent
Never	119	44
Once	45	16
2 to 5	82	30
6 to 9	6	2
10+	23	8
Total	275	100

Table 33.
Reasons for Visiting Ecuador

	Frequency	Percent
Vacation	89	52
Work/Trade	51	30
Religion	11	6
Family	8	5
Medical/Health	7	4
Sports	3	2
Study	2	1
Total	171	100

Employment

The unemployment rate in Ayabaca is only eight percent, which is good, but unfortunately 51 percent of people with jobs are only temporarily employed.

Opportunity for quality employment in Ayabaca is low; current residents want the opportunity for advancement.

Migration

Most people like Ayabaca but still want to move for economic reasons. Of the people who don't like Ayabaca, it is mainly for economic reasons, as well. Almost half (48%) believe they will move in the next ten years, and an equal percentage have had family members move.

The City of Piura was the destination for most who have moved and is for those who plan to move. The reason for moving, in most cases, is to achieve a better quality of life.

Interviews with Local Officials

Some of the people interviewed gave their opinions on the reason people leave Ayabaca. The following is a summary of the interviews.

Interview with the Chief of Police

The Chief of Police was able to give some insight as to why people leave the area. He is from Lima and is here temporarily on assignment. His family is still in Lima. He thinks that the biggest problem in Ayabaca is the poor quality of education. People here do not value or obtain a quality education, and this leads to a lack of vision. The best education is in larger cities, and many people leave so that their children can achieve a good education.

Interview with Victor Zapata Solis, Head of Agricultural Administration

Victor Zapata Solis gave extensive information about agriculture and insight as to why people leave the region. First, there is a lack of funding for agriculture, and a lack of work, thus people move. Also, people of the Province of Ayabaca have a traditional mindset causing a social problem

with advancement and technology. This is something that could be corrected with education, but at the moment Ayabaca lacks sufficient institutes and educational projects. He also commented on the difference between Ayabaca and Huancabamba. He claims that Huancabamba has good modes of transportation and local amenities, such as restaurants. This makes it convenient and pleasant for tourists, and with tourism comes jobs and money.

Interview with the Ex-Mayor

Teofilo Flores, the ex-mayor, has lived his entire life in the City of Ayabaca and cares about its future. He provided some insight on many problems of the area.

- Lack of water and technology. There are dams, but they rely solely on rain, and none of the water is treated.

- Bad road conditions. There is no good mode of transportation and the lack of accessibility causes a closed economy. The area is close to Espindola, Ecuador but is not connected. He wishes to see good roads connect Ayabaca to Espindola and Piura.

- The terrain here is very rough, both with mountains and harsh weather.

- Poor education is a problem. There are no means for higher education. He would like to see a small university in Ayabaca to service the area. This is the reason many of the younger generation leave the area and do not return.

- Many people in the area do not know their own history. There are many historically significant sites in the region, such as Ayapate, but area residents do not know these sites because of the lack of facilities.

- There is a lack of leadership in the countryside. This is a cause for the lack of industry, few companies, and no large farms. Most food is produced for eating, not for sale. There is no farmers' market where farmers can sell their produce, and they end up traveling to Piura or Sullana to sell. This is difficult to do and results in little export.

When asked about the comparison of Ayabaca and its neighbor Huancabamba, he says that Huancabamba has an advantage for many reasons. Before 1861 the sierra of Ayabaca was one province, and Huancabamba was the capital. This created a mindset that has remained through the years in both the new provinces of Huancabamba and Ayabaca. Also, Huancabamba is lower in elevation and has a river running through it. It also has a better climate for agriculture. Successful agriculture leads to more industry and technology, which lead to more wealth.

Conclusion

As mentioned in the summary, education, employment, and overall quality of life are important factors with regard to migration. There are many other area problems, as discussed in the interview section:

- Lack of water resources and technology.
- Lack of good transportation and roads.
- Lack of knowledge about local history and resources.
- Lack of higher education.
- Lack of funding.
- A traditional mindset not geared toward progress.

Other observations include:

- Lack of sufficient medical facilities.
- Lack of knowledge of what life will be like in Piura.

Yet another important observation is that many of the migrants had a better life in rural Ayabaca than in the impoverished *pueblos jovenes* of Piura. If they knew how hard life is in Piura when you are poor, they might not move. This, of course, would work best if coupled with improvement in Ayabaca.

V. Recommendations

Facilities

Transportation

Improve roads to/from Ayabaca.

Construct airstrip in Socchobamba Valley.

Communication

Provide telephone answering service.

Provide public access to Internet.

Land Use

Keep land-use map current.

Create water facilities plan.

- Create map of water/sewer system.
- Construct dams and provide potable water.

Other Facilities

Provide rural electrification.

Expand higher education.

- Create local college/adult learning center.

Expand and improve medical facilities.

Improve recreation facilities.

Quality of Life

Provide entertainment (example, public television/movie night in gymnasium).

Economic

Increase agricultural coordination.

Increase promotion, communication and transport.

Increase *Bocadillo* production/export.

Expand tourism.

Increase promotion, communication and transport.

Publicize Señor Cautivo, Inca Ruins, lagunas, and orchid tours

Promote and expand industry.

Provide counseling for local business owners.

Other

Increase family planning.

Conduct a study of Huancabamba, due to its similarity, as a comparison with Ayabaca.

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Appendices

A-1.

Rural Town	
	Frequency
Suyupampa Community	12
Sicchez	8
Cujaca	6
Montero	5
Olleros	5
Caserio Chocán	4
Culcapampa	4
Yanchala	4
Tacalpo	4
Pampa de Rios	4
Jililí	3
Hualcuy	3
Cujaca	3
Caserio Tolas	2
Pakay	2
Tamanguilla	2
Pacaypampa	2
Sauce	2
Huamba	2
Aragoto	2
Samanga	2
Huamarata	2
Cuyos	2
Vilcales	2
Caserio el Sauce de la Frontera	1
Mostazas	1
San Ramón Mangas	1
Hualtaco	1
Ambulco	1
Tapal	1
Arreypite Alto	1
Frias	1
Aul	1
Caserio Changayo, Frias	1
Comunidad de Huará de Indios	1

La Guanas de San Juan	1
Andú	1
Cuyas Cuchayo	1
Mocino	1
Lanchipampa	1
Yacupampa	1
Samaco	1
Lambayeque	1
Pite	1
Chilín	1
Singoya	1
Laguna	1
Joras	1
Calvas	1
Sichulquí	1
El Palmo, Pacaipampa	1
Tucas	1
Sanchipampa	1
Mangas	1
Gualambi	1
Socchobamba	1
Total	288

A-2. Province and Department Names.

Number	Department	Province
1	Loreto	Maynas
2	Loreto	Loreto
3	Loreto	n.a.
4	Loreto	Mariscal Ramón Castilla
5	Amazonas	Condorcanquí
6	Tumbes	Zarumilla
7	Tumbes	Tumbes
8	Tumbes	Contraemirante Villar
9	Piura	Talara
10	Piura	Sullana
11	Piura	Ayabaca
12	Loreto	Requena
13	Amazonas	Bagua
14	Cajamarca	San Ignacio
15	Piura	Piura
16	Piura	Paita
17	Piura	Huancabamba
18	Piura	Morropón
19	Amazonas	Bongara
20	Cajamarca	Jaén
21	Piura	Sechura
22	Amazonas	Utcubamba
23	San Martín	Moyobamba
24	Lambayeque	Lambayeque
25	San Martín	Roja
26	Cajamarca	Cutervo
27	San Martín	Lamas
28	Amazonas	Luyo
29	Amazonas	Chachapoyas
30	Lambayeque	Ferrenafe
31	Amazonas	Rodríguez de Mendoza
32	San Martín	San Martín
33	Cajamarca	Chota
34	San Martín	n.a.
35	San Martín	El Dorado
36	Cajamarca	Celendín
37	Lambayeque	Chiclayo

38	Cajamarca	Santa Cruz
39	Cajamarca	Hualgayoc
40	San Martín	Picota
41	Cajamarca	San Miguel
42	San Martín	Bellavista
43	Cajamarca	Cajamarca
44	Cajamarca	San Pablo
45	La Libertad	Chepen
46	San Martín	n.a.
47	La Libertad	Bolívar
48	Cajamarca	San Marcos
49	Cajamarca	Contumaza
51	Ucayali	Coronel Portillo
50	La Libertad	Pacasmayo
52	Cajamarca	Cajabamba
53	La Libertad	Ascope
54	La Libertad	Cascas
55	La Libertad	Sanshez Carrión
56	La Libertad	Otuzco
57	La Libertad	Patáz
58	San Martín	Tocache
59	La Libertad	Trujillo
60	La Libertad	Santiago de Chuco
61	La Libertad	Julcán
62	Ancash	Pallasca
63	La Libertad	Viru
64	Ucayali	Padre Abad
65	Ancash	Sihuas
66	Huanuco	n.a.
67	Ancash	Corongo
68	Ancash	Pomabamba
69	Huanuco	n.a.
70	Ancash	Santa
71	Ancash	Huaylas
72	Ancash	Mariscal Luzurriaga
73	Huanuco	n.a.
74	Ancash	Carlos F. Fizcarrald
75	Ancash	Yungay

76	Ancash	Antonio Raymondi
77	Ancash	Asunción
78	Ancash	Carhuaz
79	Ancash	Huari
80	Huanuco	n.a.
81	Ancash	Casma
82	Huanuco	Huanuco
83	Ancash	Huaráz
84	Ucayali	Purus
85	Huancuco	n.a.
86	Ancash	Recuay
87	Huanuco	n.a.
88	n.a.	n.a.
89	Ancash	Ají
90	Huanuco	n.a.
91	Madre de Dios	Tahuamanu
92	Huanuco	n.a.
93	Huanuco	n.a.
94	Lima	Barranca
95	Lima	Huaura
96	Junín	Chanchamayo
97	Junín	Junín
98	Junín	Satipo
99	n.a.	n.a.
100	Lima	Huaral
101	Madre de Díos	Tambopata
102	Junín	Yaulí
103	Junín	Tarma
104	Cuzco	La Conveción
105	Lima	Canta
106	Junín	Jauja
107	Madre de Dios	Manú
108	Junin	Concepción
109	Lima	Huarochini
110	Lima	Lima
111	Junín	Huancayo
112	Junín	n.a.
113	Huancavelica	Tayacaja
114	Lima	Yauyos

115	n.a.	n.a.
116	Ayacucho	Haunta
117	Lima	Cañete
118	Huancavelica	Churcampa
119	Huancavelica	Huancavelica
120	Cuzco	Calca
121	Huancavelica	Acobamba
122	Ayacucho	La Mar
123	Huancavelica	Castrovirreyna
124	Cuzco	Parcartambo
125	Huancavelica	Angaraes
126	Ica	Chincha
127	Cuzco	Quispicanchi
128	Ayacucho	Huamanga
129	Puno	Sandia
130	Cuzco	Urubamba
131	Puno	Carabaya
132	Huancavelica	Huaytara
133	n.a.	n.a.
134	Apurimac	Chincheros
135	Ayacucho	Cangallo
136	Cuzco	Ante
137	Apurimac	Abancay
138	Ica	Pisco
139	Apurimac	Andahuaylas
140	Cuzco	Cuzco
141	Ayacucho	Vilcas Huamán
142	Ayacucho	Victor Fajardo
143	Cuzco	Paruro
144	Apurimac	Cotabambas
145	Cuzco	Acomayo
146	Ayacucho	Huanca Sancos
147	Ica	Ica
148	Cuzco	Canchis
149	Apurimac	Grau
150	Ayacucho	Sucre
151	n.a.	n.a.
152	Apurimac	Aymaraes

153	Cuzco	Chumbivilcas
154	Ayacucho	Lucanas
155	Ica	Palpa
156	Apurimac	Antabamba
157	Cuzco	Cañas
158	Puno	Melgar
159	Puno	Puno
160	n.a.	n.a.
161	Puno	San Antonio de Putiona
162	Ayacucho	Parinacochas
163	Cuzco	Espinar
164	Ica	Nazca
165	Arequipa	La Unión
166	Arequipa	Condesuyos
167	Puno	n.a.
168	Arequipa	Caylloma
169	Ayacucho	Paucer del Sara Sara
170	Arequipa	Castilla
171	Puno	Lampa
172	Arequipa	Caraveli
173	Puno	Moho
174	n.a.	n.a.
175	Puno	San Román
176	n.a.	n.a.
177	Arequipa	Camana
178	Arequipa	Arequipa
179	Puno	El Callao
180	Moquegua	General Sánchez Cerro
181	Puno	Chucuito
182	Puno	Yunguyo
183	Moquegua	Mariscal Nieto
184	Arequipa	Islay
185	Tacna	Candrave
186	Tacna	Tarata
187	Tacna	Jorge Basadre
188	Moquegua	Llo
189	Tacna	Tacna

A-3.

Small Industry Survey

Number of Interview: .....

Date of Interview:.....

Name:.....
.....

Type of Industry:.....

Number of Employees:.....

Location:.....

Start-up Date:.....

Observations:

Number of Interview: 1

Date of Interview: 8 June 2001

Type of Industry: Carpentry

Number of Employees: 2 **Male:** 2 **Female:** 0

Location: Ayabaca

Owner originally from: Ayabaca

Start up Date: 2001

Observations: This shop is on the edge of town and provides services to people coming from the countryside.

Number of Interview: 2

Date of Interview: 8 June 2001

Type of Industry: Bakery

Number of Employees: 4 **Male:** 3 **Female:** 1

Location: Ayabaca

Owner originally from: Culuguero, Aya.

Start up Date: 1986

Observations: This bakery is also on the edge of town and services people from the countryside. The owner is the wife at industry #1. All bread is made by hand.

Number of Interview: 3

Date of Interview: 8 June 2001

Type of Industry: Bakery

Number of Employees: 3 **Male:** 2 **Female:** 1

Location: Ayabaca

Owner originally from: City of Ayabaca

Start up Date: 1987

Observations: While we were leaving the bakery, a truck bringing a load of people in from the countryside stopped right in front of this store. All of the people got off the truck and bought bread from this bakery. It was interesting because the owner obviously knew the truck driver and he probably gave him his bread for free (for bringing in business). This is a common practice. Many times buses will stop at a prearranged restaurant, the driver usually eats free, and other restaurants in town may sit empty. The bakery next door, (#2) that claimed no problems, was empty. This store is located on the road toward Sochibamba and is the *bocadillo* dealer. The bakery next door had no *bocadillo*. It is a successful business, and has its connections. In fact, the first day in town, we were shown around by some local officials, and we were brought here to sample local treats such as the *bocadillo* and *canelazo*.

This business' success shows that the other enterprises do have problems and could be more successful. It might be helpful to organize seminars for business owners in the area, teaching them how to run a successful business.

Number of Interview: 4

Date of Interview: 8 June 2001

Type of Industry: Welder

Number of Employees: 2 **Male:** 2 **Female:** 0

Location: Ayabaca

Owner originally from: City of Ayabaca

Start up Date: 1991

Observations: The owner was very busy and barely answered the questions.

Number of Interview: 5

Date of Interview: 8 June 2001

Type of Industry: Welder/Mechanic

Number of Employees: 1 **Male:** 1 **Female:** 0

Location: Ayabaca

Owner originally from: Aragoto, Aya.

Start up Date: 1981

Observations: The owner claimed that his biggest business problems stem from a poor economy, resulting in little work.

Number of Interview: 6

Date of Interview: 8 June 2001

Type of Industry: Glass Maker

Number of Employees: 1 **Male:** 1 **Female:** 0

Location: Ayabaca

Owner originally from: City of Ayabaca

Start up Date: 1989

Observations: The owner said that his biggest problems stem from a lack of publicity, capital and credit.

Number of Interview: 7

Date of Interview: 8 June 2001

Type of Industry: Textiles

Number of Employees: 1 **Male:** 0 **Female:** 1

Location: Ayabaca

Owner originally from: Chocán, Aya.

Start up Date: 1999

Observations: The owner has to travel to Lima to buy material because it is the only place where she can get it for a decent price. It takes two full days to travel one way. She brings the material back to Ayabaca, uses machines to make clothes, then sells to the public of the Ayabaca area.

Number of Interview: 8

Date of Interview: 8 June 2001

Type of Industry: Butcher

Number of Employees: 1 **Male:** 1 **Female:** 0

Location: Ayabaca

Owner originally from: City of Ayabaca

Start up Date: 1961

Observations: The meat is processed by hand and by machine. The butcher sells meat mostly to individual customers. He is elderly and does not want to expand the business in any way.

Number of Interview: 9

Date of Interview: 8 June 2001

Type of Industry: Bakery

Number of Employees: 3 **Male:** 2 **Female:** 1

Location: Ayabaca

Owner originally from: City of Ayabaca

Start up Date: 1995

Observations: Sales are mostly to the general public. The owner says business is very slow due to the bad economy. All bread is made by hand.

Number of Interview: 10

Date of Interview: 8 June 2001

Type of Industry: Bakery

Number of Employees: 1 **Male:** 1 **Female:** 0

Location: Ayabaca

Owner originally from: City of Ayabaca

Start up Date: 1961

Observations: The owner sells to individual customers. All bread is made by hand. Right now the biggest problem is too much competition and a bad economy.

Number of Interview: 11

Date of Interview: 7 June 2001

Type of Industry: Bakery

Number of Employees: 2 **Male:** 1 **Female:** 1

Location: Ayabaca

Owner originally from: City of Ayabaca

Start up Date: 1971

Observations: This bakery has a prime location on the *Plaza de Armas*. The owners use machines for production and sell to the general public. Again, the owners claim that business is slow due to the poor economy.

Number of Interview: 12

Date of Interview: 7 June 2001

Type of Industry: Bakery

Number of Employees: 2 **Male:** 1 **Female:** 1

Location: Ayabaca

Owner originally from: City of Ayabaca

Start up Date: 1991

Observations: This bakery is also on the *Plaza de Armas*. Bread is made by machine. This business is also a small *tienda*. The owners claim that they have no problems.

Number of Interview: 13

Date of Interview: 7 June 2001

Type of Industry: Bakery

Number of Employees: 2 **Male:** 1 **Female:** 1

Location: Ayabaca

Owner originally from: Cujaca, Aya.

Start up Date: 1985

Observations: The bakery mostly sells to individual customers. The owner says that business is very slow due to the bad economy. All bread is made by hand.

Number of Interview: 14

Date of Interview: 7 June 2001

Type of Industry: Bakery

Number of Employees: 2 **Male:** 1 **Female:** 1

Location: Ayabaca

Owner originally from: City of Ayabaca

Start up Date: 1971

Observations: The bakery is in a good location on a main route in and out of town, toward Piura. This is the most heavily traveled road by all transportation modes: bus, truck, horse, foot and bike. This is due to the numerous cities in this direction and only countryside in the others. Most sales are to the general public, and all bread is made by hand. This establishment is very clean and seems to do a good business. It offers many sweets, as well, giving the store an edge with its variety.

Number of Interview: 15

Date of Interview: 7 June 2001

Type of Industry: Bakery

Number of Employees: 2 **Male:** 2 **Female:** 0

Location: Ayabaca

Owner originally from: Suyupampa, Aya.

Start up Date: 1997

Observations: The bakery mostly sells to the general public and is also a *tienda*. The bread is made both by machine and by hand. The owners claim no problems and seem fairly busy.

Number of Interview: 16

Date of Interview: 7 June 2001

Type of Industry: Bakery

Number of Employees: 2 **Male:** 2 **Female:** 0

Location: Ayabaca

Owner originally from: Arraipite Pingola, Aya.

Start up Date: 1998

Observations: The bakery mostly sells to individual customers and is also a *tienda*. The owner make the bread both by machine and by hand. The owners claim no problems and seemed to be busy.

Number of Interview: 17

Date of Interview: 7 June 2001

Type of Industry: Carpentry

Number of Employees: 1 **Male:** 1 **Female:** 0

Location: Ayabaca

Owner originally from: Montero, Aya.

Start up Date: 1996

Observations: This shop is very small and located on the outskirts of town. It is located on the main road, but it is difficult to even tell that it is an industry. There are no signs, display or storage, and the machines are very old.

Number of Interview: 18

Date of Interview: 7 June 2001

Type of Industry: Bakery

Number of Employees: 2 **Male:** 2 **Female:** 0

Location: Ayabaca

Owner originally from: Ania, Aya.

Start up Date: 1999

Observations: The bakery sells mostly to the general public and is also a *tienda*. The bread is made by hand. The owners claim that business is very slow for them because of the bad economy.

Number of Interview: 19

Date of Interview: 7 June 2001

Type of Industry: Municipal Butcher

Number of Employees: 2 **Male:** 2 **Female:** 0

Location: Ayabaca

Owner originally from: City of Ayabaca

Start up Date: 1961

Observations: This city-owned plant is the major meat processor for the area. People bring their livestock from around the countryside to have their meat processed. Business fluctuates, explains the manager. Now it is down because people are taking their cattle across the Ecuador border to sell. Ecuador has a better economy, paying more, and in U.S dollars.

Number of Interview: 20

Date of Interview: 25 June 2001

Type of Industry: Manufacturer of *Bocadillo*

Number of Employees: 2 **Male:** 1 **Female:** 1

Location: Sochibamba, Aya.

Owner originally from: Sochibamba, Aya.

Start up Date: 1986

Observations: This *bocadillo* manufacturer sells the most during festival months of August (Chiclayo), September (Paita) and October (Ayabaca). Unfortunately, there is not much of a market for *bocadillo* outside of these months, except for small local consumption. The owners say they would like to sell more, because more could easily be produced.

Number of Interview: 21

Date of Interview: 25 June 2001

Type of Industry: Manufacturer of *Bocadillo*

Number of Employees: 5 **Male:** 3 **Female:** 2

Location: Sochibamba, Aya.

Owner originally from: Sochibamba, Aya

Start up Date: 1990

Observations: This *bocadillo* manufacturer distributes its supply throughout the region on privately-owned transit trucks that travel through the area. This is the way almost everything is transported in this region: mail, crops, livestock and people.

Again, this manufacturer is most active during the festival months of July, August, September and October. The owners also would want to increase production, if there were an increased market. The main obstacle seems to be the poor economy.

Number of Interview: 22

Date of Interview: 25 June 2001

Type of Industry: Manufacturer of *Bocadillo*

Number of Employees: 2 **Male:** 1 **Female:** 1

Location: Sochibamba, Aya.

Owner originally from: Joras, Aya.

Start up Date: 1993

Observations: This *bocadillo* manufacturer sells to a middleman in Ayabaca, who distributes it throughout the region. All shipments from this supplier go on privately-owned transit trucks that travel through the area.

Again, this manufacturer is most active during the festival months of July, August, September and October. The owners also would want to increase production, if there were an increased market. Some of the obstacles are the lack of good transport and communication.

A-6.

BINACIONAL PROJECT
PERU – ECUADOR

PERU
QUESTIONAIRE OF MIGRATION

City : Ayabaca

I. Head of Household:
(only information on head of the household)

1. Age_____
2. Date of Birth _____
3. Sex : a) Masculine_____ b) Feminine_____
4. Place of Birth:
   a) Country _____
   b) Department_____
   c) Province _____
   d) District _____ Urb.____ Rur.____
   e) Other _____

5. Marital Status (mark one)
   Sing___ Mar___ Conj___ Divor___ Separ___ Widow___

6. Number of children ___

7. Education:
   a) None ___
   b) Primary ___
   c) Secondary ___
   d) Superior no University ___
   e) Superior University ___

8. Profession _____

9. Actual Employment? a) Yes ___ b) No ___

10. Type of Occupation: _____
    a) Temp. ___ b) Permanent ___

11. How many persons live in your house? _____

***If the head of household was born in Ayabaca, skip to question number III**

II. MIGRATION

1. How long have you lived in this city? _____

2. Where are you from?
   a) Country _____
   b) Department_____
   c) Province _____
   d) District _____ Urb.____ Rur.____
   e) Other _____

3. At what age did you move to this city? _____

4. Marital Status (mark one)
   Sing___ Mar___ Conj___ Divor___ Separ___ Widow___

5. Number of children ___ Spouse ___ Parents ___(number)

6. Where you employed before moving to this city?
   a) Yes ___ b) No ___

7. What occupation do you have? _____

8. Education:
   a. None ___
   b. Primary ___
   c. Secondary ___
   d. Superior no University ___
   e. Superior University ___

9. Profession _____

10. What were the reason you moved to this city?_____

_____

_____

11. Did you have work waiting? a) Yes ___ b) No ___

12. Did you know where you where going to live? a) Yes ___ b) No ___

13. Were you going to move in with relatives? a) Yes ___ b) No ___

III. Future

1. Do you prefer to live in another place? a) Yes ___ b) No ___

2. Where?
   a) Country_____
   b) Department_____
   c) Province _____
   d) District _____ Urb.____ Rur.____
   e) Other _____

3. For what reasons? _____
_____
_____

4. Do you think that you will move to another location in the next 10 years?
   a) Yes ___ b) No __

5. Where?
   a) Country _____
   b) Department_____
   c) Province _____
   d) District _____ Urb.____ Rur.____
   e) Other_____

6. For what reasons?_____
_____
_____

7. Have other people from your household moved to other places?

   a) How many?_____

   b) When? _____
   _____
   _____

   c) Where?
      a) Country_____
      b) Department_____
      c) Province_____
      d) District_____Urb._____Rur._____
      e) Other_____

IV. Happiness

1. Do you like living in Ayabaca? a)Yes___ b)No___

c)Why?_____
_____
_____

V. Travel

1. Have you visited Ecuador? a) Yes ___ b) No ___

c) What places?_____

d) How many times? _____

e) For what?_____
_____

2. Have you visited countries other than Ecuador? a) Yes ___ b) No ___

c) Which ones?_____

d) How many times? _____

e) For what? _____
_____

A-7.

Nieghborhood Samples

Sample Size					
	Total Pop.	Heads of Household	Desired Sample Size	Number Obtained	Confidence Level
San José Obereo	876	175	35	31	
27 de Febrero	168	34	7	8	
Hildebrando Castro	274	55	11	11	
Sr. Cautivo	114	23	4	4	
Tomas Eliseo Velásquez	102	20	4	4	
Santa Rosa	196	39	8	8	
Pueblo Libre	360	72	14	14	
Ciudad de Ayabaca	5,650	1,130	225	208	
Total	7,742	1,548	308	288	95% +/- 5.21

Calculation by Universidad Nacional de Piura, Departmento de Estadísticas, and then checked by University of Tennessee, Department of Statistics and The Survey System by Creative Resources at www.surveysystem.com.

A-8.

Students who Participated in Conducting Migration Questionnaire

Yojani Aguilera Yangua
Viviana del Socorro Llacsahuanga Gálvez
Dari Niño Valle
Silvia Issela Gonzáles Timoteo
Benjamin Campoverde Flores
José Gálvez Pavlar
Rosa Dany Díaz Castillo
Martha del Rosario Pintado Herrera
Herbert Raúl Abad Niño
Odalis Chuicondor Nonajulca
Mailría del Pilar Valle Aniceto
Manuel Mulatillo Seminario
Segunda Inés Yangua Huamán
Maida Angélica Seminario Flores
Inés Quispe Seminario
Rogel Ontaneda Parihuaman
Yony Eloy Carrión Ortíz
Olga Albertina Chimbo Granda
Elmer Carrión Pintado
Ivan Nuñez Rios
Delfilia Velasco Neira
Deysi Vilcherrez Guerrero
Magalena Jiménez Vera
Karla Marizela Rios Ojeda
Erika Patricia Huacchillo Rios
Eduvi Herrera Sarango

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Lic. Efrain Edilberto Rios Castillo for participating and allowing his students to participa
Regina Zavala Flores for coordinating the student participation.

Vita

Huston John Gibson was born and raised in Atlanta, GA on May 28, 1974. He went to grade school at Underwood Hills Elementary, middle school at Ridgeview Middle School and graduated from Riverwood High School in 1993. From there he went to the University of Mississippi and received a B.A. in psychology with a minor in sociology in 1997.

Huston is currently pursuing his M.S. in planning from the University of Tennessee, Knoxville.

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